

**Department of Energy, Office of Legacy Management
Monticello Mill Tailings Site Operable Unit III (MMTS OU III)**

Summary of Program Directive #: MNT-08-02

Subject: Wildlife surveys to measure avian species diversity in 2008 at former mill site Wetland 3 and the sediment retention pond. Particular attention will be paid to federally protected, State of Utah listed, and other avian species of concern that may consume macroinvertebrates in these wetlands.

Directive/Task Changes: Conduct avian surveys in accordance with the attached Survey Plan.

Affected Program Documents: Monticello Mill Tailings Operable Unit III Post-Record of Decision Monitoring Plan

Justification: Sampling in 2007 indicates that selenium in macroinvertebrate tissues remains above levels of concern in Wetland 3 and the sediment retention pond. Avian surveys in 2005 established a baseline of species potentially affected by selenium levels. 2006 surveys focused on the diversity and abundance of waterfowl in the wetlands and surrounding areas. Additional surveys are necessary to determine whether federally protected, State of Utah listed, or other avian species of concern not identified in the 2005 and 2006 avian surveys may be exposed to the macroinvertebrate populations in Wetland 3 and the sediment retention pond. Surveys will be performed by individuals trained and experienced in identifying Threatened & Endangered and sensitive avian species in Eastern Utah.

Effective Date: March 21, 2008

Expiration Date: September 30, 2008

Avian Wetland Species Survey Plan

2008 Field Season

I. Introduction

The U.S. Department of Energy (DOE) completed surface remediation at the Monticello Mill Tailings Site (MMTS), located near Monticello, Utah, under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The remediated area currently supports three large manmade wetlands and a sediment retention pond, located approximately one mile east of the wetlands (Attachment 1). The *MMTS Operable Unit III Post-Record of Decision Monitoring Plan* (DOE 2004) specifies post-remediation monitoring of groundwater, surface water, and sediment for selenium. Selenium has the ability to accumulate in the aquatic food chain and potentially harm organisms. Avian species may be particularly sensitive to elevated levels of selenium. Therefore, biomonitoring has been conducted at the former MMTS since 2005, when selenium benchmark levels were exceeded for some surface water/sediment samples. The *Operable Unit III Remedial Investigation, Appendix M – Ecological Risk Assessment* (DOE 1998) discusses the potential receptors and exposure pathways in detail.

The locations and general approach for biomonitoring were determined in 2004 by the Biological Technical Assistance Group (BTAG), including representatives from DOE, the U.S. Environmental Protection Agency Region VIII, the U.S. Fish and Wildlife Service, and the Utah Department of Environmental Quality. Macroinvertebrate sampling was accomplished at the site in 2005, 2006, and 2007. Results indicate that, during these years, levels of selenium in macroinvertebrate tissues, while not exceeding toxicity levels, did exceed levels of concern in Wetland 3 and the sediment retention pond.

In October 2004, the BTAG determined that wildlife surveys would be limited to avian receptor species commonly associated with wetland and small open water habitats. Amphibians, reptiles, fish and mammals were specifically excluded from the scope of the surveys. In 2005, avian surveys established a baseline of species potentially affected by elevated selenium in the wetlands (DOE 2005a). The 2006 surveys focused on waterfowl in and near the MMTS wetland areas (DOE 2006). Additional surveys are required in 2008 to determine whether federally protected, State of Utah listed, or other avian species of concern not identified in previous surveys may occur in or near Wetland 3 or the sediment retention pond. The BTAG has specified that these surveys be performed by individuals trained and experienced in identifying Threatened and Endangered, state-listed, and sensitive avian species in Eastern Utah (see Subcontractor Qualifications, Section IV below).

II. Scope

The following activities comprise the scope of the 2008 surveys (detailed procedures are provided in Section VII):

- A minimum of 8 field visits, with two survey times each (1 evening and 1 morning) will be performed during the field season (April 15 to August 31, 2008).
- Each survey time will include a visit to both Wetland 3 and the sediment retention pond.
- Field visits will be scheduled at regular intervals, approximately 2 weeks apart, unless the Subcontractor determines that an alternative schedule would increase the possibility of detecting species listed in Section VI.
- All avian species observed in or near Wetland 3 or the sediment retention pond will be recorded on the field data sheets along with all other pertinent field observations.

- A nesting survey will be conducted only if general surveys reveal that Threatened & Endangered, state-listed or other avian species of concern may be nesting in the area. The nesting survey will substitute for one of the general surveys and will be timed to coincide with the nesting activities of the species in question.

III. Schedule

The field season for the avian surveys will be between April 15 and August 31, 2008. A proposed schedule for surveys will be submitted to the Contractor prior to the first scheduled survey.

A draft report, summarizing the results of the surveys, will be provided to the Contractor by September 30, 2008. The report will be finalized by the Contractor and DOE for transmittal to the BTAG by November 1, 2008. The Subcontractor's draft report will include the following information:

- A summary of the dates, times, duration and locations of the surveys
- Any communications with federal and state agencies, including DOE
- A summary of field observations
- Copies of all field notes and survey forms
- GPS data for observation points and nest locations, as applicable
- Maps documenting survey information, as applicable
- References to materials used, as applicable

IV. Subcontractor Qualifications

The Subcontractor performing the avian surveys will have the following minimum qualifications:

- A Bachelor's Degree (BA or BS) in Natural Resources, Wildlife Biology, or related science,
- At least 2 years field experience with bird surveys in eastern Utah, including identifying Threatened & Endangered, State listed, and other avian species of concern,
- Training for all federally-listed species with the potential to occur in wetlands of San Juan County,
- Current employment with a federal or state agency with recognized experience (by that agency) in bird identification,
- Knowledge and use of GPS equipment, and
- Experience in completing bird survey forms and writing reports

The Subcontractor will provide a summary of qualifications, including a list of dates and locations of Threatened & Endangered species survey training, to the Subcontractor, prior to the first scheduled survey.

V. Materials

The Subcontractor will be required to provide all necessary field equipment (e.g., binoculars, spotting scopes, song tapes, GPS units). Biologist(s) from DOE's LMS Contractor will be available to accompany the Subcontractor on surveys as needed, to observe and assist. At least two individuals will be present in the field for the duration of each survey.

VI. Threatened & Endangered, State-Listed and Other Avian Species of Concern

No Threatened, Endangered, Candidate, or State-listed species have been identified in or near the Monticello wetlands during past avian surveys. Two avian species of concern, the olive-sided flycatcher

and the black-throated gray warbler, were identified in the vicinity of the sediment retention pond in 2005 (DOE 2005a). The following lists include Threatened & Endangered, State-listed, or other avian species of concern that are known to occur, or may occur as accidentals, in San Juan County, Utah. Species listed in bold type indicate those known to be associated with wetland, open water, and/or riparian habitats. Although all observed species will be recorded, 2008 bird surveys will focus on identifying these listed species in or near Wetland 3 or the sediment retention pond. The lists are not intended to limit the scope of field observations, but to provide a list of species that require a higher level of focus. The Subcontractor may recommend changes or additions to the following lists as necessary, based on knowledge and expertise of regional birds.

Federally-Listed Threatened, Endangered, and Candidate Species (UDWR 2007)

Common Name	Scientific Name	Status
California condor	<i>Gymnogyps californianus</i>	Endangered - Experimental
Mexican spotted owl	<i>Strix occidentalis lucida</i>	Threatened
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Endangered
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate

State-Listed Species (UDWR 2007)

Common Name	Scientific Name	Status
American white pelican	<i>Pelecanus erythrorhynchos</i>	Wildlife species of concern¹
Bald eagle	<i>Haliaeetus leucocephalus</i>	Wildlife species of concern
Black swift	<i>Cypseloides niger</i>	Wildlife species of concern
Bobolink	<i>Dolichonyx oryzivorus</i>	Wildlife species of concern
Burrowing owl	<i>Athene cunicularia</i>	Wildlife species of concern
Ferruginous hawk	<i>Buteo regalis</i>	Wildlife species of concern
Grasshopper sparrow	<i>Ammodramus savannarum</i>	Wildlife species of concern
Greater sage-grouse	<i>Centrocercus urophasianus</i>	Wildlife species of concern
Gunnison sage-grouse	<i>Centrocercus minimus</i>	Conservation Agreement ²
Lewis's woodpecker	<i>Melanerpes lewis</i>	Wildlife species of concern
Long-billed curlew	<i>Numenius americanus</i>	Wildlife species of concern
Mountain plover	<i>Charadrius montanus</i>	Wildlife species of concern
Northern goshawk	<i>Accipiter gentilis</i>	Conservation Agreement
Sharp-tailed grouse	<i>Tympanuchus phasianellus</i>	Wildlife species of concern
Short-eared owl	<i>Asio flammeus</i>	Wildlife species of concern
Three-toed woodpecker	<i>Picoides tridactylus</i>	Wildlife species of concern

¹ Wildlife Species of Concern are species for which there is credible scientific evidence to substantiate a threat to continued population viability. It is anticipated that these designations will identify species for which conservation actions are needed, and that timely and appropriate conservation actions implemented on their behalf will preclude the need for Federal listing.

² Species receiving special management under an interagency Conservation Agreement in order to preclude the need for Federal listing.

Other Avian Species of Concern

Common Name	Scientific Name	Listing Information
Abert's towhee	<i>Pipilo aberti</i>	Bird of Conservation Concern³
American golden-plover	<i>Pluvialis dominica</i>	Audubon Society⁴
Ancient murrelet	<i>Synthliboramphus antiquus</i>	Audubon Society
Band-tailed pigeon	<i>Columba fasciata</i>	Partners in Flight ⁵
Bay-breasted warbler	<i>Dendroica castanea</i>	Audubon Society
Bell's vireo	<i>Vireo bellii</i>	Partners in Flight
Bendire's thrasher	<i>Toxostoma bendirei</i>	Bird of Conservation Concern
Black-chinned sparrow	<i>Spizella atrogularis</i>	Partners in Flight
Black rosy-finch	<i>Leucosticte atrata</i>	Partners in Flight
Black-throated gray warbler	<i>Dendroica nigrescens</i>	Bird of Conservation Concern
Blue grouse	<i>Dendragapus obscurus</i>	Partners in Flight
Blue-winged warbler	<i>Vermivora pinus</i>	Audubon Society
Brewer's sparrow	<i>Spizella breweri</i>	Partners in Flight
Buff-breasted sandpiper	<i>Tryngites subruficollis</i>	Audubon Society
Calliope hummingbird	<i>Stellula calliope</i>	Audubon Society
Canada warbler	<i>Wilsonia canadensis</i>	Audubon Society
Chestnut-collared longspur	<i>Calcarius ornatus</i>	Bird of Conservation Concern
Clark's grebe	<i>Aechmophorus clarkia</i>	Audubon Society
Costa's hummingbird	<i>Calypte costae</i>	Audubon Society
Crissal thrasher	<i>Toxostoma crissale</i>	Bird of Conservation Concern
Elf owl	<i>Micrathene whitneyi</i>	Audubon Society
Flammulated owl	<i>Otus flammeolus</i>	Bird of Conservation Concern
Golden eagle	<i>Aquila chrysaetos</i>	Bird of Conservation Concern
Golden-winged warbler	<i>Vermivora chrysoptera</i>	Audubon Society
Grace's warbler	<i>Dendroica graciae</i>	Bird of Conservation Concern
Gray vireo	<i>Vireo vicinior</i>	Bird of Conservation Concern
Harris's sparrow	<i>Zonotrichia querula</i>	Partners in Flight
Hermit warbler	<i>Dendroica occidentalis</i>	Audubon Society
Kentucky warbler	<i>Oporomis formosus</i>	Audubon Society
Lark bunting	<i>Calamospiza melanocorys</i>	Audubon Society
Lawrence's goldfinch	<i>Carduelis lawrencei</i>	Audubon Society
Le Conte's sparrow	<i>Ammodramus leconteii</i>	Audubon Society
Le Conte's thrasher	<i>Toxostoma lecontei</i>	Partners in Flight
Least tern	<i>Sterna antillarum</i>	Audubon Society
Long-billed curlew	<i>Numenius americanus</i>	Audubon Society
Lucy's warbler	<i>Vermivora lucidae</i>	Audubon Society
Magnificent frigatebird	<i>Fregata magnificens</i>	Audubon Society
Marbled godwit	<i>Limosa fedoa</i>	Bird of Conservation Concern
Northern harrier	<i>Circus cyaneus</i>	Bird of Conservation Concern
Olive-sided flycatcher	<i>Contopus cooperi</i>	Partners in Flight
Peregrine falcon	<i>Falco peregrinus</i>	Bird of Conservation Concern
Pinyon jay	<i>Gymnorhinus cyanocephalus</i>	Bird of Conservation Concern
Prairie falcon	<i>Falco mexicanus</i>	Bird of Conservation Concern
Prairie warbler	<i>Dendroica discolor</i>	Audubon Society
Prothonotary warbler	<i>Proronotaria citrea</i>	Audubon Society
Reddish egret	<i>Egretta rufescens</i>	Audubon Society
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	Audubon Society
Rusty blackbird	<i>Euphagus carolinus</i>	Audubon Society
Sage sparrow	<i>Amphispiza belli</i>	Bird of Conservation Concern

³ Listed in U.S. Fish and Wildlife Service's Birds of Conservation Concern 2002, Region 16 (Southern Rockies/Colorado Plateau) (USFWS 2002).

⁴ Listed on the 2007 Audubon Society Watchlist for Continental U.S. and Alaska (National Audubon Society 2007), and on the Field Checklist of the Birds of Utah 2005 (Utah Ornithological Society Bird Records Committee, 2005).

⁵ Listed on Partners in Flight U.S. Watch List (Partners in Flight 2005), and on Field Checklist of the Birds of Utah 2005 (Utah Ornithological Society Bird Records Committee, 2005).

Scaled quail	<i>Callipepla squamata</i>	Partners in Flight
Semipalmated sandpiper	<i>Calidris pusilla</i>	Audubon Society
Snowy plover	<i>Charadrius alexandrinus</i>	Bird of Conservation Concern
Solitary sandpiper	<i>Tringa solitaria</i>	Bird of Conservation Concern
Stilt sandpiper	<i>Calidris himantopus</i>	Audubon Society
Swainson's hawk	<i>Buteo swainsoni</i>	Bird of Conservation Concern
Thayer's gull	<i>Larus thayeri</i>	Audubon Society
Varied thrush	<i>Ixoreus naevius</i>	Audubon Society
Virginia's warbler	<i>Vermivora virginiae</i>	Bird of Conservation Concern
Wandering tattler	<i>Tringa incana</i>	Audubon Society
Western sandpiper	<i>Calidris mauri</i>	Audubon Society
White-rumped sandpiper	<i>Calidris fuscicollis</i>	Audubon Society
White-throated swift	<i>Aeronautes saxatalis</i>	Partners in Flight
Williamson's sapsucker	<i>Sphyrapicus thyroideus</i>	Bird of Conservation Concern
Wilson's phalarope	<i>Phalaropus tricolor</i>	Bird of Conservation Concern
Wood thrush	<i>Hylocichla mustelina</i>	Audubon Society
Yellow-billed loon	<i>Gavia adamsii</i>	Audubon Society
Yellow-footed gull	<i>Larus livens</i>	Audubon Society

VII. Field Survey Procedure

Field surveys will include a minimum of 8 field visits, approximately 2 weeks apart, to occur between April 15 and August 31, 2008. Each field visit will include two survey sessions, one in the evening and one in the morning (not necessarily in that order), and each survey session will include observations at both Wetland 3 and the sediment retention pond. The order of surveys will be varied so that neither wetland is visited more frequently during the first or last portion of the surveys. The timing of surveys may be altered if the Subcontractor determines that an alternative schedule would increase the possibility of observing Threatened & Endangered, State-listed, or other avian species of concern. However, no less than the 8 field visits (32 surveys) will be completed during the field season. Contractor biologist(s) will be available to accompany the Subcontractor as needed, to observe and assist, during any or all of the surveys.

Field observations will include:

- A complete list of bird species observed for each survey date and location
- The approximate number of individuals of each species observed (point count)
- Detailed field observations related to all breeding, nesting and feeding behavior, including but not limited to the following:
 - o Feeding on organisms in the water and/or sediments of the wetlands
 - o Adult birds carrying food to nests or carrying fecal sacs away from nests
 - o Breeding behavior, including territorial behavior
 - o Observations of nests, nestlings, or recently fledged young
- The GPS locations of all observation points
- Map(s) used in the field, if applicable

If observations indicate that any Threatened, Endangered, State-listed or other avian species of concern are nesting in the area, a nesting survey will be conducted, focusing on the species in question. The nesting survey will substitute for one of the general surveys and will be timed to coincide with nesting activities of the species in question. Nesting surveys will not be required for commonly-occurring species such as red-wing blackbirds or mallard ducks. If a nesting survey is indicated, the Subcontractor will notify the Contractor, and sampling techniques outlined in Program Directive MSG-0501 (DOE 2005b) will be used.

Specific field survey techniques, including the location of sampling points, the duration of observations, and the timing of surveys, will be determined by the Subcontractor in order to maximize the chances of observing Threatened and Endangered, State-listed, or other avian species of concern. Tapes may be used at the Subcontractor's discretion to increase the chances of detecting these species. The attached sample survey form (Attachment 2), or a similar form provided by the Subcontractor, will be used to document field observations.

All work will be performed in compliance with the attached Health & Safety and Environmental Requirements (Attachment 3).

VIII. References

Note: DOE documents are available at the Monticello Field Office (1665 South Main Street, Monticello, UT 84535) or in electronic form on request from the Contractor.

DOE (U.S. Department of Energy), 1998. *Operable Unit III Remedial Investigation*, GJO-97-6-TAR, Appendix M, *Ecological Risk Assessment*, GJO-97-9-TAR, U.S. Department of Energy Grand Junction Office, Grand Junction, Colorado, January.

DOE (U.S. Department of Energy), 2004. *Monticello Mill Tailings Site Operable Unit III Post-Record of Decision Monitoring Plan*, Draft Final (DOE-LM/GJ684-2004). Prepared by Stoller for the U.S. Department of Energy, Office of Legacy Management, Grand Junction, Colorado.

DOE (U.S. Department of Energy), 2005a. *Final Report, 2005 Avian Wetland Survey at the Monticello Mill Tailings Site*, DOE-LM/GJ1007-2005. Prepared by S.M. Stoller Corp. for the U.S. Department of Energy Office of Legacy Management, Grand Junction, Colorado.

DOE (U.S. Department of Energy), 2005b. *Program Directive MSG-05-01, Monticello Mill Tailings Site BTAG Wildlife Surveys – 2005*, U.S. Department of Energy – Office of Legacy Management.

DOE (U.S. Department of Energy), 2006. *2006 Avian Wetland Surveys, Monticello Mill Tailings Site*. September 2006. Prepared by S.M. Stoller Corp. for the U.S. Department of Energy, Office of Legacy Management, Grand Junction, Colorado.

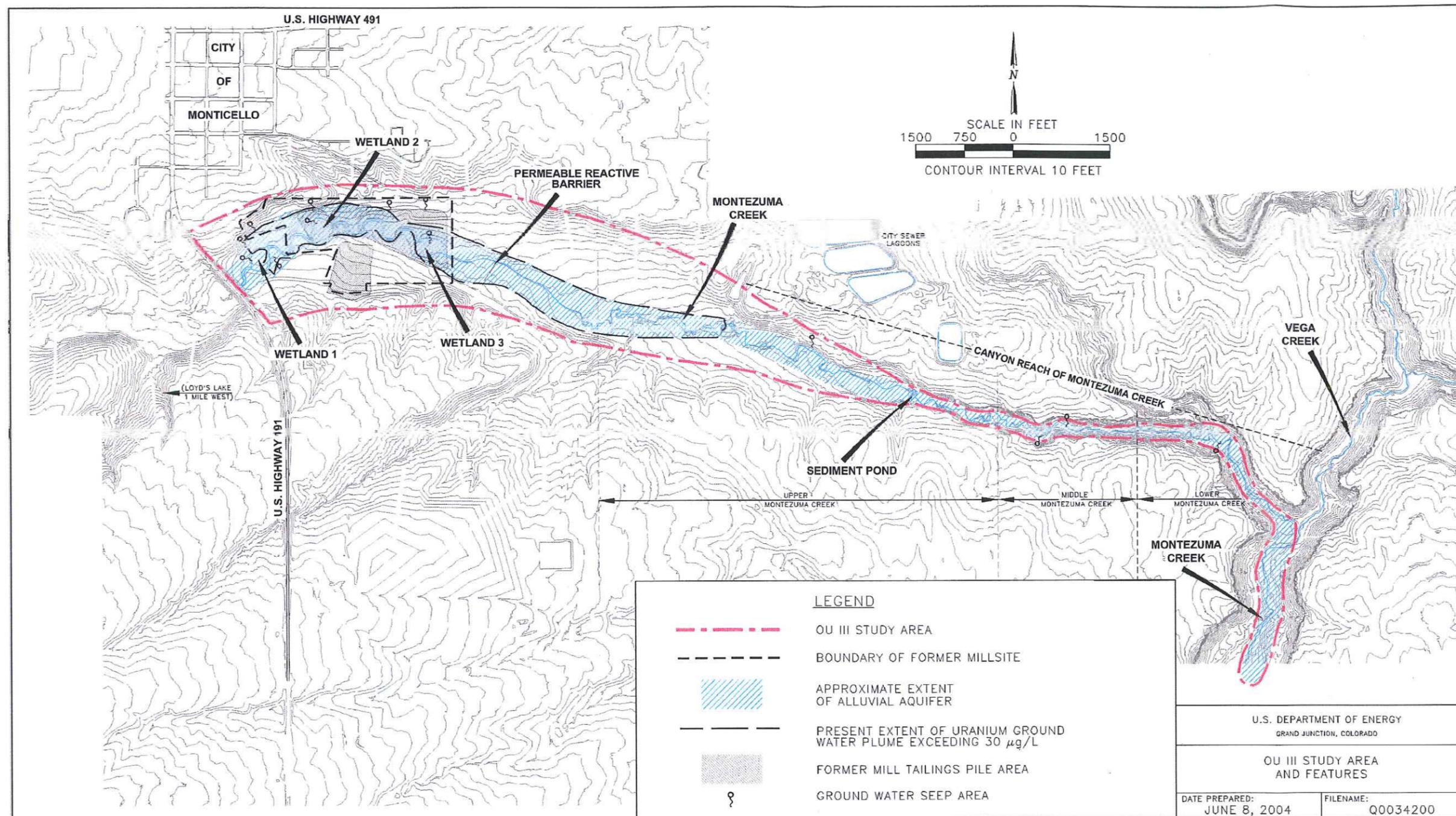
National Audubon Society, 2007. *2007 Audubon WatchList*, <http://web1.audubon.org/science/species/watchlist/browseWatchlist.php>

Partners in Flight, 2005. *U.S. Watch List, alphabetical order*, <http://www.partnersinflight.org/WatchListNeeds/Research%20Crosswalk%20Alph.htm>

UDWR (Utah Division of Wildlife Resources), 2007. Utah Conservation Data Center, *Utah's Sensitive Species by County*, <http://dwrcdc.nr.utah.gov/ucdc/>

USFWS (U.S. Fish and Wildlife Service), 2002. *Birds of Conservation Concern 2002*. U.S. Department of the Interior, U.S. Fish and Wildlife Service, Division of Migratory Bird Management, <http://www.fws.gov/migratorybirds/reports/BCC2002.pdf>

Utah Ornithological Society Bird Records Committee, 2005. *Field Checklist of the Birds of Utah 2005*, <http://www.utahbirds.org/PrintCenter/UtahChecklist2005a.pdf>



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Attachment 3: Subcontractor Health & Safety and Environmental Requirements
Ecological Sampling and Monitoring

1.0 Health and Safety

The Subcontractor shall review the attached Job Safety Analysis before beginning ecological sampling or monitoring work and follow all Personal Protective Equipment requirements specified therein. If, during the course of work, the Subcontractor recognizes an unsafe condition or incurs an injury, the Subcontractor shall notify the Technical Monitor as soon as possible (see Section 5.0).

As of May 25, 2007, S.M. Stoller and its subcontractors are subject to the provisions of the Worker Safety and Health Rule (10CFR851) and are required to comply with the Stoller Worker Safety and Health Program (WSHP). The rule is being implemented by the U.S. Department of Energy (DOE) to enhance its oversight of its contractors' worker safety programs. The WSHP was developed by Stoller, approved by DOE, and describes the programs and procedures that we use to ensure a safe work environment. The WSHP must be followed by Stoller and its subcontractors for work performed for DOE or at any DOE site.

You are not expected to develop a separate WSHP program, but rather to participate with Stoller in implementation of its WSHP, similar to how work is now accomplished. The relevant provisions of the WSHP will be communicated to you through the work control processes including, for example, pre-job briefings or plan of the day meetings to ensure that each of us understands the work scope, work sequence, associated hazards, safety equipment and required procedures. All employees will have an opportunity to question, comment on, or expand on hazard analyses and controls during the pre-job brief.

A copy of the Stoller WSHP is available by request. A copy of the 10CFR851 rule, including its implementation requirements and penalty provisions can be found at <http://www.hss.doe.gov/HealthSafety/WSHP/rule851/851final.html>.

2.0 Environment, Safety, and Health Policy

In accordance with DOE's Environment, Safety, and Health Policy and Environmental Management System, all subcontractors performing work for DOE through its Legacy Management Support Contractor, S.M. Stoller Corporation, shall follow safe and environmentally sound work practices. Work shall be conducted in compliance with applicable federal, state, and local regulatory requirements and DOE directives and in a manner that protects workers and the public. In addition, work shall be conducted in a manner that prevents pollution, minimizes wastes, and conserves natural and cultural resources to the extent that such activities are technically and economically feasible. Subcontractor personnel are responsible for informing the Stoller Technical Monitor of any unsafe or environmentally unsound conditions, and have the authority to stop work without fear of reprisal if necessitated by such conditions.

3.0 Waste Management

The Subcontractor shall properly manage all nonhazardous and hazardous waste that it generates. The Subcontractor shall maintain the site in a clean and orderly manner at all

Attachment 3: Subcontractor Health & Safety and Environmental Requirements
Ecological Sampling and Monitoring

times and clean up Subcontractor-generated debris and waste material from the site daily. Hazardous waste shall be managed, including storage, transport, and offsite disposal, in compliance with applicable federal, state, and local regulations.

4.0 Spills

If the Subcontractor spills any fluids (fuel, field preservatives, cleaning fluids, used oil, etc.), the Subcontractor shall immediately notify the Technical Monitor and follow his/her directions to clean up the spill. Equipment leaks and other types of spills shall be diapered or otherwise blocked to prevent ground surface contamination until the leak is fixed. The Subcontractor shall clean up and subsequently manage spilled materials and associated wastes (e.g., contaminated soils), including storage, transport, and offsite disposal, in compliance with applicable federal, state and local regulations at the Subcontractor's expense.

5.0 Technical Monitor

The Technical Monitor for this subcontract is:

Linda Sheader
S.M. Stoller Corp.
2597 B ¼ Road
Grand Junction, CO 81503
(970) 248-6711
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