Attachments: Plant & Animal Related Resource Concerns

- Utah Natural Heritage Online Species Search Report Memo – Cirrus Ecological Solutions
- USFWS IPaC Species List/Report: Corn Creek – Utah Ecological Services Field Office
- Threatened, Endangered, Proposed, Candidate Species Review – Cirrus Ecological Solutions
- Botanical Report – Western-Enviro Resources
- Biological Assessment "Elementary/Short-Form" -- Franson Civil Engineers

Cirrus Ecological Solutions, LC
965 South 100 West, Suite 200
Logan, UT 84321(435) 787-1490
Fax (435) 787-1495

MEMO

DATE: January 20, 2023

TO: Layne Jensen, Franson Civil Engineers

CC: Patricia Ayaa, Martilyn Neilsen

FROM: Stephanie Trapp, Wildlife Biologist; John Stewart, Terrestrial Ecologist

RE: Corn Creek – Utah Natural Heritage Species Review

The project area consists of a series of channels, ditches, and other areas that collect water in the Corn Creek work area above and within the vicinity of Kanosh, Utah. The project area is approximately 612 acres (Figure 1).

Utah Natural Heritage Species

The bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), Sonoran Mountain kingsnake (L*ampropeltis pyromelana*), and Bonneville cutthroat trout (*Oncorhynchus clarkii utah*) were identified by the Utah Natural Heritage Program as potentially present within 2-miles of the project area. This memo report addresses the potential presence of these species in the project area.

Bald Eagles

Bald eagles are capable of foraging over great distances in search of carrion but are typically found near large rivers and bodies of water where they hunt for fish. Nests are generally located in large trees within 1.5 kilometers of water.

No large bodies of water or nesting habitat are located within the project area that would provide suitable foraging or nesting habitat for bald eagles. No bald eagles were identified during habitat surveys. Therefore, no impacts are expected for this species (NatureServe 2022a).

Burrowing Owls

Burrowing owls are generally found in flat grassland areas with open habitat and suitable soils for subterranean burrows. They generally forage on large insects and small rodents, but will occasionally consume amphibians, reptiles, and small birds. Burrowing owls are generally found in colonies, with multiple burrows and multiple burrowing owls found close together in suitable habitat. Burrowing owl colonies have been noted in vacant lots and disturbed areas near development (NatureServe 2022b).

The large, disturbed area in the southeast of the project area boundary may provide suitable burrowing owl habitat. However, no burrowing owls or burrows large enough to support this species were identified during

habitat surveys, suggesting that this species is not currently present. Therefore, no impacts are expected for burrowing owls.

Sonoran Mountain Kingsnake

Sonoran mountain kingsnakes are generally found in rocky terrain near water as well as low-elevation mesic canyons. Preferred vegetation types include pinyon-juniper and oak-juniper woodlands as well as pine-fir woodlands and chaparral. They are often found on or under large rocks, logs, or other cover objects. This kingsnake forages for lizards, small mammals, and other small snakes (NatureServe 2022c).

This cryptic species can be difficult to detect. No direct surveys were completed to try to find individuals were observed during site visit. Instead, given the habitat suitability within and near the project area, it is assumed that this species could be present. However, given the limited habitat disturbance compared to habitat availability, the project may affect, but is not likely to adversely affect this species.

Bonneville Cutthroat Trout

Bonneville cutthroat trout are found in smaller headwaters, ranging from high elevation streams with riparian tree cover to lower-elevation areas surrounded by sage-steppe grasslands. They prefer slow, deeper waters with bank stability and cover. Spawning occurs in sand and gravel substrate in flowing water (NatureServe 2022d).

Corn creek may provide suitable habitat in areas that have not been disturbed or diverted into ditches for agricultural use. Within the project area, Corn Creek has been diverted for irrigation, and therefore does not provide suitable habitat for this species. Therefore, no impacts are expected for Bonneville cutthroat trout.

References

NatureServe. 2022a. Bald Eagles. Nature Serve Explorer. Available at: https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.104470/Haliaeetus_leucocephalus

NatureServe. 2022b. Burrowing Owls. Nature Serve Explorer. Available at: https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.106553/Athene_cunicularia

NatureServe. 2022c. Sonoran Mountain Kingsnake (Arizona Mountain Kingsnake). Available at: https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.104417/Lampropeltis_pyromelana

NatureServe. 2022d. Bonneville Cutthroat Trout. Available at: https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.103129/Oncorhynchus_clarkii_utah

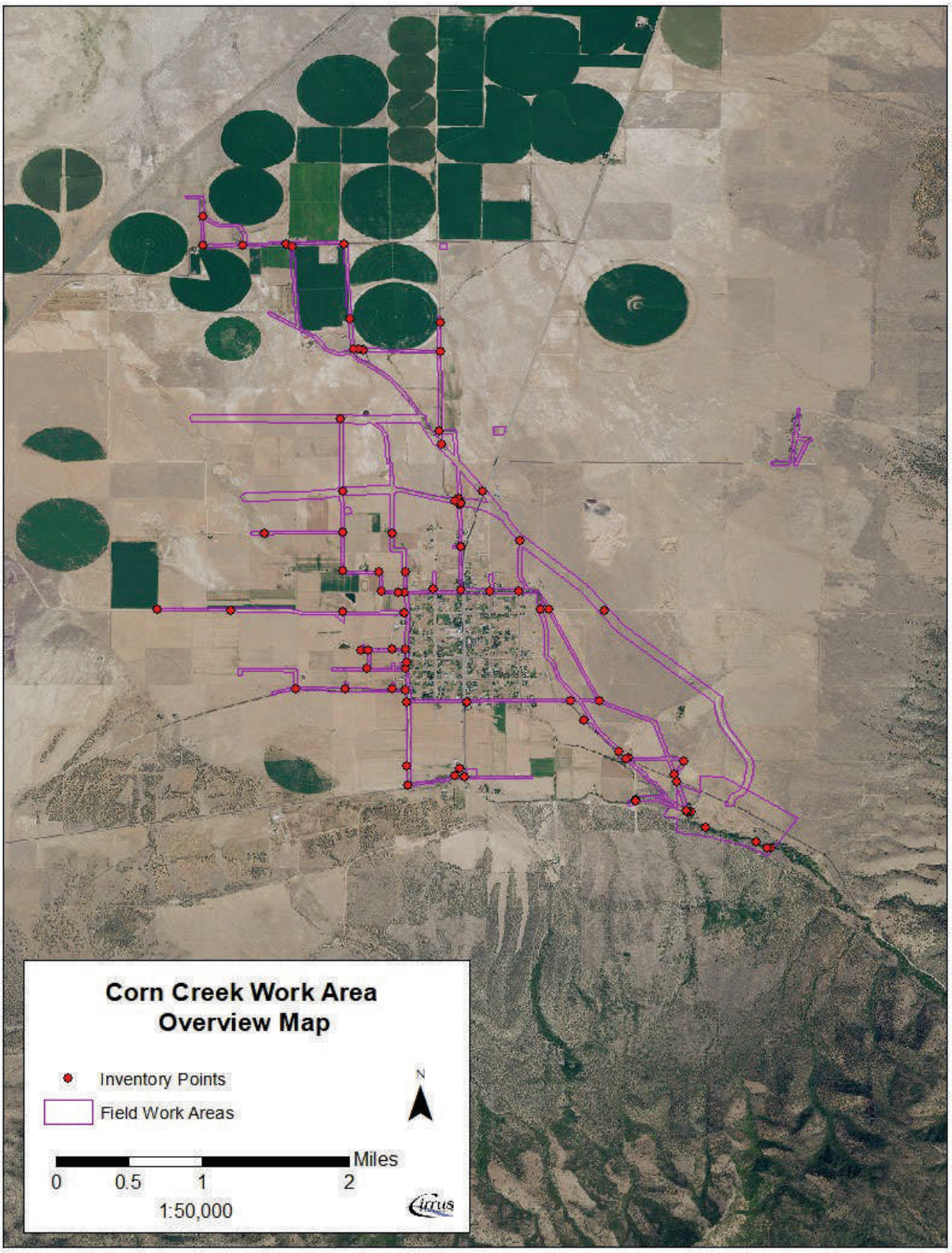


Figure 1. Overview map.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Utah Ecological Services Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119-7603
Phone: (801) 975-3330 Fax: (801) 975-3331

In Reply Refer To: 10/15/2024 13:43:51 UTC
Project Code: 2025-0005625
Project Name: Corn Creek Watershed Plan-Environmental Assessment

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

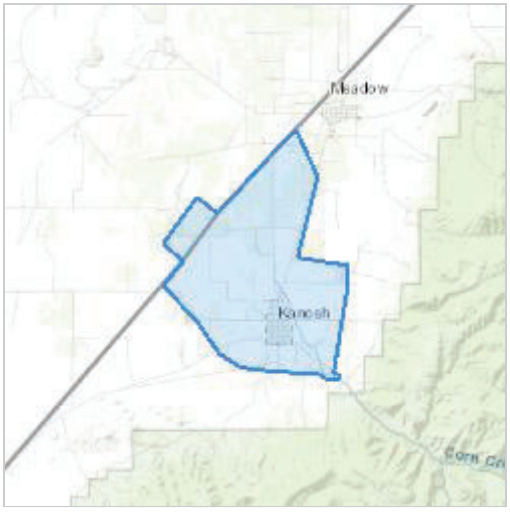
Utah Ecological Services Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119-7603
(801) 975-3330

PROJECT SUMMARY

Project Code: 2025-0005625
Project Name: Corn Creek Watershed Plan-Environmental Assessment
Project Type: Flooding
Project Description: PL-566 authorized Watershed Plan-EA project for the Corn Creek Watershed in Millard County, Utah

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.82965025,-112.45860801201786,14z



Counties: Millard County, Utah

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

FLOWERING PLANTS

NAME	STATUS
Ute Ladies'-tresses *Spiranthes diluvialis*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/2159

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Franson Civil Engineers
Name: Landon Richins
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City: American Fork
State: UT
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MEMO

DATE: January 20, 2023

TO: Layne Jensen, Franson Civil Engineers

CC: Patricia Ayaa, Martilyn Neilsen

FROM: Stephanie Trapp, Wildlife Biologist; John Stewart, Terrestrial Ecologist

RE: Corn Creek – Threatened, Endangered, Proposed, Candidate Species Review

The project area consists of a series of channels, ditches, and other areas that collect water in the Corn Creek work area above and within the vicinity of Kanosh, Utah. The project area is approximately 612 acres (Figure 1).

Federally Protected Species

The U. S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database identified monarch butterflies (*Danaus plexippus plexippus*) and Ute Ladies'-tresses (*Spiranthes diluvialis*) as the only threatened, endangered, proposed, or candidate species potentially found within the project area (USFWS 2022). It also identified one migratory bird species, long-eared owl (*Asio otus*). This memo report addresses the potential presence of monarch butterflies and long-eared owl in the project area. Ute Ladies'-tresses was addressed under a separate contract and is therefore, not addressed in this report.

Monarch Butterfly

The monarch butterfly is currently listed as a candidate species under the Endangered Species Act (ESA) of 1973. In 2020, the USFWS reviewed the monarch butterfly for listing as a threatened or endangered species under the ESA. The review determined that monarch butterflies warrant listing as threatened or endangered but have been precluded from listing at this point by higher priority actions (USFWS 2020).

Monarch butterflies are found throughout the eastern and western United States and Canada during the summer and migrate to coastal California and northern Mexico for winter. While in the intermountain west, monarch butterflies rely on a range of nectar-producing flowers for foraging, but generally only use milkweed (*Asclepias spp.*) for egg laying. This makes milkweed a limiting factor for monarch butterflies on their summer range. Threats to the monarch butterfly includes loss of habitat from development or conversion to agriculture, pesticide use, logging operations at wintering sites in Mexico, and drought (USFWS 2020).

Habitat surveys were completed throughout the project area to determine if any milkweed was present as potential foraging and egg laying habitat for monarch butterflies. No milkweed was observed during the surveys and no monarch butterfly individuals were observed during the habitat survey. Given the wide-ranging foraging capabilities of monarch butterflies, it is possible monarch butterflies occasionally forage on other non-milkweed species in the project area. However, the lack of milkweed suggests that the project area does not provide high-quality breeding habitat for monarch butterflies. Therefore, no effect is expected for monarch butterflies.

Long-eared Owl

The USFWS IPaC list also identified one migratory bird that could be present within the project area. Long-eared owls are present in Utah year-round, typically nesting between March and May each year. Nests are often located in dense woodland areas and can be taken from other species that create large stick nests, such as magpies *(Pica hudsonia*), great blue herons (*Ardea herodias*), and crows (*Corvus brachyrhynchos*). They forage on small rodents in open habitat, often perching on the edge of forest openings searching for prey (NatureServe 2022).

Habitat surveys were completed to identify any potential long-eared owl nesting habitat within the project area. The riparian woodland corridor located at the upper end (southeast) of the project area along Corn Creek above the irrigation diversion may provide some low-quality potential habitat for long-eared owls should they be present in the area (see Photos 1 through 3). The trees in this area may not provide the density required for nesting, but the open fields could provide suitable foraging habitat. No nests or long-eared owls were identified during the habitat survey. Due to the lateness of the field survey, no calling surveys were completed. Given the small area of potential habitat disturbance, the project may affect, but is not likely to adversely affect long-eared owls.

References

NatureServe. 2022. Long-eared Owl. NatureServe Explorer. Available at: https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.101120/Asio_otus

USFWS (United States Fish and Wildlife Service). 2020. Endangered and Threatened Wildlife and Plants; 12-Month Finding for the Monarch Butterfly. Federal Register. Vol. 85, No. 243. December 17, 2020.

USFWS (United States Fish and Wildlife Service). 2022. Information for Planning and Consultation. Corn Creek Environmental Assessment. Project Code: 2022-00220011.

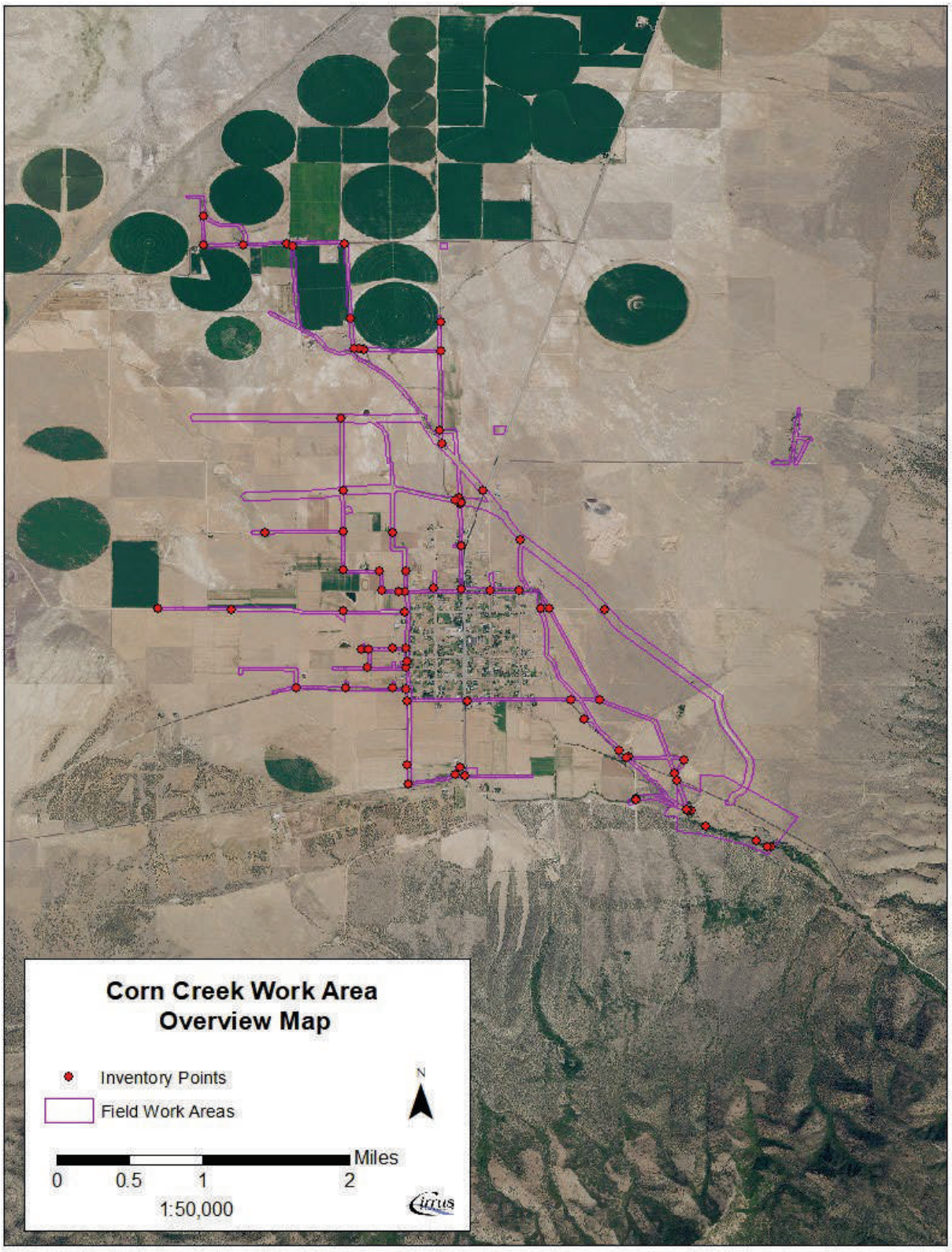

Figure 1. Overview map.

Photo 1. Sample Point 1 – natural riparian area above the diversion showing woody vegetation.

Photo 2. Sample Point 71 – natural riparian vegetation above diversion.

Photo 3. Sample Point 70 – looking upstream showing riparian vegetation.

BOTANICAL REPORT

FOR THE PROPOSED:

CORN CREEK WATERSHED PLAN & ENVIRONMENTAL ASSESSMENT

MILLARD COUNTY, UTAH

PREPARED FOR:

FRANSON CIVIL ENGINEERS

PREPARED BY:
WESTERN-ENVIRO RESOURCES
PO BOX 294
SPRINGVILLE, UTAH

AUGUST 2022

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1.0 EXECUTIVE SUMMARY

Proposed Project:	**Corn Creek Watershed Plan & Environmental Assessment**	
Client:	*Kanosh Town* 55 North Main Street, Kanosh, Utah 84637	
Consultant/Contractor:	***Franson Civil Engineers*** 1276 South 820 East, American Fork, UT 84003	***WESTERN-ENVIRO Resources, Inc.*** PO Box 294 Springville, UT 84663
Land Status/ Managing Agencies:	Private Property and Paiute Indian Tribe of Utah (Tribe) Lands	
Date(s) of Surveys:	August 20-23, 2021	
Description of Project Location:	Sections 5, 6, 7, 8, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28 & 29 in Township 23 South, Range 5 West, Salt Lake Base and Meridian (S.L.B.&M.), Millard County, Utah.	
Project Manager:	Layne Jensen, PE	
Survey Crew Lead:	Bridget Atkin, MS, MLA, Plant Ecologist	

SUMMARY OF SURVEY RESULTS:

Project Area:	598.94 acres
Acreage Surveyed for Plant Resources:	4,344.83 acres
Target Plant Species:	Plant species listed by the U.S. Fish and Wildlife Service (USFWS) as Threatened, Endangered, Proposed, and Candidate (TEPC); specifically, *Spiranthes diluvialis*
Number of Target Plant Species Observed:	None (0)
Target Plant Species Habitat Documented:	Approximately 0.053 acres of suitable *S. diluvialis* habitat documented within the Assessment Area; no proposed disturbance would impact any suitable habitat.

2.0 INTRODUCTION AND BACKGROUND

WESTERN-ENVIRO, Inc. (WESTERN-ENVIO) in coordination with Franson Civil Engineering, conducted field surveys and prepared a Botanical Report (BR) related to the proposed Corn Creek Watershed Plan – Environmental Assessment. The proposed project is a joint project sponsored by the U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS), Kanosh Town, and Corn Creek Irrigation Company. Surveys focused on characterizing and mapping habitats respective to Federally listed plant species and identifying the presence of listed target species within corresponding habitats, if applicable. Work specifically involved the following tasks:

- Identifying potential habitats for Federally listed TEPC plant species, as per the USFWS requirements (USFWS 2022a).
- Determining if TEPC plant species have previously been identified within the project area and its immediate surroundings. This task was accomplished by referencing the Utah Natural Heritage Program (UNHP) (UNHP 2022).
- Conducting field assessments for TEPC species, specifically *S. diluvialis*, within the proposed impact area and in respective species survey buffer.

This report documents findings related to TEPC plant species within the Assessment Area, as identified in 2021, and the proposed project area, which was refined during planning in 2022 (Map 2, Appendix A). In addition, field assessments and reporting pertain to an associated 300-foot survey buffer (project area) (Map 2, Appendix A). This report is intended to provide guidance during planning, permitting, and agency consultation for the proposed project.

2.1 PROJECT LOCATION AND DESCRIPTION

The project area is in Kanosh, Utah, extending from Interstate-15 (I-15) roughly south-southeast to the mouth of Kanosh Canyon (Map 1, Appendix A) in Sections 5, 6, 7, 8, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28 & 29 in Township 23 South, Range 5 West, S.L.B.&M., Millard County, Utah. The project follows Corn Creek (a natural drainage) and a series of narrow irrigation canals.

The proposed project would implement watershed protection measures with the primary objectives of flood prevention and agricultural water management. Water shortages each irrigation season have increased demand on groundwater resources, limited crop production and cropping options, and impacted economic development in Kanosh.

3.0 RESOURCE SURVEY METHODOLOGY

3.1 BOTANICAL SURVEY

The project area was evaluated for habitats suitable to TEPC plant species, specifically targeting *S. diluvialis*. If habitat appropriate to any of the listed TEPC plant species was not present, the area was classified as negative. If an area contained habitat that could potentially support any of the listed species, it was surveyed using methodology that would provide 100-percent coverage for detecting corresponding species within suitable habitat (USFWS 2011). Table 3.1 details survey methodology.

Table 3-1. Botanical resource survey methodology for target species.

SPECIES	DATE OF SURVEY	PLANT SURVEY BUFFER	LEVEL OF SURVEY	TRANSECT WIDTH
S. diluvialis	August 20, 2021	300 Feet	100 percent coverage within suitable habitat	Variable depending on habitat; up to 6 feet

*Source USFWS 2011

A habitat suitability rating (e.g., suitable, or not suitable) for respective Millard County-listed TEPC plant species (i.e., target plant species) was assigned. Vegetation associations, geology, hydrology, and substrate qualities were considered indicators of habitat suitability, in accordance with documented and personal knowledge of known habitat parameters specific to target plant species.

Data recorded during 2021 botanical survey were collected using hand-held Trimble®GPS (Global Positioning System) units running Terasync® data recording software. In addition, field notes and photos were taken of the project area to record general site characteristics. Botanical surveys and reporting were completed by Bridget Atkin; vita found in Appendix B.

4.0 EXISTING CONDITIONS

4.1 GENERAL DESCRIPTION OF PROJECT AREA

The project is situated in the central Utah between the I-15 corridor to the west and the Pahvant Mountains to the east. The project area is characterized by agricultural land, rural residential development within the town of Kanosh and the Kanosh Indian Reservation, and open rangelands. The portion of the project area which intercepts rural development includes residential homes, small farms, commercial buildings, utility, and road infrastructure. Terrain is mostly flat with the elevation gradually rising towards the Pahvant Mountains to the east, including the portion of the project that covers the mouth of Kanosh Canyon.

The dominant vegetation communities within the project area are characterized in the valley bottom by both active and fallow agricultural fields (Figures 4-1 and 4-2), transitioning to mixed desert shrublands along the base of the Pahvant Mountains (Figure 4-3), and a riparian woodland in the eastern-most portion of the project that closely aligns with Corn Creek which drains Kanosh Canyon (Figure 4-4).

Agricultural lands occupy the central and northern portions of the project area surrounding the town of Kanosh. Because agricultural development and grazing are a common land use practices within this region, the overall composition of native vegetation cover is respectively degraded. Where land isn't being actively

irrigated and under cultivation, fallow fields have transitioned to dry rangelands dominated by non-native herbaceous species, including *Sisymbrium altissimum, Bromus tectorum*, *Bromus inermis,* and *Thinopyrum intermedium*.

Some areas, supporting mixed desert shrubland appear to have experienced relatively heavy grazing pressures from livestock; vegetation community compositions qualify as generally low in respect to species diversity with sparse shrub cover, minimal native forb, or native bunchgrass cover (Figure 4-5).

The riparian corridor associated with Corn Creek is narrow and characterized by a mature and varied woody canopy, including *Populus angustifolia*, *Salix exigua*, *Acer negundo*, and *Elaeagnus angustifolia* within the higher reach and *Salix fragilis* and *Rhus trilobata* within the lower reach of the drainage (Figures 4-6 and 4-7).

4.2 GEOLOGY

Most of the project area is in Late Holocene Alluvium with Fine-grained Lacustrine and Alluvial Deposits in the eastern portion of the project area, and Middle and Early Holocene Alluvium associated with Kanosh Canyon and the surrounded area (USDA NRCS 2022).

Figure 4-1. The western portion of the project follows irrigation ditches which intercept fields which were not actively being irrigated during the 2021 season. These areas were characterized by dry canals surrounded by ruderal grass and forb species.

Figure 4-2. Western portions of the project follow irrigation ditches which intercept actively cultivated and irrigated fields. Canals within this area are densely vegetated by ruderal herbaceous plant species.

Figure 4-3. The project area and surrounding region are characterized by widely spaced mixed desert shrubland along the eastern extent of the project area.

Figure 4-4. Riparian corridor aligning with Corn Creek, which drains Kanosh Canyon.

Figure 4-5. The project area and surrounding region are characterized by mixed desert shrubland along the eastern extent of the project area.

Figure 4-6. Riparian corridor aligning with Corn Creek, within the eastern-most extent of the project area.

Figure 4-7. The riparian corridor associated with the lower reach of Corn Creek is characterized by introduced woody species, including Salix fragilis and Elaeagnus angustifolia.

Table 4-1. Plant species documented within the project area.

BOTANICAL NAME	COMMON NAME	BOTANICAL NAME	COMMON NAME
Grass and grass-like species:			
Agropyrom cristarum	Crested wheatgrass	*Elymus repens*	Quackgrass
Aristida purpurea	Purple three awn	*Juncus arcticus*	Arctic rush
Bromus inermis	Smooth brome	*Juncus ensifolius*	Swordleaf rush
Bromus tectorum	Cheatgrass	*Panicum capillare*	Witchgrass
Carex nebrascensis	Nebraska sedge	*Poa pratensis*	Kentucky bluegrass
Distichlis spicata	Saltgrass	*Polypogon monspeliensis*	Annual rabbitsfoot grass
Echinochloa crus-galli	Barnyardgrass	*Schedonorus pratensis*	Meadow fescue
Eleocharis palustris	Commoon spikerush	*Sporobolus airoidies*	Alkali sacaton
Equisetum arvense	Field horsetail	*Thinopyrum intermedium*	Intermediate wheatgrass
Forbs*:*			
Acroptilon repens	Russian knapweed	*Iva annua*	Marsh elder
Alyssum desertorum	Desert madwort	*Iva axillaris*	Povertyweed
Amaranthus retroflexus	Redroot amaranth	*Lactuca serriola*	Prickly lettuce
Apocynum cannabinum	Indianhemp	*Lepidium latifolium*	Broadleaved pepperweed
Arctium minus	Lesser burdock	*Lycopus asper*	Rough bugleweed
Artemisia ludoviciana	White sagebrush	*Malcolmia africana*	African mustard
Asclepias labriformis	Utah milkweed	*Malva neglecta*	Common mallow
Asclepias speciosa	Showy milkweed	*Medicago sativa*	Alfalfa
Astragalus utahensis	Utah milkvetch	*Melilotus officinalis*	Sweetclover
Bassia hyssopifolia	Five-horn smotherweed	*Mentha arvensis*	Wild mint
Bassia prostrata	Forage kochia	*Mirabilis linearis*	Narrowleaf four o'clock
Bassia scoparia	Burningbush	*Onopordum acanthium*	Scotch thistle
Cardaria draba	Whitetop	*Polygonum aviculare*	Prostrate knotweed
Chenopodium album	Lambsquarters	*Ranunculus cymbalaria*	Alkali buttercup
Cirsium arvense	Canada thistle	*Rumex crispus*	Curly dock
Cirsium vulgare	Bull thistle	*Salsoa tragus*	Prickly Russian thistle
Cleome serrulate	Rocky mountain beeplant	*Sisymbrium altissimum*	Tall tumblemustard
Conium maculatum	Poison hemlock	*Solidago canadensis*	Canada goldenrod
Convolvulus arvensis	Field bindweed	*Sphaeralcea parvifolia*	Small-leaf globemallow
Conyza canadensis	Horseweed	*Taraxacum officinale*	Common dandelion

BOTANICAL NAME	COMMON NAME	BOTANICAL NAME	COMMON NAME
Cynoglossum officinale	Houndstongue	*Tragopogon dubius*	Yellow salsify
Descurainia pinnata	Western tansymustard	*Urtica dioica*	Stinging nettle
Dipsacus fullonum	Fuller's teasel	*Verbascum thapsus*	Common mullein
Epilobium ciliatum	Fringed willowherb	*Verbena hastata*	Swamp verbena
Erodium cicutarium	Redstem stork's bill	*Xanthium strumarium*	Rough cocklbur
Grindelia squarosa	Curlycup gumweed		
Helianthus annuus	Common sunflower		
Trees, Shrubs, and sub shrubs:			
Acer negundo	Boxelder	*Quercus gambelii*	Gambel oak
Artemisia nova	Black sagebrush	*Rhus trilobata*	Skunkbush sumac
Artemisia tridentata	Big sagebrush	*Rosa woodsii*	Wood's rose
Atriplex canescens	Fourwing saltbush	*Salix amygdaloides*	Peach leaf willow
Elaeagnus angustifolia	Russian olive	*Salix boothii*	Booth's willow
Ephedra viridis	Mormon tea	*Salix exigua*	Coyote willow
Ericameria nauseosa	Rubber rabbitbrush	*Sambucus nigra*	Black elderberry
Gutierrezia sarothrae	Broom snakeweed	*Shepherdia argentea*	Silver buffaloberry
Juniperus osteosperma	Utah juniper	*Tamarix chinensis*	Five-stamen tamarisk
Lonicera involucrata	Twinberry honeysuckle	*Ulmus pumila*	Siberian elm
Populus angustifolia	Narrowleaf cottonwood		

5.0 EVALUATED SPECIES INFORMATION

WESTERN-ENVIRO conducted an online search of the USFWS Information, Planning, and Conservation System (IPaC) database to determine plant species which have been reported in Millard County (USFW 2022b). Based on the results of the database search *S. diluvialis* was identified as having potential to occur within the project area.

6.0 SURVEY RESULTS

***Spiranthes diluvialis* (Ute ladies'-tresses)** is listed as a Threatened species. This species grows in wet meadows and on the banks of perennial streams and rivers. The project area was evaluated in accordance with known *Spiranthes diluvialis* habitat parameters outlined in "Ute ladies'-tresses Field Survey Guidelines, U.S. Fish and Wildlife Service" (USFWS 2007), Range-wide Status Review of *Spiranthes diluvialis* (Fertig et al. 2005), and personal knowledge of the area and species requirements.

The botanical survey was conducted August 20 through 23, 2021, during the survey period appropriate for *S. diluvialis* within this region (USFWS 2011). Within the Assessment Area, which is outside of the currently proposed project disturbance extent (i.e., impact area), 0.053 acre of habitat suitable to this species was documented within Corn Creek riparian corridor (Maps 2 and 3, Appendix A). The documented suitable habitat was closely aligned with the hydrology of Corn Creek, at the mouth of Kanosh Canyon in the southeasternmost portion of the project area. The habitat was dominated by *Agrostis stolonifera, Agrostis gigantea, Juncus arcticus* sub. *litoralis* and Eleocharis palustris. Habitat encountered was classified as moderately suitable (Figures 6-1 and 6-2). *S. diluvialis* surveys were conducted within the identified suitable habitat; no *S. diluvialis* individuals were located.

Figure 6-1. Moderately suitable *S. diluvialis* habitat identified along Corn Creek.

Figure 6-2. Moderately suitable *S. diluvialis* habitat identified along Corn Creek.

7.0 REFERENCES

Fertig, Walter, Rick Black, and Paige Wolken. 2005. Rangewide Status Review of Ute lady's tresses (*Spiranthes diluvialis*). US Fish and Wildlife Service and Central Utah Water Conservancy District. Salt Lake City, UT. 101 pp.

United States Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2022. Web Soil Survey available online at http://websoilsurvey.nrcs.usda .gov/. Accessed: May 2022.

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U.S. Fish and Wildlife Service [USFWS]. 2022a. United States Fish and Wildlife Service. Environmental Conservation Online System. Accessed online: https://ecos.fws.gov/ecp/report/species-listings-by-state?stateAbbrev=UT&stateName=Utah&statusCategory=Listed

U.S. Fish and Wildlife Service [USFWS]. 2022b. United States Fish and Wildlife Service – Information, Planning, and Conservation System.

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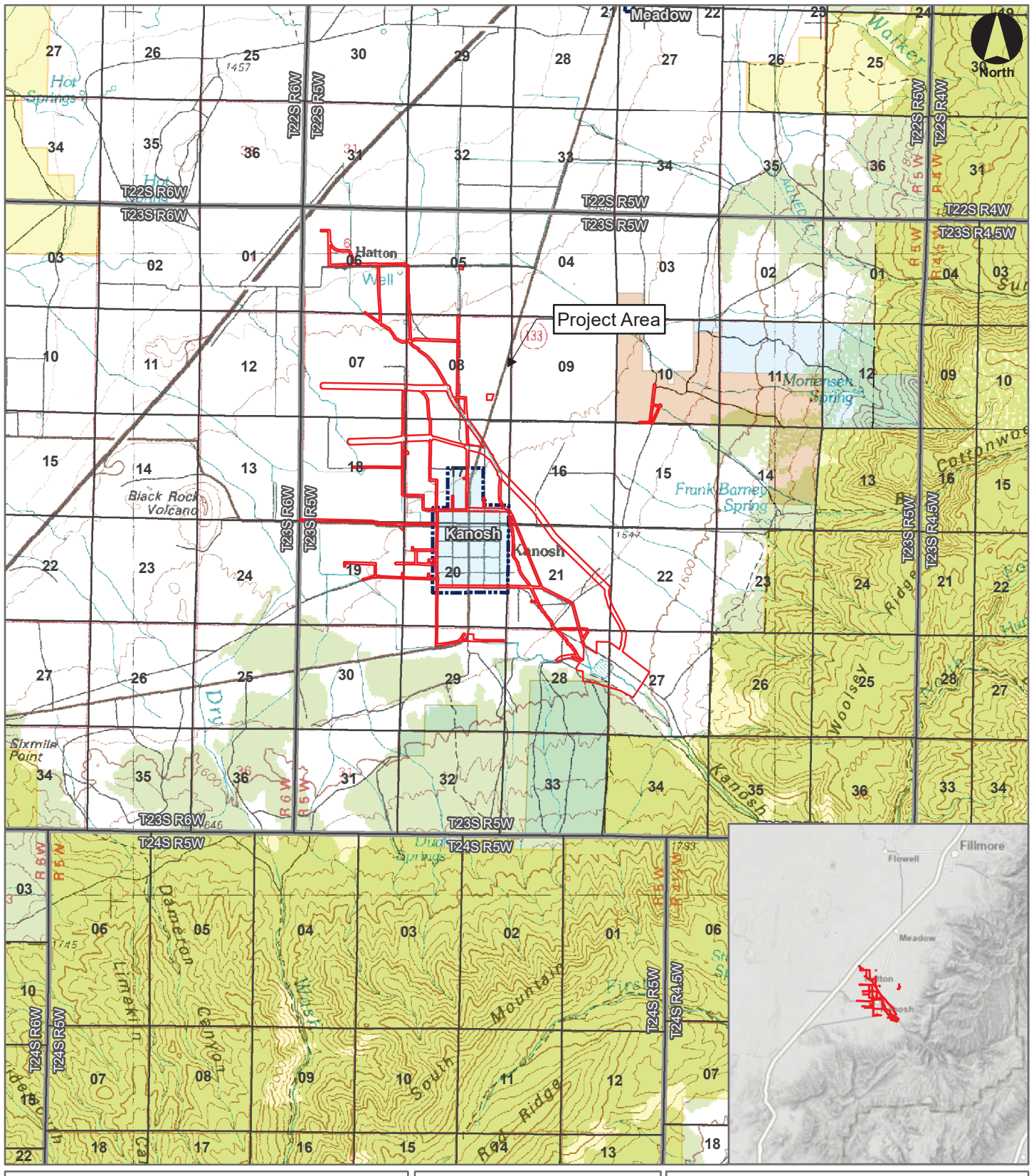
8.0 APPENDICES

APPENDIX A
MAPS



WESTERN-ENVIRO RESOURCES

Project Location

LEGEND

- Project Area
- Municipality

Federal | Private | State | Tribal

Corn Creek Watershed Plan - EA

LOCATION: SECTIONS 5, 6, 7, 8, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28 & 29 in T.23S, R.5W., S.L.B.M.
MILLARD COUNTY, UTAH

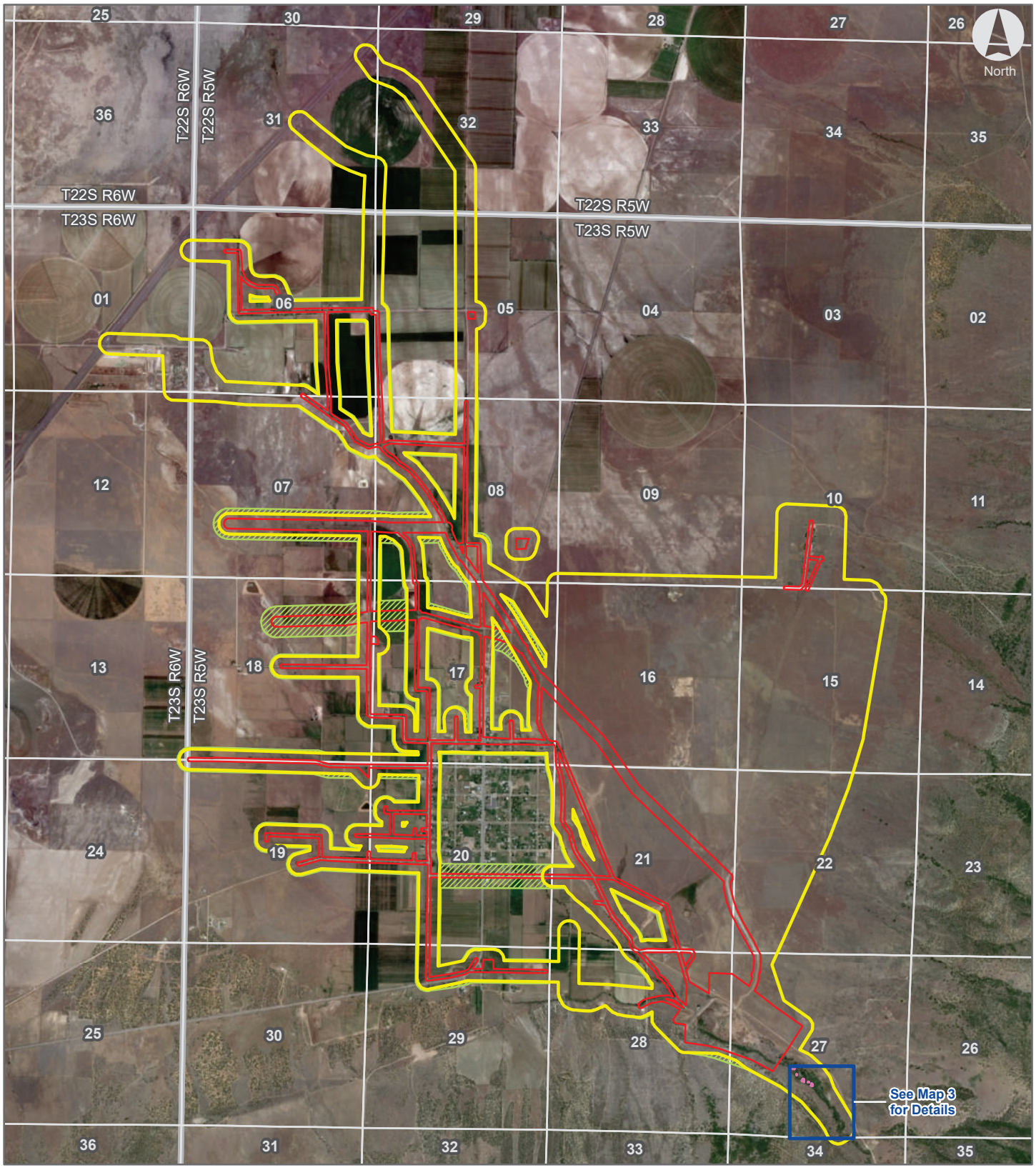
0 1,400 2,800 4,200 5,600 7,000 Feet

VERSION:	NA
SURVEYED:	NA

USGS 100K Topo

JUL 21, 2022
SCALE: 1" = 7,000'
AUTHOR: JH

MAP 1



WESTERN-ENVIRO RESOURCES

Botanical Resources - Overview

0 800 1,600 2,400 3,200 4,000 Feet

VERSION:	NA
SURVEYED:	NA

LEGEND

- Project Area (598.94 Ac)
- 2021 Assessment Area (4,344.83 Ac)
- 2022 Additonal Assessment Area (355.47 Ac)
- *Spiranthes diluvialis* Habitat (0.053 Ac)

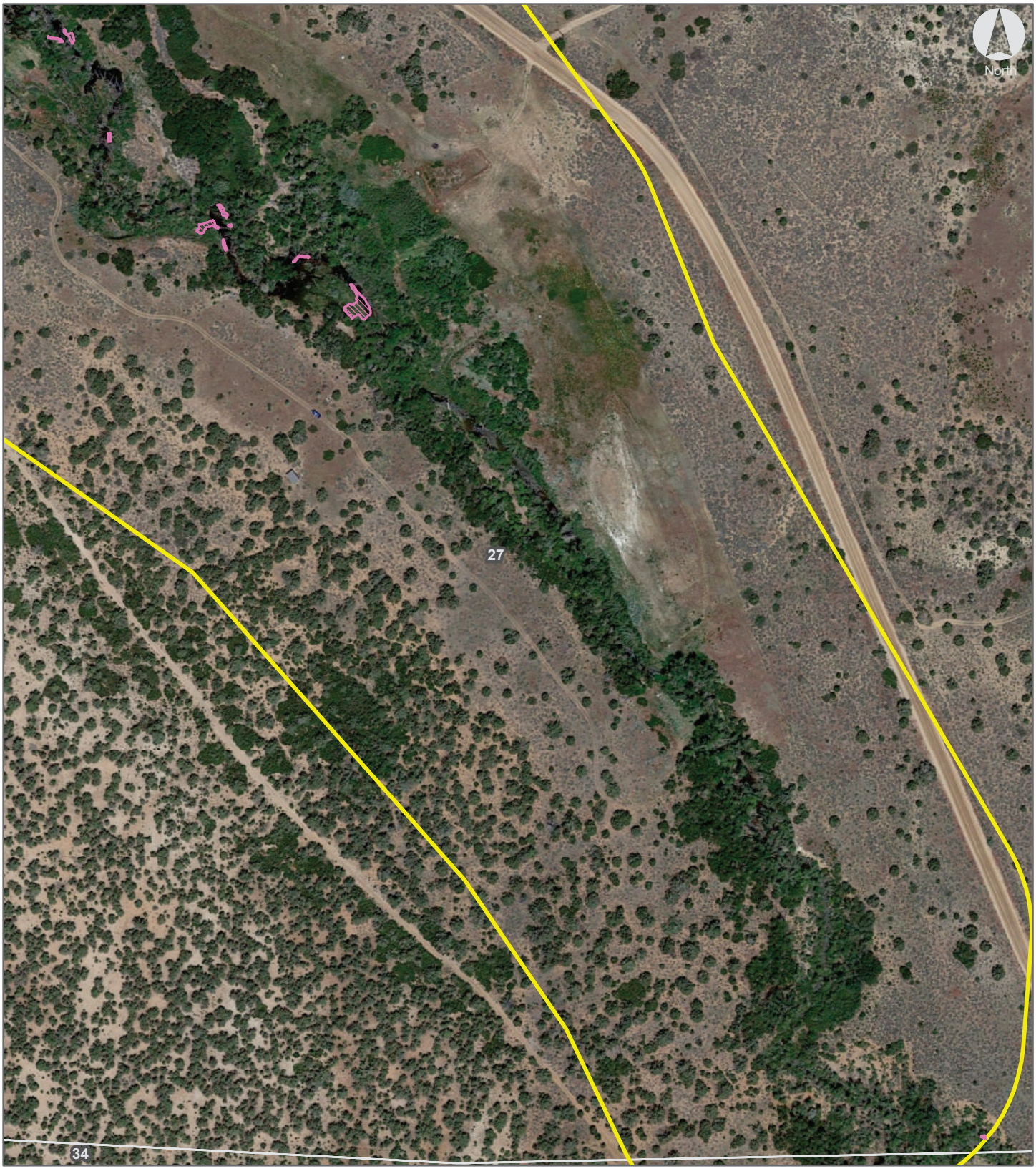
Corn Creek Watershed Plan - EA

LOCATION: SECTIONS 5, 6, 7, 8, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28 & 29 in T.23S, R.5W., S.L.B.M.
MILLARD COUNTY, UTAH

2018 Google Imagery

AUG 11, 2022
SCALE: 1" = 4,000'
AUTHOR: JH

MAP 2



WESTERN-ENVIRO
RESOURCES

Botanical Resources - Detail

0 50 100 150 200 250 Feet

VERSION:	NA
SURVEYED:	NA

LEGEND

- 2021 Assessment Area (4,344.83 Ac)
- *Spiranthes diluvialis* Habitat (0.053 Ac)

Corn Creek Watershed Plan - EA

LOCATION: SECTIONS 5, 6, 7, 8, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28 & 29 in T.23S, R.5W., S.L.B.M.
MILLARD COUNTY, UTAH

2018 Google Imagery

AUG 11, 2022
SCALE: 1" = 250'
AUTHOR: JH

MAP 3

APPENDIX B
QUALIFICATIONS

BRIDGET ATKIN – PLANT ECOLOGIST and ENVIRONMENTAL PLANNER – Ms. Atkin has 17 years of plant and environmental planning experience in the Intermountain West. She is experienced in the preparation and application of NEPA documents from scoping to project construction and compliance. She has managed projects involving the Clean Water Act, Section 404 Wetlands and was primary coordinator with Federal and State agencies. She is experienced with surveying and monitoring TEPC species, water-related planning, and permitting processes. She has managed hundreds of projects focusing on monitoring and mapping flora resources throughout the Intermountain West and has conducted natural resource surveys, inventories, and plant identification. Ms. Atkin holds a B.S. degree in horticulture, a M.S. degree in Plant Science, and has an M.L.A. from the Landscape Architecture and Environmental Planning department, all from Utah State University (USU).

Biological Assessment

Corn Creek Watershed Plan-EA

Prepared By:

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Prepared For:

USDA NRCS
United States Department of Agriculture
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November 2024

Contents

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1 Introduction

This Biological Assessment (BA) has been prepared to document the potential effects of the Corn Creek Watershed Plan-EA Project on Federally listed species afforded protection under Section 7 of the Endangered Species Act (ESA). The Natural Resources Conservation Service (NRCS) is the lead Federal agency for the project. It is providing technical and financial assistance to the sponsor, Kanosh Town, through the Watershed Flood Prevention & Operations (WFPO) Program (Public Law 83-566).

Kanosh Town, the Sponsoring Local Organization (SLO) for the project, in coordination with Corn Creek Irrigation Company (CCIC) and the Kanosh Band of Paiute Indians (Kanosh Band), is developing a Plan-EA that seeks to identify a viable alternative solution to address current flood prevention and agricultural water management problems in the Town of Kanosh, Utah and for the Kanosh Band of Paiute Indians located in Millard County, Utah.

2 Project Description

2.1 Project Area

The project is being planned for the Corn Creek Watershed, located in Millard County.

2.2 Action Area

The Action Area includes the area of disturbance associated with project measures, including the associated species buffers (0.5 mile for birds and 300 feet for plants). The Action Area is shown in Figure 1.

The Action Area is located within the North American Deserts ecoregion. The ecoregion is defined by low growing grasses and shrubs and other vegetation consistent with a sagebrush steppe environment. Land uses in the Action Area are primarily residential (urban) and agricultural.

2.3 Project Details

The Proposed Action consists of the following measures (Figures showing project measures are included at the end of this section):

2.3.1 Reconstruct the Corn Creek Dam and Debris Basin

The current Corn Creek Dam and Debris Basin would be reconstructed to bring it into compliance with NRCS and Utah State Dam Safety criteria. The new debris basin would have an updated alignment farther downstream and a taller embankment. The proposed embankment crest elevation is designed to be 5,208.75 feet and the height of the embankment measured from the lowest downstream toe elevation is approximately 50 feet.

2.3.2 Replace the Spillways of Corn Creek Dam

The Primary, Secondary, Emergency, and Auxiliary Spillways of the Dam would be replaced as well. The proposed primary spillway/low level outlet is a 42-inch conduit with a crest elevation of 5,177 feet. This conduit would discharge into a box that would dissipate energy, split water

between two pipelines, and measure flow. This outlet pipe would have a trash rack and be controlled with a guard gate at the inlet of the pipe.

The proposed secondary spillway is a morning glory and standpipe type design with a crest elevation of 5,199 feet and effective weir length of 22 feet. The 84-inch standpipe would have a 100-inch trash ring that would keep floating debris from blocking the flow of water into the spillway and blocking downstream culverts. The 84-inch standpipe would transition to a 60-inch conduit that would discharge into the energy dissipation box. During periods of high or flood flow, the box would discharge water to the existing channel downstream of the embankment.

The proposed emergency spillway is a side channel spillway design with a crest elevation of 5,203.8 feet and width of 200 feet. A concrete weir wall would discharge into a concrete side channel that would route the water to the existing emergency channel. The existing emergency spillway culverts that convey water across Kanosh Canyon Road do not have the capacity needed and have a high potential to be plugged in by debris. The road would be regraded to remove the culverts and create a broad swale that would convey floodwater to the existing flood channel. The elimination of culverts would greatly reduce the potential for debris to prevent floodwater from flowing into the existing flood channel.

The proposed auxiliary spillway would be constructed as an armored spillway over the dam with a crest elevation of 5,205.4 feet and width of 200 feet. The proposed armoring is a fabric-formed concrete mattress. The water would be routed into the existing channel downstream of the embankment.

2.3.3 Secondary Regulating Pond Relocation/Kanosh Band Secondary System

The reconstruction of the debris basin would involve moving the dam downstream and increasing the height of the dam to create additional flood detention storage in the debris basin. This would eliminate the existing Kanosh Town secondary pond. The pond would be relocated approximately a half mile upstream of the current pond location. The new pond would supply both the Kanosh

Town and the Kanosh Band of Paiutes (the Tribe) secondary systems from a higher elevation. This would provide additional pressure in the two secondary systems.
The proposed scope would include the following elements:

1. A diversion structure to divert a percentage of the Corn Creek flow for the Tribe and Town's secondary water systems, as well as divert water to the naturally clay-lined bypass channel along the debris basin that minimizes seepage losses for CCIC.
2. A splitting structure to split the diverted water between the Tribe and the Town.
3. A regulating pond at a suitable elevation to temporarily hold water and provide enough pressure for the Tribe's secondary water system, as well as the Town's secondary water system.
4. Pipelines to convey this water to the two existing secondary water system pipelines below the debris basin, a short pipeline to convey water from the diversion structure to the bypass channel on the southwest side of the debris basin that would minimize seepage losses, and an overflow pipe to convey excess water from the secondary pond to the bypass line for use by CCIC.
5. A secondary water pipe network for the Tribe connecting to their existing 12-inch PVC pipeline at their existing pond to convey water directly to the residential homes for outdoor water use.

2.3.4 Berm and Channel Modification

Downstream of the Debris Basin, all water in Corn Creek is conveyed by the CCIC ditch system. The flood modeling did not assume there was any warning of flooding or changes made to the terrain like sandbagging or modifications to the ditches. The modeling showed that Kanosh begins flooding during the 2-year storm event because the East Field Single Ditch takes more water from the splitting structure than it has capacity to safely convey. The splitting structure is based on shares, not on channel capacities. Installing bypasses near the existing splitting structure to prevent the Hatton and East/Middle Ditches from breaching is one of the proposed actions. The first bypass would route water that exceeds the capacity of the East/Middle Ditch to the Hatton Ditch. The second bypass would route water that exceeds the capacity of the Hatton Ditch to the West Ditch. Minimal modifications to the last two blocks of the West Ditch allowed the upstream capacity of the West Ditch to be fully utilized.

Another measure is to enlarge the West Ditch downstream of the Main Street culvert. The improvements include enlarging the existing channel, extending the channel, lining the ditch with concrete, and replacing the two 65 cfs capacity culverts with bridges over the concrete channel. This would allow the floodwater to be contained within the ditch until it can be safely discharged beyond the homes and structures in Kanosh.

To prevent the floodwater from overtopping I-15, it was important to route the water through multiple culverts and a large capacity I-15 culvert. As the floodwater spread out, it was important that it didn't travel north of this culvert. Shortening the existing emergency channel releases the floodwater farther south and allows more water to reach the larger culvert. Constructing a berm north of the culvert to prevent the floodwater from flowing north routes more water through the large culvert. Finally, raising 800 feet of an existing dirt road to prevent the water from flowing north was also one of

the actions that would utilize the large capacity I-15 culvert enough to prevent the overtopping of I-15. Some other measures were much smaller berms that direct the floodwater into the Hatton Ditch and away from structures and minor grading to direct floodwater into the West Ditch

2.3.5 Pipe Network

The current CCIC open ditches lose approximately 44% of the water conveyed. A gravity pipe system is proposed to greatly reduce seepage and evaporation losses and increase irrigation water deliveries to the farmers in the area. Diversion boxes would be installed at current irrigation turnouts.

The proposed pipe system would replace the equivalent of approximately 4.9 miles of open ditches. Up to approximately 14.1 miles of ditches would have pipe installed adjacent to the ditch because the ditch would be needed to convey floodwater. The ends of laterals that are used infrequently or serve a single shareholder may not be piped if funding becomes short.

There are multiple splitting/measurement structures proposed for the piped system. A main splitting/measurement structure is proposed where the 60-inch debris basin outlet would discharge. This main splitting box would dissipate energy and distribute the water into two pipelines. The pipelines would have a combined capacity of about 40 cfs. Other splitting/measurement structures would also divide water downstream where previous ditches have been combined to reduce the amount of pipe needed.

A sharp crested weir would be used in the splitting structures. This would ensure uniform controlled flow into each of the pipe sections. The sharp crested weir would also be used to measure flow; therefore, there would not be a need for separate measurement structures. There would be a staff gauge in the splitting structure and possibly a water level measurement device that could be transmitted to a SCADA system.

2.3.6 Kanosh Band Secondary Water System

The Corn Creek Watershed Project aims to improve irrigation systems for the Kanosh Band of Paiute Indian Tribe by adding a secondary system to the existing pipeline between the debris basin and the community.

The new regulating pond would be at a higher elevation that would allow it to service both the Town and Kanosh Band. The secondary system for the Kanosh Band would reduce the demand for existing culinary water systems. Water would be diverted from Corn Creek before it reaches the debris basin, stored in a new regulating pond with a partition to separate the Tribe's water from the Town's water. The Tribe's current pipeline, installed in 2005, has not been effectively used, leading to flooding and underutilization of water shares. The new system would allow better management of Tribal water rights, providing up to 400 gpm to supply 17 developed lots, though actual flow in Corn Creek would determine the amount of water available. The Town of Kanosh, with rights to 10% of CCIC’s water, would also benefit from the new system, which includes relocating their pond to a higher elevation to increase adequate pressure.

The management measures seek to optimize water distribution and minimize seepage, thereby supporting both the Tribe's and the Town's irrigation needs.

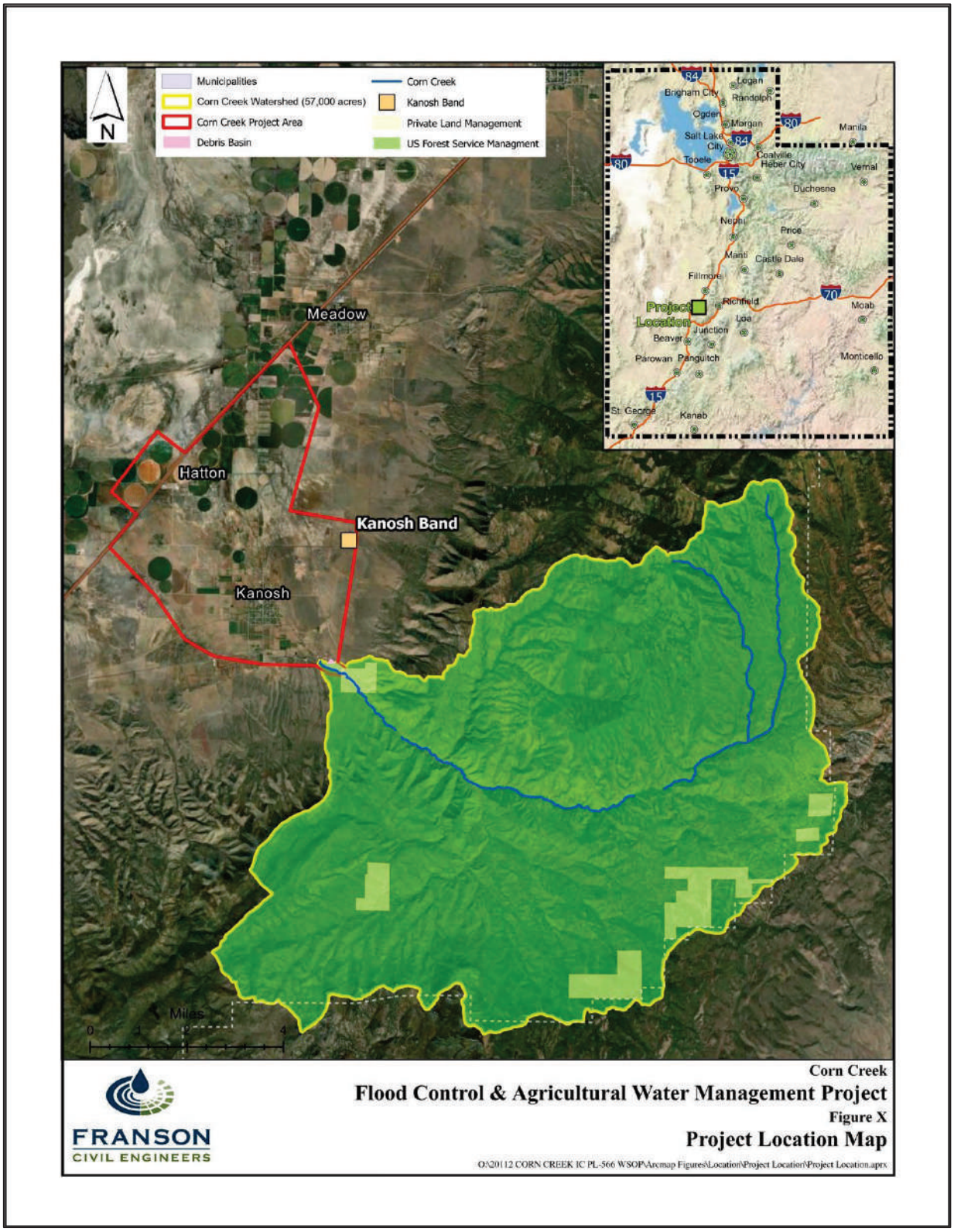

Figure 1 Project Action Area and Corn Creek Watershed

2.3.7 Timing of Construction

Construction would begin in Fall 2026 and would utilize typical construction machinery and equipment. It is estimated that construction will be completed in late 2027.

2.4 Conservation Measures

The following conservation measures are proposed for the species considered in this BA:

1. Limiting ground disturbance to only areas necessary to safely implement the Preferred Alternative.
2. Restricting construction activities to avoid sensitive breeding or nesting seasons if potential habitat for the Monarch butterfly and other special status animal species potentially present in the project area is identified during screening prior to construction.
3. Using existing roadways and maintenance routes where available to reduce disruption of habitat.
4. Restoring disturbed vegetation within the animal habitat as close as possible to pre-existing conditions on completion of the project.
5. Ensuring that contractors and project managers can recognize the special status animal species identified in this Biological Assessment as potentially present in the project area.
6. Prioritizing the protection of special status animal species if identified in pre-construction surveys in or adjacent to the construction corridor.
7. Placing appropriate buffers on nests if construction activities should occur in the late spring/early summer or any time active breeding, nesting, or pre-fledging behavioral activities occur. This would be done in accordance with the USFWS Utah Raptor Guidelines until fledging activities conclude.
8. Reinstating disturbed areas as close as practicable to pre-existing conditions at the end of the project to restore affected bird habitat.
9.

3 Species Considered

3.1 Species that May Be Present

An official species list was obtained for the Action Area from the Information for Planning and Consultation (IPaC) system on March 21, 2022, and last updated on October 15, 2024 (see Attachment A). The species listed as threatened or endangered that “may be present in the area of the proposed action” are listed in Table 1. There is no designated critical habitat for any of the species within or adjacent to the Action Area.

Table 1 Listed Species that May Occur in the Study Area & Rationale for Further Consideration in this Biological Assessment

Species	Status	Species Consideration in this BA and Likely Occurrence
Monarch Butterfly (*Danaus plexippus*)	Candidate	**Considered.** Monarch butterflies require milkweed (*Asclepias spp.*), nectar sources, overwintering habitat, and migration habitat (USFWS, 2020). There is potential for suitable habitat for the Monarch butterfly in the Action Area.
Ute Ladies'-Tresses (ULT) (*Spiranthes diluvialis*)	Threatened	**Considered.** Potentially Suitable habitat for the ULT was identified in the Action Area during the IPaC analysis..

3.2 Species Carried Forward

Monarch Butterfly and ULT were both identified as potentially occurring in the vicinity of proposed project activities; therefore, these species are being carried forward in this BA for further analysis.

3.3 Species Descriptions and Effect Analyses

3.3.1 Monarch Butterfly

The Monarch butterfly is an insect species, that was listed as a candidate species by the USFWS in 2020 (USFWS, 2020). Although findings of the USFWS review determined the Monarch butterfly to be eligible for listing as a threatened or endangered ESA species, higher priority actions have precluded formal listing. However, as NRCS is the lead agency for the project and NRCS policy requires consultation on candidate species in addition to listed species, the species has been considered in this BA.

The monarch butterfly is a migratory insect that spends its winters in coastal California and northern Mexico. The species requires Milkweed (*Asclepias sp.)* for egg laying. Monarch butterfly summer habitat is limited by the presence or absence of Milkweed for both food and reproduction, in areas where it is not present, Monarch butterflies will typically not be found. In Utah, it is possible that Monarch butterflies would forage on other non-milkweed species given their wide-ranging foraging capabilities if Milkweed is present somewhere else nearby (Cirrus, 2022 and USFWS, 2024).

The Monarch butterfly is distinguished by its relatively large wingspan for a butterfly of 3 to 4 inches that has an orange-black coloration, the black border is accompanied by a double row of white spots (USFWS, 2024). The Monarch butterfly has two sets of wings, each spanning approximately the same length. Monarch butterfly caterpillars, or larvae, have black, yellow and white stripes and reach lengths of two inches before metamorphosis.

Current threats to the Monarch butterfly include loss of habitat from development or conversion to agriculture, pesticide use, logging operations at wintering sites in Mexico, and drought

(Cirrus, 2022). The IPaC report for the Action Area did not identify any proposed or designated final critical habitat for the WYBC in the Action Area.

3.3.2 Survey Conditions & Findings – Monarch Butterfly

A habitat suitability assessment for the Monarch Butterfly occurred from July 16 through 19, 2022 and was conducted by Cirrus Ecological Solutions (Attachment B) to determine if any suitable habitat exists within the Action Area. No Monarch Butterfly individuals or Milkweed were identified during the survey. The survey concluded that no habitat for the Monarch exists in the Action Area.

3.3.3 Direct and Indirect Effects – Monarch Butterfly

The Monarch butterfly is not typically found in areas lacking the presence of Milkweed either within or near the evaluated site, such as the Action Area. Because of this, no suitable habitat for the Monarch butterfly was identified in the Action Area (Cirrus, 2022). As there is no suitable habitat in the Action Area, the Proposed Action would have no direct or indirect effects on the Monarch Butterfly.

3.3.4 Ute Ladies'-Tresses

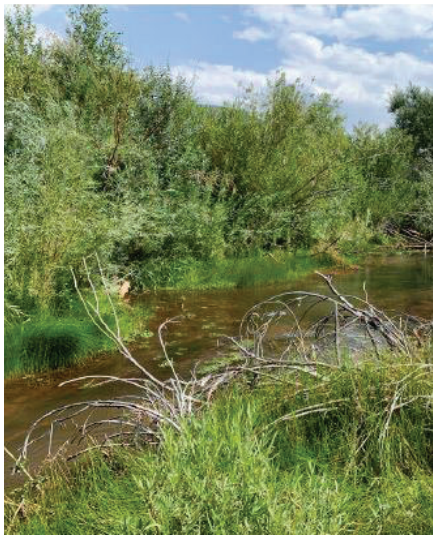

Figure 2 Moderately Suitable Habitat from Field Survey

The ULT is a white-flowered, perennial, terrestrial herb that is a member of the family *Orchidaceae* (orchids) that occurs in low to mid-elevation wetlands and riparian zones in the central Rocky Mountains and typically grows to be between 8 and 20 inches tall (USFWS, 2021a). The species was listed as threatened by the USFWS on January 17, 1992, because of its rarity, small population sizes, and threats of loss or modification to riparian habitats (USFWS, 1992).

Suitable ULT habitat is generally characterized by old stream channels, alluvial terraces, sub-irrigated meadows, and other wetland habitats. ULTs have also been documented within irrigated pastures, riparian shrublands, and deciduous forests below 7,000 feet in elevation. The species blooms from late July through August (USFWS 2021).

Current threats to the ULT include loss of riparian and wetland habitat as a result of urbanization, flooding, and dewatering of habitat from dam control and stream channel re-routing for agricultural development (USFWS 2021a).Survey Conditions & Findings – Ute Ladies'-Tresses

A habitat suitability assessment for the ULT was conducted from August 20 to August 23, 2021, by Western-Enviro Resources, based in Springville, Utah (Attachment C) to determine if any suitable habitat exists in the Action Area and to identify if any ULT individuals existed in the project area. The survey was conducted during the ULT blooming window and surveyed ~4,345 acres, which included the standard 300-foot plant survey buffer and using transect widths of up to 6-feet. A moderately suitable habitat for the ULT was found closely aligned with the hydrology of Corn creek, but no ULT individuals were located (Western-Enviro Resources, 2021). The suitable habitat is located southeast of the Action Area and outside of all extents of the Proposed Action. A copy of the botanical report is included as Attachment C.

3.3.5 Direct and Indirect Effects – ULT

No suitable ULT habitat or ULT individuals were found in the Action Area, although some moderately suitable habitat was found along the Corn Creek channel southeast of the Action Area. The minimum buffer between the Proposed Action and ULT habitat is 300 feet, thus there would be no direct or indirect effects on the ULT as a result of the Proposed Action.

4 Conclusion and Determination of Effects

4.1 Determination of Effects – No Effect

Considering all the information presented in the preceding sections of this BA, it can be reasonably concluded that the magnitude of impacts on the ULT and Monarch Butterfly resulting from the Proposed Action is expected to have no impact on either species (i.e., **no effect**).

The Monarch Butterfly and ULT were not identified as being present in the Action Area during field surveys. Additionally, there would be no overlap between the Proposed Action and any suitable habitat in the Action Area. Additionally, the Proposed Action would not occur within 300-feet of any suitable habitat for ULTs, maintaining the minimum work buffer for plants specified by the USFWS.

The table below summarizes and presents the determinations of effects for all of the ESA species considered in this BA. No actions related to the Proposed Action would have any effect on designated critical habitat for any species.

Table 2 Determination of Effects

Species	Status	Determination of Effects
Monarch Butterfly (*Danaus plexippus*)	Candidate	**No Effect.** No suitable habitat or individuals identified in the Action Area.
Ute Ladies'-Tresses (*Spiranthes diluvialis*)	Threatened	**No Effect.** No suitable habitat or individuals identified in the Action Area.

5 Literature Cited

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Western-Enviro Resources. August 2022. Botanical Report for the Proposed: Corn Creek Watershed Plan & Environmental Assessment, Millard County, Utah.

Ute Ladies'-Tresses, USFWS. Hotze, Public Domain, https://www.fws.gov/banner/ute-ladies-tresses.

6 Attachments

Attachment A. USFWS IPaC Species Report, most recent version (October 15, 2024)
Attachment B. Corn Creek Species Review Memo (Monarch) – Cirrus Ecological Solutions
Attachment C. Botanical Report (ULT) – Western-Enviro Resources & Proposed Action Maps