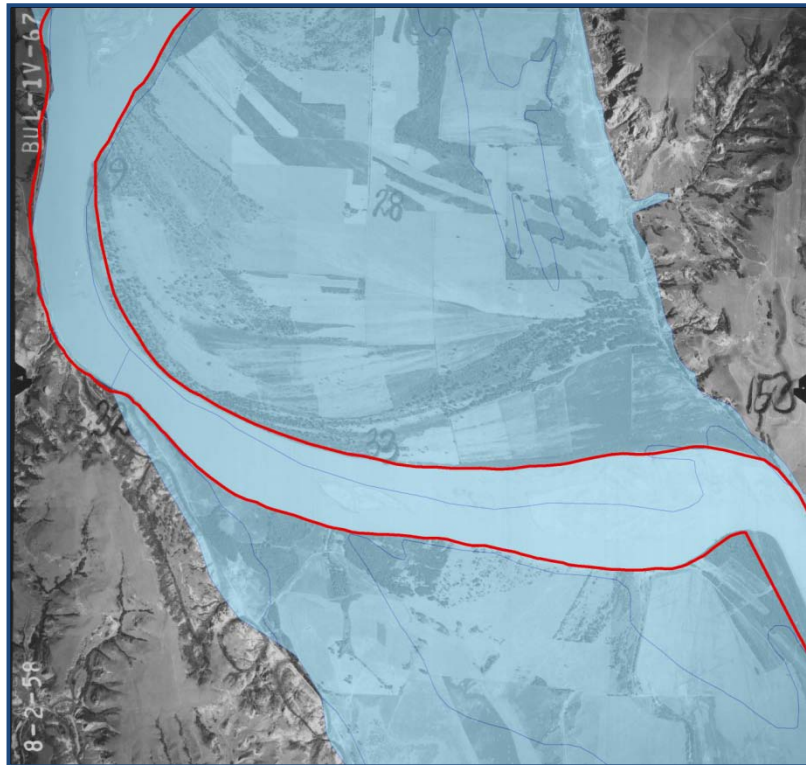


FINAL
TECHNICAL REPORT
FOR THE
ORDINARY HIGH WATER MARK PHASE IV INVESTIGATION
FOR THE
MISSOURI RIVER UNDER LAKE SAKAKAWEA
(FROM NEW TOWN, ND TO GARRISON DAM)
JUNE 2013



Prepared for:
ND DEPARTMENT OF TRUST LANDS

Prepared by:

BARTLETT ———
& WEST

&

 **Carlson
McCain**

I. TABLE OF CONTENTS

**TECHNICAL REPORT
FOR THE
ORDINARY HIGH WATER MARK (OHWM) INVESTIGATION
FOR THE
HISTORIC MISSOURI RIVER UNDER LAKE SAKAKAWEA
FOR THE
NORTH DAKOTA DEPARTMENT OF TRUST LANDS**

JUNE 2013

- I. TABLE OF CONTENTS
- II. PROJECT DESCRIPTION
- III. BACKGROUND
- IV. METHODOLOGIES
- V. DESCRIPTION OF AREA
- VI. INVESTIGATION FINDINGS
- VII. PROJECT DATA
 - a. Final Acreage Determinations (Included with the Report)
 - b. IDF Table (Included with the Report)
 - c. Final Acreage/Mosaic Maps Paper Copy (Separate from Report – One bound set)

II. PROJECT DESCRIPTION

The State of North Dakota acting through the ND Department Trust Lands (DTL) in August of 2012 requested and entered into a contract with Bartlett & West, Inc. (BW) for the purpose of identifying the Ordinary High Water Mark (OHWM) for the historic Missouri River under Lake Sakakawea from river mile marker 1482 at the approximate northern border of the Fort Berthold Indian Reservation, west of New Town North Dakota, continuing south-easterly downstream to the Garrison dam situated near mile marker 1389. BW hired Carlson-McCain as the primary ecologist and investigators for the Project. This OHWM study was completed utilizing pre-1958 data and materials including historic aerial photography, elevation data, and topography maps. After the OHWM line was established, the team was able to calculate the acreage below and above the OHWM line for each quarter section in which the river resides within the Project area. The total length of the Project covered approximately 93 miles. The investigation and data processing commenced in September 2012 and was completed in January of 2013.

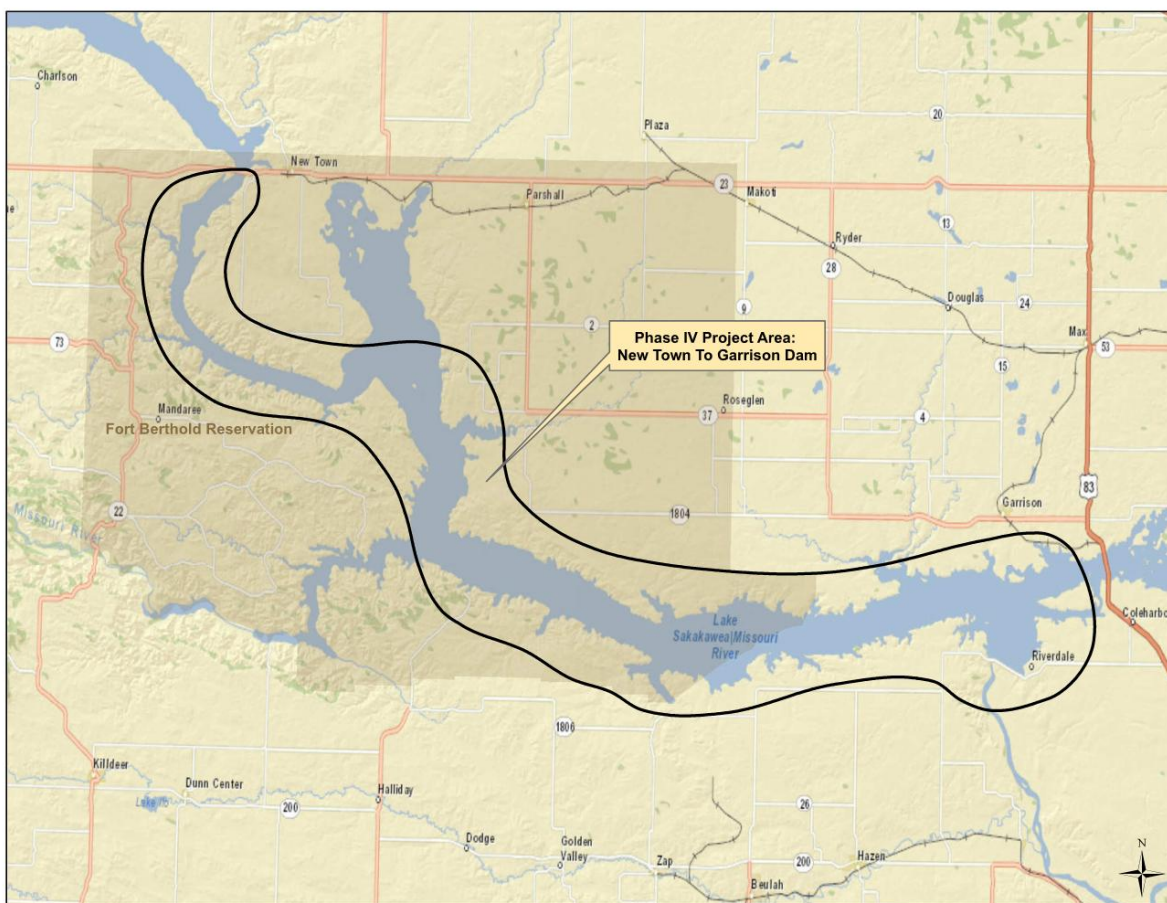


Figure 1. Location map depicting the general project area.

III. BACKGROUND

The OHWM is a legal definition of a physical feature found on the landscape. However, the location of the channels can meander, and therefore the OHWM can fluctuate over time. Over a period of years the OHWM can move, sometimes suddenly and abruptly (avulsion), but often times it moves more slowly and subtly (accretion and reliction). This project was completed with the understanding that this was a snapshot of the historic OHWM for the Missouri River as it existed prior to the completion of the Garrison Dam in the 1950's. Since neither the DTL nor the investigation team was aware of any historic OHWM determinations or delineations that would have been recorded prior to the completion of the Garrison Dam, the DTL and the team decided the most viable technique was to determine the OHWM using historic aerial photography, taken prior to the waters of Lake Sakakawea inundating the Missouri River in the Project area.

The OHWM is a transition between the aquatic and terrestrial environments. In some instances this transition occurs in a narrow stretch such as along a steep embankment that was easily identifiable in the photographs. In other cases it was a broad and gradual change, such as on an alluvial plain, which required a more detailed analysis. The work completed under this contract was to investigate and identify the OHWM using historic data, and is not a final legal determination as to whether any specific property is "sovereign land".

As defined in the North Dakota Administrative Code (*NDAC 89-10-01-03*), Ordinary High Water Mark means "that line below which the action of the water is frequent enough either to prevent the growth of vegetation or to restrict its growth to predominantly wetland species. Islands in navigable streams and waters are considered to be below the ordinary high watermark in their entirety." The North Dakota Supreme Court (*State ex rel. Sprynczynatyk v. Mills, 1999 ND 75, ¶ 13, 592 N.W.2d 59*) has further defined "high water mark" as: "[w]hat its language imports - a water mark. It is co-ordinate with the limit of the bed of water, and that only is to be considered the bed which the water occupies sufficiently long and continuously to wrest it from vegetation, and destroy its value for agricultural purposes. In some places, however, where the banks are low and flat, the water does not impress on the soil any well-defined line of demarcation between the bed and the banks. In such cases the effect of the water upon vegetation must be the principal test in determining the location of high water mark as a line between the riparian owner and the public. It is the point up to which the presence of action of the water is so continuous as to destroy the value of the land for agricultural purposes by preventing the growth of vegetation, constituting what may be termed an ordinary agricultural crop." Areas below the OHWM may have vegetation suitable for grazing but wetland vegetation capable of being grazed is not an "ordinary agricultural crop". In 2007, the ND Office of the State Engineer, the North Dakota State office that regulates the state's sovereign lands, published the "*Ordinary High Water Mark Delineation Guidelines*". During this Project, the team conducted the OHWM investigation in compliance of these Guidelines, to the extent possible.

IV. METHODOLOGIES

As noted above, historic aerial photography and extensive OHWM delineation knowledge garnered from previous delineation projects, was used to determine the OHWM as it existed for the Missouri River where the present day Lake Sakakawea resides. In order to maximize the accuracy in determining the location of the OHWM, the team utilized several separate sets of black and white historic aerial photographs. The photographic sets were taken prior to the reservoir, Lake Sakakawea, being completely formed behind Garrison Dam, which construction was essentially completed in 1954. These sets included the North Dakota Geological Survey (NDGS) aerial imagery (photos taken: September 16, 18 and 29, 1951; October, 23, 1952; and October 13, 1953), Army Corps of Engineers (ACOE) aerial imagery (photos taken April 18, 19, and 20, 1943), and a Farm Services of America (FSA) photograph dated June 11, 1951. The most recent aerial photographs taken in these years were used to delineate the OHWM with the exception of areas where the photographs could not be located, and also at the east end, where initial dam construction impacted the area upstream. The corresponding photo dates for the map references are shown in Table 1.

| Source | Photo Number | Photograph Date |
|--------|--|-----------------|
| ACOE | MRD-1: all | 4/18/1943 |
| ACOE | MRD-2: all | 4/18/1943 |
| ACOE | MRD-3: 04-07, 17-19, 32-24, 105-107 | 4/18/1943 |
| ACOE | MRD-3: 61-64, 76-70122, 202-204, 213-220 | 4/19/1943 |
| ACOE | MRD-4: all | 4/19/1943 |
| NDGS | 264, 299, 473-474, 493-495 | 9/16/1951 |
| NDGS | 636-641, 649-650 | 9/18/1951 |
| NDGS | 4245-4246 | 9/29/1952 |
| NDGS | 6102-6104 | 10/23/1952 |
| NDGS | 7554-7556 | 10/13/1953 |
| FSA | CCP-1H-56 | 6/11/1951 |

Table 1. Dates of photographs used in the investigation.

In the delineation of the OHWM, a number of overlapping aerial photos were reviewed. When overlapping the photographs best fit practices and alignment tools were used. Geometric distortion was avoided, as much as possible, by using the center of the photographs.

To make the photographs usable for this study, a flatbed high resolution digital scanner, model Graphtec CS510 was used to digitally scan the images with a resolution of 1200 dots per inch. After several tests, the team determined the best combination of settings including resolution and size to produce a high quality product to utilize for the study. A higher resolution could have been used, but the files would have been too large to utilize efficiently, and this would have hindered the team during the investigation. Additional sets of photos from various years were located during the investigation but they were deemed unusable as they were either missing flight paths within the project area or the image quality was deemed too poor to use. According to the photographs, the 1951 set was flown in September, and the 1943 set was flown in May. This allowed the team to analyze differing flow conditions for the Missouri River.

The 1943 photos obtained from the COE already had the approximate section lines and corners depicted on them. The COE was not sure when this was done, but likely it was done to assist the COE in determining flood easement acreages. Data from the Bureau of Land Management's (BLM) Public Land Survey System (PLSS) was used to geo-reference these 1943 images according to the Section, Township, and Range. The BLM data is based on Geographic Coordinate Data Base (GCDB) coordinate data. The locations of PLSS corners, as represented in geographic coordinate pairs, were derived from a variety of source documents, which include U.S. General Land Office and BLM survey/notes, as well as survey data obtained from other U.S. Government agencies, private sector survey firms and local governments. The GCDB Data was created to provide the BLM and the public with a set of geographic foundation data that accurately portrays the locations of PLSS corners. The GCDB Data is based on the best and most current survey records available and uses known geographic positions of control stations within the PLSS network. Section corners from the 1943 photographs were then matched with the corresponding sections of the PLSS data. Once completed, the 1943 photographs were used to geo-reference the 1951-1953 NDGS photographs in a similar manner.

The NDGS photographs did not have section lines or corners depicted, so common physical features were identified by the investigation team, which were then used to geo-reference these additional images. While referencing the 1951-1953 photographs, a minimum of ten identical features were identified in each photo, between the 1943 and the NDGS photo sets. To assist with this process, the 2009 NAIP aerial imagery was also referenced for confirmation of large permanent structures or cliff faces, which would likely be unchanged during the 50+ year span between the photo sets, to be certain that the referencing was as accurate as possible.

The 1943 photos were the primary referencing set for this Phase IV investigation. The 1951-1953 set was also used, however, for the eastern most stretch of the river in the investigation area, we started to observe definite affects from the backwater and diversion of the river during the construction of the Garrison Dam, so for these areas only the 1943 set was utilized.

As depicted in Figure 1, the OHWM Phase IV investigation area begins at river mile marker 1482 at the approximate northern border of the Fort Berthold Indian Reservation, west of New Town North Dakota, continuing south-easterly downstream to the Garrison dam situated near mile marker 1389. In order to document the investigation process, the team established a minimum of two points per mile for each side of the river (See Figure 2 below), in which an Investigation Documentation Form (IDF) would be processed. This form lists information as to how the OHWM was determined for that location and the location properties. Nearly 700 of these IDF points were completed during this project, and the complete listing of the IDF's are made part of this report.

The points were placed at a scale range of 1:1000 at an approximate 2000' - 3000' interval. The points were input at a maximum scale of 1:4000. The IDF includes the Transect label, Comments, Photo Date, Photo File, Topographic File, and Date. The *Transect* label is the name of the point, and the *Comment* contains some information as to why the team placed the point in that location. The *Photo Date* is the year the imagery was flown, and *Photo File* is the name of the specific photo that was used. Finally, *Topo* is the name of the topographic file that was used, and the *Date* is the day the point was placed. The complete IDF listing is made part of this report as an attachment and is also added to the report DVD's, as an electronic spreadsheet file. This format will make it easier for the State to search for any specific IDF.

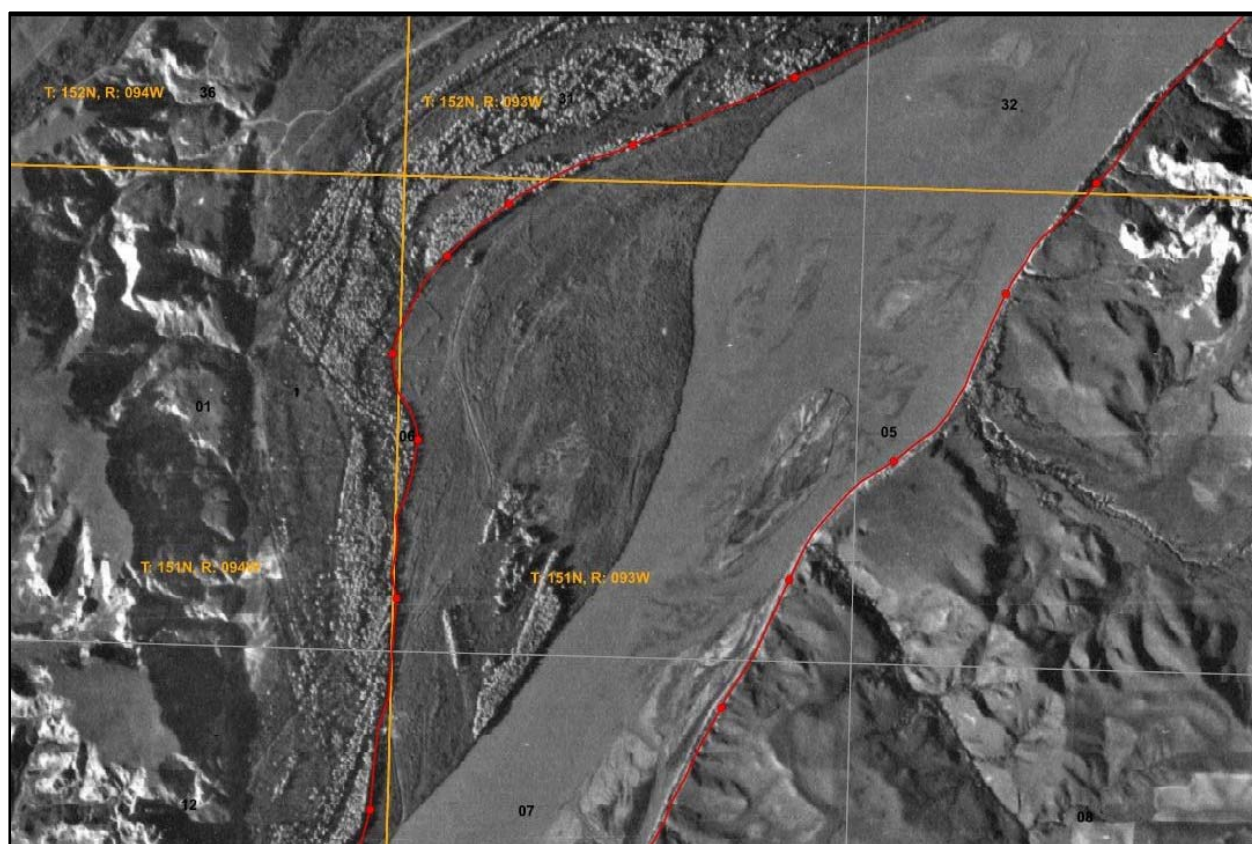


Figure 2. Example of a scanned and rectified aerial photo depicting the IDF locations (red dots) and the OHWM line.

Once the individual points were established, the OHWM line was then determined between the points using the same available information and identified features. This OHWM line was then made part of the overall GIS database. The placement of the line was also influenced by elevation changes in the topography, which was determined using the 1943 topographic maps. The OHWM followed vegetation density changes that appear along the water channels. Areas identified below the OHWM that have greater than 50% wetland vegetation may still have inclusions of upland vegetation or trees.

When the line was finalized internally in January of 2013 several meetings were held so the investigation team and the DTL could make a final review and make any final adjustments. Once this line was finalized in January, the next step involved the acreage determination. To identify the quarter sections, BW downloaded the PLSS data from the BLM website. The layer was uploaded as quarter-quarters, so one of the first steps involved merging the data into quarter sections. Once this was completed a query was run to identify the quarter sections that were intersected by the OHWM line. Then a Construct Features tool was used to cut and extract the quarter sections that were located near the OHWM line. After the quarter sections were extracted the Calculate Geometry tool was used to calculate the acreages in each polygon.

The final step was to determine if the polygons were above or below the OHWM line, and outputting the data into a spreadsheet so it can be easily referenced and utilized by the DTL

Finally, in order to review the entire project area efficiently and qualitatively, it was decided to merge the historic aerial photographs into a single file called a photo mosaic. To accomplish this, a small portion of the photographs was extracted out, mostly two to four areas of the photograph that correlated best with the PLSS data. Portions of the photographs where the control points did not correlate well with the photograph were left out of the mosaic. Those extracted portions of the aerial images were then merged together to form the single mosaic. This mosaic should ONLY be used for reference, as the OHWM line depicted on the mosaic may vary slightly from the actual database file and acreage maps. This is due to the fact the actual investigation was completed using individual photos. When creating the mosaic it is nearly impossible to match the edges, and therefore certain edges may be shifted slightly on the mosaic. An index was created and the mosaic was placed onto DVD's and will be made part of the final report. A paper set of the mosaic maps is also being provided to the DTL.

The months/years depicted on the two sets of photographs used during the investigation displayed a wide range in water flow conditions for the Missouri River. Specifically, according to the USGS records for the Missouri River gaging station at Williston, in 1951 the average flow for the month of September was 35,000 cfs, and in 1943 the average flow for the month of May was 21,000 cfs. According to the same USGS data, the long term average flow for the Missouri River past Williston from 1929 – 1964 was approximately 20,000 cfs. The average high month was the month of June with an average flow from 1929 – 1964 of 47,000 cfs. The average annual peak flow during the summer months over this same time period was 74,000 cfs. As one can see, both of the flows depicted in the photographs were quite a bit less than the high monthly average of 47,000 cfs or the average peak of 74,000 cfs. This insures that the water surface area depicted on the photographic sets that the investigators were analyzing, were from a flow that was considerably less than the ordinary high flows, making the OHWM area completely visible in the photographs.

V. DESCRIPTION OF AREA

This section of the report defines the conditions and features encountered during the investigation. On a general note, as evidenced in the aerial photographs, the Missouri River meandered through a wide alluvial plain. This alluvial plain is herein referred to as the “melt water channel”, i.e., the plain created by glacial melt water that now defines the outer limits of the alluvial plain in which the Missouri River meanders. The river shows significant signs of erosion and deposition. Portions of this alluvial plain has been farmed (either cultivated or hayed) as evidenced by the aerial photography. Extensive irrigation canals, levees and drains were also constructed throughout the area to aid in the farming practices. One of the more complicated areas to assess included the older oxbow areas. These occur in various levels of development thus including similar vegetation with slight variations in amounts of tree or shrubby growth. The line determination was based on changes in the density of vegetation along older back channels. Whether a determination of the OHWM is made by aerial photographs or by field survey, the vegetative transition from wetland to upland species can be gradual. Vegetation below the OHWM often has inclusions of upland vegetation and vegetation above the OHWM often has inclusions of wetland vegetation. In areas with an apparent gradual transition, where the OHWM was placed in an oxbow area, the OHWM followed a “developmental” line. This OHWM placement was based on vegetation maturity often evidenced by more ‘recent’ water movement through the area.

Another complicated area included the low lying hay fields. For this study, the term “field” refers to hayed or mowed areas, and does not imply that the area has been cultivated or seeded. Farming practices along the river during drier, low water periods often extended into the lower floodplain areas, closer to the water’s edge. These “fields” may be cut for hay, or cultivated for a short time, but rapid colonization of wetland species on these hay fields likely occurred when the wetter period and subsequent higher water levels returned. Levees and drainage ditches are fairly common along these lower floodplains, which were established to protect areas from inundation from the river. These features were mostly established prior to 1943 (shown on 1943 topography maps) and had a large impact in the area along the Missouri River, ultimately disrupting or affecting the local natural hydrology and vegetation patterns.

An easier feature to identify and utilize during the investigation was the cut banks. In these areas the OHWM was easily identified and the line matched very well with the 1943 topography. Many times during the investigation, the team would compare the approximate elevations of the OHWM on the cut bank side, with the deposit side, as another reference check.

VI. INVESTIGATION FINDINGS

The following portion of the report describes the Project Area in more detail beginning at the north end of the Project (Sanish or Verendrye Bridge) and following south. The map below depicts the areas of description as referenced in the following section from Area 1 on the north end to Area 7 at the south end.

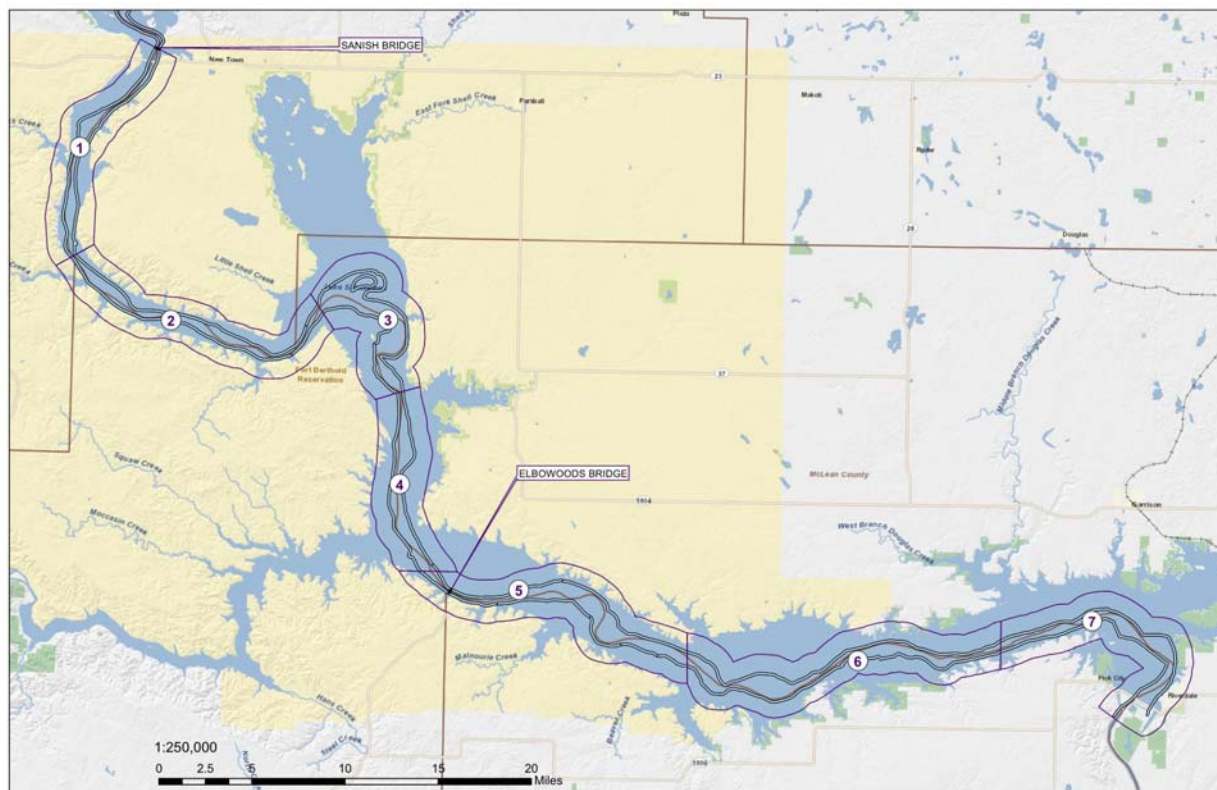


Figure 3. Reference map depicting the seven (7) description areas.

Area 1

This includes the north portion of the study area, includes all points in T152N, R93W; T151N, R93W; and T151N, R94W. It also includes Section 1, and NE $\frac{1}{4}$ of Section 12, T150N R94W.

Left Bank

In the north portion of Section 14, T152N, R93W, the Ordinary High Water Mark (OHWM) is along a vegetation line with lower, more open vegetation near the water edge. This lower vegetation becomes a narrow strip along the water edge, and extends south of the Verendrye Bridge. Just a short ways south of the bridge, the OHWM is between the water's edge and against the steep banks of the melt water channel through the southern half of Section 14,

Section 15, Section 23, and through the majority of Section 22. In 1951, a large sandbar below the OHWM, over one mile in length, extends from LS15209314L2, south to LS15209322L2. In the SE¼ of Section 22, T152N, R93W, beginning near LS15209322L2, the OHWM follows along a large uniform willow flat along the left (east) bank. This willow flat extends south along the river bank through the north portion of Section 27 before the OHWM returns the water edge, near LS15209327L2. South of LS15209327L2 the OHWM continues between the water's edge and against the steep banks of the melt water channel through Sections 28, 33, and into Section 32, T152N, R93W. In Section 32, a narrow depositional area, less than 100' wide, is along the water edge as the main channel turns more to the southwest. This area has low vegetation. The 1943 ACOE aerial photographs show a few dead trees and barren soils. The OHWM is along the 1770' contour line through this area, and the OHWM returns to the edge of the water in Section 5, T151N, R93W.

At the north edge of Section 5, T151N, R93W, the OHWM is along the water's edge abutted against the steep breaks of a melt water channel. It then continues along the breaks downstream and into the northern half of Section 7, T151N, R93W. Shallow sandbars are common along this portion of the river. The OHWM continues along an active channel against the steep breaks. In the southern half of Section 7, beginning near LS15109307L2, the OHWM is between the water's edge and an accretion with striated vegetation of different heights. There are no apparent back channels other than the main channel of the Missouri River at this point. The OHWM continues along the water's edge through Sections 18 and 19, T151N, R93W. In Section 30, the OHWM follows along an open back-channel located behind open sandbars adjacent to a depositional area. The OHWM continuing along this back-channel behind the sandbars through Section 30, 31 and continuing into Section 6, T150N, R93W. In this area, this back-channel continues running adjacent to the steep slopes of a melt water channel. At LS15009401L1 (Section 1, T150N, R94W), the back-channel is approximately 180 feet wide, and further south of LS15009401L2, this channel becomes even wider, washing over a vast area and modifying the vegetation. However, the back-channel does not flow back through to the main river channel. From here, the OHWM continues along the water's edge on the main channel through Section 12, T150, R94W.

Right Bank

In the north portion of Section 15, T152N, R93W, the OHWM is along a vegetation line with lower, more open vegetation near the water's edge. This lower vegetation becomes a narrow strip flanking the edge of the water, and extending south of the Verendrye Bridge (Figure 4 below). Just a short ways south of the bridge, the OHWM returns along the water's edge and the 1,770 contour line through the southern half of Section 15, 22, 27, and also for the majority of

Section 28, T152N, R93W. Near LS15209328R2, the OHWM follows a distinct vegetation maturity line near the water, where there is a narrow band of low uniform willows along the water's edge (less than 100 feet wide). This band of willows gradually becomes wider downstream as the river bends to the west. The OHWM stays along this vegetation maturity line up to LS15109413R2 where the OHWM returns to the water's edge. At this point, the Missouri River channel has meandered directly south. The OHWM follows the water's edge abutted against steep breaks, heading directly southbound in Section 24, T151N, R94W. In Section 25, T151N, R94W, a willow flat can be identified as above the OHWM. Based on the 1943 ACOE topography, there is a 20 foot bank along the water, and there are no apparent back channels; therefore, hydrophytic vegetation above the OHWM is sustained by overflow from the uplands. The OHWM continues along this cut bank through Section 36 and into Section 1, T150N, R94W. In Section 1, and the north portion of Section 12, the OHWM follows along a vegetation line located near the water's edge. Vegetation below the OHWM is young and somewhat barren. At LS15009412R3, the OHWM returns to the Missouri River's main channel.

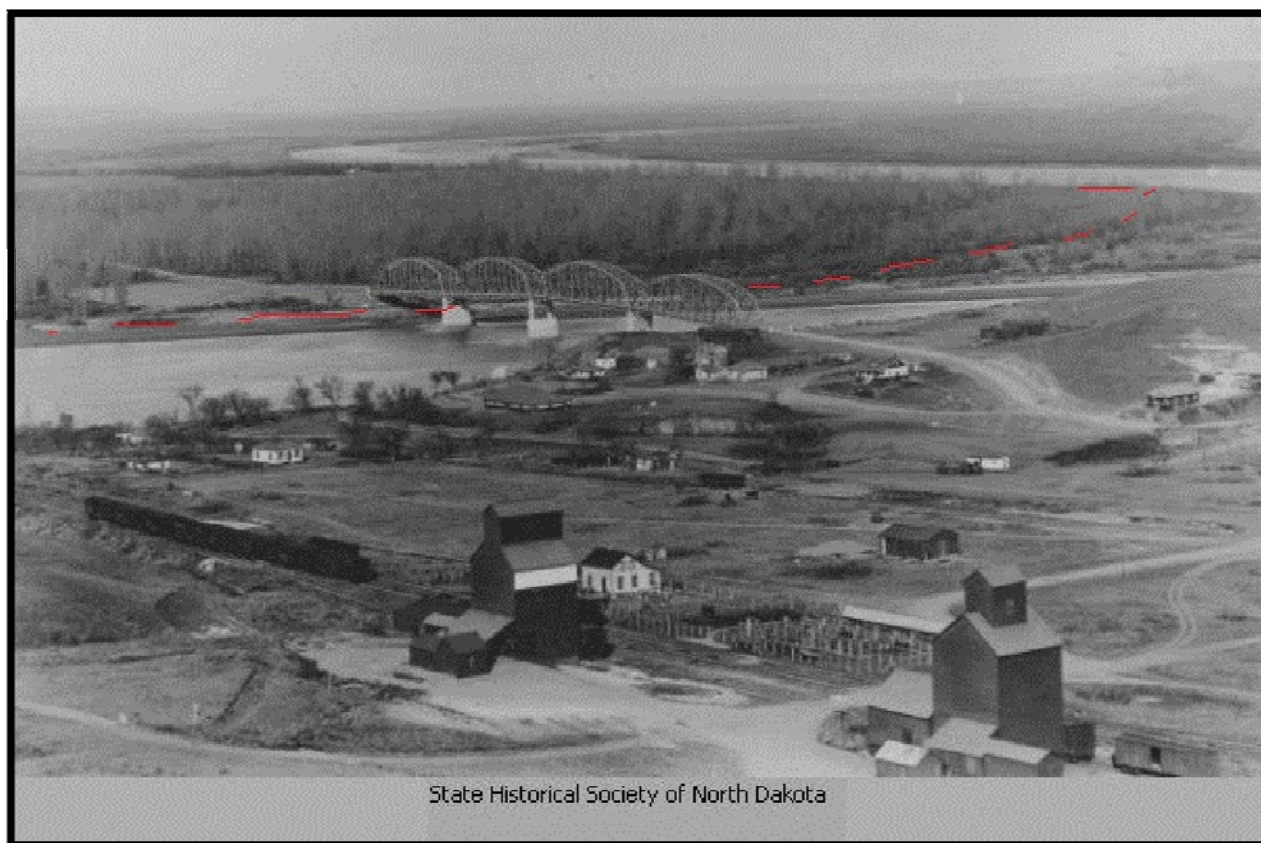


Figure 4. View of the town of Sanish and the Missouri River from Crow Flies High Butte. Date of original photo is from 1930's. State Historical Society of North Dakota (Digital ID sh00739v1p28a). Approximate OHWM shown in red (right bank only).

Area 2

This includes points in the SE¼ of Section 12, T150N, R94W; all points in T150N, R93W; all points in T150N, R92W; all points in T149N, R92W; Section 31, 30, and 29, T150N, R91W; and the SW¼ of Section 20, T150N, R91W.

Left Bank

In the NE¼ of Section 12, T150N, R94W and the NW¼ of Section 7, T150N, R93W the Missouri River main channel bends to the east, and the OHWM follows along an older back-channel's vegetation maturity line adjacent to the Missouri River channel. Taller and more mature vegetation is above the OHWM. Below, vegetation is sparse and barren sands are more common. The OHWM continues along this back-channel southeasterly through Sections 7, 18, 17, 16, 21, and 22 T150N, R93W (LS15009322L1) where it flows into main channel of the Missouri River. Vegetation on the sand bars range from channeled barren sands to taller trees, all of which are isolated from the main land.

In Section 27, T150N, R93W the main water channel bends to the east. The OHWM follows east at LS15009327L1 with barren sands and low-growth willows below, and mature vegetation above. At LS15009325L2, and through Section 32, T150N, R92W, the OHWM is located between the main water channel and the steep banks of a melt water channel. Beginning at LS15009232L3, the OHWM follows a vegetation maturity line. Low-growth densely uniform willows are below the OHWM, while more mature wetland vegetation attributed to overland flow occurs above. The OHWM continues on this line to the water's edge in the extreme SE¼ of Section 34, T150N, R92W.

At LS14909202L1, and through the majority of Section 2, the OHWM is along the main river channel. Vegetation above the line includes hydrophytic vegetation, but there are no apparent channels or dissections, therefore the vegetation is most likely sustained by upland runoff. At LS14909202L1, the river bends slightly and the OHWM follows along a line separating the mature vegetation and barren sandy areas. At the extreme NE corner of Section 1, the OHWM follows along the main river channel. The OHWM continues along the water's edge through Section 31 and the southern part of Section 20, T150N, R91W.

Right Bank

In the southeast corner of Section 12, T150N, R94W, and in Sections 7, 18, 19 and 20, the OHWM proceeds along the water's edge. Near of LS15009320R2, the OHWM shifts from the 1770' to the 1760' contour line. South of LS15009320R3, the OHWM follows an overflow channel (>100' wide) behind a long narrow island feature. There are some areas between the overflow

channel and its steep cut banks where willow flats are formed. At LS15009327R3, the river bends to the east, and the OHWM continues easterly along the main water channel. At this point, channelized hydrophytic vegetation and pools of standing water are above the OHWM. The hydrophytic vegetation above the OHWM is attributed to overland flow from steep, barren uplands. There are no evident channels that flow back to the steep bank and the 1943 topography indicates a 10' rise along the main channel.

At LS15009326R3, the OHWM shifts from the main water channel to an obvious change in vegetation structure. Areas between the water and the OHWM have a dense stand of low-growth willows and additionally, the area has open water channels (open water channels in 1943 photography). The OHWM continues down this line through Section 25, 30, 31, and 32, T150N, R92W, returning to the water's edge at LS15009232R4.

Through Section 4, T149N, R92W, the OHWM is along the main water channel adjacent to a 20 foot bank. At LS14909203R1, in Section 3, the contour changes, and the OHWM turns inland along an older overflow channel and is located below an obvious vegetation maturation line. From LS14909203R3 to LS14909202R3, the OHWM follows along the overflow channel and the steep banks of the melt water channel. After LS14909202R3 the OHWM flows to the Missouri River channel. The line continues to follow this main channel through Section 1, T149N, R92W. At this point the river begins to bend to the north, and the OHWM stays along the water's edge and below an older sedimentation area characterized by mature vegetation. The line continues along the water's edge through Sections 6, T149N, R91W, and Sections 31, 30, and 29, T150N, R91W.

Area 3

This segment of the river begins in T150N, R91W. As the river enters T150N, R91W it is meandering to the north. This discussion begins in the south half of Section 20 T150N, R91W, and continues downstream through the north portion of Section 13, T149N, R91W.

Left Bank

The initial portions of the left bank in this area beginning in the NE $\frac{1}{4}$ of Section 30, and continuing downstream through Sections 20, 21, 16, 15 and the majority of Section 22, T150N, R91W, were based on the use of 1951 CCP photography. The NDGS aerial photographs for the north portion of T150N, R91W were not available.

In the SE $\frac{1}{4}$ of Section 30, T150N, R91W the OHWM is located along the main water channel. The OHWM continues north and east along the main water channel to the NE $\frac{1}{4}$ of Section 21. In the NE $\frac{1}{4}$ of Section 21, the OHWM follows an older channel continuing northeasterly along

this channel, and eventually turning southeast. In Sections 23, 24 and the NE¼ of Section 25, the OHWM is above a flat of low-growth willows. At LS15009125L2, and continuing through Sections 30 and 31, T150N, R90W, the OHWM is defined between the main water channel and a steep bank located on a melt water channel. In the farthest southeast corner of Section 36, T150N, R91W, the OHWM heads in a westerly direction continuing along the main channel of the Missouri River.

Continuing from LS15009136L1 the OHWM is between the water's edge and an older depositional area with no evidence of recent channeling. The Missouri River starts to narrow before it bends to the south at LS14909102L1. At this point, the OHWM follows to the south making a sharp turn across a depositional area, and following an older outwash-channel. Sparse vegetation cover is below the OHWM with more mature vegetation on the depositional area above. The OHWM follows this outwash-channel through Section 2, 12 and the northernmost portion of Section 13. Near LS14909112L3, the OHWM exits the outwash-channel, follows along a steep upland bank, and then traces along the Missouri River channel at the mouth of Deepwater Creek between LS14909113L1 and LS14909113L2.

Right Bank

In Section 29, T150N, R91W, the OHWM is located between an older depositional area and the edge of the Missouri River. Just downstream from LS15009129R3, in the north portion of Section 29, the OHWM follows along a channel and around a point bar. These channels are better defined by the ACOE's 1943 aerial photographs as barren and open. The OHWM continues through the point bar through Sections 20, 21, 22, and 27 before entering the main channel near the western edge of Section 26. From this point and continuing through Sections 26 and 25 the OHWM follows the water's edge.

At LS15009125R1, the OHWM follows an older channel that arcs southwesterly into a depositional area along the 1,750 foot contour-line. This channel unites with another channel that appears to flow north and tail back to the south. Since the river becomes narrow and bends directly to the south at this point, it is likely that during spring flows and/or re-occurring ice jams, the water flow from the river is forced to the north through this residual area. At LS15009135R3, referencing the ACOE 1943 aerial photos, the OHWM is more apparent between a channel and a steep cut bank. The OHWM follows this channel, and also the 1,750 foot contour line, and reenters the Missouri River channel's edge near LS14909102R2. In the north portion of Section 11, the OHWM follows along the back side of a low willow flat which is located above a channel that navigates around an island. Near LS14909111R2, the outwash-

channel and the Missouri River's channel intersect and the OHWM follows along the Missouri's water's edge below an older depositional area that includes trails and hayed fields.

Area 4

This segment of the river begins in the north portion of Section 13, T149N, R91W, and continues downstream through T148N, R91W.

Left Bank

At the mouth of Deepwater Creek in Section 13, T149N, R91W, the OHWM is along the edge of the water and the 1,740 foot contour line. At LS14909019L2, the OHWM follows the 1,740 foot contour line and is along an older back channel. It continues along this channel re-entering the Missouri River channel at LS14809103L2 where the OHWM follows to the south. The OHWM continues along the main water channel for approximately 0.7 miles south before heading more easterly along a back channel. The OHWM is defined along this back channel through the southern half of Section 10, and through Sections 15, 22, 23, and 26. In Section 26, T148N, R91W the older sedimentation area above is hayed and/or cropped. In Section 35 the back channel joins with the Missouri River channel; however, in the ACOE 1943 aerial photos, the OHWM still follows a clear mature vegetation line along the back channel. In Section 36 the OHWM continues along the main channel's water's edge through Section 36. At LS14809136L1 the OHWM is along the water's edge, and from this point south, the upland vegetation consists of taller wooded vegetation. This may be dominated by peach-leaved willows, but there are no obvious back channels on the aerial photography, therefore the OHWM was placed along or near the water's edge.

Right Bank

At LS14909113R2, the Missouri River channel becomes narrow, and the OHWM follows to the south. The line is distinctly defined by the difference in vegetation along the outer edge of the depositional area; therefore indicating consistent water flow through this area. In the center of Section 24, the OHWM continues south between the water's edge and the older depositional area and continuing into section 25. In Section 36, the OHWM abuts the steep sides of a melt water channel and the water's edge.

At LS14909136R3 the OHWM is along the water's edge and follows behind islands with low-growth, uniform willows. At this point the size of sandbar's on the Missouri River increase as the river continues south through Sections 3, 9, 15, 16, 22, and 27. In addition, the OHWM follows along a backchannel and areas with low-growth, dense willow stands. In Section 26, between LS14809126R1 and LS14809134R1, the Little Missouri River enters into the Missouri

River. The OHWM follows an obvious hydrophytic vegetation line along both banks of the Little Missouri River. In this case, it was determined to draw a line between the two distinct OHWM's located on the two banks at the mouth of the Little Missouri River. Continuing on, the OHWM follows the Missouri River channel southeasterly along the hydrophytic vegetation to LS14809135R3, where the line abuts the step banks of a melt water channel. Throughout this area, the OHWM is located primarily along the 1,730 contour line.

Area 5

Area 5 begins at the northwest edge of T147N, R91W, continues downstream through T147N, R90W and T147N, R89W, and heads into the western most portions of Section 29, T147N, R88W.

Left Bank

In Section 1, T147N, R91W, the OHWM follows the water's edge and also along the 1,730 foot contour line. Above the OHWM mature vegetation and channeled areas from upland drainage are present. In Section 6, T147N, R90W, the OHWM is near the water's edge and below a low cut bank. It follows under the Elbowoods Bridge and continues easterly near the water's edge (Figure 5 below), and continues through Sections 7, 8, and 9. In Section 10, the main river channel slightly bends to the north, and a recent depositional area begins near LS14709010L1. From this point, the OHWM follows a back channel along an obvious vegetation maturity line through Section 3, 2, and 1 of T147N, R90W. Below the OHWM are low-growth, dense willow stands and open channels. Above are more mature willow stands that appear to be sustained from overland flow.



Figure 5. Bridge over the Missouri River near Elbowoods, ND. Photograph taken August of 1940 by USGS personnel. Red line is the approximate OHWM.

In Sections 6, and 5, T147N, R89W, the OHWM is continues along a back channel that abuts the steep banks of a melt water channel. Vegetation below the OHWM consists of uniform dense willow stands. The OHWM follows along the outwash-channel through Section 4 and re-enters the Missouri River channel in Section 9, where the river bends to the south. At LS14708909L3, the OHWM is located along the edge of the main channel, and arcs easterly along an obvious back channel. Vegetation below the OHWM has numerous flow lines and saturated areas. In Section 23, the back channel re-enters the Missouri River channel. Areas with willow stands above the OHWM are attributed to overland flow, and there are no apparent back channels throughout the area. The OHWM continues along the Missouri River channel through Section 24, T147N, 89W; Section 19, T147N, R88W, and into Section 29 and 30, T147N, R88W.

Right Bank

In Section 1 and 2, the OHWM is found between the flats of a depositional area and the steep banks of a melt water channel. Low-growth willows are on the flat below the OHWM. At LS14709101R3, the OHWM is near the main channel's waters' edge as it passes under Elbowoods Bridge. As the river flows east, the OHWM continues along the edge of the melt

water channel and adjacent to the main channel, through Sections 7, 8, and 9. In Section 10, the OHWM follows along the Missouri River channel and the edge of a depositional area dominated by patchy stands of low-growth willows. The OHWM is near the 1,730 foot contour line at this point and continues adjacent to this line through Sections 11 and 12, until the river turns south near LS14708907R3 in the east half of Section 7, T147N, R89W.

At LS14708907R3, the OHWM follows southerly along an old back channel as the river turns south, maintaining flow through this area. The OHWM continues with this back channel through Sections 8, 17, and 20, T147N, R89W, before the river bends to the east through Section 21. At LS14708921R1, the OHWM follows the Missouri River channel east. The OHWM continues easterly along the water's edge through Section 21 and 22. In Section 23, The OHWM is defined along an obvious vegetation maturity line. Below the OHWM vegetation consists of low-growth uniform willow stands that parallel the Missouri River. Above the OHWM is more mature vegetation. This distinction continues up to Section 29 T147N, R88W, where the OHWM returns to the main channel's waters' edge.

Area 6

Area 6 begins in the western portion of Section 29, T147N, R88W, continues downstream through T146N, R88W; T147N, R87W; T146N, R87W; and the western edge of T147N, R86W.

Left Bank

At LS14708829L1, the river bends southeasterly, and the OHWM continues easterly along an older back channel and behind a large flat with a stand of low-growth willows. This distinction continues to LS14708833L3. At this point the OHWM follows along the main channel, until the channel bends directly to the east. Here the OHWM follows behind a low-growth willow flat. Vegetation above the OHWM includes more mature hydrophytic vegetation and no evidence of channeling from the river. It is assumed that the hydrophytic vegetation is sustained by runoff from croplands and drainage from areas above the banks of the melt water channel. Near LS14708834L1 the OHWM makes a 90-degree turn to the NE, and continuing through Sections 34, 35, and 36, T147N, R88W; and Sections 31 and 32, T147N, R87W, the OHWM continues along the previous distinction until re-entering the Missouri River channel in Section 33, T147N, R87W (between LS14708733L1 and LS14708728L1). The OHWM continues against the water's edge through Section 28 until LS14708728L2 where it follows the edge of a low-growth willow flat near the water's edge, and then continues along a cut bank on the water's edge through Sections 22, 23, and also for the majority of Section 24, T147N, R87W. In the east half of Section 24, the river bends more easterly and at LS14708724L2 the OHWM remains along the cut bank but with a narrow band of low-growth willows on a more recent accretion. At LS14708620L1

the OHWM remains near the cut bank but is also adjacent to the water's edge as the river begins to bend to the south. There is no evidence of any back channels or changes in vegetation structure on the accretion; therefore, the OHWM remains on the water's edge through the west edge of Section 20 and through Sections 21, 22, and 23, T147N, R86. On the western edge of Section 24, T147N, R86W, the OHWM follows a channel behind a barren sandbar and then continues on a distinct change in vegetation near the water's edge.

Right Bank

At the west edge of Section 29, T147N, R88W, the OHWM follows along a back channel and then re-enters into the Missouri River channel. The OHWM remains along this path through Section 29. At the north edge of Section 32, T147N, R88W, the OHWM follows behind a sandbar into a narrow channel. Near LS14708832R2, the OHWM follows a vegetation maturity line with low-growth willows developing on the channeled sandbars below. The OHWM continues along this distinction to LS14608804R2. At this point, the river bends to the east, and the OHWM follows along a cut bank from a melt water channel. Just downstream from LS14608804R3, the OHWM traces a distinct vegetation line along the 1,720 foot contour line and re-enters the Missouri River channel in the northwest edge of Section 3, T146N, R88W.

Continuing eastward and downstream through Sections 2 and 1, T146N, R88W; Sections 6 and 5, T146N, R87W; and Sections 32, 33, 28, and the majority of Section 27, T147N, R87W, the OHWM stays along the water's edge and the 1,700 foot contour line. In the northeast quarter of Section 27, the river begins a bend to the east, and the OHWM is defined along an older back channel at LS14708727R3, which cuts through an older point bar. The OHWM follows this back channel downstream through Sections 26 and 25, T147N, R87W and Sections 30, 19, 29, 28 and into Section 27, T147N R86W. Amongst this area are predominant willow stands at different growth stages. Willow stands above the OHWM are most likely sustained by upland drainage and not the river. At LS14708627R2, the back channel begins to re-enter the Missouri River channel behind a very narrow band of low-growth willows. Downstream through Sections 27, 26, and 25, T147N, R86W, the OHWM continues along the water's edge.

Area 7

Area 7 begins at the west edge of T147N, R85W and follows downstream to the present location of the Garrison Dam. The majority of this area relies on the 1943 ACOE aerial photographs, since the NDGS 1951 aerial photography is influenced by the diversion of the river water around the construction area.

Left Bank

Downstream through Sections 19, 18, and 17, T147N, R85W the OHWM is along a back channel that flows through a dense stand of low-growth willows and patches of barren vegetation. At LS14708517L2 the OHWM stays along the main water channel and continues this path through Sections 16, and the majority of 15. At LS14708515L3 the OHWM bends to the north along an obvious vegetation maturity line. Below the OHWM are areas of standing water, barren sands, and some areas of low vegetation. The OHWM continues this path through Sections 14, 11, and 12, T147N, R85W. At LS14708512L3, the OHWM abuts a cut bank. It follows this cut bank to LS14708407L1 where it joins with the main water channel. The OHWM continues downstream along the Missouri River channel through Sections 7, 8, and majority of Section 17, T147N, R84W. At LS14708417L3, the OHWM follows along an old back-channel above accretion depositional area through Sections 16 and 15 and into 22. Above the OHWM are areas with distinctive mature vegetation stratum and some areas that were hayed. Areas below the OHWM are primarily stands of dense low-growth willows, and areas with standing water or barren sands. This back channel bends at the steep banks of a melt water channel near LS14708427L2, and follows a cut bank to the south end of the Project Area, ending in Section 9 of T146N, R84W.

Right Bank

Through Sections 19, 20, 21, and 16, T147N, R85W the OHWM follows along the Missouri River channel near the 1,700 foot contour line. Vegetation above the OHWM is located on an older accretion with no evidence of current water flows. At LS14708515R1 the OHWM abuts the steep banks of a melt water channel. At this point the river is flowing northeast and shallow sandbars are common. At LS14708514R1, the OHWM follows the Missouri River channel below an older point bar. The OHWM stays on the outside of the point bar through Section 13 and up to LS14708512R1. At this point the river bends to the southeast and the OHWM turns into the point bar along an old back channel into Section 18. Areas below the OHWM are stands of uniform low-growth willows and barren areas. At LS14708418R3, the OHWM meets a 30-foot cut bank and turns to the east, following this bank through Sections 18, 17 and the majority of Section 20, T147N R84W before flowing back into the Missouri River channel.

In Section 27, T147N, R84W, the river makes a sharp bend to the southwest. The OHWM traces along an older back channel across a point bar. It continues along this distinction through Sections 28, 33, and 32, T147N, R84W. At LS14608405R1, the back channel re-enters the Missouri River channel. The OHWM stays along the river channel and a cut bank for approximately ½ a mile. The OHWM then follows along another cut bank behind smaller and recent depositions. The OHWM Phase IV investigation was completed near the location of the Garrison Dam near the town of present day Pick City, ND.

ACREAGE DETERMINATIONS

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 152 | 93 | 14 | NW | 104.64 | Above |
| 152 | 93 | 14 | SW | 93.65 | Above |
| 152 | 93 | 14 | SW | 65.24 | Below |
| 152 | 93 | 14 | NW | 56.56 | Below |
| 152 | 93 | 15 | NE | 152.41 | Above |
| 152 | 93 | 15 | SE | 93.85 | Above |
| 152 | 93 | 15 | NE | 7.08 | Below |
| 152 | 93 | 15 | SE | 65.94 | Below |
| 152 | 93 | 22 | SW | 122.77 | Above |
| 152 | 93 | 22 | SW | 36.60 | Below |
| 152 | 93 | 22 | NE | 110.98 | Below |
| 152 | 93 | 22 | SE | 94.64 | Below |
| 152 | 93 | 22 | NE | 42.66 | Above |
| 152 | 93 | 22 | NE | 6.55 | Above |
| 152 | 93 | 22 | SE | 1.43 | Above |
| 152 | 93 | 22 | SE | 63.94 | Above |
| 152 | 93 | 23 | NW | 148.30 | Above |
| 152 | 93 | 23 | NW | 11.91 | Below |
| 152 | 93 | 27 | NE | 150.67 | Above |
| 152 | 93 | 27 | SW | 148.17 | Above |
| 152 | 93 | 27 | NE | 8.92 | Below |
| 152 | 93 | 27 | NW | 110.92 | Below |
| 152 | 93 | 27 | SW | 11.50 | Below |
| 152 | 93 | 27 | NW | 14.71 | Above |
| 152 | 93 | 27 | NW | 34.93 | Above |
| 152 | 93 | 28 | NE | 140.01 | Above |
| 152 | 93 | 28 | SW | 146.04 | Above |
| 152 | 93 | 28 | NE | 19.91 | Below |
| 152 | 93 | 28 | SE | 96.52 | Below |
| 152 | 93 | 28 | SW | 13.80 | Below |
| 152 | 93 | 28 | SE | 29.35 | Above |
| 152 | 93 | 28 | SE | 34.76 | Above |
| 152 | 93 | 31 | SE | 99.89 | Above |
| 152 | 93 | 31 | SW | 4.85 | Below |
| 152 | 93 | 31 | SW | 147.76 | Above |
| 152 | 93 | 31 | SE | 58.13 | Below |
| 152 | 93 | 32 | NW | 156.26 | Above |
| 152 | 93 | 32 | SE | 103.67 | Above |
| 152 | 93 | 32 | SW | 138.87 | Below |
| 152 | 93 | 32 | NE | 60.48 | Below |
| 152 | 93 | 32 | NW | 3.24 | Below |
| 152 | 93 | 32 | SE | 55.21 | Below |
| 152 | 93 | 32 | NE | 97.04 | Above |
| 152 | 93 | 32 | NE | 2.10 | Above |
| 152 | 93 | 32 | SW | 21.59 | Above |
| 152 | 93 | 32 | SW | 0.45 | Above |
| 152 | 93 | 33 | NE | 152.48 | Above |
| 152 | 93 | 33 | NE | 7.01 | Below |
| 152 | 93 | 33 | NW | 71.32 | Below |
| 152 | 93 | 33 | NW | 13.46 | Above |
| 152 | 93 | 33 | NW | 75.14 | Above |
| 151 | 94 | 1 | NE | 159.80 | Above |
| 151 | 94 | 1 | SE | 162.31 | Above |
| 151 | 94 | 1 | NE | 0.77 | Below |
| 151 | 94 | 1 | SE | 0.07 | Below |
| 151 | 94 | 12 | NE | 152.20 | Above |
| 151 | 94 | 12 | SE | 92.62 | Above |
| 151 | 94 | 12 | NE | 10.57 | Below |
| 151 | 94 | 12 | SE | 68.36 | Below |
| 151 | 94 | 13 | NE | 108.16 | Below |
| 151 | 94 | 13 | SE | 121.63 | Below |
| 151 | 94 | 13 | NE | 51.23 | Above |
| 151 | 94 | 13 | NE | 0.45 | Above |
| 151 | 94 | 13 | SE | 20.59 | Above |
| 151 | 94 | 13 | SE | 17.60 | Above |
| 151 | 94 | 24 | SW | 158.46 | Above |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 151 | 94 | 24 | SW | 1.23 | Below |
| 151 | 94 | 24 | NE | 106.88 | Below |
| 151 | 94 | 24 | SE | 134.78 | Below |
| 151 | 94 | 24 | NE | 27.22 | Above |
| 151 | 94 | 24 | NE | 25.63 | Above |
| 151 | 94 | 24 | SE | 12.19 | Above |
| 151 | 94 | 24 | SE | 12.86 | Above |
| 151 | 94 | 25 | NE | 0.18 | Above |
| 151 | 94 | 25 | SW | 126.26 | Above |
| 151 | 94 | 25 | NW | 149.09 | Above |
| 151 | 94 | 25 | SW | 33.66 | Below |
| 151 | 94 | 25 | NE | 159.82 | Below |
| 151 | 94 | 25 | NW | 10.75 | Below |
| 151 | 94 | 25 | SE | 159.86 | Below |
| 151 | 94 | 36 | NE | 0.36 | Above |
| 151 | 94 | 36 | NW | 103.15 | Above |
| 151 | 94 | 36 | SW | 137.47 | Above |
| 151 | 94 | 36 | NE | 159.32 | Below |
| 151 | 94 | 36 | NW | 56.61 | Below |
| 151 | 94 | 36 | SE | 150.64 | Below |
| 151 | 94 | 36 | SW | 22.25 | Below |
| 151 | 94 | 36 | SE | 8.74 | Above |
| 151 | 94 | 36 | SE | 0.32 | Above |
| 151 | 93 | 5 | NW | 64.91 | Above |
| 151 | 93 | 5 | SW | 152.55 | Above |
| 151 | 93 | 5 | NW | 96.27 | Below |
| 151 | 93 | 5 | SW | 6.91 | Below |
| 151 | 93 | 6 | SE | 28.76 | Above |
| 151 | 93 | 6 | NE | 156.66 | Below |
| 151 | 93 | 6 | NW | 128.81 | Below |
| 151 | 93 | 6 | SE | 128.12 | Below |
| 151 | 93 | 6 | SW | 146.70 | Below |
| 151 | 93 | 6 | NW | 23.86 | Above |
| 151 | 93 | 6 | NW | 0.41 | Above |
| 151 | 93 | 6 | SW | 4.31 | Above |
| 151 | 93 | 6 | SW | 0.29 | Above |
| 151 | 93 | 7 | NE | 109.54 | Above |
| 151 | 93 | 7 | SE | 160.17 | Above |
| 151 | 93 | 7 | NW | 0.00 | Above |
| 151 | 93 | 7 | SW | 55.75 | Above |
| 151 | 93 | 7 | NE | 49.51 | Below |
| 151 | 93 | 7 | SE | 0.20 | Below |
| 151 | 93 | 7 | NW | 149.65 | Below |
| 151 | 93 | 7 | SW | 93.56 | Below |
| 151 | 93 | 18 | NW | 140.03 | Above |
| 151 | 93 | 18 | NW | 10.37 | Below |
| 151 | 93 | 30 | NW | 138.74 | Above |
| 151 | 93 | 30 | SW | 119.30 | Above |
| 151 | 93 | 30 | NW | 13.34 | Below |
| 151 | 93 | 30 | SW | 33.09 | Below |
| 151 | 93 | 31 | NW | 143.62 | Above |
| 151 | 93 | 31 | NW | 10.01 | Below |
| 150 | 94 | 1 | SW | 154.30 | Above |
| 150 | 94 | 1 | NE | 15.00 | Above |
| 150 | 94 | 1 | NE | 30.74 | Above |
| 150 | 94 | 1 | NE | 114.04 | Below |
| 150 | 94 | 1 | SE | 148.50 | Below |
| 150 | 94 | 1 | SW | 5.30 | Below |
| 150 | 94 | 1 | SE | 0.45 | Above |
| 150 | 94 | 1 | SE | 6.00 | Above |
| 150 | 94 | 1 | SE | 4.66 | Above |
| 150 | 94 | 12 | NW | 159.23 | Above |
| 150 | 94 | 12 | SE | 154.25 | Above |
| 150 | 94 | 12 | NE | 109.78 | Below |
| 150 | 94 | 12 | NW | 0.04 | Below |
| 150 | 94 | 12 | SE | 6.09 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 150 | 94 | 12 | NE | 3.93 | Above |
| 150 | 94 | 12 | NE | 46.87 | Above |
| 150 | 93 | 6 | SW | 151.27 | Above |
| 150 | 93 | 6 | SW | 3.84 | Below |
| 150 | 93 | 7 | NW | 149.37 | Above |
| 150 | 93 | 7 | SE | 141.17 | Above |
| 150 | 93 | 7 | NW | 6.14 | Below |
| 150 | 93 | 7 | SE | 18.75 | Below |
| 150 | 93 | 7 | SW | 99.89 | Below |
| 150 | 93 | 7 | SW | 31.03 | Above |
| 150 | 93 | 7 | SW | 25.19 | Above |
| 150 | 93 | 16 | SW | 149.62 | Above |
| 150 | 93 | 16 | SW | 10.27 | Below |
| 150 | 93 | 17 | NW | 112.65 | Above |
| 150 | 93 | 17 | SE | 62.71 | Above |
| 150 | 93 | 17 | SW | 0.21 | Above |
| 150 | 93 | 17 | NW | 47.30 | Below |
| 150 | 93 | 17 | SE | 97.18 | Below |
| 150 | 93 | 17 | SW | 159.69 | Below |
| 150 | 93 | 18 | NW | 123.90 | Above |
| 150 | 93 | 18 | SE | 69.68 | Above |
| 150 | 93 | 18 | NW | 33.04 | Below |
| 150 | 93 | 18 | NE | 143.93 | Below |
| 150 | 93 | 18 | SE | 89.93 | Below |
| 150 | 93 | 18 | NE | 13.77 | Above |
| 150 | 93 | 18 | NE | 1.95 | Above |
| 150 | 93 | 19 | NE | 159.36 | Above |
| 150 | 93 | 19 | NE | 0.25 | Below |
| 150 | 93 | 20 | NE | 4.32 | Above |
| 150 | 93 | 20 | NW | 98.60 | Above |
| 150 | 93 | 20 | SE | 118.94 | Above |
| 150 | 93 | 20 | NE | 155.55 | Below |
| 150 | 93 | 20 | NW | 61.24 | Below |
| 150 | 93 | 20 | SE | 40.94 | Below |
| 150 | 93 | 21 | NE | 131.50 | Above |
| 150 | 93 | 21 | NW | 18.11 | Above |
| 150 | 93 | 21 | SE | 18.00 | Above |
| 150 | 93 | 21 | SW | 11.27 | Above |
| 150 | 93 | 21 | SW | 148.47 | Below |
| 150 | 93 | 21 | NE | 28.61 | Below |
| 150 | 93 | 21 | NW | 141.86 | Below |
| 150 | 93 | 21 | SE | 142.05 | Below |
| 150 | 93 | 22 | SW | 155.60 | Above |
| 150 | 93 | 22 | SW | 4.60 | Below |
| 150 | 93 | 25 | NE | 129.18 | Above |
| 150 | 93 | 25 | NW | 110.85 | Above |
| 150 | 93 | 25 | SE | 44.07 | Above |
| 150 | 93 | 25 | SW | 84.47 | Above |
| 150 | 93 | 25 | SW | 74.85 | Below |
| 150 | 93 | 25 | NE | 29.56 | Below |
| 150 | 93 | 25 | NW | 51.03 | Below |
| 150 | 93 | 25 | SE | 113.38 | Below |
| 150 | 93 | 26 | NE | 97.02 | Above |
| 150 | 93 | 26 | SE | 105.36 | Above |
| 150 | 93 | 26 | SW | 88.59 | Above |
| 150 | 93 | 26 | NW | 83.09 | Above |
| 150 | 93 | 26 | SW | 70.98 | Below |
| 150 | 93 | 26 | NE | 63.01 | Below |
| 150 | 93 | 26 | NW | 76.84 | Below |
| 150 | 93 | 26 | SE | 53.98 | Below |
| 150 | 93 | 27 | NE | 83.01 | Above |
| 150 | 93 | 27 | SE | 96.26 | Above |
| 150 | 93 | 27 | SW | 151.09 | Above |
| 150 | 93 | 27 | NE | 76.76 | Below |
| 150 | 93 | 27 | NW | 109.68 | Below |
| 150 | 93 | 27 | SE | 63.29 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 150 | 93 | 27 | SW | 8.37 | Below |
| 150 | 93 | 27 | NW | 41.89 | Above |
| 150 | 93 | 27 | NW | 8.19 | Above |
| 150 | 93 | 28 | NE | 68.72 | Above |
| 150 | 93 | 28 | NW | 144.87 | Above |
| 150 | 93 | 28 | NE | 90.82 | Below |
| 150 | 93 | 28 | NW | 14.81 | Below |
| 150 | 92 | 29 | SW | 131.37 | Above |
| 150 | 92 | 29 | SW | 28.20 | Below |
| 150 | 92 | 30 | SE | 52.42 | Above |
| 150 | 92 | 30 | NW | 149.82 | Above |
| 150 | 92 | 30 | NW | 3.18 | Below |
| 150 | 92 | 30 | SE | 106.95 | Below |
| 150 | 92 | 30 | SW | 133.17 | Below |
| 150 | 92 | 30 | SW | 9.50 | Above |
| 150 | 92 | 30 | SW | 9.67 | Above |
| 150 | 92 | 31 | NE | 69.95 | Above |
| 150 | 92 | 31 | NW | 146.12 | Above |
| 150 | 92 | 31 | NE | 89.36 | Below |
| 150 | 92 | 31 | NW | 8.99 | Below |
| 150 | 92 | 32 | NE | 122.92 | Above |
| 150 | 92 | 32 | SW | 21.70 | Below |
| 150 | 92 | 32 | NE | 36.69 | Below |
| 150 | 92 | 32 | SW | 137.77 | Above |
| 150 | 92 | 32 | NW | 147.99 | Below |
| 150 | 92 | 32 | SE | 94.85 | Below |
| 150 | 92 | 32 | NW | 9.20 | Above |
| 150 | 92 | 32 | NW | 2.51 | Above |
| 150 | 92 | 32 | SE | 0.65 | Above |
| 150 | 92 | 32 | SE | 64.04 | Above |
| 150 | 92 | 33 | SE | 55.77 | Above |
| 150 | 92 | 33 | SW | 136.79 | Below |
| 150 | 92 | 33 | SE | 104.00 | Below |
| 150 | 92 | 33 | SW | 21.10 | Above |
| 150 | 92 | 33 | SW | 1.90 | Above |
| 150 | 92 | 34 | SE | 147.66 | Above |
| 150 | 92 | 34 | SW | 42.10 | Below |
| 150 | 92 | 34 | SW | 117.68 | Above |
| 150 | 92 | 34 | SE | 12.16 | Below |
| 150 | 92 | 36 | SE | 159.25 | Above |
| 150 | 92 | 36 | SE | 0.69 | Below |
| 150 | 91 | 15 | SW | 11.68 | Below |
| 150 | 91 | 15 | SW | 148.21 | Above |
| 150 | 91 | 16 | SE | 1.62 | Below |
| 150 | 91 | 16 | SE | 158.33 | Above |
| 150 | 91 | 20 | NE | 60.38 | Above |
| 150 | 91 | 20 | NW | 6.23 | Below |
| 150 | 91 | 20 | NW | 153.59 | Above |
| 150 | 91 | 20 | SW | 71.57 | Above |
| 150 | 91 | 20 | SE | 149.24 | Below |
| 150 | 91 | 20 | SE | 10.61 | Above |
| 150 | 91 | 20 | SW | 88.39 | Below |
| 150 | 91 | 20 | NE | 99.31 | Below |
| 150 | 91 | 21 | NE | 27.20 | Above |
| 150 | 91 | 21 | NW | 27.62 | Above |
| 150 | 91 | 21 | SE | 101.83 | Below |
| 150 | 91 | 21 | SW | 114.52 | Below |
| 150 | 91 | 21 | SW | 45.36 | Above |
| 150 | 91 | 21 | SE | 58.06 | Above |
| 150 | 91 | 21 | NE | 132.67 | Below |
| 150 | 91 | 21 | NW | 132.19 | Below |
| 150 | 91 | 22 | NW | 1.29 | Above |
| 150 | 91 | 22 | SE | 9.80 | Above |
| 150 | 91 | 22 | NE | 113.66 | Above |
| 150 | 91 | 22 | NE | 46.26 | Below |
| 150 | 91 | 22 | SW | 144.88 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 150 | 91 | 22 | SW | 15.01 | Above |
| 150 | 91 | 22 | NW | 158.60 | Below |
| 150 | 91 | 22 | SE | 150.12 | Below |
| 150 | 91 | 23 | SW | 45.04 | Above |
| 150 | 91 | 23 | SE | 68.83 | Above |
| 150 | 91 | 23 | SE | 91.17 | Below |
| 150 | 91 | 23 | SW | 115.01 | Below |
| 150 | 91 | 24 | SE | 154.01 | Above |
| 150 | 91 | 24 | SW | 77.24 | Below |
| 150 | 91 | 24 | SE | 5.39 | Below |
| 150 | 91 | 24 | SW | 82.29 | Above |
| 150 | 91 | 25 | NE | 110.18 | Below |
| 150 | 91 | 25 | NW | 151.45 | Below |
| 150 | 91 | 25 | SE | 5.39 | Above |
| 150 | 91 | 25 | NE | 50.00 | Above |
| 150 | 91 | 25 | SW | 62.16 | Above |
| 150 | 91 | 25 | NW | 8.01 | Above |
| 150 | 91 | 25 | SW | 98.03 | Below |
| 150 | 91 | 25 | SE | 155.20 | Below |
| 150 | 91 | 26 | NE | 124.96 | Below |
| 150 | 91 | 26 | NW | 62.63 | Above |
| 150 | 91 | 26 | NE | 35.05 | Above |
| 150 | 91 | 26 | NW | 97.43 | Below |
| 150 | 91 | 27 | NE | 89.89 | Above |
| 150 | 91 | 27 | NW | 15.82 | Below |
| 150 | 91 | 27 | NE | 70.02 | Below |
| 150 | 91 | 27 | NW | 144.05 | Above |
| 150 | 91 | 29 | NE | 154.91 | Above |
| 150 | 91 | 29 | NW | 1.23 | Above |
| 150 | 91 | 29 | NW | 28.52 | Above |
| 150 | 91 | 29 | SW | 27.34 | Below |
| 150 | 91 | 29 | NE | 4.81 | Below |
| 150 | 91 | 29 | SW | 132.43 | Above |
| 150 | 91 | 29 | NW | 129.94 | Below |
| 150 | 91 | 30 | NE | 121.65 | Above |
| 150 | 91 | 30 | NE | 37.85 | Below |
| 150 | 91 | 30 | SE | 44.20 | Above |
| 150 | 91 | 30 | SE | 9.08 | Above |
| 150 | 91 | 30 | SE | 106.13 | Below |
| 150 | 91 | 31 | NW | 137.11 | Above |
| 150 | 91 | 31 | SE | 150.78 | Above |
| 150 | 91 | 31 | NE | 5.54 | Above |
| 150 | 91 | 31 | NW | 11.86 | Below |
| 150 | 91 | 31 | SW | 56.76 | Above |
| 150 | 91 | 31 | NE | 66.14 | Below |
| 150 | 91 | 31 | SW | 18.17 | Above |
| 150 | 91 | 31 | SE | 7.52 | Below |
| 150 | 91 | 31 | SW | 78.60 | Below |
| 150 | 91 | 31 | NE | 87.82 | Above |
| 150 | 91 | 35 | NW | 159.53 | Above |
| 150 | 91 | 35 | SE | 0.01 | Above |
| 150 | 91 | 35 | SW | 118.90 | Above |
| 150 | 91 | 35 | NE | 115.20 | Below |
| 150 | 91 | 35 | NW | 0.37 | Below |
| 150 | 91 | 35 | SE | 160.21 | Below |
| 150 | 91 | 35 | SW | 41.37 | Below |
| 150 | 91 | 35 | NE | 44.85 | Above |
| 150 | 91 | 35 | NE | 0.03 | Above |
| 150 | 91 | 36 | NW | 1.73 | Above |
| 150 | 91 | 36 | SE | 4.64 | Above |
| 150 | 91 | 36 | NE | 160.43 | Below |
| 150 | 91 | 36 | NW | 158.34 | Below |
| 150 | 91 | 36 | SE | 155.98 | Below |
| 150 | 91 | 36 | SW | 159.91 | Below |
| 150 | 90 | 30 | SW | 155.65 | Above |
| 150 | 90 | 30 | SW | 1.61 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 150 | 90 | 31 | NW | 148.20 | Above |
| 150 | 90 | 31 | SW | 4.03 | Below |
| 150 | 90 | 31 | SW | 153.84 | Above |
| 150 | 90 | 31 | NW | 9.39 | Below |
| 149 | 92 | 1 | NW | 124.43 | Above |
| 149 | 92 | 1 | SE | 153.33 | Above |
| 149 | 92 | 1 | SW | 112.36 | Above |
| 149 | 92 | 1 | NE | 38.98 | Above |
| 149 | 92 | 1 | NE | 16.07 | Above |
| 149 | 92 | 1 | NE | 104.40 | Below |
| 149 | 92 | 1 | NW | 34.00 | Below |
| 149 | 92 | 1 | SE | 5.97 | Below |
| 149 | 92 | 1 | SW | 47.15 | Below |
| 149 | 92 | 2 | NE | 141.98 | Above |
| 149 | 92 | 2 | NW | 51.51 | Above |
| 149 | 92 | 2 | SE | 89.83 | Above |
| 149 | 92 | 2 | SW | 93.37 | Above |
| 149 | 92 | 2 | NE | 16.41 | Below |
| 149 | 92 | 2 | NW | 106.97 | Below |
| 149 | 92 | 2 | SE | 69.93 | Below |
| 149 | 92 | 2 | SW | 66.05 | Below |
| 149 | 92 | 3 | NW | 80.59 | Above |
| 149 | 92 | 3 | SE | 149.50 | Above |
| 149 | 92 | 3 | NE | 144.66 | Below |
| 149 | 92 | 3 | NW | 79.23 | Below |
| 149 | 92 | 3 | SE | 10.55 | Below |
| 149 | 92 | 3 | NE | 0.54 | Above |
| 149 | 92 | 3 | NE | 13.77 | Above |
| 149 | 92 | 4 | NE | 103.40 | Above |
| 149 | 92 | 4 | NW | 142.19 | Above |
| 149 | 92 | 4 | NE | 56.01 | Below |
| 149 | 92 | 4 | NW | 18.00 | Below |
| 149 | 91 | 1 | NE | 92.14 | Above |
| 149 | 91 | 1 | NW | 6.15 | Above |
| 149 | 91 | 1 | SW | 152.92 | Above |
| 149 | 91 | 1 | NE | 67.46 | Below |
| 149 | 91 | 1 | NW | 153.95 | Below |
| 149 | 91 | 1 | SW | 6.71 | Below |
| 149 | 91 | 2 | NE | 15.42 | Above |
| 149 | 91 | 2 | NW | 95.97 | Above |
| 149 | 91 | 2 | SE | 40.65 | Above |
| 149 | 91 | 2 | SW | 101.63 | Above |
| 149 | 91 | 2 | NE | 146.45 | Below |
| 149 | 91 | 2 | NW | 63.53 | Below |
| 149 | 91 | 2 | SE | 119.77 | Below |
| 149 | 91 | 2 | SW | 57.41 | Below |
| 149 | 91 | 6 | NW | 128.42 | Above |
| 149 | 91 | 6 | NW | 26.08 | Below |
| 149 | 91 | 11 | NW | 115.66 | Above |
| 149 | 91 | 11 | SE | 85.32 | Above |
| 149 | 91 | 11 | SW | 159.29 | Above |
| 149 | 91 | 11 | SW | 0.07 | Below |
| 149 | 91 | 11 | NE | 159.67 | Below |
| 149 | 91 | 11 | NW | 43.80 | Below |
| 149 | 91 | 11 | SE | 74.02 | Below |
| 149 | 91 | 12 | NE | 155.19 | Above |
| 149 | 91 | 12 | NW | 34.33 | Above |
| 149 | 91 | 12 | SE | 78.30 | Above |
| 149 | 91 | 12 | SW | 0.01 | Above |
| 149 | 91 | 12 | SW | 159.28 | Below |
| 149 | 91 | 12 | NE | 4.02 | Below |
| 149 | 91 | 12 | NW | 125.15 | Below |
| 149 | 91 | 12 | SE | 80.92 | Below |
| 149 | 91 | 13 | NW | 101.16 | Above |
| 149 | 91 | 13 | NE | 105.28 | Below |
| 149 | 91 | 13 | NW | 57.89 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 149 | 91 | 13 | SE | 95.41 | Below |
| 149 | 91 | 13 | NE | 43.28 | Above |
| 149 | 91 | 13 | NE | 10.46 | Above |
| 149 | 91 | 13 | SE | 45.94 | Above |
| 149 | 91 | 13 | SE | 17.34 | Above |
| 149 | 91 | 24 | NE | 56.76 | Above |
| 149 | 91 | 24 | SE | 58.13 | Above |
| 149 | 91 | 24 | NE | 102.01 | Below |
| 149 | 91 | 24 | SE | 100.89 | Below |
| 149 | 91 | 25 | NE | 47.41 | Above |
| 149 | 91 | 25 | SE | 12.82 | Above |
| 149 | 91 | 25 | SW | 157.54 | Above |
| 149 | 91 | 25 | SW | 2.38 | Below |
| 149 | 91 | 25 | NE | 111.79 | Below |
| 149 | 91 | 25 | SE | 146.17 | Below |
| 149 | 91 | 36 | NE | 0.06 | Above |
| 149 | 91 | 36 | NW | 143.86 | Above |
| 149 | 91 | 36 | SE | 3.86 | Above |
| 149 | 91 | 36 | NE | 161.00 | Below |
| 149 | 91 | 36 | NW | 13.90 | Below |
| 149 | 91 | 36 | SE | 159.23 | Below |
| 149 | 90 | 18 | SW | 158.74 | Above |
| 149 | 90 | 18 | SW | 0.01 | Below |
| 149 | 90 | 19 | NW | 137.83 | Above |
| 149 | 90 | 19 | SW | 95.06 | Above |
| 149 | 90 | 19 | NW | 21.21 | Below |
| 149 | 90 | 19 | SW | 64.04 | Below |
| 149 | 90 | 30 | SW | 36.33 | Above |
| 149 | 90 | 30 | NW | 70.85 | Above |
| 149 | 90 | 30 | NW | 88.21 | Below |
| 149 | 90 | 30 | SW | 122.32 | Below |
| 149 | 90 | 31 | NE | 154.29 | Above |
| 149 | 90 | 31 | NW | 5.03 | Above |
| 149 | 90 | 31 | SE | 142.56 | Above |
| 149 | 90 | 31 | SW | 1.39 | Above |
| 149 | 90 | 31 | NE | 5.74 | Below |
| 149 | 90 | 31 | NW | 153.42 | Below |
| 149 | 90 | 31 | SE | 17.58 | Below |
| 149 | 90 | 31 | SW | 157.13 | Below |
| 148 | 91 | 2 | NW | 136.90 | Above |
| 148 | 91 | 2 | NW | 0.01 | Below |
| 148 | 91 | 3 | NE | 47.04 | Above |
| 148 | 91 | 3 | NW | 16.91 | Above |
| 148 | 91 | 3 | SE | 153.71 | Above |
| 148 | 91 | 3 | NE | 91.10 | Below |
| 148 | 91 | 3 | NW | 121.96 | Below |
| 148 | 91 | 3 | SE | 6.06 | Below |
| 148 | 91 | 3 | SW | 150.08 | Below |
| 148 | 91 | 3 | SW | 1.79 | Above |
| 148 | 91 | 3 | SW | 8.10 | Above |
| 148 | 91 | 4 | SE | 158.01 | Above |
| 148 | 91 | 4 | SE | 1.38 | Below |
| 148 | 91 | 9 | NE | 137.32 | Above |
| 148 | 91 | 9 | SE | 111.10 | Above |
| 148 | 91 | 9 | NE | 22.51 | Below |
| 148 | 91 | 9 | SE | 48.74 | Below |
| 148 | 91 | 10 | SE | 141.63 | Above |
| 148 | 91 | 10 | NW | 27.83 | Above |
| 148 | 91 | 10 | SW | 0.31 | Above |
| 148 | 91 | 10 | SW | 159.98 | Below |
| 148 | 91 | 10 | SE | 17.84 | Below |
| 148 | 91 | 10 | NW | 132.16 | Below |
| 148 | 91 | 15 | NE | 113.56 | Above |
| 148 | 91 | 15 | SE | 85.72 | Above |
| 148 | 91 | 15 | SW | 1.81 | Above |
| 148 | 91 | 15 | SW | 158.00 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 148 | 91 | 15 | NE | 45.58 | Below |
| 148 | 91 | 15 | NW | 160.17 | Below |
| 148 | 91 | 15 | SE | 73.51 | Below |
| 148 | 91 | 16 | NE | 102.35 | Above |
| 148 | 91 | 16 | SE | 137.24 | Above |
| 148 | 91 | 16 | NE | 57.24 | Below |
| 148 | 91 | 16 | SE | 22.09 | Below |
| 148 | 91 | 22 | NE | 28.63 | Above |
| 148 | 91 | 22 | NW | 30.41 | Above |
| 148 | 91 | 22 | SE | 0.00 | Above |
| 148 | 91 | 22 | SW | 57.79 | Above |
| 148 | 91 | 22 | NW | 129.07 | Below |
| 148 | 91 | 22 | SW | 101.78 | Below |
| 148 | 91 | 22 | NE | 131.03 | Below |
| 148 | 91 | 22 | SE | 159.50 | Below |
| 148 | 91 | 23 | SW | 128.40 | Above |
| 148 | 91 | 23 | SW | 31.45 | Below |
| 148 | 91 | 26 | NE | 159.49 | Above |
| 148 | 91 | 26 | SE | 114.76 | Above |
| 148 | 91 | 26 | SW | 2.61 | Above |
| 148 | 91 | 26 | NW | 44.03 | Above |
| 148 | 91 | 26 | SW | 156.86 | Below |
| 148 | 91 | 26 | NE | 0.02 | Below |
| 148 | 91 | 26 | NW | 115.51 | Below |
| 148 | 91 | 26 | SE | 44.71 | Below |
| 148 | 91 | 27 | NE | 29.92 | Above |
| 148 | 91 | 27 | SE | 138.58 | Above |
| 148 | 91 | 27 | NW | 150.43 | Above |
| 148 | 91 | 27 | NE | 129.30 | Below |
| 148 | 91 | 27 | NW | 9.01 | Below |
| 148 | 91 | 27 | SE | 20.67 | Below |
| 148 | 91 | 34 | NE | 156.24 | Above |
| 148 | 91 | 34 | NE | 3.15 | Below |
| 148 | 91 | 35 | NE | 21.80 | Above |
| 148 | 91 | 35 | SE | 3.19 | Above |
| 148 | 91 | 35 | SW | 132.82 | Above |
| 148 | 91 | 35 | NE | 137.95 | Below |
| 148 | 91 | 35 | NW | 122.28 | Below |
| 148 | 91 | 35 | SE | 156.94 | Below |
| 148 | 91 | 35 | SW | 27.09 | Below |
| 148 | 91 | 35 | NW | 0.00 | Above |
| 148 | 91 | 35 | NW | 37.41 | Above |
| 148 | 91 | 36 | NW | 150.32 | Above |
| 148 | 91 | 36 | SE | 158.53 | Above |
| 148 | 91 | 36 | SW | 49.95 | Above |
| 148 | 91 | 36 | NW | 8.78 | Below |
| 148 | 91 | 36 | SE | 1.61 | Below |
| 148 | 91 | 36 | SW | 109.54 | Below |
| 147 | 91 | 1 | NE | 95.36 | Above |
| 147 | 91 | 1 | NW | 14.83 | Above |
| 147 | 91 | 1 | SW | 142.14 | Above |
| 147 | 91 | 1 | NE | 64.22 | Below |
| 147 | 91 | 1 | NW | 144.31 | Below |
| 147 | 91 | 1 | SE | 100.17 | Below |
| 147 | 91 | 1 | SW | 17.39 | Below |
| 147 | 91 | 1 | SE | 13.84 | Above |
| 147 | 91 | 1 | SE | 44.90 | Above |
| 147 | 91 | 2 | NE | 119.82 | Above |
| 147 | 91 | 2 | NE | 38.54 | Below |
| 147 | 91 | 12 | NE | 156.05 | Above |
| 147 | 91 | 12 | NE | 0.97 | Below |
| 147 | 90 | 1 | NE | 133.66 | Above |
| 147 | 90 | 1 | SE | 0.02 | Above |
| 147 | 90 | 1 | SW | 28.70 | Above |
| 147 | 90 | 1 | NE | 24.34 | Below |
| 147 | 90 | 1 | SE | 158.02 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 147 | 90 | 1 | SW | 129.56 | Below |
| 147 | 90 | 2 | SE | 54.07 | Above |
| 147 | 90 | 2 | SW | 91.23 | Above |
| 147 | 90 | 2 | SE | 105.92 | Below |
| 147 | 90 | 2 | SW | 68.31 | Below |
| 147 | 90 | 3 | SE | 150.03 | Above |
| 147 | 90 | 3 | SE | 9.55 | Below |
| 147 | 90 | 6 | SW | 128.66 | Above |
| 147 | 90 | 6 | SW | 23.72 | Below |
| 147 | 90 | 7 | SE | 158.08 | Above |
| 147 | 90 | 7 | NE | 85.90 | Below |
| 147 | 90 | 7 | NW | 58.44 | Below |
| 147 | 90 | 7 | SE | 1.79 | Below |
| 147 | 90 | 7 | NE | 47.85 | Above |
| 147 | 90 | 7 | NE | 23.47 | Above |
| 147 | 90 | 7 | NW | 1.16 | Above |
| 147 | 90 | 7 | NW | 90.59 | Above |
| 147 | 90 | 8 | NE | 110.18 | Above |
| 147 | 90 | 8 | SE | 104.66 | Above |
| 147 | 90 | 8 | NW | 94.45 | Above |
| 147 | 90 | 8 | SW | 129.59 | Above |
| 147 | 90 | 8 | NE | 49.09 | Below |
| 147 | 90 | 8 | SE | 55.22 | Below |
| 147 | 90 | 8 | NW | 64.23 | Below |
| 147 | 90 | 8 | SW | 28.78 | Below |
| 147 | 90 | 9 | NE | 96.85 | Above |
| 147 | 90 | 9 | SE | 104.93 | Above |
| 147 | 90 | 9 | NW | 107.51 | Above |
| 147 | 90 | 9 | SW | 77.05 | Above |
| 147 | 90 | 9 | NE | 62.57 | Below |
| 147 | 90 | 9 | SW | 82.71 | Below |
| 147 | 90 | 9 | SE | 55.54 | Below |
| 147 | 90 | 9 | NW | 52.34 | Below |
| 147 | 90 | 10 | SE | 148.63 | Above |
| 147 | 90 | 10 | NW | 67.57 | Above |
| 147 | 90 | 10 | SW | 120.00 | Above |
| 147 | 90 | 10 | NE | 144.97 | Below |
| 147 | 90 | 10 | SW | 38.45 | Below |
| 147 | 90 | 10 | SE | 10.06 | Below |
| 147 | 90 | 10 | NW | 91.84 | Below |
| 147 | 90 | 10 | NE | 12.11 | Above |
| 147 | 90 | 10 | NE | 2.45 | Above |
| 147 | 90 | 11 | NE | 30.57 | Above |
| 147 | 90 | 11 | NW | 24.19 | Above |
| 147 | 90 | 11 | NE | 129.27 | Below |
| 147 | 90 | 11 | NW | 134.86 | Below |
| 147 | 90 | 12 | NE | 33.33 | Above |
| 147 | 90 | 12 | NW | 24.02 | Above |
| 147 | 90 | 12 | NE | 124.22 | Below |
| 147 | 90 | 12 | NW | 134.71 | Below |
| 147 | 89 | 4 | SW | 157.55 | Above |
| 147 | 89 | 4 | SW | 1.68 | Below |
| 147 | 89 | 5 | SE | 99.74 | Above |
| 147 | 89 | 5 | SW | 33.60 | Above |
| 147 | 89 | 5 | SE | 59.60 | Below |
| 147 | 89 | 5 | SW | 125.88 | Below |
| 147 | 89 | 6 | NE | 139.50 | Above |
| 147 | 89 | 6 | NW | 108.53 | Above |
| 147 | 89 | 6 | SE | 0.29 | Above |
| 147 | 89 | 6 | NE | 17.03 | Below |
| 147 | 89 | 6 | NW | 42.37 | Below |
| 147 | 89 | 6 | SE | 158.98 | Below |
| 147 | 89 | 6 | SW | 151.18 | Below |
| 147 | 89 | 7 | NE | 20.25 | Above |
| 147 | 89 | 7 | NW | 28.96 | Above |
| 147 | 89 | 7 | SE | 158.91 | Above |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 147 | 89 | 7 | NE | 139.00 | Below |
| 147 | 89 | 7 | NW | 122.33 | Below |
| 147 | 89 | 7 | SE | 0.49 | Below |
| 147 | 89 | 8 | SW | 67.56 | Above |
| 147 | 89 | 8 | NE | 159.28 | Below |
| 147 | 89 | 8 | SE | 159.38 | Below |
| 147 | 89 | 8 | NW | 159.35 | Below |
| 147 | 89 | 8 | SW | 91.67 | Below |
| 147 | 89 | 9 | NE | 147.25 | Above |
| 147 | 89 | 9 | SE | 72.41 | Above |
| 147 | 89 | 9 | NW | 39.69 | Above |
| 147 | 89 | 9 | NE | 11.83 | Below |
| 147 | 89 | 9 | SE | 86.71 | Below |
| 147 | 89 | 9 | NW | 119.35 | Below |
| 147 | 89 | 9 | SW | 158.97 | Below |
| 147 | 89 | 15 | NW | 94.79 | Above |
| 147 | 89 | 15 | SE | 152.33 | Above |
| 147 | 89 | 15 | SW | 29.71 | Above |
| 147 | 89 | 15 | SW | 129.91 | Below |
| 147 | 89 | 15 | NW | 64.70 | Below |
| 147 | 89 | 15 | SE | 7.30 | Below |
| 147 | 89 | 16 | NE | 0.40 | Above |
| 147 | 89 | 16 | NW | 159.24 | Below |
| 147 | 89 | 16 | NE | 159.04 | Below |
| 147 | 89 | 16 | SE | 159.24 | Below |
| 147 | 89 | 16 | SW | 159.17 | Below |
| 147 | 89 | 17 | NE | 79.21 | Above |
| 147 | 89 | 17 | NW | 158.60 | Above |
| 147 | 89 | 17 | SE | 125.61 | Above |
| 147 | 89 | 17 | NW | 0.72 | Below |
| 147 | 89 | 17 | NE | 80.41 | Below |
| 147 | 89 | 17 | SE | 33.98 | Below |
| 147 | 89 | 20 | NE | 147.75 | Above |
| 147 | 89 | 20 | NE | 11.68 | Below |
| 147 | 89 | 21 | NW | 8.34 | Above |
| 147 | 89 | 21 | SE | 71.16 | Above |
| 147 | 89 | 21 | SW | 123.25 | Above |
| 147 | 89 | 21 | SW | 35.90 | Below |
| 147 | 89 | 21 | NE | 159.08 | Below |
| 147 | 89 | 21 | NW | 150.68 | Below |
| 147 | 89 | 21 | SE | 88.04 | Below |
| 147 | 89 | 22 | NE | 20.08 | Above |
| 147 | 89 | 22 | SE | 93.20 | Above |
| 147 | 89 | 22 | SW | 68.12 | Above |
| 147 | 89 | 22 | NW | 159.42 | Below |
| 147 | 89 | 22 | SW | 91.33 | Below |
| 147 | 89 | 22 | NE | 139.36 | Below |
| 147 | 89 | 22 | SE | 66.26 | Below |
| 147 | 89 | 23 | NE | 102.45 | Above |
| 147 | 89 | 23 | NW | 52.04 | Above |
| 147 | 89 | 23 | SW | 58.27 | Above |
| 147 | 89 | 23 | SE | 155.29 | Below |
| 147 | 89 | 23 | NW | 107.29 | Below |
| 147 | 89 | 23 | SW | 101.18 | Below |
| 147 | 89 | 23 | SE | 4.12 | Above |
| 147 | 89 | 23 | NE | 56.99 | Below |
| 147 | 89 | 24 | NW | 143.23 | Above |
| 147 | 89 | 24 | SE | 26.76 | Above |
| 147 | 89 | 24 | SW | 0.14 | Above |
| 147 | 89 | 24 | SW | 159.63 | Below |
| 147 | 89 | 24 | NW | 16.15 | Below |
| 147 | 89 | 24 | SE | 133.20 | Below |
| 147 | 89 | 25 | NE | 65.27 | Above |
| 147 | 89 | 25 | NW | 104.22 | Above |
| 147 | 89 | 25 | NE | 94.75 | Below |
| 147 | 89 | 25 | NW | 55.67 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 147 | 89 | 26 | NE | 146.57 | Above |
| 147 | 89 | 26 | NE | 13.00 | Below |
| 147 | 88 | 19 | SE | 137.74 | Above |
| 147 | 88 | 19 | SW | 76.53 | Above |
| 147 | 88 | 19 | SE | 21.19 | Below |
| 147 | 88 | 19 | SW | 80.94 | Below |
| 147 | 88 | 28 | SE | 147.70 | Above |
| 147 | 88 | 28 | SW | 31.09 | Above |
| 147 | 88 | 28 | NW | 159.25 | Above |
| 147 | 88 | 28 | NW | 0.94 | Below |
| 147 | 88 | 28 | SE | 13.44 | Below |
| 147 | 88 | 28 | SW | 129.54 | Below |
| 147 | 88 | 29 | NE | 92.53 | Above |
| 147 | 88 | 29 | NW | 41.05 | Above |
| 147 | 88 | 29 | SE | 0.03 | Above |
| 147 | 88 | 29 | NW | 36.02 | Above |
| 147 | 88 | 29 | NE | 65.98 | Below |
| 147 | 88 | 29 | NW | 118.11 | Below |
| 147 | 88 | 29 | SE | 0.04 | Below |
| 147 | 88 | 29 | NW | 123.17 | Below |
| 147 | 88 | 29 | SE | 157.54 | Below |
| 147 | 88 | 30 | NE | 0.93 | Above |
| 147 | 88 | 30 | SE | 79.19 | Above |
| 147 | 88 | 30 | SW | 149.16 | Above |
| 147 | 88 | 30 | NW | 16.16 | Above |
| 147 | 88 | 30 | NE | 158.29 | Below |
| 147 | 88 | 30 | NW | 141.46 | Below |
| 147 | 88 | 30 | SE | 80.68 | Below |
| 147 | 88 | 30 | SW | 8.48 | Below |
| 147 | 88 | 32 | NE | 57.05 | Above |
| 147 | 88 | 32 | SE | 137.65 | Above |
| 147 | 88 | 32 | NE | 103.56 | Below |
| 147 | 88 | 32 | SE | 24.55 | Below |
| 147 | 88 | 33 | NE | 78.07 | Above |
| 147 | 88 | 33 | SE | 9.94 | Above |
| 147 | 88 | 33 | SW | 152.85 | Below |
| 147 | 88 | 33 | NE | 83.92 | Below |
| 147 | 88 | 33 | SW | 8.34 | Above |
| 147 | 88 | 33 | NW | 162.04 | Below |
| 147 | 88 | 33 | SE | 151.44 | Below |
| 147 | 88 | 34 | NE | 160.50 | Above |
| 147 | 88 | 34 | SE | 22.13 | Above |
| 147 | 88 | 34 | SW | 85.31 | Below |
| 147 | 88 | 34 | NE | 0.11 | Below |
| 147 | 88 | 34 | SW | 76.11 | Above |
| 147 | 88 | 34 | SE | 137.74 | Below |
| 147 | 88 | 35 | NE | 64.56 | Above |
| 147 | 88 | 35 | NW | 122.89 | Above |
| 147 | 88 | 35 | SE | 159.87 | Below |
| 147 | 88 | 35 | SW | 160.33 | Below |
| 147 | 88 | 35 | NE | 95.78 | Below |
| 147 | 88 | 35 | NW | 37.50 | Below |
| 147 | 88 | 36 | NE | 71.57 | Above |
| 147 | 88 | 36 | NW | 51.83 | Above |
| 147 | 88 | 36 | SW | 159.93 | Below |
| 147 | 88 | 36 | NE | 88.84 | Below |
| 147 | 88 | 36 | NW | 108.12 | Below |
| 147 | 88 | 36 | SE | 161.69 | Below |
| 147 | 87 | 22 | SE | 111.33 | Above |
| 147 | 87 | 22 | SW | 159.50 | Above |
| 147 | 87 | 22 | SW | 0.03 | Below |
| 147 | 87 | 22 | SE | 48.40 | Below |
| 147 | 87 | 23 | SE | 29.48 | Above |
| 147 | 87 | 23 | SW | 69.38 | Above |
| 147 | 87 | 23 | SW | 91.18 | Below |
| 147 | 87 | 23 | SE | 131.98 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 147 | 87 | 24 | NE | 96.02 | Above |
| 147 | 87 | 24 | NW | 142.70 | Above |
| 147 | 87 | 24 | SW | 0.03 | Above |
| 147 | 87 | 24 | NW | 23.90 | Below |
| 147 | 87 | 24 | SW | 167.33 | Below |
| 147 | 87 | 24 | NE | 57.18 | Below |
| 147 | 87 | 24 | SE | 157.96 | Below |
| 147 | 87 | 25 | NE | 95.81 | Above |
| 147 | 87 | 25 | NW | 102.44 | Above |
| 147 | 87 | 25 | NE | 64.40 | Below |
| 147 | 87 | 25 | NW | 58.47 | Below |
| 147 | 87 | 26 | NE | 87.46 | Above |
| 147 | 87 | 26 | NW | 101.75 | Above |
| 147 | 87 | 26 | NE | 74.95 | Below |
| 147 | 87 | 26 | NW | 60.94 | Below |
| 147 | 87 | 27 | NE | 59.96 | Above |
| 147 | 87 | 27 | SE | 158.40 | Above |
| 147 | 87 | 27 | SW | 86.90 | Above |
| 147 | 87 | 27 | NW | 58.25 | Above |
| 147 | 87 | 27 | NE | 104.52 | Below |
| 147 | 87 | 27 | NW | 106.32 | Below |
| 147 | 87 | 27 | SE | 0.31 | Below |
| 147 | 87 | 27 | SW | 71.78 | Below |
| 147 | 87 | 28 | NE | 155.26 | Above |
| 147 | 87 | 28 | SW | 149.15 | Above |
| 147 | 87 | 28 | NE | 4.30 | Below |
| 147 | 87 | 28 | SE | 111.24 | Below |
| 147 | 87 | 28 | SW | 13.55 | Below |
| 147 | 87 | 28 | SE | 44.13 | Above |
| 147 | 87 | 28 | SE | 9.44 | Above |
| 147 | 87 | 31 | NW | 128.47 | Above |
| 147 | 87 | 31 | SE | 36.30 | Above |
| 147 | 87 | 31 | SW | 155.70 | Below |
| 147 | 87 | 31 | SW | 1.01 | Above |
| 147 | 87 | 31 | NW | 23.23 | Below |
| 147 | 87 | 31 | SE | 126.39 | Below |
| 147 | 87 | 32 | NE | 52.76 | Above |
| 147 | 87 | 32 | NW | 140.22 | Above |
| 147 | 87 | 32 | SE | 85.77 | Above |
| 147 | 87 | 32 | SW | 145.98 | Below |
| 147 | 87 | 32 | NE | 107.79 | Below |
| 147 | 87 | 32 | NW | 19.64 | Below |
| 147 | 87 | 32 | SE | 79.47 | Below |
| 147 | 87 | 32 | SW | 2.89 | Above |
| 147 | 87 | 32 | SW | 15.33 | Above |
| 147 | 87 | 33 | NE | 139.85 | Above |
| 147 | 87 | 33 | SW | 3.23 | Below |
| 147 | 87 | 33 | NE | 19.32 | Below |
| 147 | 87 | 33 | SW | 156.85 | Above |
| 147 | 87 | 33 | NW | 123.10 | Below |
| 147 | 87 | 33 | NW | 2.20 | Above |
| 147 | 87 | 33 | NW | 35.58 | Above |
| 147 | 86 | 19 | NE | 102.06 | Above |
| 147 | 86 | 19 | NW | 83.38 | Above |
| 147 | 86 | 19 | SE | 3.34 | Above |
| 147 | 86 | 19 | SW | 0.59 | Above |
| 147 | 86 | 19 | NW | 59.79 | Below |
| 147 | 86 | 19 | NE | 57.73 | Below |
| 147 | 86 | 19 | SE | 157.27 | Below |
| 147 | 86 | 19 | SW | 145.51 | Below |
| 147 | 86 | 20 | NW | 151.40 | Above |
| 147 | 86 | 20 | SE | 59.73 | Above |
| 147 | 86 | 20 | SW | 11.61 | Above |
| 147 | 86 | 20 | SW | 150.03 | Below |
| 147 | 86 | 20 | NW | 9.67 | Below |
| 147 | 86 | 20 | SE | 100.92 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 147 | 86 | 21 | SE | 143.09 | Above |
| 147 | 86 | 21 | SW | 103.93 | Above |
| 147 | 86 | 21 | SW | 56.64 | Below |
| 147 | 86 | 21 | SE | 17.38 | Below |
| 147 | 86 | 22 | SE | 134.49 | Above |
| 147 | 86 | 22 | SW | 137.68 | Above |
| 147 | 86 | 22 | SW | 22.19 | Below |
| 147 | 86 | 22 | SE | 25.40 | Below |
| 147 | 86 | 23 | SE | 79.74 | Above |
| 147 | 86 | 23 | SW | 127.22 | Above |
| 147 | 86 | 23 | SW | 32.86 | Below |
| 147 | 86 | 23 | SE | 80.66 | Below |
| 147 | 86 | 24 | NE | 114.90 | Above |
| 147 | 86 | 24 | NW | 159.67 | Above |
| 147 | 86 | 24 | SE | 38.22 | Above |
| 147 | 86 | 24 | NW | 0.81 | Below |
| 147 | 86 | 24 | SW | 138.56 | Below |
| 147 | 86 | 24 | NE | 45.39 | Below |
| 147 | 86 | 24 | SE | 122.26 | Below |
| 147 | 86 | 24 | SW | 18.74 | Above |
| 147 | 86 | 24 | SW | 3.53 | Above |
| 147 | 86 | 25 | NW | 152.41 | Above |
| 147 | 86 | 25 | NW | 8.10 | Below |
| 147 | 86 | 26 | NE | 113.80 | Above |
| 147 | 86 | 26 | NW | 78.19 | Above |
| 147 | 86 | 26 | NE | 46.51 | Below |
| 147 | 86 | 26 | NW | 81.30 | Below |
| 147 | 86 | 27 | NE | 50.20 | Above |
| 147 | 86 | 27 | SW | 129.44 | Above |
| 147 | 86 | 27 | NW | 6.10 | Above |
| 147 | 86 | 27 | NE | 109.59 | Below |
| 147 | 86 | 27 | NW | 154.10 | Below |
| 147 | 86 | 27 | SW | 31.13 | Below |
| 147 | 86 | 28 | SE | 89.03 | Above |
| 147 | 86 | 28 | SW | 149.29 | Above |
| 147 | 86 | 28 | NW | 21.28 | Above |
| 147 | 86 | 28 | NE | 161.18 | Below |
| 147 | 86 | 28 | NW | 139.82 | Below |
| 147 | 86 | 28 | SE | 72.27 | Below |
| 147 | 86 | 28 | SW | 12.10 | Below |
| 147 | 86 | 29 | NE | 104.88 | Above |
| 147 | 86 | 29 | NW | 115.14 | Above |
| 147 | 86 | 29 | NE | 56.02 | Below |
| 147 | 86 | 29 | NW | 46.85 | Below |
| 147 | 86 | 30 | NE | 144.46 | Above |
| 147 | 86 | 30 | NW | 120.44 | Above |
| 147 | 86 | 30 | NE | 15.15 | Below |
| 147 | 86 | 30 | NW | 23.36 | Below |
| 147 | 85 | 11 | NE | 159.74 | Above |
| 147 | 85 | 11 | SE | 28.68 | Above |
| 147 | 85 | 11 | SW | 131.86 | Above |
| 147 | 85 | 11 | SW | 28.38 | Below |
| 147 | 85 | 11 | NE | 0.21 | Below |
| 147 | 85 | 11 | SE | 131.05 | Below |
| 147 | 85 | 12 | NE | 139.31 | Above |
| 147 | 85 | 12 | NW | 144.33 | Above |
| 147 | 85 | 12 | SW | 0.22 | Above |
| 147 | 85 | 12 | SW | 159.36 | Below |
| 147 | 85 | 12 | NE | 19.63 | Below |
| 147 | 85 | 12 | NW | 15.05 | Below |
| 147 | 85 | 12 | SE | 148.91 | Below |
| 147 | 85 | 12 | SE | 0.54 | Above |
| 147 | 85 | 12 | SE | 10.15 | Above |
| 147 | 85 | 13 | NE | 157.06 | Above |
| 147 | 85 | 13 | NW | 134.62 | Above |
| 147 | 85 | 13 | NE | 2.66 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 147 | 85 | 13 | NW | 25.11 | Below |
| 147 | 85 | 14 | NE | 85.64 | Above |
| 147 | 85 | 14 | SW | 159.74 | Above |
| 147 | 85 | 14 | SW | 0.49 | Below |
| 147 | 85 | 14 | NE | 74.18 | Below |
| 147 | 85 | 14 | NW | 133.04 | Below |
| 147 | 85 | 14 | NW | 3.56 | Above |
| 147 | 85 | 14 | NW | 23.88 | Above |
| 147 | 85 | 15 | NE | 37.61 | Above |
| 147 | 85 | 15 | NW | 47.52 | Above |
| 147 | 85 | 15 | SE | 121.40 | Above |
| 147 | 85 | 15 | SW | 58.68 | Above |
| 147 | 85 | 15 | SW | 101.60 | Below |
| 147 | 85 | 15 | NE | 122.67 | Below |
| 147 | 85 | 15 | NW | 113.01 | Below |
| 147 | 85 | 15 | SE | 38.72 | Below |
| 147 | 85 | 16 | NE | 96.78 | Above |
| 147 | 85 | 16 | NW | 152.37 | Above |
| 147 | 85 | 16 | SE | 22.98 | Above |
| 147 | 85 | 16 | NW | 7.14 | Below |
| 147 | 85 | 16 | NE | 63.31 | Below |
| 147 | 85 | 16 | SE | 137.20 | Below |
| 147 | 85 | 16 | SW | 149.34 | Below |
| 147 | 85 | 16 | SW | 7.44 | Above |
| 147 | 85 | 16 | SW | 2.68 | Above |
| 147 | 85 | 17 | SE | 50.16 | Above |
| 147 | 85 | 17 | SW | 86.62 | Above |
| 147 | 85 | 17 | SE | 109.46 | Below |
| 147 | 85 | 17 | SW | 73.06 | Below |
| 147 | 85 | 18 | SE | 130.08 | Above |
| 147 | 85 | 18 | SW | 142.91 | Above |
| 147 | 85 | 18 | SE | 29.37 | Below |
| 147 | 85 | 18 | SW | 0.15 | Below |
| 147 | 85 | 19 | NE | 5.05 | Above |
| 147 | 85 | 19 | NW | 25.54 | Above |
| 147 | 85 | 19 | SE | 147.39 | Above |
| 147 | 85 | 19 | SW | 89.12 | Above |
| 147 | 85 | 19 | NW | 118.40 | Below |
| 147 | 85 | 19 | NE | 154.08 | Below |
| 147 | 85 | 19 | SE | 11.22 | Below |
| 147 | 85 | 19 | SW | 55.52 | Below |
| 147 | 85 | 20 | NE | 114.50 | Above |
| 147 | 85 | 20 | NW | 63.36 | Above |
| 147 | 85 | 20 | NE | 44.91 | Below |
| 147 | 85 | 20 | NW | 96.18 | Below |
| 147 | 85 | 21 | NW | 148.44 | Above |
| 147 | 85 | 21 | NW | 10.43 | Below |
| 147 | 84 | 7 | SE | 103.46 | Above |
| 147 | 84 | 7 | SW | 24.82 | Above |
| 147 | 84 | 7 | SE | 56.21 | Below |
| 147 | 84 | 7 | SW | 122.16 | Below |
| 147 | 84 | 8 | SW | 161.78 | Above |
| 147 | 84 | 8 | SW | 0.13 | Below |
| 147 | 84 | 15 | SW | 150.73 | Above |
| 147 | 84 | 15 | SW | 10.16 | Below |
| 147 | 84 | 16 | SE | 96.79 | Above |
| 147 | 84 | 16 | SW | 89.37 | Above |
| 147 | 84 | 16 | SE | 63.72 | Below |
| 147 | 84 | 16 | SW | 71.48 | Below |
| 147 | 84 | 17 | NE | 161.09 | Above |
| 147 | 84 | 17 | NW | 59.86 | Above |
| 147 | 84 | 17 | SE | 69.11 | Above |
| 147 | 84 | 17 | SW | 1.85 | Above |
| 147 | 84 | 17 | NW | 101.15 | Below |
| 147 | 84 | 17 | NE | 0.45 | Below |
| 147 | 84 | 17 | SE | 92.89 | Below |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 147 | 84 | 17 | SW | 160.55 | Below |
| 147 | 84 | 18 | NW | 48.78 | Above |
| 147 | 84 | 18 | SE | 22.90 | Above |
| 147 | 84 | 18 | SW | 124.39 | Above |
| 147 | 84 | 18 | NW | 97.94 | Below |
| 147 | 84 | 18 | NE | 158.77 | Below |
| 147 | 84 | 18 | SE | 138.33 | Below |
| 147 | 84 | 18 | SW | 24.27 | Below |
| 147 | 84 | 20 | NE | 51.88 | Above |
| 147 | 84 | 20 | NW | 146.45 | Above |
| 147 | 84 | 20 | SE | 159.80 | Above |
| 147 | 84 | 20 | NW | 13.94 | Below |
| 147 | 84 | 20 | NE | 109.36 | Below |
| 147 | 84 | 20 | SE | 0.29 | Below |
| 147 | 84 | 21 | SE | 3.36 | Above |
| 147 | 84 | 21 | SW | 88.84 | Above |
| 147 | 84 | 21 | SW | 70.66 | Below |
| 147 | 84 | 21 | NE | 162.15 | Below |
| 147 | 84 | 21 | NW | 161.37 | Below |
| 147 | 84 | 21 | SE | 155.80 | Below |
| 147 | 84 | 22 | NW | 73.84 | Above |
| 147 | 84 | 22 | SW | 20.60 | Above |
| 147 | 84 | 22 | NW | 90.39 | Below |
| 147 | 84 | 22 | SW | 143.57 | Below |
| 147 | 84 | 27 | SW | 28.84 | Above |
| 147 | 84 | 27 | NW | 151.50 | Below |
| 147 | 84 | 27 | SW | 133.13 | Below |
| 147 | 84 | 27 | NW | 8.83 | Above |
| 147 | 84 | 27 | NW | 3.18 | Above |
| 147 | 84 | 28 | NE | 124.61 | Above |
| 147 | 84 | 28 | SE | 113.39 | Above |
| 147 | 84 | 28 | SE | 47.89 | Below |
| 147 | 84 | 28 | NE | 35.44 | Below |
| 147 | 84 | 28 | NE | 0.27 | Below |
| 147 | 84 | 32 | SE | 55.48 | Above |
| 147 | 84 | 32 | SW | 3.72 | Below |
| 147 | 84 | 32 | SW | 154.78 | Above |
| 147 | 84 | 32 | SE | 103.84 | Below |
| 147 | 84 | 33 | NE | 11.97 | Above |
| 147 | 84 | 33 | NW | 119.83 | Above |
| 147 | 84 | 33 | SE | 36.10 | Above |
| 147 | 84 | 33 | SW | 157.88 | Below |
| 147 | 84 | 33 | NE | 144.33 | Below |
| 147 | 84 | 33 | SW | 0.30 | Above |
| 147 | 84 | 33 | NW | 37.98 | Below |
| 147 | 84 | 33 | SE | 125.55 | Below |
| 147 | 84 | 34 | NW | 80.54 | Above |
| 147 | 84 | 34 | SW | 5.95 | Below |
| 147 | 84 | 34 | SW | 154.83 | Above |
| 147 | 84 | 34 | NW | 77.76 | Below |
| 146 | 88 | 1 | NW | 16.84 | Above |
| 146 | 88 | 1 | SE | 115.06 | Above |
| 146 | 88 | 1 | SW | 156.25 | Above |
| 146 | 88 | 1 | NE | 161.03 | Below |
| 146 | 88 | 1 | NW | 144.96 | Below |
| 146 | 88 | 1 | SE | 45.14 | Below |
| 146 | 88 | 1 | SW | 3.83 | Below |
| 146 | 88 | 2 | NE | 65.20 | Above |
| 146 | 88 | 2 | NW | 124.69 | Above |
| 146 | 88 | 2 | NE | 97.61 | Below |
| 146 | 88 | 2 | NW | 37.00 | Below |
| 146 | 88 | 3 | NE | 155.75 | Above |
| 146 | 88 | 3 | NW | 118.27 | Above |
| 146 | 88 | 3 | NE | 6.21 | Below |
| 146 | 88 | 3 | NW | 42.96 | Below |
| 146 | 88 | 4 | NE | 70.72 | Above |

| OHWM Phase IV Acreages | | | | | |
|------------------------|-------|--------|---------|--------|-------|
| Township | Range | SecNum | Quarter | Acres | OHWM |
| 146 | 88 | 4 | NW | 127.37 | Above |
| 146 | 88 | 4 | NE | 90.04 | Below |
| 146 | 88 | 4 | NW | 33.78 | Below |
| 146 | 87 | 5 | NW | 145.42 | Above |
| 146 | 87 | 5 | NW | 9.68 | Below |
| 146 | 87 | 6 | NE | 42.53 | Above |
| 146 | 87 | 6 | NW | 0.10 | Above |
| 146 | 87 | 6 | SW | 136.72 | Above |
| 146 | 87 | 6 | NE | 114.12 | Below |
| 146 | 87 | 6 | NW | 156.50 | Below |
| 146 | 87 | 6 | SW | 20.27 | Below |
| 146 | 84 | 4 | NE | 152.04 | Above |
| 146 | 84 | 4 | NW | 23.48 | Above |
| 146 | 84 | 4 | SW | 114.22 | Above |
| 146 | 84 | 4 | NE | 6.86 | Below |
| 146 | 84 | 4 | NW | 136.18 | Below |
| 146 | 84 | 4 | SW | 45.41 | Below |
| 146 | 84 | 5 | NW | 55.19 | Above |
| 146 | 84 | 5 | NE | 160.08 | Below |
| 146 | 84 | 5 | NW | 104.55 | Below |
| 146 | 84 | 5 | SE | 158.87 | Below |
| 146 | 84 | 5 | SW | 157.53 | Below |
| 146 | 84 | 6 | NE | 154.84 | Above |
| 146 | 84 | 6 | SE | 28.05 | Above |
| 146 | 84 | 6 | SW | 140.11 | Above |
| 146 | 84 | 6 | NE | 5.12 | Below |
| 146 | 84 | 6 | SE | 127.34 | Below |
| 146 | 84 | 6 | SW | 10.76 | Below |
| 146 | 84 | 7 | NE | 110.55 | Above |
| 146 | 84 | 7 | NW | 130.40 | Above |
| 146 | 84 | 7 | NE | 47.18 | Below |
| 146 | 84 | 7 | NW | 21.35 | Below |
| 146 | 84 | 8 | NE | 127.29 | Above |
| 146 | 84 | 8 | NW | 119.43 | Above |
| 146 | 84 | 8 | NE | 33.10 | Below |
| 146 | 84 | 8 | NW | 41.10 | Below |
| 146 | 84 | 9 | NW | 158.28 | Above |
| 146 | 84 | 9 | NW | 1.63 | Below |

IDF TABLE

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|---|------------|------------|------------|----------|-------|----------|------------|
| 509 | LS15209314L1 | Cut bank below, sanish above | 340_299 | MRD_5_113 | 10/15/2012 | 152 | 93 | 14 | ga067_1943 |
| 510 | LS15209314L2 | Cut bank below at waters edge, evident uplands above | 340_299 | MRD_5_113 | 10/15/2012 | 152 | 93 | 14 | ga067_1943 |
| 511 | LS15209314L3 | Cut bank below at waters edge, evident uplands with steep slopes above | 340_299 | MRD_5_112 | 10/15/2012 | 152 | 93 | 14 | ga067_1943 |
| 491 | LS15209315R1 | Woodlands developing on sands above with two track, below appears to be recent depositional sands | 340_299 | MRD_5_113 | 10/15/2012 | 152 | 93 | 15 | ga067_1943 |
| 492 | LS15209315R2 | At waters edge, appears to be trees and dry sands above | 340_299 | MRD_5_113 | 10/15/2012 | 152 | 93 | 15 | ga067_1943 |
| 493 | LS15209315R3 | At waters edge, appears to be trees and dry sands above | 340_299 | MRD_5_112 | 10/15/2012 | 152 | 93 | 15 | ga067_1943 |
| 494 | LS15209322R1 | At waters edge, appears to be trees and dry sands above | 340_299 | MRD_5_112 | 10/15/2012 | 152 | 93 | 22 | ga067_1943 |
| 495 | LS15209322R2 | At waters edge, fields above | 340_299 | MRD_5_112 | 10/15/2012 | 152 | 93 | 22 | ga067_1943 |
| 496 | LS15209322R3 | At waters edge, fields above | 340_299 | MRD_5_112 | 10/15/2012 | 152 | 93 | 22 | ga067_1943 |
| 513 | LS15209322L1 | At waters edge, steep uplands | 340_299 | MRD_5_112 | 10/15/2012 | 152 | 93 | 22 | ga067_1943 |
| 514 | LS15209322L2 | Steep uplands, depositional channeled sands along shore line | 340_299 | MRD_5_112 | 10/15/2012 | 152 | 93 | 22 | ga067_1943 |
| 515 | LS15209322L3 | Steep uplands, depositional channeled sands along shore line | 340_299 | MRD_5_112 | 10/15/2012 | 152 | 93 | 22 | ga067_1943 |
| 512 | LS15209323L1 | Steeper uplands above, river edge below | 340_299 | MRD_5_112 | 10/15/2012 | 152 | 93 | 23 | ga067_1943 |
| 497 | LS15209327R1 | Edge of waters, trail above, some sands below | 340_4246 | MRD_5_112 | 10/15/2012 | 152 | 93 | 27 | ga067_1943 |
| 516 | LS15209327L1 | Steep uplands, depositional channeled sands along shore line | 340_299 | MRD_5_112 | 10/15/2012 | 152 | 93 | 27 | ga067_1943 |
| 517 | LS15209327L2 | Steep uplands, depositional channeled sands along shore line | 340_4246 | MRD_5_112 | 10/15/2012 | 152 | 93 | 27 | ga067_1943 |
| 518 | LS15209327L3 | Steep uplands, depositional narrow sands along shore line | 340_4246 | MRD_5_112 | 10/15/2012 | 152 | 93 | 27 | ga067_1943 |
| 498 | LS15209328R1 | Edge of water, cultivated field above, river below | 340_4246 | MRD_5_112 | 10/15/2012 | 152 | 93 | 28 | ga067_1943 |
| 499 | LS15209328R2 | Edge of water, older depositional area above, some trails | 340_4246 | MRD_5_112 | 10/15/2012 | 152 | 93 | 28 | ga067_1943 |
| 500 | LS15209328R3 | Older depositional area above, some trails, barren depositional sands below | 340_4246 | MRD_5_112 | 10/15/2012 | 152 | 93 | 28 | ga067_1943 |
| 519 | LS15209328L1 | At waters edge, cut bank | 340_4246 | MRD_5_112 | 10/15/2012 | 152 | 93 | 28 | ga067_1943 |
| 506 | LS15209331R1 | Line between more mature vegetation above, barren, less vegetation sands below | 340_4246 | MRD_5_135 | 10/15/2012 | 152 | 93 | 31 | ga060_1943 |
| 507 | LS15209331R2 | Line between more mature vegetation above, barren, less vegetation sands below | 340_4246 | MRD_5_135 | 10/15/2012 | 152 | 93 | 31 | ga060_1943 |
| 503 | LS15209332R1 | Older depositional area above, some trails, barren depositional sands below | 340_4246 | MRD_5_135 | 10/15/2012 | 152 | 93 | 32 | ga067_1943 |
| 504 | LS15209332R2 | Older depositional area above, some trails, barren depositional sands below | 340_4246 | MRD_5_135 | 10/15/2012 | 152 | 93 | 32 | ga067_1943 |
| 505 | LS15209332R3 | Hayed field above, wider sands below | 340_4246 | MRD_5_135 | 10/15/2012 | 152 | 93 | 32 | ga060_1943 |
| 522 | LS15209332L1 | At waters edge, cut bank | 340_4246 | MRD_5_135 | 10/15/2012 | 152 | 93 | 32 | ga067_1943 |
| 523 | LS15209332L2 | Steep uplands, flat at river, appears drowned trees | 340_4246 | MRD_5_135 | 10/15/2012 | 152 | 93 | 32 | ga067_1943 |
| 524 | LS15209332L3 | Steep uplands, flat at river, appears drowned trees | 340_4246 | MRD_5_135 | 10/15/2012 | 152 | 93 | 32 | ga067_1943 |
| 501 | LS15209333R1 | Older depositional area above, some trails, barren depositional sands below | 340_4246 | MRD_5_135 | 10/15/2012 | 152 | 93 | 33 | ga067_1943 |
| 520 | LS15209333L1 | At waters edge, cut bank | 340_4246 | MRD_5_112 | 10/15/2012 | 152 | 93 | 33 | ga067_1943 |
| 521 | LS15209333L2 | At waters edge, cut bank | 340_4246 | MRD_5_135 | 10/15/2012 | 152 | 93 | 33 | ga067_1943 |
| 525 | LS15109305L1 | At waters edge, mature trees and hayed fields above | 340_4246 | MRD_5_135 | 10/15/2012 | 151 | 93 | 5 | ga068_1943 |
| 526 | LS15109305L2 | At waters edge. hayed field above | 340_4246 | MRD_5_135 | 10/15/2012 | 151 | 93 | 5 | ga061_1943 |
| 508 | LS15109306R1 | Line between more mature vegetation above, barren, less vegetation sands below | 340_4246 | MRD_5_135 | 10/15/2012 | 151 | 93 | 6 | ga061_1943 |
| 527 | LS15109306L1 | At waters edge | 340_4246 | MRD_5_135 | 10/15/2012 | 151 | 93 | 6 | ga061_1943 |
| 536 | LS15109306R2 | Follows channel with more mature vegetation above, more barren below | 340_4246 | MRD_5_182 | 10/15/2012 | 151 | 93 | 6 | ga061_1943 |
| 538 | LS15109306R3 | Follows channel with more mature vegetation above, more barren below | 340_4246 | MRD_5_182 | 10/15/2012 | 151 | 93 | 6 | ga061_1943 |
| 539 | LS15109306R4 | Follows channel with more mature vegetation above, more barren below | 340_4246 | MRD_5_181 | 10/15/2012 | 151 | 93 | 6 | ga061_1943 |
| 528 | LS15109307L1 | At waters edge | 340_4246 | MRD_5_135 | 10/15/2012 | 151 | 93 | 7 | ga061_1943 |
| 529 | LS15109307L2 | At waters edge, older depositional area above, older striated vegetation above | 340_4246 | MRD_5_180 | 10/15/2012 | 151 | 93 | 7 | ga061_1943 |
| 530 | LS15109307L3 | At waters edge, older depositional area above, older striated vegetation above | 340_4246 | MRD_5_180 | 10/15/2012 | 151 | 93 | 7 | ga061_1943 |
| 531 | LS15109318L1 | At waters edge, older depositional area above, older striated vegetation above, at north end of depositional sands, fields upland | 340_4246 | MRD_5_180 | 10/15/2012 | 151 | 93 | 18 | ga061_1943 |
| 532 | LS15109318L2 | Older depositional area above, older striated vegetation above, fields upland | 340_4246 | MRD_5_180 | 10/15/2012 | 151 | 93 | 18 | ga061_1943 |
| 551 | LS15109330L1 | Wooded vegetation, tall structure above, depositional channeled sand below | 340_4246 | MRD_5_179 | 10/15/2012 | 151 | 93 | 30 | ga061_1943 |
| 555 | LS15109330L2 | Wooded vegetation, tall structure above, channel below | 340_4246 | MRD_5_179 | 10/15/2012 | 151 | 93 | 30 | ga061_1943 |
| 556 | LS15109330L3 | Wooded vegetation, tall structure above, channel below | 340_4246 | MRD_5_179 | 10/15/2012 | 151 | 93 | 30 | ga062_1943 |
| 557 | LS15109331L1 | Wooded vegetation, tall structure above, channel below | 340_4246 | MRD_5_178 | 10/15/2012 | 151 | 93 | 31 | ga062_1943 |
| 537 | LS15109401R1 | Follows channel with more mature vegetation above, more barren below | 340_4246 | MRD_5_182 | 10/15/2012 | 151 | 94 | 1 | ga061_1943 |
| 540 | LS15109412R1 | Along channel, 1951 photo shows trees upland, lower structure vegetation below. 1943 photo, vegetation isn't apparent | 340_4246 | MRD_5_181 | 10/15/2012 | 151 | 94 | 12 | ga061_1943 |
| 541 | LS15109412R2 | Shallow sandbars at edge, more mature vegetation upland. | 340_4246 | MRD_5_181 | 10/15/2012 | 151 | 94 | 12 | ga061_1943 |
| 542 | LS15109412R3 | At color vegetation change, near water edge | 340_4246 | MRD_5_181 | 10/15/2012 | 151 | 94 | 12 | ga061_1943 |
| 533 | LS15109413L1 | Barren depositional sands along water, more mature vegetation above | 340_4246 | MRD_5_181 | 10/15/2012 | 151 | 94 | 13 | ga061_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|---|---------------|------------|------------|----------|-------|----------|------------|
| 534 | LS15109413L2 | Barren depositional sands along water, more mature vegetation above | 340_4246 | N/A | 10/15/2012 | 151 | 94 | 13 | ga061_1943 |
| 543 | LS15109413R1 | Dense vegetation above, narrow barren soil at waters edge | 340_4246 | MRD_5_180 | 10/15/2012 | 151 | 94 | 13 | ga061_1943 |
| 544 | LS15109413R2 | Along waters edge, some deposition from Clarks creek | 340_4246 | N/A | 10/15/2012 | 151 | 94 | 13 | ga061_1943 |
| 545 | LS15109413R3 | Along waters edge | 340_4246 | N/A | 10/15/2012 | 151 | 94 | 13 | ga061_1943 |
| 535 | LS15109424L1 | Barren depositional sands along water, more mature vegetation above | 340_4246 | N/A | 10/15/2012 | 151 | 94 | 24 | ga061_1943 |
| 546 | LS15109424R1 | At waters edge, follows 1943 contour, shadow between ls15109424r1 and ls15109424r2 | 340_4246 | MRD_5_180 | 10/15/2012 | 151 | 94 | 24 | ga061_1943 |
| 547 | LS15109424R2 | At waters edge, follows 1943 contour, shadow between ls15109424r1 and ls15109424r2 | 340_4246 | MRD_5_180 | 10/15/2012 | 151 | 94 | 24 | ga061_1943 |
| 548 | LS15109424R3 | At waters edge, follows 1943 contour | 340_4246 | MRD_5_180 | 10/15/2012 | 151 | 94 | 24 | ga061_1943 |
| 549 | LS15109424L2 | Shallow sandbars along water and older woody vegetation above | 340_4246 | MRD_5_180 | 10/15/2012 | 151 | 94 | 24 | ga061_1943 |
| 550 | LS15109425L1 | Shallow sandbars along water and older woody vegetation above | 340_4246 | MRD_5_179 | 10/15/2012 | 151 | 94 | 25 | ga061_1943 |
| 552 | LS15109425R1 | At waters edge, follow 1943 contour line, vegetated above | 340_4246 | MRD_5_179 | 10/15/2012 | 151 | 94 | 25 | ga061_1943 |
| 553 | LS15109425R2 | At waters edge, follow 1943 contour line, vegetated above | 340_4246 | MRD_5_179 | 10/15/2012 | 151 | 94 | 25 | ga061_1943 |
| 554 | LS15109425R3 | At waters edge, follow 1943 contour line, vegetated above | 340_4246 | MRD_5_179 | 10/15/2012 | 151 | 94 | 25 | ga062_1943 |
| 558 | LS15109436L1 | Wooded vegetation, tall structure above, channel below | 340_473 | MRD_5_178 | 10/15/2012 | 151 | 94 | 36 | ga062_1943 |
| 559 | LS15109436L2 | Wooded vegetation, tall structure above, channel below | 340_473 | MRD_5_178 | 10/15/2012 | 151 | 94 | 36 | ga062_1943 |
| 560 | LS15109436R1 | At waters edge, follow 1943 contour line, vegetated above | 340_473 | MRD_5_178 | 10/15/2012 | 151 | 94 | 36 | ga062_1943 |
| 561 | LS15109436R2 | At waters edge, follow 1943 contour line, vegetated above | 340_473 | MRD_5_178 | 10/15/2012 | 151 | 94 | 36 | ga062_1943 |
| 562 | LS15109436R3 | At waters edge, follow 1943 contour line, vegetated above | 340_473 | MRD_5_178 | 10/15/2012 | 151 | 94 | 36 | ga062_1943 |
| 732 | LS15009030L1 | At waters edge, cut bank | 340_494 | MRD_4_43 | 10/16/2012 | 150 | 90 | 30 | ga106_1943 |
| 733 | LS15009031L1 | At waters edge, cut bank | 340_494 | MRD_4_43 | 10/16/2012 | 150 | 90 | 31 | ga106_1943 |
| 734 | LS15009031L2 | At waters edge, cut bank | 340_494 | MRD_4_43 | 10/16/2012 | 150 | 90 | 31 | ga106_1943 |
| 735 | LS15009031L3 | At waters edge, cut bank | 340_494 | MRD_4_43 | 10/16/2012 | 150 | 90 | 31 | ga106_1943 |
| 1164 | LS15009115L2 | Along back channel, hydrophilic vegetation on both sides, upland attributed to overland flow | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 15 | ga098_1943 |
| 1165 | LS15009115L1 | Along back channel, hydrophilic vegetation on both sides, upland attributed to overland flow, hayed field above on older island | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 15 | ga098_1943 |
| 1166 | LS15009116L1 | Along back channel, hydrophilic vegetation on both sides, upland attributed to overland flow | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 16 | ga098_1943 |
| 668 | LS15009120R1 | Along back channel, follow vegetation maturity line | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 20 | ga099_1943 |
| 1138 | LS15009120L1 | Along main waters edge, cut bank, woodland and hayed fields above | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 20 | ga091_1943 |
| 1139 | LS15009120L2 | Along main waters edge, cut bank, woodland and hayed fields above | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 20 | ga091_1943 |
| 1171 | LS15009120L5 | Along main waters edge, cut bank, woodland and hayed fields above | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 20 | ga098_1943 |
| 1172 | LS15009120L4 | Along main waters edge, cut bank, woodland and hayed fields above | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 20 | ga090_1943 |
| 1173 | LS15009120L3 | Along main waters edge, cut bank, woodland and hayed fields above | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 20 | ga091_1943 |
| 669 | LS15009121R1 | Along back channel, follow vegetation maturity line | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 21 | ga099_1943 |
| 670 | LS15009121R2 | Along back channel, follow vegetation maturity line | CCP-1H-56 | MRD_4_74 | 12/19/2012 | 150 | 91 | 21 | ga099_1943 |
| 671 | LS15009121R3 | Along back channel, follow vegetation maturity line | CCP-1H-56 | MRD_4_74 | 12/19/2012 | 150 | 91 | 21 | ga099_1943 |
| 1167 | LS15009121L4 | Along back channel, hydrophilic vegetation on both sides, upland attributed to overland flow | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 21 | ga098_1943 |
| 1168 | LS15009121L3 | On main water channel, turns along back channel, willows above attributed to overland flow | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 21 | ga098_1943 |
| 1169 | LS15009121L2 | On cut bank, on main river channel, willows above attributed to overland flow | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 21 | ga098_1943 |
| 1170 | LS15009121L1 | On cut bank, on main river channel, willows above attributed to overland flow | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 21 | ga098_1943 |
| 672 | LS15009122R1 | Along back channel, follow vegetation maturity line | CCP-1H-56 | MRD_4_74 | 12/19/2012 | 150 | 91 | 22 | ga099_1943 |
| 1161 | LS15009122L3 | Along back channel, hydrophilic vegetation above attributed to overflow from cultivated fields | None Availabl | MRD_4_75 | 12/19/2012 | 150 | 91 | 22 | ga099_1943 |
| 1162 | LS15009122L2 | Follows vegetation line, along a water channel that enters river system | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 22 | ga099_1943 |
| 1163 | LS15009122L1 | Along back channel, hydrophilic vegetation on both sides, upland attributed to overland flow | CCP-1H-56 | | 12/19/2012 | 150 | 91 | 22 | ga098_1943 |
| 1156 | LS15009123L3 | Along back channel, hydrophilic vegetation above attributed to overflow from cultivated fields | 340_494 | MRD_4_43 | 12/19/2012 | 150 | 91 | 23 | ga099_1943 |
| 1158 | LS15009123L4 | Along back channel, hydrophilic vegetation above attributed to overflow from cultivated fields | 340_494 | MRD_4_43 | 12/19/2012 | 150 | 91 | 23 | ga106_1943 |
| 1159 | LS15009123L2 | Along back channel, hydrophilic vegetation above attributed to overflow from cultivated fields | None Availabl | MRD_4_75 | 12/19/2012 | 150 | 91 | 23 | ga099_1943 |
| 1160 | LS15009123L1 | Along back channel, hydrophilic vegetation above attributed to overflow from cultivated fields | None Availabl | MRD_4_75 | 12/19/2012 | 150 | 91 | 23 | ga099_1943 |
| 728 | LS15009124L2 | Along back channel, hydrophilic vegetation above attributed to overflow from cultivated fields | 340_494 | MRD_4_43 | 10/16/2012 | 150 | 91 | 24 | ga106_1943 |
| 729 | LS15009124L3 | Edge of upland with road above, willow flats below | 340_494 | MRD_4_43 | 10/16/2012 | 150 | 91 | 24 | ga106_1943 |
| 1157 | LS15009124L1 | Along back channel, hydrophilic vegetation above attributed to overflow from cultivated fields | 340_494 | MRD_4_43 | 12/19/2012 | 150 | 91 | 24 | ga106_1943 |
| 1129 | LS15009125R1 | Follows channel, circles around from south from assumed ice jam, cutting through old residual area | 340_494 | MRD_4_74 | 11/14/2012 | 150 | 91 | 25 | ga099_1943 |
| 1130 | LS15009125R2 | Follows channel, circles around from south from assumed ice jam, cutting through old residual area | 340_494 | MRD_4_74 | 11/14/2012 | 150 | 91 | 25 | ga099_1943 |
| 730 | LS15009125L1 | Edge of upland with road above, willow flats below | 340_494 | MRD_4_43 | 10/16/2012 | 150 | 91 | 25 | ga106_1943 |
| 731 | LS15009125L2 | At waters edge, cut bank | 340_494 | MRD_4_43 | 10/16/2012 | 150 | 91 | 25 | ga106_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|---|------------|------------|------------|----------|-------|----------|------------|
| 1128 | LS15009126R3 | On waters edge, hydrophilic vegetation above from overland flow, follows 1750 contour line | 340_494 | MRD_4_74 | 11/14/2012 | 150 | 91 | 26 | ga099_1943 |
| 674 | LS15009126R1 | Along back channel, follow vegetation maturity line | 340_494 | MRD_4_74 | 10/16/2012 | 150 | 91 | 26 | ga099_1943 |
| 675 | LS15009126R2 | On waters edge, hydrophilic vegetation above from overland flow, follows 1750 contour line | 340_494 | MRD_4_74 | 10/16/2012 | 150 | 91 | 26 | ga099_1943 |
| 673 | LS15009127R1 | Along back channel, follow vegetation maturity line | CCP-1H-56 | MRD_4_74 | 12/19/2012 | 150 | 91 | 27 | ga099_1943 |
| 1155 | LS15009127R2 | Along back channel, follow vegetation maturity line | CCP-1H-56 | MRD_4_74 | 12/19/2012 | 150 | 91 | 27 | ga099_1943 |
| 666 | LS15009129R2 | On waters edge, follows contour line | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 29 | ga091_1943 |
| 667 | LS15009129R3 | On waters edge, follows contour line | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 29 | ga091_1943 |
| 1133 | LS15009130L1 | Along main waters edge, cut bank. | 340_495 | MRD_4_104 | 11/26/2012 | 150 | 91 | 30 | ga091_1943 |
| 1140 | LS15009130L3 | Along main waters edge, cut bank, woodland and hayed fields above | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 30 | ga091_1943 |
| 1141 | LS15009130L2 | Along main waters edge, cut bank. | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 30 | ga091_1943 |
| 642 | LS15009131L1 | Along waters edge, on edge of depositional area | 340_495 | MRD_4_104 | 10/16/2012 | 150 | 91 | 31 | ga091_1943 |
| 643 | LS15009131L2 | Along waters edge, on edge of depositional area | 340_495 | MRD_4_104 | 10/16/2012 | 150 | 91 | 31 | ga091_1943 |
| 644 | LS15009131L3 | Near waters edge, on edge of barren depositional area, willows upland but no channeling water | 340_495 | MRD_4_104 | 10/16/2012 | 150 | 91 | 31 | ga091_1943 |
| 656 | LS15009131R1 | Waters edge, vegetation above attributed to overland flow, no apparent inlet | 340_495 | MRD_4_104 | 10/16/2012 | 150 | 91 | 31 | ga091_1943 |
| 657 | LS15009131R2 | Waters edge, vegetation above attributed to overland flow | 340_495 | MRD_4_104 | 10/16/2012 | 150 | 91 | 31 | ga091_1943 |
| 658 | LS15009131R3 | Waters edge, vegetation above attributed to overland flow | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 32 | ga091_1943 |
| 659 | LS15009129R1 | On waters edge, follows contour line | CCP-1H-56 | MRD_4_104 | 12/19/2012 | 150 | 91 | 32 | ga091_1943 |
| 676 | LS15009135R1 | Follows channel, circles around from south from assumed ice jam, cutting through old residual area | 340_494 | MRD_4_73 | 10/16/2012 | 150 | 91 | 35 | ga099_1943 |
| 677 | LS15009135R2 | Follows channel, circles around from south from assumed ice jam, cutting through old residual area | 340_494 | MRD_4_73 | 10/16/2012 | 150 | 91 | 35 | ga099_1943 |
| 678 | LS15009135R3 | Follows old channel; upland is hay/crop areas vegetation below is striated willows with open areas; 43 photo shows more open water channels; river side depositional upland is edge of original river bed | 340_494 | MRD_4_73 | 10/16/2012 | 150 | 91 | 35 | ga099_1943 |
| 736 | LS15009136L1 | At waters edge, older depositional, well vegetated sandbar | 340_494 | MRD_4_45 | 10/16/2012 | 150 | 91 | 36 | ga106_1943 |
| 1144 | LS15009229L1 | On low cut bank on main channel | 340_495 | N/A | 11/28/2012 | 150 | 92 | 29 | ga076_1943 |
| 1145 | LS15009229L2 | On low cut bank on main channel | 340_495 | N/A | 11/28/2012 | 150 | 92 | 29 | ga083_1943 |
| 623 | LS15009230L1 | On cut bank on main channel | 340_473 | N/A | 10/16/2012 | 150 | 92 | 30 | ga076_1943 |
| 624 | LS15009230L2 | On cut bank on main channel | 340_473 | N/A | 10/16/2012 | 150 | 92 | 30 | ga076_1943 |
| 1143 | LS15009230L3 | On low cut bank on main channel | 340_473 | N/A | 11/28/2012 | 150 | 92 | 30 | ga076_1943 |
| 1123 | LS15009231R1 | On old channel hydrophilic vegetation on both sides, OHWL follows channel from river; hydrophilic vegetation upland attributed to overland flow | 340_473 | MRD_5_20 | 10/16/2012 | 150 | 92 | 31 | ga076_1943 |
| 1124 | LS15009231R2 | On old channel hydrophilic vegetation on both sides, OHWL follows channel from river; hydrophilic vegetation upland attributed to overland flow | 340_473 | MRD_5_20 | 10/16/2012 | 150 | 92 | 31 | ga076_1943 |
| 1126 | LS15009232R1 | On old channel hydrophilic vegetation on both sides, OHWL follows channel from river; hydrophilic vegetation upland attributed to overland flow | 340_473 | MRD_5_20 | 10/16/2012 | 150 | 92 | 31 | ga076_1943 |
| 603 | LS15009232R3 | On old channel, also receives runoff from upland drainage, appears hydrophilic vegetation on both sides, OHWM follows channel from river | 340_473 | MRD_5_20 | 10/16/2012 | 150 | 92 | 32 | ga083_1943 |
| 646 | LS15009232R4 | End of old river channel, on main water channel | 340_495 | N/A | 10/16/2012 | 150 | 92 | 32 | ga083_1943 |
| 1127 | LS15009232R2 | On old channel hydrophilic vegetation on both sides, OHWL follows channel from river; hydrophilic vegetation upland attributed to overland flow | 340_473 | MRD_5_20 | 10/16/2012 | 150 | 92 | 32 | ga076_1943 |
| 1146 | LS15009232L1 | On low cut bank on main channel | 340_495 | N/A | 11/28/2012 | 150 | 92 | 32 | ga083_1943 |
| 1147 | LS15009232L2 | On low cut bank on main channel | 340_495 | N/A | 11/28/2012 | 150 | 92 | 32 | ga083_1943 |
| 1148 | LS15009232L3 | On main channel; point where OHWM turns on a line between vegetation types; above, taller more mature vegetation, below dense uniform low willows | 340_495 | N/A | 11/28/2012 | 150 | 92 | 32 | ga083_1943 |
| 1149 | LS15009233L1 | OHWM follows obvious line between vegetation types; above, taller more mature vegetation, below dense uniform low willows | 340_495 | N/A | 11/28/2012 | 150 | 92 | 33 | ga083_1943 |
| 1150 | LS15009233L2 | OHWM follows obvious line between vegetation types; above, taller more mature vegetation, below dense uniform low willows | 340_495 | N/A | 11/28/2012 | 150 | 92 | 33 | ga083_1943 |
| 1151 | LS15009233L3 | OHWM follows obvious line between vegetation types; above, taller more mature vegetation, below dense uniform low willows | 340_495 | N/A | 11/28/2012 | 150 | 92 | 33 | ga083_1943 |
| 1152 | LS15009234L1 | OHWM follows obvious line between vegetation types; above, taller more mature vegetation, below dense uniform low willows | 340_495 | N/A | 11/28/2012 | 150 | 92 | 34 | ga083_1943 |
| 1153 | LS15009234L2 | OHWM follows obvious line between vegetation types; above, taller more mature vegetation, below dense uniform low willows | 340_495 | N/A | 11/28/2012 | 150 | 92 | 34 | ga083_1943 |
| 1154 | LS15009234L3 | OHWM follows obvious line between vegetation types; above, taller more mature vegetation, below dense uniform low willows; very near main river channel | 340_495 | N/A | 11/28/2012 | 150 | 92 | 34 | ga083_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|---|------------|------------|------------|----------|-------|----------|------------|
| 641 | LS15009236L1 | Along waters edge, on edge of depositional area | 340_495 | MRD_4_104 | 10/16/2012 | 150 | 92 | 36 | ga091_1943 |
| 572 | LS15009307L1 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller. | 340_473 | MRD_5_176 | 10/15/2012 | 150 | 93 | 7 | ga062_1943 |
| 573 | LS15009307L2 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, slight channel visible | 340_473 | MRD_5_176 | 10/15/2012 | 150 | 93 | 7 | ga062_1943 |
| 575 | LS15009307R1 | Cut bank, at waters edge | 340_473 | MRD_5_176 | 10/15/2012 | 150 | 93 | 7 | ga062_1943 |
| 576 | LS15009307R2 | Cut bank, at waters edge | 340_473 | MRD_5_176 | 10/15/2012 | 150 | 93 | 7 | ga062_1943 |
| 610 | LS15009316L1 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, obvious channel visible | 340_473 | N/A | 10/16/2012 | 150 | 93 | 16 | ga069_1943 |
| 580 | LS15009317L1 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, slight channel visible | 340_473 | MRD_5_143 | 10/16/2012 | 150 | 93 | 17 | ga069_1943 |
| 581 | LS15009317L2 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, slight channel visible | 340_473 | MRD_5_143 | 10/16/2012 | 150 | 93 | 17 | ga069_1943 |
| 582 | LS15009317L3 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, obvious channel visible | 340_473 | MRD_5_143 | 10/16/2012 | 150 | 93 | 17 | ga069_1943 |
| 577 | LS15009318R1 | Cut bank, at waters edge | 340_473 | MRD_5_176 | 10/15/2012 | 150 | 93 | 18 | ga062_1943 |
| 578 | LS15009318R2 | Cut bank, at waters edge | 340_473 | MRD_5_176 | 10/15/2012 | 150 | 93 | 18 | ga062_1943 |
| 579 | LS15009318L1 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, slight channel visible | 340_473 | MRD_5_176 | 10/16/2012 | 150 | 93 | 18 | ga062_1943 |
| 583 | LS15009318R3 | On cut bank, at waters edge | 340_473 | MRD_5_143 | 10/16/2012 | 150 | 93 | 18 | ga062_1943 |
| 584 | LS15009320R1 | On cut bank, at waters edge | 340_473 | MRD_5_143 | 10/16/2012 | 150 | 93 | 20 | ga062_1943 |
| 585 | LS15009320R2 | At cut edge, follows contour line | 340_473 | MRD_5_143 | 10/16/2012 | 150 | 93 | 20 | ga070_1943 |
| 586 | LS15009320R3 | At cut edge, follows contour line | 340_473 | MRD_5_143 | 10/16/2012 | 150 | 93 | 20 | ga070_1943 |
| 587 | LS15009321R1 | Follows along waters edge, cut bank, narrow active channel before sandbar 100'+ wide | 340_473 | MRD_5_101 | 10/16/2012 | 150 | 93 | 21 | ga070_1943 |
| 611 | LS15009321L1 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, obvious channel visible | 340_473 | N/A | 10/16/2012 | 150 | 93 | 21 | ga069_1943 |
| 612 | LS15009321L2 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, obvious channel visible | 340_473 | N/A | 10/16/2012 | 150 | 93 | 21 | ga070_1943 |
| 613 | LS15009321L3 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, obvious channel visible | 340_473 | N/A | 10/16/2012 | 150 | 93 | 21 | ga070_1943 |
| 614 | LS15009322L1 | Dense vegetation upland, on main channel | 340_473 | N/A | 10/16/2012 | 150 | 93 | 22 | ga070_1943 |
| 620 | LS15009325L1 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, slight channel visible | 340_473 | N/A | 10/16/2012 | 150 | 93 | 25 | ga076_1943 |
| 621 | LS15009325L2 | On cut bank on main channel | 340_473 | N/A | 10/16/2012 | 150 | 93 | 25 | ga076_1943 |
| 622 | LS15009325L3 | On cut bank on main channel | 340_473 | N/A | 10/16/2012 | 150 | 93 | 25 | ga076_1943 |
| 1121 | LS15009325R1 | On old channel hydrophilic vegetation on both sides, OHWL follows channel from river; hydrophilic vegetation upland attributed to overland flow | 340_473 | MRD_5_63 | 10/16/2012 | 150 | 93 | 25 | ga076_1943 |
| 1125 | LS15009325R2 | On old channel hydrophilic vegetation on both sides, OHWL follows channel from river; hydrophilic vegetation upland attributed to overland flow | 340_473 | MRD_5_20 | 10/16/2012 | 150 | 93 | 25 | ga076_1943 |
| 617 | LS15009326L1 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, slight channel visible | 340_473 | N/A | 10/16/2012 | 150 | 93 | 26 | ga070_1943 |
| 618 | LS15009326L2 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, slight channel visible | 340_473 | N/A | 10/16/2012 | 150 | 93 | 26 | ga076_1943 |
| 619 | LS15009326L3 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, slight channel visible | 340_473 | N/A | 10/16/2012 | 150 | 93 | 26 | ga076_1943 |
| 1118 | LS15009326R1 | Follows contour line along main channel; hydrophilic vegetation behind attributed to overland flow | 340_473 | MRD_5_63 | 10/16/2012 | 150 | 93 | 26 | ga070_1943 |
| 1119 | LS15009326R2 | Follows contour line along main channel; hydrophilic vegetation behind attributed to overland flow | 340_473 | MRD_5_63 | 10/16/2012 | 150 | 93 | 26 | ga076_1943 |
| 1120 | LS15009326R3 | Follows contour line along main channel; hydrophilic vegetation behind attributed to overland flow; turns along older channel at this point | 340_473 | MRD_5_63 | 10/16/2012 | 150 | 93 | 26 | ga076_1943 |
| 590 | LS15009327R1 | Follows along waters edge, cut bank, narrow active channel before sandbar 100'+ wide | 340_473 | MRD_5_101 | 10/16/2012 | 150 | 93 | 27 | ga070_1943 |
| 591 | LS15009327R2 | On cut bank | 340_473 | MRD_5_101 | 10/16/2012 | 150 | 93 | 27 | ga070_1943 |
| 615 | LS15009327L1 | Dense vegetation upland, on main channel | 340_473 | N/A | 10/16/2012 | 150 | 93 | 27 | ga070_1943 |
| 616 | LS15009327L2 | Change in vegetation stature, towards water, more open, lower, upland is denser vegetation, appears to be taller, slight channel visible | 340_473 | N/A | 10/16/2012 | 150 | 93 | 27 | ga070_1943 |
| 1117 | LS15009327R3 | Follows contour line along main channel; hydrophilic vegetation and water behind from overland flow | 340_473 | MRD_5_101 | 10/16/2012 | 150 | 93 | 27 | ga070_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|---|------------|------------|------------|----------|-------|----------|------------|
| 588 | LS15009328R1 | Follows along waters edge, cut bank, narrow active channel before sandbar 100'+ wide | 340_473 | MRD_5_101 | 10/16/2012 | 150 | 93 | 28 | ga070_1943 |
| 589 | LS15009328R2 | Follows along waters edge, cut bank, narrow active channel before sandbar 100'+ wide | 340_473 | MRD_5_101 | 10/16/2012 | 150 | 93 | 28 | ga070_1943 |
| 1122 | LS15009230R1 | On old channel hydrophilic vegetation on both sides, OHWL follows channel from river; hydrophilic vegetation upland attributed to overland flow | 340_473 | MRD_5_20 | 10/16/2012 | 150 | 93 | 36 | ga076_1943 |
| 563 | LS15009401L1 | Wooded vegetation, tall structure above, channel below | 340_473 | MRD_5_177 | 10/15/2012 | 150 | 94 | 1 | ga062_1943 |
| 564 | LS15009401L2 | At waters edge, mature vegetation above | 340_473 | MRD_5_177 | 10/15/2012 | 150 | 94 | 1 | ga062_1943 |
| 565 | LS15009401L3 | At waters edge, mature vegetation above | 340_473 | MRD_5_177 | 10/15/2012 | 150 | 94 | 1 | ga062_1943 |
| 566 | LS15009401R1 | At waters edge, follow 1943 contour line, vegetated above | 340_473 | MRD_5_177 | 10/15/2012 | 150 | 94 | 1 | ga062_1943 |
| 567 | LS15009401R2 | Back channel, area of lineal willows, lower vegetation towards river, more mature upland | 340_473 | MRD_5_177 | 10/15/2012 | 150 | 94 | 1 | ga062_1943 |
| 568 | LS15009401R3 | Lower area in older channel with higher vegetation upland | 340_473 | MRD_5_177 | 10/15/2012 | 150 | 94 | 1 | ga062_1943 |
| 569 | LS15009412R1 | Along contour line, sedimentary material below, lower structure vegetation | 340_473 | MRD_5_177 | 10/15/2012 | 150 | 94 | 12 | ga062_1943 |
| 570 | LS15009412R2 | Along contour line, sedimentary material below, lower structure vegetation | 340_473 | MRD_5_177 | 10/15/2012 | 150 | 94 | 12 | ga062_1943 |
| 571 | LS15009412L1 | Along waters edge, older depositional area upland | 340_473 | MRD_5_176 | 10/15/2012 | 150 | 94 | 12 | ga062_1943 |
| 574 | LS15009412R3 | Cut bank, at waters edge | 340_473 | MRD_5_176 | 10/15/2012 | 150 | 94 | 12 | ga062_1943 |
| 1142 | LS15009412L2 | Along waters edge, older depositional area upland | 340_473 | MRD_5_176 | 10/15/2012 | 150 | 94 | 12 | ga062_1943 |
| 749 | LS14909019L1 | Along waters edge with mature trees above, no evidence of channeling | 340_494 | N/A | 10/16/2012 | 149 | 90 | 19 | ga107_1943 |
| 750 | LS14909019L2 | Along waters edge with mature trees above, no evidence of channeling | 340_494 | N/A | 10/16/2012 | 149 | 90 | 19 | ga107_1943 |
| 751 | LS14909019L3 | Follow apparent back channel; channel more obvious on 1943 photo | 340_494 | MRD 3-219 | 10/16/2012 | 149 | 90 | 19 | ga107_1943 |
| 752 | LS14909030L1 | Follow apparent back channel; channel more obvious on 1943 photo | 340_494 | MRD 3-219 | 10/16/2012 | 149 | 90 | 30 | ga107_1943 |
| 753 | LS14909030L2 | Follow apparent back channel; channel more obvious on 1943 photo | 340_494 | MRD 3-219 | 10/16/2012 | 149 | 90 | 30 | ga107_1943 |
| 754 | LS14909030L3 | Follow apparent back channel; channel more obvious on 1943 photo | 340_494 | MRD 3-219 | 10/16/2012 | 149 | 90 | 30 | ga107_1943 |
| 755 | LS14909031L1 | Follow apparent back channel; channel more obvious on 1943 photo | 340_494 | MRD 3-219 | 10/16/2012 | 149 | 90 | 31 | ga107_1943 |
| 756 | LS14909031L2 | Follow apparent back channel; channel more obvious on 1943 photo | 340_494 | MRD 3-219 | 10/16/2012 | 149 | 90 | 31 | ga107_1943 |
| 757 | LS14909031L3 | Follow apparent back channel; channel more obvious on 1943 photo | 340_494 | MRD 3-219 | 10/16/2012 | 149 | 90 | 31 | ga107_1943 |
| 737 | LS14909101L1 | At waters edge, older depositional, well vegetated sandbar | 340_494 | MRD_4_45 | 10/16/2012 | 149 | 91 | 1 | ga106_1943 |
| 738 | LS14909101L2 | At waters edge, older depositional, well vegetated sandbar | 340_494 | MRD_4_45 | 10/16/2012 | 149 | 91 | 1 | ga106_1943 |
| 739 | LS14909101L3 | At waters edge, older depositional, well vegetated sandbar | 340_494 | MRD_4_45 | 10/16/2012 | 149 | 91 | 1 | ga106_1943 |
| 742 | LS14909101L4 | Following old channel with more sparse vegetation towards river, more mature vegetation on sandbar above | 340_494 | MRD_4_45 | 10/16/2012 | 149 | 91 | 1 | ga106_1943 |
| 679 | LS14909102R1 | Follows old channel; upland is hay/crop areas vegetation below is striated willows with open areas; 43 photo shows more open water channels; river side depositional upland is edge of original river bed | 340_494 | MRD_4_73 | 10/16/2012 | 149 | 91 | 2 | ga099_1943 |
| 680 | LS14909102R2 | East end of depositional area; on main water channel | 340_494 | MRD_4_73 | 10/16/2012 | 149 | 91 | 2 | ga099_1943 |
| 740 | LS14909102L1 | At waters edge, older depositional, well vegetated sandbar | 340_494 | MRD_4_45 | 10/16/2012 | 149 | 91 | 2 | ga099_1943 |
| 741 | LS14909102L2 | Following old channel with more sparse vegetation towards river, more mature vegetation on sandbar above | 340_494 | MRD_4_45 | 10/16/2012 | 149 | 91 | 2 | ga106_1943 |
| 761 | LS14909102R3 | At waters edge, fields above | 340_494 | N/A | 10/16/2012 | 149 | 91 | 2 | ga099_1943 |
| 655 | LS14909106R1 | At waters edge, on cut bank | 340_495 | MRD_4_104 | 10/16/2012 | 149 | 91 | 6 | ga091_1943 |
| 762 | LS14909111R1 | Willow flats below, more mature vegetation above, followed change in vegetation, approaching active channel | 340_494 | N/A | 10/16/2012 | 149 | 91 | 11 | ga099_1943 |
| 763 | LS14909111R2 | Follow vegetation line, near active channel, | 340_494 | N/A | 10/16/2012 | 149 | 91 | 11 | ga099_1943 |
| 764 | LS14909111R3 | At waters edge, cut bank | 340_494 | N/A | 10/16/2012 | 149 | 91 | 11 | ga106_1943 |
| 743 | LS14909112L1 | Following old channel with more sparse vegetation towards river, more mature vegetation on sandbar above | 340_494 | MRD_4_45 | 10/16/2012 | 149 | 91 | 12 | ga106_1943 |
| 744 | LS14909112L2 | Following old channel with more sparse vegetation towards river, more mature vegetation on sandbar above | 340_494 | MRD_4_45 | 10/16/2012 | 149 | 91 | 12 | ga106_1943 |
| 745 | LS14909112L3 | Uplands with roads, willow flats below | 340_494 | N/A | 10/16/2012 | 149 | 91 | 12 | ga106_1943 |
| 746 | LS14909113L1 | Uplands with roads, willow flats below | 340_494 | N/A | 10/16/2012 | 149 | 91 | 13 | ga107_1943 |
| 747 | LS14909113L2 | Along cut bank with fields above | 340_494 | N/A | 10/16/2012 | 149 | 91 | 13 | ga107_1943 |
| 748 | LS14909113L3 | Along waters edge with mature trees above, no evidence of channeling | 340_494 | N/A | 10/16/2012 | 149 | 91 | 13 | ga107_1943 |
| 765 | LS14909113R1 | At waters edge, cut bank | 340_494 | N/A | 10/16/2012 | 149 | 91 | 13 | ga107_1943 |
| 766 | LS14909113R2 | At waters edge, cut bank | 340_494 | N/A | 10/16/2012 | 149 | 91 | 13 | ga107_1943 |
| 767 | LS14909113R3 | Following change in vegetation, willow flats below, more mature vegetation above | 340_494 | N/A | 10/16/2012 | 149 | 91 | 13 | ga107_1943 |
| 768 | LS14909124R1 | Following change in vegetation, willow flats below, more mature vegetation above | 340_494 | N/A | 10/16/2012 | 149 | 91 | 24 | ga107_1943 |
| 769 | LS14909124R2 | At waters edge, no back channels observed | 340_494 | N/A | 10/16/2012 | 149 | 91 | 24 | ga107_1943 |
| 770 | LS14909125R1 | At waters edge, no back channels observed | 340_494 | N/A | 10/16/2012 | 149 | 91 | 25 | ga107_1943 |
| 771 | LS14909125R2 | At waters edge, no back channels observed | 340_494 | N/A | 10/16/2012 | 149 | 91 | 25 | ga107_1943 |
| 772 | LS14909125R3 | At waters edge, no back channels observed | 340_494 | N/A | 10/16/2012 | 149 | 91 | 25 | ga107_1943 |
| 773 | LS14909136R1 | At waters edge, cut bank | 340_494 | N/A | 10/16/2012 | 149 | 91 | 36 | ga107_1943 |
| 774 | LS14909136R2 | At waters edge, cut bank | 340_494 | N/A | 10/16/2012 | 149 | 91 | 36 | ga107_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|--|------------|------------|------------|----------|-------|----------|------------|
| 775 | LS14909136R3 | At waters edge, cut bank | 340_494 | N/A | 10/16/2012 | 149 | 91 | 36 | ga107_1943 |
| 607 | LS14909201R1 | Cut bank at waters edge | 340_495 | N/A | 10/16/2012 | 149 | 92 | 1 | ga091_1943 |
| 608 | LS14909201R2 | Cut bank at waters edge | 340_495 | N/A | 10/16/2012 | 149 | 92 | 1 | ga091_1943 |
| 609 | LS14909201R3 | Cut bank at waters edge | 340_495 | N/A | 10/16/2012 | 149 | 92 | 1 | ga091_1943 |
| 638 | LS14909201L1 | Follows line between denser vegetation and more barren sands | 340_495 | N/A | 10/16/2012 | 149 | 92 | 1 | ga091_1943 |
| 639 | LS14909201L2 | Follows line between denser vegetation and more barren sands | 340_495 | N/A | 10/16/2012 | 149 | 92 | 1 | ga091_1943 |
| 640 | LS14909201L3 | Follows line between denser vegetation and more barren sands | 340_495 | N/A | 10/16/2012 | 149 | 92 | 1 | ga091_1943 |
| 635 | LS14909202L1 | On main water channel; "upland" willows from overland flow, and willows below from river | 340_495 | N/A | 10/16/2012 | 149 | 92 | 2 | ga083_1943 |
| 636 | LS14909202L2 | On main water channel; "upland" willows from overland flow, and willows below from river | 340_495 | N/A | 10/16/2012 | 149 | 92 | 2 | ga083_1943 |
| 637 | LS14909202L3 | On main water channel; "upland" willows from overland flow, and willows below from river | 340_495 | N/A | 10/16/2012 | 149 | 92 | 2 | ga091_1943 |
| 652 | LS14909202R1 | Against original river bank | 340_495 | N/A | 10/16/2012 | 149 | 92 | 2 | ga083_1943 |
| 653 | LS14909202R2 | Against original river bank | 340_495 | N/A | 10/16/2012 | 149 | 92 | 2 | ga083_1943 |
| 654 | LS14909202R3 | At waters edge, east end of depositional area | 340_495 | N/A | 10/16/2012 | 149 | 92 | 2 | ga091_1943 |
| 649 | LS14909203R1 | On main water, turns along old channel | 340_495 | MRD_4_190 | 10/16/2012 | 149 | 92 | 3 | ga083_1943 |
| 650 | LS14909203R2 | Along old channel, depositional area by river, more vegetation upland | 340_495 | N/A | 10/16/2012 | 149 | 92 | 3 | ga083_1943 |
| 651 | LS14909203R3 | Against original river bank | 340_495 | N/A | 10/16/2012 | 149 | 92 | 3 | ga083_1943 |
| 647 | LS14909204R1 | On waters edge, uplands old sedimentary area, developed trees | 340_495 | MRD_4_190 | 10/16/2012 | 149 | 92 | 4 | ga083_1943 |
| 648 | LS14909204R2 | On waters edge, uplands old sedimentary area, developed trees | 340_495 | MRD_4_190 | 10/16/2012 | 149 | 92 | 4 | ga083_1943 |
| 758 | LS14809103L1 | Follow apparent back channel; channel more obvious on 1943 photo | 340_494 | MRD 3-219 | 10/16/2012 | 148 | 91 | 3 | ga107_1943 |
| 759 | LS14809103L2 | Point where back channel meets main river channel | 340_494 | MRD 3-217 | 10/16/2012 | 148 | 91 | 3 | ga108_1943 |
| 776 | LS14809103R1 | Along vegetation line, above active back channel | 340_494 | N/A | 10/16/2012 | 148 | 91 | 3 | ga107_1943 |
| 777 | LS14809103R2 | Along vegetation line, above active back channel | 340_650 | N/A | 10/16/2012 | 148 | 91 | 3 | ga107_1943 |
| 778 | LS14809104R1 | Along vegetation line, above active back channel | 340_650 | N/A | 10/16/2012 | 148 | 91 | 4 | ga108_1943 |
| 779 | LS14809109R1 | Along vegetation line, above active back channel | 340_650 | N/A | 10/16/2012 | 148 | 91 | 9 | ga108_1943 |
| 780 | LS14809109R2 | Along vegetation line, above active back channel | 340_650 | N/A | 10/16/2012 | 148 | 91 | 9 | ga108_1943 |
| 781 | LS14809109R3 | Along vegetation line, above active back channel | 340_650 | N/A | 10/16/2012 | 148 | 91 | 9 | ga108_1943 |
| 760 | LS14809110L1 | At waters edge, cut bank | 340_650 | N/A | 10/16/2012 | 148 | 91 | 10 | ga108_1943 |
| 797 | LS14809110L2 | Follow apparent back channel & obvious vegetation line | 340_650 | N/A | 10/16/2012 | 148 | 91 | 10 | ga108_1943 |
| 798 | LS14809110L3 | Follow apparent back channel & obvious vegetation line; channel more obvious on 1943 photo | 340_650 | MRD-3-216 | 10/16/2012 | 148 | 91 | 10 | ga108_1943 |
| 799 | LS14809115L1 | Follow apparent back channel & obvious vegetation line; channel more obvious on 1943 photo | 340_650 | MRD-3-216 | 10/16/2012 | 148 | 91 | 15 | ga108_1943 |
| 800 | LS14809115L2 | Follow apparent back channel & obvious vegetation line; channel more obvious on 1943 photo | 340_650 | MRD-3-216 | 10/16/2012 | 148 | 91 | 15 | ga108_1943 |
| 782 | LS14809116R1 | Willow flats below, upland evidence of farming | 340_650 | N/A | 10/16/2012 | 148 | 91 | 16 | ga108_1943 |
| 783 | LS14809116R2 | Willow flats below, upland evidence of farming | 340_650 | N/A | 10/16/2012 | 148 | 91 | 16 | ga108_1943 |
| 784 | LS14809116R3 | Willow flats below, vegetation line between low willows and vegetation along little mo river | 340_650 | N/A | 10/16/2012 | 148 | 91 | 16 | ga108_1943 |
| 785 | LS14809122R1 | Willow flats below, vegetation line between low willows and vegetation along little mo river | 340_650 | N/A | 10/16/2012 | 148 | 91 | 22 | ga108_1943 |
| 786 | LS14809122R2 | Along active back channel, little mo vegetation above | 340_650 | N/A | 10/16/2012 | 148 | 91 | 22 | ga108_1943 |
| 787 | LS14809122R3 | Along active back channel, little mo vegetation above | 340_650 | N/A | 10/16/2012 | 148 | 91 | 22 | ga108_1943 |
| 801 | LS14809122L1 | Follow apparent back channel & obvious vegetation line; channel more obvious on 1943 photo | 340_650 | MRD-3-216 | 10/16/2012 | 148 | 91 | 22 | ga108_1943 |
| 802 | LS14809122L2 | Follow apparent back channel & obvious vegetation line; channel more obvious on 1943 photo | 340_650 | MRD-3-216 | 10/16/2012 | 148 | 91 | 22 | ga108_1943 |
| 803 | LS14809123L1 | Follow apparent back channel | 340_650 | N/A | 10/16/2012 | 148 | 91 | 23 | ga108_1943 |
| 804 | LS14809126L1 | Follow apparent back channel and obvious change in vegetation | 340_650 | N/A | 10/16/2012 | 148 | 91 | 26 | ga108_1943 |
| 805 | LS14809126L2 | Follow apparent back channel and obvious change in vegetation | 340_650 | N/A | 10/16/2012 | 148 | 91 | 26 | ga108_1943 |
| 806 | LS14809126L3 | Follow apparent back channel and obvious change in vegetation | 340_650 | N/A | 10/16/2012 | 148 | 91 | 26 | ga108_1943 |
| 1110 | LS14809126R1 | Along active back channel, little mo vegetation above | 340_650 | N/A | 10/16/2012 | 148 | 91 | 26 | ga108_1943 |
| 788 | LS14809127R1 | Along active back channel, little mo vegetation above | 340_650 | N/A | 10/16/2012 | 148 | 91 | 27 | ga108_1943 |
| 789 | LS14809127R2 | Along active back channel, little mo vegetation above | 340_650 | N/A | 10/16/2012 | 148 | 91 | 27 | ga108_1943 |
| 1111 | LS14809134R1 | Willow flats below, vegetation line between low willows and vegetation along little mo river | 340_650 | N/A | 10/16/2012 | 148 | 91 | 34 | ga109_1943 |
| 790 | LS14809135R1 | Willow flats below, vegetation line between low willows and vegetation along little mo river | 340_650 | N/A | 10/16/2012 | 148 | 91 | 35 | ga109_1943 |
| 791 | LS14809135R2 | Willow flats below, vegetation line between low willows and vegetation along little mo river | 340_650 | N/A | 10/16/2012 | 148 | 91 | 35 | ga109_1943 |
| 792 | LS14809135R3 | Willow flats below, upland with roads | 340_650 | N/A | 10/16/2012 | 148 | 91 | 35 | ga109_1943 |
| 807 | LS14809135L1 | At waters edge, mature vegetation above | 340_650 | N/A | 10/16/2012 | 148 | 91 | 35 | ga109_1943 |
| 808 | LS14809136L1 | At waters edge, mature vegetation, grasslands and trees above | 340_650 | N/A | 10/16/2012 | 148 | 91 | 36 | ga109_1943 |
| 876 | LS14809136L2 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_650 | N/A | 11/14/2012 | 148 | 91 | 36 | ga113_1943 |
| 1005 | LS14708407L1 | On 30' cut bank; channel below & field above | 340_6104 | MRD_1_74 | 10/17/2012 | 147 | 84 | 7 | ga147_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|---|------------|------------|------------|----------|-------|----------|------------|
| 1006 | LS14708407L2 | On 30' cut bank; channel below & field above | 340_6104 | N/A | 10/17/2012 | 147 | 84 | 7 | ga147_1943 |
| 1007 | LS14708407L3 | On 10' cut bank; main channel below & field above | 340_6104 | N/A | 10/17/2012 | 147 | 84 | 7 | ga147_1943 |
| 1014 | LS14708415L1 | On cut bank above back channel | 340_6103 | MRD_1_18 | 10/17/2012 | 147 | 84 | 15 | ga153_1943 |
| 1011 | LS14708416L1 | On obvious vegetation maturity line; more prominent in 1943 | 340_6103 | MRD_1_18 | 10/17/2012 | 147 | 84 | 16 | ga153_1943 |
| 1012 | LS14708416L2 | On obvious vegetation maturity line; more prominent in 1943 | 340_6103 | MRD_1_18 | 10/17/2012 | 147 | 84 | 16 | ga153_1943 |
| 1013 | LS14708416L3 | On obvious vegetation maturity line; more prominent in 1943 | 340_6103 | MRD_1_18 | 10/17/2012 | 147 | 84 | 16 | ga153_1943 |
| 1008 | LS14708417L1 | On 10' cut bank; main channel below & field above | 340_6104 | N/A | 10/17/2012 | 147 | 84 | 17 | ga153_1943 |
| 1009 | LS14708417L2 | On 10' cut bank; main channel below & field above | 340_6104 | N/A | 10/17/2012 | 147 | 84 | 17 | ga153_1943 |
| 1010 | LS14708417L3 | On 10' cut bank; main channel below & field above | 340_6104 | MRD_1_18 | 10/17/2012 | 147 | 84 | 17 | ga153_1943 |
| 1076 | LS14708417R1 | On cut bank; low willows wet area below hayed uplands above | 340_6103 | N/A | 10/17/2012 | 147 | 84 | 17 | ga147_1943 |
| 1073 | LS14708418R1 | OHWL on obvious vegetation line along older depositional area; area below is mostly barren with less mature vegetation; hydrophilic vegetation above is maintained by upland runoff although is older river channel | 340_6104 | MRD_1_73 | 10/17/2012 | 147 | 84 | 18 | ga147_1943 |
| 1074 | LS14708418R2 | OHWL on obvious vegetation line along older depositional area; area below is mostly barren with less mature vegetation; hydrophilic vegetation above is maintained by upland runoff although is older river channel | 340_6104 | MRD_1_73 | 10/17/2012 | 147 | 84 | 18 | ga147_1943 |
| 1075 | LS14708418R3 | On cut bank; low willows wet area below hayed uplands above | 340_6103 | N/A | 10/17/2012 | 147 | 84 | 18 | ga147_1943 |
| 1115 | LS14708418R4 | On cut bank; low willows wet area below hayed uplands above | 340_6103 | N/A | 10/17/2012 | 147 | 84 | 18 | ga147_1943 |
| 1077 | LS14708420R1 | On cut bank; barren sandbars below hayed uplands above | 340_6103 | N/A | 10/17/2012 | 147 | 84 | 20 | ga153_1943 |
| 1078 | LS14708420R2 | Along cut bank along main channel | 340_6103 | N/A | 10/17/2012 | 147 | 84 | 20 | ga153_1943 |
| 1079 | LS14708421R1 | On cut bank on main channel | 340_6103 | N/A | 10/17/2012 | 147 | 84 | 21 | ga153_1943 |
| 1086 | LS14708421R2 | Cut bank on main channel | Affected | MRD_1_17 | 10/17/2012 | 147 | 84 | 21 | ga154_1943 |
| 1015 | LS14708422L1 | On cut bank above back channel | 340_6103 | MRD_1_18 | 10/17/2012 | 147 | 84 | 22 | ga153_1943 |
| 1016 | LS14708422L2 | On cut bank above back channel | 340_6103 | MRD_1_18 | 10/17/2012 | 147 | 84 | 22 | ga153_1943 |
| 1017 | LS14708422L3 | On cut bank above back channel | 340_6103 | MRD_1_18 | 10/17/2012 | 147 | 84 | 22 | ga154_1943 |
| 1018 | LS14708427L1 | On cut bank above back channel | 340_6103 | MRD_1_18 | 10/17/2012 | 147 | 84 | 27 | ga154_1943 |
| 1019 | LS14708427L2 | On main channel against 30' cut | 340_6103 | N/A | 10/17/2012 | 147 | 84 | 27 | ga154_1943 |
| 1020 | LS14708427L3 | On main channel against 30' cut | 340_6103 | N/A | 10/17/2012 | 147 | 84 | 27 | ga154_1943 |
| 1087 | LS14708428R1 | Cut bank on main channel | Affected | MRD_1_17 | 10/17/2012 | 147 | 84 | 28 | ga154_1943 |
| 1088 | LS14708428R2 | Cut bank on main channel | Affected | MRD_1_17 | 10/17/2012 | 147 | 84 | 28 | ga154_1943 |
| 1089 | LS14708428R3 | On older faint channel; hydrophilic vegetation more sparse below; dryer areas above are hayed and/or cultivated | Affected | MRD_1_17 | 10/17/2012 | 147 | 84 | 28 | ga154_1943 |
| 1090 | LS14708428R4 | On older faint channel; hydrophilic vegetation more sparse below; dryer areas above are hayed and/or cultivated | Affected | MRD_1_17 | 10/17/2012 | 147 | 84 | 28 | ga154_1943 |
| 1093 | LS14708432R1 | On older faint channel; hydrophilic vegetation more sparse below; dryer areas above are hayed and/or cultivated | Affected | MRD_1_16 | 10/17/2012 | 147 | 84 | 32 | ga154_1943 |
| 1094 | LS14708432R2 | Follows contour on obvious vegetation line; below hydrophilic vegetation is striated parallel with direction of river flow; above hayed vegetation | Affected | MRD_1_38 | 10/17/2012 | 147 | 84 | 32 | ga154_1943 |
| 1095 | LS14708432R3 | Follows contour on obvious vegetation line; below hydrophilic vegetation is striated parallel with direction of river flow; above hayed vegetation | Affected | MRD_1_38 | 10/17/2012 | 147 | 84 | 32 | ga154_1943 |
| 1024 | LS14708433L1 | On cut bank, willow flat below | Affected | MRD_1_16 | 10/17/2012 | 147 | 84 | 33 | ga154_1943 |
| 1091 | LS14708433R1 | On older faint channel; hydrophilic vegetation more sparse below; dryer areas above are hayed and/or cultivated | Affected | MRD_1_16 | 10/17/2012 | 147 | 84 | 33 | ga154_1943 |
| 1092 | LS14708433R2 | On older faint channel; hydrophilic vegetation more sparse below; dryer areas above are hayed and/or cultivated | Affected | MRD_1_16 | 10/17/2012 | 147 | 84 | 33 | ga154_1943 |
| 1021 | LS14708434L1 | On main channel against 30' cut | 340_6103 | N/A | 10/17/2012 | 147 | 84 | 34 | ga154_1943 |
| 1022 | LS14708434L2 | On cut bank, willow flat below | Affected | MRD_1_16 | 10/17/2012 | 147 | 84 | 34 | ga154_1943 |
| 1023 | LS14708434L3 | On cut bank, willow flat below | Affected | MRD_1_16 | 10/17/2012 | 147 | 84 | 34 | ga154_1943 |
| 1000 | LS14708511L1 | Follows obvious vegetation maturity line; more obvious on 1943 photo | 340_6104 | MRD_1_74 | 10/17/2012 | 147 | 85 | 11 | ga147_1943 |
| 1001 | LS14708511L2 | Follows obvious vegetation maturity line; more obvious on 1943 photo | 340_6104 | MRD_1_74 | 10/17/2012 | 147 | 85 | 11 | ga147_1943 |
| 1002 | LS14708512L1 | Follows obvious vegetation maturity line; more obvious on 1943 photo | 340_6104 | MRD_1_74 | 10/17/2012 | 147 | 85 | 12 | ga147_1943 |
| 1003 | LS14708512L2 | Follows obvious vegetation maturity line; more obvious on 1943 photo | 340_6104 | MRD_1_74 | 10/17/2012 | 147 | 85 | 12 | ga147_1943 |
| 1004 | LS14708512L3 | On 30' cut bank; channel below & field above | 340_6104 | MRD_1_74 | 10/17/2012 | 147 | 85 | 12 | ga147_1943 |
| 1071 | LS14708512R1 | On main channel; at this point the OHWL turns along a channel; definite vegetation line | 340_6104 | N/A | 10/17/2012 | 147 | 85 | 12 | ga147_1943 |
| 1069 | LS14708513R1 | On main channel; hydrophilic vegetation and some hayed areas above - hydrophilic vegetation attributed to runoff from main cut bank | 340_6104 | MRD_1_73 | 10/17/2012 | 147 | 85 | 13 | ga147_1943 |
| 1070 | LS14708513R2 | On main channel; hydrophilic vegetation and some hayed areas above - hydrophilic vegetation attributed to runoff from main cut bank | 340_6104 | N/A | 10/17/2012 | 147 | 85 | 13 | ga147_1943 |
| 1072 | LS14708513R3 | OHWL on obvious vegetation line along older depositional area; area below is mostly barren with less mature vegetation; hydrophilic vegetation above is maintained by upland runoff although is older river channel | 340_6104 | N/A | 10/17/2012 | 147 | 85 | 13 | ga147_1943 |
| 999 | LS14708514L1 | Follows obvious vegetation maturity line; more obvious on 1943 photo | 340_6104 | MRD_1_89 | 10/17/2012 | 147 | 85 | 14 | ga147_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|---|------------|------------|------------|----------|-------|----------|------------|
| 1067 | LS14708514R1 | On main channel; hydrophilic vegetation and some hayed areas above - hydrophilic vegetation attributed to runoff from main cut bank | 340_6104 | MRD_1_72 | 10/17/2012 | 147 | 85 | 14 | ga147_1943 |
| 1068 | LS14708514R2 | On main channel; hydrophilic vegetation and some hayed areas above - hydrophilic vegetation attributed to runoff from main cut bank | 340_6104 | MRD_1_72 | 10/17/2012 | 147 | 85 | 14 | ga147_1943 |
| 995 | LS14708515L1 | On main water channel | 340_6104 | MRD_1_89 | 10/17/2012 | 147 | 85 | 15 | ga143_1943 |
| 996 | LS14708515L2 | On main water channel | 340_6104 | MRD_1_89 | 10/17/2012 | 147 | 85 | 15 | ga143_1943 |
| 997 | LS14708515L3 | On main water channel | 340_6104 | MRD_1_89 | 10/17/2012 | 147 | 85 | 15 | ga143_1943 |
| 1064 | LS14708515R1 | Cut bank with sand bar in front | 340_6104 | MRD_1_90 | 10/17/2012 | 147 | 85 | 15 | ga143_1943 |
| 1065 | LS14708515R2 | Cut bank with sand bar in front | 340_6104 | N/A | 10/17/2012 | 147 | 85 | 15 | ga143_1943 |
| 1066 | LS14708515R3 | Cut bank with sand bar in below, sediment from upland drain above | 340_6104 | MRD_1_72 | 10/17/2012 | 147 | 85 | 15 | ga143_1943 |
| 992 | LS14708516L1 | On main water channel | 340_6104 | MRD_1_126 | 10/17/2012 | 147 | 85 | 16 | ga143_1943 |
| 993 | LS14708516L2 | On main water channel | 340_6104 | N/A | 10/17/2012 | 147 | 85 | 16 | ga143_1943 |
| 994 | LS14708516L3 | On main water channel | 340_6104 | N/A | 10/17/2012 | 147 | 85 | 16 | ga143_1943 |
| 1062 | LS14708516R1 | On main river channel - sparse vegetation above | 340_6104 | MRD_1_90 | 10/17/2012 | 147 | 85 | 16 | ga143_1943 |
| 1063 | LS14708516R2 | Cut bank with sand bar in front | 340_6104 | MRD_1_90 | 10/17/2012 | 147 | 85 | 16 | ga143_1943 |
| 989 | LS14708517L1 | On apparent vegetation maturity line, near main channel; 1943 photo follows channel with sandbar below | 340_6104 | MRD_1_126 | 10/17/2012 | 147 | 85 | 17 | ga143_1943 |
| 990 | LS14708517L2 | On main water channel | 340_6104 | MRD_1_126 | 10/17/2012 | 147 | 85 | 17 | ga143_1943 |
| 991 | LS14708517L3 | On main water channel | 340_6104 | MRD_1_126 | 10/17/2012 | 147 | 85 | 17 | ga143_1943 |
| 988 | LS14708518L1 | On apparent vegetation maturity line, near main channel; 1943 photo follows channel with sandbar below | 340_7555 | MRD_1_126 | 10/17/2012 | 147 | 85 | 18 | ga140_1943 |
| 986 | LS14708519L1 | On apparent vegetation maturity line, near main channel; 1943 photo follows channel with sandbar below | 340_7555 | MRD_1_126 | 10/17/2012 | 147 | 85 | 19 | ga140_1943 |
| 987 | LS14708519L2 | On apparent vegetation maturity line, near main channel; 1943 photo follows channel with sandbar below | 340_7555 | MRD_1_126 | 10/17/2012 | 147 | 85 | 19 | ga140_1943 |
| 1055 | LS14708519R1 | On main river channel --- barren above. not sure water may be entering topo same as sandbars | 340_7555 | MRD_1_140 | 10/17/2012 | 147 | 85 | 19 | ga140_1943 |
| 1056 | LS14708519R2 | On main river channel - sparse vegetation above | 340_7555 | N/A | 10/17/2012 | 147 | 85 | 19 | ga140_1943 |
| 1057 | LS14708519R3 | On main river channel - sparse vegetation above | 340_7555 | N/A | 10/17/2012 | 147 | 85 | 19 | ga140_1943 |
| 1058 | LS14708520R1 | On main river channel - sparse vegetation above | 340_6104 | N/A | 10/17/2012 | 147 | 85 | 20 | ga143_1943 |
| 1059 | LS14708520R2 | On main river channel - sparse vegetation above | 340_6104 | N/A | 10/17/2012 | 147 | 85 | 20 | ga143_1943 |
| 1060 | LS14708520R3 | On main river channel - sparse vegetation above | 340_6104 | MRD_1_90 | 10/17/2012 | 147 | 85 | 20 | ga143_1943 |
| 1061 | LS14708521R1 | On main river channel - sparse vegetation above | 340_6104 | MRD_1_90 | 10/17/2012 | 147 | 85 | 21 | ga143_1943 |
| 968 | LS14708619L1 | On 20' bank cut; on older back channel, willows below | 340_7555 | MRD_1_167 | 10/17/2012 | 147 | 86 | 19 | ga134_1943 |
| 969 | LS14708619L2 | On 20' bank cut; on older back channel, willows below | 340_7555 | MRD_1_167 | 10/17/2012 | 147 | 86 | 19 | ga134_1943 |
| 970 | LS14708619L3 | On 20' bank cut; on older back channel, willows below | 340_7555 | MRD_1_167 | 10/17/2012 | 147 | 86 | 19 | ga137_1943 |
| 1038 | LS14708619R1 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 19 | ga138_1943 |
| 971 | LS14708620L1 | On 20' cut bank on main river channel; fields above | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 20 | ga137_1943 |
| 972 | LS14708620L2 | On 20' cut bank on main river channel; fields above | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 20 | ga137_1943 |
| 973 | LS14708620L3 | On main river channel; mature vegetation above | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 20 | ga137_1943 |
| 1039 | LS14708620R1 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 20 | ga138_1943 |
| 974 | LS14708621L1 | On main river channel; mature vegetation above | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 21 | ga137_1943 |
| 975 | LS14708621L2 | On main river channel; mature vegetation above | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 21 | ga138_1943 |
| 976 | LS14708621L3 | On main river channel; mature vegetation above | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 21 | ga138_1943 |
| 977 | LS14708622L1 | On main river channel; mature vegetation above | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 22 | ga138_1943 |
| 978 | LS14708622L2 | On main river channel; mature vegetation above | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 22 | ga138_1943 |
| 979 | LS14708622L3 | On main river channel; mature vegetation above | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 22 | ga141_1943 |
| 980 | LS14708623L1 | On main river channel; mature vegetation above | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 23 | ga141_1943 |
| 981 | LS14708623L2 | On main river channel; mature vegetation above | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 23 | ga140_1943 |
| 982 | LS14708623L3 | On main river channel; mature vegetation above | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 23 | ga140_1943 |
| 983 | LS14708624L1 | Near main river channel; barren sand below, and mature vegetation above | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 24 | ga140_1943 |
| 984 | LS14708624L2 | Near main river channel; channel and barren sand below, and mature vegetation above | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 24 | ga140_1943 |
| 985 | LS14708624L3 | On apparent vegetation maturity line, near main channel; 1943 photo follows channel with sandbar below | 340_7555 | MRD_1_126 | 10/17/2012 | 147 | 86 | 24 | ga140_1943 |
| 1053 | LS14708624R1 | On main river channel, steep upland ridge above | 340_7555 | MRD_1_140 | 10/17/2012 | 147 | 86 | 24 | ga141_1943 |
| 1054 | LS14708624R2 | On main river channel --- barren above. not sure water may be entering topo same as sandbars | 340_7555 | MRD_1_140 | 10/17/2012 | 147 | 86 | 24 | ga141_1943 |
| 1052 | LS14708625R1 | On main river channel, steep upland ridge above | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 25 | ga141_1943 |
| 1049 | LS14708626R1 | On main river channel, steep upland ridge above | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 26 | ga141_1943 |
| 1050 | LS14708626R2 | On main river channel, steep upland ridge above | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 26 | ga141_1943 |
| 1051 | LS14708626R3 | On main river channel, steep upland ridge above | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 26 | ga141_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|--|------------|------------|------------|----------|-------|----------|------------|
| 1046 | LS14708627R1 | On cut bank with willow flat below | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 27 | ga138_1943 |
| 1047 | LS14708627R2 | On cut bank, willow flats below | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 27 | ga138_1943 |
| 1048 | LS14708627R3 | On main river channel, steep upland ridge above | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 27 | ga141_1943 |
| 1043 | LS14708628R1 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands, 1943 shows water behind | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 28 | ga138_1943 |
| 1044 | LS14708628R2 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 28 | ga138_1943 |
| 1045 | LS14708628R3 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 28 | ga138_1943 |
| 1040 | LS14708629R1 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_7555 | N/A | 10/17/2012 | 147 | 86 | 29 | ga138_1943 |
| 1041 | LS14708629R2 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands, 1943 shows water behind | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 29 | ga138_1943 |
| 1042 | LS14708629R3 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands, 1943 shows water behind | 340_7555 | MRD_1_155 | 10/17/2012 | 147 | 86 | 29 | ga138_1943 |
| 1037 | LS14708630R1 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_7555 | MRD_2_171 | 10/17/2012 | 147 | 86 | 30 | ga135_1943 |
| 961 | LS14708722L1 | Along main channel, mature vegetation above | 340_641 | N/A | 10/17/2012 | 147 | 87 | 22 | ga134_1943 |
| 1109 | LS14708722L2 | Along main channel, mature vegetation above | 340_641 | N/A | 10/17/2012 | 147 | 87 | 22 | ga134_1943 |
| 962 | LS14708723L1 | Along main channel, level upland above a 30' bank | 340_641 | N/A | 10/17/2012 | 147 | 87 | 23 | ga134_1943 |
| 963 | LS14708723L2 | Along main channel, level upland above a 30' bank | 340_641 | N/A | 10/17/2012 | 147 | 87 | 23 | ga134_1943 |
| 964 | LS14708723L3 | Along main channel, mature vegetation above | 340_641 | N/A | 10/17/2012 | 147 | 87 | 23 | ga134_1943 |
| 965 | LS14708724L1 | Along main channel, mature vegetation above | 340_7555 | N/A | 10/17/2012 | 147 | 87 | 24 | ga134_1943 |
| 966 | LS14708724L2 | Along main channel, mature vegetation above | 340_7555 | MRD_2_171 | 10/17/2012 | 147 | 87 | 24 | ga134_1943 |
| 967 | LS14708724L3 | Along 20' bank cut; willows below; vegetation unclear on '51 photo, but apparent on '43 with some standing water | 340_7555 | MRD_1_167 | 10/17/2012 | 147 | 87 | 24 | ga134_1943 |
| 1035 | LS14708725R1 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_7555 | MRD_2_171 | 10/17/2012 | 147 | 87 | 25 | ga135_1943 |
| 1036 | LS14708725R3 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_7555 | MRD_2_171 | 10/17/2012 | 147 | 87 | 25 | ga135_1943 |
| 1116 | LS14708725R2 | Follows definite vegetation line along old channel in 1943, skirts hayed area | 340_7555 | MRD_2_171 | 11/1/2012 | 147 | 87 | 25 | ga135_1943 |
| 1031 | LS14708726R1 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_641 | MRD_2_171 | 10/17/2012 | 147 | 87 | 26 | ga135_1943 |
| 1032 | LS14708726R2 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_641 | MRD_2_171 | 10/17/2012 | 147 | 87 | 26 | ga135_1943 |
| 1033 | LS14708726R3 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_641 | MRD_2_171 | 10/17/2012 | 147 | 87 | 26 | ga135_1943 |
| 1034 | LS14708726R4 | Follows back channel; primarily willows in area; those above are attributed to drainage from uplands | 340_641 | MRD_2_171 | 10/17/2012 | 147 | 87 | 26 | ga135_1943 |
| 960 | LS14708727R1 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels is there a photo for here? | 340_641 | not found | 10/17/2012 | 147 | 87 | 27 | ga131_1943 |
| 1029 | LS14708727R2 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels is there a photo for here? | 340_641 | not found | 10/17/2012 | 147 | 87 | 27 | ga131_1943 |
| 1030 | LS14708727R3 | On waters edge, taller trees above | 340_641 | MRD_2_171 | 10/17/2012 | 147 | 87 | 27 | ga135_1943 |
| 1107 | LS14708727L1 | Along faint vegetation line; it appears that low willows are below, and maybe above, but no channels tie in | 340_641 | not found | 10/17/2012 | 147 | 87 | 27 | ga131_1943 |
| 1108 | LS14708727L2 | Along vegetation line; it appears that low willows are below, and more mature vegetation above; needs to tie in with !! | 340_641 | not found | 10/17/2012 | 147 | 87 | 27 | ga131_1943 |
| 959 | LS14708728R1 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels is there a photo for here? | 340_641 | not found | 10/17/2012 | 147 | 87 | 28 | ga131_1943 |
| 1103 | LS14708728L1 | On main water channel, mature vegetation above | 340_640 | N/A | 10/17/2012 | 147 | 87 | 28 | ga131_1943 |
| 1105 | LS14708728L2 | On main water channel, mature vegetation above | 340_640 | N/A | 10/17/2012 | 147 | 87 | 28 | ga131_1943 |
| 1106 | LS14708728L3 | Along faint vegetation line; it appears that willows are below, and maybe above, but no channels tie in | 340_641 | N/A | 10/17/2012 | 147 | 87 | 28 | ga131_1943 |
| 937 | LS14708731L1 | Along obvious vegetation line; below, band of low willows above a 80' wide open water channel | 340_640 | N/A | 10/17/2012 | 147 | 87 | 31 | ga128_1943 |
| 938 | LS14708731L2 | Along obvious vegetation line; below, band of low willows above a 80' wide open water channel | 340_640 | N/A | 10/17/2012 | 147 | 87 | 31 | ga131_1943 |
| 939 | LS14708731L3 | Along obvious vegetation line; below, band of low willows above a 80' wide open water channel | 340_640 | N/A | 10/17/2012 | 147 | 87 | 31 | ga131_1943 |
| 940 | LS14708732L1 | Along obvious vegetation line; below, band of low willows above main channel | 340_640 | N/A | 10/17/2012 | 147 | 87 | 32 | ga131_1943 |
| 941 | LS14708732L2 | Along obvious vegetation line; below, band of low willows above main channel | 340_640 | N/A | 10/17/2012 | 147 | 87 | 32 | ga131_1943 |
| 942 | LS14708732L3 | Along obvious vegetation line; below, band of low willows above main channel | 340_640 | N/A | 10/17/2012 | 147 | 87 | 32 | ga131_1943 |
| 954 | LS14708732R1 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_195 | 10/17/2012 | 147 | 87 | 32 | ga131_1943 |
| 955 | LS14708732R2 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels; point where an upland drainage enters main channel | 340_640 | MRD_2_195 | 10/17/2012 | 147 | 87 | 32 | ga131_1943 |
| 956 | LS14708732R3 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_195 | 10/17/2012 | 147 | 87 | 32 | ga131_1943 |
| 957 | LS14708733R1 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels | 340_641 | MRD_2_195 | 10/17/2012 | 147 | 87 | 33 | ga131_1943 |
| 958 | LS14708733R2 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels | 340_641 | MRD_2_195 | 10/17/2012 | 147 | 87 | 33 | ga131_1943 |
| 1102 | LS14708733L1 | Along obvious vegetation line; below, band of low willows above main channel | 340_640 | N/A | 10/17/2012 | 147 | 87 | 33 | ga131_1943 |
| 914 | LS14708819L1 | At edge of main water channel | 340_638 | N/A | 10/17/2012 | 147 | 88 | 19 | ga124_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|---|------------|------------|------------|----------|-------|----------|------------|
| 915 | LS14708819L2 | At edge of main water channel | 340_638 | N/A | 10/17/2012 | 147 | 88 | 19 | ga125_1943 |
| 916 | LS14708819L3 | At edge of main water channel | 340_640 | N/A | 10/17/2012 | 147 | 88 | 19 | ga125_1943 |
| 920 | LS14708828L1 | Along obvious vegetation line; low willows below (sandbars in 1943 photo); "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_07 | 10/17/2012 | 147 | 88 | 28 | ga125_1943 |
| 921 | LS14708828L2 | Along obvious vegetation line; low willows below (sandbars in 1943 photo); "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_07 | 10/17/2012 | 147 | 88 | 28 | ga125_1943 |
| 922 | LS14708828L3 | Along obvious vegetation line; low willows below; "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_07 | 10/17/2012 | 147 | 88 | 28 | ga125_1943 |
| 861 | LS14708829R1 | Follows back channel; low dense willows along river, striated willows above mostly perpendicular to river channel, attributed to drainage from steeper uplands | 340_640 | MRD_3_18 | 10/17/2012 | 147 | 88 | 29 | ga125_1943 |
| 862 | LS14708829R2 | On main river channel; low dense willows along river, striated willows above mostly perpendicular to river channel, attributed to drainage from steeper uplands | 340_640 | MRD_3_18 | 10/17/2012 | 147 | 88 | 29 | ga125_1943 |
| 917 | LS14708829L1 | At edge of main water channel | 340_640 | MRD_3_17 | 10/17/2012 | 147 | 88 | 29 | ga125_1943 |
| 918 | LS14708829L2 | Along obvious vegetation line; low willows below (sandbars in 1943 photo); "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_17 | 10/17/2012 | 147 | 88 | 29 | ga125_1943 |
| 919 | LS14708829L3 | Along obvious vegetation line; low willows below (sandbars in 1943 photo); "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_07 | 10/17/2012 | 147 | 88 | 29 | ga125_1943 |
| 858 | LS14708830R1 | Follows back channel; low dense willows along river, striated willows above mostly perpendicular to river channel, attributed to drainage from steeper uplands | 340_638 | MRD_3_33 | 10/17/2012 | 147 | 88 | 30 | ga125_1943 |
| 859 | LS14708830R2 | Follows back channel; low dense willows along river, striated willows above mostly perpendicular to river channel, attributed to drainage from steeper uplands | 340_638 | MRD_3_18 | 10/17/2012 | 147 | 88 | 30 | ga125_1943 |
| 860 | LS14708830R3 | Follows back channel; low dense willows along river, striated willows above mostly perpendicular to river channel, attributed to drainage from steeper uplands | 340_638 | MRD_3_18 | 10/17/2012 | 147 | 88 | 30 | ga125_1943 |
| 863 | LS14708832R1 | Follows channel behind small active sandbar, striated willows above mostly perpendicular to river channel, attributed to drainage from steeper uplands | 340_640 | MRD_3_18 | 10/17/2012 | 147 | 88 | 32 | ga125_1943 |
| 864 | LS14708832R2 | Follows channel behind small active sandbar, striated willows above mostly perpendicular to river channel, attributed to drainage from steeper uplands | 340_640 | MRD_3_18 | 10/17/2012 | 147 | 88 | 32 | ga125_1943 |
| 865 | LS14708832R3 | Follows channel behind low willow flat, more mature willows above attributed to drainage from steeper uplands | 340_640 | MRD_3_05 | 10/17/2012 | 147 | 88 | 32 | ga125_1943 |
| 866 | LS14708833R1 | Above willow flat near steep upland; low dense willows below (verified by notes on 1943 photo) | 340_640 | MRD_3_05 | 10/17/2012 | 147 | 88 | 33 | ga125_1943 |
| 923 | LS14708833L1 | Along obvious vegetation line; low willows below (sandbars in 1943 photo); "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_07 | 10/17/2012 | 147 | 88 | 33 | ga128_1943 |
| 924 | LS14708833L2 | Along obvious vegetation line; low willows below (sandbars in 1943 photo); "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_06 | 10/17/2012 | 147 | 88 | 33 | ga128_1943 |
| 925 | LS14708833L3 | Along obvious vegetation line; main channel below (sandbars in 1943 photo); "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_06 | 10/17/2012 | 147 | 88 | 33 | ga128_1943 |
| 926 | LS14708834L1 | Along main channel; river turns at older channel | 340_640 | N/A | 10/17/2012 | 147 | 88 | 34 | ga128_1943 |
| 927 | LS14708834L2 | Along obvious vegetation line; low willows below (sandbars in 1943 photo); "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_06 | 10/17/2012 | 147 | 88 | 34 | ga128_1943 |
| 928 | LS14708834L3 | Along obvious vegetation line; low willows below (sandbars in 1943 photo); "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_05 | 10/17/2012 | 147 | 88 | 34 | ga128_1943 |
| 929 | LS14708835L1 | Along obvious vegetation line; low willows below (sandbars in 1943 photo); "upland" vegetation influenced by upland drainages | 340_640 | MRD_3_05 | 10/17/2012 | 147 | 88 | 35 | ga127_1943 |
| 930 | LS14708835L2 | Along obvious vegetation line; below, narrow band of low willows above a 80' wide open water channel | 340_640 | MRD_2_209 | 10/17/2012 | 147 | 88 | 35 | ga127_1943 |
| 931 | LS14708835L3 | Along obvious vegetation line; below, narrow band of low willows above a 80' wide open water channel | 340_640 | MRD_2_209 | 10/17/2012 | 147 | 88 | 35 | ga127_1943 |
| 932 | LS14708836L1 | Along obvious vegetation line; below, band of low willows above a 80' wide open water channel | 340_640 | MRD_2_209 | 10/17/2012 | 147 | 88 | 36 | ga128_1943 |
| 933 | LS14708836L2 | Along obvious vegetation line; below, a 80' wide open water channel | 340_640 | MRD_2_209 | 10/17/2012 | 147 | 88 | 36 | ga128_1943 |
| 936 | LS14708836L3 | Obvious dryer upland vegetation above; below, 80' wide open water channel | 340_640 | MRD_2_09 | 10/17/2012 | 147 | 88 | 36 | ga128_1943 |
| 899 | LS14708905L1 | Follows channel at steep upland with low willow flats below | 340_638 | MRD 3-78 | 10/17/2012 | 147 | 89 | 5 | ga120_1943 |
| 900 | LS14708905L2 | Follows channel at steep upland with low willow flats below | 340_638 | MRD 3-78 | 10/17/2012 | 147 | 89 | 5 | ga120_1943 |
| 901 | LS14708905L3 | Follows channel at steep upland with low willow flats below | 340_638 | MRD 3-78 | 10/17/2012 | 147 | 89 | 5 | ga120_1943 |
| 896 | LS14708906L1 | Follows channel at steep upland with low willow flats below; washed sand in 1943 photo | 340_638 | MRD 3-78 | 10/17/2012 | 147 | 89 | 6 | ga120_1943 |
| 897 | LS14708906L2 | Follows channel at steep upland with low willow flats below | 340_638 | MRD 3-78 | 10/17/2012 | 147 | 89 | 6 | ga120_1943 |
| 898 | LS14708906L3 | Follows channel at steep upland with low willow flats below | 340_638 | MRD 3-78 | 10/17/2012 | 147 | 89 | 6 | ga120_1943 |
| 832 | LS14708907R1 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow | 340_637 | N/A | 11/14/2012 | 147 | 89 | 7 | ga120_1943 |
| 833 | LS14708907R2 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow | 340_637 | N/A | 11/14/2012 | 147 | 89 | 7 | ga120_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|---|------------|------------|------------|----------|-------|----------|------------|
| 834 | LS14708907R3 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow, point where river turns to old channel | 340_637 | N/A | 11/14/2012 | 147 | 89 | 7 | ga120_1943 |
| 835 | LS14708908R1 | Follows vegetation line along old back channel, vegetation above wetland attributed to overland flow | 340_637 | N/A | 11/14/2012 | 147 | 89 | 8 | ga120_1943 |
| 836 | LS14708908R2 | Follows vegetation line along old back channel, vegetation above wetland attributed to overland flow | 340_637 | N/A | 11/14/2012 | 147 | 89 | 8 | ga120_1943 |
| 902 | LS14708909L1 | Follows channel at steep upland with low willow flats below; on main channel in 1943 photo | 340_638 | MRD_3-78 | 10/17/2012 | 147 | 89 | 9 | ga120_1943 |
| 903 | LS14708909L2 | On wide back channel behind mostly barren sandbar | 340_638 | N/A | 10/17/2012 | 147 | 89 | 9 | ga120_1943 |
| 904 | LS14708909L3 | On main water channel and upland area; also point where back channel begins | 340_638 | MRD_3_61 | 10/17/2012 | 147 | 89 | 9 | ga120_1943 |
| 905 | LS14708915L1 | Along obvious back channel | 340_638 | MRD_3_61 | 10/17/2012 | 147 | 89 | 15 | ga122_1943 |
| 906 | LS14708915L2 | Along obvious back channel | 340_638 | N/A | 10/17/2012 | 147 | 89 | 15 | ga122_1943 |
| 907 | LS14708915L3 | Along obvious back channel | 340_638 | N/A | 10/17/2012 | 147 | 89 | 15 | ga122_1943 |
| 837 | LS14708917R1 | Along apparent old channel, above willow flat and field above | 340_637 | N/A | 10/17/2012 | 147 | 89 | 17 | ga120_1943 |
| 838 | LS14708917R2 | OHWL follows obvious change in vegetation; river side is recent sedimentation other side is sedimentation but older; most is hayed, but some apparently too wet | 340_637 | N/A | 10/17/2012 | 147 | 89 | 17 | ga120_1943 |
| 839 | LS14708917R3 | OHWL follows obvious change in vegetation; river side is recent sedimentation other side is sedimentation but older; most is hayed, but some apparently too wet | 340_637 | N/A | 10/17/2012 | 147 | 89 | 17 | ga120_1943 |
| 840 | LS14708920R1 | OHWL follows obvious change in vegetation; river side is recent sedimentation other side is sedimentation but older; most is hayed, but some apparently too wet | 340_637 | N/A | 10/17/2012 | 147 | 89 | 20 | ga120_1943 |
| 841 | LS14708921R1 | At waters edge, area behind is fed by older channel, wet | 340_637 | N/A | 10/17/2012 | 147 | 89 | 21 | ga120_1943 |
| 842 | LS14708921R2 | At waters edge, area behind is fed by older channel, wet | 340_638 | N/A | 10/17/2012 | 147 | 89 | 21 | ga120_1943 |
| 843 | LS14708921R3 | At waters edge, older sedimentation behind | 340_638 | N/A | 10/17/2012 | 147 | 89 | 21 | ga120_1943 |
| 844 | LS14708922R1 | At waters edge, older sedimentation behind | 340_638 | N/A | 10/17/2012 | 147 | 89 | 22 | ga122_1943 |
| 845 | LS14708922R2 | Near waters edge, follows vegetation line, more mature vegetation above | 340_638 | N/A | 10/17/2012 | 147 | 89 | 22 | ga122_1943 |
| 850 | LS14708922R3 | Near waters edge, follows vegetation line, more mature vegetation above | 340_638 | N/A | 11/13/2012 | 147 | 89 | 22 | ga123_1943 |
| 908 | LS14708923L1 | Along obvious back channel | 340_638 | N/A | 10/17/2012 | 147 | 89 | 23 | ga122_1943 |
| 909 | LS14708923L2 | Along obvious back channel | 340_638 | N/A | 10/17/2012 | 147 | 89 | 23 | ga122_1943 |
| 910 | LS14708923L3 | At edge of main water channel | 340_638 | N/A | 10/17/2012 | 147 | 89 | 23 | ga122_1943 |
| 911 | LS14708924L1 | At edge of main water channel | 340_638 | N/A | 10/17/2012 | 147 | 89 | 24 | ga122_1943 |
| 912 | LS14708924L2 | At edge of main water channel | 340_638 | N/A | 10/17/2012 | 147 | 89 | 24 | ga122_1943 |
| 913 | LS14708924L3 | At edge of main water channel | 340_638 | N/A | 10/17/2012 | 147 | 89 | 24 | ga122_1943 |
| 855 | LS14708925R1 | Follows vegetation line, more mature vegetation above, more lower stature vegetation below | 340_638 | MRD_3_33 | 11/13/2012 | 147 | 89 | 25 | ga123_1943 |
| 856 | LS14708925R2 | Follows vegetation line, more mature vegetation above, more lower stature vegetation below | 340_638 | MRD_3_33 | 10/17/2012 | 147 | 89 | 25 | ga123_1943 |
| 857 | LS14708925R3 | Follows vegetation line, more mature vegetation above, more lower stature vegetation below | 340_638 | MRD_3_33 | 10/17/2012 | 147 | 89 | 25 | ga123_1943 |
| 852 | LS14708926R1 | Follows vegetation line, more mature vegetation above, more barren below | 340_638 | MRD_3_33 | 11/13/2012 | 147 | 89 | 26 | ga123_1943 |
| 853 | LS14708926R2 | Follows vegetation line, more mature vegetation above, more barren below | 340_638 | MRD_3_33 | 11/13/2012 | 147 | 89 | 26 | ga123_1943 |
| 854 | LS14708926R3 | Follows vegetation line, more mature vegetation above, more barren below | 340_638 | MRD_3_33 | 11/13/2012 | 147 | 89 | 26 | ga123_1943 |
| 851 | LS14708927R1 | Follows vegetation line, more mature vegetation above, more barren below | 340_638 | N/A | 11/13/2012 | 147 | 89 | 27 | ga123_1943 |
| 1131 | LS14709001L2 | Along vegetation line, hydrophilic vegetation above, more mature and along 1730 contour line | 340_649 | MRD_3_105 | 11/14/2012 | 147 | 90 | 1 | ga120_1943 |
| 1132 | LS14709001L3 | Along vegetation line, hydrophilic vegetation above, more mature and along 1730 contour line | 340_649 | MRD_3_105 | 11/14/2012 | 147 | 90 | 1 | ga120_1943 |
| 877 | LS14709001L1 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_650 | N/A | 11/14/2012 | 147 | 90 | 1 | ga113_1943 |
| 878 | LS14709001L2 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_650 | N/A | 11/14/2012 | 147 | 90 | 1 | ga113_1943 |
| 895 | LS14709001L1 | Along vegetation line, hydrophilic vegetation above, more mature and along 1730 contour line | 340_649 | MRD_3_105 | 11/14/2012 | 147 | 90 | 1 | ga120_1943 |
| 892 | LS14709002L1 | Along vegetation line, hydrophilic vegetation above, more mature and along 1730 contour line | 340_649 | MRD_3_105 | 11/14/2012 | 147 | 90 | 2 | ga117_1943 |
| 893 | LS14709002L2 | Along vegetation line, hydrophilic vegetation above, more mature and along 1730 contour line | 340_649 | MRD_3_105 | 11/14/2012 | 147 | 90 | 2 | ga117_1943 |
| 894 | LS14709002L3 | Along vegetation line, hydrophilic vegetation above, more mature and along 1730 contour line | 340_649 | MRD_3_105 | 11/14/2012 | 147 | 90 | 2 | ga117_1943 |
| 879 | LS14709006L1 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_649 | N/A | 11/14/2012 | 147 | 90 | 6 | ga113_1943 |
| 814 | LS14709007R1 | At waters edge; steep uplands near Elbowoods bridge | 340_649 | N/A | 10/16/2012 | 147 | 90 | 7 | ga113_1943 |
| 815 | LS14709007R2 | At waters edge; steep uplands near Elbowoods bridge | 340_649 | N/A | 10/16/2012 | 147 | 90 | 7 | ga113_1943 |
| 816 | LS14709007R3 | At waters edge; steep uplands near Elbowoods bridge | 340_649 | N/A | 10/17/2012 | 147 | 90 | 7 | ga113_1943 |
| 880 | LS14709007L1 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_649 | N/A | 11/14/2012 | 147 | 90 | 7 | ga113_1943 |
| 881 | LS14709007L2 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_649 | N/A | 11/14/2012 | 147 | 90 | 7 | ga113_1943 |
| 817 | LS14709008R1 | At waters edge; steep uplands near Elbowoods bridge | 340_649 | N/A | 10/17/2012 | 147 | 90 | 8 | ga113_1943 |
| 818 | LS14709008R2 | At waters edge; steep uplands | 340_649 | N/A | 10/17/2012 | 147 | 90 | 8 | ga113_1943 |
| 819 | LS14709008R3 | At waters edge; steep uplands | 340_637 | MRD_3_122 | 10/17/2012 | 147 | 90 | 8 | ga113_1943 |
| 882 | LS14709008L1 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_649 | MRD_3_122 | 11/14/2012 | 147 | 90 | 8 | ga113_1943 |

| OBJECTID | Transect | Comment | Photo_1951 | Photo_1943 | Date_ | Township | Range | Section_ | Topo |
|----------|--------------|--|------------|------------|------------|----------|-------|----------|------------|
| 883 | LS14709008L2 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_649 | MRD_3_122 | 11/14/2012 | 147 | 90 | 8 | ga113_1943 |
| 884 | LS14709008L3 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_649 | MRD_3_122 | 11/14/2012 | 147 | 90 | 8 | ga113_1943 |
| 820 | LS14709009R1 | At waters edge; steep uplands | 340_637 | MRD_3_122 | 10/17/2012 | 147 | 90 | 9 | ga113_1943 |
| 821 | LS14709009R2 | At waters edge; steep uplands | 340_637 | MRD_3_122 | 10/17/2012 | 147 | 90 | 9 | ga113_1943 |
| 822 | LS14709009R3 | At bottom of steep slope; narrow sedimentation along waters edge | 340_637 | MRD_3_122 | 10/17/2012 | 147 | 90 | 9 | ga117_1943 |
| 885 | LS14709009L1 | Near waters edge, along 1730 contour with vegetation line, hydrophilic vegetation above, but no longer fed from river | 340_649 | MRD_3_122 | 11/14/2012 | 147 | 90 | 9 | ga117_1943 |
| 886 | LS14709009L2 | Near waters edge, along 1730 contour with vegetation line, hydrophilic vegetation above, but no longer fed from river | 340_649 | MRD_3_122 | 11/14/2012 | 147 | 90 | 9 | ga117_1943 |
| 887 | LS14709009L3 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_649 | MRD_3_122 | 11/14/2012 | 147 | 90 | 9 | ga117_1943 |
| 823 | LS14709010R1 | On waters edge, drainage above, push sediment so water cannot enter. | 340_637 | MRD_3_122 | 11/14/2012 | 147 | 90 | 10 | ga117_1943 |
| 824 | LS14709010R2 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow | 340_637 | MRD_3_122 | 11/14/2012 | 147 | 90 | 10 | ga117_1943 |
| 825 | LS14709010R3 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow | 340_637 | MRD_3_122 | 11/14/2012 | 147 | 90 | 10 | ga117_1943 |
| 888 | LS14709010L1 | At waters edge, along 1730 contour, hydrophilic vegetation above, but no longer fed from river | 340_649 | MRD_3_122 | 11/14/2012 | 147 | 90 | 10 | ga117_1943 |
| 890 | LS14709010L2 | Along vegetation line, hydrophilic vegetation above, more mature and along 1730 contour line | 340_649 | MRD_3_105 | 11/14/2012 | 147 | 90 | 10 | ga117_1943 |
| 891 | LS14709010L3 | Along vegetation line, hydrophilic vegetation above, more mature and along 1730 contour line | 340_649 | MRD_3_105 | 11/14/2012 | 147 | 90 | 10 | ga117_1943 |
| 826 | LS14709011R1 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow | 340_637 | N/A | 11/14/2012 | 147 | 90 | 11 | ga117_1943 |
| 827 | LS14709011R2 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow | 340_637 | N/A | 11/14/2012 | 147 | 90 | 11 | ga117_1943 |
| 828 | LS14709011R3 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow | 340_637 | N/A | 11/14/2012 | 147 | 90 | 11 | ga117_1943 |
| 829 | LS14709012R1 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow | 340_637 | N/A | 11/14/2012 | 147 | 90 | 12 | ga117_1943 |
| 830 | LS14709012R2 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow | 340_637 | N/A | 11/14/2012 | 147 | 90 | 12 | ga117_1943 |
| 831 | LS14709012R3 | On waters edge, hydrophilic vegetation above, cutoff from river, supported by overland flow | 340_637 | N/A | 11/14/2012 | 147 | 90 | 12 | ga120_1943 |
| 794 | LS14709101R1 | Willow flats below, upland with roads | 340_650 | N/A | 10/16/2012 | 147 | 91 | 1 | ga109_1943 |
| 795 | LS14709101R2 | Willow flats below, upland with roads | 340_650 | N/A | 10/16/2012 | 147 | 91 | 1 | ga113_1943 |
| 796 | LS14709101R3 | At waters edge. road above | 340_650 | N/A | 10/16/2012 | 147 | 91 | 1 | ga113_1943 |
| 793 | LS14709102R1 | Willow flats below, upland with roads | 340_650 | N/A | 10/16/2012 | 147 | 91 | 2 | ga109_1943 |
| 1025 | LS14608404L1 | On cut bank, willow flat below | Affected | MRD_1_16 | 10/17/2012 | 146 | 84 | 4 | ga154_1943 |
| 1026 | LS14608404L2 | On cut bank, willow flat below | Affected | MRD_1_16 | 10/17/2012 | 146 | 84 | 4 | ga154_1943 |
| 1027 | LS14608404L3 | On cut bank, willow flat below | Affected | MRD_1_16 | 10/17/2012 | 146 | 84 | 4 | ga154_1943 |
| 1096 | LS14608405R1 | On cut bank along main river channel | Affected | MRD_1_38 | 10/17/2012 | 146 | 84 | 5 | ga154_1943 |
| 1097 | LS14608405R2 | On cut bank along main river channel | Affected | MRD_1_38 | 10/17/2012 | 146 | 84 | 5 | ga148_1943 |
| 1098 | LS14608406R1 | On cut bank along main river channel | Affected | MRD_1_38 | 10/17/2012 | 146 | 84 | 6 | ga148_1943 |
| 1099 | LS14608406R2 | On cut bank; narrow band of low hydrophilic vegetation with open water and channeling below | Affected | MRD_1_38 | 10/17/2012 | 146 | 84 | 6 | ga148_1943 |
| 1100 | LS14608406R3 | On cut bank; narrow band of low hydrophilic vegetation with open water and channeling below | Affected | MRD_1_38 | 10/17/2012 | 146 | 84 | 6 | ga148_1943 |
| 1101 | LS14608407R1 | On cut bank; narrow band of low hydrophilic vegetation with open water and channeling below | Affected | MRD_1_38 | 10/17/2012 | 146 | 84 | 7 | ga148_1943 |
| 1028 | LS14608409L1 | On cut bank, willow flat below | Affected | MRD_1_16 | 10/17/2012 | 146 | 84 | 9 | ga154_1943 |
| 953 | LS14608705R1 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_195 | 10/17/2012 | 146 | 87 | 5 | ga131_1943 |
| 951 | LS14608706R1 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_195 | 10/17/2012 | 146 | 87 | 6 | ga131_1943 |
| 952 | LS14608706R2 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_195 | 10/17/2012 | 146 | 87 | 6 | ga131_1943 |
| 944 | LS14608801R1 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_210 | 10/17/2012 | 146 | 88 | 1 | ga128_1943 |
| 945 | LS14608801R2 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_210 | 10/17/2012 | 146 | 88 | 1 | ga128_1943 |
| 946 | LS14608801R3 | Along main channel; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_195 | 10/17/2012 | 146 | 88 | 1 | ga128_1943 |
| 873 | LS14608802R1 | Along main channel; 20' bank; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_210 | 10/17/2012 | 146 | 88 | 2 | ga128_1943 |
| 874 | LS14608802R2 | Along main channel; 20' bank; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_210 | 10/17/2012 | 146 | 88 | 2 | ga128_1943 |
| 875 | LS14608802R3 | Along main channel; 20' bank; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_2_210 | 10/17/2012 | 146 | 88 | 2 | ga128_1943 |
| 943 | LS14608802R4 | Along main channel; 20' bank; hayed or cultivated field above | 340_640 | MRD_2_210 | 10/17/2012 | 146 | 88 | 2 | ga128_1943 |
| 870 | LS14608803R1 | Along obvious vegetation line on contour; more mature vegetation above, influenced by upland drainage; no through channels | 340_640 | MRD_3_05 | 10/17/2012 | 146 | 88 | 3 | ga125_1943 |
| 871 | LS14608803R2 | Along main channel; 20' bank; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_3_05 | 10/17/2012 | 146 | 88 | 3 | ga128_1943 |
| 872 | LS14608803R3 | Along main channel; 20' bank; wetland vegetation above is attributed to upland drainage, no through channels | 340_640 | MRD_3_05 | 10/17/2012 | 146 | 88 | 3 | ga128_1943 |
| 868 | LS14608804R2 | Along old channel at bottom of steep upland; low dense willows below (verified by notes on 1943 photo) | 340_640 | MRD_3_05 | 10/17/2012 | 146 | 88 | 4 | ga125_1943 |
| 869 | LS14608804R3 | Along old channel at bottom of steep upland; low dense willows below (verified by notes on 1943 photo) | 340_640 | MRD_3_05 | 10/17/2012 | 146 | 88 | 4 | ga125_1943 |
| 1113 | LS14608804R1 | Above willow flat near steep upland; low dense willows below (verified by notes on 1943 photo) | 340_640 | MRD_3_05 | 10/17/2012 | 146 | 88 | 4 | ga125_1943 |