ARCADIS Design & Consultancy for natural and built assets

Pam Kyselka
Navajo Nation Department of Fish and Wildlife
Natural Heritage Program
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Window Rock, AZ 86515

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ENVIRONMENT

Subject:
Environmental Review of Species of Concern and Biological Survey Approach
BNSF Haystack No. 1 Abandoned Uranium Mine
McKinley County, New Mexico

Date:
June 4, 2020

Contact:
Douglas Partridge

Phone:
203.489.3008

Email:
Doug.Partridge@arcadis.com

Dear Ms. Kyselka:

On behalf of BNSF Railway Company (BNSF), Arcadis U.S., Inc. (Arcadis) prepared this letter to consult with the Navajo Nation Department of Fish and Wildlife (NNDFW) regarding planned construction activities at the Haystack No.1 Mine (site) in McKinley County, New Mexico (Figure 1). The construction activities are associated with on-going time critical removal action (TCRA) work and is being completed under the oversight of U.S. Environmental Protection Agency (USEPA) and Navajo Nation Environmental Protection Agency (NNEPA), consistent with an Administrative Order of Consent (AOC) that was signed on May 15, 2017. USEPA's and NNEPA's respective project managers (Steve Calanog and Shelby Dayzie) have been copied on submission of this letter.

BNSF is committed to supporting site biological surveys prior to and in support of the construction activities detailed below. Following the transmission of this letter, Arcadis will reach out to NNDFW and schedule a phone consultation to discuss the outlined survey, identification of any particular area of interest with respect to identified species of concern, and the process whereby field activities could commence shortly after the completion of the biological survey if no species are identified.

Project Description

The project includes seven locations within the Haystack No. 1 Abandoned Uranium Mines site where construction activities will occur. A Site Location Map is included as Figure 2 and shows each of the areas, including:

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- Six TCRA areas; and
- One temporary consolidation waste pile with access road and staging area.

Although not included as part of this biological consultation, please note that two residential areas located slightly north of Haystack No. 1 Abandoned Uranium Mine have already had biological surveys completed and biological clearance forms were received in September 2019 (review numbers 19NL-47 and 49; Attachment 1). The intent of the upcoming biological survey is to survey the seven additional areas.

Project activities at the seven locations will include:

- Perform gamma walkover scans;
- Excavate material from six TCRA areas, as required by the AOC;
- Construct a temporary consolidation waste pile;
- Potentially collect and analyze surface soil samples; and
- Perform restoration.

The project will not include clearing or disturbance of vegetation in wetlands, waters, or riparian areas.

Species Identified During Consultation

A Navajo Natural Heritage Program (NNHP) database search was completed for the site and the results are provided as Attachment 2. The NNHP is managed by the NNDFW. Search results indicated five potential bird species onsite or near the site that are included on the Navajo Endangered Species List (NESL):

- Golden eagle (*Aquila chrysaetos*) NESL Group 3 (G3)
- Ferruginous hawk (*Buteo regalis*) NESL G3
- Burrowing owl (*Athene cunicularia*) NESL Group 4 (G4)
- Mountain plover (*Charadius montanus*) NESL G4
- Peregrine falcon (*Falco peregrinus*) NESL G4.

The list above contains both known and potential species identified by the NNHP and includes species in Groups 3 and 4 as identified on the NESL. A brief description of these groups is provided below.

<u>Group 3 Ranked Species – Endangered</u>

Group 3 species are defined as "a species or subspecies whose prospects of survival or recruitment are likely to be in jeopardy in the foreseeable future." The two species listed have 'potential' to occur on site.

<u>Group 4 Ranked Species</u>

Group 4 species include "any species or subspecies for which the NNDFW does not currently have sufficient information to support their being listed in G3 but has reason to consider them." The three species listed have 'potential' to occur on site.

Table 1 summarizes the species and preferred habitat along with a preliminary determination of effect (for planning purposes only) and includes those species where a field survey would be recommended.

Proposed Biological Surveys

Arcadis is proposing to evaluate the presence of active raptor nests on or proximate to the project locations during the biological survey. The surveys will include walk over (i.e., pedestrian) site biological surveys prior to (i.e., within 1 month) of initiation of construction activities. If work is to occur outside of the active nesting period, as identified for each species in **Table 1**, then surveys will not occur. The survey will cover all proposed work areas as delineated in **Figure 2** and will be conducted by a qualified wildlife biologist.

During the walk over surveys, the team will identify areas or habitats of concern as well as any nesting raptors. The areas of concern will be digitized in the field with a sub-meter accurate global positioning system unit and photographed. Finally, the NNDFW reporting form will document when species of concern are identified.

Consultation Approach

If species and/or habitat are identified, BNSF is committed to continuing the consultation with NNDFW. The objective of continued consultation will be identifying best management practices or other strategies to complete the construction activities in a timely manner. If the species are not identified, then BNSF will submit a formal letter of no-effect to conclude this consultation. As such, BNSF will assume the consultation is completed upon submittal of the letter of no effect. This remains consistent with previous NNDFW consultations associated with on-going TCRA work in the region.

We look forward to working with NNDFW and appreciate your assistance with this project. We hope to address any questions or concerns during a phone conversation following review of this letter. If you need to reach me, please feel free to call 206.484.2743, or email doug.partridge@arcadis.com.

Sincerely,

Arcadis U.S., Inc.

Doug Partridge, PWS
Principal Ecologist

Copies:
Drew Werth, Arcadis
Alison Harmon, Arcadis
Mike Makerov, BNSF
Steve Calanog, USEPA Region 9
Shelby Dayzie, NNEPA

Enclosures:

Table

1 Threatened and Endangered Species Documented in the Project Area

Figures

1 General Site Location Map

2 Site Map

Attachments

1 Biological Resources Compliance Forms for Residential Lease Areas

2 Previous Navajo Natural Heritage Program Database Search Results

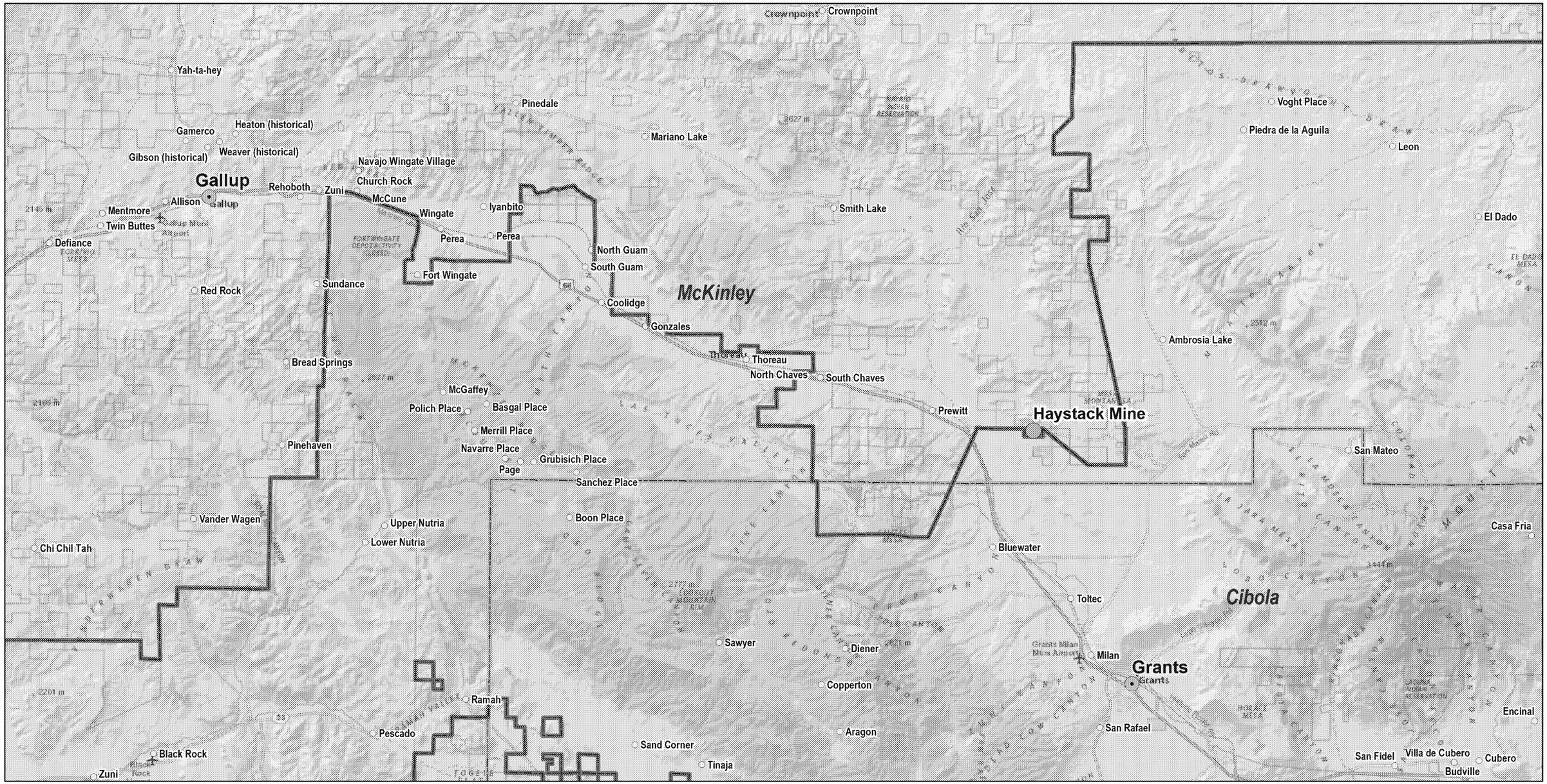
TABLE

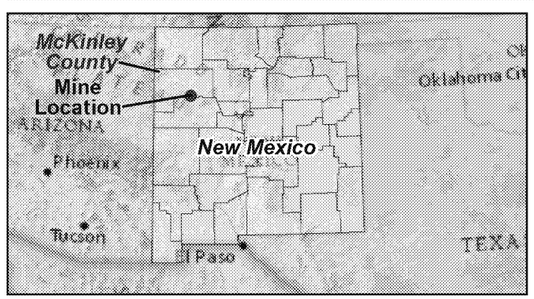
Table 1
Threatened and Endangered Species Documented in the Project Area
Haystack No. 1 AUM Site
McKinley County, New Mexico

Common Name	Scientific Name	Navajo Nation Protection*	Habitat Evaluation	Determination of Effect
*Birds***				
Burrowing Owl	*Athene cunicularia*	G4	Found in open areas with sparse vegetation.	Habitat is not expected due to previous land use disturbances, as well as previous surveys. A survey for active burrows will be completed prior to construction work at additional work areas within the site. Assuming no active burrows are identified, the project will be determined to have No Effect. If work is to occur from September 1 through February 1, then project will not include survey and work will continue under No Effect determination based upon assumption owls will have migrated to wintering areas.
Ferruginous Hawk	*Buteo regalis*	G3	Primarily found in open areas such as grasslands that are arid or semiarid. May include outcrops, shallow canyons, or gullies.	Nesting not expected in the few isolated trees onsite. Foraging habitat is likely, but individuals will modify behavior to avoid construction areas. A nesting survey will be completed at additional work areas before construction work. Assuming no active nesting is identified, the project will be determined to have No Effect. If work is to occur from September 1 through February 1, then project will not include survey and work will continue under No Effect determination based upon assumption the nest is inactive and adults have migrated from breeding area.
Golden Eagle	*Aquila chrysaetos*	G3	Found in open country around mountains, hills, and cliffs. Nests on cliffs and steep escarpments.	Nesting not expected in the few isolated trees onsite. Foraging habitat is likely, but individuals will modify behavior to avoid construction areas. Active nests will be surveyed as part of recommended nesting surveys for other species. Assuming no active nesting is identified, the project will be determined to have No Effect. If work is to occur from August 1 through January 1, then nests are assumed to be vacated by young and then project will not include survey for work based upon a No Effect Determination.
Mountain Plover	*Charadrius montanus*	G4	Habitat is short grass prairie and shrub steppes.	Absence of habitat. No Effect.
Peregrine Falcon	*Falco peregrinus*	G4	Preferred habitat is open country and cliffs.	Nesting habitat not expected to be onsite. Foraging habitat is possible, but individuals will modify behavior to avoid construction areas. A nesting survey will be completed before construction work. Assuming no active nesting is identified, the project will be determined to have No Effect. If work is to occur from August 1 through February 1, then nests are assumed to be vacated by young and then project will not include survey for work based upon a No Effect Determination.

Notes:
*Species listed as G3 are endangered. A G4 designation indicates that Navajo Nation Fish and Wildlife does not have sufficient information to list the species as G3 but has reason to consider it endangered.
**All birds listed here are protected under the Migratory Bird Treaty Act.

FIGURES





Legend

- Haystack Mine Location
- Cities of Grants and Gallup Locations
- Surrounding Locations
- County Boundary
- Navajo Nation Boundary

0 5 10
Miles

Base Image Source: ESRI World Imagery 2016

BNSF
HAYSTACK MINE, NEW MEXICO

GENERAL SITE LOCATION MAP

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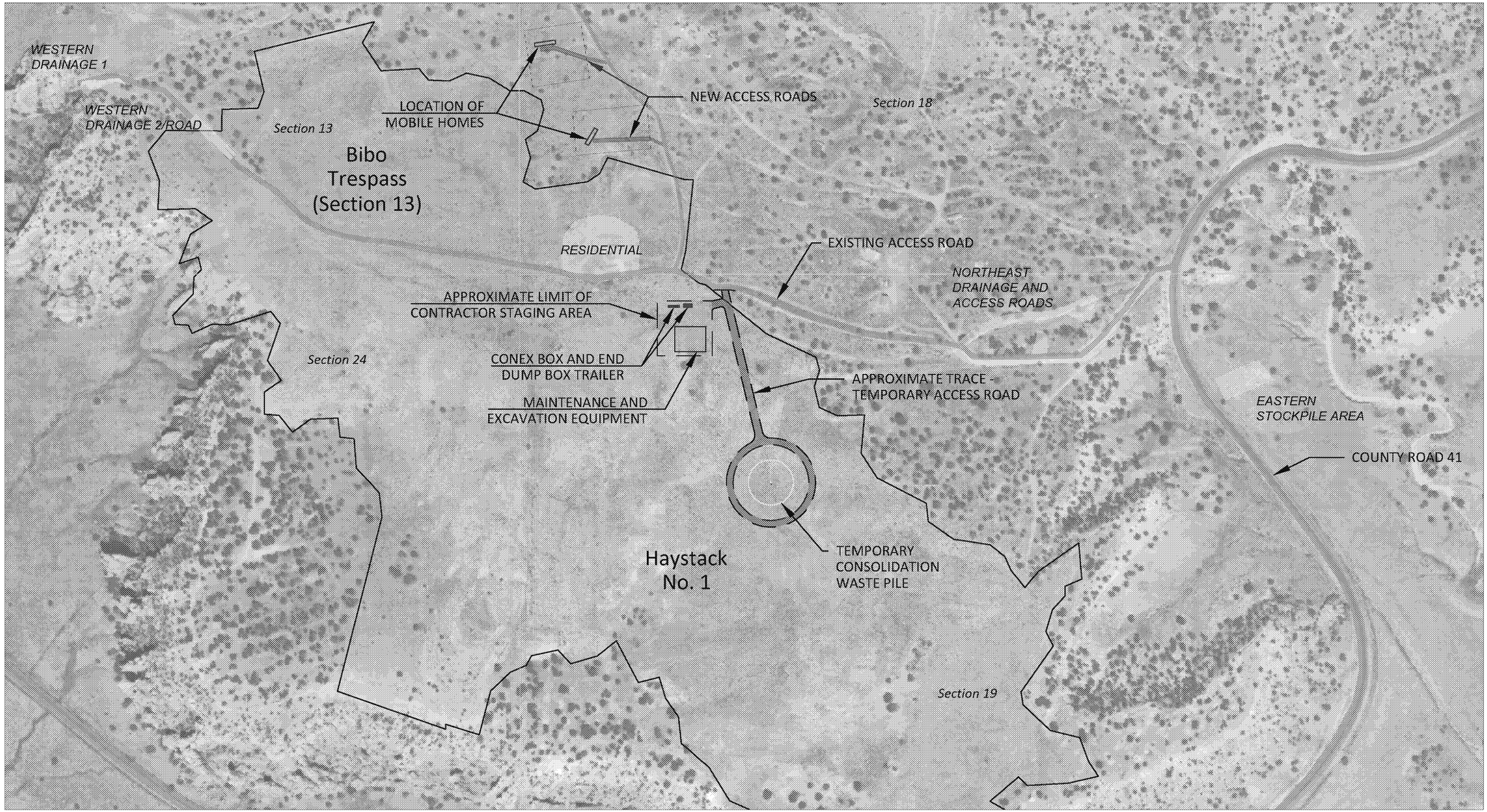
FIGURE
1

User: kgpeters Location: On-Site Citrix
Path: Z:\GISProjects_ENV\BNSF\BNSF_HAYSTACKMINE_NM\MXD\RemovalWorkPlan\Figure1_GeneralSiteLocationMap.mxd



Legend

- Abandoned Uranium Mine (AUM) Boundary
- Time Critical Removal Action Area (per AOC)
- Existing Access Road
- New Access Road
- Section Public Land Survey System (PLSS) Grid
- Location of New Residential Area
- Proposed Waste Pile
- Location of Contractor Facilities

N

0 400 800 Feet

BNSF
HAYSTACK MINE, NEW MEXICO

SITE MAP

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FIGURE 2

PATH: C:\Users\mmcgonagle\ARCADIS\BNSF Haystack AUM - General\Site Map\Final Construction DWGs\HaystackMine_TCRA Site Map.dwg LAYOUT: SITE MAP SAVED: 4/21/2020 12:34 PM ACADVER: 23.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: MONOCHROME.CTB PLOTTED: 4/21/2020 12:41 PM BY: MCGONAGLE, MORGAN

ATTACHMENT 1

Biological Resources Compliance Forms for Residential Lease Areas

NNDFW Review No. 19NRL-47

BIOLOGICAL RESOURCES COMPLIANCE FORM
NAVAJO NATION DEPARTMENT OF FISH AND WILDLIFE
P.O. BOX 1480, WINDOW ROCK, ARIZONA 86515-1480

It is the Department's opinion the project described below, with applicable conditions, is in compliance with Tribal and Federal laws protecting biological resources including the Navajo Endangered Species and Environmental Policy Codes, U.S. Endangered Species, Migratory Bird Treaty, Eagle Protection and National Environmental Policy Acts. This form does not preclude or replace consultation with the U.S. Fish and Wildlife Service if a Federally-listed species is affected.

PROJECT NAME & NO.: Residential Lease for Lolita Vandever - IA#277031

DESCRIPTION: Biological resources compliance for a 1.00-acre residential lease.

LOCATION: 232267E 3915632N (datum unknown), Baca/Prewitt Chapter, McKinley County, New Mexico

REPRESENTATIVE: Tina K Yazzie-Toledo, Realty Assistant, BIA Eastern Navajo Agency

ACTION AGENCY: Bureau of Indian Affairs and Navajo Nation

B.R. REPORT TITLE / DATE / PREPARER: Request for review & concurrence/23 AUG 2019/BIA ENA

SIGNIFICANT BIOLOGICAL RESOURCES FOUND: Area 3.

POTENTIAL IMPACTS

NESL SPECIES POTENTIALLY IMPACTED: NA

FEDERALLY-LISTED SPECIES AFFECTED: NA

OTHER SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES: NA

AVOIDANCE / MITIGATION MEASURES: NA

CONDITIONS OF COMPLIANCE*: NA

FORM PREPARED BY / DATE: Pamela A. Kyselka/11 SEP 2019

COPIES TO: (add categories as necessary)

☐ _____ ☐ _____

2 NTC § 164 Recommendation: Signature Date

☒ Approval
☐ Conditional Approval (with memo)
☐ Disapproval (with memo)
☐ Categorical Exclusion (with request letter)
☐ None (with memo)

9/11/19

Gloria M. Tom, Director, Navajo Nation Department of Fish and Wildlife

*I understand and accept the conditions of compliance, and acknowledge that lack of signature may be grounds for the Department not recommending the above described project for approval to the Tribal Decision-maker.

Representative's signature Date

C:\old_pc2010\My Documents\NNHP\BRCF_2019\19NRL-47.doc

NNDFW -B.R.C.F.: FORM REVISED 12 NOV 2009

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NNDFW Review No. 19NRL-49

BIOLOGICAL RESOURCES COMPLIANCE FORM
NAVAJO NATION DEPARTMENT OF FISH AND WILDLIFE
P.O. BOX 1480, WINDOW ROCK, ARIZONA 86515-1480

It is the Department's opinion the project described below, with applicable conditions, is in compliance with Tribal and Federal laws protecting biological resources including the Navajo Endangered Species and Environmental Policy Codes, U.S. Endangered Species, Migratory Bird Treaty, Eagle Protection and National Environmental Policy Acts. This form does not preclude or replace consultation with the U.S. Fish and Wildlife Service if a Federally-listed species is affected.

PROJECT NAME & NO.: Residential Lease for Tom Vandever Sr. & Lena Vandever - IA#277031

DESCRIPTION: Biological resources compliance for a 1.00-acre residential lease.

LOCATION: 232343E 3915581N (datum unknown), Baca/Prewitt Chapter, McKinley County, New Mexico

REPRESENTATIVE: Tina K Yazzie-Toledo, Realty Assistant, BIA Eastern Navajo Agency

ACTION AGENCY: Bureau of Indian Affairs and Navajo Nation

B.R. REPORT TITLE / DATE / PREPARER: Request for review & concurrence/23 AUG 2019/BIA ENA

SIGNIFICANT BIOLOGICAL RESOURCES FOUND: Area 3.

POTENTIAL IMPACTS

NESL SPECIES POTENTIALLY IMPACTED: NA

FEDERALLY-LISTED SPECIES AFFECTED: NA

OTHER SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES: NA

AVOIDANCE / MITIGATION MEASURES: NA

CONDITIONS OF COMPLIANCE*: NA

FORM PREPARED BY / DATE: Pamela A. Kyselka/11 SEP 2019

COPIES TO: (add categories as necessary)

☐ _____ ☐ _____

2 NTC § 164 Recommendation: Signature Date

☒ Approval
☐ Conditional Approval (with memo)
☐ Disapproval (with memo)
☐ Categorical Exclusion (with request letter)
☐ None (with memo)

9/11/19

Gloria M. Tom, Director, Navajo Nation Department of Fish and Wildlife

*I understand and accept the conditions of compliance, and acknowledge that lack of signature may be grounds for the Department not recommending the above described project for approval to the Tribal Decision-maker.

Representative's signature Date

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ATTACHMENT 2

Previous Navajo Natural Heritage Program Database Search Results

NNHP
Navajo Natural Heritage Program

PO Box 1480
Window Rock, AZ
86515

P 928.871.6472
F 928.871.7603

http://nnhp.nndfw.org

17arcd101

12-January-2017

Todd Udvig - Project Ecologist
Arcadis U.S., Inc.
430 First Avenue North
Suite 720
Minneapolis, MN 55401

SUBJECT: Haystack Area Abandoned Uranium Mine (AUM) Sites

Todd Udvig,

NNHP has performed an analysis of your project in comparison to known biological resources of the Navajo Nation and has included the findings in this letter. The letter is composed of seven parts. The sections as they appear in the letter are:

1. **Known Species** – a list of all species within relative proximity to the project
2. **Potential Species** – a list of potential species based on project proximity to respective suitable habitat
3. **Quadrangles** – an exhaustive list of quads containing the project
4. **Project Summary** – a categorized list of biological resources within relative proximity to the project grouped by individual project site(s) or quads
5. **Conditional Criteria Notes** – additional details concerning various species, habitat, etc.
6. **Personnel Contacts** – a list of employee contacts
7. **Resources** – identifies sources for further information

Known Species lists "species of concern" known to occur within proximity to the project area. Planning for avoidance of these species is expected. If no species are displayed then based upon the records of the Navajo Nation Department of Fish and Wildlife (NNDFW) there are no "species of concern" within proximity to the project. Refer to the Navajo Endangered Species List (NESL) Species Accounts for recommended avoidance measures, biology, and distribution of NESL species on the Navajo Nation (http://nnhp.nndfw.org/sp_account.htm).

Potential Species lists species that are potentially within proximity to the project area and need to be evaluated for presence/absence. If no species are found within the Known or Potential Species lists, the project is not expected to affect any federally listed species, nor significantly impact any tribally listed species or other species of concern. Potential for species has been determined primarily on habitat characteristics and species range information. A thorough habitat analysis, and if necessary, species specific surveys, are required to determine the potential for each species.

Species of concern include protected, candidate, and other rare or otherwise sensitive species, including certain native species and species of economic or cultural significance. For legally protected species, the following tribal and federal statuses are indicated: NESL, federal Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Eagle Protection Act (EPA). No legal protection is afforded species with only

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ESA candidate, NESL group 4 status, and species listed on the Sensitive Species List. Please be aware of these species during surveys and inform the NNDFW of observations. Reported observations of these species and documenting them in project planning and management is important for conservation and may contribute to ensuring they will not be up listed in the future.

In any and all correspondence with NNDFW or NNHP concerning this project please cite the Data Request Code associated with this document. It can be found in this report on the top right corner of the every page. Additionally please cite this code in any biological evaluation documents returned to our office.

1. Known Species *(NESL=Navajo Endangered Species List, FE=Federally Endangered, FT=Federally Threatened, FC=Federal Candidate)*

Species

None

2. Potential Species

Species

AQCH = Aquila chrysaetos / Golden Eagle NESL G3
ATCU = Athene cunicularia / Burrowing Owl NESL G4
BURE = Buteo regalis / Ferruginous Hawk NESL G3
CHMO = Charadrius montanus / Mountain Plover NESL G4
FAPE = Falco peregrinus / Peregrine Falcon NESL G4

3. Quadrangles (7.5 Minute)

Quadrangles

Bluewater (35107-C8) / NM

4. Project Summary *(EO1 Mile/EO 3 Miles=elements occuring within 1 & 3 miles., MSO=mexican spotted owl PACs, POTS=potential species, RCP=Biological Areas)*

SITE	EO1MI	EO3MI	QUAD	MSO	POTS	AREAS
Bibo Trespass	None	None	Bluewater (35107-C8) / NM	None	FAPE, CHMO, BURE, ATCU, AQCH	Area 2, Area 3
Haystack	None	None	Bluewater (35107-C8) / NM	None	FAPE, CHMO, BURE, ATCU, AQCH	Area 2
Haystack No. 1	None	None	Bluewater (35107-C8) / NM	None	FAPE, CHMO, BURE, ATCU, AQCH	Area 2, Area 3
Section 24	None	None	Bluewater (35107-C8) / NM	None	FAPE, CHMO, BURE, ATCU, AQCH	Area 3

5. Conditional Criteria Notes *(Recent revisions made please read thoroughly. For certain species, and/or circumstances, please read and comply)*

A. **Biological Resource Land Use Clearance Policies and Procedures (RCP)** - The purpose of the RCP is to assist the Navajo Nation government and chapters ensure compliance with federal and Navajo laws which protect, wildlife resources, including plants, and their habitat resulting in an expedited land use clearance process. After years of research and study, the NNDFW has identified and mapped wildlife habitat and sensitive areas that cover the entire Navajo Nation.
The following is a brief summary of six (6) wildlife areas:
1.***Highly Sensitive Area*** – recommended no development with few exceptions.
2.***Moderately Sensitive Area*** – moderate restrictions on development to avoid sensitive species/habitats.
3.***Less Sensitive Area*** – fewest restrictions on development.
4.*Community Development Area* – areas in and around towns with few or no restrictions on development.
5.*Biological Preserve* – no development unless compatible with the purpose of this area.
6.*Recreation Area* – no development unless compatible with the purpose of this area.
None - outside the boundaries of the Navajo Nation
This is not intended to be a full description of the RCP please refer to the our website for additional information at http://www.nndfw.org/clup.htm.

B. **Raptors** – If raptors are known to occur within 1 mile of project location: Contact Chad Smith at 871-7070 regarding your evaluation of potential impacts and mitigation.
o **Golden and Bald Eagles**- If Golden or Bald Eagle are known to occur within 1 mile of the project, decision makers need to ensure that they are not in violation of the Golden and Bald Eagle Nest Protection Regulations found at http://nnhp.nndfw.org/docs_reps/gben.pdf.
o **Ferruginous Hawks** – Refer to "Navajo Nation Department of Fish and Wildlife's Ferruginous Hawk Management Guidelines for Nest Protection" http://nnhp.nndfw.org/docs_reps.htm for relevant information on avoiding impacts to Ferruginous Hawks within 1 mile of project location.
o **Mexican Spotted Owl** - Please refer to the Navajo Nation Mexican Spotted Owl Management Plan http://nnhp.nndfw.org/docs_reps.htm for relevant information on proper project planning near/within spotted owl protected activity centers and habitat.

C. **Surveys** – Biological surveys need to be conducted during the appropriate season to ensure they are complete and accurate please refer to NN Species Accounts http://nnhp.nndfw.org/sp_account.htm. Surveyors on the Navajo Nation must be permitted by the Director, NNDFW. Contact Jeff Cole at (928) 871-7068 for permitting procedures. Questions pertaining to surveys should be directed to the NNDFW Zoologist (Chad Smith) for animals at 871-7070, and Botanist (Andrea Hazelton) for plants at (928)523-3221. Questions regarding biological evaluation should be directed to Jeff Cole at 871-7068.

D. **Oil/Gas Lease Sales** – Any settling or evaporation pits that could hold contaminants should be lined and covered. Covering pits, with a net or other material, will deter waterfowl and other migratory bird use. Lining pits will protect ground water quality.

E. **Power line Projects** – These projects need to ensure that they do not violate the regulations set forth in the Navajo Nation Raptor Electrocution Prevention Regulations found at http://nnhp.nndfw.org/docs_reps/repr.pdf.

F. **Guy Wires** – Does the project design include guy wires for structural support? If so, and if bird species may occur in relatively high concentrations in the project area, then guy wires should be equipped with highly visual markers to reduce the potential mortality due to bird-guy wire collisions. Examples of visual markers include aviation balls and bird flight diverters. Birds can be expected to occur in relatively high concentrations along migration routes (e.g., rivers, ridges or other distinctive linear topographic features) or where important habitat for breeding, feeding, roosting, etc. occurs. The U.S. Fish and Wildlife Service recommends marking guy wires with at least one marker per 100 meters of wire.

G. **San Juan River** – On 21 March 1994 (Federal Register, Vol. 59, No. 54), the U.S. Fish and Wildlife Service designated portions of the San Juan River (SJR) as critical habitat for Ptychocheilus lucius (Colorado pikeminnow) and Xyrauchen texanus (Razorback sucker). Colorado pikeminnow critical habitat includes the SJR and its 100-year floodplain from the State Route 371 Bridge in T29N, R13W, sec. 17 (New Mexico Meridian) to Neskahai Canyon in the San Juan arm of Lake Powell in T41S, R11E, sec. 26 (Salt Lake Meridian) up to the full pool elevation. Razorback sucker critical habitat includes the SJR and its 100-year floodplain from the Hogback Diversion in T29N, R16W, sec. 9 (New Mexico Meridian) to the full pool elevation at the mouth of Neskahai Canyon on the San Juan arm of Lake Powell in T41S, R11E, sec. 26 (Salt Lake Meridian). All actions carried out, funded or authorized by a federal agency which may alter the constituent elements of critical habitat must undergo section 7 consultation under the Endangered Species Act of 1973, as amended. Constituent elements are those physical and biological attributes essential to a species conservation and include, but are not limited to, water, physical habitat, and biological environment as required for each particular life stage of a species.

H. **Little Colorado River** - On 21 March 1994 (Federal Register, Vol. 59, No. 54) the U.S. Fish and Wildlife Service designated Critical Habitat along portions of the Colorado and Little Colorado Rivers (LCR) for Gila cypha (humpback chub). Within or adjacent to the Navajo Nation this critical habitat includes the LCR and its 100-year floodplain from river mile 8 in T32N R6E, sec. 12 (Salt and Gila River Meridian) to its confluence with the Colorado River in T32N R5E sec. 1 (S&GRM) and the Colorado River and 100-year floodplain from Nautuloid Canyon (River Mile 34) T36N R5E sec. 35 (S&GRM) to its confluence with the LCR. All actions carried out, funded or authorized by a federal agency which may alter the constituent elements of Critical Habitat must undergo section 7 consultation under the Endangered Species Act of 1973, as amended. Constituent elements are those physical and biological attributes essential to a species conservation and include, but are not limited to, water, physical habitat, and biological environment as required for each particular life stage of a species.

I. **Wetlands** – In Arizona and New Mexico, potential impacts to wetlands should also be evaluated. The U.S. Fish & Wildlife Service's National Wetlands Inventory (NWI) maps should be examined to determine whether areas classified as wetlands are located close enough to the project site(s) to be impacted. In cases where the maps are inconclusive (e.g., due to their small scale), field surveys must be completed. For field surveys, wetlands identification and delineation methodology contained in the "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted. NWI maps are available for examination at the Navajo Natural Heritage Program (NNHP) office, or may be purchased through the U.S. Geological Survey (order forms are available through the NNHP). The NNHP has complete coverage of the Navajo Nation, excluding Utah, at 1:100,000 scale; and coverage at 1:24,000 scale in the southwestern portion of the Navajo Nation. In Utah, the U.S. Fish & Wildlife Service's National Wetlands Inventory maps are not yet available for the Utah portion of the Navajo Nation, therefore, field surveys should be completed to determine whether wetlands are located close enough to the project site(s) to be impacted. For field surveys, wetlands identification and delineation methodology contained in the "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted. For more information contact the Navajo Environmental Protection Agency's Water Quality Program.

J. **Life Length of Data Request** – The information in this report was identified by the NNHP and NNDFW's biologists and computerized database, and is based on data available at the time of this response. If project planning takes more than two (02) years from the date of this response, verification of the information provided herein is necessary. It should not be regarded as the final statement on the occurrence of any species, nor should it substitute for on-site surveys. Also, because the NNDFW information is continually updated, any given information response is only wholly appropriate for its respective request.

K. **Ground Water Pumping** - Projects involving the ground water pumping for mining operations, agricultural projects or commercial wells (including municipal wells) will have to provide an analysis on the effects to surface water and address potential impacts on all aquatic and/or wetlands species listed below. NESL Species potentially impacted by ground water pumping: Carex specuicola (Navajo Sedge), Cirsium rydbergii (Rydberg's Thistle), Primula specuicola (Cave Primrose), Platanthera zothecina (Alcove Bog Orchid), Puccinellia parishii (Parish Alkali Grass), Zigadenus vaginatus (Alcove Death Camas), Perityle specuicola (Alcove Rock Daisy), Symphyotrichum welshii (Welsh's American-aster), Coccyzus americanus (Yellow-billed Cuckoo), Empidonax traillii extimus (Southwestern Willow Flycatcher), Rana pipiens (Northern Leopard Frog), Gila cypha (Humpback Chub), Gila robusta (Roundtail Chub), Ptychocheilus lucius (Colorado Pikeminnow), Xyrauchen texanus (Razorback Sucker), Cinclus mexicanus (American Dipper), Speyeria nokomis (Western Seep Fritillary), Aechmophorus clarkia (Clark's Grebe), Ceryle alcyon (Belted Kingfisher), Dendroica petechia (Yellow Warbler), Porzana carolina (Sora), Catostomus discobolus (Bluehead Sucker), Cottus bairdi (Mottled Sculpin), Oxyloma kanabense (Kanab Ambersnail)

6. Personnel Contacts

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7. Resources

National Environmental Policy Act

Navajo Endangered Species List:
http://nnhp.nndfw.org/endangered.htm

Species Accounts:
http://nnhp.nndfw.org/sp_account.htm

Biological Investigation Permit Application
http://nnhp.nndfw.org/study_permit.htm

Navajo Nation Sensitive Species List
http://nnhp.nndfw.org/study_permit.htm

Various Species Management and/or Document and Reports
http://nnhp.nndfw.org/docs_reps.htm

Consultant List
(Coming Soon)

Dexter D Prall, GIS Supervisor - Natural Heritage Program
Navajo Nation Department of Fish and Wildlife

NNHP
Navajo Natural Heritage Program

PO Box 1480
Window Rock, AZ
86515

P 928.871.6472
F 928.871.7603

http://nnhp.nndfw.org

Invoice for 17arcd101

1/12/2017

Please make payable to NAVAJO NATION

Project Measurements

Total Number of Quads:	1
Number of Additional Quads:	0
Cost ($75 plus $5 each additional Quad):	$75.00

(Please cut along the dashed line and return with payment)

Navajo Natural Heritage Program
PO Box 1480
Window Rock, AZ 86515

1/12/2017

PLEASE PAY THIS AMOUNT

Payment for Data Response 17arcd101 $75.00

Please make payable to NAVAJO NATION