



MEMORANDUM

DATE: August 28, 2013
TO: Bill Semmens, Montana Department of Transportation
FROM: L. Stragis – David Evans and Associates, Inc. Senior Biologist
SUBJECT: **BIOLOGICAL RESOURCE REPORT ADDENDUM**
PROJECT: Montana Department of Transportation – Billings Bypass, Yellowstone County
COPIES: Billings Bypass FEIS project file

At the request of the Montana Department of Transportation (MDT), David Evans and Associates, Inc. (DEA) has prepared this Biological Resource Report Addendum to document changes from what was presented in the November 2011 Biological Resources Report (BRR). This Addendum includes: project alternative updates, general BRR updates, Biological Assessment (BA) update with 2012 USFWS concurrence communications, and wetlands update. This Addendum will be included in the Final Environmental Impact Statement (FEIS) as part of the BRR Technical Report.

BRR ADDENDUM SUMMARY

The study area, existing conditions, avoidance and minimization measures, impacts, and recommended conservation measures described in the BRR are still valid and remain unchanged except as detailed below.

- The practicable alternatives advanced and analyzed in the FEIS include: Mary Street Option 1, Mary Street Option 2, Five Mile Road, and No Build alternatives. Mary Street Option 2 has been identified as the Preferred Alternative. Updated project designs and analysis included secondary corridors and refinements of interchanges, intersections, and bridge crossings. MDT is proposing a phase approach with Phase 1 as an initial two-lane facility and, at a later date with available funding, will construct an additional two lanes for the Full Buildout.
- A BRR re-evaluation is an added recommended conservation measure before the construction of the four-lane facility for species of concern, threatened and endangered species, and other resources due to potential changes in the resource status or regulations.
- The current and approved BA impact assessment for threatened and endangered species is displayed below (**Table 1**).

Table 1. Threatened and Endangered Species Update

| COMMON NAME | SCIENTIFIC NAME | USFWS STATUS | OCCURRENCE IN STUDY AREA | PROJECT EFFECT DETERMINATION |
|---------------------|----------------------------------|--------------|------------------------------|--|
| Whooping crane | <i>Grus americana</i> | Endangered | Potentially during migration | Not likely to adversely affect |
| Black-footed ferret | <i>Mustela nigripes</i> | Endangered | Highly unlikely | No Effect |
| Greater sage-grouse | <i>Centrocercus urophasianus</i> | Candidate | Unlikely | Not likely to jeopardize continued existence |
| Sprague's pipit | <i>Anthus spragueii</i> | Candidate | Unlikely | Not likely to jeopardize continued existence |

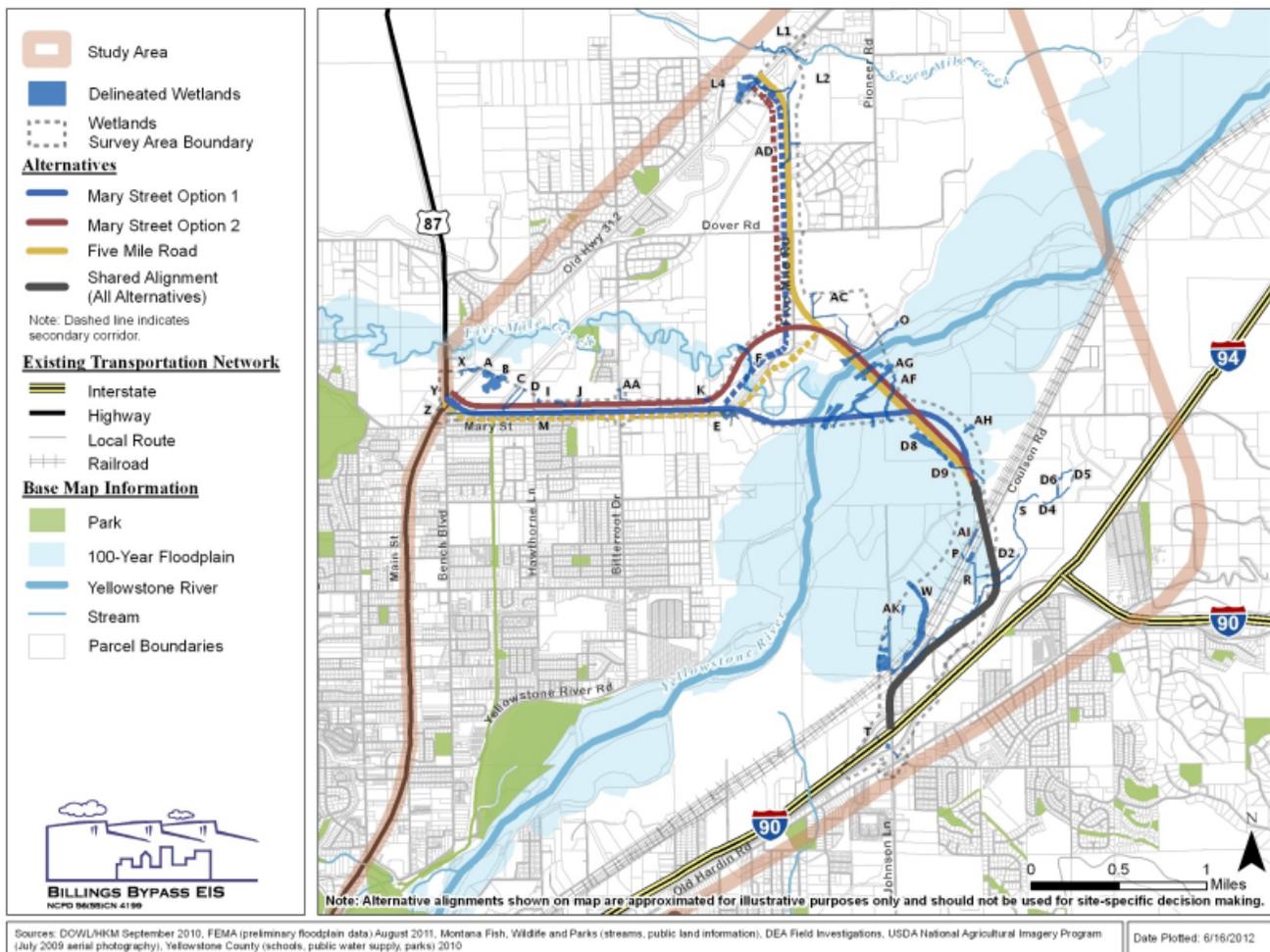
- Updated wetland impacts were determined to be 5.39 acres for Mary Street Option 1, 4.52 acres for Mary Street Option 2, and 4.70 acres for Five Mile Road. Additional information regarding wetlands AA, K, and Z is provided.

BRR SECTION 1.1.1 - PROJECT ALTERNATIVES UPDATES

As a result of the project planning and screening process, the practicable alternatives advanced and analyzed in the FEIS include: Mary Street Option 1, Mary Street Option 2, Five Mile Road, and No Build alternatives. These build alternatives were evaluated in the BRR as the Johnson Lane Option 1 for Mary Street Option 1, Mary Street Option 2, Five Mile Road alternatives, and No Build. The Johnson Lane Option 2 alternatives were eliminated. See **Figure 1**. Mary Street Option 2 has been recommended as the Preferred Alternative.

The selected alternative would be constructed in two phases. Phase 1 would consist of a two-lane facility that meets the traffic needs within the 20-year planning horizon. With future funding, the Full Buildout would be constructed to meet the traffic needs outside of the 20-year planning horizon. Phase 1 would be narrower than the Full Buildout but it would include the right-of-way acquisition and the secondary corridor of the Full Buildout.

Figure 1. FEIS Alternative Alignment and Aquatic Resources



GENERAL BRR UPDATES

The study area, existing conditions, avoidance and minimization measures, and recommended conservation measures described in the BRR are still valid and remain unchanged. The preliminary potential impacts to the biological resources in the BRR were estimates derived from analysis of the conceptual design that identified the primary corridor of the alternatives. The impacts have been updated in the FEIS with analysis of the alternative designs provided in 2012 and 2013 by DOWL HKM. These updated designs included secondary corridors and refinements in the alternative corridors particularly at major intersections and bridge crossings. Final alignment designs are anticipated to further reduce impacts through avoidance and minimization measures implemented on the basis of policies, procedures, and regulations.

It was been determined that Phase 1 would not have substantially greater impacts than the Full Buildout for biological resources. Therefore, additional analysis of impacts to these resources would not be required. This approach would not result in substantial changes to potential impacts, avoidance and minimization measures, and recommended conservation measures for terrestrial vegetation resources and aquatic resources. However, the status and occurrence of some species of concern, and threatened and endangered species of the area may change between Phase 1 and the Full Buildout. Additionally, regulation may change in regard to other biological resources. Therefore it is understood that a re-evaluation would be required and is added as a recommended conservation measure. The avoidance and minimization methods for general wildlife, species of concern, and threatened and endangered species would still be valid and remain unchanged.

BRR SECTION 6 - BA UPDATE

The BRR update contains BA concurrence communications with USFWS that include the effects determination update with information regarding the “No Effect” determination for the black-footed ferret and updates the effects determination language for candidate species greater sage grouse and Sprague’s pipit to read “is not likely to jeopardize the continued existence” as recommended by USFWS during the Draft Environmental Impact Statement (DEIS) review. **Table 1** provides the current and approved impact assessment for threatened and endangered species. The June 2013 USFWS county list of endangered, threatened, proposed and candidate species is attached. There have been no further changes to listed species in Yellowstone County since the USFWS concurrence was received.

BRR SECTION 7.0 - WETLANDS UPDATE

Wetland avoidance and minimization measures and recommended conservation measures presented in the original BRR are still valid and remain unchanged. Due to the need to phase the construction of the preferred alternative, independent analysis of impacts related to Phase 1 and the Full Buildout are quantified in the FEIS Section 4.11, “Threatened and Endangered Species” and the 404(b)(1) evaluation included in the FEIS Appendix F, “Clean Water Act Section 404(b)(1) Evaluation.”

Section 7.2 Methods

Biologists used the Corps of Engineers Wetlands Delineation Manual and subsequent Regional Supplement Great Plains Region, Version 2.0 protocol for project wetland determinations. It needed to be clarified that problematic situations where parameters may have been absent due to natural causes or recent human activities such as mud flats, riparian areas, or managed plant communities was included in the protocol in addition to typical simultaneous evidence of the three parameters (a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology) for a wetland determination. Preliminary jurisdictional determinations were made following the 2008 Rapanos/SWANCC Guidance of the Clean Water Act.

Section 7.3 Results

Impacts to wetlands have been updated from what was presented in the November 2011 BRR with the alternative designs including secondary corridors. Total permanent and temporary impacts by alternative were determined to be 5.39 acres for Mary Street Option 1, 4.52 acres for Mary Street Option 2, and 4.70 acres for Five Mile Road. These types of impacts will be differentiated during final design and permitting.

Project right-of-way was expanded from what was presented in the November 2011 BRR to intersect three additional wetlands along Mary Street. Information and descriptions of Wetlands AA, K, and Z are provided below and are updated in the FEIS Section 4.4.7, "Wetlands" and the 404(b)(1) Evaluation. Data forms for Wetlands AA, K, and Z are attached.

Table 2. Wetland Updates

| Wetland ID | Location (decimal degrees) | Wetland Class | MDT rating | Preliminary JD | Justification for Determination | Delineated acres | Mary St 1 Impacted acres | Mary St 2 Impacted acres | Five Mile Rd Impacted acres |
|------------|----------------------------|---------------|------------|----------------|--|------------------|--------------------------|--------------------------|-----------------------------|
| AA | -108.445427 45.842975 | PEM | IV | Yes | Supply/waste ditch for agricultural use, outlet to Five Mile Creek. | 0.08 | 0.04 | 0.04 | — |
| K | -108.435140 45.842759 | PFO | III | No | Sub surface flow from gravel pit ponds from SE of Mary Street, end use cistern and domestic landscape irrigation, potential intermittent flow to Five Mile Creek without surface connectivity. | 0.29 | 0.29 | .06 | — |
| Z | -108.466628 45.842775 | PEM | IV | No | Ditch at intersection, intermittent flow, and small pond. Flow north from culvert to culvert ends in agricultural land roadside ditch. | 0.04 | 0.01 | 0.01 | — |

Wetland AA is located along a small narrow lateral irrigation waste ditch located north of Mary Street. The dominant wetland plant species is reed canarygrass (*Phalaris arundinacea*) and cattail (*Typha latifolia*). It is surrounded by irrigated hayfields and pasture. The NRCS soils listed for Wetland AA are Shonkin loam, 0 to 1% slope, listed as hydric in Yellowstone County and Keiser silty clay loam, 1 to 4% slope, not listed as hydric. Wetland AA is likely to be considered jurisdictional under the Section 404 of the Clean Water Act because the irrigation ditch discharges into natural drainage to Five Mile Creek. This wetland's most prominent functions are a high rating for sediment/shoreline stabilization and medium rating for sediment, nutrient, and toxic removal. The remaining functions are rated low.

Wetland K is a naturally occurring, spring fed wetland north of the Mary Street. The dominant wetland plant species in Wetland K are Plains cottonwood (*Populus deltoides*), Russian olive (*Elaeagnus angustifolia*), reed canarygrass, and cattail. It is bordered by rural residences and irrigated hayfields. The NRCS soil listed for Wetland K is gravel pit, not listed as hydric in Yellowstone County (NRCS 2010). The adjacent land use is currently residential and what was a gravel pit has been landscaped, converted to agricultural use, and somewhat naturalized in low areas. Wetland K is not likely to be considered jurisdictional under the Section 404 of the Clean Water Act because the end use of the spring water is irrigation of the residential property. Its most prominent functions are high ratings in sediment, nutrient, and toxic removal; groundwater discharge/recharge; and medium ratings in general wildlife habitat, MT Natural Heritage program species habitat, and uniqueness.

Wetland Z abuts a small roadside ditch on Highway 87 north of Mary Street. The dominant species in Wetland Z are cattail and Kentucky bluegrass (*Poa pratensis*). The wetland is surrounded by development and pasture. The NRCS soil listed for Wetlands Z was Keiser silty clay loam, 0 to 1% slope, not listed as hydric in Yellowstone Count. Wetland Z is not likely to be considered jurisdictional under the Section 404 of the Clean Water Act because the ditches flow to agricultural end use. The most prominent function is a high rating for in sediment/shoreline stabilization. The remaining functions are rated low.

Bill Semmens, Montana
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This concludes the updates to the November 2011 BRR. If you have any questions or concerns regarding the above information, please feel free to contact me.

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Attachments/Enclosures:

June 2013 USFWS county list of endangered, threatened, proposed and candidate species.
July 2012 USFWS concurrence letter and addendum.
Wetland Determination Data Forms for Wetlands AA, K, and Z.

File Name: P:\MDOT0000-0019 - Billings\Planning\FEIS\APPENDICES&SUPPLEMENTAL\BRR\DEA Memorandum
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United States Department of the Interior

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ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES* Endangered Species Act

June 2013

C = Candidate
 LT = Listed Threatened
 LE = Listed Endangered
 P = Proposed
 PCH = Proposed Critical Habitat
 CH = Designated Critical Habitat
 XN = Experimental non-essential population

*Note: Generally, this list identifies the counties where one would reasonably expect the species to occur, not necessarily every county where the species is listed

| County/Scientific Name | Common Name | Status |
|----------------------------------|--|--------|
| BEAVERHEAD | | |
| <i>Spiranthes diluvialis</i> | Ute Ladies' Tresses | LT |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Thymallus arcticus</i> | Arctic Grayling (Upper Missouri River DPS) | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| BIG HORN | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| BLAINE | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| BROADWATER | | |
| <i>Spiranthes diluvialis</i> | Ute Ladies' Tresses | LT |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |

| County/Scientific Name | Common Name | Status |
|-------------------------------------|--|--------|
| CARBON | | |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| CARTER | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| CASCADE | | |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| CHOUTEAU | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| CUSTER | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Sterna antillarum athalassos</i> | Interior Least Tern | LE |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| DANIELS | | |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| DAWSON | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Sterna antillarum athalassos</i> | Interior Least Tern | LE |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| DEER LODGE | | |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Thymallus arcticus</i> | Arctic Grayling (Upper Missouri River DPS) | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| FALLON | | |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| FERGUS | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |

| County/Scientific Name | Common Name | Status |
|-------------------------------------|----------------------------|--------|
| FLATHEAD | | |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Silene spaldingii</i> | Spalding's Campion | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Lednia tumana</i> | Meltwater Lednian Stonefly | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| GALLATIN | | |
| <i>Spiranthes diluvialis</i> | Ute Ladies' Tresses | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| GARFIELD | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Charadrius melodus</i> | Piping Plover | LT, CH |
| <i>Sterna antillarum athalassos</i> | Interior Least Tern | LE |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| GLACIER | | |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Lednia tumana</i> | Meltwater Lednian Stonefly | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| GOLDEN VALLEY | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| GRANITE | | |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| HILL | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |

| County/Scientific Name | Common Name | Status |
|----------------------------------|--|--------|
| JEFFERSON | | |
| <i>Spiranthes diluvialis</i> | Ute Ladies' Tresses | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| JUDITH BASIN | | |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| LAKE | | |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Howellia aquatilis</i> | Water Howellia | LT |
| <i>Silene spaldingii</i> | Spalding's Champion | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| LEWIS AND CLARK | | |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| LIBERTY | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| LINCOLN | | |
| <i>Acipenser transmontanus</i> | White Sturgeon (Kootenai River Pop.) | LE |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Silene spaldingii</i> | Spalding's Champion | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| MADISON | | |
| <i>Spiranthes diluvialis</i> | Ute Ladies' Tresses | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Thymallus arcticus</i> | Arctic Grayling (Upper Missouri River DPS) | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |

| County/Scientific Name | Common Name | Status |
|-------------------------------------|-------------------------------------|--------|
| McCONE | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Charadrius melodus</i> | Piping Plover | LT, CH |
| <i>Sterna antillarum athalassos</i> | Interior Least Tern | LE |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| MEAGHER | | |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| MINERAL | | |
| <i>Lynx canadensis</i> | Canada Lynx | LT |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| MISSOULA | | |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Howellia aquatilis</i> | Water Howellia | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Coccyzus americanus</i> | Yellow-billed cuckoo (western pop.) | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| MUSSELSHELL | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| PARK | | |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| PETROLEUM | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| PHILLIPS | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Charadrius melodus</i> | Piping Plover | LT, CH |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE, XN |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |

| County/Scientific Name | Common Name | Status |
|-------------------------------------|-------------------------------------|--------|
| PONDERA | | |
| <i>Charadrius melodus</i> | Piping Plover | LT |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| POWDER RIVER | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| POWELL | | |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| PRAIRIE | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Sterna antillarum athalassos</i> | Interior Least Tern | LE |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| RAVALLI | | |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Coccyzus americanus</i> | Yellow-billed cuckoo (western pop.) | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| RICHLAND | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Charadrius melodus</i> | Piping Plover | LT, CH |
| <i>Sterna antillarum athalassos</i> | Interior Least Tern | LE |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| ROOSEVELT | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Charadrius melodus</i> | Piping Plover | LT, CH |
| <i>Sterna antillarum athalassos</i> | Interior Least Tern | LE |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| ROSEBUD | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Sterna antillarum athalassos</i> | Interior Least Tern | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |

| County/Scientific Name | Common Name | Status |
|----------------------------------|--|--------|
| SANDERS | | |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT |
| <i>Salvelinus confluentus</i> | Bull Trout | LT, CH |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| <i>Silene spaldingii</i> | Spalding's Campion | LT |
| SHERIDAN | | |
| <i>Charadrius melodus</i> | Piping Plover | LT, CH |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| SILVER BOW | | |
| <i>Salvelinus confluentus</i> | Bull Trout | LT |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Thymallus arcticus</i> | Arctic Grayling (Upper Missouri River DPS) | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| STILLWATER | | |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| SWEET GRASS | | |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| TETON | | |
| <i>Ursus arctos horribilis</i> | Grizzly Bear | LT |
| <i>Lynx canadensis</i> | Canada Lynx | LT, CH |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| TOOLE | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| TREASURE | | |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |

| County/Scientific Name | Common Name | Status |
|-------------------------------------|---------------------|--------|
| VALLEY | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Charadrius melodus</i> | Piping Plover | LT, CH |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Sterna antillarum athalassos</i> | Interior Least Tern | LE |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| WHEATLAND | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| <i>Gulo gulo luscus</i> | Wolverine | P |
| <i>Pinus albicaulis</i> | Whitebark Pine | C |
| WIBAUX | | |
| <i>Scaphirhynchus albus</i> | Pallid Sturgeon | LE |
| <i>Sterna antillarum athalassos</i> | Interior Least Tern | LE |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |
| YELLOWSTONE | | |
| <i>Mustela nigripes</i> | Black-footed Ferret | LE |
| <i>Grus americana</i> | Whooping Crane | LE |
| <i>Centrocercus urophasianus</i> | Greater Sage-Grouse | C |
| <i>Anthus spragueii</i> | Sprague's Pipit | C |



United States Department of the Interior

Fish and Wildlife Service

Ecological Services
Montana Field Office
585 Shepard Way
Helena, Montana 59601-6287



Phone: (406) 449-5225 Fax: (406) 449-5339

M.17 FHWA (I)

July 26, 2012

Bill Semmens
Montana Department of Transportation
2701 Prospect Avenue
PO Box 201001
Helena, MT 59620-1001

Dear Mr. Semmens:

This is in response to your June 28, 2012 request from the Montana Department of Transportation (Department) for concurrence with your effects determinations on federally listed species affected by the proposed Billings Bypass (NCPD 56(55)) project in Yellowstone County, Montana. The purpose of this project is to improve access, connectivity, and mobility between I-90 and Old Highway 312 in the eastern area of Billings, Montana through construction of a new arterial roadway and a new bridge across the Yellowstone River. This letter addresses only project-related effects to listed species that may occur in the project vicinity in accordance with the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et seq.), and does not address the overall environmental acceptability of the proposed actions.

We have reviewed the biological assessment and amended biological assessment for the proposed project and concur with your determination that the project is not likely to adversely affect whooping crane (*Grus americana*), and acknowledge your determination that the proposed project would have no effect on the black-footed ferret (*Mustela nigripes*). We also acknowledge your determinations that the proposed action is not likely to jeopardize the existence of the greater sage-grouse (*Centrocercus urophasianus*) and Sprague's pipit (*Anthus spragueii*), which are candidate species. We base our concurrences on the information displayed in the biological assessment, amended biological assessment, and biological resource report.

This concludes informal consultation pursuant to regulations 50 CFR 402.13 implementing the Act. This project should be re-analyzed if new information reveals effects of the action that

may affect federally-listed species or critical habitat, or if the project is modified in a manner that causes an effect not considered in this consultation.

We appreciate the Department's efforts to conserve fish and wildlife resources. If you have questions about this letter, please contact Mike McGrath at (406) 449-5225, extension 201, or at mike_mcgrath@fws.gov.

Sincerely,



R. Mark Wilson
Field Supervisor

Copies to:

Bonnie Gundrum, Montana Department of Transportation, Helena, MT

Brian Hasselbach, Federal Highways Administration, Helena, MT



MASTER FILE COPY

June 28, 2012

Mr. R. Mark Wilson, Field Supervisor
Attn: Mike McGrath, Fish and Wildlife Biologist (Transportation)
U.S. Fish and Wildlife Service
Montana Field Office
585 Shepard Way
Helena, MT 59601

Subject: Billings Bypass – Biological Assessment
Billings Bypass
NCPD 56(55)
Control Number: 4199

Dear Mr. Wilson:

This is in response to your November 2010 letter regarding USFWS participation for review of the Billings Bypass Environmental Impact Statement (EIS). The letter stated that once the preferred alternative is identified, your office would handle consultation regarding effects to listed species.

The Montana Department of Transportation (MDT) in cooperation with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to analyze alternatives to improve access, connectivity, and mobility between I-90 and Old Hwy 312. The Draft EIS analyzed three build alternatives for consideration: Mary Street Option 1, Mary Street Option 2, and Five Mile Road. The Draft EIS has recommended the Mary Street Option 2 Alternative as the preliminary preferred alternative. However, it is anticipated that effects on listed species would be the same for the Mary Street Option 1 Alternative and the Five Mile Road Alternative, because all alternatives are in close proximity to each other and follow similar alignments.

The USFWS county list (May 2012) shows that the black-footed ferret, whooping crane, greater sage grouse, and Sprague's Pipit may occur in Yellowstone County. The Biological Assessment (BA) was completed for these species as part of the Biological Resource Report of the EIS. Attached is a copy of that technical report and a BA Addendum. The BA Addendum includes:

- 1) A current summary of the effects determinations;
- 2) Additional information regarding the "No Effect" determination for the black-footed ferret;
- 3) Updates to the effects determination language for candidate species including the greater sage grouse and Sprague's pipit. The language was amended to read "is not likely to jeopardize the continued existence" as recommended by the USFWS during the Draft EIS review; and
- 4) The May 2012 USFWS county list of endangered, threatened, proposed and candidate species.

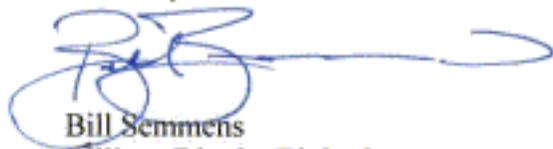
Table 1. Summary of Billings Bypass Effect Determinations

| Common Name | Scientific Name | USFWS Status | Occurrence in Study Area | Project Effect Determination |
|---------------------|----------------------------------|-------------------|------------------------------|--|
| Whooping crane | <i>Grus americana</i> | Listed Endangered | Potentially during migration | Not likely to adversely affect |
| Black-footed ferret | <i>Mustela nigripes</i> | Listed Endangered | Highly unlikely | No Effect |
| Greater sage-grouse | <i>Centrocercus urophasianus</i> | Candidate | Unlikely | Not likely to jeopardize continued existence |
| Sprague's pipit | <i>Anthus spragueii</i> | Candidate | Unlikely | Not likely to jeopardize continued existence |

The whooping crane determination of "may effect, not likely to adversely affect" is due to the potential for brief, rare use of the project area by whooping crane during migration. As stated above, because of the close proximity of the project alternatives to each other, the project effects to whooping crane would be similar for all alternatives. Recommended conservation measures are not likely to be necessary. However, if any whooping cranes are observed in or adjacent to the project area during construction, work would be halted and MDT would contact the USFWS. Migration peaks are in April and October.

MDT would appreciate concurrence from your agency with these determinations of effect. Should you have any questions regarding the above information, please feel free to contact me.

Sincerely,



Bill Semmens
Billings District Biologist
MDT Environmental Services
(406) 444-7227

copies: Bonnie Gundrum, MDT, Resources Section Supervisor
e-copies: Brian Hasselbach, FHWA, ROW & Environmental Specialist
Fred Bente, MDT, Consultant Design
Tom Gocksch, MDT, Environmental
Mary Guse, David Evans and Associates, Inc., Senior Project Coordinator

Attachments: BA Addendum
Biological Resources Report (November 2011)
USFWS Participation Letter (November 23, 2010)



MASTER FILE COPY

MEMORANDUM

DATE: June 28, 2012
TO: Bill Semmens, MDT

FROM: L. Stragis – DEA Senior Scientist IV
SUBJECT: **THREATENED AND ENDANGERED SPECIES
 BIOLOGICAL ASSESSMENT ADDENDUM**
PROJECT: MDT – Billings Bypass, Yellowstone County
COPIES: Billings Bypass EIS BRR Technical Report project file

At the request of the Montana Department of Transportation (MDT), David Evans and Associates, Inc. (DEA) has prepared this Biological Assessment Addendum to document updates from what was presented in the November 2011 Biological Resources Report (BRR). The BA Addendum includes 1) A current summary of the effects determinations; 2) Additional information regarding the “No Effect” determination for the black-footed ferret; 3) Updates to the effects determination language for candidate species including the greater sage grouse and Sprague’s pipit to read “is not likely to jeopardize the continued existence” as recommended by the USFWS during the EIS review; and 4) The May 2012 USFWS county list of endangered, threatened, proposed and candidate species. This Addendum will be included in the EIS as part of the BRR Technical report.

Table 1. Summary of Billings Bypass Effect Determinations

| Common Name | Scientific Name | USFWS Status | Occurrence in Study Area | Project Effect Determination |
|---------------------|----------------------------------|----------------------|------------------------------|--|
| Whooping crane | <i>Grus americana</i> | Listed Endangered | Potentially during migration | Not likely to adversely affect |
| Black-footed ferret | <i>Mustela nigripes</i> | Listed Endangered | Highly unlikely | No Effect |
| Greater sage-grouse | <i>Centrocercus urophasianus</i> | Candidate | Unlikely | Not likely to jeopardize continued existence |
| Sprague’s pipit | <i>Anthus spragueii</i> | Candidate | Unlikely | Not likely to jeopardize continued existence |

The black-footed ferret was not fully assessed in the 2011 Biological Assessment prepared for the project because the last observation near the study area was in 1949 and suitable habitat and prey (prairie dogs) are not located in the study area. However, the following additional information is provided in this Addendum to supplement the effects analysis.

Black-footed Ferret

1.0.1 Species Description

The black-footed ferret is a medium sized mustelid that is 19 to 24 inches long, weighing 1.4 to 2.5 pounds. Males are slightly larger than females. Cryptic coloration includes yellow-buff color fur with lighter tones on the belly, white on the forehead, muzzle, and throat with a black facemask, feet, and tip of the tail. It is the only native American ferret species. Historically, ferret habitat largely coincided with habitats of the prairie dog; depending on them as a primary prey species and their burrows for shelter (USFWS 2011). Only large prairie dog complexes that include several thousand acres of closely spaced colonies can support and sustain a breeding population of black-footed ferrets. It has been estimated that about 40 to 60 hectares of prairie dog colony is needed to support one black-footed ferret, and females with litters have never been found on colonies less than 49 hectares (MTNHP 2012).

1.0.2 Status and Distribution

On March 11, 1967, the black-footed ferret was listed as endangered range-wide. Its historic range spanned western North America's intermountain and prairie grasslands from Canada to Mexico. In Montana, there are four black-footed ferret re-introduction sites: Fort Belknap Indian Reservation, the BLM 40-complex, the UL Bend National Wildlife Refuge, and the Northern Cheyenne Indian Reservation (USFWS 2011).

1.0.3 Reason for Decline

Black-footed ferrets have been extirpated from most of their former large range mainly as a result of prairie dog and predator control programs. Canine distemper resulted in extirpation of the last known wild population near Meeteetse, Wyoming. All current known populations are a result of the reintroduction of captive-bred individuals. Predations by coyotes and badgers, plague, and long distance dispersal have reduced reintroduction efforts. Some wild reproduction has occurred, but there are no self-sustaining populations established (MTNHP 2012).

1.0.4 Occurrence in Project Area

The last observation near the study area was in 1949 (MTNHP 2011). Suitable habitat or prairie dog areas were not located in the study area during field investigations by DEA biologists.

1.0.5 Effects of the Action

Black-footed ferrets are not known or likely to occur in the project area. Preferable habitat is not located in or near the project area. Therefore, the action will not have direct, indirect, or cumulative impacts to the black-footed ferret.

Bill Semmens, MDT

June 28, 2012

Page 3

1.0.6 Recommended Conservation Measures

No conservation measures are recommended.

1.0.7 Effect Determination

The project would have **no effect** on black-footed ferret.

REFERENCES:

MTNHP 2012. *Black-footed Ferret — Mustela nigripes*. Montana Field Guide. Montana Natural Heritage Program and Montana Fish, Wildlife and Parks. Retrieved on June 25, 2012, from http://FieldGuide.mt.gov/detail_AMAJF02040.aspx

MTNHP 2011. *Montana Natural Heritage Tracker*. Regarding SOC and T&E species observations. <http://mtnhp.org/Tracker/NHTMap.aspx>. Retrieved July 2011.

USFWS 2011. *Black-footed Ferret*. Endangered species. Mountain Prairie Region updated April 2011. <http://www.fws.gov/mountain-prairie/species/mammals/blackfootedferret/>. Accessed June 25, 2012

The May 2012 USFWS list is attached.

If you have any questions or concerns regarding the above information, please feel free to contact me.

Licia (Lee) A. Stragis

Senior Scientist IV

David Evans and Associates, Inc

Spokane, WA

509-232-8709

Attachments/Enclosures: May 2012 USFWS county list of endangered, threatened, proposed and candidate species

Initials:

File Name: S:\PROJECTS\BILLINGS\4000-4999\4199\USFWS_CONSULTATION\DEA MEMORANDUM BILLINGS BYPASS BA ADDENDUM_DRAFT062712.DOCX



United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
MONTANA FIELD OFFICE
585 SHEPARD WAY
HELENA, MONTANA 59601
PHONE (406) 449-5225, FAX (406) 449-5339

File: M.44. MDT (I)

November 23, 2010

Tom S. Martin, Chief
Environmental Services Bureau
Montana Department of Transportation
2701 Prospect Avenue
P.O. Box 201001
Helena, Montana 59620-1001

Dear Mr. Martin:

This is in response to your September 27, 2010 letter on behalf of the Federal Highway Administration (FHWA) inviting participation by the U.S. Fish and Wildlife Service (Service) in the environmental review process for the Billings Bypass Environmental Impact Statement (EIS). The completed Participating Agency Designation is attached.

The environmental review process will develop a proposed action and alternatives for a bypass road from Interstate 90 in the vicinity of Lockwood to Old Highway 312 north of Billings Heights. Of necessity, this project will entail a new bridge spanning the Yellowstone River. All activities will occur in Yellowstone County, Montana. Species that are listed under the Endangered Species Act that may occur in the vicinity of this project include: black-footed ferret (*Mustela nigripes*), whooping crane (*Grus americana*), mountain plover (*Charadrius montanus*), a proposed species, and greater sage-grouse (*Centrocercus urophasianus*), a candidate species. In the past we have been concerned about the possible presence of pallid sturgeons (*Scaphirhynchus albus*) in this area. However, information obtained in the last decade indicates that pallid sturgeons are unlikely to be found upstream of the confluence with the Big Horn River, and are not expected to occur within the vicinity of the project area. No wildlife refuges are contained within the project study area.

We have indicated our status as a Participating Agency because the project may affect listed species. However, as you are undoubtedly aware, we are extremely short-staffed at this time, and we do not anticipate being able to provide substantial review or participation in meetings, field reviews, and other activities. Once the preferred alternative is identified, consultation regarding effects to listed species will be handled from this office.

We recommend that you consider locations for the new bridge across the Yellowstone River that minimize impacts to the floodplain, riparian habitat, and the channel migration zone. Designs to be considered should include, if practicable, as clear-span bridge that has no footings or supports within the active river channel.

We appreciate your efforts to ensure the conservation of threatened and endangered species as part of our joint responsibilities under the Endangered Species Act, as amended. If you have questions or comments related to this correspondence, please contact Shannon Downey of my staff at 406-449-5225, ext 214.

Sincerely,

A handwritten signature in black ink that reads "R. Mark Wilson". The signature is written in a cursive, slightly slanted style.

R. Mark Wilson
Field Supervisor

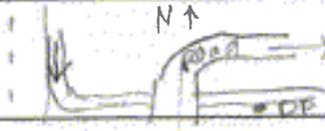
WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Billings Bypass City/County: Yellowstone Sampling Date: 8/25/11
 Applicant/Owner: MOT State: MT Sampling Point: DP AA 1
 Investigator(s): L. Stragis, G. Romd Section, Township, Range: S12, T1N, R36E
 Landform (hillslope, terrace, etc.): 1 Local relief (concave, convex, none): (none) Slope (%): 0-3
 Subregion (LRR): G Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: P5m

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|--|--|---|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ | Hydic Soil Present? Yes <input checked="" type="checkbox"/> No _____ | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
|--|--|---|--|

Remarks: wetland thru 2' ditch w 8' wide buffer. Solid weeds - clean  @ rather than no veg in canal.

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: |
|---|------------------|-------------------------------------|------------------|--|
| 1. <u>Elaeagnus angustifolia R-olive</u> | <u>15</u> | <input checked="" type="checkbox"/> | <u>FAC</u> | Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) |
| 2. _____ | _____ | _____ | _____ | Total Number of Dominant Species Across All Strata: <u>3</u> (B) |
| 3. _____ | _____ | _____ | _____ | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) |
| 4. _____ | _____ | _____ | _____ | Prevalence Index worksheet: |
| _____ = Total Cover | | | | Total % Cover of: _____ Multiply by: _____ |
| Sapling/Shrub Stratum (Plot size: _____) | | | | OBL species _____ x 1 = _____ |
| 1. _____ | _____ | _____ | _____ | FACW species _____ x 2 = _____ |
| 2. _____ | _____ | _____ | _____ | FAC species _____ x 3 = _____ |
| 3. _____ | _____ | _____ | _____ | FACU species _____ x 4 = _____ |
| 4. _____ | _____ | _____ | _____ | UPL species _____ x 5 = _____ |
| 5. _____ | _____ | _____ | _____ | Column Totals: _____ (A) _____ (B) |
| _____ = Total Cover | | | | Prevalence Index = B/A = _____ |
| Herb Stratum (Plot size: _____) | | | | Hydrophytic Vegetation Indicators: |
| 1. <u>Phalaris acutimacra Rogers</u> | <u>75</u> | <input checked="" type="checkbox"/> | <u>FACW</u> | <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation |
| 2. <u>Typha latifolia Cattails</u> | <u>25</u> | <input checked="" type="checkbox"/> | <u>OBL</u> | <input checked="" type="checkbox"/> 2 - Dominance Test is >50% |
| 3. _____ | _____ | _____ | _____ | ____ 3 - Prevalence Index is ≤3.0 ¹ |
| 4. _____ | _____ | _____ | _____ | ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) |
| 5. _____ | _____ | _____ | _____ | ____ Problematic Hydrophytic Vegetation ¹ (Explain) |
| 6. _____ | _____ | _____ | _____ | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 7. _____ | _____ | _____ | _____ | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| Woody Vine Stratum (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| % Bare Ground in Herb Stratum _____ | | | | |

Remarks: feed ponds east of alignment

SOIL

Sampling Point: AA1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-2 | 10YR 3/4 | | | | | | clay | |
| 2-8 | 10YR 3/1 | 75 | 10YR 4/6 | 70 | C | m/pl | clay | redox |
| 8-16 | 7.5YR 5/1 | 50 | 10YR 4/6 | 50 | C | m | clay | duph |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

| | | |
|---|--|---|
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> Redox Depressions (F8) | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H) | |

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

| | | |
|---|--|---|
| Primary Indicators (minimum of one required; check all that apply) | | Secondary Indicators (minimum of two required) |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | |

Field Observations:

| | | |
|---|--------------------------|---|
| Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Depth (inches): <u>0</u> | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____

Remarks: Ponds to east w/ yard area of owner - ducks feeds
canal stays wet

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Billings Bypass City/County: Yellowstone Sampling Date: 8/25/11
 Applicant/Owner: MDT State: MT Sampling Point: DPAA2
 Investigator(s): G Stragis, G Rand Section, Township, Range: S12, T1N, R26E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): G Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> |
| Remarks: <u>pasture, DP ~ 30' N of wetland edge</u> | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: | | | | | | | | | | | | | | |
|---|---------------------|-------------------|------------------|---|-------------------|--------------|-------------------|-------------|--------------------|-------------|-------------------|-------------|--------------------|-------------|-------------------|-------------|----------------------|---------------------|
| 1. _____ | _____ | _____ | _____ | Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B) | | | | | | | | | | | | | | |
| 2. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| 3. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| 4. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| = Total Cover . | | | | Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <th style="width:60%;">Total % Cover of:</th> <th style="width:40%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____ | Total % Cover of: | Multiply by: | OBL species _____ | x 1 = _____ | FACW species _____ | x 2 = _____ | FAC species _____ | x 3 = _____ | FACU species _____ | x 4 = _____ | UPL species _____ | x 5 = _____ | Column Totals: _____ | (A) _____ (B) _____ |
| Total % Cover of: | Multiply by: | | | | | | | | | | | | | | | | | |
| OBL species _____ | x 1 = _____ | | | | | | | | | | | | | | | | | |
| FACW species _____ | x 2 = _____ | | | | | | | | | | | | | | | | | |
| FAC species _____ | x 3 = _____ | | | | | | | | | | | | | | | | | |
| FACU species _____ | x 4 = _____ | | | | | | | | | | | | | | | | | |
| UPL species _____ | x 5 = _____ | | | | | | | | | | | | | | | | | |
| Column Totals: _____ | (A) _____ (B) _____ | | | | | | | | | | | | | | | | | |
| Sapling/Shrub Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | | | | | | | | | | | | | | | |
| 1. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| 2. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| 3. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| 4. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| = Total Cover | | | | | | | | | | | | | | | | | | |
| Herb Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | | | | | | | | | | | | | | | |
| 1. <u>Bromus inermis smooth base</u> <u>100</u> _____ <u>UPL</u> | <u>100</u> | _____ | _____ | | | | | | | | | | | | | | | |
| 2. <u>Agropyron cristatum crested w-6</u> <u>5</u> _____ <u>UPL</u> | <u>5</u> | _____ | _____ | | | | | | | | | | | | | | | |
| 3. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| 4. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| = Total Cover | | | | | | | | | | | | | | | | | | |
| Woody Vine Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | | | | | | | | | | | | | | | |
| 1. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| 2. _____ | _____ | _____ | _____ | | | | | | | | | | | | | | | |
| = Total Cover | | | | | | | | | | | | | | | | | | |
| % Bare Ground in Herb Stratum _____ | | | | Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) | | | | | | | | | | | | | | |
| 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. | | | | Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> | | | | | | | | | | | | | | |

Remarks: _____

SOIL

Sampling Point: AA2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|-----------------|------------|----------------|---|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| <u>0-3</u> | <u>10YR 3/2</u> | <u>100</u> | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

| | | |
|--|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | <input type="checkbox"/> (MLRA 72 & 73 of LRR H) | |

Restrictive Layer (if present):

Type: hardpan

Depth (inches): 3"

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

| | | |
|---|---|---|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | | <u>Secondary Indicators (minimum of two required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> (where tilled) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> (where not tilled) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): _____ (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Billing Bypass, Mary Street City/County: Yellowstone Sampling Date: 7/14/11
 Applicant/Owner: MOP State: MT Sampling Point: K1
 Investigator(s): L. Stragis, J. Gage Section, Township, Range: S12, T1N, R26E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-2
 Subregion (LRR): G Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWJ classification: PEO wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Remarks: <u>Riparian area, springs (artesian?), N. of Mary Street, S. of Smile Creek</u> <u>Hydrology: subsurface probably from pond S of Mary Street - used for irrigation on property</u> <u>end use - cistern</u> | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: |
|--|------------------|-------------------------------------|------------------|---|
| 1. <u>Cottonwood, Plains, P. deltoides</u> | <u>20</u> | <input checked="" type="checkbox"/> | <u>FAC</u> | Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) |
| 2. <u>Russian olive E. angustifolia</u> | <u>10</u> | | <u>FAC</u> | |
| 3. _____ | | | | Total Number of Dominant Species Across All Strata: <u>4</u> (B) |
| 4. _____ | | | | |
| <u>30</u> = Total Cover | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) |
| Sapling/Shrub Stratum (Plot size: _____) | | | | |
| 1. <u>Russian olive E. angustifolia</u> | <u>20</u> | <input checked="" type="checkbox"/> | <u>FAC</u> | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| <u>20</u> = Total Cover | | | | |
| Herb Stratum (Plot size: _____) | | | | |
| 1. <u>Road carnation grass Ps. arundinacea</u> | <u>75</u> | <input checked="" type="checkbox"/> | <u>FACW</u> | Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Catclaw J. latifolia</u> | <u>25</u> | <input checked="" type="checkbox"/> | <u>OBL</u> | |
| 3. <u>Redtop A. alba</u> | <u>25</u> | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| <u>100+</u> = Total Cover | | | | |
| Woody Vine Stratum (Plot size: _____) | | | | |
| 1. _____ | | | | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ |
| 2. _____ | | | | |
| _____ = Total Cover | | | | |
| % Bare Ground in Herb Stratum _____ | | | | |

Remarks: (Golden) Bald Eagle, E Kingbird

SOIL

Sampling Point: K1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|-----|----------------|-----|-------------------|------------------|-----------|-----------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-4 | 10YR 2/1 | | | | | | Silt loam | |
| 4-16 | 10YR 4/1 | 60% | 2.5YR 4/6 | 30% | RM | m | clay | streaking |
| | | | 10YR 4/3 | 10% | C | m | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: ?

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): 6

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Spring & surface - ~10' away
drains to S. mile

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Billings Bypass, Mary St City/County: Yellowstone Sampling Date: 7/12/11
 Applicant/Owner: MOT State: MT Sampling Point: 21
 Investigator(s): L. Stragis, G. Rand Section, Township, Range: S10, T1N, R26E
 Landform (hillslope, terrace, etc.): depression w/ditch Local relief (concave, convex, none): _____ Slope (%): 0-2
 Subregion (LRR): G Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: R5m
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Yes _____ Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
|--|--|

Remarks: In between culverts - lots of cobble & river rock
at intersection of 87 & 312 / West side ~ 8pts 2 culverts

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: |
|---|------------------|-------------------------------------|------------------|---|
| 1. _____ | _____ | _____ | _____ | Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FAGW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| Sapling/Shrub Stratum (Plot size: _____) | | | | |
| 1. <u>Cottonwood</u> <u>P. deltoides</u> | <u>10</u> | <input checked="" type="checkbox"/> | <u>FAC</u> | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| Herb Stratum (Plot size: _____) | | | | |
| 1. <u>Cattail</u> <u>T. latifolia</u> | <u>70%</u> | <u>yes</u> | <u>OBL</u> | |
| 2. <u>K. bluegrass</u> <u>P. pratensis</u> | <u>20%</u> | <u>yes</u> | <u>FACU</u> | |
| 3. <u>Curly dock</u> <u>>5</u> | _____ | _____ | _____ | |
| 4. <u>Squirrel tail</u> <u>>5</u> | _____ | _____ | _____ | |
| 5. <u>Red crown grass</u> <u>>5</u> | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| Woody Vine Stratum (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| % Bare Ground in Herb Stratum _____ | | | | |

Remarks: Pockets of cattails + cottonwood

SOIL

Sampling Point: Z1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|---|----------------|---|-------------------|------------------|-------------------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-3 | 10 YR 3/1 | | | | | | sandy loam | |
| 3-6 | 2.5 YR 5/2 | | | | | | loamy sand (silt) | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore-Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
 - Coast Prairie Redox (A16) (LRR F, G, H)
 - Dark Surface (S7) (LRR G)
 - High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
 - Reduced Vertic (F18)
 - Red Parent Material (TF2)
 - Very Shallow Dark Surface (TF12)
 - Other (Explain in Remarks)
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rock
Depth (inches): 6"

Hydric Soil Present? Yes No

Remarks: Boulder fill a natural deposit
mostly sand

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes No Depth (inches): 6"
Water Table Present? Yes No Depth (inches): 0"
Saturation Present? (includes capillary fringe) Yes No Depth (inches): 0"

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: concrete culvert
around