

Final Report

Avian Wetland Surveys at Monticello Mill Tailings Site, 2008

November 2008



U.S. DEPARTMENT OF
ENERGY

Office of
Legacy Management

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1.0 Summary

Avian Wetland Surveys were conducted in the spring and summer of 2008 at and near the former Monticello Mill Tailing Site (MMTS). Elevated levels of selenium may be harmful to avian species that feed on aquatic macroinvertebrates. Ecological sampling has indicated that concentrations of selenium in populations of macroinvertebrates exceed ecological risk guidelines at some points within Wetland 3 and the sediment retention pond. The avian surveys were conducted in order to determine whether federally protected, State of Utah listed, or other avian species of concern not identified in previous surveys occur in or near Wetland 3 or the sediment retention pond. Eight field surveys were conducted from May 2 through August 12. Five Willow Flycatcher surveys were conducted from May 22 through July 16. No federally protected or State of Utah listed avian species were found to breed at either location. Migrating Willow Flycatchers (federally listed as endangered) were detected at the sediment retention pond and a migrating Bobolink (listed by the State of Utah) was detected at Wetland 3. Three Birds of Conservation Concern (as listed by the U.S. Fish and Wildlife Service) species were observed: Black-throated Gray Warbler at the sediment retention pond, Virginia's Warbler at the sediment retention pond, and a breeding pair of Northern Harriers at Wetland 3.

2.0 Methods

Avian Wetland Surveys were conducted at MMTS in the spring and summer of 2008 at the lowest of the three constructed wetland areas and at the sediment retention pond. The surveyors were Lisa Horzepa and David Steward (Appendix A). Miriam Graham filled in for David Steward on the 6th set of surveys.

Surveys were set up and conducted according to the directives laid out in the Statement of Work provided by the DOE contractor, S.M. Stoller Corporation (2008). There were two observation points at both Wetland 3 and the sediment retention pond. The observation points were marked in a GPS unit and are shown in Figure 1 (Wetland 3 A and B; Sediment Retention Pond A and B). Surveys began on the evening of May 2 and the morning of May 3. Seven surveys followed, approximately 2 weeks apart, finishing on August 11 and 12. Surveys were conducted for 3 hours in the morning and evening. Morning surveys began approximately at sunrise and evening surveys went approximately until dusk. About 40 minutes was spent at each of the four observation points. To eliminate bias due to time of day, the survey order alternated between starting at the sediment retention pond and Wetland 3. Using a data sheet supplied by the contractor (Appendix B), surveyors recorded observed species and their relative abundance at each location. Surveyors noted if the identified species were feeding on organisms from the wetland sediments or water surface, or consuming water from the wetland. They also recorded evidence of breeding and nesting behavior. The focus was to identify any federally protected, State of Utah listed, or other avian species of concern breeding or feeding in the wetlands at either location.

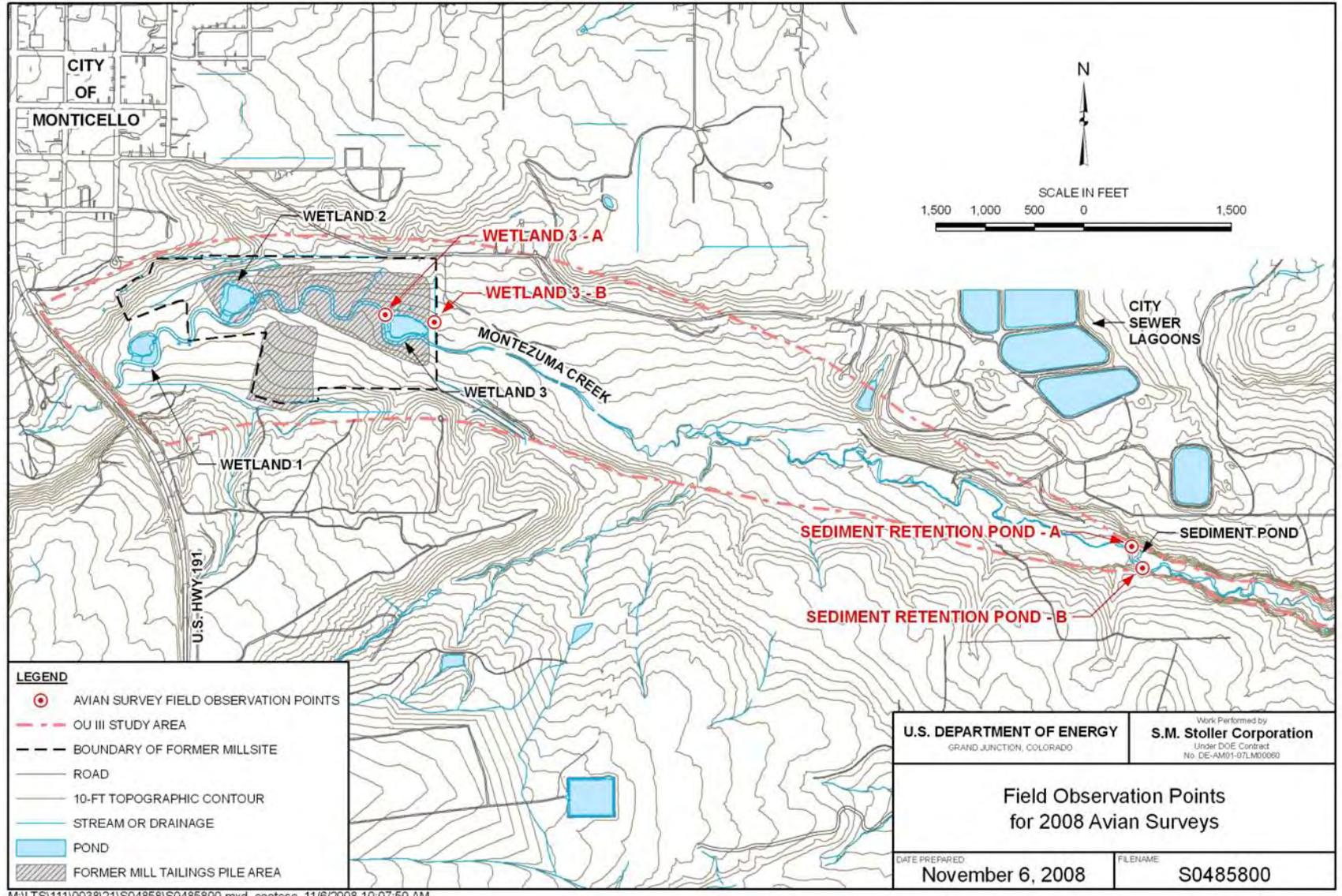


Figure 1. Field Observation Points for 2008 Avian Surveys

In addition to the field observations, five Willow Flycatcher surveys were conducted at each location. A recording of a singing Willow Flycatcher was used to elicit responses from Willow Flycatchers in the area following the protocol set out by Sogge, et al in “A Southwestern Willow Flycatcher Natural History Summary and Survey Protocol” (Sogge et al., 1997). Willow Flycatcher responses and habitat information were recorded on the standardized Willow Flycatcher Survey and Detection Form (Appendix C). The Willow Flycatcher surveys were conducted on the mornings of the general avian surveys during the Willow Flycatcher breeding season, with at least one survey in each of the three periods set out in the protocol. Five surveys were conducted in accordance with the recommendations set out by the U.S. Fish and Wildlife Service for project-related surveys (USFWS 2000).

3.0 Results

3.1 Field Observations

Seventy species of birds were identified during the surveys: 37 at Wetland 3, 52 at the sediment retention pond, and 19 at both Wetland 3 and the sediment retention pond (Appendix D).

3.2 Wetland 3

Avian Species of Concern

At Wetland 3, a pair of Northern Harriers, a “Bird of Conservation Concern” species, nested within the wetland and three young were fledged. The nest was located in the northwest portion of the wetland, within the dense vegetation surrounded by standing water. The adults used the surrounding meadows and woodlands for hunting small terrestrial mammals, which were the primary food source observed. A photograph of a fledgling in the vegetation south of the wetland is included in Appendix E. A male Bobolink, a State of Utah-listed sensitive species, migrated through in the spring and was seen perched on a post on the northwest side of the wetland on May 22. It was not observed to be using the wetland and not detected on future surveys. No other federally protected, State of Utah listed, or other avian species of concern were detected.

Other Avian Species

Red-winged Blackbirds were the most abundant species throughout the field season. They were located throughout the wetland, perching primarily on vegetation. They used the surrounding dry grasslands mainly for foraging, and were also observed foraging in the sediments within the wetland. Fledglings were abundant in July and August. Sora were consistently detected in the wetland throughout the field season. They were rarely seen, but frequently heard in the dense vegetation and suspected to be breeding. They used the water and sediments of the wetland exclusively for feeding and drinking. Mallards were observed throughout the field season, often swimming on the open water, and a nest was located by Linda Sheader on the northwest side (Sheader 2008). Cinnamon Teals were seen swimming in the wetland and suspected to be breeding. Swallows were observed throughout the spring and summer. Violet-green, Barn, and Cliff Swallows were occasionally present in moderate to high abundance and used the wetland for drinking and foraging. Two pairs of Song Sparrows were breeding within the wetland. They primarily used the surrounding dry grasslands for foraging, and were also observed foraging in the sediments within the wetland. The surveyors’ data sheets provide more detailed information on the results of these surveys (Appendix F).

3.3 Sediment Retention Pond

Avian Species of Concern

At the sediment retention pond, two species listed as Birds of Conservation Concern were detected in the trees below the pond; the Virginia's Warbler and the Black-throated Gray Warbler. Neither was seen using the water or sediments of the pond. A Black-throated Gray Warbler had previously been detected during the surveys conducted in 2005 (Horzepa 2005). No other federally protected, State of Utah-listed, or other avian species of concern were detected.

Other Avian Species

Cliff Swallows were consistently abundant during the surveys, nesting in a colony approximately 50 meters downstream from the pond on the south side of the canyon. They flocked with other swallows, primarily Violet-green, and all species were observed foraging and drinking at the pond. A Violet-green Swallow nest was located in the cliffs north of the pond. Song Sparrows were observed throughout the spring and summer in the willows surrounding and downstream of the pond. At least one pair was breeding adjacent to the pond and were observed feeding in the sediments primarily at the outlet of the pond. Two fledged Great Horned Owls were seen throughout the spring and summer at various locations surrounding the pond. They were only observed feeding once, on a rabbit. Canada Geese and Mallards were both observed swimming on the pond with young. A Black Phoebe was seen throughout the spring and summer, perching on the posts and sticks of the pond's perimeter and foraging on aquatic insects. On most surveys, only one was seen, but in July a vocal pair was observed. It is suspected that they were breeding in the vicinity of the pond. An American Robin was observed gathering nesting material in the vegetation surrounding the pond. Yellow Warblers were consistently detected in the willows surrounding the pond and suspected to be breeding. Photographs of some of the species observed are included in Appendix E. The surveyors' data sheets provide more detailed information on the results of these surveys (Appendix F).

3.4 Willow Flycatcher Surveys

There are 4 subspecies of Willow Flycatcher in North America, which occupy distinct breeding ranges. The Southwestern Willow Flycatcher (*Empidonax traillii extimus*) is a federally listed endangered species. The exact location of the northern border of the Southwestern Willow Flycatcher breeding range is unknown, but it transects southern Utah (Figure 2). Willow Flycatchers in the Monticello area may be *E.t. extimus* or *E.t. adastus*.

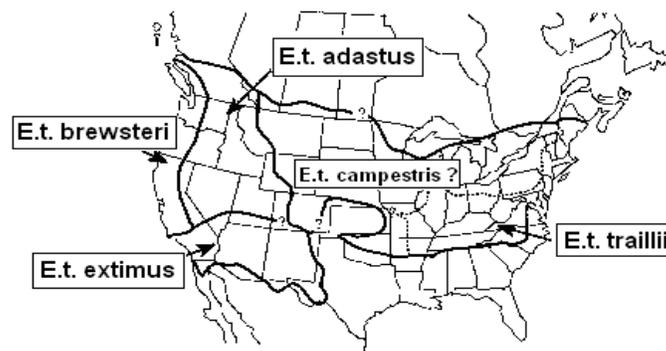


Figure 2. The Breeding Range Distribution of the Races of the Willow Flycatcher. Modified from Unit 1987 and Browning 1993 (Sogge et al., 1997)

3.4.1 Wetland 3

No Willow Flycatchers were detected at Wetland 3. The dates and times of the surveys conducted are summarized in Table 1. The surveyors' data sheets provide more detailed information on the results of these surveys (Appendix G). The willows within and near Wetland 3 do not currently provide suitable habitat for Willow Flycatchers. As the trees mature, they may provide Willow Flycatcher habitat in the future. Willow Flycatchers breed in homogenous, contiguous stands of riparian vegetation with relatively high canopy closure. Preferred stands are mature and contain a high vegetation volume with no distinct understory, overstory, or structural layers (McLeod et al., 2007). The likelihood that this type of vegetation could develop over the long term within and near Wetland 3 depends on future land management decisions (e.g., vegetation control), and on the rate of growth of willow stands. It is unlikely that suitable habitat would be present in this location for decades, if it develops at all.

Table 1. Summary of Survey Dates, Times, and Order for Avian Wetland Surveys at MMTS, 2008

Date	Time	Survey Order ^a	Willow Flycatcher Survey, Pond	Willow Flycatcher Survey, Wetland 3
05/02/08	1722-2025	P3		
05/03/08	0622-9025	P3		
05/21/08	1717-2024	3P		
05/22/08	0605-0630, 0723-0950	3P	0929-0942	0806-0820
06/01/08	1742-2050	P3		
06/02/08	0555-0855	P3	0925-0956	0855-0912
06/16/08	1745-2105	3P		
06/17/08	0540-0905	3P	0925-0956	0550-0605
06/30/08	1752-2054	P3		
07/01/08	0552-0852	P3	0927-1003	0853-0911
07/15/08	1745-2055	3P		
07/16/08	0600-0905	3P	0746-0817	0644-0700
07/28/08	1743-2043	P3		
07/29/08	0608-0908	P3		
08/11/08	1730-2035	3P		
08/12/08	0615-0930	3P		

^a3 = Wetland 3, P = sediment retention pond

3.4.2 Sediment Retention Pond

Migrating Willow Flycatchers, subspecies unknown, were detected on the first 2 surveys at the sediment retention pond. No Willow Flycatchers were detected on the last 3 surveys. The dates and times of the surveys conducted are summarized in Table 1. A summary of Willow Flycatcher detections is provided in Table 2. The surveyors' data sheets provide more detailed information on the results of these surveys (Appendix G). The willows surrounding the sediment retention pond currently provide suitable migrating habitat, and as they mature, may provide breeding habitat for the Willow Flycatcher. Breeding habitat may develop in this location in future decades. Photographs of the current willow habitat are included in Appendix F.

Table 2. Willow Flycatcher Detections at MMTS, 2008.

Date	Time	UTM (NAD27)
05/22/08	0939	649344 4191097
05/22/08	0939	649344 4191097
06/02/08	0931	649285 4191151

It is assumed that Migrating Willow Flycatchers ingested insects from the vicinity of the sediment retention pond. Quantities of insects originating in the pond and later ingested by migrating Willow Flycatchers are likely low. Willow Flycatchers have been found to primarily consume true bugs, flies, and beetles; their diets also contain termites, leafhoppers, spiders, bees, wasps, dragonflies, and damselflies, in smaller quantities (Drost et al., 2001). Of the three primary insect groups consumed by Willow Flycatchers, only beetles exist in quantity in the sediment retention pond.

4.0 Discussion

The Avian Wetland Surveys conducted in the spring and summer of 2008 at MMTS identified four federally protected, State of Utah-listed, or other avian species of concern not identified in previous surveys, and one species of concern that had been identified in 2005.

There were no federally protected or State of Utah-listed avian species breeding at MMTS in 2008. A migrant male Bobolink, a State of Utah-listed sensitive species, was detected at Wetland 3 in the spring. It was not observed using the water or sediments for feeding or drinking. Willow Flycatchers were detected during migration at the sediment retention pond. They were in the willows in the vicinity of the pond and not observed using the water or sediments for feeding or drinking. The Southwestern Willow Flycatcher is a federal endangered species. The subspecies of these birds was not determined. The current willow habitat at the sediment retention pond provides migratory, but not breeding habitat for the Willow Flycatcher.

Three “Birds of Conservation Concern” species were detected at MMTS in 2008. At the sediment retention pond, a Virginia’s Warbler and a Black-throated Gray Warbler were observed in the trees downstream from the pond. They were not observed using the water or sediments for feeding or drinking. A pair of Northern Harriers nested and fledged three young within Wetland 3. Small terrestrial mammals were the primary food source observed.

The most common species observed near the sediment retention pond was the Cliff Swallow. Other species observed in smaller numbers during the majority of surveys include the American Robin, Black Phoebe, Black-billed Magpie, Canada Goose, Common Raven, Great Horned Owl, Mallard, Red-winged Blackbird, Song Sparrow, Spotted Towhee, Violet-green Swallow, Yellow-breasted Chat, and Yellow Warbler. Waterfowl, including Canada Geese, mallards, and teals, were observed on the water, and swallows were observed dipping into the water. The Song Sparrow, Red-winged Blackbird, and Black Phoebe were observed feeding in pond sediments or on aquatic organisms in the water. Most avian species detected were not observed using the water or sediments for feeding or drinking; of those that

were, a Black Phoebe was the only species that had not been identified in previous surveys from 2005.

The most common species observed in Wetland 3 was the Red-winged Blackbird. Other common species observed near Wetland 3 include the Song Sparrow, Turkey Vulture, and Violet-green Swallow. Other species observed in smaller numbers during the majority of surveys include the Barn Swallow, Blue Grosbeak, Cinnamon Teal, Common Raven, Mallard, Sora, and Western Meadowlark. As in the sediment retention pond, waterfowl were observed on the surface of the water. Red-winged Blackbirds, Song Sparrows and Soras were observed feeding in wetland sediments. Most avian species detected were not observed using the water or sediments for feeding or drinking.

5.0 References

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U.S. Fish and Wildlife Service, 2002. *Birds of Conservation Concern 2002*, Division of Migratory Bird Management, Arlington, Virginia.

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Appendix A

Surveyors for Avian Wetland Surveys at MMTS, 2008

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Lisa Horzepa

Education: Wesleyan University, Science in Society Program, 1994.

Work Experience: April 2004 - present
Biological Aide/ Wildlife Technician
Utah Division of Wildlife Resources, Price, Utah
Conducts surveys and monitors known populations of sensitive species, primarily avian, throughout Southeastern Utah.

Summer 2004 - 2007
Mexican Spotted Owl Surveyor
Southwest Research, Moab, Utah
Conducted surveys in the Moab, UT BLM district for Mexican Spotted Owls.

**Trainings/
Certifications:** Mexican Spotted Owl Surveyor Training and Certification
2005 Moab, Utah
2004 Moab, Utah

Southwestern Willow Flycatcher and Yellow-billed Cuckoo Training
2006 Moab, Utah
2004 Moab, Utah

David Steward

Work Experience: Summer 2008
Biological Aide
Utah Division of Wildlife Resources, Price, Utah
Conducted surveys for sensitive species in Southeastern Utah.

Summer 2004 - 2007
Mexican Spotted Owl Surveyor
Southwest Research, Moab, Utah
Conducted surveys in the Moab, Utah BLM district for Mexican Spotted Owls.

Spring 2004
Biological Aide
Utah Division of Wildlife Resources, Price, Utah
Conducted Mexican Spotted Owl surveys and monitored Peregrine Falcons in the Dirty Devil River corridor.

1992-1995
Mexican Spotted Owl Surveyor
Conducted surveys for Mexican Spotted Owls in Utah and New Mexico.

**Trainings/
Certifications:**

Mexican Spotted Owl Surveyor Training and Certification
2005 Moab, Utah
2004 Moab, Utah
1994 Albuquerque, New Mexico
1992 Albuquerque, New Mexico

Southwestern Willow Flycatcher and Yellow-billed Cuckoo Training
2004 Moab, Utah

Appendix B

Data Sheet for Avian Wetland Surveys at MMTS, 2008

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Appendix C

Data Sheet for Willow Flycatcher Surveys at MMTS, 2008

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Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name _____ State _____ County _____

USGS Quad Name _____ Elevation _____ feet / meters (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)?

Yes No

Site Coordinates: Start: N _____ E _____ UTM Datum _____ (NAD27 preferred)
 Stop: N _____ E _____ UTM Zone _____

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected ? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 _____ _____ _____ _____	Date Start Stop Total hrs _____							
2 _____ _____ _____ _____	Date Start Stop Total hrs _____							
3 _____ _____ _____ _____	Date Start Stop Total hrs _____							
4 _____ _____ _____ _____	Date Start Stop Total hrs _____							
5 _____ _____ _____ _____	Date Start Stop Total hrs _____							
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes No If yes, report color combination(s) in the comments section on back of form		
Total survey hrs _____								

WIFL = Willow Flycatcher

Reporting Individual _____ Date Report Completed _____

US Fish and Wildlife Service Permit # _____ AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

**Fill in the following information completely. Submit original form by August 1st.
Retain a copy for your records.**

Reporting Individual _____ Phone # _____
 Affiliation _____ E-mail _____
 Site Name _____ Date Report Completed _____

Did you verify that this site name is consistent with that used in previous years? Yes / No (circle one)
 If name is different, what name(s) was used in the past? _____
 If site was surveyed last year, did you survey the same general area this year? Yes / No If no, summarize in comments below.
 Did you survey the same general area during each visit to this site this year? Yes / No If no, summarize in comments below.

Management Authority for Survey Area (circle one): Federal Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) _____

Length of area surveyed: _____ (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

- Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)
- Mixed native and exotic plants (mostly native)
- Mixed native and exotic plants (mostly exotic)
- Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: _____

Average height of canopy (Do not put a range): _____ (specify units)

Was surface water or saturated soil present at or adjacent to site? Yes / No (circle one)
 Distance from the site to surface water or saturated soil: _____ (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes / No (circle one)
 If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM

Appendix D

Bird List, Detection Locations, and Breeding Information for Avian Wetland Surveys at MMTS, 2008

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Species		Location *	Breeding ⁺ , Location*
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	3P	B,3P
Rock Wren	<i>Salpinctes obsoletus</i>	P	
Cinnamon Teal	<i>Anas cyanoptera</i>	3P	B?,3
Blue-winged Teal	<i>Anas discors</i>	P	
Mallard	<i>Anas platyrhynchos</i>	3P	B,3P
Gadwall	<i>Anas strepera</i>	P	
Scrub Jay	<i>Aphelocoma coerulescens</i>	P	
Black-chinned Hummingbird	<i>Archilochus alexandri</i>	3	
Great Blue Heron	<i>Ardea herodias</i>	P	
Canada Goose	<i>Branta canadensis</i>	3P	B,P
Great Horned Owl	<i>Bubo virginianus</i>	3P	B,P
Red-tailed Hawk	<i>Buteo jamaicensis</i>	P	
Lesser Goldfinch	<i>Carduelis psaltria</i>	3P	
American Goldfinch	<i>Carduelis tristis</i>	P	
Turkey Vulture	<i>Cathartes aura</i>	3	
Killdeer	<i>Charadrius vociferus</i>	P	
Lark Sparrow	<i>Chondestes grammacus</i>	3	
Common Nighthawk	<i>Chordeiles minor</i>	3P	
Northern Harrier	<i>Circus cyaneus</i>	3	B,3
Northern (Red-shafted) Flicker	<i>Colaptes auratus</i>	P	
Western Wood-pewee	<i>Contopus sordidulus</i>	3	
American Crow	<i>Corvus brachyrhynchos</i>	P	
Common Raven	<i>Corvus corax</i>	3P	
Yellow-rumped Warbler	<i>Dendroica coronata</i>	P	
Black-throated Grey Warbler	<i>Dendroica nigrescens</i>	P	
Yellow Warbler	<i>Dendroica petechia</i>	3P	B?,P
Bobolink	<i>Dolichonyx oryzivorus</i>	3	
Willow Flycatcher	<i>Empidonax traillii</i>	P	
Grey Flycatcher	<i>Empidonax wrightii</i>	P	
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	3	
American Kestrel	<i>Falco sparverius</i>	3	
Common Yellowthroat	<i>Geothlypis trichas</i>	3P	
Blue Grosbeak	<i>Passerina caerulea</i>	3P	
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	P	B,P
Barn Swallow	<i>Hirundo rustica</i>	3P	
Yellow-breasted Chat	<i>Icteria virens</i>	P	B?,P
Bullock's Oriole	<i>Icterus bullockii</i>	P	
Dark-eyed Junco	<i>Junco hyemalis</i>	P	
Wild Turkey	<i>Meleagris gallopavo</i>	P	
Song Sparrow	<i>Melospiza melodia</i>	3P	B,3P
Brown-headed Cowbird	<i>Molothrus ater</i>	3P	
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	P	
Black-Capped Chickadee	<i>Poecile atricapilla</i>	P	
Lazuli Bunting	<i>Passerina amoena</i>	P	
Black-billed Magpie	<i>Pica pica</i>	3P	
Spotted Towhee	<i>Pipilo maculatus</i>	P	
Western Tanager	<i>Piranga ludoviciana</i>	P	
White-faced Ibis	<i>Plegadis chihi</i>	3	

Species		Location *	Breeding ⁺ , Location*
Blue-grey Gnatcatcher	<i>Polioptila caerulea</i>	P	
Vesper Sparrow	<i>Poocetes gramineus</i>	3	
Sora	<i>Porzana carolina</i>	3	B?,3
Great-tailed Grackle	<i>Quiscalus mexicanus</i>	3	
Ruby-crowned Kinglet	<i>Regulus calendula</i>	P	
Bank Swallow	<i>Riparia riparia</i>	3	
Black Phoebe	<i>Sayornis nigricans</i>	P	B?,P
Say's Phoebe	<i>Sayornis saya</i>	P	
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	3P	
Western Meadowlark	<i>Sturnella neglecta</i>	3	
Eurasian Collared Dove	<i>Streptopelia decaocto</i>	3	
European Starling	<i>Sturnus vulgaris</i>	3	
Tree Swallow	<i>Tachycineta bicolor</i>	3P	
Violet-green Swallow	<i>Tachycineta thalassina</i>	3P	B,P
House Wren	<i>Troglodytes aedon</i>	P	
American Robin	<i>Turdus migratorius</i>	P	B,P
Western Kingbird	<i>Tyrannus verticalis</i>	3	
Virginia's Warbler	<i>Vermivora virginiae</i>	P	
Warbling Vireo	<i>Vireo gilvus</i>	P	
Wilson's Warbler	<i>Wilsonia pusilla</i>	P	
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	3	
Mourning Dove	<i>Zenaida macroura</i>	3P	

* 3 = Wetland 3, P = sediment retention pond

⁺ B = confirmed breeding, B? = suspected breeding

Appendix E

Photographs from Avian Wetland Surveys at MMTS, 2008

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Great Horned Owls feeding
at sediment retention pond



Black Phoebe at
sediment retention pond



Song Sparrow
at Wetland 3



Cliff Swallow nests
at sediment retention pond



Juvenile Northern Harrier
at Wetland 3



Willow Flycatcher habitat
below sediment retention pond



Willow Flycatcher habitat
above sediment retention pond

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Appendix F

Completed Data sheets for Avian Wetland Surveys at MMTS, 2008

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Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 5/2/08 Time(s): 19:00 - 2025 MDT Surveyor(s): Lisa Horzempa, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: official sunset - 2008

Species	Abundance ¹	Comments/Observations ²
Meadow Lark	1	
Turkey Vulture	1	4 soaring
Song Sparrow	1	
Violet-Green Swallow	4	
Tree Swallow	3	
Red-winged Blackbird	4	male + female on cattails - mixed flocks bed down in wetland
Barn Swallow	1	
Rough-winged Swallow	1	
White Faced Ibis	1	4 flew - E to W
Yellow Warbler	1	
Yellow Headed Blackbird	3	on fence in parking area - flock mixed w/ Brewer's
Brewer's Blackbird	4	" "
Northern Harrier	1	male - lands in field to N. of pond
Mallard	2	3 pair - in water
Cinnamon Teal	2	pair in water
Starling	3	mixed in w/ Brewer's + Yellow Headed + Red-winged on Farm Fence
Sora	1	
Northern Harrier	1	female

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21-50), 4 = high abundance (50 or more)

² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 5/3/08 Time(s): 0800 - 09:25 Surveyor(s): Lisatorreza, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: _____

Species	Abundance ¹	Comments/Observations ²
song sparrow	1	
meadow lark	1	
red-winged blackbird	4	using wetland
sooty	1	
mallard	1	flown from wetland
common raven	1	
North's Harrier	1	female flew out of wetland - male attempts to transfer prey to female - pair using surrounding area - female returns to wetland - N. side
violet green swallow	2	
bank swallow	1	
eurasian collared dove	1	
canada goose	1	pair - flew by
turkey vulture	2	
white faced ibis	1	4 flying W. to E. - looked to be headed for farm field
tree swallow	2	
maggie	1	
bank swallow	1	
cinnamon teal	1	2 pairs on stream just below wetland

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)

² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 5/22/08

Time(s): 0723-0830

Surveyor(s): Lisa Herzepa, David Steward

Location: Wetland 3 Sediment Pond

Weather: Clear Cloudy Rain Windy

Comments: started at 0605 - stopped due to snow.

Species	Abundance ¹	Comments/Observations ²
red-winged blackbird	4	
song sparrow	1	pair - carrying nesting material in wetland - feeding around wetland
meadowlark	1	
mallard	1	on water - pair flying
cinnamon teal	1	
bobolink	1	perched on post on NW side of wetland. 1 male
great-tailed grackle	1	
turkey vulture	3	
northern harrier	1	female flew from wetland + back after food exchange from male.
rough-winged swallow	1	
western wood peewee	1	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 5/21/08 Time(s): 1717 - 1845 Surveyor(s): Lisa Horzempa, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: light rain at second point. Linda Sheeder

Species	Abundance ¹	Comments/Observations ²
red-winged blackbird	3	females carrying nesting material
mallard	1	on water (male)
cinnamon teal	1	pair on water
meadowlark	1	
northern harrier	1	female flew from wetland (N side) ^{+back} /male appears later to S.
violet-green swallow	1	
turkey vulture	1	
song sparrow	1	
canada goose	1	pair - flies W. to E. overhead
barn swallow	1	
common raven	1	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 6/2/08 Time(s): 0735 - 0855 Surveyor(s): Lisa Forzeka, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: clouds receding

Species	Abundance ¹	Comments/Observations ²
red-winged blackbird	4	using sediment broken wing routine - bugs in mouths
song sparrow	1	pair on each end
mallard	1	on wetland
cinnamon teal	1	on wetland
sora	1	one on each end of wetland
western meadowlark	1	
northern flicker	1	
barn swallow	1	
turkey vulture	2	
european starling	2	
toughwinged swallow	1	
common raven	1	
american crow	1	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 6/11/08 Time(s): 1925-2050 MDT Surveyor(s): Lisa Horzempa, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: _____

Species	Abundance ¹	Comments/Observations ²
red-winged blackbird	4	feeding from sediment
american kestrel	1	near parking area
western meadowlark	1	
song sparrow	1	
sora	1	feeding in sediment
turkey vulture	1	
barn swallow	1	
violet-green swallow	2	
blue grosbeak	1	pair
cinnamon teal	1	pair - in stream
mallard	1	flew over head
european starling	4	
brewer's blackbird	2	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 6/16/08 Time(s): 1745 - 1920 MDT Surveyor(s): Lisa Horzempa, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: Linda Shearer

Species	Abundance ¹	Comments/Observations ²
red-winged blackbird	3	females carrying food
northern harrier	1	female flew from N. part of wetland - food exchange with male
cliff swallow	1	
song sparrow	1	carrying food
barn swallow	1	
violet-green swallow	1	
common raven	1	
black-chinned hummingbird	1	
mallard	1	
western meadow lark	1	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 7/1/08 Time(s): 0738 - 0852 Surveyor(s): Lisa Horzepay David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: WIFL survey 0853-0911

Species	Abundance ¹	Comments/Observations ²
redwinged blackbird	4	female adults feeding fledged young
northern harrier	1	flies from wetland (female) male flying periphery
song sparrow	1	
common raven	1	
american crow	1	
common yellowthroat	1	
western meadowlark	1	
sora	1	
blue grosbeak	1	
cliff swallow	1	
barn swallow	1	
turkey vulture	2	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

official S.S. - 2043

Date: 6/30/08 Time(s): 1930 - 2054 MDT Surveyor(s): Lisa Hozepe, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: rain clearing as we reach wetland

Species	Abundance ¹	Comments/Observations ²
red-winged blackbird	4	more male activity, females feeding fledged young
song sparrow	1	
western meadowlark	1	
cinnamon teal	1	pair flew out of stream
northern harrier	1	female flies from usual spot in wetland. food exchange with male
violet-green swallow	1	
common raven	1	
barn swallow	1	
Sora	1	
common yellowthroat	1	
common nighthawk	1	

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)
² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 7/29/08 Time(s): 742-908 Surveyor(s): L Horrope, M Graham
 Location: Wetland 3 Sediment Pond
 Weather: Clear Cloudy Rain Windy Comments: _____

Species	Abundance ¹	Comments/Observations ²
- Red Winged Blackbird	3	
Black Chinned Hummingbird	1	
- Barn Swallow	2	
- Violet Green Swallow	2	
- Song Sparrow	2	
- Northern Harrier	1	2 Swallows - 5 fullside, 1 in wetland
- Turkey Vulture	2	
- Cliff Swallow	1	
Western Kingbird	1	
Western Meadowlark	1	
- Lesser Goldfinch	1	

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)

² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 7/28/08 Time(s): 1916-2043 Surveyor(s): L Horzega M Graham
 Location: Wetland 3 () Sediment Pond
 Weather: Clear () Cloudy () Rain () Windy Comments: some clouds, sunny

Species	Abundance ¹	Comments/Observations ²
Red Winged Blackbird	4	feeding young - foraging over land not water
Song Sparrow	2	
Barn Swallow	2	
Turkey Vulture	1	
Violet Green Swallow	3	
Mourning Dove	2	
Blue Grosbeak	1	
Lesser Goldfinch	1	
Cliff Swallow	2	
Mallards	1	
Northern Harrier	1	juvenile flew over wetland, ♀ flew into wetland at sunset
Great Horned Owl	1	♂ on fence S of wetland
Brewer's Blackbird	1	
Brown Headed Cowbird	2	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 8/12/08 Time(s): 0615 - 0740 MDT Surveyor(s): Lisa Horzapa, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: _____

Species	Abundance ¹	Comments/Observations ²
- red-wing blackbird	4	
- Barn Swallow	2	
cinnamon teal	1	
- black-chinned hummingbird	1	
- song sparrow	2	adult feeding young
- western meadowlark	2	
Common yellowthroat	1	
- violet-green swallow	2	
lazuli bunting	1	
- lesser goldfinch	1	
great blue heron	1	flew overhead

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)
² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 8/11/08 Time(s): 1730-1855 MDT Surveyor(s): Lisa Horzega, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: breezy

Species	Abundance ¹	Comments/Observations ²
red-winged blackbird	3	dispersed to surrounding grasses
blue grosbeak	1	
turkey vulture	2	
violet-green swallow	1	
western meadowlark	1	
barn swallow	2	
lesser goldfinch	2	
black-chinned hummingbird	1	
lark sparrow	1	
common raven	1	
song sparrow	1	
vesper sparrow	1	

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)

² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 5/3/08 Time(s): 06:22 - 0742 MDT Surveyor(s): Lisa Horzempa, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: official sunrise - 0619, first sun on pond 0713 Brrr!! 32°

Species	Abundance ¹	Comments/Observations ²
Canada Goose	2	pair near pond w/ chicks / others perched atop cliff
Magpie	1	
Red-Winged Blackbird	1	
Mallard	2	in pond - flew at approach
Raven	1	
American Robin	1	
Say's Phoebe	1	on hillside
Yellow Warbler	1	
Dark-Headed Junco	1	
Song Sparrow	1	
Cliff Swallow	2	using nests on S. cliff
Cinnamon Teal	1	pair
Blue-wing Teal	1	pair
Spotted Towhee	1	
Wild Turkey	1	

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)
² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

MDT

Date: 5/2/08 Time(s): 17:22 - 18:45 Surveyor(s): Lisa Horzempa, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: clear, breezy

Species	Abundance ¹	Comments/Observations ²
Canada Goose	2	^a 4 adults - 4 yellow chicks - swimming in pond
Black-Billed Magpie	1	
Violet-green Swallow	4	
Tree Swallow	2	
Northern Rough-winged Swallow	4	
Red-Tailed Hawk	1	/
Song Sparrow	1	
Black-Capped Chickadee	1	
Black Phoebe	1	
Red-winged Blackbird	1	
House Wren	1	
Mallard	1	
Common Raven	1	
Northern Flicker	1	
Lazuli Bunting	1	
Cliff Swallow	2	
Ruby Crowned Kinglet	1	pair
Wild Turkey	1	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 5/21/08 Time(s): 1902 - 2024 Surveyor(s): Lisafforzepa, David Steward
 Location: () Wetland 3 (✓) Sediment Pond
 Weather: () Clear (✓) Cloudy (✓) Rain () Windy Comments: light rain 1920 / big beaver in pond
Linda Sheader

Species	Abundance ¹	Comments/Observations ²
red-winged blackbird	1	
song sparrow	1	
mallard	1	
cliff swallow	4	nests on S. wall - lots of activity
violet green swallow	1	
spotted towhee	1	
black billed magpie	1	
common raven	1	
great horned owl	1	flies from down canyon to S. wall with prey (rabbit?) 1945 - Adult + two young on N. wall
yellow warbler	1	
black phoebe	1	feeding off water surface
barn swallow	1	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 5/22/08 Time(s): 0845 - 0950 Surveyor(s): David Steward Lisa Horzopka
 Location: () Wetland 3 () Sediment Pond Linda Steadler
 Weather: () Clear () Cloudy () Rain () Windy Comments: _____

Species	Abundance ¹	Comments/Observations ²
Canada goose	1	2 pairs
- mallard	1	2 pairs
- yellow warbler	1	
bullocks oriole	1	female
- magpie	1	
- red-winged blackbird	1	
- spotted towhee	1	
wild turkey	1	
western tanager	1	male
- song sparrow	1	
- cliff swallow	4	using nests
wilson's warbler	1	
red-tail hawk	1	
- willow-flycatcher	1	response to tape + visual sighting
- common raven	1	
great blue heron	1	pair - flew over pond

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 6/1/08 Time(s): 1742 - 1912 MDT Surveyor(s): Lisa Horzempa, David Steward
 Location: () Wetland 3 (✓) Sediment Pond
 Weather: (✓) Clear () Cloudy () Rain () Windy Comments: _____

Species	Abundance ¹	Comments/Observations ²
cliff swallow	4	heavy use of nests - dipping into pond water
scrub jay	2	
song sparrow	1	
american robin	1	
common raven	1	
spotted towhee	1	
black phoebe	1	*perched on same green metal stake in S. side of pond as last time - using water
yellow warbler	1	
northern flicker	1	
black-billed magpie	1	
red-winged blackbird	1	
canada goose	1	on S.E. bank of pond - rooting amongst the grass
violet-green swallow	1	using pond
mallard	1	flew overhead

* - black phoebe ends up using all three sets of post - plus small stick in water

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21-50), 4 = high abundance (50 or more)

² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 6/2/08 Time(s): 0555 - 0720 Surveyor(s): Lisa Horzepay, David Steward
 Location: () Wetland 3 (✓) Sediment Pond
 Weather: (✓) Clear (✓) Cloudy () Rain () Windy Comments: partly cloudy

Species	Abundance ¹	Comments/Observations ²
red-winged blackbird	1	in sediments
mallard	1	pair on pond
cinnamon teal	1	pair on pond
gadwall	1	pair on pond
song sparrow	1	
yellow warbler	1	
black-billed magpie	1	
great-horned owl	1	adult + 2 juveniles in tree on S. wall
american robin	1	
american goldfinch	1	pair
cliff swallow	4	using nests - beats in nests, using pond
common raven	1	
spotted towhee	1	
black phoebe	1	
yellow breasted chat	1	
canada goose	1	5 flew over-head
violet-green Swallow	1	pair using hole in N. cliff above pond

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 6/17/08 Time(s): 0720-0905 MDT Surveyor(s): Lisa Horzempa, David Steward
 Location: () Wetland 3 (✓) Sediment Pond
 Weather: (✓) Clear () Cloudy () Rain () Windy Comments: Unola Shearer

Species	Abundance ¹	Comments/Observations ²
mallard	1	pair on pond
song sparrow	1	
yellow warbler	1	
blue grassbeak	1	
red-winged blackbird	1	
cliff swallow	4	skimming pond
mourning dove	1	
yellow-breasted chat	1	
brown headed cowbird	1	
american robin	1	
bullock's oriole	1	
great-blue heron	1	pair - flew overhead
black phoebe	1	
warbling vireo	1	
turkey vulture	1	
violet-green swallow	1	
common raven	1	
lesser goldfinch	1	
black-billed magpie	1	
ash-throated flycatcher	1	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 6/16/08 Time(s): 1935 - 2105 MDT Surveyor(s): Lisa Horzapa, David Steward
 Location: () Wetland 3 () Sediment Pond Linda Sheader
 Weather: () Clear () Cloudy () Rain () Windy Comments: _____

Species	Abundance ¹	Comments/Observations ²
mallard	1	two females on pond / pair flew over
song sparrow	1	
gullack's oriole	1	pair
cliff swallow	4	
red-winged blackbird	1	
black-billed magpie	1	
blue grosbeak	1	
violet green swallow	1	
great-horned owl	1	1 adult - 2 young - one on each side of canyon
american crow	1	
common nighthawk	1	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 6/30/08 Time(s): 1752 - 1922 ^{MDT} Surveyor(s): Lisa Horzempa, David Steward
 Location: () Wetland 3 (✓) Sediment Pond
 Weather: () Clear (✓) Cloudy () Rain () Windy Comments: partly sunny, then thunderstorm to N. rain as we leave

Species	Abundance ¹	Comments/Observations ²
great blue heron	1	in pond - perches on tree near cliff swallow nests
mallard	1	two females on pond
cliff swallow	4	drinking from pond
mourning dove	1	
magpie	1	-harassing heron
song sparrow	1	
common yellowthroat	1	
american goldfinch	1	
red-winged blackbird	1	
yellow breasted chat	1	
great horned owl	1	1 adult, 1 young
violet green swallow	1	pair still using pocket in N. wall
black phoebe	1	perching on posts + sticks in pond
american robin	1	
yellow warbler	1	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

official sunrise - 0558

Date: 7/1/08 Time(s): 0552 - 0725 MDT Surveyor(s): Lisattorzepa, David Steward
 Location: () Wetland 3 (✓) Sediment Pond
 Weather: (✓) Clear () Cloudy () Rain () Windy Comments: WIFL survey-0927-1003

Species	Abundance ¹	Comments/Observations ²
- cliff swallow	4	heavy feeding activity at nests
- yellow-breasted chat	1	
- common yellowthroat	1	
- yellow warbler	1	
- american robin	1	gathering nesting material
- great-horned owl	1	1 adult & 1 juvenile
- song sparrow	1	foraging in muck near outlet
- mallard	1	female with chicks seen during WIFL survey
- black phoebe	1	
- spotted towhee	1	
- red-winged blackbird	1	
- american goldfinch	1	
- blue grosbeak	1	

Sheet 1 of 1

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² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 7/16/08

Time(s): 0742 - 0905

Surveyor(s): Lizette Forzosa, David Steward

Location: () Wetland 3 () Sediment Pond

Weather: () Clear () Cloudy () Rain () Windy Comments: breezy

Species	Abundance ¹	Comments/Observations ²
cliff swallow	4	skimming pond - heavy feeding activity at nests
common yellowthroat	1	
black phoebe	1	1st time seeing two at once. One perching in trees on N. side. Very vocal
song sparrow	1	
great horned owl	1	1 juvenile
rock wren	1	
gray flycatcher	1	pair
lazuli bunting	1	
violet-green swallow	1	
yellow breasted chat	1	
American robin	1	
common raven	1	
turkey vulture	1	
red-winged blackbird	1	
blue grosbeak	1	

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)

² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 7/15/08 Time(s): 1930 - 2055 MDT Surveyor(s): Lisa Horzapa, David Steward
 Location: () Wetland 3 (✓) Sediment Pond
 Weather: () Clear (✓) Cloudy () Rain () Windy Comments: partly cloudy

Species	Abundance ¹	Comments/Observations ²
cliff swallow	4	
violet-green swallow	1	
mallard	1	on pond
black phoebe	1	feeding off water
song sparrow	1	
great-horned owl	1	1 adult, 2 juveniles
American robin	1	
yellow-breasted chat	1	
common nighthawk	1	
lazuli bunting	1	

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)
² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 7/29/09 Time(s): 608-733 Surveyor(s): L Horzempa M Graham
 Location: () Wetland 3 (X) Sediment Pond
 Weather: (X) Clear () Cloudy () Rain () Windy Comments: _____

Species	Abundance ¹	Comments/Observations ²
Great Horned Owl	1	2 young
Mourning Dove	1	
Song Sparrow	1	
Yellow Warbler	1	
Blue Grosbeak	1	
Mallard	2	♀ on pond with 4 or 5 young
American Robin	1	
Black Phoebe	1	foraging on pond
Spotted Towhee	1	
Cliff Swallow	3	
Warbling Vireo	1	
Western Wood Pewee	1	
Black Chinned Hummingbird	1	Pair
Common Raven	1	
Canada Goose	3	Flock flew over
Yellow Breasted Chat	1	

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)

² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 7/28/08 Time(s): 1743-1905 Surveyor(s): L Horzempa M Graham
 Location: () Wetland 3 (X) Sediment Pond
 Weather: (X) Clear (X) Cloudy () Rain () Windy Comments: mostly clear/sunny

Species	Abundance ¹	Comments/Observations ²
- Great Horned Owl	1	
- Black Phoebe	1	foraging over pond
- Song Sparrow	1	
- Yellow Warbler	1	
- Common Raven	1	
- Turkey Vulture	1	
- Cliff Swallow	3	
- Mourning Dove	1	
- Blue Grosbeak	1	
- Ashthroated	1	
- Great Blue Heron	1	
- Black Chinned Hummingbird	1	

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)
² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 8/11/08 Time(s): 1907 - 2035 Surveyor(s): Lisette Forzeka, David Steward
 Location: () Wetland 3 () Sediment Pond
 Weather: () Clear () Cloudy () Rain () Windy Comments: _____

Species	Abundance ¹	Comments/Observations ²
- violet green swallow	1	
- american robin	1	
- western wood peewee	1	
- mourning dove	1	
- black phoebe	1	
- american goldfinch	1	
- black throated gray warbler	1	
- song sparrow	1	
- killdeer	1	
- canada goose	2	
- blue gray gnatcatcher	1	
- yellow breasted chat	1	
- great horned owl	1	2 juveniles 1 adult

Sheet 1 of 1

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)

² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Wildlife Surveys – Avian Wetland Species Monitoring Form

Date: 8/12/08 Time(s): 0755 - 0930 MDT Surveyor(s): Lisa Horzempa, David Steward
 Location: () Wetland 3 (✓) Sediment Pond
 Weather: (✓) Clear () Cloudy () Rain () Windy Comments: _____

Species	Abundance ¹	Comments/Observations ²
black throated gray warbler	1	
virginia's warbler	1	
yellow-rumped warbler	1	
violet-green swallow	3	feeding over pond
western wood pewee	1	
yellow warbler	1	
song sparrow	1	one seen on shoreline of pond
lesser goldfinch	1	
wilson's warbler	1	
yellowbreasted chat	1	
american robin	1	
american crow	2	
common raven	2	
mourning dove	1	
red-winged blackbird	1	
rock wren	1	
rough-winged swallow	2	feeding over pond
blue gray gnatcatcher	1	
mallard	1	in water
american goldfinch	1	

Sheet / of /

¹ 1 = few (1-5), 2 = low abundance (6-20), 3 = moderate abundance (21 -50), 4 = high abundance (50 or more)

² Feeding on organisms in wetland sediments or water, consuming water in wetland, evidence of breeding behavior (specify), evidence of nesting behavior (specify)

Appendix G

**Completed Data Sheets for Willow Flycatcher Surveys at MMTS,
2008**

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Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name MMTS Wetland 3 State UT County San Juan
 USGS Quad Name _____ Elevation 6798 (feet) meters (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? Yes No

Site Coordinates: Start: N 647125 E 4191748 UTM Datum 44N 27 (NAD27 preferred)
 Stop: N 646960 E 4191837 UTM Zone 12

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1 Lisa Horzapa David Stewart Linda Stecker	Date 5/22/08 Start 0806 Stop 0820 Total hrs 0:14	0	0	0	N	N	Y Farm nearby	
2 Lisa Horzapa David Stewart	Date 6/2/08 Start 0855 Stop 0912 Total hrs 0:17	0	0	0	N	N	Y Farm nearby	
3 Lisa Horzapa David Stewart	Date 6/17 Start 550 Stop 605 Total hrs 0:15	0	0	0	N	N	Y Farm nearby	
4 Lisa Horzapa David Stewart	Date 7/1 Start 8:53 Stop 9:11 Total hrs 0:18	0	0	0	N	N	Y Farm nearby	
5 Lisa Horzapa David Stewart	Date 7/16 Start 0644 Stop 0700 Total hrs 0:16	0	0	0	N	N	Y Farm nearby	
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes No If yes, report color combination(s) in the comments section on back of form		
Total survey hrs <u>1:20</u>		0	0	0	0			

Reporting Individual Lisa Horzapa Date Report Completed 7/13/08
 US Fish and Wildlife Service Permit # TE 047266 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

Fill in the following information completely. Submit original form by August 1st. Retain a copy for your records.

Reporting Individual Lisa Horzeppa Phone # (435) 259-1643
 Affiliation UDWR E-mail lhorzeppa@yahoo.com
 Site Name MMIS Wetland 3 Date Report Completed 5

Did you verify that this site name is consistent with that used in previous years? Yes / No (circle one)
 If name is different, what name(s) was used in the past? _____
 If site was surveyed last year, did you survey the same general area this year? Yes / No If no, summarize in comments below.
 Did you survey the same general area during each visit to this site this year? (Yes) / No If no, summarize in comments below.

Management Authority for Survey Area (circle one): Federal Municipal/County State Tribal Private
 Name of Management Entity or Owner (e.g., Tonto National Forest) _____

Length of area surveyed: 270w (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

- Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)
 Mixed native and exotic plants (mostly native)
 Mixed native and exotic plants (mostly exotic)
 Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: willow

Average height of canopy (Do not put a range): 2 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) / No (circle one)

Distance from the site to surface water or saturated soil: stream + pond in sight (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes / No (circle one)
 If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

willows thin + short - may mature and provide better habitat in the future.

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM

Willow Flycatcher Survey and Detection Form (revised April, 2004)

Site Name MMTS Pond State UT County San Juan
 USGS Quad Name _____ Elevation 6694 (feet) meters (circle one)

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? Yes No

Site Coordinates: Start: N 649148 E 4191196 UTMDatum AMD27 (NAD27 preferred)
 Stop: N 649492 E 4191070 UTM Zone 12

**** Fill in additional site information on back of this page ****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N	Cowbirds Detected? Y or N	Presence of Livestock, Recent sign, If Yes, Describe Y or N	Comments about this survey (e.g., bird behavior, evidence of pairs or breeding, number of nests, nest contents or number of fledges seen; potential threats)
1. Lisa Horzempa David Steward Linda Sheader	Date 5/22/08 Start 9:29 Stop 9:42 Total hrs 0:13	2	1	1	N	N	N	
2. Lisa Horzempa David Steward	Date 6/2/08 Start 0925 Stop 0956 Total hrs 0:31	1	0	0	N	N	N	
3. Lisa Horzempa David Steward	Date 6/17 Start 0925 Stop 0956 Total hrs 0:31	0	0	0	N	N	Y COWS along creek above pond	
4. Lisa Horzempa David Steward	Date 7/1 Start 927 Stop 1003 Total hrs 0:36	0	0	0	N	N	Y "	
5. Lisa Horzempa David Steward	Date 7/16 Start 0746 Stop 0817 Total hrs 0:31	0	0	0	N	N	Y COWS recently in adjacent pasture	
Overall Site Summary (Total resident WIFLs only)		Adults	Pairs	Territories	Nests	Were any WIFLs color-banded? Yes No If yes, report color combination(s) in the comments section on back of form		
Total survey hrs	<u>2:22</u>	3	1					

Reporting Individual Lisa Horzempa Date Report Completed 7/31/08
 US Fish and Wildlife Service Permit # TE047266 AZ Game and Fish Department (or other state) Permit # _____

Submit original form by August 1st. Retain a copy for your records.

Fill in the following information completely. Submit original form by August 1st. Retain a copy for your records.

Reporting Individual Lisa Horzempa Phone # (435)259-1643
 Affiliation UDWR E-mail lhorzempa@utah.gov
 Site Name MMTS Pond Date Report Completed _____

Did you verify that this site name is consistent with that used in previous years? Yes / No (circle one)
 If name is different, what name(s) was used in the past? _____
 If site was surveyed last year, did you survey the same general area this year? Yes / No If no, summarize in comments below.
 Did you survey the same general area during each visit to this site this year? (Yes) No If no, summarize in comments below.

Management Authority for Survey Area (circle one): Federal Municipal/County State Tribal (Private)
 Name of Management Entity or Owner (e.g., Tonto National Forest) _____

Length of area surveyed: 400yd (specify units, e.g., miles = mi, kilometers = km, meters = m)

Vegetation Characteristics: Overall, are the species in tree/shrub layer at this site comprised predominantly of (check one):

- Native broadleaf plants (entirely or almost entirely, includes high-elevation willow)
- Mixed native and exotic plants (mostly native)
- Mixed native and exotic plants (mostly exotic)
- Exotic/introduced plants (entirely or almost entirely)

Identify the 2-3 predominant tree/shrub species: willow surrounded by scrub oak + juniper

Average height of canopy (Do not put a range): 2 meters (specify units)

Was surface water or saturated soil present at or adjacent to site? (Yes) No (circle one)

Distance from the site to surface water or saturated soil: Stream + pond in sight (specify units)

Did hydrological conditions change significantly among visits (did the site flood or dry out)? Yes / No (circle one)
 If yes, describe in comments section below.

Remember to attach a copy of a USGS quad/topographical map (REQUIRED) of the survey area, outlining the survey site and location of WIFL detections. Also include a sketch or aerial photograph showing details of site location, patch shape, survey route in relation to patch, and location of any willow flycatchers or willow flycatcher nests detected. Such sketches or photographs are welcomed, but DO NOT substitute for the required USGS quad map. Please include photos of the interior of the patch, exterior of the patch, and overall site and describe any unique habitat features.

Comments (attach additional sheets if necessary)

large expanse of immature willows may provide better habitat in future.

WIFL Detection Locations:

Date Detected	N UTM	E UTM	Date Detected	N UTM	E UTM
5/22/08	649344	4191097			
5/22/08	649344	4191097			
6/2/08	649285	4191151			