WWC ENGINEERING

1849 TERRA AVE, SHERIDAN, WY 82801 | 307.672.0761

December 30, 2025

**E-MAIL ONLY**

Mr. Mark Porath, Field Supervisor
Nebraska Ecological Services Field Office
U.S. Fish and Wildlife Service
9325 South Alda Road Suite B Wood River, NE 68883-9565
mark_porath@fws.gov

SUBJECT: REQUEST FOR CONCURRENCE WITH ENDANGERED SPECIES ACT DETERMINATIONS FOR CROW BUTTE IN SITU URANIUM RECOVERY DAWES COUNTY, NEBRASKA PROPOSED LICENSE RENEWAL TO SOURCE MATERIAL LICENSE NUMBER SUA-1534 (DOCKET NUMBER: 040-08943)

Dear Mr. Porath:

On behalf of Crow Butte Resources, Inc. (CBR), WWC Engineering (WWC) is submitting this letter to the U.S. Fish and Wildlife Service's (USFWS) requesting written concurrence WWC's determinations pursuant to Section 7 of the Endangered Species Act of 1973, as amended (ESA). The request is related to federally listed or proposed to be listed species that may be affected by the proposed license renewal of Source and Byproduct Material License SUA-1534 for the Crow Butte Project and Marsland Expansion Area (MEA) in Dawes County, Nebraska. The U.S. Nuclear Regulatory Commission (NRC) designated CBR as its non-Federal representative (NFR) to conduct informal consultation under Section 7 of the ESA and WWC has prepared this biological assessment (BA) acting as an agent for CBR. This letter and attachments include information explaining and supporting this request.

Proposed Federal Action

The proposed Federal action is the renewal of CBR's NRC Source and Byproduct Material License SUA-1534 (ADAMS Accession No. ML25199A071). If approved by the NRC, under renewed license SUA-1534, CBR will have met the NRC's requirements to continue uranium ISR activities under SUA-1534 for a 20-year period.

CBR is currently approved to recover uranium and produce yellowcake using the ISR process from the existing Crow Butte Project and MEA. In the existing Crow Butte license area, uranium is recovered by ISR from sandstones of the Chadron Formation. Commercial production at the Crow Butte Project went on standby in 2018. A total of 5.5 million kilograms (11.8 million pounds) of uranium have been extracted from the Crow Butte Project. CBR applied to the NRC in 2012 to amend SUA-1534 to authorize construction and operation of a satellite facility and ISR wellfields at the MEA. The NRC amended license SUA-1534 in May 2018 (Amendment 3) to include the MEA. No construction or operation have occurred at the MEA to date. Uranium within the MEA license area will be recovered from the basal sandstone of the Chadron Formation.

Biological Assessment Crow Butte In-Situ Uranium Recovery, Dawes County, Nebraska, Proposed License Renewal to Source Material License Number SUA-1534

In support of its environmental review of the CBP license renewal application, CBR, as the NFR, prepared a BA to comply with the National Environmental Policy Act of 1969, as amended (NEPA), and the NRC's regulations at Title 40 of the Code of Federal Regulations (CFR) Section 144.4(c) and Section 7(a)(2) as well as 16 U.S.C. §1536 (a)(2). The draft BA addresses the environmental impacts of the proposed action and reasonable alternatives to the proposed action.

A copy of the draft BA isa attached, which contains the biological evaluation, as well as other supporting information. Information relevant to this concurrence request can be found in the following sections of the BA:

- **Section 2.0** describes the Crow Butte Project and MEA sites and the proposed action, including the purpose, duration, timing, and associated activities that would be conducted during the proposed subsequent license renewal term.
- **Section 3.0** describes the terrestrial ecology and the aquatic resources of the sites and surrounding areas (action areas).
- **Section 4.0** describes the ESA-protected species and critical habitats under FWS jurisdiction that are potentially present in the action areas.
- **Section 5.0** analyzes the impacts of the proposed CBP license renewal on ESA-protected species and critical habitats under USFWS jurisdiction.

In addition to the draft BA, please find attached the latest species list (also in ADAMS under ML25357A089) and associated reference documents.

Request for Concurrence

Consistent with Title 50 of the *Code of Federal Regulations* (50 CFR) 402.12, "Biological assessments," the NRC staff requests your written concurrence with its determinations in the draft BA that the proposed action is not likely to adversely affect the following listed species: northern long-eared bat (NLEB) [*Myotis septentrionalis*], piping plover (*Charadrius melodus*), and rufa red knot (*Calidris canutus rufa*). Additionally, the NRC staff requests your written concurrence with its determinations in the draft BA that the proposed action is not likely to adversely affect the following proposed species: tricolored bat (*Perimyotis subflavus*), monarch butterfly (*Danaus plexippus*), Suckley's cuckoo bumble bee (*Bombus suckleyiand*), and western regal fritillary (*Argynnis idalia occidentalis).*

The NRC staff also determined in the draft BA that the proposed action has no effect (NE) on black-footed ferrets (*Mustela nigripes*). While the ESA does not require the NRC to consult with or receive concurrence from the USFWS regarding NE determination findings, the NRC staff welcomes any comments that the USFWS may have on this species or the NRC staff's impact assessment.

Please provide your response electronically to the following email addresses: EndangeredSpecies@nrc.gov and Shannon.Healy@nrc.gov. If you have any questions regarding the information in this letter, please contact me by phone at (307) 752-0201 or via email at jberry@wwcengineering.com or Shannon Healy at (301) 415-6714 or via email at Shannon.Healy@nrc.gov.

Sincerely,

John Berry

John Berry, Senior Wildlife Biologist
WWC Engineering

Attach: As noted above
cc: Shannon Healy (NRC) via email
Tate Hagman (CBR) via email
Beth Wilson (WWC) via email

# Biological Assessment

## Crow Butte In Situ Uranium Recovery

## Dawes County, Nebraska

## Proposed License Renewal to Source Material License Number SUA-1534

**December 2025**

**Docket No. 0 40-08943**

Prepared by:

**WWC Engineering**

**Sheridan, Wyoming**

*Version 1*

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Abbreviations and Acronyms

| | |
|---|---|
| AOR | Area of Review |
| BA | biological assessment |
| BFF | black-footed ferret |
| BPT | Best Practicable Technology |
| bgs | below ground surface |
| BLM | U.S. Bureau of Land Management |
| BPT | Best Practicable Technology |
| CFR | *Code of Federal Regulations* |
| CBP | Crow Butte In-situ Recovery Project |
| CBR | Cameco Resources/Crow Butte Resources, Inc. |
| CPF | Central Processing Facility |
| dB | decibels |
| dBA | A-weighted decibels |
| DDW | deep disposal well |
| DWEE | Nebraska Department of Water, Energy, and Environment |
| EA | Environmental Assessment |
| ECOS | Environmental Conservation Online System |
| ESA | Endangered Species Act |
| EPA | U.S. Environmental Protection Agency |
| FEIS | Crownpoint Uranium Project Final Environmental Impact Statement |
| FE | Designated as Federally Endangered |
| FPT | Proposed for Federal Listing as Threatened |
| FR | Federal Register |
| FT | Designated as Federally Threatened |
| gpm | gallons per minute |
| ha | hectare(s) |
| IX | ion exchange |
| IPaC | Information for Planning and Conservation |
| ISR | in-situ uranium recovery |
| km | kilometer(s) |
| LC | License Condition(s) |
| LRA | License Renewal Application |
| MEA | Marsland Expansion Area |
| MDFWP | Montana Department of Fish, Wildlife and Parks |
| MU | mine unit(s) |
| N | North |
| NDEQ | Nebraska Department of Environmental Quality |
| NDOT | Nebraska Department of Transportation |
| NFR | non-federal representative |
| NGPC | Nebraska Game and Parks Commission |
| NLEB | northern long-eared bat |
| NRC | U.S. Nuclear Regulatory Commission |
| NWCA | Nebraska Weed Control Association |
| R | Range |
| SH | State Highway |
| T | Township |
| TCB | tricolored bat |
| UIC | underground injection control |
| USFWS | U.S. Fish and Wildlife Service |
| W | West |
| WWC | WWC Engineering |

# 1.0 INTRODUCTION

WWC Engineering (WWC) has prepared this biological assessment (BA) acting as an agent for Cameco Resources/Crow Butte Resources, Inc. (CBR). CBR has been designated as a non-Federal representative (NFR) for conducting informal consultation under Section 7 of the Endangered Species Act (ESA) for the Crow Butte In-situ Recovery (ISR) Project (CBP) (ADAMS Accession No. ML25199A071). This BA has been prepared to comply with the provisions of Section 7 of the ESA, in review of a License Renewal Application (LRA) of the of the CBP, including the existing Crow Butte Project Area and the Marsland Expansion Area (MEA). The CBP is located in Dawes County, Nebraska. This document examines the potential impacts of the proposed license renewal on federally-listed species under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and has been prepared to support of the U.S. Nuclear Regulatory Commission (NRC) staff's review of CBR's request for a license renewal to Source Material License No. SUA-1534.

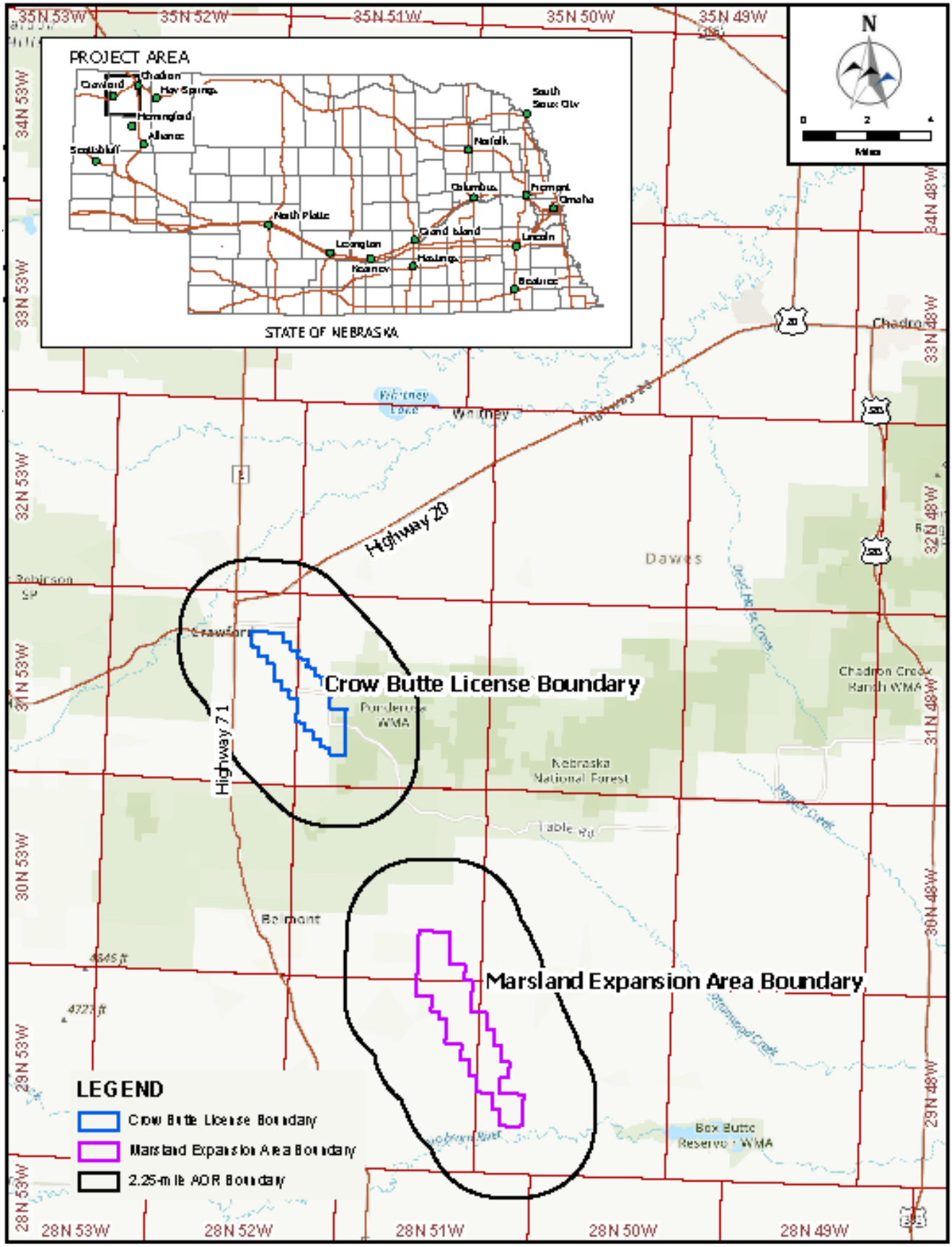
This BA is prepared in accordance with Title 40 of the Code of Federal Regulations (CFR) Section 144.4(c) and Section 7(a)(2) as well as 16 U.S.C. §1536 (a)(2), which requires that Federal agencies, in consultation with and with the assistance of the Secretary, must insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any federally-listed endangered species or threatened species or result in the destruction or adverse modification of the designated critical habitat of such species.

# 2.0 DESCRIPTION OF THE PROPOSED ACTION

## 2.1 Proposed Action

The proposed action is the renewal of CBR's NRC source and byproduct material license SUA-1534 for the CBP. If approved by the NRC, under renewed license SUA-1534, CBR will have met the NRC's requirements to continue uranium ISR activities under SUA-1534 for a 20-year period.

CBR is currently approved to recover uranium and produce yellowcake using the ISR process from the existing Crow Butte Project and MEA (Map 1). In the existing Crow Butte license area, uranium was recovered by ISR from sandstones of the Chadron Formation at a depth that varies from 120 to 275 meters (400 to 900 feet) below ground surface (bgs). Commercial production at the Crow Butte Project went on standby in 2018. A total of 5.5 million kilograms (11.8 million pounds) of uranium have been extracted from the Crow Butte Project.




Map 1. Regional Location Map of the Project Areas

Groundwater restoration in Mine Unit (MU) 1 has been completed and approved by the NRC and Nebraska Department of Environmental Quality (NDEQ), with NRC issuing the final approval on February 12, 2003 (CBR 2025).

CBR applied to the NRC in 2012 to amend existing source materials license SUA-1534 to authorize construction and operation of a satellite facility, the MEA. The NRC amended license SUA-1534 in May 2018 (Amendment 3) to include the MEA. No construction or operation has occurred at the MEA to date. Uranium within the MEA license area will be recovered from the basal sandstone of the Chadron Formation. The depth of the ore body in the MEA ranges from 260 to 366 meters (850 to 1,200 feet) bgs (CBR 2025).

The following provides the operational history of SUA-1534 since the last renewal (2007) and the approved amendments to SUA-1534 since the renewed license was issued on November 5, 2014 (ADAMS Accession No. ML13324A101):

- Amendment 1: modified SUA-1534 license conditions (LCs) 9.2, 10.8, 10.12, 11.11, 11.14, 11.15, and 11.16 (ADAMS Accession No. ML16078A235).
- Amendment 2: modified SUA-1534 LC 10.6 to incorporate alternate decommissioning (groundwater restoration) schedule for MU2-5, removed LC 9.12, and modified LCs 9.2, 10.16, 11.9, and 11.2 (ADAMS Accession No. ML17013A659).
- Amendment 3: Added MEA to SUA-1534 (ADAMS Accession No. ML18117A293).
- Amendment 4: modified SUA-1534 LC 10.2.2 to incorporate alternate decommissioning (groundwater restoration) schedule for MU2-6 (ADAMS Accession No. ML18268A211).
- Amendment 5: modified SUA-1534 LC 10.2.2 to incorporate alternate decommissioning (groundwater restoration) schedule for MU2-6 and revised LC 9.5 to include updated surety amount (ADAMS Accession No. ML20324A073).
- Amendment 6: modified SUA-1534 LC 10.2.2 to incorporate alternate decommissioning (groundwater restoration) schedule for MU2-6 (ADAMS Accession No. ML25259A241)

### 2.1.1 ISR Process

The ISR process for uranium recovery consists of an oxidation step and a dissolution step. Gaseous oxygen or hydrogen peroxide is used to oxidize the uranium, and bicarbonate is used for dissolution. Figure 1 illustrates the typical ISR process that takes place in each wellfield. These wells can be arranged in a variety of geometric patterns depending on the location and orientation of the orebody, aquifer permeability, and operator preference. Wellfields are typically designed in a five-spot or seven-spot pattern, with each recovery (i.e., production) well located inside a ring of injection wells.

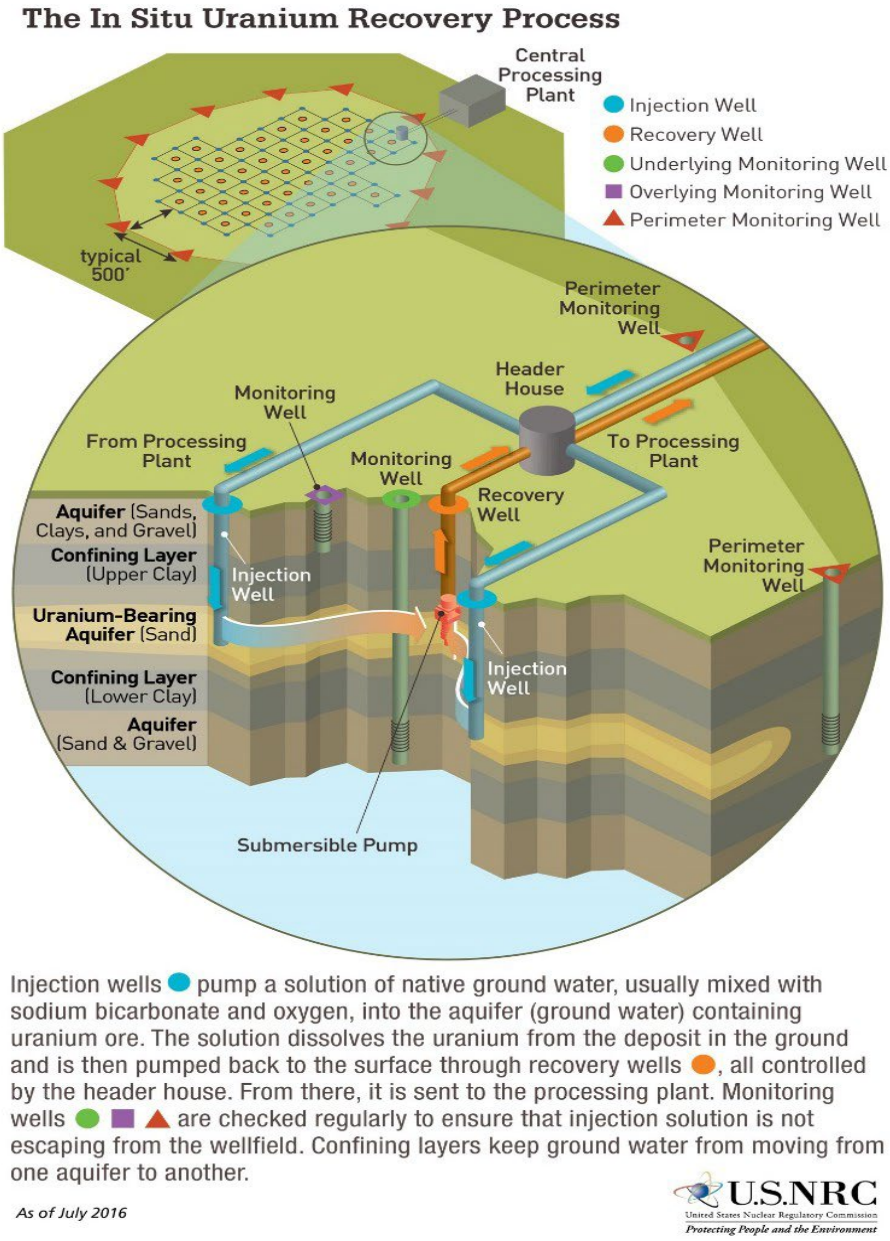



**Figure 1. The In Situ Uranium Recovery Process**

The uranium bearing solution that results from the leaching of uranium underground is recovered from the wellfield and the uranium extracted in the process plant. The plant process uses the following steps:

- Loading of uranium complexes ion exchange (IX) resin;
- Reconstitution of the solution by the addition of carbonate and an oxidizer;

- Elution of the uranium complexes from the resin; and
- Drying and packaging of the yellowcake.

Chapter 2 of the Final Environmental Assessment for the License Renewal of NRC License Number SUA–1534 provides a detailed description of the solution mining process and equipment at the Crow Butte Project and MEA (NRC 2014).

In accordance, with SUA-1534 License Condition (LC) 10.2.3, the maximum flow rate of the Central Processing Facility (CPF) is 9,000 gallons per minute (gpm), excluding restoration flow. Total annual yellowcake production is limited to 0.9 million kilograms (2 million pounds) (CBR 2025).

Uranium extracted from the MEA wellfields will be processed at a satellite facility located within the MEA. SUA-1534 LC 10.3.3 limits the maximum flow rate at the satellite facility to 5,400 gpm, excluding restoration flow. The loaded IX resin will be transported by tanker truck to the CPF for elution, precipitation, drying, and packaging. Barren resin will be returned to the MEA satellite facility by tanker truck (CBR 2025).

Monitoring wells are installed in the production zone aquifer and surround the wellfield pattern area. Monitoring wells are screened (i.e., open to allow water to enter) in the appropriate stratigraphic horizon to detect the potential migration of lixiviant away from the production zone. Monitoring wells are also installed in the overlying and underlying aquifers to detect the potential vertical migration of lixiviant outside the production zone.

The uranium that is recovered from the solution is processed, dried into yellowcake, packaged into NRC- and U.S. Department of Transportation- approved 208-L [55-gal] steel drums, and trucked offsite to a licensed conversion facility.

### 2.1.2 Site Descriptions

The CBP comprises two project areas (the existing Crow Butte Project Area and MEA), as depicted on Map 1. Each project area is surrounded by a 2.25-acre Area of Review (AOR) that was evaluated for land use. The project areas and AORs are depicted on Map 1. The following describes each of the project areas and provides an approximation of anticipated disturbance within each project area.

#### 2.1.2.1 Existing Crow Butte Project Area

The Crow Butte Project is located approximately 4 miles southeast of the City of Crawford in portions of Sections 11, 12, 13, and 24 of Township (T) 31 North (N), Range (R) 52 West (W) and Sections 18, 19, 20, 29, and 30 of T31N, R51W, Dawes County, Nebraska (Map 1). The Crow Butte CPF is located in Section 19, T31N, R51W. This license area occupies

approximately 1,163 ha (2,875 acres), and the surface area that has been affected o is approximately 512 ha (1,265 acres). All areas disturbed during construction are revegetated with the exception of plant pad areas, roads, and areas covered by pond liners or other infrastructure. No increase in the area of disturbance is anticipated at the Crow Butte Project during the license renewal term. Access to the site is from State Highway 71 from points north and south of Crawford. U.S. Highway 20 provides access from points east and west.

The herbaceous land-use type comprises the greatest portion (86 percent) of land use within the CBP itself and 66 percent of the combined CBP and its AOR, as listed in Table 1. Other significant uses within the CBP area  and the combined CBP and its AOR include emergent herbaceous wetland (4.5 percent and 2.4 percent , respectively) and cultivated crops (wheat [*Triticum* spp.], alfalfa [*Medicago sativa*], oats [*Avena* spp.], and seeded grasses) (3.5 percent and 12.5 percent, respectively) are the other significant land uses (CBR 2025).

#### 2.1.2.2 MEA

The location of the MEA is Sections 26, 35, 36 of T30N, R51W, Sections 1, 2, 11, 12, and 13 of T29N, R51W, and Sections 7, 18, 19, 20, 29, 30 of T29N, R50W, Dawes County, Nebraska (Map 1). The project area encompasses approximately 1,870 ha (4,622 acres), and the surface area affected over the estimated life of the project is approximately 710 ha (1,754 acres). No construction or operations have occurred at the MEA to date. The MEA satellite facility will be located approximately 5 miles northeast of the community of Marsland and approximately 11 miles south-southeast of the CPF. The main access route to the MEA is via State Highway (SH) 2/71 west of Marsland, then east along the Niobrara River and River Road, and then north on either Squaw Mount Road or Hollibaugh Road.

Land use of the MEA and its AOR is dominated by agricultural uses. Table 1 lists the major land use types by acreage within the MEA and combined MEA and its AOR.

The herbaceous land-use type comprises the greatest land cover (91 percent) within the MEA itself and 83 percent of the combined MEA and its AOR (Table 1). Within the MEA project area and within the combined MEA and its AOR, cultivated crops (5.3 and 6.3 percent, respectively) and evergreen forests (3.3 and 8.4 percent, respectively) are the other significant land cover types. Scattered rural residences are mostly associated with agricultural operations. Scattered rural residences are mostly associated with agricultural operations. Residential and industrial land uses are concentrated within the city limits of Crawford and Chadron and in the communities of Whitney and Marsland (CBR 2025).

**Table 1. Land Use**

| Crow Butte Project and AOR | | | | |
|---|---|---|---|---|
| **Land Use Type** | **Crow Butte Project Only** | | **Combined Crow Butte Project and 3.6 km (2.25 miles) AOR** | |
| | **ha/Acres** | **%** | **ha/Acres** | **%** |
| Herbaceous | 750/2,461 | 85.60% | 5,815/19,079 | 65.70% |
| Emergent Herbaceous Wetlands | 39/128 | 4.50% | 214/701 | 2.40% |
| Cultivated Crops | 30/99 | 3.50% | 1,104/3,621 | 12.50% |
| Evergreen Forest | 14/47 | 1.60% | 1,076/3,530 | 12.20% |
| Hay/Pasture | 11/36 | 1.30% | 98/321 | 1.10% |
| Open Water | 8/26 | 0.90% | 9/28 | 0.10% |
| Shrub/Scrub | 8/26 | 0.90% | 20/67 | 0.20% |
| Developed, Low Intensity | 6/19 | 0.70% | 165/540 | 1.90% |
| Developed, Open Space | 3/9 | 0.30% | 108/354 | 1.20% |
| Developed, Medium Intensity | 2/8 | 0.30% | 68/222 | 0.80% |
| Woody Wetlands | 2/8 | 0.30% | 109/357 | 1.20% |
| Deciduous Forest | 2/7 | 0.20% | 23/77 | 0.30% |
| Developed, High Intensity | 0.3/1 | 0.00% | 16/53 | 0.20% |
| **Total** | **875/2,758** | **100%** | **8,852/29,042** | **100%** |
| **Marsland Expansion Area and AOR** | | | | |
| **Land Use Type** | **MEA Only** | | **Combined MEA and 3.6 km (2.25 miles) AOR** | |
| | **ha/Acres** | **%** | **ha/Acres** | **%** |
| Herbaceous | 1,293/4,241 | 91.00% | 9,523/31,244 | 82.60% |
| Cultivated Crops | 75/246 | 5.30% | 722/2,368 | 6.30% |
| Evergreen Forest | 47/154 | 3.30% | 968/3,176 | 8.40% |
| Shrub/Scrub | 6/20 | 0.40% | 115/378 | 1.00% |
| Developed, Open Space | 0/1 | 0.00% | 4/14 | 0.00% |
| Emergent Herbaceous Wetlands | 0/0.3 | 0.00% | 117/385 | 1.00% |
| Barren Land | 0/0 | 0.00% | 1/2 | 0.00% |
| Deciduous Forest | 0/0 | 0.00% | 0/1 | 0.00% |
| Developed, High Intensity | 0/0 | 0.00% | 0/1 | 0.00% |
| Developed, Low Intensity | 0/0 | 0.00% | 5/18 | 0.00% |
| Developed, Medium Intensity | 0/0 | 0.00% | 3/10 | 0.00% |
| Hay/Pasture | 0/0 | 0.00% | 5/15 | 0.00% |
| Mixed Forest | 0/0 | 0.00% | 61/201 | 0.50% |
| Open Water | 0/0 | 0.00% | 0/0.4 | 0.00% |
| Woody Wetlands | 0/0 | 0.00% | 4/12 | 0.00% |
| **Total** | **1,421/4,662.3** | **100%** | **11,529/37,828** | **100%** |

Source: CBR 2025

### 2.1.3 Proposed Action Timeline

#### 2.1.3.1 Crow Butte Project

Mine Unit (MU) 1 at Crow Butte has been restored. MUs 2-5 are currently undergoing stability monitoring, which includes quarter sampling. This quarterly sampling will continue until an ACL is submitted and approved by the NRC for MUs 2-5. The ACL for MUs 2-5 is planned to be submitted after the license renewal is approved. MU 6 is undergoing quarterly stability monitoring and sampling. MUs 7 and 8 are currently undergoing restoration (IX and reverse osmosis treatment). MUs 9, 10 and 11 are in standby. In standby a bleed is being taken on

these mine units until a decision is made to either return the mine units to production or to begin restoration.

The current restoration schedule for each mine unit associated with the CBP is provided in Figure 2. The decision to return mine units 9-11 to production will be based on economic factors. If for example the economic conditions were favorable to begin adding lixiviant to MUs 9-11, the restoration schedules would pause and resume after mining is complete. A resumption of mining in MUs 9-11 could for example last for 5 to 7 years. CBR will provide NRC with an updated schedule when operations resume in MUs 9-11. In addition, CBR is required to submit an alternate schedule when groundwater restoration activities exceed 24 months in accordance with LC 10.1.5 of SUA-1534.

#### 2.1.3.2 Marsland Expansion Area

The proposed MEA project timeline is provided in Figure 3. There is a potential for 11 mine units. The MEA project timeline is based on current market conditions but economic conditions will determine when construction is started on the MEA. It is estimated that once started, the MEA project will last for 25 years. Starting order and mine unit naming are approximate representations.

### 2.1.4 Construction

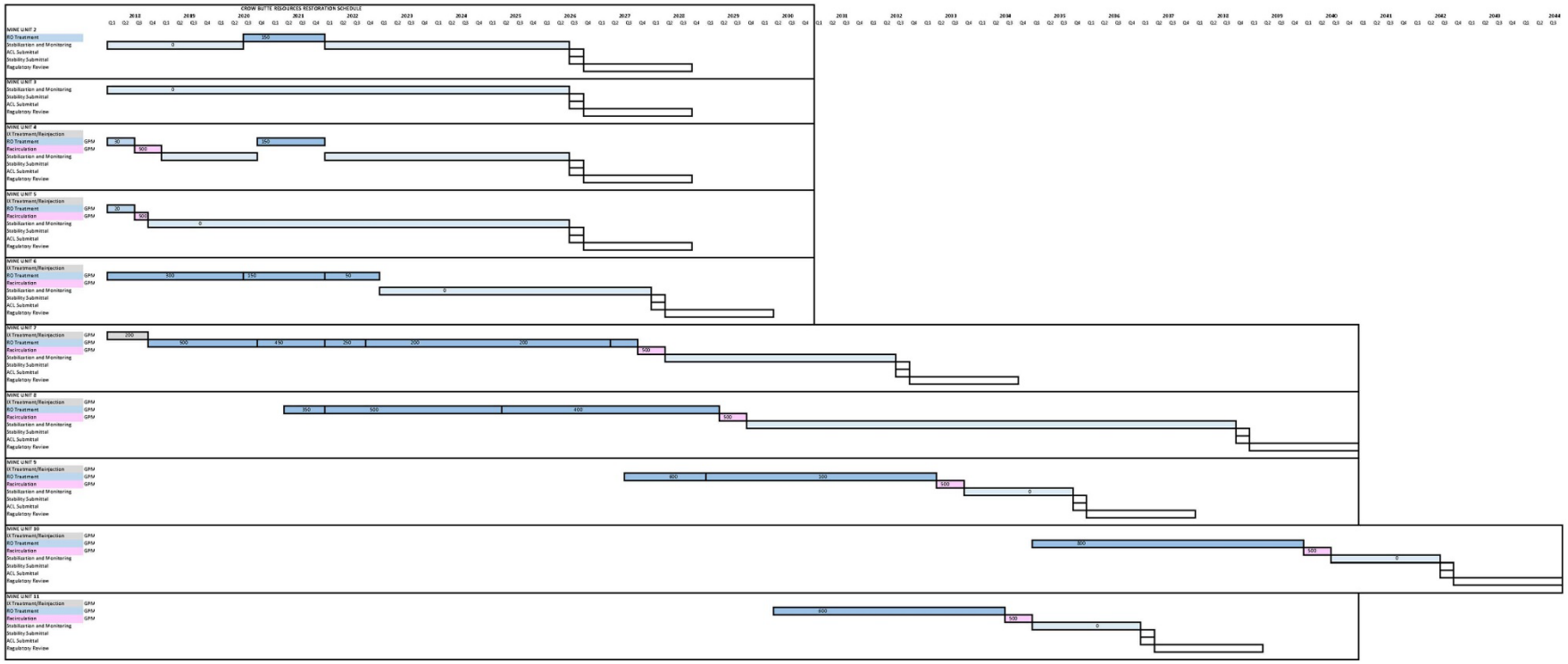
Construction activities for the existing Crow Butte Project are discussed in detail in Section 2.3 of the Final Environmental Assessment for the License Renewal of NRC License Number SUA–1534 (Crow Butte EA) and in Section 2.3.1 of the EA for the Marsland Expansion Area License Amendment Application (NRC 2014 and 2018, respectively).

New construction for the CBP will be limited to the MEA and will consist of one satellite facility and 11 mine units at the MEA project area.

The following currently planned facilities would disturb approximately 592 acres (240 ha) of this proposed licensed area (CBR 2014):

- Eleven mine units, including injection, production, and monitoring wells; wellhouses; piping; and access roads (237 ha [587.6 acres])
- A satellite facility, consisting of a satellite building (for the IX process) and associated facilities, including outside chemical storage facilities and a modular office building (0.73 ha [1.8 acres])
- Up to six deep disposal wells (DDWs) (0.32 ha [0.79 acres])
- Access roads to the satellite facility and DDWs (0.69 ha [1.7 acres])

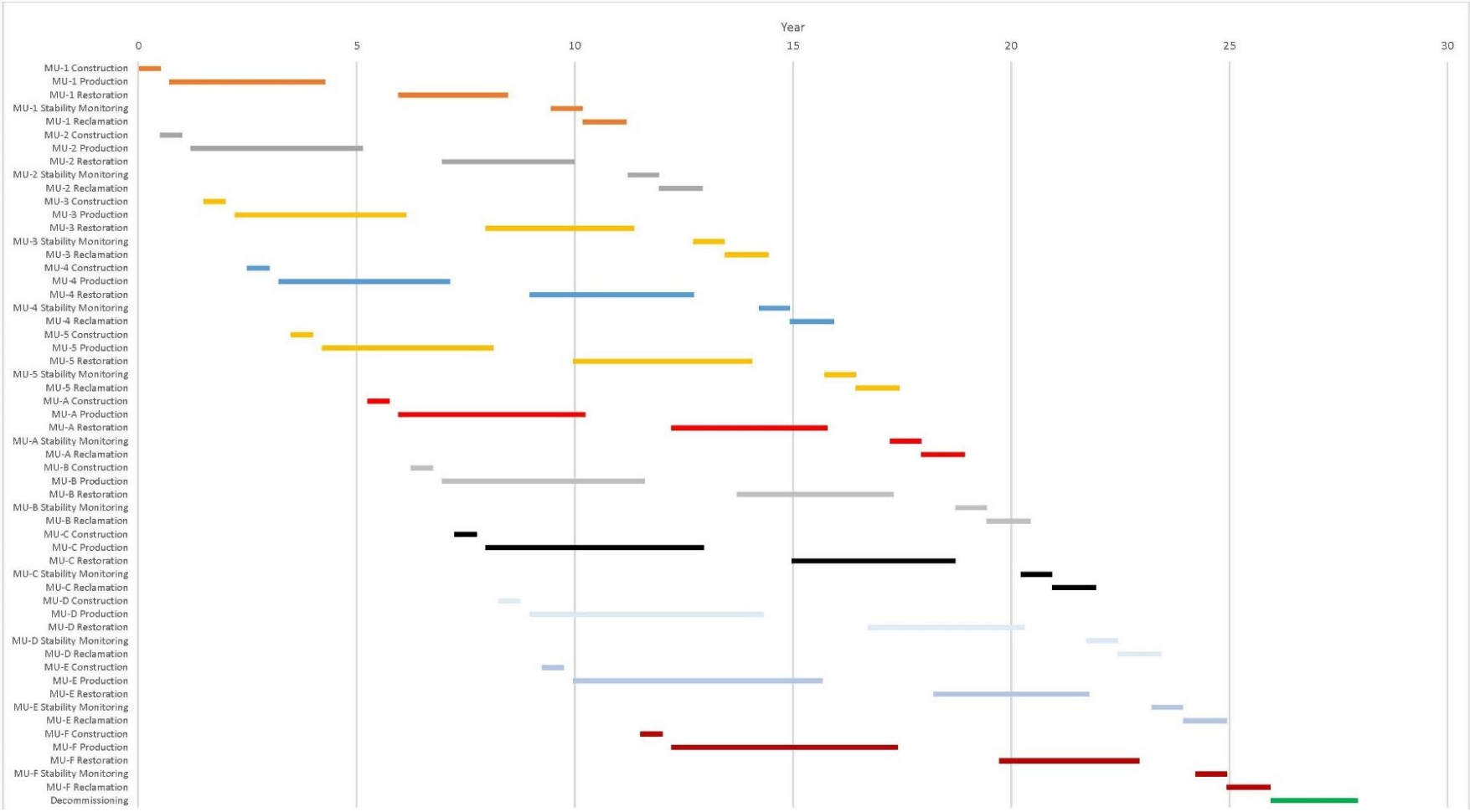
## Figure 2. Proposed Crow Butte Project Timeline




Mine Unit 9 is currently expected to enter restoration treatment in the first half of 2027.
Mine Unit 11 is currently expected to enter restoration treatment in the first half of 2030.

Operations may resume in Mine Units 9-11.

**Figure 3. Proposed MEA Project Timeline**



In addition to the currently planned 240 ha (592 acres) of disturbance listed above, based on its current knowledge of the MEA ore body, CBR estimates that another 470 ha (1,162 acres) may be disturbed over the life of the project for new activities such as roadways, exploration or delineation drilling, new and expanded mine units, wellhouses, and underground piping (CBR 2014). As a result, over the life of the project (see Section 2.3), the licensee estimates that approximately 1,754 acres (710 ha) of the proposed licensed area of 1,870 ha (4,622 acres) may be disturbed (NRC 2018).

### 2.1.5 Operation

Uranium extracted from the MEA wellfields will be processed at a satellite facility located within the MEA. SUA-1534 LC 10.3.3 limits the maximum flow rate at the satellite facility to 5,400 gpm, excluding restoration flow. The uranium extracted from the MEA will be loaded onto IX resin in the MEA satellite facility, which will then be transported by tanker truck to the CPF for elution, precipitation, drying, and packaging. Barren resin will be returned to the MEA satellite facility by tanker truck (CBR 2025).

After uranium recovery is no longer economical in a given wellfield, groundwater in that wellfield will be restored consistent with the groundwater protection standards presented in 10 CFR Part 40, Appendix A, Criterion 5(B)(5) on a constituent-by-constituent basis using Best Practicable Technology (BPT) (CBR 2025).

### 2.1.6 Decommissioning

Restoration, reclamation, and decommissioning methods for the CBP are discussed in detail in Section 2.3 of the Crow Butte EA (NRC 2014).

Decommissioning of wellfields and process facilities, once their usefulness has been completed in an area, will be scheduled after agency approval of groundwater restoration and stability. Decommissioning will be accomplished in accordance with an approved decommissioning plan and the most current applicable Nebraska Department of Water, Energy, and Environment (DWEE) and NRC rules and regulations, permit and license stipulations and amendments in effect at the time of the decommissioning activity.

The following is a list of general decommissioning activities:

- Plug and abandon all wells.
- Determine appropriate cleanup criteria for structures and soils.

- Complete radiological surveys and sampling of all facilities, process related equipment, and materials on site to determine the degree of contamination and identify the potential for personnel exposure during decommissioning.
- Remove from the site of all contaminated equipment and materials to an approved licensed facility for disposal or reuse, or relocation to an operational portion of the mining operation.
- Decontaminate items to be released for unrestricted use to levels consistent with the requirements of NRC.
- Survey excavated areas for contamination and remove contaminated materials to a licensed disposal facility.
- Perform final site soil radiation surveys.
- Backfill and recontour all disturbed areas.
- Establish permanent revegetation on all disturbed areas.

Wellfield decommissioning would occur throughout ISR operations. When uranium extraction is completed within a particular mine unit, CBR would undertake aquifer and groundwater restoration. Once aquifer restoration for a particular wellfield has been achieved, CBR would then proceed with other decommissioning and surface reclamation activities. Such activities would include the removal of surface equipment, facilities, and buried piping and the plugging and abandonment of wells, followed by recontouring and removal of contaminated soil, as needed, and final revegetation. Wellfield decommissioning would proceed sequentially as production and restoration activities are completed in each wellfield. Therefore, there would be some overlaps between wellfield decommissioning and groundwater restoration activities (CBR 2025).

At the completion of mine life and after groundwater restoration has been completed, all injection and recovery wells will be plugged and abandoned and the site decommissioned. Decommissioning will include plant disassembly and disposal, pond reclamation, and land reclamation of all disturbed areas. Applicable NRC regulatory guidelines will be followed. Decommissioning and reclamation are discussed in more detail in Chapter 6 of the SUA-1534 LRA (CBR 2025).

During surface reclamation, CBR would return disturbed lands to equal or better quality compared to their original condition before development for this proposed action (NRC 2018). Surface reclamation activities would include topsoil handling and replacement; contouring of disturbed lands; revegetation; removal of buried lines and pipes; and wellfield decommissioning, including well plugging and abandonment. CBR's objective for surface reclamation would be to return lands to a condition capable of supporting livestock grazing and providing habitat for wildlife species (CBR 2025).

CBR has committed to surveying and sampling all facilities and process- related equipment and materials to determine contamination levels. At the end of decommissioning, CBR would survey and release uncontaminated materials and equipment for reuse, if suitable. CBR would relocate and dispose of nonradiological wastes in appropriate facilities and would dispose of radiologically contaminated materials at NRC-approved licensed facilities. Under 10 CFR 40.42, CBR would be required to survey excavation areas for contamination and perform a final site soil radiation survey (CBR 2025).

### 2.1.7 Effluents and Waste Management

The ISR activities at the CBP would produce airborne effluent and liquid and solid waste as described below.

#### 2.1.7.1 Airborne Effluents

The only radioactive airborne effluent at the Crow Butte Project and MEA is radon-222 gas. As yellowcake drying and packaging at the CPF is carried out using a vacuum dryer, there are no airborne effluents from that system (CBR 2025).

The radon-222 is found in the pregnant lixiviant that comes from the wellfield into the CPF and satellite facility. The uranium is separated by passing the recovery solution through fluidized bed upflow IX units or pressurized downflow IX units. Radon gas is released from the solution in the IX columns and in the injection surge tanks. The vents from the individual vessels are connected to a manifold that is exhausted outside the plant building through the CPF stacks (CBR 2025). Similar venting will occur at the satellite facility.

Venting to the atmosphere outside minimizes personnel exposure. Small amounts of radon-222 may be released in the plant building during solution spills, filter changes, and maintenance activities. The CPF building is equipped with exhaust fans to remove any radon that may be released in the CPF building. No significant personnel exposure to radon gas has been noted during operation of the Crow Butte Project (CBR 2025).

#### 2.1.7.2 Liquid Wastes

##### 2.1.7.2.1 Existing Crow Butte Project

As outlined in the LRA, there are currently three wastewater disposal options for the Crow Butte Project: evaporation in solar evaporation ponds, deep well injection, and land application (CBR 2025). The specific method utilized depends upon the volume and characterization of the waste stream.

The operation of the CPF results in three sources of water that are collected on the site. They include the following:

- Water generated during well development – This water is recovered groundwater that has not been exposed to any mining process or chemicals. The water is discharged directly to one of the solar evaporation ponds and silt, fines, and other natural suspended matter collected during well development is settled out. This water may be used in plant processing, disposed of in a deep disposal well, or land applied following treatment.
- Liquid process waste – The operation of the process plant results in two primary sources of liquid waste, an eluant bleed and a production bleed. This water is also routed to the evaporation ponds or injected into the deep disposal well.
- Aquifer restoration - Following mining operations, restoration of the affected aquifer commences, which results in the production of wastewater. The restoration waste is primarily brine from the reverse osmosis unit, which is sent to the waste disposal system. The permeate is either reinjected into the wellfield or sent to the waste disposal system.

Domestic waste is disposed of in an approved septic system.

#### 2.1.7.2.2 MEA

As outlined in the LRA (CBR 2025), the proposed method of disposal at the MEA is injection into a deep disposal well (DDW) without supporting surge/evaporation ponds or surge tanks. There are currently no plans for any point source discharges or land application of wastewaters. However, the land application option could be applied in the future if such disposable is deemed feasible and more beneficial for a specific wastewater stream. The land application option would require an NRC license amendment and a discharge permit from the DWEE.

As outlined in the LRA (CBR 2025), operation of the MEA satellite plant will result in the following liquid waste streams:

- Water generated during well development – This water is recovered groundwater similar to well development water currently produced at the CPF. This water will be injected into the onsite DDW.
- Liquid process waste – The operation of the satellite facility will result in one primary sources of liquid waste - a production bleed. This bleed will be routed to the onsite DDW.
- Aquifer restoration – Restoration of the affected aquifer (which commences following mining operation) results in the production of wastewater similar to that produced during current restoration activities at the CPF. This wastewater will be injected into the onsite DDW.

Domestic sewage will be disposed of in an onsite wastewater treatment (i.e., septic) system permitted by the DWEE under the Class V underground injection control (UIC) regulations.

Based on the proposed project development schedule and the water balance for the MEA, liquid waste disposal methods will be phased. For approximately the first 6 years of operation, the MEA operations will discharge liquid waste to storage tanks located in the satellite building, which will discharge to two onsite DDWs. The proposed waste management system will be sufficient to handle the total quantities of liquid waste that will be generated and require disposal.

When restoration flows increase, additional liquid waste management and controls will be needed because the increased flows are expected to exceed the capacity of two DDWs. CBR will use the first 5 to 6 years of operation to assess the maximum injection rates of the DDWs and the overall efficiency of the liquid waste management system. Efforts will be made to maximize the DDW injection rates, minimize the amounts of liquid waste generated during operation and restoration, better quantify actual liquid waste flows, and further assess viable waste management alternatives and environmental implications. This time period will allow CBR time to develop an updated waste management system that will provide the most optimum long-term economic and technical viable approach to managing liquid waste

#### 2.1.7.3 Solid Waste

Solid wastes generated at the site consist of spent resin, resin fines, filters, empty reagent containers, miscellaneous pipe and fittings, and domestic waste. These wastes are classified as either contaminated 11e.(2) byproduct material or non-contaminated waste according to radiological survey results. Contaminated byproduct waste that cannot be decontaminated is packaged and stored until it can be shipped to a licensed 11e.(2) byproduct material waste disposal site or licensed mill tailings facility. Non-contaminated solid waste is collected on the site on a regular basis and disposed of in a sanitary landfill permitted by the DWEE.

#### 2.1.7.4 Contaminated Equipment

Materials and equipment that become contaminated as a result of normal operations are decontaminated if possible and disposed of by conventional methods. Equipment and materials that cannot be decontaminated are treated in the same manner as other contaminated solid waste.

## 3.0 ACTION AREA

The implementing regulations for Section 7(a)(2) of the ESA define “action area” to mean all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area effectively bounds the analysis of

federally-listed species and critical habitats because only species and habitats that occur within the action area may be affected by the Federal action. The project comprises two project areas, the existing Crow Butte Project Area and the MEA, as depicted on Map 1.

For the purposes of the ESA analysis, the action area includes the approximately 1,870-ha (4,622-acre) MEA, including approximately 240 ha (592 acres) of the MEA that would be directly disturbed by project activities; roadways that would be used to transport materials to and from the MEA and the Crow Butte CPF; and 450-ha (1,100-acres) of the existing Crow Butte license area that are used for ISR operations. Table 2 lists the acres associated with the proposed project.

**Table 2. Project Areas Size and Anticipated Disturbance**

| Project Area | Total Area (ha/Acres) | Total Anticipated Disturbance[1] (ha/Acres) |
|---|---|---|
| **Crow Butte** | 1,163/2,875 | 512/1,265 |
| **MEA** | 1,870/4,622 | 710/1,754 |
| **CBP TOTAL** | **3,033/7,497** | **1,222/3019** |

[1] The total anticipated disturbance is approximate and refers to the life of the mine disturbance
Source: CBR 2025 and NRC 2018

The Crow Butte Project currently has 11 mine units in various phases, as previously described. MU 1 has been restored, MUs 2 through 6 are undergoing stability monitoring, MUs 7 and 8 are in restoration, and MUs 9 through 11 are in standby. No additional construction activities are anticipated at the Crow Butte Project. At the Crow Butte Project, an estimated 512 ha (1,265 acres) of cultivated agricultural fields have been affected by surface-disturbing production facilities (CBR 2025).

CBR estimates that a total of approximately 710 ha (1,754 acres) could be affected over the life of the MEA project. Approximately 240 ha (592 acres) will be disturbed for the currently planned facilities, which consist of the satellite building and associated facilities (0.7 ha/1.8 acres), the DDWs (0.3 ha/0.79 acres), access roads to the satellite facility and DDW's (0.7 ha/1.7 acres) and 11 MUs (237.8 ha/587.6 acres). The number of acres associated with roadways located within the MUs is included in the total MU acreage estimates (NRC 2018).

The terrestrial and aquatic environments within the action area are described briefly below.

### 3.1 Terrestrial Resources in the Action Area

The CBR facility is located within the Pine Ridge area of Nebraska and is represented by two principal vegetation regions: plains and prairie flora and rocky mountain forest flora (Black Hills Montane Element) (CBR 2025). The Pine Ridge area is also the region for the Black Hills of South Dakota, an ecologically significant area for the region.

### 3.1.1 Plains and Prairie Flora

The main features that describe this vegetation region are a dominance of grasses, absence of trees, rolling topography, and a characteristic xerophytic flora. Species occurring on the action area include big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), Canada wild rye (*Elymus canadensis*), Kentucky bluegrass (Poa pratensis), sage, purple coneflower (*Echinacea Moench*), large Indian breadroot (*Pediomelum esculentum*), and goldenrod (*Bigelowia* sp.) (CBR 2025).

### 3.1.2 Rocky Mountain Forest Flora (Black Hills Montane Element)

Although geographically separated from the Rocky Mountains, the Pine Ridge and Black Hills have affinities to this region, which lie principally 200 km (125 miles) to the west. Floral species suggest that the two areas were contiguous during Pleistocene times. Species on the action area typical of this region include Oregon grape (*Berberidaceae* sp.), Rocky Mountain juniper (*Juniperus scopulorum*), ponderosa pine (*Pinus ponderosa*), and Mariposa lily (*Calochortus* sp.) (CBR 2025).

Many non-native plant species occur in the area. A 1982 study conducted by CBR estimated that 30 percent of species and more than 50 percent of plant cover consists of non-native plant species that are conspicuously successful and include smooth brome (Bromus inermis), cheatgrass (*Bromus tectorum*), sweetclover (*Melilotus* sp.), and several *Brassicaciae* species. Cultivated species include wheat, oats, rye, corn, milo, and alfalfa plants (CBR 2025).

## 3.2 Aquatic Resources of the Action Area

### 3.2.1 Crow Butte Project

The Crow Butte Project is located within the Niobrara River Basin. Annual flows within the Niobrara River Basin are regulated mainly by snowmelt, precipitation, and groundwater discharge. Aquatic habitats on the Crow Butte Project consist of three streams and eight impoundments. Squaw Creek, English Creek, and White Clay Creek are first-order streams that form the drainage basin within the Crow Butte Project. Squaw Creek, a perennial stream, flows through the Crow Butte license area from east to northwest. Four impoundments are located on English Creek, two on White Clay Creek, and one on Squaw Creek. One remaining impoundment is a stock pond created by a dam on a small drainage area (CBR 2025).

In general, the aquatic habitats on the Crow Butte Project suffer from ongoing environmental stresses. Naturally occurring stresses include unstable substrates and banks, low flows, and periodic flooding. Overgrazing on adjacent rangelands and in riparian areas, and farming practices along the stream courses further compound these problems. Some impoundments within the Crow Butte Project area have been or are now managed for baitfish production, which may utilize practices such as poisoning, dewatering, and introducing bait minnows. Livestock

grazing and watering add to impoundment problems. These stresses are reflected in a fishery mostly consisting of non-game, stress-tolerant species. Periodic stocking by the Nebraska Game and Parks Commission (NGPC) has created some put-and-take sport fisheries in the area but these are not self-sustaining due to environmental factors (CBR 2025).

According to information included in the 2025 Crow Butte EA, fourteen species of fish were collected from the Crow Butte Project streams and impoundment. Game fish collected included black bullheads, rainbow trout, brown trout, and brook trout (CBR 2025).

### 3.2.2 MEA

The MEA is also located within the Niobrara River Basin. No perennial streams occur within the MEA. The Niobrara River, located just south of the project area, is the prominent drainage in the vicinity of the MEA and flows into Box Butte Reservoir. Other small drainages include Dooley Spring, Willow Creek, and other small unnamed drainages, but all are typically dry and lack distinct stream channels and banks. Occasional runoff may create small pools in a few places, but there is no evidence of persistent stream flows in recent times. Based on existing land uses, intensive grazing and agricultural practices are likely the largest factors influencing water quality in the area (CBR 2015).

The local fish population was sampled at three sites along the Niobrara River during early June and mid-September 2011. Species were detected during sampling included northern pike (*Esox lucius*), white sucker (*Catostomus commersoni*), green sunfish (*Lepomis cyanellus*), red shiner (*Cyprinella lutrensis*), common carp (*Cyprinus carpio*), largemouth bass (*Micropterus salmoides*), yellow perch (*Perca flavescens*), bluegill (*Lepomis macrochirus*), pumpkinseed sunfish (*Lepomis gibbosus*), and central stoneroller (*Campostoma anomalum*). No state-listed species were detected (CBR 2025).

## 4.0 FEDERALLY-LISTED SPECIES CONSIDERED

The USFWS's Environmental Conservation Online System (ECOS) Information for Planning and Conservation (IPaC) and information from the applicant was used to identify present federally-listed species and critical habitats in the action area. Eight federally-listed species (northern long-eared bat (NLEB) [*Myotis septentrionalis*], tricolored bat (TCB) [*Perimyotis subflavus*], black-footed ferret [*Mustela nigripes*], piping plover [*Charadrius melodus*], rufa red knot [*Calidris canutus rufa*], monarch butterfly [*Danaus plexippus*], Suckley's cuckoo bumble bee [*Bombus suckleyiand*], and western regal fritillary [*Argynnis idalia occidentalis*]) have the potential to occur in the CBP action area (USFWS 2025a). The following sections describe each of the eight species' distributions, population trends, and relevant life history information. Conclusions are also provided in these sections as to whether or not each species may occur in the action area given the available information. Table 3 includes additional information related to habitat requirements and distribution.

**Table 3. Federally Protected Species Potentially Occurring within the CBP Action Area**

| Species | Federal Status | Observed in the Area | | Habitat | Critical Habitat Present |
|---|---|---|---|---|---|
| | | Existing Crow Butte Project Area | MEA | | |
| Northern Long-eared Bat (*Myotis septentrionalis*) | FE | | | In non-hibernating seasons, northern long-eared bats typically roost individually or in colonies underneath bark or in cavities or crevices of both live trees and snags. Males and nonreproductive females may also roost in cooler locations, including caves and mines. Individuals may use caves and mines during fall swarming (USFWS 2022). | N |
| Tricolored bat (*Perimyotis subflavus*) | FPE | | | In non-hibernating seasons, tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. Additionally, species may roost during summer among pine needles, within artificial roosts like barns, beneath porch roofs, bridges, and concrete bunkers (USFWS 2021). | N |
| Black-footed Ferret (Mustela nigripes) | FE | | | Habitat for the black-footed ferret (BFF) includes nocturnal and underground prairie dog burrows. Relies on prairie dogs for food. BFF density directly correlates to prairie dog colony size where one adult requires 40-60 ha of occupied prairie dog habitat. The closest reintroduction site to the action area is Wind Cave National Park (USFWS 2019). | N |
| Piping Plover (*Charadrius melodus*) | FT | X | | Piping plovers nest on sparsely vegetated river sandbars, lakes, and beaches. They also nest on manmade sand and gravel mines, sandpit housing developments, and reservoir shorelines. Foraging habitat for these birds can be found along shorelines or mudflats that contain small invertebrates (NGPC 2013). | N |
| Rufa Red Knot (*Calidris canutus rufa*) | FT | | | In addition to coastal habitat, stopover habitat for the rufa red knot includes saline lakes. There is limited information on potential freshwater stopover habitat usage (USFWS 2020). | N |
| Monarch Butterfly (*Danaus plexippus*) | FPT | X | X | The monarch butterfly utilizes prairies, meadows, grasslands along roadsides across most of North America, especially in areas containing milkweed (USFWS 2025e). | N |
| Suckley's Cuckoo Bumble Bee (*Bombus suckleyiand*) | FPE | | | Often found invading and usurping bee host nests, Suckley's cuckoo bumble bee (SCBB) relies on host bees to collect pollen. Only mated females overwinter. The known host species for SCBB are the western bumble bee and Nevada bumble bee. Habitat includes underground holes and rodent burrows, meadows, and forest. SCBB forages in meadows, grasslands, and developed areas. Female SBCC overwinter underground in areas separate from nesting habitat (USFWS 2024). | N |
| Western Regal Fritillary (Argynnis idalia occidentalis) | FPT | X | X | Prairies, meadows, and grasslands, especially in areas containing violets (*Viola* spp.) and nectar food sources. Habitats in the Midwest are primarily small, isolated patches typically exist as conservation preserves (89 FR 63888). | N |

FE = Listed as federally endangered; FPE = proposed for federal listing as threatened; FT = Listed as federally threatened
FPT = proposed for federal listing as threatened

## 4.1 Northern Long-Eared Bat (FE)

The USFWS listed the NLEB as threatened throughout its range in 2015 (80 FR 17974). In 2016, the USFWS determined that designating critical habitat for the species was not prudent because such designation would increase threats to the species resulting from vandalism and disturbance and could potentially increase the spread of white-nose syndrome (81 FR 24707).

Due to continued and increased population declines and impacts from threats, on November 29, 2022, the USFWS found that the species now meets the definition of an endangered species and published a final rule to reclassify the NLEB as endangered under the ESA (USFWS 2025b).

The NLEB is a wide-ranging, federally-designated endangered bat species, found in 37 states and eight provinces in North America, which includes Nebraska. The species typically overwinters in caves or mines and spends the remainder of the year in forested habitats. As its name suggests, the NLEB is distinguished by its long ears, particularly as compared to other bats in the genus *Myotis* (USFWS 2025b).

NLEBs were not observed during the Crow Butte Project or MEA surveys. The species has been decimated in the northeast, where it was most common; it has always been less common to rare in the western edges of its range (USFWS 2025b). However, its occurrence in Nebraska is possible through migration from surrounding states where it is known to occur (USFWS 2016a). In 2016–2017, several occurrences of white-nose syndrome, a fungal disease, were recorded in eastern Nebraska (National Park Service 2018). The MEA is not located in the white-nose syndrome zone, within which the USFWS has instituted protections to prevent purposeful taking of NLEB individuals (University of Nebraska 2017).

Because the NLEB is not currently known to occur in Dawes County, Nebraska, the species is likely absent from the action area, and life history activities that entail longer residence times (i.e., roosting, swarming, and hibernation) are unlikely to occur in the action area (NRC 2018). In addition, caves and mines are not present at either the Crow Butte Project or the MEA. It is assumed, however, that individuals may occasionally occur within the action area over the course of the spring and fall migration periods, during which time individuals may use forested areas of the action area for resting and feeding. Thus, the species has the potential to occur in the action area from mid-March to mid-May and from mid-August and mid-October.

### 4.2 Tricolored Bat (FPE)

The USFWS issued a proposed rule to list the TCB as endangered in 2022 (87 FR 56381). Although the ESA does not require consultation for proposed species, an evaluation of the TCB is included here in response to an Information Needs (IN) request prepared by NRC related to the CBR LRA for SUA-1534 (CBR 2025).

The TCB is a small insectivorous bat that can be distinguished by its unique tricolored fur, which often appears yellowish to orange. The species occurs across 39 States in the eastern and central United States, including Nebraska (USFWS 2021).

During the spring, summer, and fall, TCB occupy forested habitats. Individuals roost among leaves of live or recently dead deciduous hardwood trees, but individuals may also roost in pines (*Pinus* spp.), eastern red cedar (*Juniperus virginiana*), Spanish moss (*Tillandsia usneoides*), beard lichen (*Usnea trichodea*), and occasionally human structures. During the winter, TCB often inhabit caves and abandoned mines. TCB typically hibernate singly, but sometimes in pairs or in small clusters of both sexes away from other bats. Between mid-August and mid-October, males and females converge at cave and mine entrances to swarm and mate, and females typically give birth to two young between May and July (NRC 2017).

Suitable TCB summer habitat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and include some adjacent and interspersed non-forested habitats such as emergent wetlands, shrublands, grasslands, and forested edges of agricultural fields, old fields, and pastures (USFWS 2021).

No recent surveys associated with the Crow Butte Project or MEA have been completed to determine the presence of the TCB. According to information included in the USFWS' ECOS, Dawes County is not included in the list of counties where the TCB is known or believed to occur (USFWS 2025c). Because the TCB is not currently known to occur in Dawes County, Nebraska, the species is likely absent from the action area. Suitable TCB summer habitat may exist in the CBP. During the winter, tricolored bats hibernate in caves and mines, which are not present in the CBP. It is assumed, however, that individuals may occasionally occur within the action area over the course of the spring and fall migration periods, during which time individuals may use forested areas of the action area for resting and feeding. Thus, the species has the potential to occur in the action area during the spring, summer, and fall months.

### 4.3 Black-footed Ferret (FE)

The USFWS issued a rule to list the black-footed ferret (BFF) as endangered in 1967 (32 FR 4001). The historical range of the BFF included most of the great plains including grasslands and mountain basins, including Nebraska. Its distribution coincided with the ranges of the black-tailed prairie dog (*Cynomys ludovicianus*) (USFWS 2019). The last confirmed sighting in Nebraska occurred in 1949 (Fichter, E.J. and K. Jones 1953). BFFs depend on prairie dogs for food and on their burrows for shelter.

Since 1991, black-footed ferrets have been released at 30 reintroduction sites in Wyoming, South Dakota, Montana, Arizona, Colorado, Utah, Kansas, New Mexico, Canada, and Mexico (MDFWP 2021). The closest BFF reintroduction site is located approximately 50 mi (80 km) from the action area, in Wind Cave National Park (Black-footed Ferret Friends 2025).

Given that there have been no observations of the BFF within the action area, that Nebraska is block cleared, and the action area is not within the known dispersal range for the Wind Cave National Park captive-bred BFF, it is concluded that the BFF is absent from the action area.

### 4.4 Rufa Red Knot (FT)

The USFWS listed the red knot as threatened wherever found effective in 2015 (79 FR 73706). The red knot is a medium-sized shorebird that migrates annually between breeding grounds in the Canadian Arctic and several wintering regions, including the southeastern United States, northeastern Gulf of Mexico, northern Brazil, and Tierra del Fuego in southern South America. During both spring and fall migrations, red knots use key staging and stopover areas to rest and feed. While most individuals travel through the Atlantic coast during migration, some Texas wintering red knots pass over the Northern Plains region of the Central Flyway twice annually during migration (NRC 2018). In Nebraska, the red knot is considered an occasional spring and fall migrant, which means that the species has occurred at least twice for a particular season but does not occur annually (NRC 2018).

During migration, red knots use coastal marine and estuarine habitats with large areas of exposed intertidal sediments; ocean- or bay-front areas; and tidal flats in more sheltered bays and lagoons (USFWS 2014). Inland stopovers include saline lakes within the Northern Great Plains (Newstead et al. 2013). USFWS has found that although little information exists indicating whether red knots may utilize inland freshwater habitats during migration, current data suggests that certain freshwater areas may warrant further study as potential stopover habitat. The USFWS also concluded that the best available data indicate that small numbers of red knots may use impoundments and other manmade freshwater habitats during inland migrations (NRC 2018).

While rufa red knots have rarely been observed in Nebraska during spring and fall migration periods, it is considered an occasional spring and fall migrant. However, the lack of suitable staging and stopover habitat in the action area and within the vicinity of associated access roads reduces the likelihood that the rufa red knot will occur in the action area.

### 4.5 Piping Plover (FT)

The USFWS listed the piping plover as threatened throughout its range in 1985 (50 FR 50726). In 2002, the USFWS designated critical habitat for the Northern Great Plains breeding population of the piping plover, which included Nebraska (67 FR 57638). The Nebraska portion of the critical habitat was vacated by U.S. District Court on October 13, 2005 (USFWS 2009).

The piping plover is a small migratory shorebird that nests and feeds along coastal sand and gravel beaches in North America. The Northern Great Plains breeding population of piping

plover extends from Nebraska, north along the Missouri River through South Dakota, North Dakota and eastern Montana. In the Northern Great Plains, piping plovers nest on the unvegetated shorelines of alkaline lakes, reservoirs, or river sandbars (USFWS 2025d).

There is a limited availability of suitable piping plover breeding grounds within the action area. In Nebraska, piping plovers breed along the Missouri, Platte, Elkhorn, Loup, and Niobrara rivers. Piping plovers only spend 3 to 4 months of the year on the breeding grounds. Therefore, any presence of piping plovers within the action area would be expected to be infrequent and transient but it has been reported by knowledgeable individuals within the CBP. However, based on limited availability of suitable habitat and infrequent observations in the area, it is unlikely that there would be any negative adverse effect to the piping plover.

### 4.6 Monarch Butterfly (FPT)

The USFWS proposed listing the monarch butterfly as threatened in 2024 (89 FR 100662). Although the ESA does not require consultation for proposed species, this species is considered here on the recommendation of the USFWS in its IPaC report (USFWS 2025a).

North American migratory monarch butterflies are divided into eastern and western populations. The Rocky Mountains generally divide these two populations, limiting their contact. However, the two populations are not completely isolated from each other and still occasionally interbreed. The eastern North American migratory monarch butterfly population is the largest population of monarch butterflies, in both individuals and range. The eastern population encompasses upwards of 70 percent of the total North American monarch butterfly range. In the fall, they may fly more than 2,000 miles (3,000 km) to reach overwintering sites in Mexico (USFWS 2025e).

Milkweed and flowering plants are needed for monarch butterfly habitat. Adult monarch butterflies feed on the nectar of many flowers during breeding and migration, but they lay eggs on milkweed plants, as that is the only food the caterpillars can eat. Previous surveys done at the Crow Butte Project indicated the presence of Showy milkweed (*Asclepias speciosa*). No recent surveys have been completed to determine the presence of the monarch butterfly, however based on available data, the monarch butterfly has the potential to occur in the action area during the summer months when milkweed is in bloom and during fall migration.

### 4.7 Suckley's Cuckoo Bumble Bee

The USFWS proposed listing the Suckley's cuckoo bumble bee as threatened in 2024 (89 FR 102074). Although the ESA does not require consultation for proposed species, this species is considered here at the recommendation of the USFWS in its IPaC report.

The Suckley's cuckoo bumble bee is a parasitic, non-eusocial bumble bee that does not follow a traditional social bumble bee life cycle. In late spring, female cuckoo bumble bees emerge from

hibernation where they feed on nectar and pollen prior to invading host species nests. The cuckoo bumble bee then usurps the nest, kills the queen social bumble bee, and relies on social bee workers to collect pollen. Cuckoo bumble bee offspring emerge in late summer and mate through fall. Female cuckoo bumble bees solely overwinter underground. Currently, there are only two known host species for the cuckoo bumble bee, the western bumble bee (*Bombus occidentalis*) and Nevada bumble bee (*Bombus nevadensis*). The cuckoo bumble bee is known to forage, nest, and overwinter in meadows, grasslands, fallow fields, croplands, urban areas, and forests (USFWS 2024). Cuckoo bumble bees have been recorded on numerous plants such as aster, rabbitbrush (*Chrysothamnus* sp.), thistle (*Cirsium* sp.), goldenrod *(Haplopappus, Solidago*), cone flower (*Rudbeckia* sp.), sweetclover (*Melilotus* sp.), and clover (*Trifolium* sp.) (USFWS 2024). Other than sweetclover, none of these species has been documented on the CBP or MEA project areas.

In the western portion of the range, Suckley's cuckoo bumble bee observations extend south to Arizona, east to Nebraska and the edge of Minnesota, and north through the Yukon of Canada. The species has not been observed within the United States since 2016 and not detected in Nebraska since 2001 (Nebraska Department of Transportation [NDOT] 2024). The USFWS is in the process of developing consultation guidance, including a range map for the Suckley's cuckoo bumble bee. At this time, it is unlikely that there would be any adverse effect to the Suckley's cuckoo bumble bee.

### 4.8 Western Regal Fritillary (FPT)

The USFWS proposed listing the western regal fritillary as threatened in 2024 (89 FR 63888). Although the ESA does not require consultation for proposed species, this species is considered here at the recommendation of the USFWS in its IPaC report.

Regal fritillary butterflies live in tall-grass prairie and other open and sunny locations such as damp meadows, marshes, wet fields, and mountain pastures. These early successional stage habitats were maintained through periodic, natural disturbance regimes. Regal fritillaries depend on three main habitat components: violet (*Viola* sp.) host plants for caterpillars, nectar plants for adults and native warm-season bunch grasses that provide protective sites for all life stages. Adults are encountered in both upland prairies and wet prairies, although larval development may be restricted to upland prairie where violet species grow. Wet prairies provide critical nectar sources under drought conditions. Adults are rarely encountered away from native prairies and they appear to have a strong tendency to remain within the boundaries of these habitats. A viable, self-sustaining population requires about 120 to 240 acres. However, adults are frequently observed in remnant habitats that may be too small to support a self-sustaining population, suggesting that dispersal among remnants is common and that the butterflies will

use somewhat degraded prairie habitats. These butterflies are strong flyers and occasionally disperse over ten km (6 miles). However, they tend to remain in the bounds of their natal prairie, especially if it is surrounded by trees, croplands, or roads (USFWS 2025f).

During the breeding season, western regal fritillary lay their eggs on various violets. Previous surveys done at the Crow Butte Project indicated the presence of two violet species: Canada violet (*Viola canadensis*) and yellow prairie violet (*Viola nuttallii*). No recent surveys have been completed to determine the presence of the western regal fritillary and no evidence of breeding has been documented, however based on available data, the western regal fritillary has the potential to occur in the action area during the late summer months while adults are foraging.

## 5.0 ENDANGERED SPECIES ACT EFFECT DETERMINATIONS

This section describes the potential effects of the proposed action (the NRC's decision of whether to approve a license renewal that would authorize CBR to operate for an additional 20 years) on the NLEB, TCB, piping plover, rufa red knot, BFF, monarch butterfly, Suckley's cuckoo bumble bee, and western regal fritillary. To evaluate potential effects, it was first considered whether each species would be exposed to the proposed action-related stressors. If exposure is likely, the NRC staff then evaluates how the exposed individuals are likely to respond. Table 4 provides an overview of the NRC staff effect determinations. The effect determination for each species is further discussed below.

**Table 4. Effect Determinations for Federally-Listed and Proposed Species Under USFWS Jurisdiction in the Crow Butte In-Situ Uranium Action Area**

| Common Name | Scientific Name | Federal Status[1] | ESA Effects Determination[2] |
|---|---|---|---|
| Northern Long-eared Bat | *Myotis septentrionalis* | FE | NLAA |
| Tricolored Bat | *Perimyotis subflavus* | FPE | NLAA |
| Black-footed Ferret | *Mustela nigripes* | FE | NE |
| Piping Plover | *Charadrius melodus* | FT | NLAA |
| Rufa Red Knot | *Calidris canutus rufa* | FT | NLAA |
| Monarch Butterfly | *Danaus plexippus* | FPT | NLAA |
| Suckley's Cuckoo Bumble Bee | *Bombus suckleyiand* | FPE | NLAA |
| Western Regal Fritillary | *Argynnis idalia occidentalis* | FPT | NLAA |

[1] FE = Listed as federally endangered; FT = Listed as federally threatened; FPT = proposed for federal listing as threatened

[2] NLAA = may affect, not likely to adversely affect; NE = no effect

### 5.1 Northern Long-Eared Bat (FE) and Tricolored Bat (FPE)

In Sections 4.1 and 4.2, it was concluded that the NLEB has the potential to occur in the action area as residents in forested areas during foraging and roosting season. However, the NLEB has not been observed in either the Crow Butte Project or the MEA. Given that TCB have rarely been observed in Nebraska and the lack of suitable habitat in the action area, the TCB is not likely to occur.

The potential stressors to NLEB and TCB that could experience from the construction, operation, and decommissioning of an ISR facility are as follows: mortality or injury from collisions with facility structures and vehicles; habitat loss, degradation, disturbance, or fragmentation, and associated effects; and behavioral changes resulting from activities associated with the proposed action. CBR states that unidentified bats were observed in the action area during nocturnal amphibian surveys and spotlighting efforts at targeted ponds in nearby treed habitat in the project area during the baseline survey conducted in 2007-2008 (CBR 2025).

*Mortality or Injury from Collisions with Facility Structures and Vehicles*

NLEB and TCB bats can be vulnerable to mortality or injury from collisions with facility structures and vehicles. Bat collisions with human-made structures at ISR facilities are not well documented but are likely rare based on available information. Additional power lines will be constructed as part of the MEA construction activities; however, the exact location of the power lines is not known at this time. CBR commits to adhering to the guidance of the Avian Power Line Interaction Committee (2006). Accordingly, the likelihood of future bat collisions with facility buildings or structures would be discountable and, therefore, is not considered further.

Vehicle collisions risk for bats varies depending on factors including time of year, location of roads and travel pathways in relation to roosting and foraging areas, the characteristics of individuals' flight, traffic volume, and whether young bats are dispersing. Although collision has been documented for several species of bats, the Indiana Bat Draft Recovery Plan (USFWS 2007) indicates that bat species do not seem to be particularly susceptible to vehicle collisions. The USFWS also finds it difficult to determine whether roads pose a greater risk for bats colliding with vehicles or a greater likelihood of decreasing risk of collision by deterring bat activity (USFWS 2016b). In most cases, the USFWS expects that roads of increasing size decrease the likelihood of bats crossing the roads and, therefore, reduce collision risk (USFWS 2016b). Most vehicle activity would occur during daylight hours when bats are less active. The potential for collisions with wildlife can be reduced by requiring drivers to follow all posted speed limits (CBR 2025). Accordingly, the likelihood of bat collisions with vehicles would be extremely unlikely and, therefore, is not considered further.

*Habitat Loss, Degradation, Disturbance, or Fragmentation, and Associated Effects*

As discussed in Section 3.1, the action area includes vegetative communities such as ponderosa pine and riparian corridors that federally-listed bats could use as habitat for foraging and roosting during the spring, summer, and fall. At this time, Crow Butte Resources (CBR) does not plan any tree clearing within the license renewal term at either the Crow Butte Project or the MEA. In addition, LC 9.13(A) of SUA-1534 requires that during the mating season for the

NLEB (June 1 to July 31 annually), CBR must avoid tree clearing activities at the MEA (CBR 2025). If any trees are removed, CBR commits to adhering to the tree clearing moratorium.

No caves and mines are present within the action area.

*Behavior Changes Resulting from Activities Associated with the Proposed Action*

ISR construction, operation, aquifer restoration, and decommissioning activities could prompt behavioral changes in bats. Noise, vibration, and general human disturbance are stressors that may disrupt normal feeding, sheltering, and breeding activities. At low noise levels or farther distances, bats initially may be startled but would likely habituate to the low background noise levels. At closer range and louder noise levels, particularly if accompanied by physical vibrations from heavy machinery, many bats would likely be startled to the point of fleeing from their daytime roosts. Fleeing individuals could experience increased susceptibility to predation and would expend increased levels of energy, which could result in decreased reproductive fitness. Increased noise may affect foraging success. Schaub et al. (2008) found that the foraging success of the greater mouse-eared bat (*Myotis myotis*) diminished in areas with noise mimicking the traffic sounds (sound pressure levels (SPL) of 80 decibels [dB]) that would be experienced within 15 meters (49 feet) of a highway. Although noise levels associated with a typical water-well drilling rig may reach or exceed 100 A-weighted decibels (dBA) within 2 meters (6.6 feet) of the rig compressor, noise levels decrease to less than 90 dBA within 6 meters (20 feet) and 55 dBA at 1,067 meters (3,500 feet) from the source (CBR 2025). Therefore, it can be conservatively presumed that bats would avoid foraging within 6 meters (20 feet) of construction activities, According to CBR, construction activities would be temporary and would briefly add to existing noise levels (CBR 2025).

In addition, construction activities would typically occur over an 8-hour workday, 5 days per week. Noise from construction would not be generated during nighttime hours (CBR 2025). Like most bats, northern long-eared bats emerge at dusk to feed during their active time period (USFWS 2025b).

Within the action area, noise, vibration, and other human disturbances could dissuade bats from using the action area's forested habitat, which could reduce the fitness of bats. According to the USFWS, bats that are repeatedly exposed to predictable, loud noises may habituate to such stimuli over time (USFWS 2010). NLEB and TCB would likely respond similarly.

Accordingly, it is concluded that due to the daily timing restrictions on construction activities and the fact that bats will likely acclimate to human disturbance, adverse effects from noise would be insignificant.

*Mitigation and Avoidance Measures*

CBR will adhere to the following mitigation and avoidance measures to reduce potential impacts to the NLEB:

- Within the action area, CBR would not perform tree clearing activities during the NLEB active season (mid-April through October 31).
- LC 9.13(A) of SUA-1534 requires that during the mating season for the NLEB (June 1 to July 31 annually), CBR must avoid tree clearing activities at the MEA.

*Conclusion for the Northern Long-eared Bat*

Given the aforementioned avoidance and mitigation measures, all potential effects on the NLEB resulting from the proposed action would be insignificant or discountable. Therefore, the NRC staff concludes that the proposed action **may affect but is not likely to adversely affect** the NLEB. Following the submission of this BA to USFWS, the NRC staff will seek USFWS's concurrence with this finding.

*Conclusion for the Tricolored Bat*

Because the TCB is proposed for Federal listing as endangered, the ESA does not require the NRC to consult with or receive concurrence from the USFWS regarding this species as long as the continued existence of the species is not jeopardized. However, because the licensing action is for 20 additional years and the TCB may become listed during that time, the NRC staff is requesting concurrence for the TCB. Given the aforementioned avoidance and mitigation measures, all potential effects on the TCB resulting from the proposed action would be insignificant or discountable. Therefore, it is concluded that the proposed action **may affect but is not likely to adversely affect** the TCB.

### 5.2 Black-footed Ferret (FE)

In Section 4.3, it was concluded that BFFs do not occur in the action area because the species has been extirpated from Nebraska and because of the existing block clearance (NRC 2017). The nearest introduced population is located at Wind Cave, South Dakota, approximately 80 km (50 miles) away. Accordingly, it is concluded that the proposed action would have **no effect** on the BFF. Current black-tailed prairie dog colony information is provided to USFWS as a courtesy in Section 4.4.

### 5.3 Piping Plover (FT)

There is a limited availability of suitable piping plover breeding grounds within the areas action area. In Nebraska, piping plovers breed along the Missouri, Platte, Elkhorn, Loup, and Niobrara rivers. Piping plovers only spend 3 to 4 months of the year on the breeding grounds. There is a

limited availability of suitable piping plover breeding grounds within the action area. This species has been observed on the CBP but any presence of piping plovers within the action area would be expected to be infrequent and transient. Based on the analysis of the effects of project implementation and the current and potential presence of this species in northwestern Nebraska, the project **may affect but is not likely to adversely affect** the piping plover.

### 5.4 Rufa Red Knot (FT)

The rufa red knot has rarely been observed in Nebraska during migration and that the action area lacks suitable staging and stopover habitat. While Section 4.4 of this BA and the NRC's EA for the MEA (NRC 2018) indicate the rufa red knot is unlikely to occur in the action area, it is considered an occasional spring and fall migrant. The species has rarely been observed in Nebraska during migration and that the action area lacks suitable staging and stopover habitat. Based on the analysis of the effects of project implementation and the current and potential status presence of this species in northwestern Nebraska, the project **may affect but is not likely to adversely affect** the rufa red knot.

### 5.5 Monarch Butterfly (FPT)

In Section 4.6, it was concluded that the monarch butterfly has the potential to occur in the action area as a migrant in grassland, shrubland, and forested areas during breeding and foraging season. The potential stressors to monarch butterflies that could be experienced from the construction, operation, and decommissioning of an ISR facility are as follows: habitat loss, disturbance, and availability of nectar and milkweed resources; and insecticide exposure.

*Habitat Loss, Disturbance, and Availability of Nectar and Milkweed Resources*

Monarch butterfly habitat loss and degradation have resulted from the conversion of grasslands to agriculture, widespread use of herbicides, logging/thinning at overwintering sites in Mexico, deterioration and incompatible management of overwintering sites in California, urban development, and drought. Construction activities, increased soil disturbance, and higher traffic volumes could stimulate the introduction and spread of undesirable and invasive, non-native species within the project area. The proposed ISR license renewal would also involve habitat loss, land-disturbing activities, and activities that would degrade existing natural areas or potential habitats for monarch butterflies. As previously described in Section 4.6, there are several important milkweed and nectar resources used by the monarch butterfly in the action area, which include showy milkweed and purple coneflower, among other nectar and floral resources (CBR 2025). The monarch butterfly, if present, would only occur within the action area during summer months up until fall migration when it migrates to habitats in the south where temperatures are warmer. Most land clearing activities would occur within the construction period of the proposed action and some direct mortality or injury could occur. CBR

would reseed the vegetation that is lost due to land clearing. Effects from land clearing and the reduction in vegetation and floral resources will be temporary. CBR will conduct revegetation activities in accordance with DWEE requirements using a seed mixture developed in consultation with the Natural Resource Conservation Service as required by the DWEE (CBR 2025).

*Insecticide Exposure*

Most insecticides are nonspecific and broad-spectrum in nature. Furthermore, the larvae of many lepidopterans are considered major pest species, and insecticides are specifically tested on this taxon to ensure that they will effectively kill individuals at the labeled application rates (USFWS 2024). Although insecticide use is most often associated with agricultural production, any habitat where monarch butterflies are found may be subject to insecticide use. Studies looking specifically at the dose response of monarch butterflies to neonicotinoids, organophosphates, and pyrethroids have demonstrated monarch butterfly toxicity (Krischik et al. 2015; James 2019; Krishnan et al. 2020; Bagar et al. 2020). Moreover, the magnitude of risk posed by insecticides may be underestimated, as research usually examines the effects of the active ingredient alone, while many of the formulated products contain more than one active insecticide.

CBR will control noxious weeds on all lands that they operate, manage, or exercise jurisdiction over. All weeds will be controlled in accordance with the State of Nebraska Noxious Weed Control Act: Section 2-945.01 to 2-966. One approved method of weed control is the use of herbicides. Herbicides used by CBR are approved by the EPA and registered with the Nebraska Department of Agriculture prior to sale in the state. All herbicide applications are conducted in strict compliance with the manufacturer's instructions. The application is supervised and executed by personnel holding a valid Certified Pesticide Applicators License issued by the State of Nebraska.

Spot spraying techniques are used to apply herbicides with a targeted technique where herbicides are applied directly to individual weed plants or small patches rather than uniformly across an entire area. Handheld sprayers with adjustable nozzles are used to deliver precise, controlled herbicide to the foliage of plants. Spot spraying is beneficial for minimizing herbicide use and reducing impacts on non-target vegetation. Table 5 illustrates a typical year's herbicide use at the Crow Butte Project

**Table 5. Annual Herbicide Use at the Crow Butte Project**

| Herbicide | Type | Purpose | Annual Use (gallons) |
|---|---|---|---|
| Cornerstone 5 PLUS | Non-selective Post Emergent | Parking Areas and Roadways | 10 |
| Milestone | Broadleaf Selector | Dry Land Broadleaf Weed Control | 8 |
| Method 240SL | Broadleaf Selector Pre/Post Emergent | Dry Land Broadleaf Weed Control | 2.5 |
| Grazon NEXT | Broadleaf Selector | Seasonally Dry Wetland Broadleaf Weed Control | 12.5 |

Continued herbicide application could directly affect monarch butterflies in the action area by injuring or killing individuals exposed to these chemicals. Certain herbicides can kill milkweed, which can affect the ability of female monarch butterflies to lay eggs. CBR identified milkweed species within the action area and milkweed may exist in other undeveloped portions of the action area (CBR 2025). However, given the conservation measures listed prior, to include the reseeding plan, there would be little to no impact on milkweed or floral populations. Monarch butterflies are only likely to occur in the action area seasonally during spring and summer and during fall migration when individuals are moving between areas of more suitable habitat. Because of the low likelihood of monarch butterflies to be exposed to hazardous levels of chemicals, this potential impact is discountable as exposure would be unlikely with the applied avoidance and mitigation measures.

*Conclusion for the Monarch Butterfly*

Given the aforementioned avoidance and mitigation measures, all potential effects on the monarch butterfly resulting from the proposed action would be insignificant or discountable. Therefore, it is concluded that the proposed action **may affect but is not likely to adversely affect** the monarch butterfly. Following the submission of this BA to USFWS, the NRC staff will seek USFWS's conference concurrence with this finding.

### 5.6 Suckley's Cuckoo Bumble Bee (FPE)

In Section 4.7, it was concluded that the Suckley's cuckoo bumble bee is unlikely to occur in the action area given that the species has not been detected in Nebraska since 2001 (NDOT 2024). However, Cuckoo bumble bees had been recorded in Nebraska and potential habitat (sweetclover) has been documented on the CBP or MEA project areas. Any impacts to the species would be similar to those described in Section 5.5 for the monarch butterfly.

Given the avoidance and mitigation measures discussed above for the monarch butterfly, all potential effects on the Suckley's cuckoo bumble bee resulting from the proposed action would be insignificant or discountable. Therefore, it is concluded that the proposed action **may affect but is not likely to adversely affect** the Suckley's cuckoo bumble bee. Following the

submission of this BA to USFWS, the NRC staff will seek USFWS's conference concurrence with this finding.

### 5.7 Western Regal Fritillary (FPT)

In Section 4.8, it was concluded that the western regal fritillary has the potential to occur in the action area. Because the western regal fritillary is proposed for Federal listing as threatened, the ESA does not require the NRC to consult with or receive concurrence from the USFWS regarding this species as long as the continued existence of the species is not jeopardized. However, because the proposed action is for 20 additional years and the western regal fritillary may become listed in that time, the NRC staff is requesting conference concurrence for the western regal fritillary.

For the same reasons listed in Section 5.5 for the monarch butterfly, all associated effects of the proposed action on the western regal fritillary would be insignificant and discountable. It is concluded that the proposed action **may affect, but is not likely to adversely affect** the western regal fritillary.

## 6.0 CUMULATIVE EFFECTS ANALYSIS

Cumulative effects are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.02). When formulating biological opinions during formal Section 7 consultation, the USFWS considers cumulative effects when determining the likelihood of jeopardy or adverse modification. During informal consultation, a Federal agency need only consider cumulative effects under the ESA in the BA if listed species would be adversely affected by the proposed action and formal Section 7 consultation is necessary.

Because this BA concluded that the proposed license renewal is not likely to adversely affect the species listed in Table 3, consideration of cumulative effects is not required.

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