# Meadowcroft

## Final Mitigation Bank Instrument

For

Wetlands Redux
317 West 16th Avenue
Spokane WA 99203
(509) 747-2908 and (509) 233-9717

A Wetland Mitigation Bank of 8.31 Acres
Located in the NW 1/4 of Section 10, Township 29 North, Range 41 East, W.M.
in

Stevens County, Washington

JULY 7, 2005

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1. GS. wetland report August 2002
2. NRCS. Highly Erodible Land and Wetland Conservation Determination ( Gleaton) June 26, 1996.
3. NRCS. Certified Wetland Determination (Miller). September 18, 1998.
4. Ecology. Wetlands Rating Field Data Form (Merker). December 7 2001.
5. Ecology. Columbia Basin Depressional-Intermittent-Seasonal Functional Assessment form dated April 19, 1999. (Merker. Gleaton. Phillips. Haag). December 12, 2001.
6. NRCS. Wetland Restoration Agreement Between the Commodity Credit Corporation and Ed Haag. September 27, 2001.
7. Geographical Services. Wetland Rating Form-Eastern Washington (form dated 2003). October 24, 2004 based on field observations done on July 30, 2002.
8. Ecology. Wetland Rating Form-Eastern Washington (Draft form dated July 2002). (Johnson. Merker and Mock). July 12, 2002.
9. Ecology. List of plants and animals observed on the site (Johnson). Site visit June 12, 2002, list dated December 2, 2002 and letter dated February 27, 2004.
10. Stevens County Office of Planning. Environmental Check List (Haag). September 6, 2001.
11. Legal Description: Wetlands Conservation Easement. 11 March 2005.

## EXECUTIVE SUMMARY

**Location**: The Meadowcroft Mitigation Bank (MMB) is located in Section 10, Township 29 North, Range 41 East, W.M., near Loon Lake in Stevens County, Washington.

**Size of the Site**: The overall site is 20.23 acres in size. 12.31 acres will be included in the MMB with 6.57 acres excluded for a home site, driveway and parking area. The completed MMB will have 12.31 acres of wetland and 1.35 acres of external buffer. One acre of wetland existed before development of the MMB. Wetland construction has taken place in phases on 12.31 acres, of which 8.31 acres will be available for wetland banking activities associated with the MMB. In phase one, four acres of wetland were restored (December 2001), with 75 percent funding by NRCS in exchange for a 12 year conservation easement. Because the owner paid for 25 percent of the work he is entitled to 1 acre of credit outright. For converting the remaining three acres from a 12 year easement to a permanent easement the owner receives 3 acres of credit to help offset the 50 foot buffer zone requirement as specified in Section 1.1.7d of the Banking Instrument.

**Land Owner**: The site is owned by Mr. Ed Haag, 317 West 16th Ave., Spokane Washington 99203 (509 747-2908), doing business as Wetlands Redux.

**Bank Operator**: The MMB is being constructed and operated by Wetlands Redux (Mr. Ed Haag), 317 West 16th Ave., Spokane Washington 99203 (509 747-2908),

**Type of Bank**: the MMB will be a mitigation bank where marketable credits will be generated through creation of Category III depressional wetlands with herbaceous, emergent vegetation dominated by hydric species.

**Goals of the Bank**: A goal of the bank is to provide mitigation for impacts to jurisdictional wetlands within the service area. A goal of the bank is to provide compensatory wetland mitigation for permitted losses under the following; section 401 and section 404 of the Federal Clean Water Act, the State Water Pollution Control Act, as implemented by the Washington Department of Ecology RCW 90.48, and under the Growth Management Act RCW 173-26-010 as supervised by Stevens County through Stevens County Code Title 13 Critical Areas Ordinance.

**Use of Bank Credits**: Wetlands Redux anticipates that credits from the Meadowcroft Mitigation Bank (MMB) will be used to offset permitted impacts to wetlands in the bank service area. The bank credits represent freshwater depressional wetlands which provide functions of water quality improvement, reduction in flooding, improved groundwater recharge, and general improvement of habitat. Its credits may provide compensation for unavoidable impacts to wetlands that are of similar HGM types and that provide similar functions. The credits will be available for sale subject to written approval from Ecology. A total of 8.31 credits will be available once all performance standards are met. The created wetlands will be Category III; one credit will compensate for one acre of

impacted Category III wetlands. Credits for Category II and IV wetlands are to be adjusted. No credits for Category I wetlands are proposed

**Service Area**: The proposed service area of the MMB extends across parts of three Water Resources Inventory Areas (54 Colville, 55 Lower Spokane River and 56 Little Spokane River) where seasonal slope wetlands are found on naturally non-forested sites with sediment substrate.

**Permits and Approvals**: Environmental documentation and permits associated with the MMB are summarized in section 1.4.

## 1.0 INTRODUCTION AND BACKGROUND INFORMATION

This document, the Meadowcroft Mitigation Bank Instrument (MMBI), contains required information for approval of the Meadowcroft Mitigation Bank (MMB). This document was prepared in accordance with the:

- Washington Department of Ecology (Ecology) Guidance on Wetland Mitigation in Washington State part 2: Guidelines for Developing Wetland Mitigation Plans and Proposals. April 2004, with
- Ecology Water Quality Management Plan to Control Non-Point Sources of Pollution, revised December 2002, with
- Ecology proposed draft rule WAC 173-700 Wetland Mitigation Banks and with
- Federal Guidance for the Establishment, Use and Operation of Mitigation Banks, Federal Register November 1995.

It is also prepared to be in agreement with advice and comments from local, state and federal regulatory agencies. Additional guidance on format is taken from the Washington Department of Transportation document DRAFT North Fork Newaukum Mitigation Bank Instrument, June 2003.

### 1.1 PROJECT OVERVIEW

Wetlands Redux, a private entity, in cooperation with local, state and federal agencies, is establishing this mitigation bank in order to be able provide compensatory mitigation in advance of unavoidable impacts to seasonal slope wetlands and depressional wetlands in the watersheds of the Colville, Little Spokane and Lower Spokane Rivers. The MMB is located near Loon Lake in southern Stevens County, in the drainage of Sheep Creek about nine miles upriver from where it joins with Deer Creek to form the Colville River in the vicinity of the town of Valley in Stevens County, Washington. The location is shown on Figure 1; Vicinity Map.

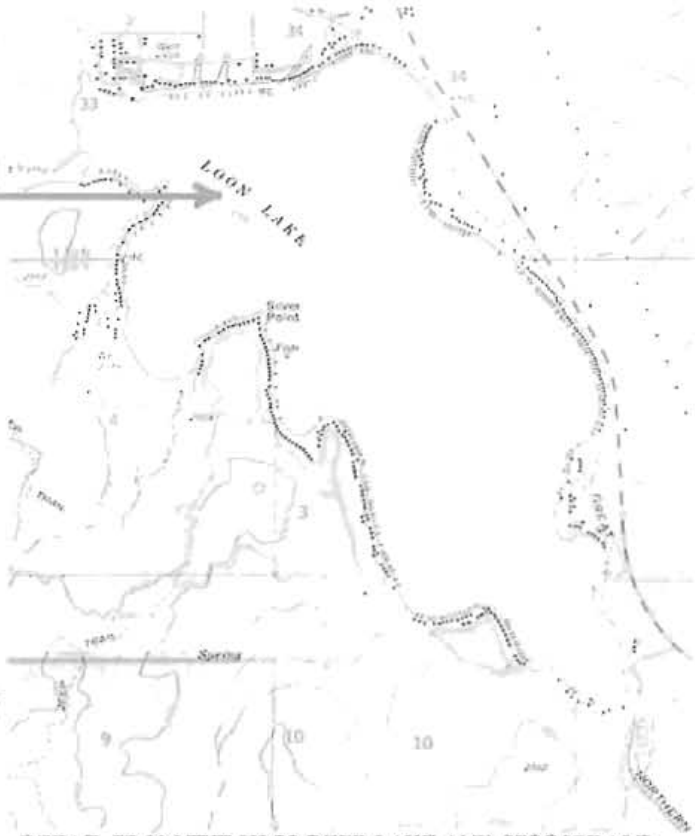
Construction and development of the mitigation bank as described in this MMBI has restored 8.31 acres of wetland is potentially available for 8.31 wetland bank credits. These credits will be available for sale to offset unavoidable impacts to wetlands at other locations in the service area. The credits will be available for sale, in increments, after written approvals by Ecology.

Figure 1

# VICINITY MAP

LOON LAKE

MEADOWCROFT MITIGATION BANK SITE




DETAIL FROM THE OFFICIAL WASHINGTON STATE HIGHWAY MAP

DETAIL FROM THE USGS DEER LAKE AND SPRINGDALE 7.5 MINUTE QUADRANGLE MAPS

The mitigation plan focuses on reestablishing more natural hydrology and on increasing native wetland vegetation presence and diversity. Wildlife habitat improvements are based on more prolonged and reliable seasonal wetness and on an increase in diversity and structure of the vegetation.

The mitigation plan is based on specific activities that occur in specific areas as follows:

- Hydric Restoration means excavation (de-leveling) the land surface to establish ponds, ditch plugs and a low berm. The ponds retain seasonal runoff longer into the summer dry season. The ditch plugs and berm spread runoff water as overland flow to facilitate the recharge of soil moisture and groundwater and to create an area of short-duration wet meadow habitat type.
- Wetland Vegetation Restoration means the establishment of wetland plant species as the dominant vegetation type on areas of suitable hydrology on sites that were previously drained wetlands. The restored wetland vegetation will have important elements of native species, but because of the overwhelming dominance of reed canarygrass on the site it is unreasonable to establish native species dominance as a performance objective.

- Buffer Vegetation Restoration means the establishment of a vegetation stand with more species diversity and structural complexity in the buffer zone adjacent to the mitigation wetland area. The restored buffer vegetation will include appropriate native species such as Woods rose, spreading dogbane and snowberry. Scientific names of organisms mentioned in this document are given in section 8, Species List.

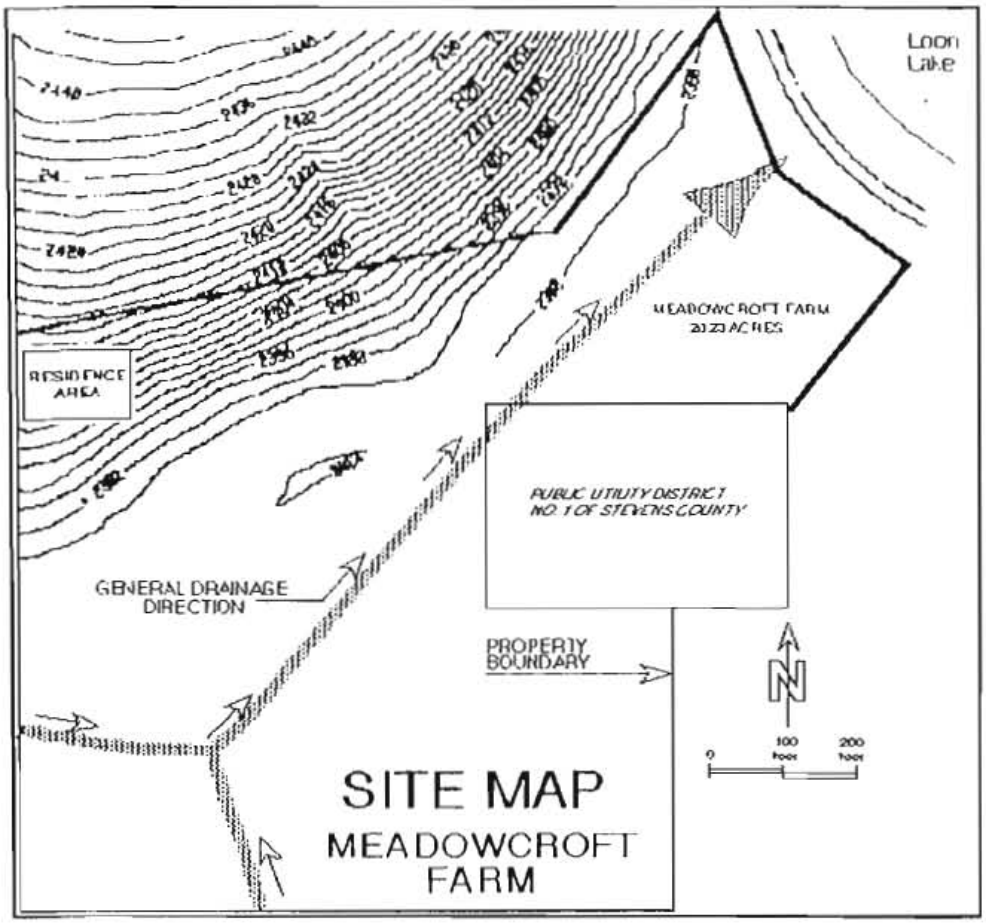
1.1.1 General Mitigation Bank Goals and Objectives

Project goals are to restore wetlands on previously drained wetland areas, to improve general wildlife habitat and to improve water quality and quantity functions. These goals will be achieved through grading (de-leveling) of the mitigation site to lengthen the annual duration of saturated soils and aid the establishment of a more diverse vegetation that includes more native species than at present. The de-leveling will create small depressions that will hold water seasonally and increase the area of flow-through depressional wetland. The restored mitigation wetland is composed of flow-through depressional wetlands with emergent herbaceous vegetation. A total of 11.31 acres of wetland has been created, only 8.25 acres of which will be available for sale under the operation of the MMB.

1.1.2 Project Area Setting

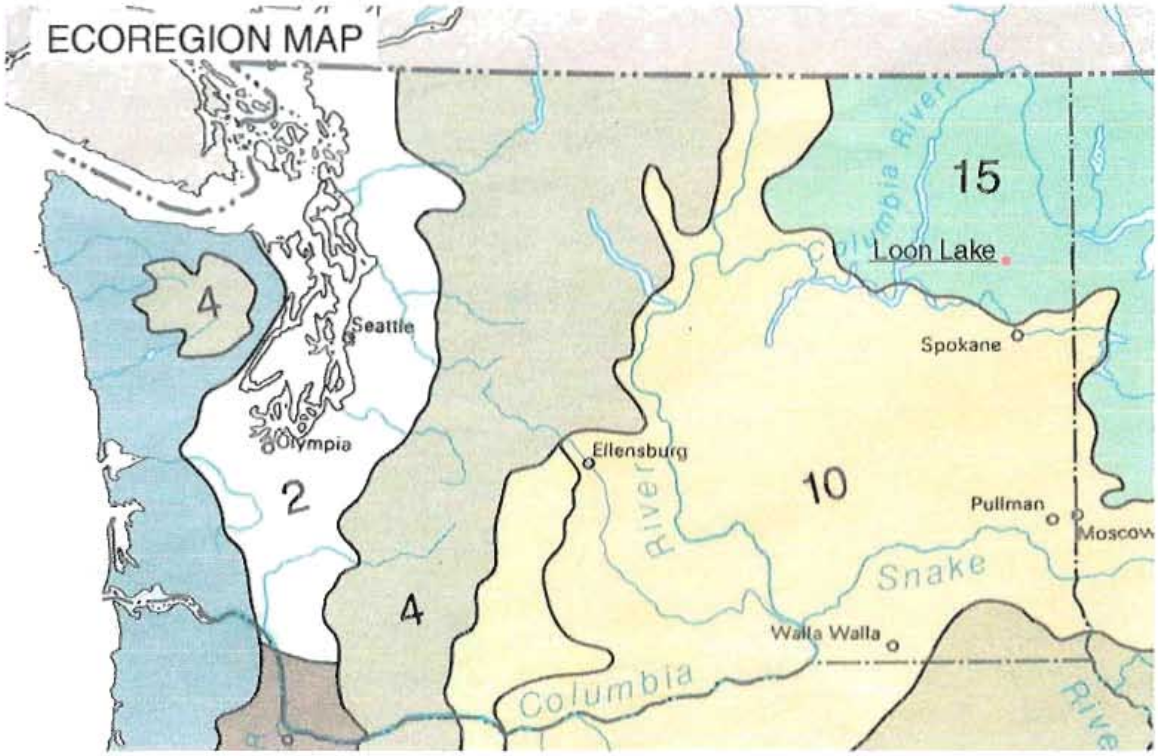
The Site. The MMB site is located near the southwest margin of Loon Lake, being separated from the lake only by a two-lane paved road and a narrow strip of riparian shrub wetland. The majority of the site is essentially flat alluvial valley bottom that in the past has been ditched, drained and farmed. See Figure 2; SITE MAP; Meadowcroft Farm. In times before agriculture the site held wetlands. Agricultural use caused the land to be effectively drained and the wetlands were eliminated except for a narrow swath of hydric vegetation along the ditch. Wetland evidence of hydric soils and vegetation was not observable except along the ditch. The majority of the site, away from the ditch, had been transformed into upland. The ditch since has been plugged, ponds excavated and the land de-leveled (including a berm) so that wetland conditions have been successfully re-established on the majority of the site.

Figure 2; SITE MAP; Meadowcroft Farm




1.1.2a The Ecological Setting. The site is located within the Northern Rockies Ecoregion (Ecoregion 15) as recognized by Omernick (1986). See Figure 3, Ecoregion Map, following. This area is described by Omernick as high mountains with a potential natural vegetation of cedar, hemlock, pine, western spruce, fir, grand fir and Douglas fir forming a forest and woodland that is mostly ungrazed.

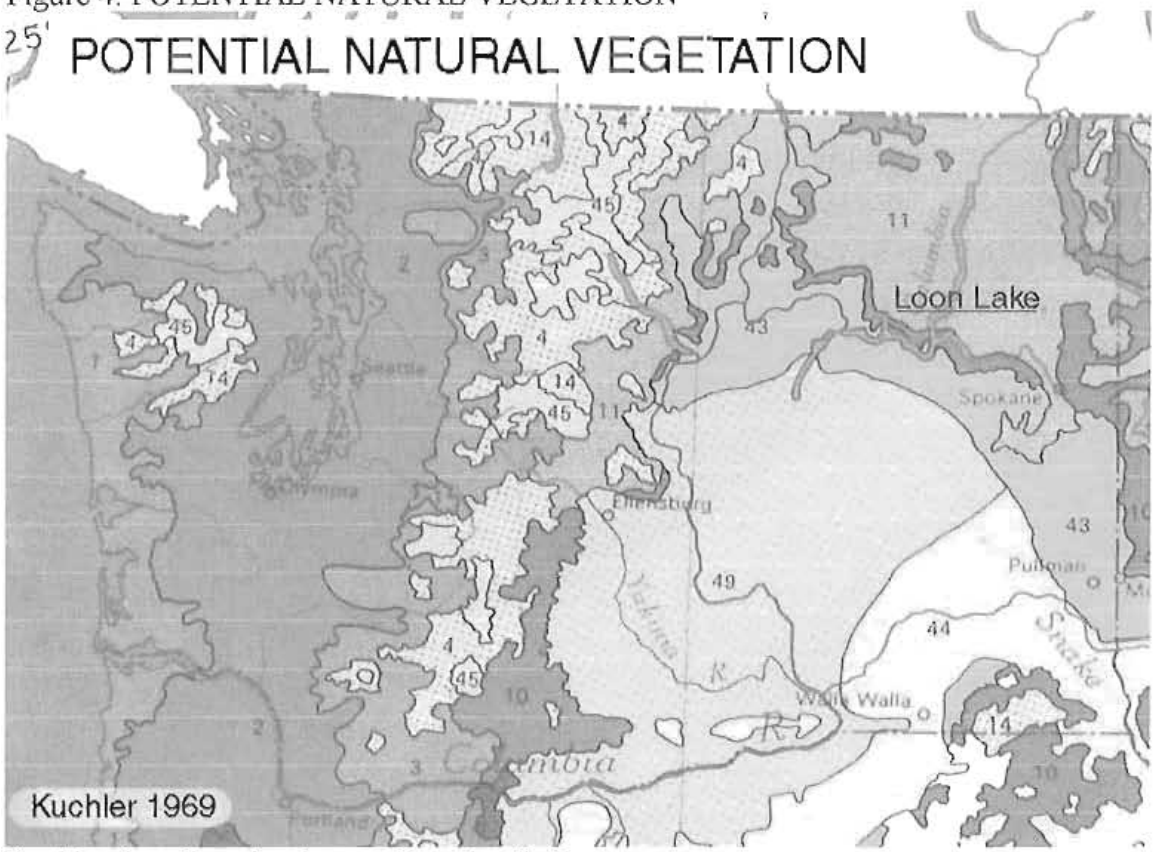
Figure 3: ECOREGION MAP




A more detailed and useful description of the ecological setting is provided by Kuchler (1964). In his booklet, Manual to Accompany the Map Potential Natural Vegetation of the Conterminous United States, Kuchler describes the site as part of the Western Ponderosa Forest. This vegetation type is a medium dense to open forest of tall needleleaf evergreen trees with a fairly open ground cover of gasses and occasional shrubs. The dominant species is ponderosa pine other components of the vegetation listed as yarrow, bluebunch wheatgrass, bearberry, Geyers sedge, Idaho fescue and snowberry, along with hawkweeds and lupines.

A slightly newer version of the Kuchler map was redrafted as a Potential Natural Vegetation map and published as a folio sheet 90 in the U. S. National Atlas (USGS 1969).

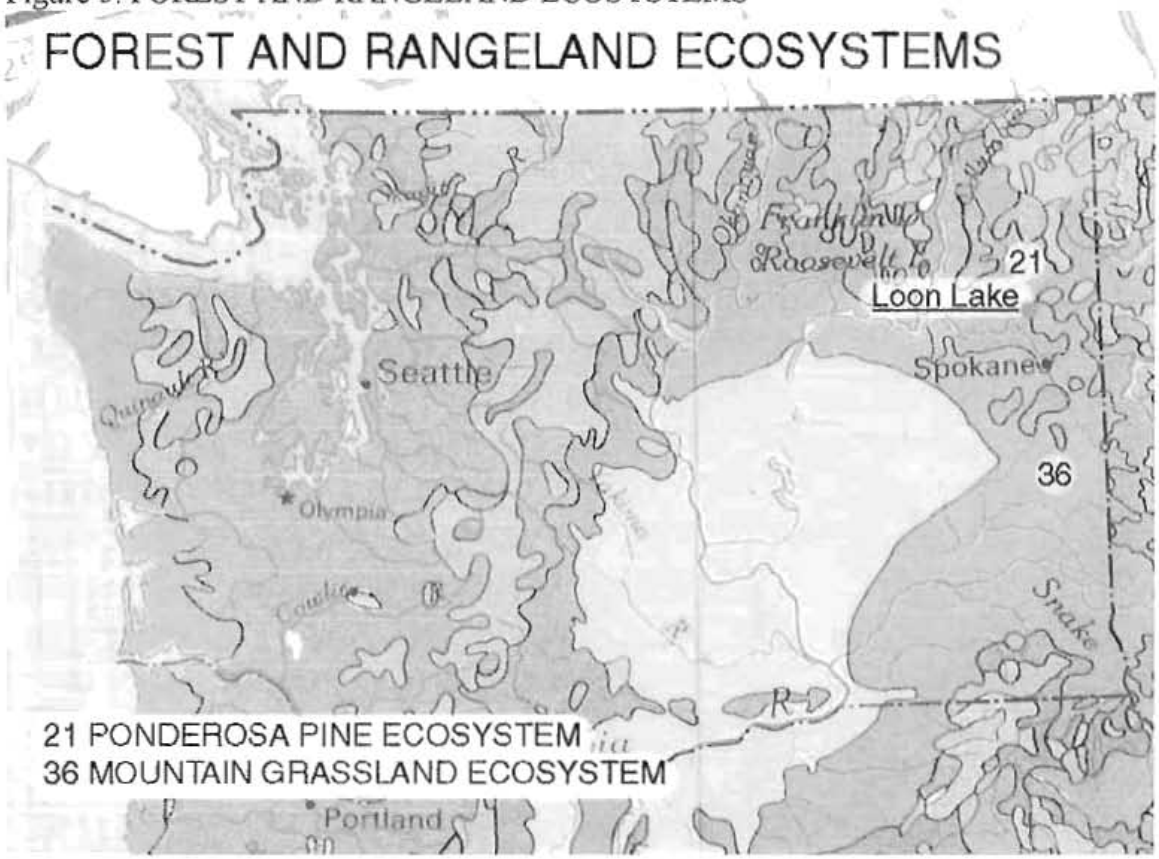
Figure 4: POTENTIAL NATURAL VEGETATION




Kuchler describes the site as a Douglas fir forest.

A newer map also by Kuchler (Forest and Range Ecosystems) is part of a Forest Service publication, Vegetation and Environmental Features of Forest and Range Ecosystems (Garrison, 1977). The site is recognized by Kuchler as lying on the boundary where two ecosystems meet; the ponderosa pine forest ecosystem and a prairie-shrub ecosystem that Kuchler names "mountain grassland". See the map Forest and Range Ecosystems, following.

Figure 5: FOREST AND RANGELAND ECOSYSTEMS

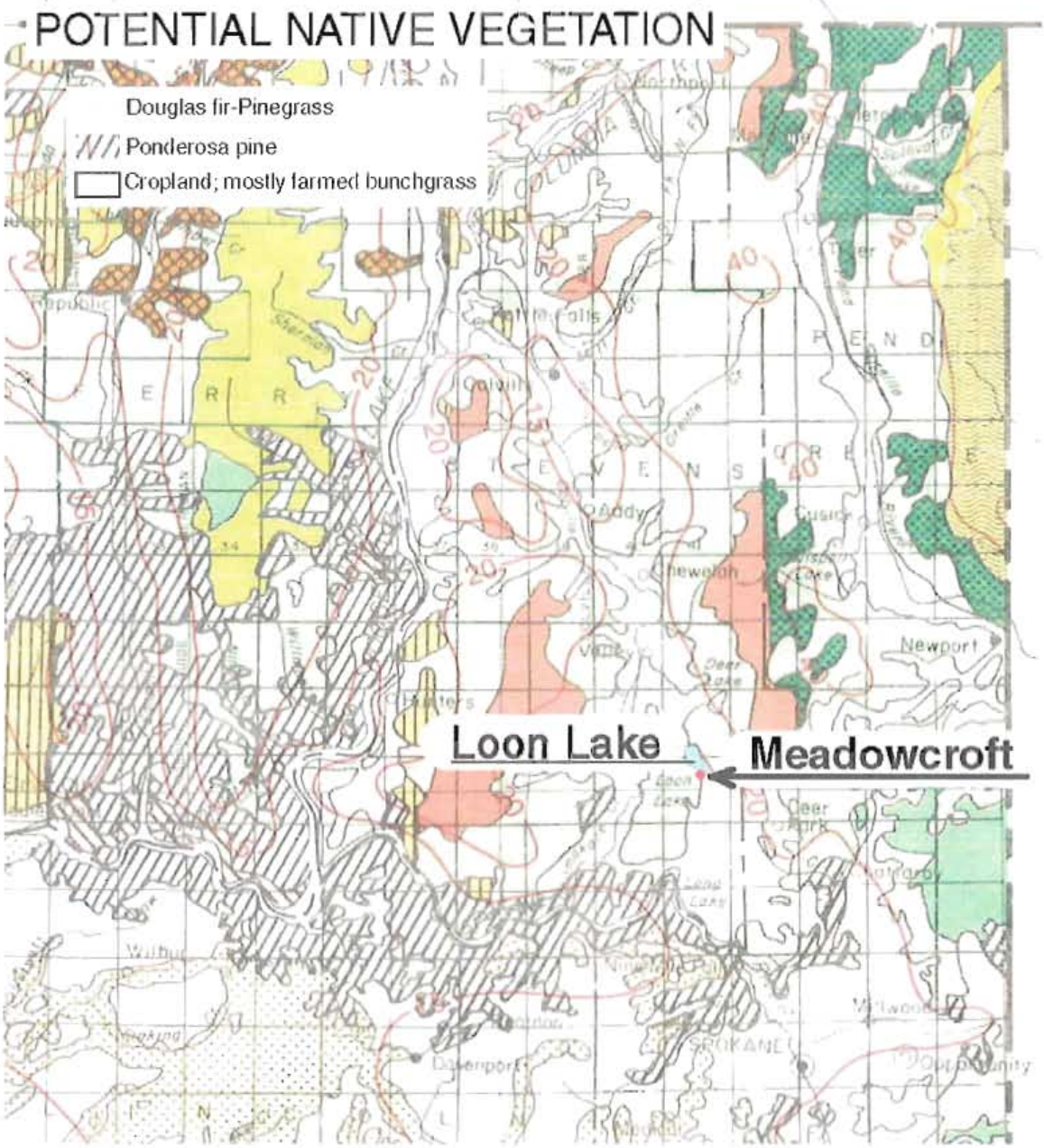



Garrison describes the natural vegetation of the ponderosa pine ecosystem (map area 21) as an open canopy forest that is park-like with an excellent understory of grasses, sedges and forbs or with an understory of shrubs of low to medium height. The original forest had approximately 125 stems (trees) per acre; exceptions to this are places where fire suppression has caused the development of a growth-retarded stand with as many as 10,000 stems per acre. This ecosystem and its vegetation also extend to the southeast from the Meadowcroft site to the Spokane Valley and the Spokane urban area.

Garrison also describes the natural vegetation of the prairie (mountain grassland) ecosystem (map area 36) as bunchgrass with an abundance of forbs, and observes that a mosaic of bunchgrass stands within a region of forest and woodland is a common pattern. This ecosystem extends from the Meadowcroft site to the east and southeast to include parts of the urbanizing area associated with the city of Spokane.

A more detailed presentation of the ecological setting of the site is shown on the map Potential Native Vegetation Map for Forest and Rangelands, (1983). A detail is shown in Figure 6: Potential Native Vegetation, following.

Figure 6: POTENTIAL NATIVE VEGETATION




This map better illustrates the location of the Meadowcroft site within an transitional area where two ecosystems overlap; 1. the Douglas fir forest (green) that nearly surrounds the meadow and extends south as a ponderosa pine woodland, and, 2. the bunchgrass-cropland ecosystem (white) that extends from Loon lake southeast across the Spokane urban area. The proposed service area of the MMB is based on these two ecosystem types. Ecological features of the Meadowcroft site represent both of the ecosystems and the potential wetland bank credits to be generated by the MMB can appropriately be used in both ecosystems. The potential service area for the mitigation bank can include large areas in Stevens and Spokane Counties where there is a mosaic pattern of conifer forest and grasslands or agriculture.

1.1.2b The Hydrological Setting.

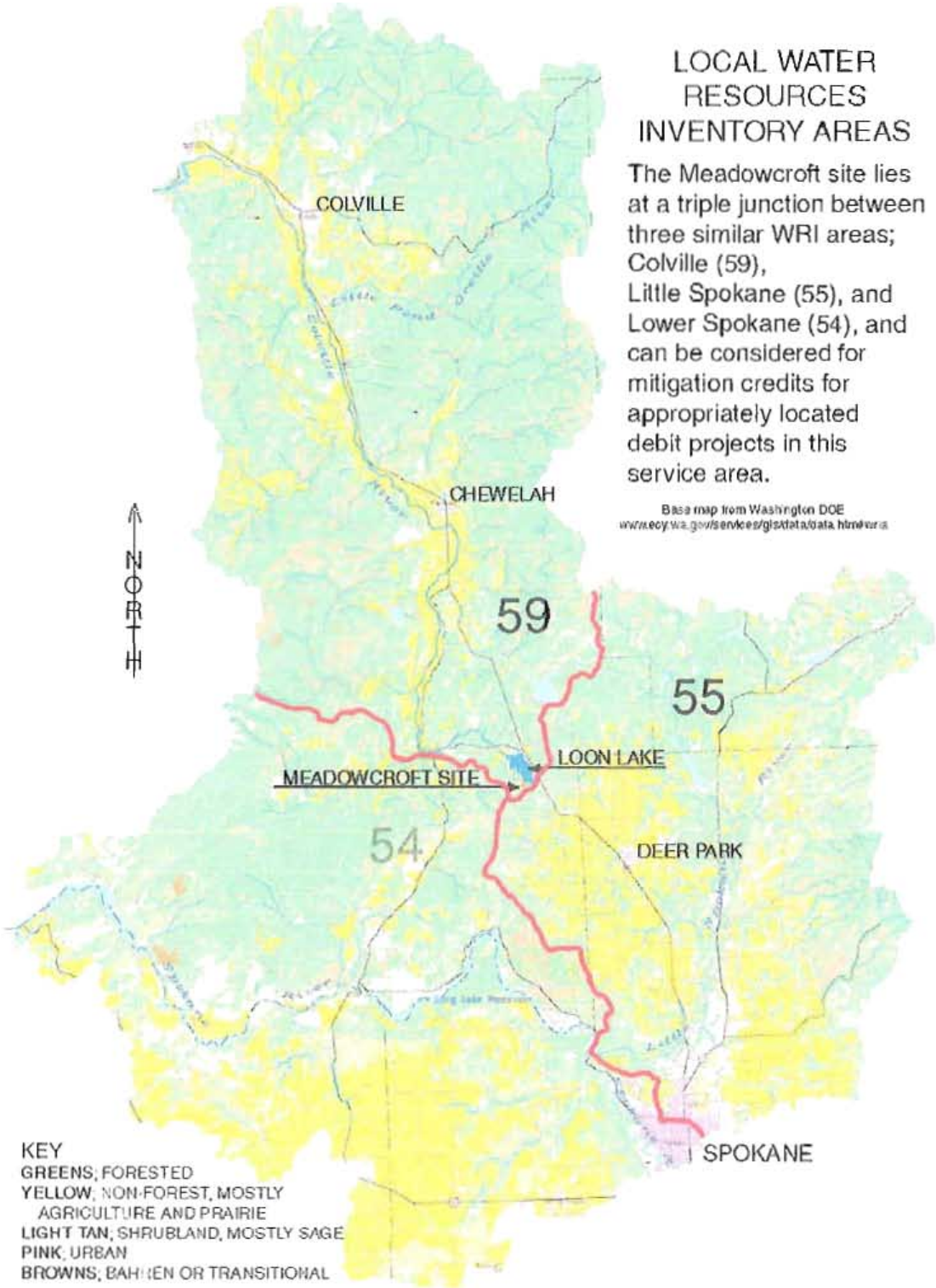
The mitigation wetland on the Meadowcroft site has variable hydrology that includes seasonal drying every summer and also includes longer term episodes of alternating wetter and drier climate trends that may last as long as 10 years. This exceptionally variable hydrological regime is natural to the majority of the wetlands in much of eastern Washington. The potential bank credits from the Meadowcroft bank can be used as compensation for impacted wetlands with similarly variable hydrology. That will include a large portion of the slope wetlands and depressional wetlands in Stevens and Spokane Counties.

Wetlands in this region of eastern Washington are typically small and commonly are classed as category three wetlands with variable seasonal hydrology. The majority of the debit projects for which the Meadowcroft credits will be appropriately used will be small, hydrologically similar, category three wetlands of a few thousand square feet, or smaller. The Meadowcroft bank will be a valuable and appropriate source of compensatory wetland credits and will provide much-needed flexibility for the regulation and management of wetlands in this part of the state.

Under pre-agricultural conditions there were ponds and widespread areas of seasonally saturated soil on the site, probably PSS wetlands. Ditching for agricultural purposes ended any reliable and significant duration of soil saturation for most of the bottomland, leaving only one acre of wetland.

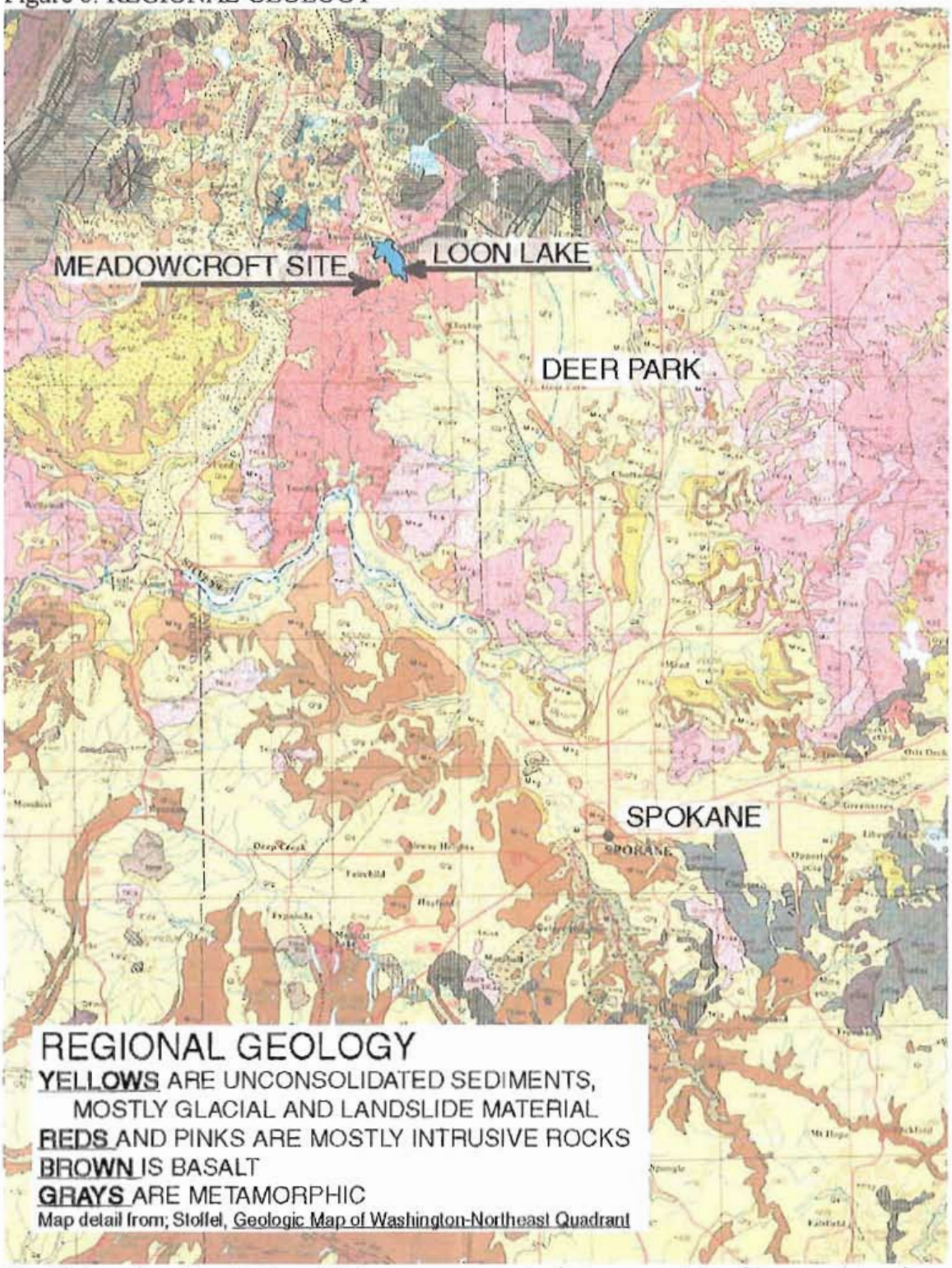
A more detailed view of the local WRIAs is shown on the following map; Figure 7 Local Water Resources Inventory Areas. The project site is located in a naturally non-forested opening (yellow) within a region that is generally forested (green). Because the restored wetlands of the MMB are so generally similar to many hundreds of naturally occurring wetlands in both the forested and the non-forested part of this area, they can provide appropriate mitigation credits where impacts are unavoidable to areas of both habitat types. That area includes the yellow portion of the Local Water resources Inventory Areas Map, as well as many other naturally non-forested sites within the green portion of the map that are too small to be shown at this scale.

Figure 7: LOCAL WATER RESOURCES INVENTORY AREAS




1.1.2c Geological Setting. The geology of the site is shown on the following map of Regional Geology.

Figure 8: REGIONAL GEOLOGY




The higher elevations in the vicinity are composed of a large variety of igneous intrusive and metamorphic rock types that are weathering into a hilly complex of steep slopes. This hilly landscape forms the southern region of the Okanogan Highlands landform

province that extends from the Loon Lake area north into Canada. These hard, resistant rocks are shown on the map by shades of reds and grays.

South of the project site is a landscape of extrusive basalt, shown on the map by browns. The basalt forms the structural surface of the Columbia Plateau landform province that extends from the general latitude of Loon Lake south across central Washington to the Oregon border. The basalt lies at elevations lower than the Okanogan Highlands. Loon Lake and the Meadowcroft project site are found essentially at the junction of these two landform provinces and show similarities to both.

Extending across the lower topography of both landform provinces are deep layers of unconsolidated sediments that occupy the valleys. The Meadowcroft project is located on these unconsolidated sediments along the west shore of Loon Lake. These sediments are in general derived from glacial activity; both direct deposition by continental glaciers and indirect deposition by glacial outburst floods (the Bretz or Spokane Floods). Both of the mechanisms of deposition acted to concentrate the sediments in the lower reaches of the topography. These areas of unconsolidated glacial outwash, glacial till, flood sediments, landslide deposits and sand dunes are shown on Figure 8 by shades of yellow.

The majority of the wetlands in this part of eastern Washington are located in the low-lying parts of the landscape on unconsolidated sediments where runoff water accumulates from the low-permeability soils on the rocky uplands of the Okanogan Highlands and the Columbia Plateau. The runoff water is strongly seasonal and many of the streams do not flow during the warmer summer season of little rain. Because of this combination of topography, sediments and climate, a large portion of the wetlands in this part of eastern Washington are found along lower slope margins where the steep hills meet the flatter valleys, as well as along the streams flowing on the sedimentary surface.

The Meadowcroft wetland was developed on such a setting and is similar to many other wetlands naturally formed on wetter locations on the valley sediments. The locations of valley sediments can be used, together with the roughly similar locations of the non-forested natural vegetation, to establish a general service area for the MMB.

1.1.3 The legal land description of the parcel follows.

Parcel description: that part of the NW1/4 of the NW 1/4 and Government Lot 3 of Section 10, Township 29 North, Range 41 East, W.M. described as follows;

Beginning at the Northwest corner of said Section 10, thence South a distance of 970.00 feet along the West line of said Section 10, thence East a distance of 1000.00 feet to the True Point of Beginning; thence North 79°08'37" East a distance of 743.30 feet; thence North 35°45'58" East a distance of 386.69 feet; thence South 20°25'58" East a distance of 230.64 feet; thence South52°56'34" East a distance of 230.83 feet to the Northwesterly line of a 20 foot easement for ingress, egress and utilities as shown and described on Record of Survey, fled in Book 12 of Surveys, page 93, in Stevens County; thence South 37°01'26" West a distance of 265.57 feet along said Northwesterly line; thence North 89°22'26" West a distance of 425.14 feet; thence South 00°37'34" West a distance of 300.00 feet to the South line of said Lot 3; thence West along the South line of said Lot 3 and the NW1/4 of the NW1/4 to a point 1000 feet East of the West line thereof; thence North to the Point of Beginning.

ALSO, the North 450 feet of the SW1/4 of the NW1/4 of Section 10, Township 29 North, Range 41 East, W.M., in Stevens County, Washington EXCEPT the West 1000 feet thereof.

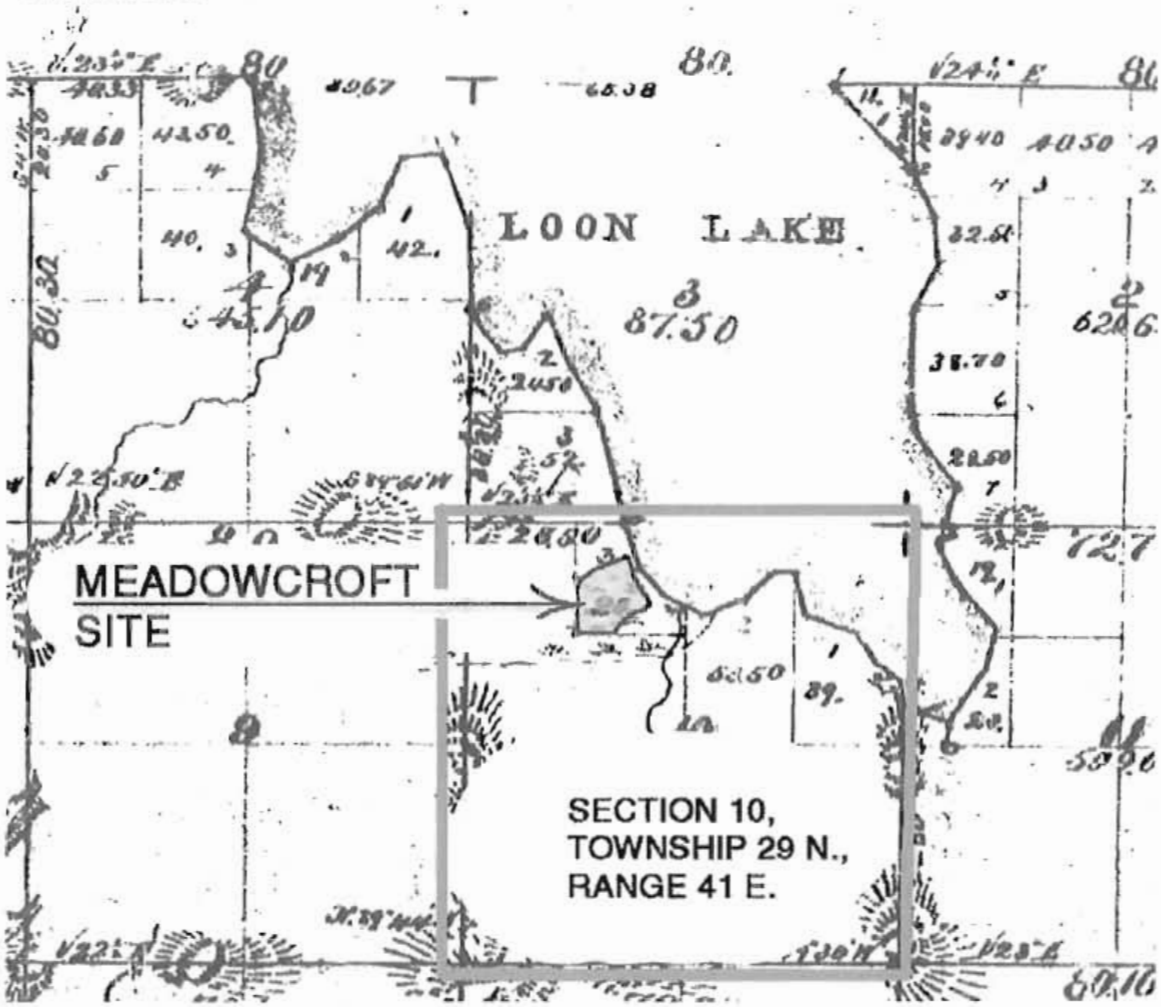
ALSO, the North 400 feet of the W1/2 of the SE1/4 of the NW1/4 of Section 10, Township North, Range 41 East, W.M., Stevens County, Washington.

1.1.4 History of the Site: A detailed survey of Section 10, Township 29 North, Range 41 East, Stevens County, Washington was recorded in March 29, 1884 by the Surveyor General's Office, Washington Territory. James K. Krull, U. S. Deputy Surveyor, conducted the survey as shown by the Figure; Krull Map March 1884. In addition to producing a complete set of maps he described in his notes the topography, springs, streams, soils and vegetation found on the site. Krull described a wetland - referred to as a swamp dominated by "willow, laurel and cottonwood." On the adjacent higher elevations the willows and cottonwoods gave way to alder and ponderosa pine. He also noted a spring located in the upper watershed that flowed into the wetland. This stream and wetland are clearly defined on his surveyor's map but the spring is located off-site to the west.

It appears that prior to agriculture the site supported an area of PSS wetland with perhaps some areas of PFO.

Figure 9: KRULL MAP

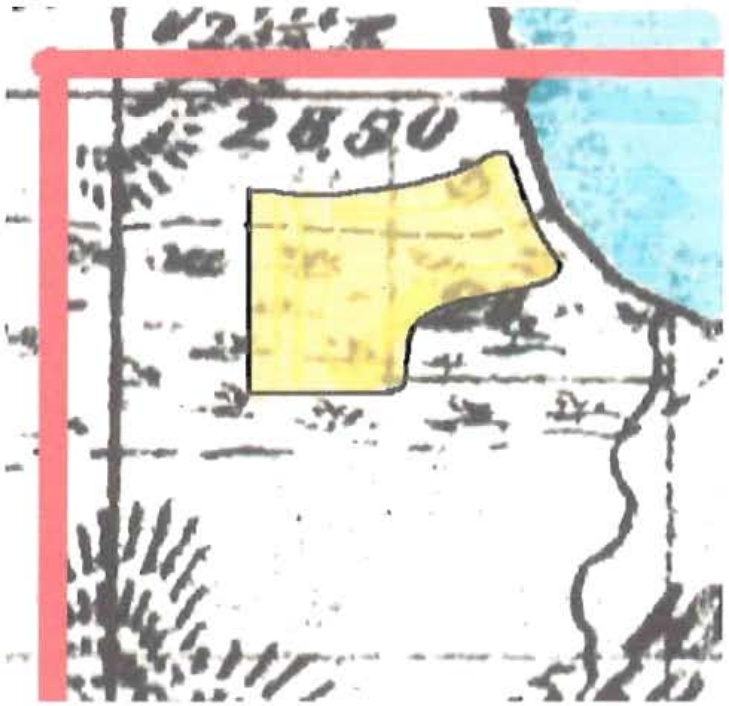
**KRULL MAP** MEADOWCROFT SITE SHOWN YELLOW IN SETION 10




An enhanced detail from the Krull map including the NW quarter of Section 10, Township 29 North, Range 41 East, WM., shows the project site in more detail.
Figure 10: KRULL MAP DETAIL

**KRULL MAP DETAIL**

SHOWING THE NW QUARTER OF SECTION 10, T. 29 N., R. 41 E. THE SITE OF THE MEADOWCROFT PROJECT IS SHOWN IN YELLOW. LOON LAKE IS BLUE. THE DASHED LINE SHOWING THE STREAM HAS BEEN CLARIFIED. USGS SYMBOLS FOR WETLAND VEGETATION COVER THE PROJECT SITE.

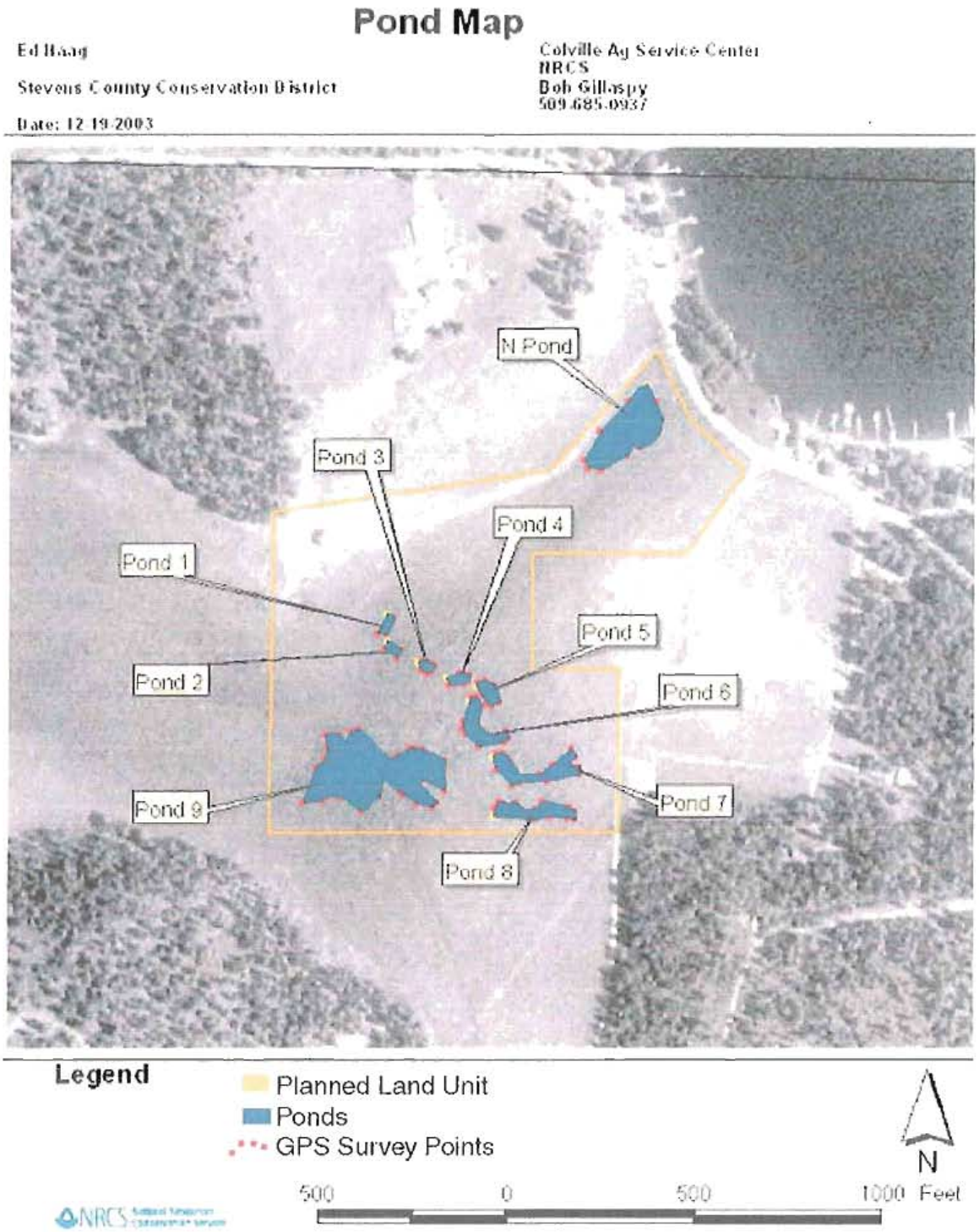


The site is a portion of what was previously termed the Just Dairy Farm, a 500 acre operation that was founded near the beginning of the 20th century. In the 1920s a ditch was cut through the site linking it with Loon Lake. This effectively drained a set of three ponds that had totaled approximately 5 acres and effectively drained most of the remainder of the bottom land as well. Drainage shortened the hydro-period of the bottomland by accelerating spring-time runoff. The drained bottomland was converted to annually seeded cropland. Over the years the original pond basins became filled through a combination of cultivation and deposited soil materials eroded from adjacent slopes.

1.1.5 Current Use and Zoning

The present owner has changed the management of the property and begun the process of restoring it to resemble its original pre-agricultural conditions, as summarized in Table1, following. In the past, the conversion of the site to agriculture caused the original wetland meadow to be ditched. The present owner has caused the ditch to be plugged in several places; most significantly by the construction of a berm across part of the width of the meadow, and also by the de-leveling related to construction of the ponds. Originally the site had had a number of small ponds that retained seasonal water during the spring runoff and into the early part of the following dry season for various lengths of time, depending on the vagaries of climate in particular years. As part of the wetland construction activities nine ponds have been constructed, with a variety of depths, topographic profiles and surface areas. See ponds 1 through 8 and N pond on Figure 11 Pond Map. All of the new ponds hold water for varying durations in the spring and early summer seasons.

Figure 11: POND MAP




During the time of agricultural land use the vegetation was annually mowed and plowed; under the new management regime those disturbances have been eliminated. The hydrology of the site has been restored to a condition similar to what was there before the imposition of agriculture. Spring runoff water is retained on parts of the site for long

durations that extend into the warming summer season. Water tolerant vegetation is beginning to thrive on the site where previously, during the period of agriculture, the site was dominated by cultivated upland plants or invasive exotic weedy species.

A significant feature of the development of the site as a potential wetland bank is the installation during Phase One of a berm during the autumn of 2002, depicted on the Berm Map, Figure 12, following page. The intent of the berm was to retain more of the seasonal runoff, spread the runoff water over a greater portion of the meadow, increase the area of seasonally saturated soils and encourage groundwater recharge. The berm is variable in height, width and cross section, but typically is 2 feet high and 30 feet wide at the base, with an irregular upper surface about 6-12 feet wide. The berm was planted with Triticale to retard erosion and has since been strongly colonized by local species from the adjacent ground. There is no evidence of any significant erosion of the berm. There is strong evidence of the berm successfully spreading water across the meadow, particularly to the north. Until recently the majority of the site was in agricultural use and cultivated for an annual crop or mowed for hay. In 2002 the owner moved to end all agricultural use. The Stevens County zoning designation for the site is Forestry. Table 1 summarizes current use changes.

Table 1
Recent Changes to the Site Management

| DATE | ACTION and AGENCY |
|---|---|
| August 2001 | End of agriculture on part of the property |
| December 2001 | Phase One; Grading and plant installation by Wetlands Redux took place on four acres, three of which were funded by NRCS agreement in exchange for a 12 year conservation easement. One acre is, by entitlement, included in the MMB and the other three acres are also to be included by credit for conversion of the 12 year easement to a permanent easement. |
| August 2002 | End of agricultural use of the remainder of the site |
| October 2002 | Phase Two Grading and installation of ponds and a berm by Wetlands Redux, affecting another 7.6 acres. |

The construction in December 2001 (1 acre for MMB credit) together with the construction in October 2002 (7.31 acres) forms the total of 8.31 acres of wetland in the MMB.

Figure 12: BERM MAP

# BERM MAP

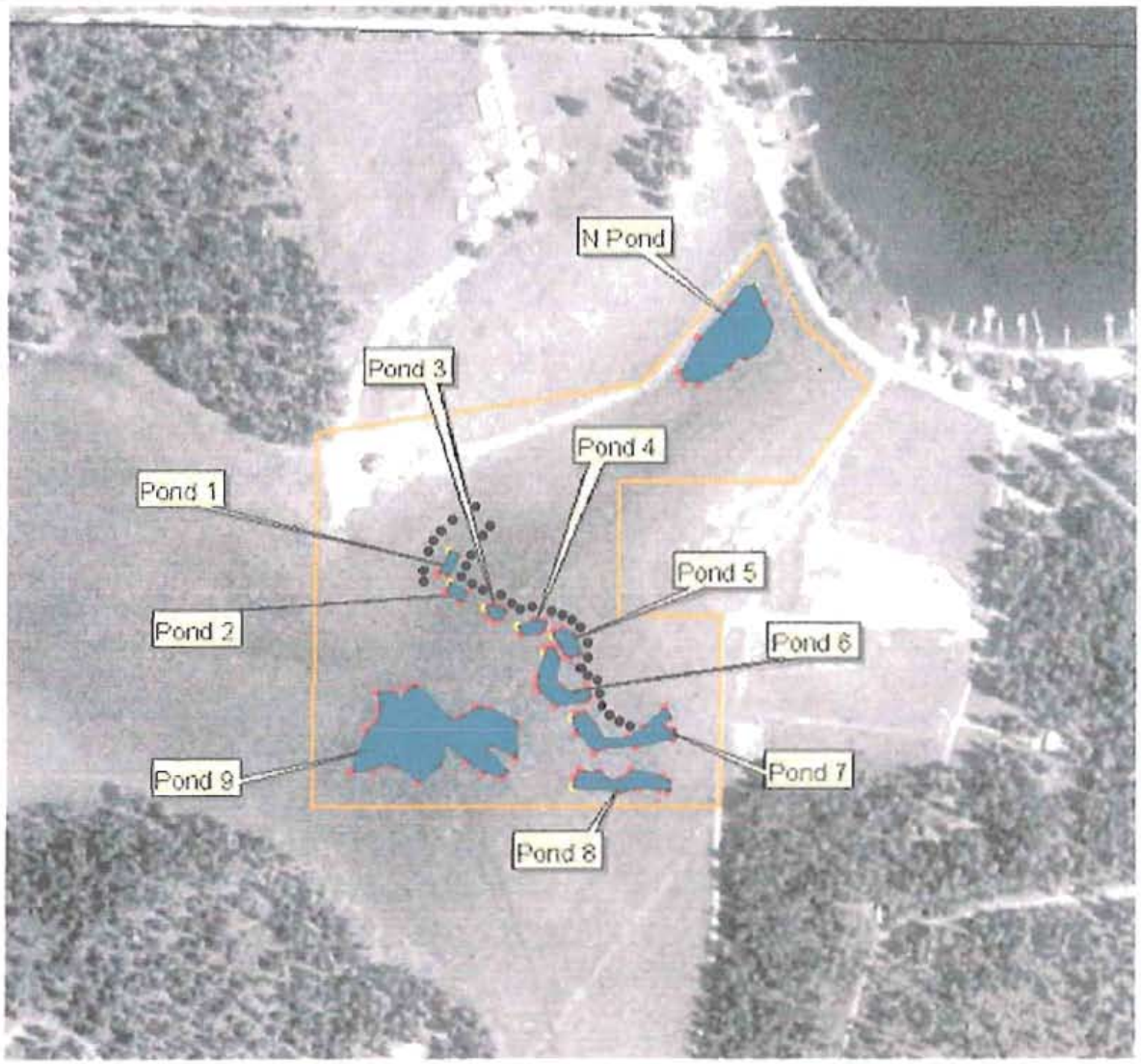
Ed Haag

Stevens County Conservation District

Date: 12-19-2003

Colville Ag Service Center
NRCS
Bob Gillaspy
509-685-0937

•.•.•BERM, OCT 2002




N

500 0 500 1000 Feet

NRCS

Much of site is essentially flat and there is a regular supply of water briefly available in the spring season. This site provides an excellent opportunity to improve the agriculturally-degraded ecology by RE-establishing wetland hydrology on the site. Ditching and drainage as well as erosion and sedimentation associated with the long practice of agriculture had diminished the hydrology and impoverished the vegetation of the site. The period of standing surface water and saturated soils was severely curtailed by the ditching. The stands of native vegetation, including willow and cottonwood, had been replaced by a managed vegetation dominated by domestic plants and exotic invasive species. The topography of the mitigation site is essentially flat, so a program of minor grading and de-leveling has successfully caused surface water to be retained on the site for a longer period. Plugging part of the ditch has assisted in restoring more natural flow of water across the site, increasing residence time of surface water, establishing longer flow patterns and detention times.

The property connects an existing forested wetland along the shore of Loon Lake to the edge of a conifer forest on the adjacent upland. This provides significant opportunity for the mitigation wetland to function as a wildlife corridor connecting two different habitat types. The adjacent margin of Loon Lake at this location supports a relatively undisturbed stand of deciduous broadleaf trees that have a thriving shrub understory. That wetland margin is owned by the Loon Lake Land Conservancy who have also restored wetlands. The land will remain protected into the future. A narrow paved road separates the lake shore wooded wetland from the Meadowcroft project site. Re-establishing wetland conditions and hydric vegetation on MMB property will provide a much improved corridor from the edge of Loon Lake to a conifer woodland or forest on the adjacent upland.

### 1.1.7 Bank Site Description

#### 1.1.7a Historic Conditions

Because there is no written record of the specific conditions on this site that is available for a date earlier than the county soil survey of July 1982, the historic conditions must be interpreted from the general literature dealing with this region. More detailed and specific base line conditions that are known from field investigation of this meadow site after 1982 are described in the following section 1.1.5b.

The site is located in the southern margin of the Okanogan Highlands, a region of rough, irregular uplands that trend generally north-south (Hunt, 1967). The higher topography with its steep slopes is formed of ancient crystalline rocks (McKee, 1972) that generally have low permeabilities (Donaldson, 1982) and high rates of runoff. The crystalline highlands define a series of structural basins that drain into the Columbia River system (Stoffel, 1991).

The lower edges of the regional uplands were originally covered with evergreen conifer forests of ponderosa pine that merged into Douglas fir at cooler, wetter and higher elevations (Franklin and Dyrness, 1988). A description of the original vegetation of the

forested uplands adjacent to the meadow is not available and there has been more than one episode of logging in the past 100 years. In many places the forest is well-enough recovered from logging so that a field examination indicates the sites would ultimately develop a forest mosaic of two of habitat types recognized by Daubenire:

- the Douglas fir-snowberry on the mesic wetter locations and
- the ponderosa pine and antelope bitterbush habitat type on the xeric drier sites.

Scientific names of flora and fauna mentioned in this report are given in section 8.0, Species List.

Here and there within the original forest were non-forested meadows, bogs and fens in places where the soils were either too dry because of slope steepness and exposure or too wet because of hydric soil conditions. The central meadow flat on the Meadowcroft site was historically one of the latter. The meadow flats receive runoff water from the adjacent slopes and lie at an elevation only 7 feet, at most, above the surface of Loon Lake. Previous to agriculture, these water conditions provided recurring and prolonged soil saturation that defeated successful colonization by conifers.

The climate of the site is marked by seasonal extremes. Summers are reliably hot and dry and winters are reliably cold and snowy. The majority of the precipitation falls as snow during the winter season and rapidly melts off in late winter or early spring; typically March and April. After the brief period of spring season runoff the soils rapidly lose moisture and the plant and animal communities enter a period of prolonged water deficiency. Soils and vegetation must be adapted to these extremes, including frozen ground, soil saturation during spring runoff and deep desiccation of the soil every summer.

Regional drainage from the upland forests supports seasonal streams and a few permanent streams and rivers as well as a number of lakes and wetlands in the basins, including Loon Lake and the site of the MMB.

The Soil Survey of Stevens County (Donaldson, 1982) indicates two sets of soils on the site,

- upland soils that originally supported "conifers, shrubs, grasses and forbs" and
- lowland soils that before agriculture were vegetated with "water-tolerant grasses, sedges, rushes and forbs."

The soils are described in more detail in a following section (p.28).

1.1.7b Baseline Conditions

Baseline conditions can be known only from direct field examination. The first detailed record of the ecology of the site that we are aware of was compiled in July and August of 2002 during a wetland inventory and delineation performed by Geographical Services (Attachment 1).

Topography

The property has two very different slope conditions. The majority of the site is very gently sloped or essentially flat, at an elevation below 2390 feet. A small part of the north margin abruptly rises to about 2416 feet in a smooth slope composed of coarse sediments. The mitigation bank wetlands have been developed on the lower elevation flats where seasonal runoff water is available. The higher elevation slopes on this property are not part of the MMB and have an existing driveway and residence.

Geology

The flats are composed of old lake beds remaining from previous geologically higher stands of Loon Lake. Newer sediments deposited from the adjacent slopes cover parts of the lacustrine flats ands give them a small degree of slope. The sediments are fine-textured, mostly silt loams and sandy loams with a significant amount of tephra (volcanic ash) and fresh micaceous material derived from the nearby crystalline uplands.

The nearby north slope is composed of coarse gravelly and sandy sediments that appear to be glacial till. The matrix between the gravel is mostly loamy sand. The higher topography to the west, off-site, is composed of crystalline granitic rock.

Vegetation

The topographic flats are low, treeless and have been farmed. The adjacent slopes in places support trees, shrubs and bunchgrass. The topographic flats in the past were ditched and the soils drained effectively so that hydric vegetation became non-competitive. The flats have been repeatedly cultivated and virtually all of the original vegetation has been removed and been replaced by a stand of weedy, invasive species. No woody species were present before Wetlands Redux restored wetlands on this site. After Phase One was completed and wetland hydrology was established on part of the site, a wetland delineation was performed by Geographical Services (Attachment 1). The wetland vegetation was documented at datum point 4 as shown on Figure 16 Haag Wetland Delineation July 2002.

Reed canarygrass cover 100 percent
Canada thistle cover 16 percent
Curly dock cover less than 10 percent
Timothy cover less than 10 percent

On the valley bottom where Phase One did not establish wetland hydrology the previous mesic non-wetland vegetation typical of abandoned agricultural "old-fields" persisted. The cover composition of a representative location on this non-wetland was documented at location "A" (see Figure 16) and is listed below.

Bluebunch wheatgrass 80 percent
Reed canarygrass 20 percent
Yarrow 10 percent
Salsify less than 5 percent
Mullien less than 5 percent
Canada thistle less than 5 percent
Morning glory less than 5 percent
Forget-me-not less than 5 percent

Forget-me-not less than 5 percent
Unknown rushes less than 5 percent

The MMB site consists largely of former agricultural fields vegetated by forbs and grasses typical of prolonged agricultural disturbance as shown by Figure 13, following.

Figure 13: MEADOWCROFT LANDSCAPE AFTER PHASE ONE

Soils

In the Soil Survey of Stevens County (Donaldson, 1982) the property that includes the MMB is shown as having two different soil mapping units: Figure 14 Soil Map.

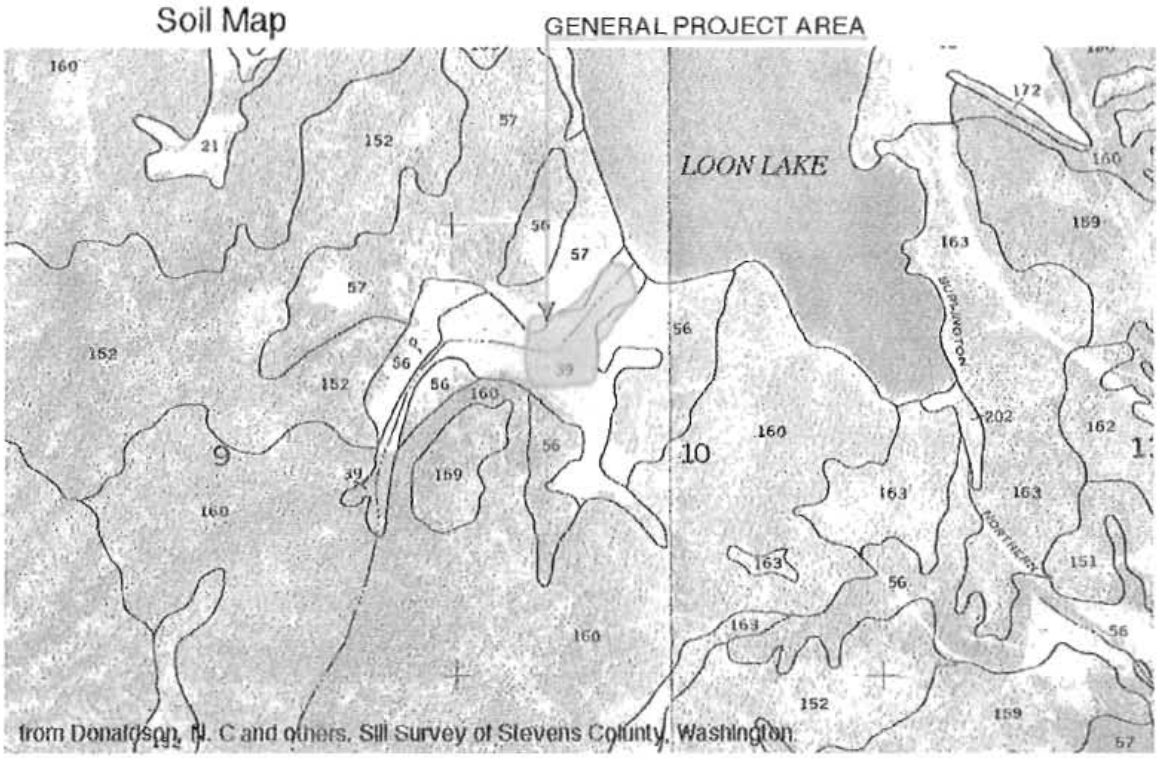
• Bridgeson silt loam (number 39) on the valley bottom where the MMB is located and

• Clayton fine sandy loam (number 57) on the valley sides that lie mostly outside of the MMB. Field evidence gathered in 2002 as part of the wetland delineation of the MMB is in agreement with the mapped indicators (Attachment 1).

Bridgeson soil is described as "very deep, poorly drained on bottom lands and low stream terraces." It formed from mixed alluvium that included igneous material, lacustrine sediment, tephra (volcanic ash) and loess (wind-deposited silt). Bridgeson soils typically have moderately slow permeability and very high available water capacity. Flooding in the late winter and spring season is common on sites supporting Bridgeson soils.

The part of this property that not included in the MMB has Clayton soil that is very deep, well drained soil on terraces. It formed in mixed glaciofluvial sediment under a natural vegetation dominated by conifers.

Figure 14: SOIL MAP




Hydrology

Water on the MMB site originates from direct precipitation, seasonal stream flow and groundwater inflow. There are no seeps or springs on the site. Groundwater inflow is provided by lateral flow from the foothills adjacent to the site and from lateral flow along the trend of the valley bottom. Soils on the MMB site have moderately slow permeability. Past ditching has effectively lowered the summer level of soil water to below the root zone in most of the project area. Ultimately, local groundwater levels are controlled by the zone of saturation associated with Loon Lake which lies about 7 feet below the typical surface of the MMB site - too low to maintain groundwater within reliable reach of the rooting zone.

Stream flow is dominated by late winter and early spring runoff supported by snow melt and a concentration of rainfall in April and May. Late spring and summer precipitation is inadequate to replace evaporated water so that conditions of soil moisture deficiency set in during the warmer weather. This effectively ends lateral flow into the local ditched stream channel and causes it to also become dry. Stream flow and wetland hydrology are very seasonal.

1.1.7c Wetlands

Before conversion to agricultural use the site supported a wetland complex that included broadleaf deciduous trees and shrubs, along with several seasonal ponds. During conversion to agriculture the site was ditched, effectively drained, leveled and regularly cultivated; actions that eliminated the wetland plants and removed wetland hydrology except for a narrow zone of wetlands along the ditch. That agricultural conversion took place in the 1920s.

In June of 1996 the site was evaluated for the presence of wetlands by Soil Conservation Service (NRCS) Colville Field Office District Conservationist (Gleaton). An area of one acre of wetland was identified (Attachment 2).

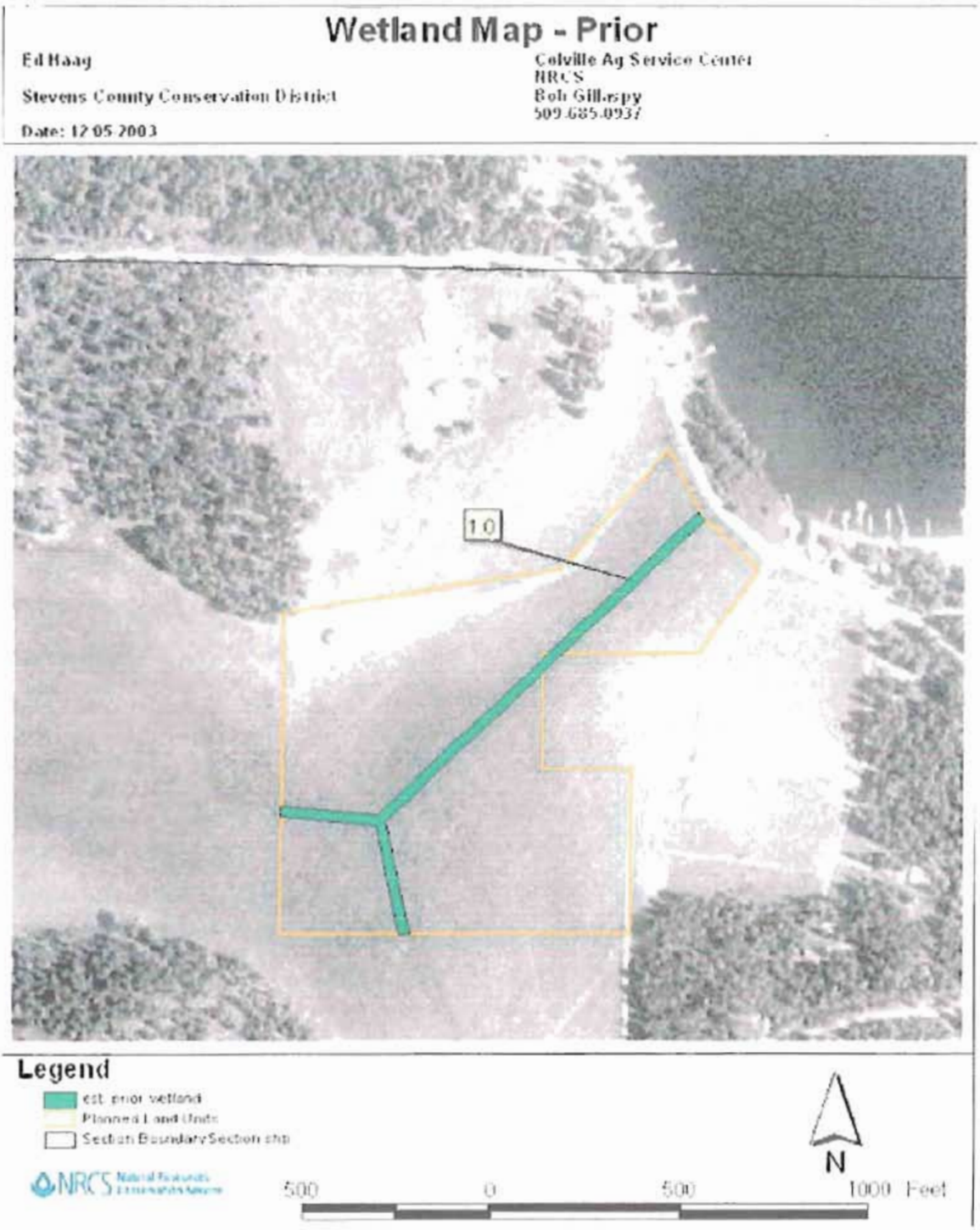
In September 1998 NRCS (Miller) performed a certified wetland determination for purposes of the Food Security Act (Attachment 3). At that time NRCS mapped one acre of wetland, essentially coincident with the drainage ditch. A map of this ditch wetland was later (December 5, 2003) produced by NRCS and is shown by Figure 15, Wetland Map-Prior on the following page.

On 7 December 2001 Ecology staff (Merker) made site a visit to perform wetland ratings using WDOE ratings form (pages 24-28, that resulted in a class III rating; (Attachment 4).

On 12 December 2001 Ecology staff (Merker again) evaluated the site using a Eastern Washington Functional Assessment form (Depressional Columbia Basin form dated April 19, 1999): (Attachment 5).

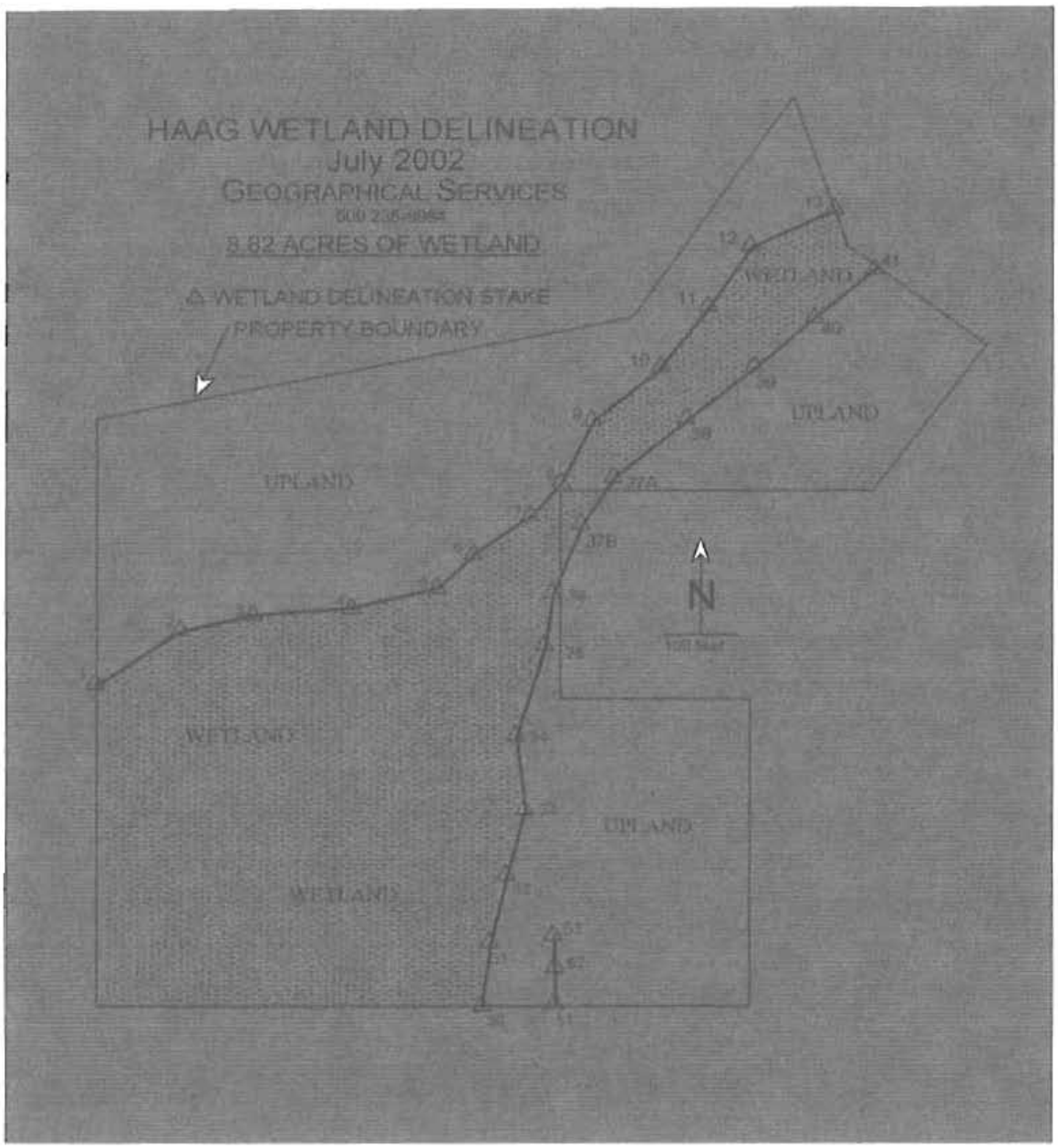
Phase One resulted in grading part of the site and was performed in December 2001 to create a basin to retain surface water for a longer period. This initial pond was previously shown as Pond 9 in the Figure 11 Pond Map on page 21. In Phase Two ponds 1 through 8 and N pond were created in 2002. The creation of pond 9, along with de-leveling and an associated ditch plug, caused the restoration of wetland conditions and wetland area to be expanded. This development was done according to an agreement between the owner, Mr. Ed Haag, and NRCS (Attachment 6).

Figure 15: WETLAND MAP - PRIOR




In June of 2002 the field evidence of this expanding wetland was evaluated, this time by Geographical Services, as shown by Figure 16; Haag Wetland Delineation July 2002.

Figure 16: HAAG WETLAND DELINEATION JULY 2002




ated by this study (Attachment 1). The expansion of wetland area between 1998 (one acre) and 2002 (8.82 acres) during Phase One was caused by the de-leveling of the land, installation of the ditch plug and the construction of a pond. Together these two actions greatly retarded spring season runoff

water and increased the area of soil saturation. Geographical Services used data from this field investigation to rate the wetland using Ecology's Wetland Rating Form-Eastern Washington 2003. This again resulted an a rating of III: (Attachment 7).

On 12 July, 2002 Ecology made another site visit, performed another wetland classification, using the revised Ecology Wetland Rating Form-Eastern Washington-Draft, and again found the wetlands to be Category III: (Attachment 8).

A second episode of grading, Phase Two, was performed in October 2002 and eight more ponds were created in order to provide additional longer-term areas of surface water. These ponds are shown as pond 1 through pond 8 in Figure 11, Pond Map previously shown on page 21. At the same time a low berm was also installed to spread the runoff water over a wider area, as shown by Figure 12, Berm Map, previous.

The wetlands on the MMB site were again delineated by Geographical Services on 30 November 2003. The new wetland boundary was promptly GPS mapped by NRCS and is shown by Figure 17 Wetland Map: 12.6 Acres on page 35. In this most recent delineation 12.6 acres of wetland were identified. The increase from June 2002 (8.82 acres) to November 2003 (12.6 acres) was caused by the installation of the berm that acted to spread surface water more widely across the valley bottom. The berm reproduces some characteristics of the pre-agricultural landscape with a complex of valley-bottom topography including closed basins and irregular surface topography that acted to retain seasonal surface flow.

The wetland boundary was delineated again in January of 2005 by Geographical Services and new boundary stakes were set. The stakes were surveyed by Patrick Moore, Professional land Surveyor, who prepared a wetland map. This latest delineation and survey revealed 12.31 acres of wetland on the site. This delineation is shown on the map WETLAND AND BUFFER ZONE, Figure 18. The legal description of this survey is Attachment 11.

Figure 17: WETLAND MAP: 12.6 ACRES

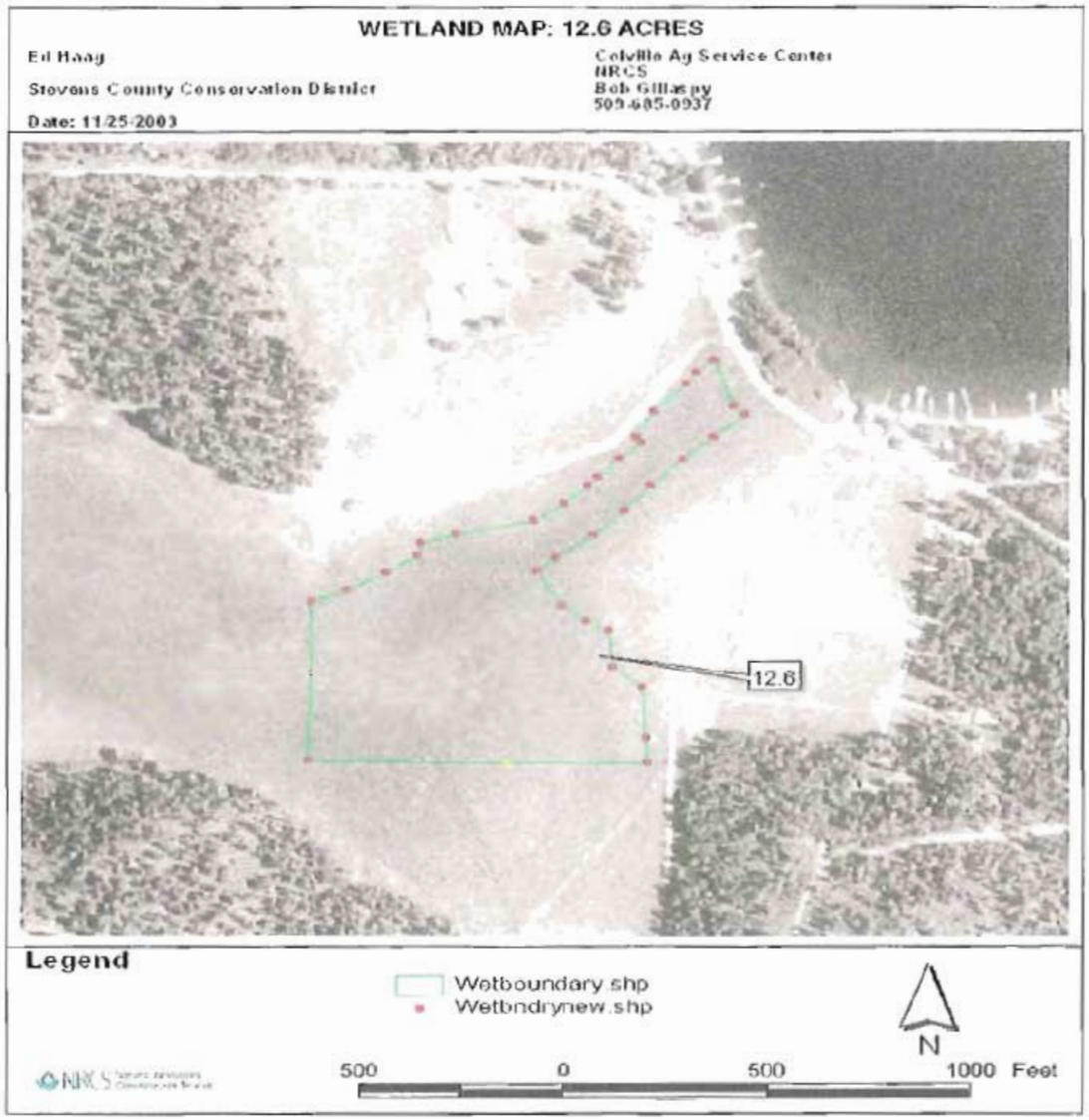



Figure 17: WETLAND MAP: 12.6 ACRES

The series of wetland evaluations and modifications that has taken place is summarized by table 2.

Table 2
Wetland Evaluations and Site Modifications

| DATE | WETLAND AREA IDENTIFIED | ACTION and SOURCE |
|---|---|---|
| June 1996 | 1 acre | wetland delineation by NRCS. Att.2 Gleaton |
| September 1998 | 1 acre | wetland delineation by NRCS. Att.3 Miller |
| December 7, 2001 | | wetland rating by Ecology. Att.4 Merker |
| December 12, 2001 | | wetland function by Ecology. Att.5 Merker |
| December 2001 | | grading and planting by Wetlands Redux Att.6 |
| June 2002 | 8.82 acres | wetland delineation, Geographical Svcs. Att.1 |
| July 12, 2002 | | wetland rating by Ecology. Att.8 Merker |
| October 2002 | | grading by Wetlands Redux |
| November 2003 | 12.6 acres | wetland delineation by Geog. Svcs. Fig.17 |
| October 2004 | | wetland rating by Geog. Svcs. Att.7 |
| January 2005 | 12.31 acres | wetland delineation by Geog. Svcs. Fig.18 |

Of the 12.31 acres only 8.31 are included for potential wetland banking credit in the MMB.

Geographical Services' field examinations were conducted using the Washington State Wetlands Identification and Delineation Manual (Ecology 1997), along with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (January 1987) reprinted as Field Guide for Wetland Delineation, 1987 Corps of Engineers Manual (Wetland Training Institute, 1995).

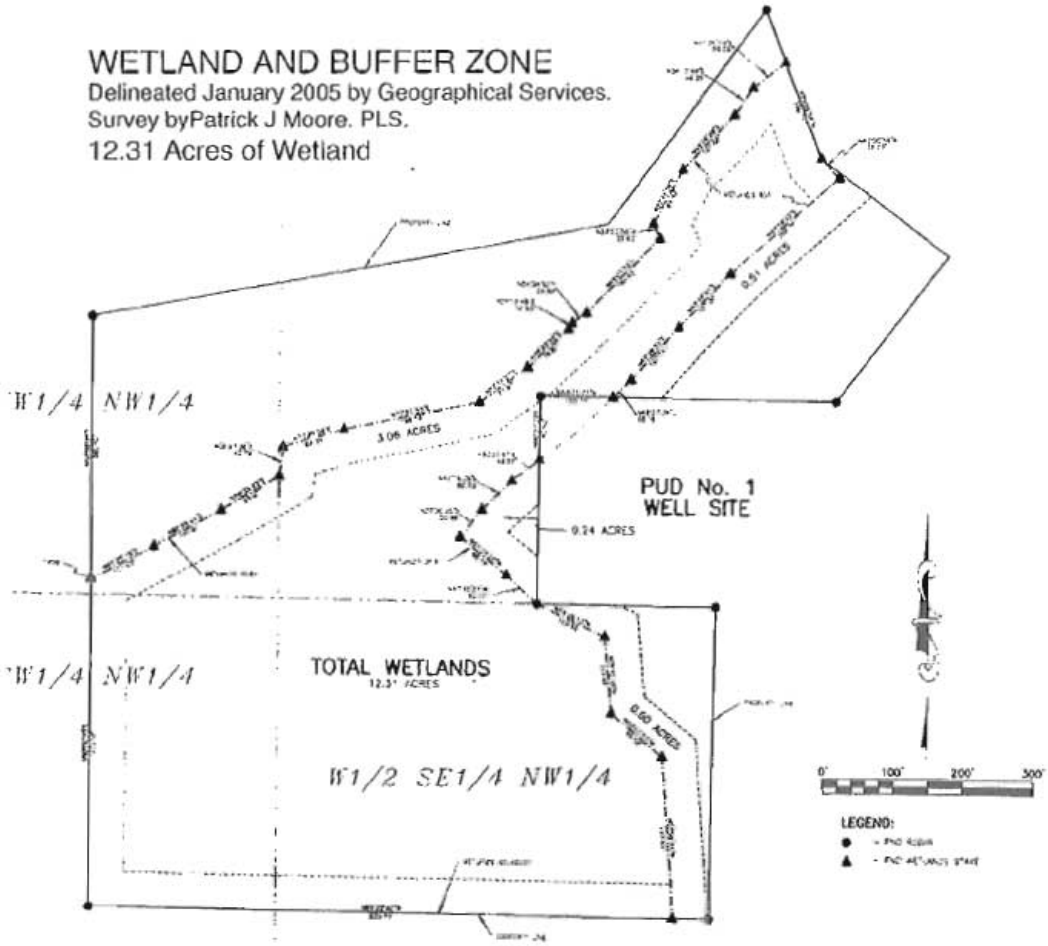
A part of the wetland area now extends onto the adjacent PUD site along the south and east edge of the property. That wetland is not included in the proposed MMB and its area (square feet) has not been included in the statement of wetland areas.

1.1.7d Buffers

A buffer zone of 50 feet is to be established around the wetlands of the MMB. The buffer zone is illustrated by Figure 18. 1.35 acres of buffer are located on adjacent upland sites and 2.91 acres of buffer are located on wetland sites. The 2.91 acres of "wetland" buffer are approximately equivalent to the 3 acres of wetland restored by Wetlands Redux in December 2001 under a 12 year conservation easement. Under the MBI those three acres of wetland will be protected by a perpetual conservation easement, and in exchange for this value they will be included in the MMB. The buffer areas are fully vegetated with a mix of native and exotic species. No planting will take place in the buffer zones.

All of the buffers will be included in the protective conservation easement and will be managed in the future by Loon Lake Land Conservancy. The presence of noxious weeds will be minimized by LLLC. No mitigation credits are requested for the any of the buffer area.

Figure 18: WETLAND AND BUFFER ZONES




1.1.7e Functional Assessments

Four functional assessments of the site was done by competent wetland scientists.

- 7 December 2001 by Ecology (Merker); rating III
- 12 December 2001 by Ecology (Merker); no rating given
- 12 June 2002 by Ecology (Johnson and others); rating III
- 26 June 2002 by Geographical Services (Folsom); rating III

The June 2002 rating was done in October 2004 based on field data from June of 2002 and using the Wetland Rating Form-Eastern Washington (Ecology 2003).

1.1.7f Habitat and Wildlife Use

Under past conditions of agricultural use the site had been ditched, drained and regularly cultivated, all of which minimized the value of habitat for wildlife. Since agricultural use has been terminated and the site has been graded (de-leveled) the habitat value has greatly increased. Ecology observers in June of 2002 documented the following birds (Attachment 9):

Nesting, killdeer, mallard, bluebird, Wilsons phalarope, red-winged blackbird, Brewer's blackbird spotted sandpiper, snipe and sora.

Feeding: tree swallow, cliff swallow, Coopers hawk, northern shoveler, golden eye American robin and turkey. White tail deer and garter snakes have been observed.

## 1.2 LEGAL AUTHORITTY AND RESPONSIBILITES OF BANK SPONSOR AND PARTNERS

The bank is established in accordance with the following Federal and State statutes, regulations, guidelines and policies:

- Clean Water Act (33USC 1251 et.seq.)
- Federal Guidance for the Establishment, Use and Operation of Mitigation Banks (November 28, 1995)
- Washington State Environmental Policy Act (SEPA), (RCW 43.21.c).
- Washington State Draft Rule on Wetland Mitigation banking (WAC 173-700; not issued)
- Washington State Water Pollution Control Act, Chapter 90.48 RCW.

Nothing in the MMB shall be construed as altering the requirements and agency responsibilities as specified in existing law, regulation and policy.

### 1.2.1 Signatories to the Mitigation Bank Instrument

Each government agency that is a signatory to the MBI is responsible for ensuring that the bank complies with the conditions that their agency places on it.

- Ecology is the source of bank certification under authority from RCW 90.84 and 90.48.
- Stevens County has local jurisdiction.
- Wetlands Redux is the bank operator.
- Loon Lake Land Conservancy is the holder of the conservation easement and is the future supervisor of the bank property.

The MBI provides the principles and procedures for establishing, implementing and maintaining the MMB.

Stevens County is the local jurisdiction, and has the right to approve the MMB but is not a signatory.

### 1.2.2 Responsibilities of the Bank signatories

The bank signatories will review, comment on and approve MMB proposals and operations as long as mitigation credits are available for sale. The bank signatories are responsible for verifying bank compliance during bank operation as well as post

operation and are to ensure that conservation requirements are met. The signatories will meet as often as necessary to provide project review and coordination between the MMB and local, state and federal agencies. The responsibilities of the signatories continue as long as the bank is operational.

### 1.2.3 Responsibilities of Ecology

Ecology will receive and review the monitoring reports for the site and the annual accounting report on the transaction ledger for the bank. Ecology is responsible for determining whether or not performance standards have been met and for authorizing the release of any credits that are tied to performance standards that have been met. Ecology is responsible for ensuring compliance with the terms of the bank instrument and performing audits and reviews as necessary.

### 1.2.4 Responsibilities of Loon Lake Land Conservancy

The Loon Lake Land Conservancy is responsible for conducting the monitoring of the site for a period of five years after construction is completed. Loon Lake Land Conservancy are the holders of the conservation easement and will be responsible for the long-term management of the bank site including activities such as control of invasive species and noxious weeds, ensuring access control to minimize disturbances to the bank and removing trash. The mailing address for LLCA is 3001 S. High Drive, Spokane WA 99203 and the current president is Bill Shawl.

### 1.2.5 Responsibilities of Wetlands Redux

Wetland Redux is responsible for developing, operating and managing the MMB in accordance with the terms and conditions of this mitigation bank instrument. These responsibilities include developing the bank site, monitoring the bank site, submitting monitoring reports, maintaining and submitting transaction documents to Ecology, implementing contingency actions as needed on the site and as directed by the signatories. Wetland Redux is also responsible for arranging the preparation and distribution of monitoring reports and for maintaining and submitting an accounting ledger, as required.

## 1.3 Service Area

The service area of the MMB includes portions of WRIA areas 54, 55 and 59 that have depressional and slope wetlands formed on naturally non-forested sites located on sediments. The service area was previously described in section 1.1.2 Project Area Setting and a rationale for the selection of the service area is provided in section 1.1.4 Site Selection Rationale.

1.4 Environmental Documentation and Approvals

Environmental documentation and approvals received for this project are described below and summarized in the following Table 3, Environmental Documentation and Approvals.

1.4.1 NRCS June 26, 1996 (Attachment 2)

A Highly Erodible Land and Wetland Conservation Determination was performed on the site by the Soil Conservation Service/NRCS. One acre of wetland was found. This documentation was done for Food Security Act purposes.

1.4.2 NRCS September 18, 1998 (Attachment 3)

A certified wetland determination was performed by NRCS and the findings of the field evaluation of June 26, 1996 were confirmed.

1.4.3 NRCS September 27, 2001 (Attachment 6)
Mr. Ed Haag, the owner of the property, entered into a Wetland Restoration Agreement with NRCS to restore an area of wetland on the site. Four acres of wetland were restored with a funding level of 75 percent. The life span of the operation is 10 years. All four acres are ecologically part of the MMB but only one of the acres is included in the totals for credits.

1.4.4 Stevens County Office of Planning November 15, 2001 (Attachment 10)

A SEPA checklist was prepared to for Stevens County.

1.4.5 Geographical Services June 2002 (Attachment 1)

The wetlands on the site were delineated by Geographical Services, a private entity, during June 2002. The delineation was performed according to the guidelines of the Washington State Wetlands Identification and Delineation Manual (Ecology 1997), the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, (1987) and the Stevens County Critical Areas Ordinance. As of that date a total of 8.82 acres of wetland existed on the property. Four months after this delineation was completed in June 2002 the berm was added to the site and more ponds were excavated in October 2002. The berm and the ponds caused an increase in the area of wetland to 12.6 acres, delineated in November of 2003.

1.4.6 Ecology June 12, 2002 (Attachment 9)

A field review of the plants and animals on site performed by Ecology on June 12, 2002. Ten plant species and 18 animal species were documented.

1.4.7 Geographical Services November 20, 2003 (Figure 17)

1.4.8 The field boundaries of the modified and enlarged wetland area were delineated and staked by Geographical Services during November 2003. The wetland margin was promptly GPS located and wetland maps were produced by NRCS.

1.4.8 NRCS November 25, 2003 (Figure 18)

The delineated margin of the new wetland area was located by NRCS, who produced a GPS-based map on November 25, 2003. A total of 12.6 acres of wetland were delineated and mapped. One acre of wetland is not included for credit in the MMB because it existed as wetland (section 1.4.1) before restoration activity connected with the MMB was begun.

1.4.9 Geographical Services January 2005

The margin of the wetland was again delineated, staked and surveyed. This delineation illustrated that 12.31 acres of wetland existed on the site. 8.31 acres of wetland will be included for banking activities as part of the MMB.

Table 3
Environmental Documentation and Approvals

| DATE | Agency/Provider | Item/Activity |
|---|---|---|
| June 26, 1996 | NRCS | Wetland Conservation Determination |
| September 18, 1998 | NRCS | Certified Wetland Determination |
| September 27, 2001 | NRCS | Wetland Restoration Agreement |
| November 15, 2001 | Stevens County Planning | Environmental Check List |
| June 2002 | Geographical Services | Wetland Delineation and Report |
| June 12, 2002 | Ecology | Site Review and Wtl Categorization |
| November 20, 2003 | Geographical Services | Wetland Delineation |
| November 25, 2003 | NRCS | Wetland Mapping |
| January 2005 | Geographical Services | Wetland Delineation |

# 2.0 ESTABLISHMENT OF THE BANK

## 2.1 CONSTRUCTION SCHEDULE

Excavation and earthwork for Phase One occurred in December 2001 and for Phase Two in October 2002 (See Table 1). Planting took place in December of 2001 and the spring season of 2002. Additional maintenance planting may take place, as necessary.

As-built plans documenting post-construction conditions are included in this document and show;

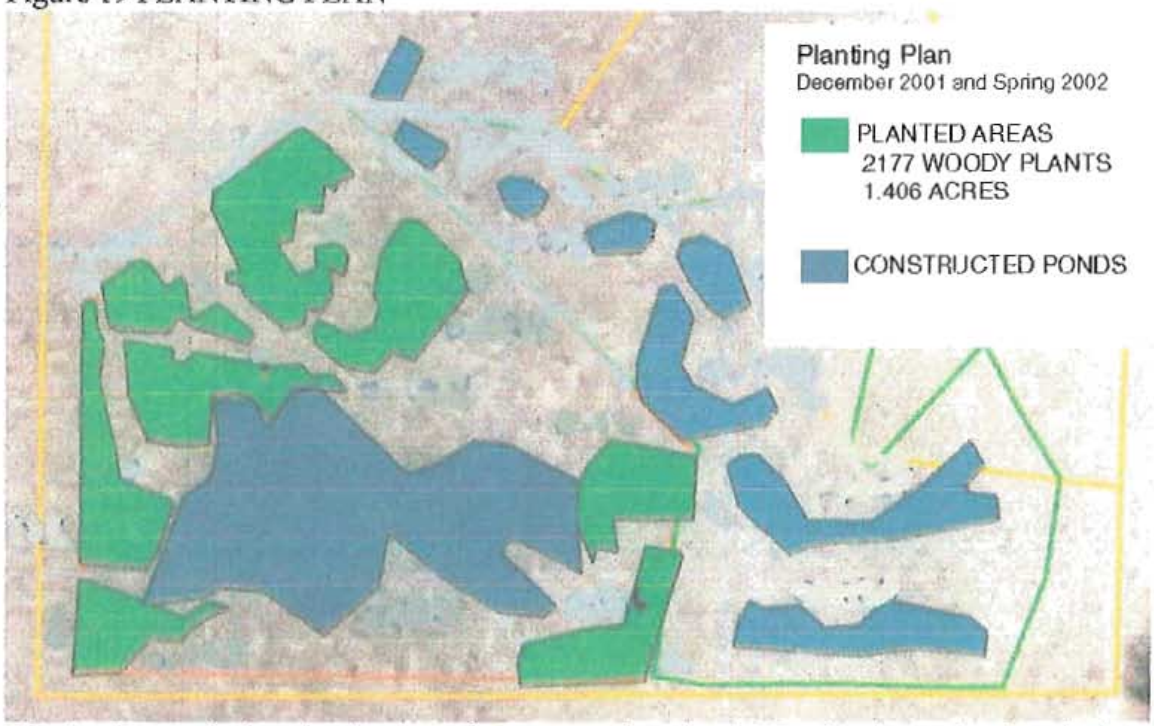
- Locations of plant installations; Figure 20.
- Locations and acreages of restored and enhanced wetlands; Figure 18.
- Locations and acreages of buffer zones; Figure 19.
- Locations of constructed ponds, berm and ditch plugs; Figure 22.

## 2.2 PLANTING PLAN

### 2.2.1 Planting Locations

The planting took place in December of 2001 and spring of 2002 on 8 separate areas that collectively covered 1.406 acres, as shown on the following Figure 19, Planting Plan.

Figure 19 PLANTING PLAN




All planting took place in the area of constructed wetland. No planting took place in the buffer areas. Places that were not planted were previously occupied by established vegetation or were colonized from local seed banks.

### 2.2.2 Planting Methods

- Live Stakes, diameter 1.5 inches or greater, were harvested from analogous local plant communities to ensure compatibility with local climate and soil characteristics. Live stakes were collected in late winter, treated with root hormone and installed after soil frost was gone. Holes of appropriate diameter to accept the stakes were augured deep enough to reach reliable soil moisture; typically 2 or more feet.

- Live Wands, diameter less than 1.5 inches, were harvested in late winter from local sources, treated with root hormone and pushed at least 6 inches into moist earth after soil frost was gone.
- Salvaged Live Plants were collected in early spring and promptly transplanted in holes of appropriate size.
- Purchased Plants were procured from a commercial grower. All were 10 cubic inch seedlings, planted in appropriate size holes opened with a power augur and promptly protected with a paper foil planting tube to provide shade and protect from herbivores.

### 2.2.3 Planting Schedule

Spring 2002; woody plants were installed

- Live Stakes; 60 black cottonwoods and 240 red-osier dogwoods
- Live Wands; 520 willows (Scouler's, Drummond's and Geyer's)
- Salvaged Live Plants and seedlings;
  - 100 snowberry,
  - 150 Douglas spirea,
  - 108 undifferentiated local willow species,
  - 33 aspen.
- Purchased Plants;

| | |
|---|---|
| 450 Woods rose | 20 mock orange |
| 367 Douglas spirea | 20 blue elderberry |
| 103 snowberry | 20 Rocky Mountain maple |
| 50 aspen | 20 serviceberry |
| 46 Sitka alder | 20 thimbleberry |
| 30 water birch | 20 chokecherry |
| 20 Douglas hawthorn | 20 oceanspray |

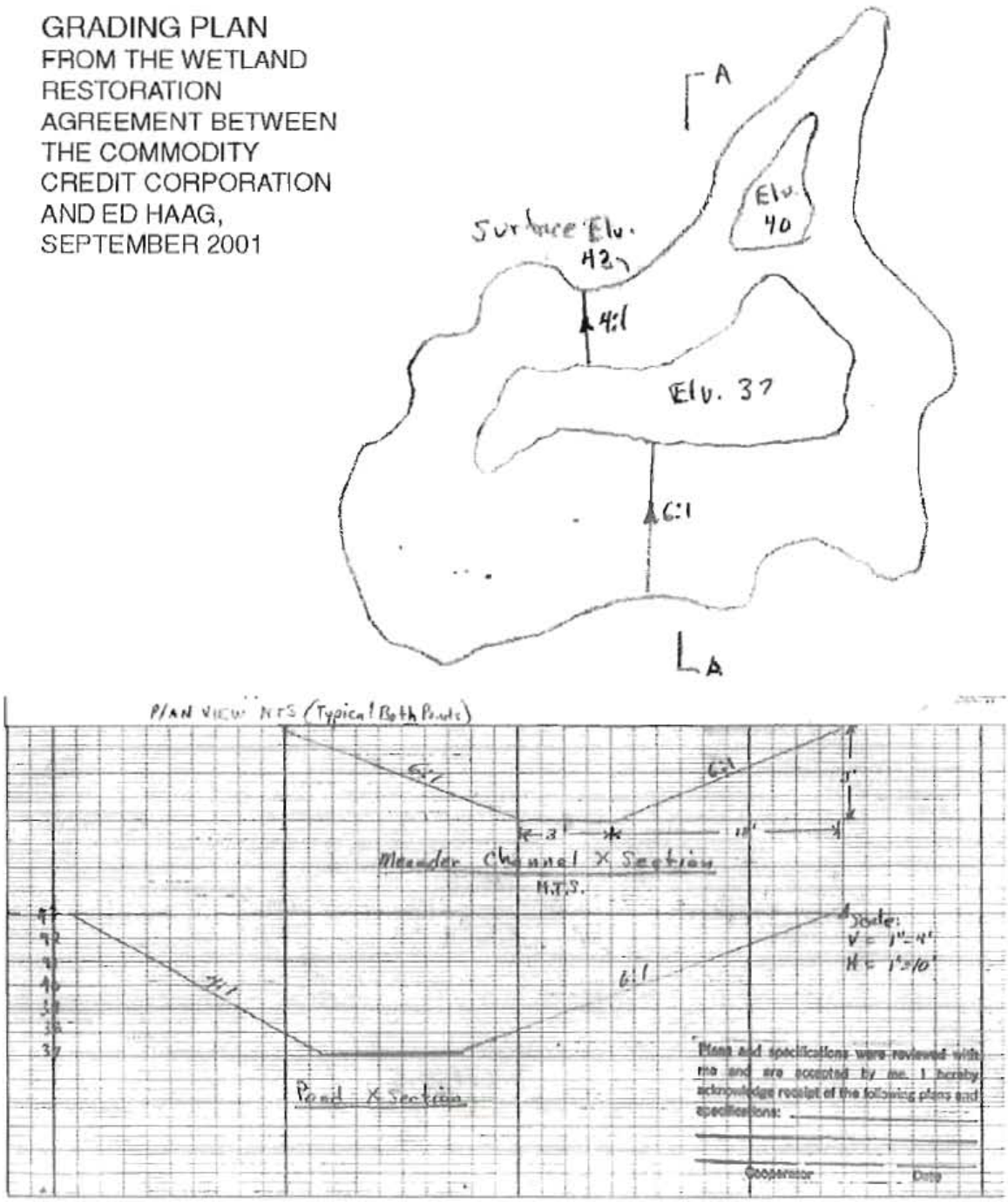
The majority of the plants were initially successful but eventually failed after the installation of the berm. The increased surface water and soil water provided by the berm, coupled with the desiccation from the following drier-than-normal summer caused the majority of the woody plants to fail. The future presence of woody plants has been removed as a performance goal of the mitigation wetlands.

## 2.3 CONSTRUCTION ELEMENTS

### 2.3.1 Phase One Excavation and Grading; December 2001

Following the Wetland Restoration Agreement with NRCS Wetland Redux installed an 1.09 acre pond in the southwest part of the property. See Figure 20, GRADING PLAN.

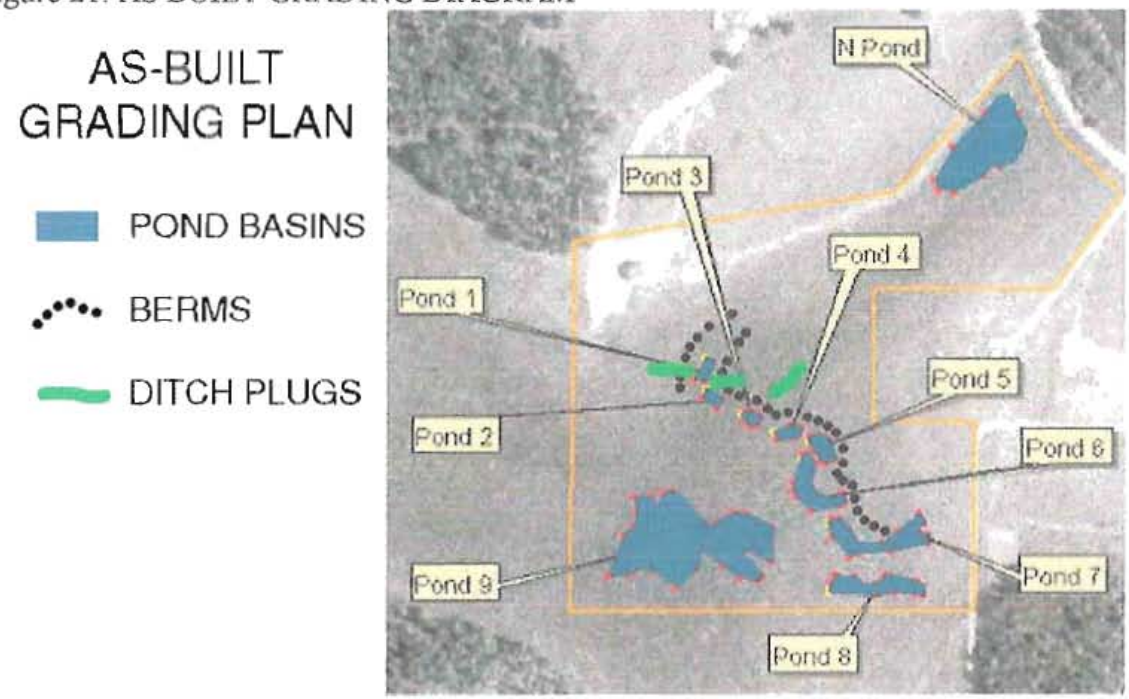
Figure 20: GRADING PLAN




This pond is similar to the ponds that were described on the property before its conversion to agriculture. The pond is typically 3 or more feet deep, holds water through most of a normal summer dry season and is intended to act as a long-duration source of surface water in the constructed wetland complex. The excavated material was transported to an adjacent upland outside of the MMB area and used as part of a landscaping project. The old agricultural ditch was plugged as part of this pond

development. This pond is shown as pond 9 on the As-Built diagram, following. Ponds 1 through 8 and N pond were constructed later, in October 2002.

Figure 21: AS BUILT GRADING DIAGRAM




2.3.2 Phase Two Excavation and Grading; October 2002

A second episode of excavation took place in October 2002 when Wetlands Redux constructed an additional eight small ponds, 1 through 8,in a naturalistic pattern extending northwest-southeast across the width of the valley floor. These ponds are small, shallow and intended to perform as short-duration ponds in the restored wetland complex. Vernal ponds are common wetland features of the more xeric parts of the sedimentary valley floors in the drainage areas of the Colville, Spokane and Little Spokane River areas. These ponds were constructed on what were non-wetland areas and collectively cover 0.688 acre. Together with their wetland margins they form an elaborate mosaic of differing water depths and durations that contribute to the diversity of the site. These ponds were installed in a field-fit manner and no grading plan for them is available. Their as-built locations are shown in Figure 21, AS-BUILT GRADING DIAGRAM, above.

The excavated material was used to construct a small berm that extends perpendicular to the water draining generally northeast down the valley. The berm is mostly about 2 feet high and from 6-12 feet across, with very gently sloping sides, typically 10:1. The berm acts to delay surface runoff in the spring season by spreading the water widely across the valley floor where it is additionally retained in irregularities purposely left from construction machinery. Except where the berm crosses the old agricultural drainage ditch, it was installed on sites without significant wetland evidence. This feature has been very successful at increasing the duration of surface water and soil saturation across

a wide portion of the site. A part of the material excavated from ponds 1 through 8 was used to plug the old agricultural ditch. The berm and the ditch plugs were apparently constructed in a field-fit manner, the only construction plan for the berm is shown in Attachment 6 See Figure 22 AS-BUILT GRADING PLAN, above. The berm is primarily responsible for increasing the wetland area from 8.82 acres in June 2002 to 12.6 acres in November 2003.

### 2.3.3 Vegetation

- Previous to the development of mitigation wetlands on this property the vegetation was very strongly dominated by reed canarygrass that grew in two contrasting ways. On the lower, wetter parts of the site the canarygrass established a canopy as much as two meters high with a cover of 100 percent. In those wetter places the canarygrass seeded prolifically. On higher, sloping, more xeric sites canarygrass still was the primary dominant but with a much reduced canopy height, never as much as a meter high and cover always less than 50 percent. Seed crops were remarkably sparse on these xeric sites with only about 4 percent of the plants successfully growing seed. Because reed canarygrass is already so thoroughly dominant on the site and is certain to re-colonize areas not covered with deep water, there is no realistic probability of other species, including native species, achieving cover dominance. There is no performance objective based on dominance of native species that is likely to be achieved, so none will be established.
- Because of site development the existing vegetation was completely removed from sites where the berm, the ditch plugs and the ponds were constructed. Woody plants were installed around the pond margins in an attempt to provide shade that would inhibit the return of canarygrass, as well as to add diversity to the habitat (See section 2.2). The majority of the woody plants failed from a combination of too much water adjacent to the ponds and behind the berm, followed by too-little water during the following dry summer. No additional attempt will be made to establish woody vegetation on the site and the presence of woody vegetation is not a performance objective. The vegetation on the constructed mitigation wetlands will be a dominated by non-woody species.
- The construction of the berm was so successful at wetting the site that many of the previously installed woody plants inadvertently did not survive the inundation. The wetland vegetation of the mitigation wetland will continue to evolve as the site adjusts to its now topography and hydrology.
- The site will be considered PEM only.

### 2.3.4 Habitat Consequence of Construction

Nine ponds were constructed with a total surface area of 1.78 acres. The ponds are small, very irregularly shaped and have a variety of depths and bottom contours. The ponds will provide significantly improved habitat for wildlife by providing a greater variety of water

depths and durations, by providing significant edge-effect along gently graded shallows and by providing a greater variety of vegetation that can supply food and shelter.

The excavation of the pond basins, the construction of the berm and the installation of the ditch plugs will, together, provide for a significantly improved range of hydrologic regimes. Parts of the wetland complex, the edges at slightly higher elevations, will hold water only for short periods after the end of spring runoff. Most of the wetland complex will hold water in surface depressions and in saturated soils for more significant parts of the summer period of dry weather. Another part of the wetland complex, the largest and deepest pond (pond 9) will sustain surface water throughout the summer season of all but the driest summers. This diversity of hydrologic regimes will add valuable diversity to available habitat as the site matures.

# 3.0 PROJECT OBJECTIVES AND PERFORMANCE STANDARDS

## 3.1 OBJECTIVES OF THE WETLAND PLAN

1. Establish an 8.31 acre wetland that will have emergent, herbaceous wetland vegetation.
2. Establish a greater diversity of hydrologic regimes interspersed across the site.
3. Establish a buffer area that provides a physical line of defense against indirect impacts from adjacent development.

## 3.2 PERFORMANCE STANDARDS

3.2.1 Objective 1. Establish an 8.31 acre category III wetland that will have emergent, herbaceous wetland vegetation.

Performance Standard 1a. The wetland will be a minimum of 8.31 acres as determined by a wetland delineation using the Washington State Wetland Identification and Delineation Manual (Ecology 1997). This has been accomplished by Geographical Services in 2002 (Attachment 1) and 2004 (Figure 17). Action to restore the 8.65 acres of wetland has been confirmed by wetland delineation (Figure 17). In year four of the bank operation the wetland area will again delineated to determine the acreage of wetland at that time.

Performance standard 1b, The wetland will be rated as class III using the Wetland Rating Form-Eastern Washington (Ecology 2004 and updates). This has been accomplished (Attachments 4, 5 and 7) and confirmed (Attachment 1).

Performance Standard 1c. The wetland will be dominated by species that are FAC or wetter. At least 50 percent of the species making up the list of dominant plants will be FAC or wetter. This performance standard does not include any minimum requirement for dominance by native species or woody species.

3.2.2 Objective 2. Establish a greater diversity of hydrologic regimes interspersed across the site.

Performance Standard 2a. The constructed wetland complex will contain at least a half-acre of pond area that retains water more than 24 inches deep for at least 45 days of the growing season.

Performance Standard 2b. The constructed wetland complex will contain at least an additional half-acre of pond area that retains water deeper than 12 inches for at least 30 days of the growing season.

Performance Standard 2c. The constructed wetland complex will contain at least one additional acre of seasonally inundated herbaceous wetland that is inundated more than 3 inches for 30 days during the growing season.

3.2.3 Objective 3. Establish a buffer area that provides a physical line of defense against indirect impacts from adjacent development.

Performance Standard 3a. The buffer area is established and protected as part of a conservation easement.

Performance Standard 3b. The buffer area has not been impacted by development.

The lower, wetter parts of the site were dominated by reed canarygrass before the MMB was developed. It is very unlikely that reed canarygrass can be significantly decreased by management. Where pond basins have been constructed the reed canarygrass was disturbed or removed but almost certainly will re-colonize successfully where the water is shallow and temporary. Where a pond basin has established water depths greater than 3 feet reed canarygrass will be less successful, but this cannot be guaranteed because of the exceptionally variable climate and hydrology of the site. During episodes of drier summers reed canarygrass will aggressively colonize the exposed pond margins or bottoms. When wetter episodes return the reed canarygrass will persist for years under the deeper water. Because reed canarygrass is so dominant, so tolerant of a wide range of hydrologies and so well-established there can be no performance standard on this site for native vegetation species.

3.3 MONITORING:

Monitoring for performance standard 1a, the establishment of 8.31 acres of herbaceous wetland, has been completed and confirmed,( see Figure 17). No additional monitoring for this performance standard is necessary. Monitoring for the remainder of the performance standards will take place annually for 5 years after the end of construction.

Monitoring for performance standard 1b, the wetland will be evaluated every April for its rating, using the Wetland Rating Form-Eastern Washington (Ecology 2004 and updates).

Monitoring for performance standard 1c, at least 50 percent of the species making up the list of dominant plants will be FAC or wetter. Monitoring will take place annually during the spring season along three transects as shown in Figure 23, following. The monitoring transects will be 15 by 100 feet and will be marked in the field by posts so that they can be identified each year. The cover of species present will be observed and recorded on field data sheets.

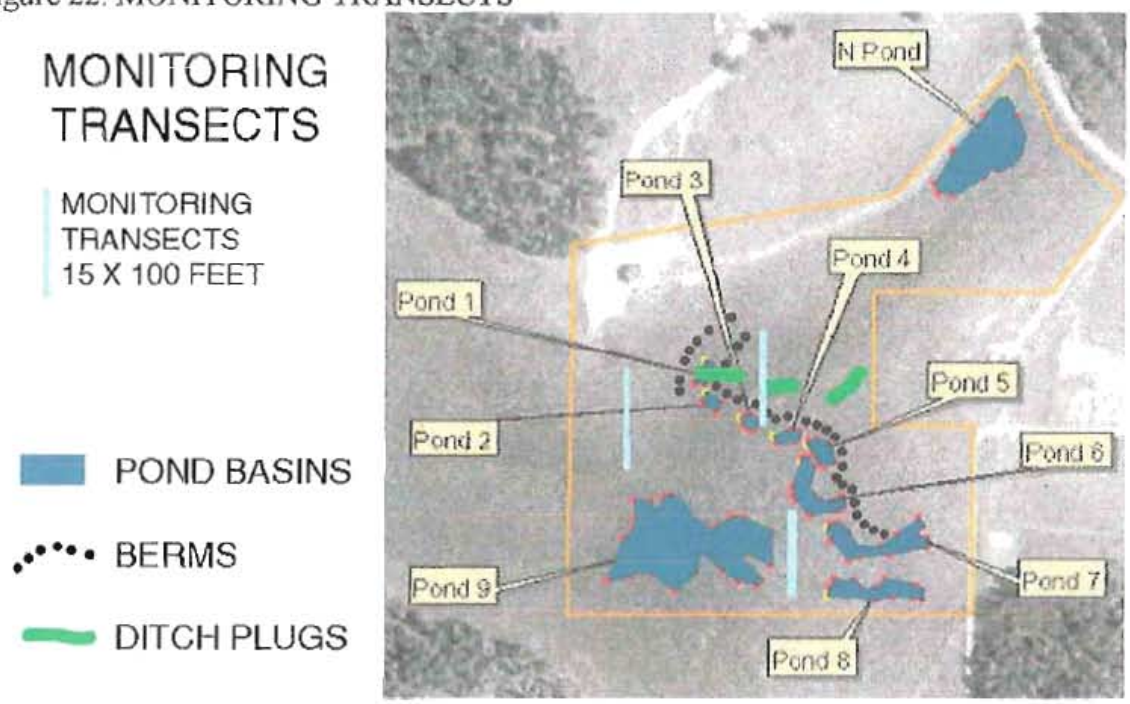
Monitoring for performance standard 2a, the constructed wetland complex will contain at least a half-acre of pond area that retains water more than 24 inches deep for at least 45 days of the growing season. Monitoring for performance standard 2a, 2b and 2c will take place at 10-day intervals during April and May. For standard 2a the depth of inundation will be recorded from a staff gage to be installed in pond 9.

Monitoring for performance standards 2b and 2c will take place simultaneously by walking the length of the berm, observing and measuring the area of inundation.

Monitoring for performance standard 3, the establishment of a buffer area has been completed. The physical integrity and non-developed status of the buffer will be monitored by a walk-through during April.

Annual reports of monitoring will provided to Ecology by 31 December of each of the five years of monitoring.

Figure 22: MONITORING TRANSECTS



# 4.0 OPERATION OF THE BANK

## 4.1 CREDIT DETERMINATION

Credits are units of trade that represent increase in ecological performance (functions and values) of a site as expressed by acreage. The wetlands on this site are slope and depressional wetlands (HGM), PEM1A wetlands (Cowardin; Palustrine, Emergent, Persistent wetlands with Temporary water regimes) and Category III wetlands (Ecology) with herbaceous emergent vegetation. The wetlands provide functions of improved water quality and quantity, improved ground water recharge, improved flood detention and improved general habitat.

Even though woody vegetation has been planted and may become established on the site, the vegetation performance standard (1b) for the constructed wetland is based on the dominance of non-woody emergent hydric vegetation. The radical diversity of climate and soil saturation will make it unlikely that Wetlands Redux will be able to assure the survival of woody species. Such wetlands with out significant presence of woody species and without significant areas of open water typically are ranked as category III wetlands. It is expected that the wetlands on the MMB will continue to be rated as category III wetlands.

### 4.1.1 Credit Conversion Rate

Conversion Rates are the difference in the number of acres in a bank and the number of acres of credit available for sale and are based on such criteria as

- net gains in wetland functions at the bank site,
- quality of the wetlands and habitats at the bank site,
- degree of connectivity to other habitats, and
- likelihood of the bank meeting its performance standards.

Ecology determined the conversion rates assigned to the wetlands of the MMB. Restoration activity qualifies for a conversion rate of as much as 1 acre of credit per one acre of restored wetland

Credits are the established currency for the bank. The number of credits generated by the bank is based on the ecological value provided by the area (acres) mitigated by the wetland construction. The MMB will have a potential of 8.31 credits (acres). Table 4 presents the restoration activities and their associated areas for potential credit.

Table 4
Credit Potential

| ACTIVITY | ACRES |
|---|---|
| Total area of Wetland on Site as of January 2005 | 12.31 |
| Wetland Restored with NRCS funding December 2001 | 3.0 |
| Wetland Existing on site before any MMB Activity | 1.0 |
| Wetland Available for MMB credits 12.31 - (3.0 + 1.0) = 8.6 | 8.31 |

A total of 8.31 acres of restored wetland is available for potential credit use by the MMB. All of the 12.31 acres of wetland and all of the buffer will be protected by a conservation easement.

4.2 USE OF CREDITS

The credit total in Table 4 is based on mitigation for small impacts to emergent Category III wetlands. Credits can also be used to mitigate small impacts to Category II or IV wetlands. Credit ratios can be adjusted by Ecology similar to the values suggested in Table 5. Credits will not be used to mitigate impacts to category I wetlands. Ecology will make all determinations regarding the use of MMB credits.

Table 5
Suggested Credits for Wetland Impacts

| Category of Impacted Wetland | Credit Requirement per Impacted Acre |
|---|---|
| II | 3.0 |
| III | 1.25 |
| IV | 1.0 |

The values in Table 5 are derived by applying the ratios from the WDOT draft mitigation bank instrument for the North Fork Newaukum River (Table 7; Credits Required for Wetland Impacts). For example, if a proposed project would impact one acre of Category III wetland, 1.25 credits of MMB wetland would be required. If a different proposed project would impact 2 acres of Category IV wetland 2 credits would be required.

4.3 CREDIT RELEASE PROCEDURE

Bank credits can be released by Ecology when the MBI is completed and signed, when the conservation easement is in place and when financial assurances are in place for contingency actions that may become necessary. This document is the MBI and will be completed for signature in December of 2004. The conservation easement has been established with the Loon Lake Land Conservancy. Financial assurances for contingency uses are to be funded from bank sales as described in section 5.1.2a.

Credit Release Schedule

Credits will be released the following schedule is suggested. Credits are available for release for sale in phases corresponding with the year that specific performance standards are met. If a performance standard is not met on schedule during the target year, the associated credits can be made available when the performance standard is met or made available incrementally by implementing a partial credit release. Table 6 illustrates a potential schedule of credit release, assuming all performance standards are met by the targeted years.

Table 6

Potential Credit Release Schedule

| Performance Standard | YEAR ZERO | YEAR ONE | YEAR TWO | YEAR THREE | YEAR FOUR | YEAR FIVE |
|---|---|---|---|---|---|---|
| 1a The wetland occupies a minimum of 8.31 acres, as determined by delineation | 2.0 | | | | | 0.5 |
| 1b The wetland is rated as class III or higher by Wetland Rating Form (Ecology 2004) | | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 |
| 1c. The wetland is dominated by FAC or wetter plants | | 0.3 | 0.3 | 0.2 | 0.1 | .05 |
| 2a Water is deeper than 24 inches on ½ an acre for at least 30 days | | 0.3 | 0.3 | 0.2 | 0.2 | .05 |
| 2b Water deeper than 12 inches on an additional ½ acre for at least 30 days | | 0.3 | 0.3 | 0.2 | 0.2 | .06 |
| 2c. Inundation deeper than 3 inches on at least one additional acre for 30 days | | 0.3 | 0.3 | 0.2 | 0.15 | 0.1 |
| 3a. Buffer is established and protected by conservation easement | 0.3 | | | | | |
| 3b. Buffer is intact and has not been significantly impacted by development | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| TOTALS | 2.3 | 1.5 | 1.5 | 1.1 | .95 | .96 |

## 4.4 ACCOUNTING PROCEDURES AND LEDGER MANAGEMENT

Wetlands Redux will maintain a ledger of the credits that are available and credits that are debited. A sample accounting ledger is suggested by Figure 25. Wetlands Redux will record all transactions with the Stevens County Auditor and will provide a copy to Ecology within 30 days. Wetlands Redux will provide an annual summary report to Ecology by 31 December of each year the bank is in operation (until all credits have been released and expended).

Figure 23: SAMPLE ACCOUNTING LEDGER

Sample Accounting Ledger, Meadowcroft Mitigation Bank

| | Performance Standards Resulting in Credit Release or Debit Project Application | Project Title Permit # | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

## 4.5 SITE COMPLIANCE MONITORING

LLLC will perform the annual monitoring and promptly inform Wetlands Redux of the results. Wetland Redux will prepare an annual report of the results of monitoring for signatories. The report will be delivered to the signatories by 31 December of each year that monitoring is required. The annual reports will document the progress made towards meeting the performance standards and will also describe adaptive management actions that have been taken over the previous year.

Monitoring will take place for 5 years after the end of site construction. The MMB will be visited for on-site inspection a minimum of eight times during each year of monitoring. Seven visits at approximately ten-day intervals during April and May will allow observation during the period of snow melt and runoff at the start of the growing season. The eighth visit will be in September at the end of the growing season.

# 5.0 MANAGEMENT AND MAINTENANCE OF THE BANK

## 5.1 PROTECTION MECHANISMS

### 5.1.1 Conservation Easement

Wetlands Redux will enter into a conservation easement with Loon Lake Land Conservancy. LLLC will be the holder of the conservation easement that specifies that the intent of the easement is to restore, protect, manage maintain, and enhance the characteristics of the wetlands for the conservation of functions and values including general wildlife habitat, water quality improvement, and groundwater recharge. Use prohibitions listed in the easement prevent the site from being used for activities that would be incompatible with the intent of the easement.

5.1.2 Financial Assurances for Construction
Wetlands Redux has already performed the construction activities related to creating the MMB; little or no additional funding for construction is necessary.

5.1.3 Financial Assurances for Contingencies
Wetland Redux will reserve five percent of the gross proceeds from the sale of credits as a fund to support adaptive management activities as necessary to protect the integrity of the MMB during the operation of the bank. These funds will be deposited in an account identified for this purpose. At the close of bank operations this fund reverts to Wetland Redux.

5.1.4 Long Term Oversight Fund
One percent of the gross proceeds of the sales of credits will be set aside in an interest-earning account to be owned by LLLC. The annual interest is to be used by LLLC in their responsibilities to conduct site monitoring and to maintain the bank site after the credits are sold and the bank is closed.

5.1.5 Site Access
The signatories will be able to access and inspect the site at any time. Reasonable notice will be given to Wetlands Redux, or successors, of site visitations.

## 5.2 LONG TERM MAINTENANCE

Maintenance of the MMB includes those activities carried out on the site to protect it from conditions that may inhibit ecological goals and objectives. Wetlands Redux is responsible for all site maintenance activities for a period of 5 years or until all performance standards are met and all credits sold, whichever occurs later. Maintenance activities include but are not limited to noxious weed control, trash removal and vandalism repair. After performance standards are met LLLC will manage the site of the MMB to ensure ecologic goals and objectives are maintained.

## 5.3 SITE MANAGEMENT

Management of the site of the MMB includes administrative actions taken by Wetlands Redux to ensure protection of the site. Any mitigation bank is vulnerable to acts of nature such as wild fires, insect infestations or prolonged drought that are beyond the control of Wetlands Redux. The occurrence of such an act may necessitate changes to the bank, including revision of the MMBI, to allow for reasonable activities that would offset and counteract the negative environmental impacts of that act. Depending upon the circumstances, however, it may be appropriate to let nature take its course, particularly if that choice would allow acceptable environmental conditions to eventually become established. The WSDOE and Wetlands Redux shall determine what changes to the MMB will be in the best interest of the bank and the local ecology. Any changes to the MMB or its significant management or goals necessitated by an act of nature beyond the control of Wetlands Redux shall be specified in a revised MMBI or other appropriate document and require the approval of the signatories.

All features and facilities within the bank shall be properly maintained by Wetlands Redux for as long as necessary to accomplish the goals of the bank.

Signatories to this document

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date herein below last written.

SPONSOR: Wetland Redux

Patricia Haag

Edmund Haag

WASHINGTON DEPARTMENT OF ECOLOGY

Gordon White 7/28/05

Gordon White:
Program Manager for Shorelands and Environmental Assistance Program
Washington State Department of WSDOE

STEVENS COUNTY

See Attached

Date:

# MEMORANDUM OF AGREEMENT

## The Meadowcroft Mitigation Bank (MMB)

This Memorandum of Agreement regarding the establishment, use, operation, and maintenance of The Meadowcroft Mitigation Bank (MMB) (hereinafter, the Bank) is made and entered into by and among Wetlands Redux, 317 West 16th Avenue Spokane WA 99203 (509) 747-2908 (hereinafter, Sponsor) and the Washington State Department of Ecology (WSDOE), with reference to the following:

## I. PREAMBLE

A. Purpose: The purpose of this Memorandum of Agreement is to establish guidelines and responsibilities for the establishment, use, operation, and maintenance of the Bank. The Bank will be used for compensatory mitigation for unavoidable impacts to waters of the United States, including wetlands, which result from activities authorized under Section 404 and Section 401 of the Clean Water Act, and RCW ch. 90.48, provided such use has met all applicable requirements and is authorized through valid permits issued by WSDOE, and by other applicable authorities.

B. Location, Ownership of Parcel and Type Of Bank: The Meadowcroft Mitigation Bank (MMB) is located in Section 10, Township 29 North, Range 41 East, W.M., near Loon Lake in Stevens County, Washington.

**Land Owner**: The site is owned by Ed and Patty Haag, 317 West 16th Ave., Spokane Washington 99203 (509 747-2908), doing business as Wetlands Redux.

**Bank Operator**: The MMB is being constructed and operated by Wetlands Redux (Ed and Patty Haag), 317 West 16th Ave., Spokane Washington 99203 (509 747-2908),

**Type of Bank**: the MMB will be a mitigation bank where marketable credits will be generated through creation of Category III depressional wetlands with herbaceous, emergent vegetation dominated by hydrophytic species.

C: Project Description: The overall site is 20.23 acres in size. 12.31 acres will be included in the MMB with 6.57 acres excluded for a home site, driveway and parking area. The completed MMB will have 12.31 acres of wetland and 1.35 acres of external buffer. One acre of wetland existed before development of the MMB. Wetland construction has taken place in phases on 11.31 acres, of which 8.31 acres will be available for wetland banking activities associated with the MMB. In phase one four acres of wetland were restored in ( December 2001), with 75 percent funding by NRCS in exchange for a 12 year conservation easement. Because owner paid for 25% of the work he is entitled to 1 acre of credit outright. For converting the remaining three acres from a 12 year easement to a permanent easement the owner receives 3 acres of credit to help offset 50 foot buffer zone requirements as specified in Section 1.1.7d of the Banking Instrument.

F. Bank Oversight is shall conducted by Washington State Department of Ecology

G. Disclaimer: Whereas, this Agreement does not in any manner affect statutory authorities and responsibilities of the signatory parties. This Agreement is not intended, nor may it be relied upon, to create any rights in third parties enforceable in litigation with the United States or the State of Washington.

## II. AUTHORITIES

The establishment, use, operation and maintenance of the Bank is carried out in accordance with the following authorities:

A. Federal:

1. Clean Water Act (33 USC §§ 1251 et seq.)
2. Rivers and Harbors Act (33 USC § 403)
3. Fish and Wildlife Coordination Act (16 USC §§ 661 et seq.)
4. Regulatory Programs of the Corps of Engineers, Final Rule (33 CFR Parts 320-330)
5. Guidelines for Specification of Disposal Sites for Dredged and Fill Material (40 CFR Part 230)
6. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation Under the Clean Water Act, Section 404(b)(1) Guidelines (February 6, 1990)
7. Federal Guidance for the Establishment, Use, Operation of Mitigation Banks (60 F.R. 58605 et seq.)
8. Regulatory Guidance Letter No. 02-02, U.S. Army Corps of Engineers, December 26, 2002

B. State of Washington:

. Washington Water Pollution Control Act, RCW 90.48 et sec
Draft Mitigation Rule as per WSDOE

NOW, THEREFORE, the parties agree to the following:

## III. ESTABLISHMENT OF THE BANK

A. Scope of Work. The Sponsor agrees to perform all necessary work, in accordance with the provisions of this Memorandum of Agreement, to restore and/or enhance aquatic and upland habitat and buffers, until it is demonstrated to the satisfaction of WSDOE that the project complies with all conditions contained herein.

B. Permits. The Sponsor will obtain all appropriate environmental documentation, permits or other authorizations needed to establish and maintain the Bank, prior to debiting any mitigation credits. This Agreement does not fulfill the requirement, or substitute, for such authorization

C. Bank Establishment. The bank will be established when this MOA is signed by all signatories and the final easement documents, referred to in this MOA and The Banking Instrument have been recorded in Stevens County Court of Record.

In the event the Sponsor determines that modifications must be made in the Bank development plan contained in the Instrument to ensure successful establishment of habitat within the Bank, the Sponsor shall submit a written request for such modification to the WSDOE for approval. Documentation of implemented modifications shall be made consistent with Article III.F. of this Agreement, and Section 5.3 of the Instrument.

D. Financial Assurance Requirements: As outlined in the Instrument the Sponsor has already satisfied its acquisition, design, and development obligations. The Sponsor has entered in agreement with Geographical Services, West 704 Clover Court, Cheney WA 99004 to monitor the site until responsibilities for the easement are assigned to the bank's conservator, Loon Lake Land Conservancy.

E. Real Estate Provisions: The Sponsor's fee title to the Bank property is subject to a conservation easement established for the wetlands and habitat protection purposes enumerated in Section 4.3 The Sponsor agrees that the property will be held subject to this Agreement and the Instrument and in accordance with the restrictions contained in the aforesaid conservation easement. Throughout its ownership of fee title, the Sponsor further agrees to adhere to, and to enforce against third parties, the terms and limitations of the conservation easement as that easement exists on the effective date of this Agreement.

F. As-built Report. The Sponsor agrees to submit an as-built report for the Bank within 30 days following completion of the establishment of that phase of the Bank, or following entry into effect of this Agreement, whichever is later. The as-built report must describe in detail any deviation from that described in the Instrument, and must show finished grades, and surface and groundwater elevations, as appropriate.

## IV. OPERATION OF THE BANK

A. Service Area: The proposed service area of the MMB extends across parts of three Water Resources Inventory Areas (54 Colville, 55 Lower Spokane River and 56 Little Spokane River) where seasonal slope wetlands and depressional wetlands are found on naturally non-forested sites with sediment substrate. .Projects outside of the Service Area will be eligible to utilize and rely upon credits from the Bank with express approval of the applicable regulatory agency(ies) with jurisdiction over that beneficiary site, and upon approval of the WSDOE, where the WSDOE determines that it is practicable and environmentally desirable to compensate for impacts beyond the Service Area.

**Permits and Approvals**: Environmental documentation and permits associated with the MMB are summarized in section 1.4.

The Bank is established to provide mitigation to compensate for impacts to the Waters of the United States including wetlands within the Water Resources Inventory Areas of 54, 55 and 59 as shown in Figure 7, page 15 of the Instrument.

B. Access to the Bank Site. The Sponsor will allow, or otherwise provide for, access to the site by WSDOE or their agents or designees, as reasonably necessary, for the purpose of inspection, compliance monitoring, and remediation consistent with the terms and conditions of this Agreement and the Instrument, throughout the period of Bank establishment, operational life, monitoring, and long-term management and maintenance. Inspecting parties shall provide reasonable notice, of not less than 24 hours, to the Sponsor, prior to inspection of Bank, shall use their best efforts to consolidate access requirements for WSDOE representatives, and shall not unreasonably disrupt or disturb activities on the property.

C. Projects Eligible to Use the Bank. All activities regulated under Sections 401 and 404 of the Clean Water Act, and RCW ch. 90.48, located within the Service Areas of this Bank may be eligible to use the Bank as mitigation for unavoidable impacts. The projects outside of the Service Areas may be eligible to utilize credits from the Bank with the express approval of the WSDOE, where the WSDOE determines that it is practicable and environmentally desirable to do so.

For projects requiring authorization through either a Nationwide Permit or Individual Permit under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899, will determine the appropriateness of use of the Bank for specific projects on a case-by case basis. Projects undertaken by public or private entities other than the Sponsor may also be eligible to utilize the Bank as mitigation for unavoidable impacts, subject to regulatory approval of the Army Corps of Engineers.

D. Project Objectives and Performance Standards: The criteria to be utilized by WSDOE in determining the Sponsor's success in meeting the Bank's designated objectives are contained in the performance standards delineated in Section 3.2 of the Instrument.

E. Schedule of Credit Availability: Upon submittal by the Sponsor of all documentation required under Section 4.3 and Table 6 of the Instrument, and subsequent concurrence by WSDOE in consultation with the Sponsor that the performance standards have been achieved, it is agreed that credits will become available for use by the Sponsor, or for transfer to a third party as may be specifically approved. Upon attainment of each particular performance standard, credits will be released for use by the Sponsor in accordance with the schedule delineated in Table 6 of the Instrument.

F. Accounting Procedure: The Sponsor shall maintain a ledger of the credits that are acquired through the achievement of specified performance standards as well as credits that are released and debited. The Sponsor shall submit an annual ledger toWSDOE, showing a cumulative tabulation of all transactions at the Bank to date, as specified in Section 4.4 of the Instrument. The ledger shall be submitted in conjunction with the annual monitoring report, until

all credits are expended or the Sponsor has informed the WSDOE that it has terminated banking activity.

G. Credit Deficit: If WSDOE determine at any point that the Bank is operating without prior written approval at a deficit, debiting of credits will immediately cease, and WSDOE, in consultation with the WSDOE and the Sponsor, will determine what remedial actions are necessary to correct the situation and direct their performance prior to the release of any additional mitigation credits.

I. Provisions For Use of the Mitigation Bank Area: The Sponsor shall not:

1. Grant additional easements, rights of way, or any other property interest in or to the project areas without the written consent of WSDOE

2. Use or authorize the areas within the Bank for any purpose other than those specified in the Instrument which interferes with its conservation purposes.

## V. MAINTENANCE AND MONITORING OF THE BANK

A. Maintenance Provisions: The Sponsor agrees to perform all necessary work to achieve and maintain the performance standards as specified in Section 5.2 of the Instrument. These maintenance activities conducted during the operational life of the Bank shall also include, but not be limited to, the short-term maintenance objectives detailed in Section 5.2 of the Instrument. The "operational life" of the Bank shall extend following establishment of the Bank as described in Article III of this Agreement, and terminate when the Bank complies with all performance standards expressed in Section 4.3 of the Instrument, and (1) all available credits are expended or the Sponsor has informed the WSDOE that it has terminated banking activity, and (2) WSDOE has determined that the Bank ecosystem has achieved a self-sustaining state.

B. Monitoring Provisions: The Sponsor agrees to perform all necessary work to monitor the Bank to demonstrate compliance with the performance standards established in Section 3.2 of the Instrument. Monitoring shall include all formal and informal monitoring activities specified in Sections 3.3 of the Instrument.

C. Reports: The Sponsor shall submit to the WSDOE monitoring reports describing the conditions of Bank and relating those conditions to the project objectives and performance standards. Reports will contain the information specified in, and be submitted in accordance with the schedule established in, Sections 3.3 of the Instrument.

D. Contingency Plans/Remedial Actions: In the event the Bank fails to achieve on the specified date one or more of the performance standards delineated in Section 3.2 of the Instrument, the Sponsor shall develop necessary contingency plans and implement appropriate remedial and monitoring actions for the Bank pursuant to the requirements specified for each project objective in Section 3.2 of the Instrument. Prior to their execution, proposals for the contingency plans and remediation and monitoring activities shall be submitted to and be approved

by WSDOE. In the event the Sponsor fails to implement necessary remedial actions within the prescribed period, WSDOE may suspend credit use and release until such actions are completed.

E. Default: Should WSDOE, determine that the Sponsor is in material default of any provision of this Agreement and the Instrument, WSDOE may notify the Sponsor that the debiting, sale, and/or transfer of mitigation credits is suspended until the delineated deficiencies are rectified. Upon written notification of suspension, the Sponsor agrees to immediately cease any debiting, sale, or transfer transactions not yet finally completed, until informed by WSDOE that debiting, sale, or transfer of credits may be resumed. Should the Sponsor remain in default for a period of 90 days, WSDOE, , may terminate this Agreement, the Instrument, and any subsequent banking operations. Upon such termination, the Sponsor agrees to fulfill its pre-existing obligations to perform all establishment, monitoring, maintenance, management, and remediation responsibilities relating to credits that were debited, sold, or transferred prior to termination.

F. Termination of Operational Life of the Bank: When all available credits are expended or the Sponsor has informed WSDOE that it has terminated banking activity WSDOE will perform a final compliance visit to evaluate whether all performance standards have been satisfied. Upon determination that all performance standards have been met and the Bank ecosystem has achieved a self-sustaining state, the WSDOE will issue a letter confirming that the operational life of the Bank has terminated, and that the period of long-term maintenance and management has commenced. Following issuance of the certification letter confirming that the operational life of the Bank has terminated, then Wetland Redux shall transfer the administration of the easement to the Loon Lake Land Conservancy with 3% of the monies received from the sale of the credits going into a fund for the maintenance of the site

G. Long-Term Maintenance and Management: Wetlands Redux is responsible for all site maintenance activities for a period of 5 years or until all performance standards are met and all credits sold, whichever occurs later. Maintenance activities include but are not limited to noxious weed control, trash removal and vandalism repair. After performance standards are met Loon Lake land Conservancy will manage the site of the MMB.

H. Transfer of Ownership of the Bank Site: Approval of WSDOE must be obtained prior to any transfer of title; such approval may be withheld only upon a determination by WSDOE that the transferee holds insufficient financial resources to carry out the obligations inherent in maintaining and enforcing the conservation easement. The Sponsor may transfer title or other interest only following approval by WSDOE of the transferee's financial assurances. Notwithstanding any transfer of interest to a third party, the Sponsor shall retain ultimate responsibility for the timely performance of all long-term maintenance and management responsibilities prescribed in Article V.G. of this Agreement. Notwithstanding any transfer of interest to a third party, the Sponsor shall ensure that its successor provides access to agents or representatives of the WSDOE as provided in Article IV.B. of this Agreement.

## VI. RESPONSIBILITIES OF WSDOE

A. The WSDOE agrees to provide appropriate oversight in carrying out provisions of this Agreement.

B. The WSDOE agrees to review and provide comments on all project plans, scheduled monitoring reports, contingency plans, contingency and remediation proposals, and permits for the Bank construction and operation in a timely manner.

C. The WSDOE agrees to review requests for modification of the terms of the Instrument, for transfer of title or interest in the Bank, or for determination of satisfaction of performance standards in order to evaluate the release of credits within each phase of the Bank. The WSDOE will coordinate review so that approval is rendered or comments detailing deficiencies are provided within a reasonable timeframe from the date of complete submittal. WSDOE agrees to not unreasonably withhold or delay approval of such requests for modification or determination.

D. The WSDOE shall conduct compliance inspections, at necessary times as determined in consultation with the Sponsor, to verify credits available in the mitigation bank, evaluate achievement of performance standards, and recommend any corrective measures, until the terms and conditions of the Bank Development Plan have been determined to be fully satisfied or until all credits have been used, throughout the operational life of the Bank.

E. Upon satisfaction of the requirements of Article V.F. of this Agreement, the WSDOE shall certify that the operational life of the Bank has terminated, and that the period of long-term maintenance and management has commenced.

## VII. OTHER PROVISIONS

A. Acts Of God: In the event of a natural catastrophe (such as flood, drought, disease, wildfire, or regional pest infestation) that the WSDOE, in consultation with the Sponsor, determine is beyond the control of the Sponsor to prevent or mitigate, the Sponsor may request and the WSDOE, may approve changes to the construction, operation, project objectives, performance standards, or crediting formula of the Bank, pursuant to the standards and procedures specified in Section 5.3 of the Instrument.

B. Decision Making: WSDOE will make decisions on resolving issues that arise pertaining to the establishment, operation, maintenance, and management of the Bank. Review and oversight decisions shall take into account the views of the Sponsor to the maximum extent practicable. WSDOE holds independent authority under Section 401 of the Clean Water Act and RCW ch. 90.48, to make final decisions regarding the application of the terms of this Agreement and the Instrument.

C. Entry into Effect, Modification or Amendment, and Termination of the Agreement: This Agreement will enter into effect on the date of signature by the authorized representative of WSDOE and the Sponsor. This Agreement may be amended or modified only with the written approval of the Sponsor and WSDOE. This Agreement may be terminated by the mutual agreement of the Sponsor and WSDOE, , or under the terms of Article V.E. of this Agreement in

the case of default by the Sponsor. Upon any such termination, the Sponsor agrees to fulfill its pre-existing obligations to perform all establishment, monitoring, maintenance, management, and remediation responsibilities relating to credits that were debited, sold, or transferred prior to termination.

D. Specific Language of Agreement Shall Be Controlling: To the extent that specific provisions of this Agreement change, modify, obviate or delete terms and conditions contained in the Instrument or other documents that are incorporated into this Agreement by reference, and that are not legally binding, the specific language within this Agreement shall be controlling.

E. Notice: Any notice required or permitted hereunder shall be deemed to have been given either (i) when delivered by hand, or (ii) three (3) days following the date deposited in the United States mail, postage prepaid, by registered or certified mail, return receipt requested, or (iii) sent by Federal Express or similar next day nationwide delivery system, addressed as follows (or addressed in such other manner as the party being notified shall have requested by written notice to the other party):

| | |
|---|---|
| Wetlands Redux | Washington State Department of Ecology |
| 317 West 16th Avenue | Shorelands and Environmental Assistance Program |
| Spokane WA 99203 | PO Box 47600, 300 Desmond Drive |
| (509)747-2908 | Olympia, WA 98504-7600, (360)407-7045 |

F. Entire Agreement: This Agreement, incorporating the provisions of the Instrument as indicated, constitutes the entire agreement between the parties concerning the subject matter hereof.

G. Invalid Provisions: In the event any one or more of the provisions contained in this Agreement are held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect any other provisions hereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had not been contained herein.

H. Headings and Captions: Any paragraph heading or caption contained in this Agreement shall be for convenience of reference only and shall not affect the construction or interpretation of any provision of this Agreement.

I. Counterparts: This Agreement may be executed by the parties in any combination, in one or more counterparts, all of which shall constitute one and the same instrument.

J. Binding: This Agreement shall be immediately, automatically, and irrevocably binding upon the Sponsor and its heirs, successors, assigns and legal

representatives upon execution by the Sponsor and WSDOE, even though it may not, at that time or in the future, be executed by the other potential parties to this Agreement. The execution of this Agreement by representatives of WSDOE shall cause the executing agency to become a party to this Agreement upon execution, even though all or any of the other potential parties have not signed the Agreement. Execution does not signify an agency's agreement with the application of credits in the Meadowcroft Mitigation Bank in connection with any specific permit or project.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date herein below last written.

SPONSOR: Wetland Redux

Patricia Haag

Edmund Haag

WASHINGTON DEPARTMENT OF ECOLOGY

Gordon White 2/28/05

Gordon White:

Program Manager for Shorelands and Environmental Assistance Program Washington State Department of WSDOE

Date:

AFTER RECORDING RETURN TO:
ATTN: Wetlands Redux
317 West 16th Avenue
Spokane WA 99203
(509) 747-2908

Document Title: Deed of Conservation Easement
Reference Number of Related Document: N/A
Grantor(s): Wetlands Redux, Ed and Patty Haag
Grantee(s): Loon Lake Land Conservancy (LLLC)
Legal Description (See attached survey certificate and map):

Meadowcroft Wetlands Conservation Easement

That portion of the Northwest Quarter of Section 10, Township 29 North, Range 41 ,East, W.M. in the County of Stevens, State of Washington being more particularly described as follows:

Commencing at the Northwest corner of said Section 10; thence South along the west line of said section, a distance of 970.00 feet; thence East a distance of 1000.00 feet to its intersection with the East line of the West 1000.00 feet of said Northwest Quarter, thence South along said east line, a distance of 380.10 feet to the TRUE POINT OF BEGINNING: thence N61°30' 19"E a distance of 101.05 feet; thence N60°28'41"E a distance of 109.60 feet; thence N58°35'22"E a distance of 95.07 feet; thence NO6°47'36"E a distance of 42.78 feet; thence N73degrees9'08"E n distance of 89.36 feet; thence N77°51 '53"E a distance of 196.76 feet; thence N53°1 I'27"E a distance of 85.93 feet; thence N46°33'59"E a distance of 79.82 feet; thence N26degrees13'48"E a distance of 10.63 feet; thence N54degrees34'32"E a distance of 24.84feet; thence N44°07'33"E a distance of 150.99 feet; thence. N23°52'38"W a distance of 23.60 feet; thence N27°41'56"E a distance of 89.92 feet; thence N43degrees26'28"E a distance of 107.68 feet; thence N34°13'44"E a distance of 48.29 feet; thence N51degrees25'13"E a distance of 59.26 feet; thence S20°25'58"E a distance of 148.11 feet; thence S43°00'58"E a distance of 38.23 feet; thence S47°56'42"W a distance of 208.76 feet, thence S43°46'41"W a distance of 107.50 feet; thence S41degrees 38'02"W a distance of 102.51 feet to its intersection with the North line of the PUD No.1 of Stevens County well site as shown on the survey recorded in Book 12 of Surveys, Page 93; thence N89°22'07"W along said line, a distance of 103.77 feet to the Northwest corner of said parcel; thence S00°37'23"W along the said line of said parcel, a distance of 92.92 feet; thence S52°20'57"W a distance of 48.55 feet; thence S46°16'29"W a distance of 60.83 feet; thence S37degrees30'25"W a distance of 50.96 feet; thence S51°01'58"E a distance of 86.14 feet; thence S47°18'37"E a distance of 60.10 feet to the Southwest corner of said PUD parcel; thence S64°28' 13"E a distance of 108.55 feet; thence S05°12'18"E a distance of I 11.62 feet; thence S50°07'53"E a distance of 96.52 feet; thence S03°59'44"E a distance of 232.69 feet to its intersection with lhe south line of the North 450.00 feet of the West Half of the Southeast Quarter of the Northwest Quarter of said Section I0: thence N89°22'40"W along said south line and along the south line of the North 450.00 feet of the Southwest Quarter of the Northwest Quarter of said section, a distance of 830.77 feet to its intersection with the east line of the West 1000.00 feet of said section; thence North along said east line, a distance of 471.50 feet to the true point of beginning.

EXHIBIT "B"
DEED OF CONSERVATION EASEMENT

Meadowcroft Wetland Mitigation Banking site

THIS DEED OF CONSERVATION EASEMENT is made this _____ day of ,2005 by and between , Grantors, Ed and Patty Haag, 317 West 16th Ave., Spokane Washington 99203, doing business as Wetlands Redux., and Grantee, Loon Lake Land Conservancy on behalf of the citizens of Washington State.

A. Grantor is the owner of certain real property in Stevens County, Washington, consisting of 12.31 acres, more or less, more particularly described and shown in Exhibit attached hereto and incorporated herein by this reference;

B. Wetlands Redux's Wetland Mitigation Bank is to be used for compensatory mitigation for unavoidable impacts to waters of the United States, including wetlands, which result from activities authorized under Section 404 and Section 401 of the Clean Water Act, and RCW ch. 90.48, provided such use has met all applicable requirements and is authorized through valid permits issued by WSDOE, and by other applicable authorities.

TERMS AND CONDITIONS

NOW, THEREFORE, in consideration of the mutual covenants contained herein, pursuant to Washington's conservation easement statute (RCW 64.04.130), Grantor hereby conveys to the LLLC, a perpetual Conservation Easement consisting of the rights and restrictions enumerated herein, over and across said property.

1. Purposes. The purpose of this Easement is to assure that the Meadowcroft Wetlands Mitigation Bank will be retained in its natural wetland condition. It is further the specific purpose of this Easement to conserve the wildlife habitat and hydrological functions of the site. In achieving these purposes, it is the intent of the Easement to permit the continuation of such uses of the Property as may be conducted consistent with the conservation values protected herein and the goals of the project as outlined in the Meadowcroft Wetland Mitigation Bank Instrument (BI) and Meadowcroft Wetland Mitigation Bank Agreement.

The goal of the Wetland Mitigation Bank is to restore the functions and values of a former wetland that was drained 80 years ago and has been farmed ever since. This involves the plugging of a drainage ditch, removal of fill and other materials, altering the typography to create a mosaic of seasonal wetlands, and enhancing native plant communities thus increasing the habitat functions of the site.

The creation of the Wetland Mitigation Bank serves to benefit the Stevens county and the Loon Lake community by trapping the spring run-off in a series wetland basins preventing eroded soil top soil from being carried off and deposited in Loon lake as silt.

Located near the head of the Colville watershed the restored wetlands will play an important hydrological role in helping filter surface water before entering the water table.

The Meadowcroft Wetland Mitigation Agreement is attached as Exhibit B and by this reference incorporated herein.

2. Rights of Wetlands Redux and Its Successors

A. To preserve and protect in perpetuity the significant natural ecological features and values of the Meadowcroft wetlands.

B. To perform such activities on the Meadowcroft property as necessary to restore and enhance the wildlife habitat functions and environmental educational values of the wetland.

C. To enter into a conservation easement with Loon Lake Land Conservancy. LLLC will be the holder of the conservation easement that specifies that the intent of the easement is to restore, protect, manage maintain, and enhance the characteristics of the wetlands for the conservation of functions and values including general wildlife habitat, water quality improvement, and groundwater recharge. Use prohibitions listed in the easement prevent the site from being used for activities that would be incompatible with the intent of the easement.

3. Rights of the LLLC and WDOE

**A.** To implement long-term management of the site to ensure that the natural ecological features are preserved and protected in perpetuity. This includes the right to enter the property for the purpose of inspection and enforcement of the terms of the easement. The Guarantee or WDOE may bring an action at law or in equity in a court having jurisdiction to enforce the terms of this Easement to either enjoin the violation and/or require restoration of the property. Grantee or WDOE shall also be entitled to recover damages for a violation of the terms of the Easement or injury to any conservation values protected by this easement including, without limitation, damages for the loss of scenic, aesthetic or environmental values. For purposes of this paragraph, WDOE shall be considered a third party beneficiary under this easement with full rights of enforcement.

.Consistent Uses of the Property. The following uses and practices, though not an exhaustive recital of consistent uses and practices, are consistent with the intent of the Easement, the Banking Instrument and the Agreement.

A. Maintenance of access control structures such as barriers, and fences and to prohibit and/or direct access can occur as necessary to ensure protection of the site's natural characteristics.

B. Hunting, fishing and other recreational pursuits are allowed within the context of state and federal regulations. This includes the use of temporary blinds on the site. Livestock grazing allowed if part of a invasive species control plan approved by the conservators and the WSDOE.

C. Use of approved agricultural chemicals for the following purposes and under the following conditions:

a. For the control of noxious weeds, as required by Washington state law, and for the control of other invasive exotic plant species; provided that chemical herbicides may be used only in those amounts and with a frequency of application that constitute the minimum necessary for control and is only used after other treatment methods.

b. The use of chemical treatment must be consistent with the site protection goals as specified in the BI and Agreement.

D. Provided that the conditions below are met, the removal of trees is allowed only for the following purposes: controlling disease; protecting persons or property hazards of falling trees or branches; and/or maintaining existing trails. The conditions below apply to both living and standing dead trees.

a. Tree and limb removal must be conducted using Best Management Practices, including stringent protection of soils, vegetation and wildlife habitat.

b. Any tree removal involving more than three trees in a year must be approved by the LLLC.

Inconsistent Uses of the Property. The following uses and practices on the Property shall be prohibited:

A. The storage, dumping or other disposal of toxic and/or hazardous materials.

B. Dumping or other disposal of refuses, animal carcasses, or any other material which could reasonably be considered debris.

C. The change, disturbance, alteration, or impairment of the natural ecological features and values; or the destruction of other significant conservation interests on the property.

D. Conversion of native vegetation to exotic cover species or the introduction on non-native plant species.

E. Introduction or release of nonnative animal species.

F. Filling, excavating, or dredging other than as designated and approved in the MBI.

G. Use of mechanized vehicles except for property-maintenance purposes

Management and Maintenance

The Loon Lake Land Conservancy shall provide long-term management and maintenance of the wetland bank site consistent with the management and maintenance goals outlined in the BI and the Memorandum of Agreement between Wetlands Redux and the Department of Ecology. The bank site shall be managed as a natural wetland area. The goal of management is to allow natural ecological processes to occur as unimpeded as possible. Long-term maintenance will focus on those activities deemed necessary to ensure that natural ecological processes can occur. Long-term management of the bank will focus on weed control, access control, and promotion of native species and environmental diversity.

N WITNESS WHEREOF, Grantor has hereunto set its hand this ,2005
day of June 28, 2005

GRANTOR:

Accepted and Approved
Wetlands Redux
By:
EDMUND HAAG
Date: 6/28/05

GRANTEE:

Accepted and Approved
Loon Lake Land Conservancy
By: William F. Shawl
WILLIAM F. SHAWL
Date: 6/28/05

STATE OF WASHINGTON)

)2 SS

County of SPOKANE

On this day of 6/28/2005, 20 , before me personally EDMUND HAAG AND appeared WILLIAM F SHAWL known to me to be the President of the Wetland Redux/Loon Lake Land Conserv. that executed the foregoing instrument, acknowledging said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that was authorized to execute said instrument.

Given under my hand and official seal the day and year last above written.

Notary (print name) LISA A CHITWOOD

Notary Public in and for the State of Washington, residing

at SPOKANE

My Appointment Expires 7-1-2006

Official Seal
LISA A. CHITWOOD
NOTARY PUBLIC STATE OF WASHINGTON
COMMISSION EXPIRES: JULY 1, 2006

Document reviewed and approved by Washington State Department of Ecology as a prerequisite to the establishment of the Meadowcroft Wetland Mitigation bank authorized under Section 404 and Section 401 of the Clean Water Act, and RCW ch. 90.48

Gordon White, WSDOE

EXHIBIT A Surveyor's Legal description of recorded easement

March 11, 2005

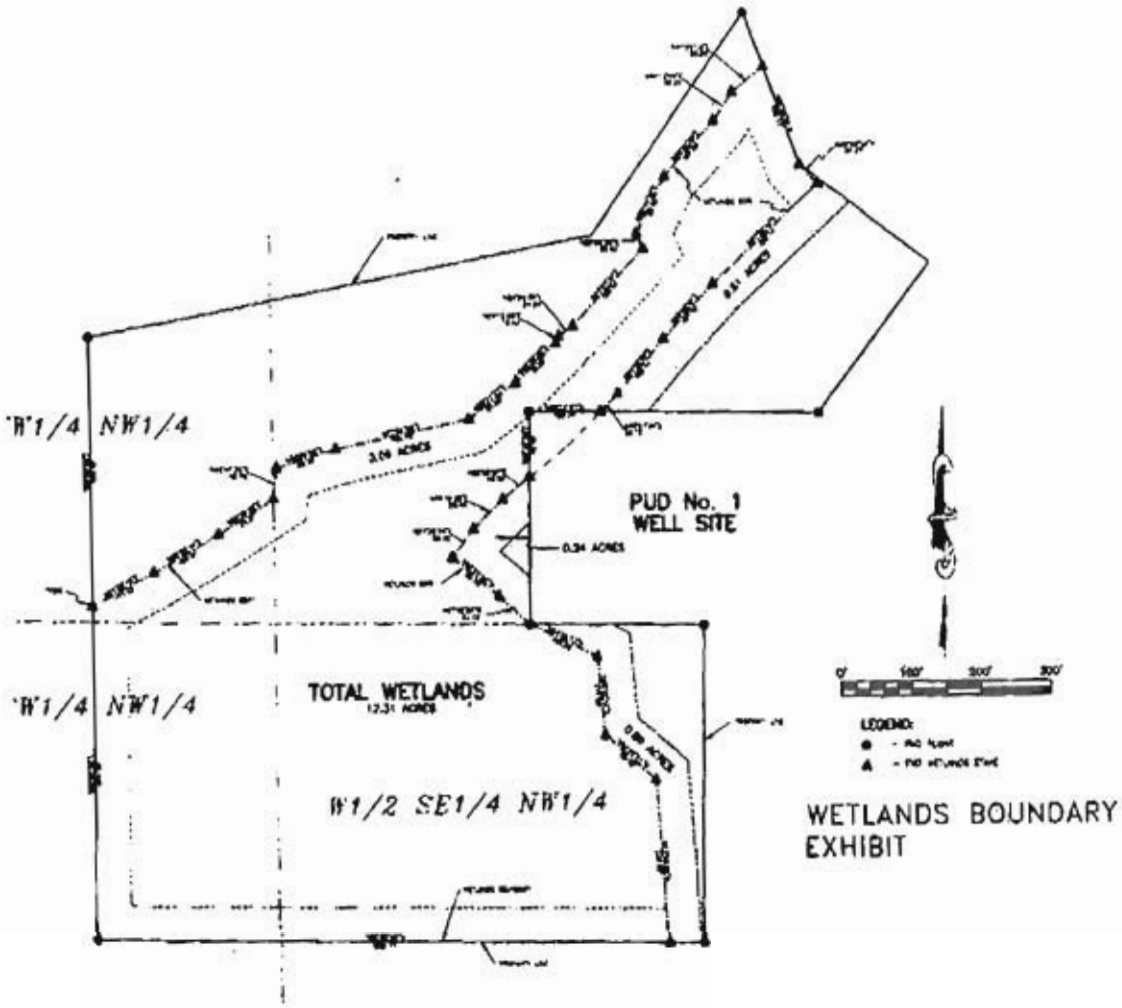
## Legal Description of Wetlands Conservation Easement

That portion of the Northwest Quarter of Section 10, Township 29 North, Range 41 .Fast. W.M. in the County of Stevens, State of Washing. on being more particularly described az follows:

Commencing at the Northwest comer of said Seclion I0; thence South along the west line or said section, a distance of 970.00 feet; thence East a distance of 1000.00 feet to its intersection with the East line of the West 1000.00 feet of said Northwest Quarter, thence South alon8 said east line, a distance of 380.10 feet to the TRUE POINT OF BEGINNING; thence N61°30' 19"E a distance of 101.05 feet; thence N60°28'41"E a distance of 109.60 feet; thence N58°]5'22"E a distnace of 95.07 feet; thence NO6°47'36"E a distance of 42.78 feet; thence N73~9'08"E n distance of 89.36 feet; thence N77°51 '53"E a distance of 196.76 feet; thence N53°1 I'27"E a distance of 85.93 feet; limace N46°33'59"E a dislance of 79.82 feet; theme N26013'48"E a distance of 10.63 feet; ~ N54o34'32"E a distan~ of 24.g4feet; thence N44°07'33"E a distance of 150.99 feet; thetw, e N23°52'38"W a distance of 23.60 feet; thence N27°41'56"E a distance of 89.9'2 feet; thence N43'26'28"E a distance of 107.68 feet; thence N34°13'44"E a distance of 48.29 feel; thence N51~25'I3"E a distance of 59.26 feet; thence S20°25'58"E a distance of 148.11 feet; then~ S43°00'58"E a distan~ of 38.23 fi~'t; then~ S47°56'42"W a distance of 208.76 tibet; thence S43°46'41"W a dislance of 107.50 feet; ~ S41038'02"W a distance of 102.51 feet to its intersection with the North line of the PUD No.l of Stevens County wt..II silc as shown on the survey recorded in Book 12 of Smx, eys, Page 93; thence N89°22'07"W along said line, a di,tanoe of 103.77 feet to the Northwest eomer of said parcel; thence S0°37'23"W along the wesl line of said parcel, a ~ of 92.92 feet; thence S52°20'57"W a distance of 48.55 feet; thence 846°16'29"W a distance of 60.83 feet; thence S37~30'25"W a distance of 50.96 feet; thence S51°01'58"E a distance of 86.14 feet; thence S47°18'37"E a distance of 60.10 feet to the Southwest corner of said PUD parcel; thence S64°28' 13"E a distance of 108.55 feet; thence

S05°12'18"E a distance of 111.62 feet; thence S50°07'53"E a distance of 96.52 feet; thence S03°59'44"E a distance of 232.69 feet to its intersection with the south line of the North 450.00 feet of the West Half of the Southeast Quarter of the Northwest Quarter of said Section 11~. thence N89°22'40"W gong said south line and along the south line of the North 450.00 feet of the Southwn~ Quarter of the Northwest Quan~ of said section, a distance of 830.77 feet to its i~ with the east line of the West 1000.00 feet of said section; thence North along said east line, a distance of 471.50 feet to the true point of beginning. Containing 12.31 acr~ more or less

Pages EXHIBIT B Surveyor's map of easement to be recorded




WETLANDS BOUNDARY EXHIBIT

Department of Ecology
RECEIVED
JUL 22 2005
Shorelands & Environmental
Assistance Program

BEFORE THE BOARD OF STEVENS COUNTY COMMISSIONERS

| | | |
|---|---|---|
| THE MATTER OF GROWTH MANAGEMENT | ) | Resolution No. 85-2005 |
| | ) | |
| | ) | RECOGNITION OF THE |
| | ) | MEADOWCROFT WETLAND |
| | ) | BANKING INSTRUMENT FOR |
| | ) | THE MEADOWCROFT WETLAND |
| | ) | |

**WHEREAS,** the Board recognizes the role of the Meadowcroft Wetland Mitigation bank as an alternative to on-site wetland mitigation; and

**WHEREAS,** the Board finds that the Washington State Department of Ecology is responsible for ensuring the wetland bank is operated as outlined within the Meadowcroft final mitigation bank instrument; and

**WHEREAS,** the Board agrees to make information about the Meadowcroft Wetland Mitigation bank available to prospective users; and

**NOW, THEREFORE BE IT RESOLVED AND ORDERED** that the Stevens County Commissioners support the Meadowcroft Wetland Mitigation bank located along the shores of Loon Lake and recognize the role of the bank as an alternative to on-site wetland mitigation, and agree to make information about the bank available to perspective users.

Passed by the Board of Stevens County Commissioners meeting in regular session at Colville, Washington, by the following vote, then signed by its membership and attested to by its Clerk in authorization of such passage the 19th day of July, 2005

3 YEA; 0 NAY; 0 ABSTAIN; and 0 ABSENT

**BOARD OF COUNTY COMMISSIONERS**
**STEVENS COUNTY, WASHINGTON**

Merrill J. Ott

Merrill J. Ott, Chairman

Malcolm Friedman, Commissioner

Tony Delgado, Commissioner

ATTEST:
CLERK OF THE BOARD

Polly Coleman

BEFORE THE BOARD OF STEVENS COUNTY COMMISSIONERS

| | | |
|---|---|---|
| THE MATTER OF GROWTH MANAGEMENT | ) | Resolution No. 85-2005 |
| | ) | |
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3 YEA; 0 NAY; 0 ABSTAIN; and 0 ABSENT

**BOARD OF COUNTY COMMISSIONERS**
**STEVENS COUNTY, WASHINGTON**

Merrill J. Ott

Merrill J. Ott, Chairman

Malcolm Friedman, Commissioner

Tony Delgado, Commissioner

ATTEST:
CLERK OF THE BOARD

Polly Coleman

LIMITED POWER OF ATTORNEY

**BE IT KNOWN**, that Patricia Jean Dike Haag has made and appointed, and by these presents does make and appoint her husband, Edmund Haag true and lawful attorney for her and in her name, place and stead, for the following specific and limited purposes only:

All transactions regarding the property at 45654 South Loon Lake Road, Loon Lake, Washington including the sale of said property and the establishment of easements and a wetland bank on the property.

giving and granting said attorney, full power and authority to do and perform all and every act and thing whatsoever necessary to be done in and about the specific and limited premises (set out herein) as fully, to all intents and purposes, as might or could be done if personally present, with full power of substitution and revocation, hereby ratifying and confirming all that said attorney shall lawfully do or cause to be done by virtue hereof.

**IN WITNESS WHEREOF**, I have hereunto set my hand and seal this 23rd day of June, ~~19~~ 2005

Signed, sealed and delivered in the presence of:

P. HAAG

Witness

Witness

**State of** WA )
) ss.
**County of** Spokane )

The foregoing instrument was acknowledged by me this 23rd day of June, ~~19~~ 2005 by: Patricia Jean Dike Haag who is/are personally known by me or who has/have produced: WADL: HAAG*PD521LN as identification and who did not take an oath.

Angela R Curtis (SEAL)
Notary Public
State of Washington

My Commission Expires:
7/24/2006

ANGELA R. CURTIS
Commission Expires
NOTARY PUBLIC
JULY 24, 2006
STATE OF WASHINGTON

## 6.0 REFERENCES


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## 7.0 LIST OF ACRONYMS

ECOLOGY; Washington (State) Department of Ecology
GS; Geographical Services
MMB; Meadowcroft Mitigation Bank
MMBI; Meadowcroft Mitigation Bank Instrument
LLLC; Loon Lake Land Conservancy
NRCS; National Resources Conservation Service (Soil Conservation Service)
RCW; Revised Code of Washington
SEPA; State (of Washington) Environmental Policy Act
W.M.; Willamette Meridian
WAC; Washington (State) Administrative Code
WDFW; Washington (State) Department of Fish and Wildlife
WDOT; Washington (State) Department of Transportation
WRIA; Water Resources Inventory Area

# 8.0 SPECIES LIST

FLORA Plant species names from Reed (1988).

| Common Name | Scientific Name |
|---|---|
| antelope bitterbush | Purshia tridentata |
| bearberry | Arctostaphylos uva-ursa |
| black cottonwood | Populus balsamifera var. trichocarpa |
| blue elderberry | Sambucus cerulea |
| bluebunch wheatgrass | Agropyron spicatum |
| Canada thistle | Circium arvense |
| cattail | Typha latifolia |
| chokecherry | Prunus virginiana |
| Douglas fir | Pseudotsuga menziesii |
| Douglas hawthorn | Crataegus douglasii |
| Douglas spirea | Spirea douglasii |
| Drummonds willow | Salix drommondiana |
| Meadow foxtail | Alopecurus pratensis |
| Geyers sedge | Carex geyeri |
| Geyers willow | Salix geyerana |
| hawkweed | Hieracium spp. |
| hedgehyssop | Gratiola neglecta |
| Idaho fescue | Festuca idahoensis |
| Kentucky bluegrass | Poa pratensis |
| lupines | Lupinus spp. |
| mock orange | Philadelphus lewisii |
| oceanspray | Holodiscus discolor |
| ponderosa pine | Pinus ponderosa |
| pondweed | Potamogeton natans |
| quack grass | Agropyron repens |
| quaking aspen | Populus tremula |
| redosier dogwood | Cornus stolonifera |
| redtop grass | Agrostis alba |
| reed canarygrass | Phalaris arundinacea |
| Rocky Mountain maple | Acer glabrum |
| Scoulers willow | Salix scoulerana |
| serviceberry | Amelanchier alnifolia |
| Sitka alder | Betula sinuata |
| smooth brome | Bromus inermis |
| snowberry | Symphoricarpos albus |
| spikerush | Eleocharis palustris |
| thimbleberry | Rubus parviflorus |
| water birch | Betula occidentalis |
| water plantain | Alisma plantago-aquatica |
| willow herb | Epilobium palustre |
| woods rose | Rosa woodsii |
| yarrow | Achillea millifolium |

FAUNA

| Common Name | Scientific Name |
|---|---|
| American robin | Turdus migratorius |
| bluebird | Sialia currucoides |
| brewers blackbird | Euphagus cyanocephalus |
| cliff swallow | Hirundo pyrrohonota |
| Coopers hawk | Accipiter cooperi |
| goldleneye | Bucephala clangula |
| killdeer | Charadrius vociferus |
| mallard | Anus platyrhynchos |
| northern shoveler | Anas clypeata |
| redwinged blackbird | Agelaius phoeniceus |
| snipe | Gallinago gallinago |
| sora | Porzana carolina |
| spotted sandpiper | Actitus macularia |
| tree swallow | Tachycineta bicolor |
| turkey | Meleagris gallopavo |
| Wilsons phalarope | Phalaropus tricolor |
| White tailed deer | Odocoileus virginianus |

# WETLAND REPORT

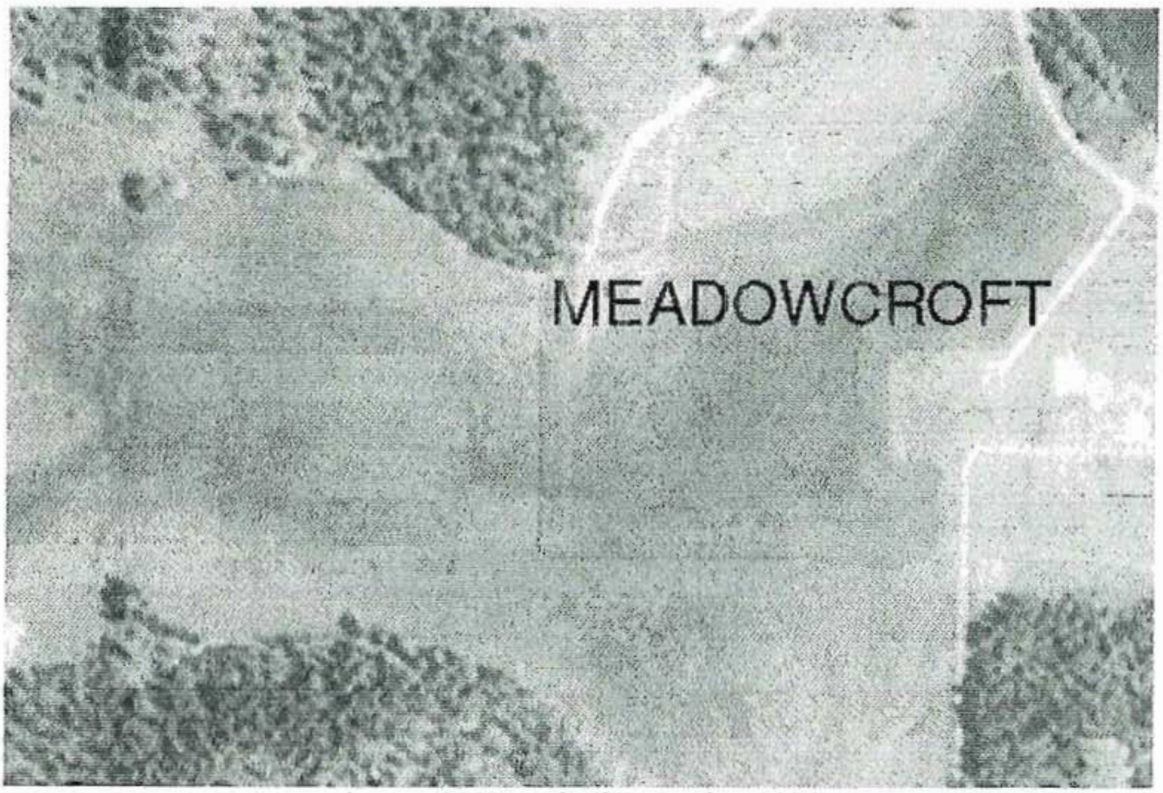
for

## Mr. Ed Haag

Wetlands Redux
317 West 16th Avenue
Spokane WA 99203
(509) 747-2908 and (509) 233-9717
Stevens County, Washington.

on

A parcel of about 20 acres located at
45654 South Loon Lake Road
Loon lake WA 99148




August 2002, revised December 2004

Prepared by

GEOGRAPHICAL SERVICES
Michael M. Folsom, Ph.D.
West 704 Clover Court
Cheney WA 99004
509 235-8984 (voice and FAX) mmfolsom@msn.com

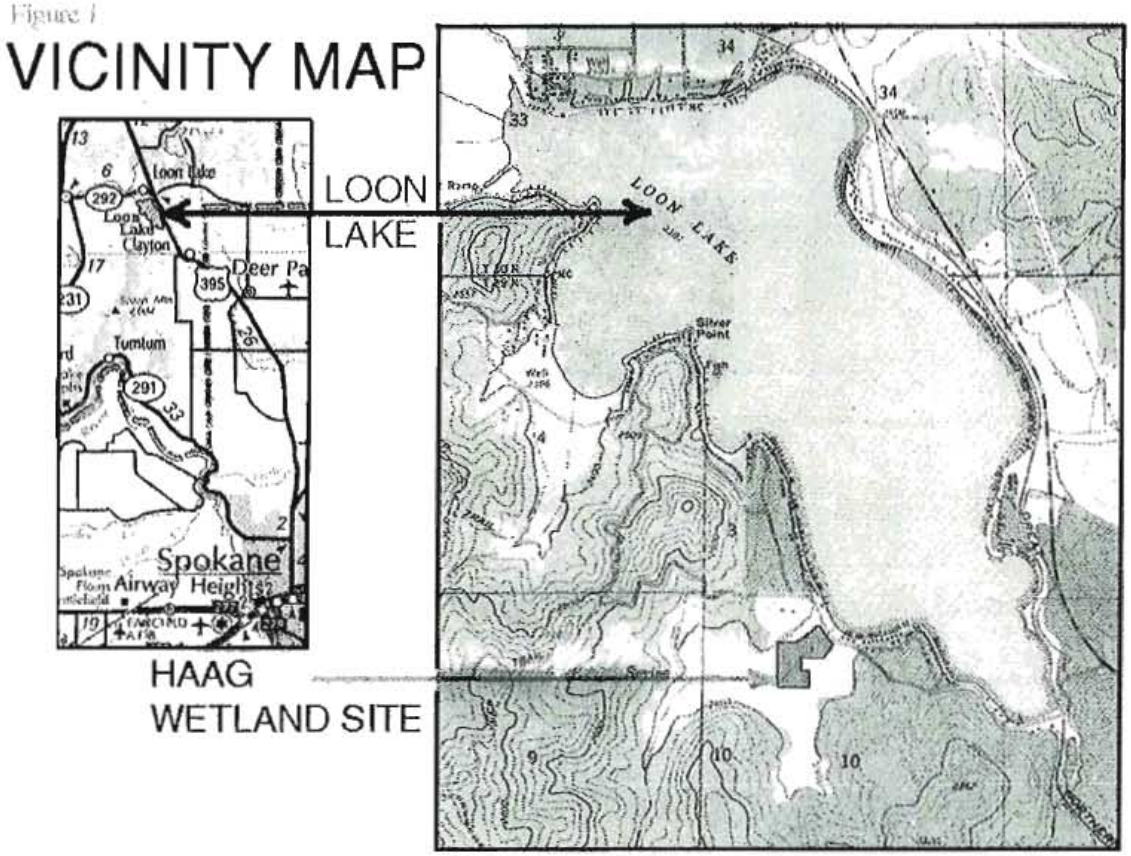
# WETLAND REPORT

## BACKGROUND INFORMATION

The property is located near Loon Lake in southern Stevens County, in the drainage of Sheep creek, about nine miles upriver from where it joins with Deer Creek to form the Colville River in the vicinity of the town of Valley. The location is shown by the Vicinity Map, below.

VICINITY MAP

Figure 1

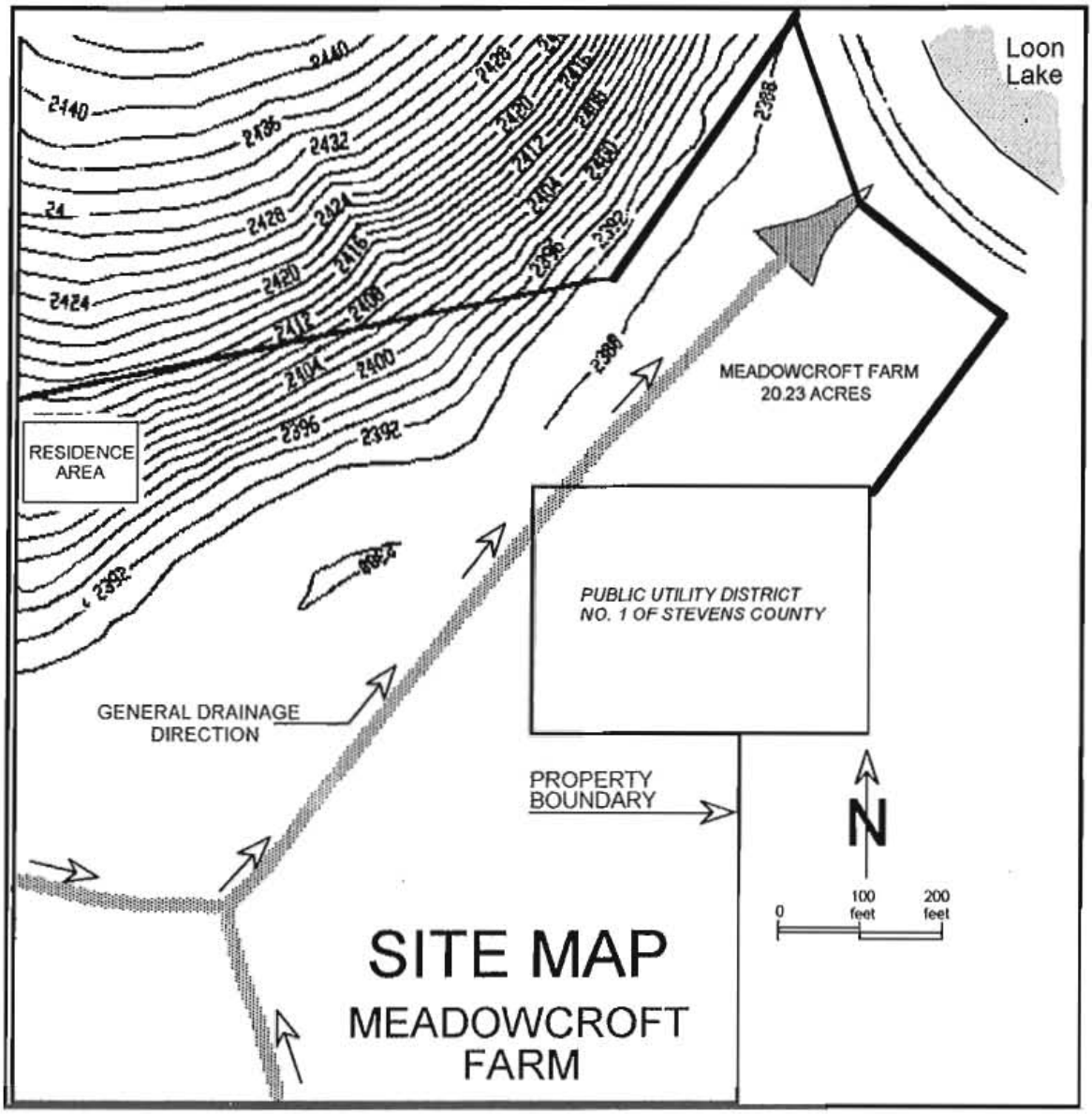



INTRODUCTION TO THE PROJECT

The property is located in the southern portion of the Okanogan Highlands. It is situated on a site where glacial drift and lake sediments form a relatively flat region of valley fill. The basin of Loon Lake lies to the northeast and the uplands forming the crystalline-rock Okanogan Highlands lie to the south and west. The site is watered by an intermittent stream flowing eastward across the property. The stream supported natural wetlands that had been ditched during agricultural practice in past times which caused the wetland conditions to be eliminated; see the Site Map, following. More recently in December 2001 a new owner, Mr. Ed Haag, ended agriculture on the site, excavated ponds, installed a berm (small levee) and plugged the ditches in a program to create wetland conditions. This has been done in coordination with the advice of state and federal agencies.

Geographical Services was later engaged, summer of 2002, to delineate and document an area of new wetland that has been created by Mr. Haag's activities. This document is a report of that delineation and documentation.

SITE MAP

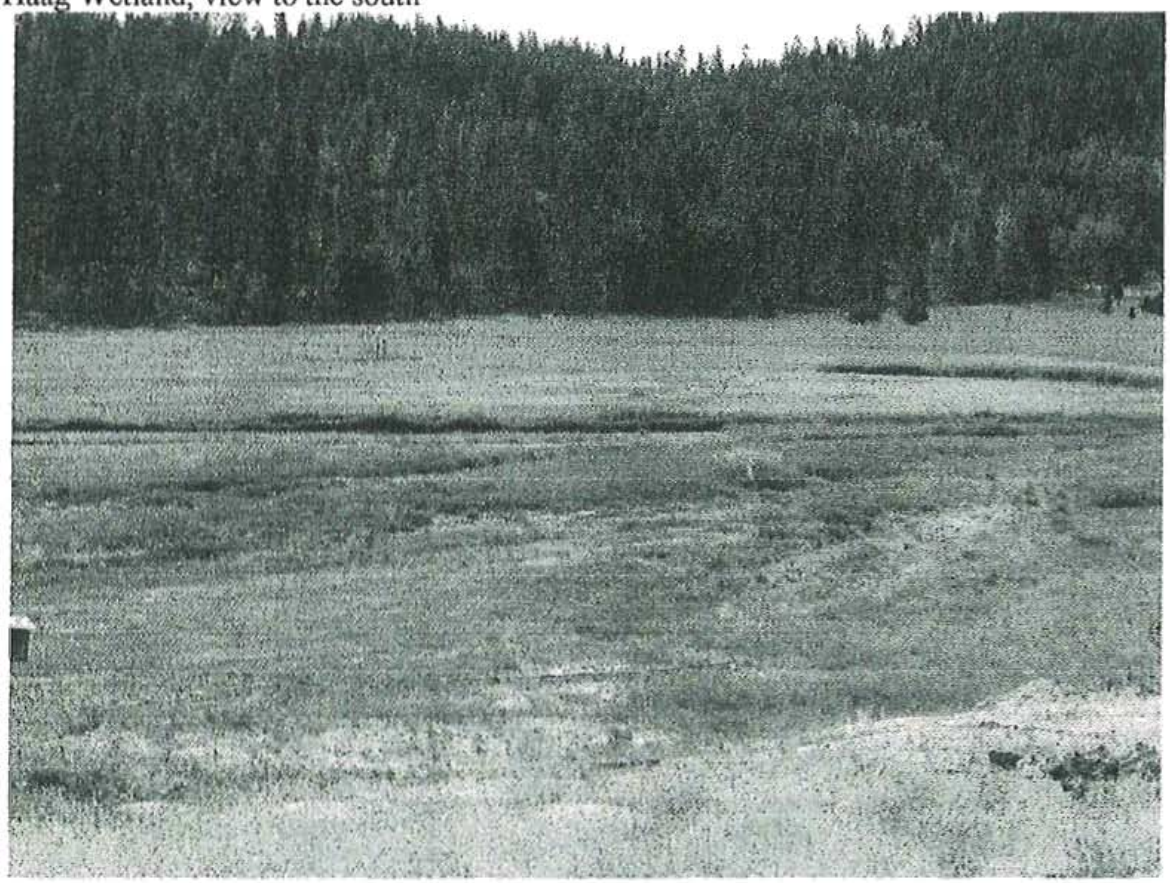



SURFACE CONDITIONS

The site is located on gentle valley-floor topography. Before it was plugged in December 2001 a ditch extended from southwest to northeast across the site and effectively drained the soils. Ditch plugs and a small levee have since caused the spring runoff water to be held longer on site, to be dispersed more widely across the site and to be retained longer on the site in a variety of ponds and basins.

Conifer woodland occupies most of the steeper land adjacent to the valley bottom. The woodland is dominated by ponderosa pine and Douglas fir. Scientific names of species mentioned in this report are given in Attachment A.

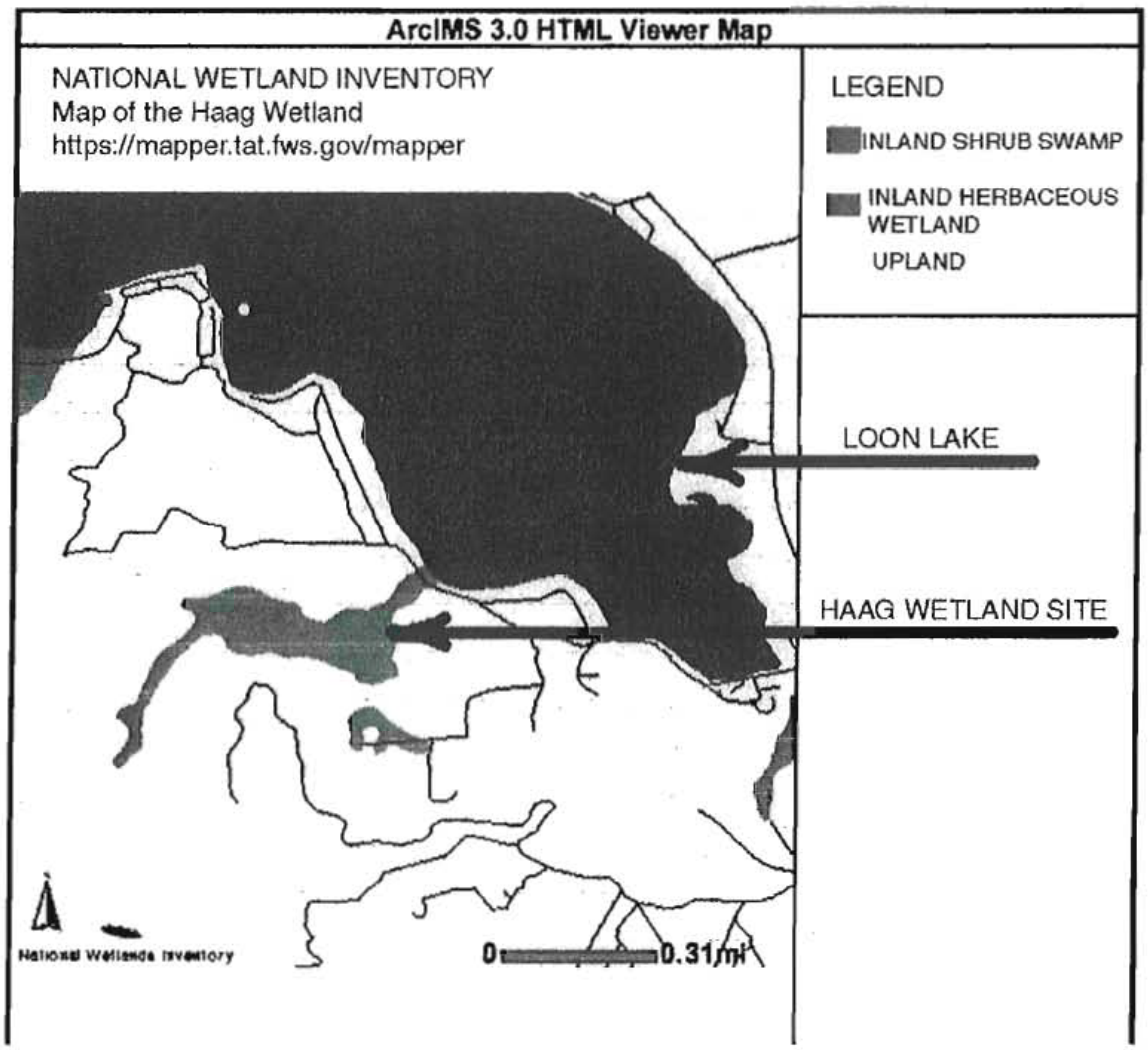
Haag Wetland, view to the south



WETLAND INDICATORS

Wetland conditions are indicated by the presence of three lines of evidence; vegetation, soils and water. Wetland vegetation is shown by the National Wetland Inventory maps, hydric (wetland) soils are shown by the county soil survey maps and hydrology is shown by USGS topographic maps as well as by the county soil surveys.

**Vegetation** The National Wetland Inventory map is based on technical interpretation of vegetation as it is shown on high-quality aerial photographs. The NWI map of the site indicates the presence of an inland herbaceous wetland on the property. Evidence from field investigation does not agree with the extent of wetland area as depicted on the NWI map. The valley bottom, shown on the map as brown, is a grassy meadow that had been effectively drained. The ditching and draining caused wetland evidence to diminish to the point that the valley bottom, everywhere outside of the narrow track of the ditch, would not have met the standard of evidence to be determined as a jurisdictional wetland.




The program of de-leveling and the construction of ponds, ditch plugs and a levee that has been conducted by Mr. Haag has altered this previously drained condition. At present, wetland conditions have been established on an extensive portion of the valley bottom.

**Soils** The Soil Survey of Stevens County (Donaldson 1982) shows two soils on the Haag parcel: Bridgeson silt loam (mapping number 39) on the valley bottom and Clayton fine sandy loam (mapping number 57) on the valley slopes.

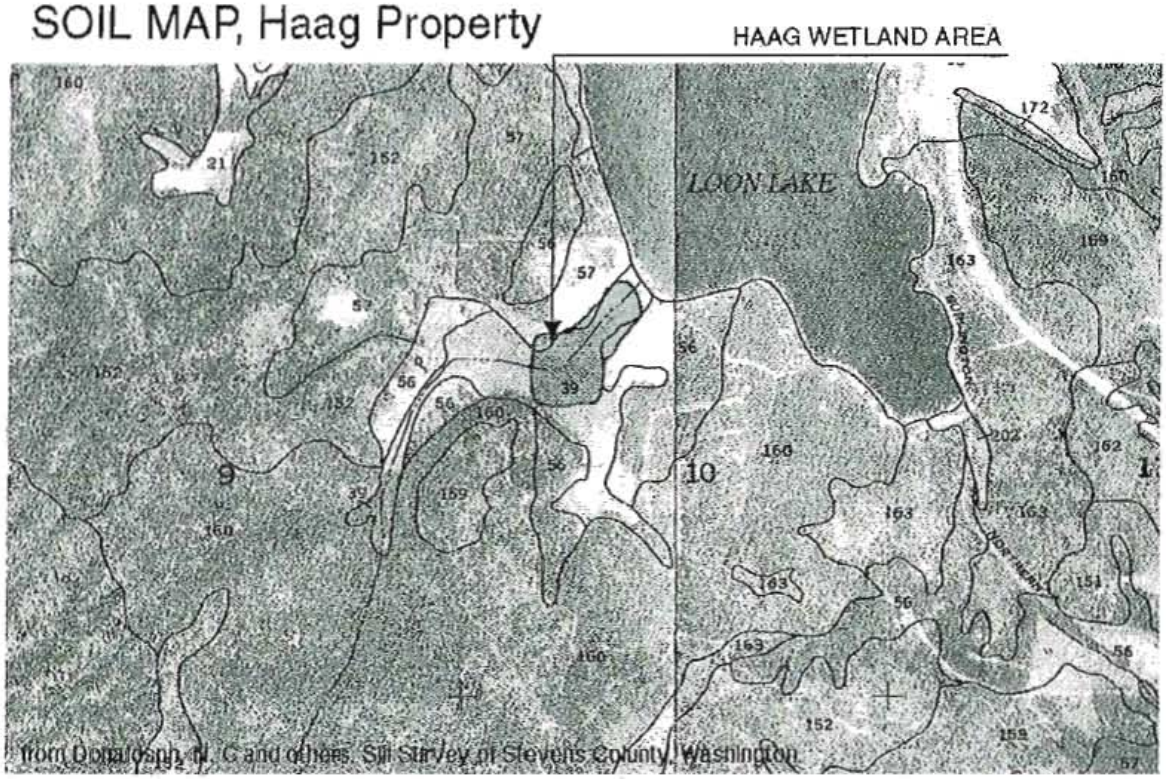
Donaldson describes the Bridgeson soils as very deep, poorly drained and found on bottom lands and low stream terraces. Bridgeson soils formed from mixed alluvium that included igneous material, lacustrine (lake) sediments, tephra (volcanic ash) and loess (wind-deposited silt). Bridgeson soils typically have moderately slow permeability and very high available water capacity. Flooding in the late winter and spring seasons is common on sites supporting Bridgeson soils.

Bridgeson soils are identified in the Stevens County Washington Comprehensive Hydric Soils List (NRCS/SCS 1994) as being classified as hydric soils. They meet the saturation criterion for hydric soils. The developing wetland area on the Haag property is underlain by Bridgeson soils.

Clayton soils are found on the sloping valley sides. Clayton soils are described as being very deep, well drained and found on terraces. They formed from mixed glaciofluvial sediments under a natural vegetation dominated by conifers.

Clayton soils are identified in the hydric soils list as non-hydric (upland) soils that may have inclusions of hydric soils in localized wet spots.

SOIL MAP, Haag Property



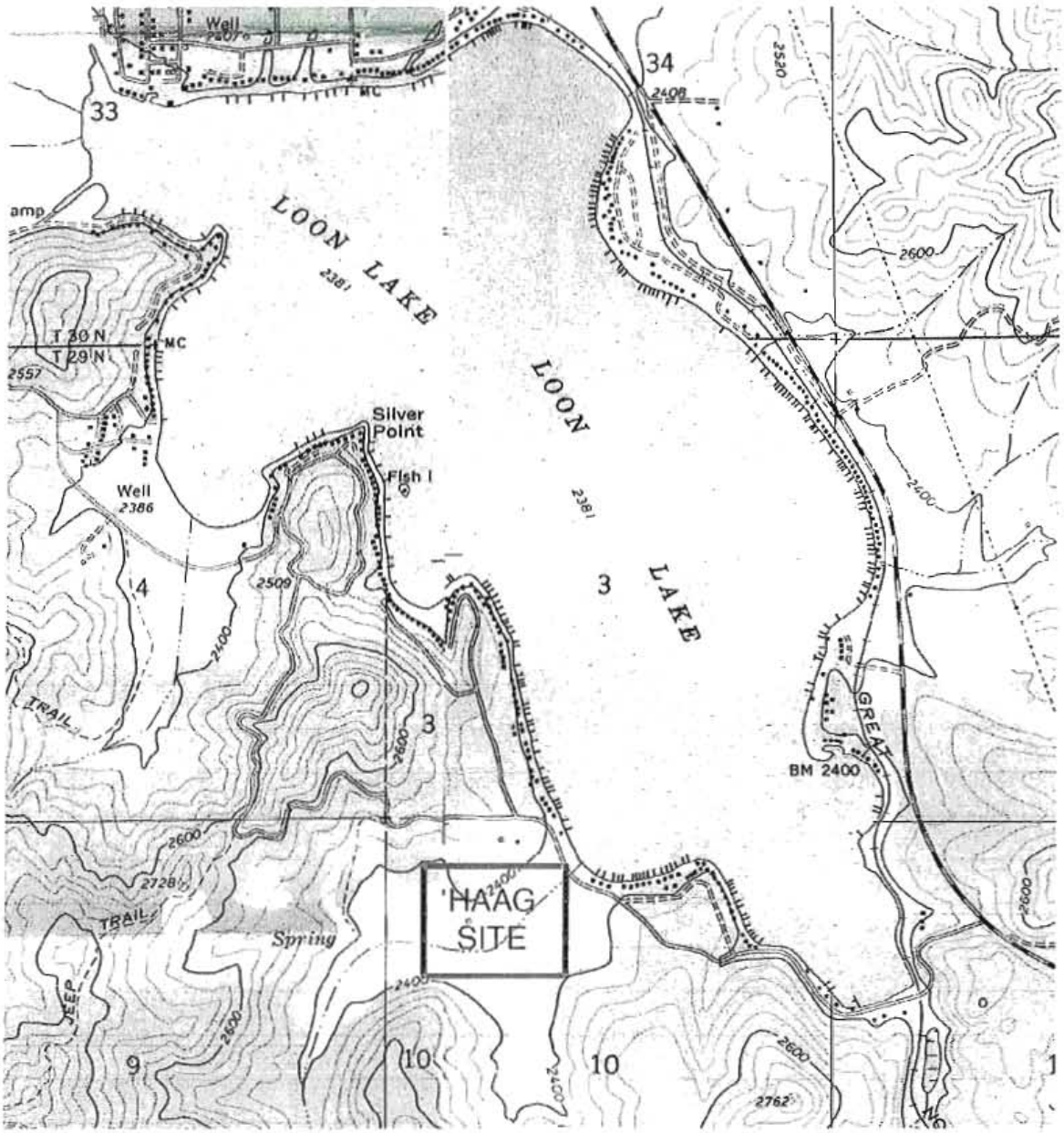

from Donaldson, N. C and others. Soil Survey of Stevens County, Washington

**Hydrology** Surface hydrology is recorded on USGS topographic maps using different graphic symbols for permanent streams and intermittent (seasonal) streams.

The hydrology of the Haag site is dominated by the seasonality of the local climate. Autumn rains recharge some of the soil moisture lost by summer evaporation. Winter precipitation falls as snow and accumulates as a winter snow layer on frozen ground. Spring thaw typically coincides with spring rains and the majority of the annual precipitation is lost in a short episode of late winter or early spring runoff. Summers are reliably hot and dry. Any wetland hydrology of the site is dependent on this brief period of runoff.

# HYDROLOGY OF THE HAAG SITE

SHOWING AN INTERMITTENT STREAM CROSSING THE SITE




## FIELD METHODOLOGY

The standard methodology used for wetland delineation is detailed in the Washington State Wetlands Identification and Delineation Manual (Ecology Publication #96-94, March 1997), and in the Corps of Engineers Wetlands Delineation Manual, (1987). None of the wetlands were sufficiently disturbed so that the Routine Onsite Determination Method could not be utilized.

The field methodology requires that three lines of evidence be evaluated; vegetation, soil, and water (hydrology). If vegetation is dominated by wetland plants, the hydrophytic vegetation criterion is met. If soils show clear evidence of being dominated by saturated conditions during a significant portion of the growing season, the hydric soil criterion is met. If there is clear evidence of soils saturated in the root zone, of flooding or of surface water for fourteen to twenty one days duration in the growing season, the hydrology criterion is met. The presence of enough evidence to satisfy two of the three criteria will generally qualify a site as a wetland.

Sufficient evidence was observable in the field to determine that the property holds an area of jurisdictional wetland.

## FIELD INVESTIGATION

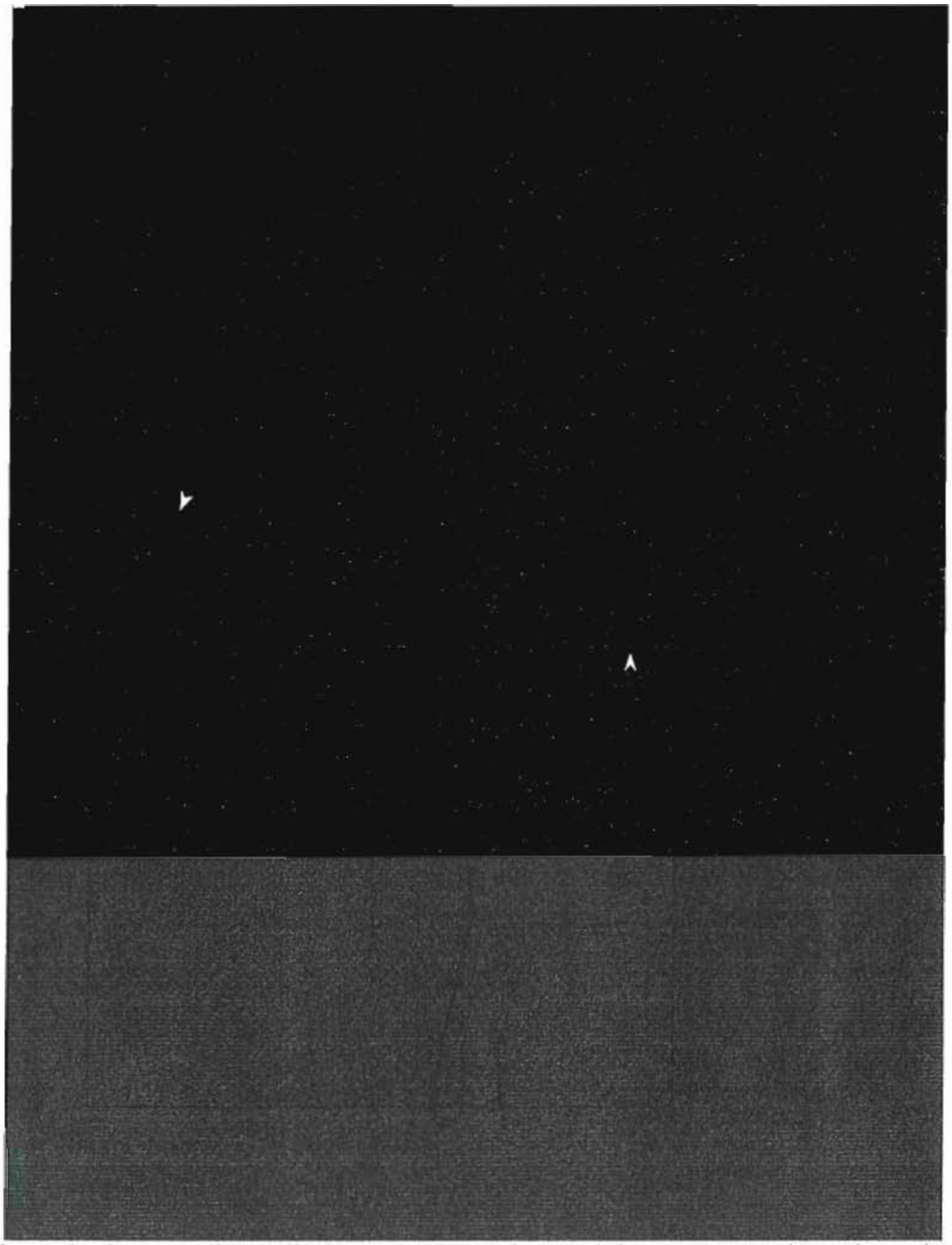
The wetland boundary was delineated by 27 datum points, each marked in the field by a numbered wood stake with pink WETLAND DELINEATION flagging. The datum points are shown as numbered triangles on the map Haag Wetland Delineation, following.

The field investigation conducted in the summer of 2002 identified the presence of 8.82 acres of jurisdictional wetland in the form of a wet meadow.

Vegetation evidence was clear even though the recent agricultural history of the site precluded the presence of woody vegetation; the site was dominated by a cover of virtually 100 percent reed canarygrass. The adjacent drier lowlands and the upland slopes had no more than 20 percent reed canarygrass but instead were dominated by wheatgrass.

Soil evidence was marginal but it was possible to identify the difference in soil features between grassy meadow that had experienced recent saturation and adjacent grassy areas that had not. The wetland soils of the saturated meadow were perceptibly darker.

Using evidence of hydrology it was similarly possible to differentiate between the wetter meadow wetland and the drier non-wetland areas. The wetland areas had evidence of previous presence of standing surface water; dried algal mats and stained plant stems. The adjacent grassy uplands had neither.



The wetland area continues off-site across the southern and the western margins. The wetland pinches to a narrowing swath to the northeast where the valley also becomes narrow. The recent construction of wetland features is concentrated in the southwestern, wider part of the valley and that is where the wetland evidence is the strongest. To the northeast, away from the ditch plugs, the wetland evidence becomes weaker

FIELD EVIDENCE

Field Data Location stake 4, along the north edge of the wetland.

**Hydrology**; This is a grassy meadow that receives springtime runoff water and is much drier for the rest of the year. Stained vegetation and desiccated algal mats were observed as evidence of seasonal wetland hydrology. The hydrology criterion is met.

**Vegetation;** The dominant vegetation at this site is reed canarygrass (Phalaris arundinacea FACW). Many plants have been ranked according to their likelihood of thriving in wetland sites, and therefore can be used as indictors of the wetland status of a site. FACW plants (Facultative WETland plants) are usually found in wetlands (67 to 99 percent of occurrences) but occasionally are found on non-wetland sites (Reed 1988). The reed canarygrass vegetation was particularly vigorous and carried a spectacular seed crop; clearly the site was well-watered. The wetland vegetation criterion is met.

**Soils;** The soil is a silt loam and has the dark organic-rich color typical of hydric soils (Munsell chroma 10YR 2/1, black). The hydric soil criterion is met.

This site is a jurisdictional wetland and is protected under the Stevens County Code Title 13, Critical Areas Ordinance.

The adjacent upland was also observed for the presence of any wetland evidence. The following data were observed at an upland site 50 feet north of station 4.

**Hydrology**; This is a grassy meadow that lies just above the reach of spring season runoff. No evidence of wetland hydrology was observed. The hydrology criterion is not met.

**Vegetation;** The dominant vegetation at this site is a mowed wheatgrass, probably bluebunch wheatgrass (Agropyron spicatum NI.) Reed canarygrass is present but covers only 20 percent of the ground, is less than 16 inches tall and has virtually no seed heads. Clearly, this site is stressed by a lack of soil moisture. The wetland vegetation criterion is not met.

**Soils;** The soil is a silt loam and the A horizon is dark-colored (Munsell chroma 10YR 2/2, very dark brown) but is not dark enough to qualify as a hydric soil. The hydric soil criterion is not met.

Field data sheets follow.

Field Data Sheet for wetland evidence

**WETLAND FIELD DATA**
Routine Onsite Method © 2000

Geographical Services
704 Clover Court Cheney WA 99004
509 235-8984 FAX 509 359-2474

Investigator M. FOLSOM
Temp 78F° Wind NO
Date 26 JUNE 2002
Precipitation NO Cloud 0/10
Project HAAG LOCATION: Section 10 Twp 29 N Range 41E County SEV
Field Station 4 Landscape Type MEADOW
Do normal environmental conditions exist? YES--NO Explain SOIL + PLANTS DISTURBED BY EARTH MOVING
Do normal growing season conditions exist? YES--NO Explain SUMMER

**VEGETATION** General Vegetation Type EMERGENT WTL / MEADOW NWI type
Any recent disturbance to the vegetation? YES--NO Explain POND EXCAVATION → FILL / HARVESTED FOR HAY

| Stratum | COMMON NAME | Percent Cover | Relative Cover | Indicator Status | Dominant? | SCIENTIFIC NAME |
|---|---|---|---|---|---|---|
| T | NONE | | | | | |
| SH | NONE VOLUNTEER | | | | | |
| | MANY SHRUBS PLANTED BY WANDS + LIVE STAKES | | | | | |
| | RED-OSIER DOGWOOD, WILLOW | | | | | |
| 4 | REED CANARYGRASS | 100 | 100 | FACW | ✓ | Phalaris arundinacea |
| | → 100% COVER ON UNDISTURBED SITES: THE DISTURBED SITES WILL RECOVER | | | | | |
| | TO ABOUT THIS COVERAGE BY RCG. | | | | | NOT DROUGHT STRESSED |
| | → RANK GROWTH - UP TO 7.5 ft tall - 12-20 SEED-HEADS [F] | | | | | |
| | DOCK | <10 | | FACW | | Rumex crispus |
| | TIMOTHY | <10 | | FAC- | | Phleum pratense |
| | CANADA THISTLE | 16 | | FACU+ | | Cirsium arvense |

Percent of the dominant species that are OBL, FACW or FAC 100 **Is the VEGETATION criterion met? YES--NO**

**SOILS** Paper evidence Mapped Soil Series Bridgeton On hydric soils list? YES--NO
Subgroup FLUVAQUENTIC HAPLAQUOLL Aquic soil moisture regime? YES--NO
Field Evidence Any recent soil disturbance? YES--NO Explain END OF AGRICULTURE, POND INSTALLATION
Mollic epipedon? YES--NO depth ___ in. Histosol? YES--NO Entisol? YES--NO Saturated? YES--NO depth? ___ in.
A. surface to 14 in. Munsell 10 YR 2/1 Texture SLT LM mottles? rhizoshperes? odor? riverwash?
B. ___ in. to 14+ in. Munsell 10 YR 6/3 Texture TEPHRA mottles? rhizoshperes? odor? riverwash?
C. ___ in. to ___ in. Munsell ___ YR ___/___ Texture ___ mottles? rhizoshperes? odor? riverwash?
D. ___ in. to ___ in. Munsell ___ YR ___/___ Texture ___ mottles? rhizoshperes? odor? riverwash?
Other soil evidence ___
Mottle color ___ YR ___/___ Matrix color ___ YR ___/___ **Is the SOIL criterion met? Yes--NO**

**HYDROLOGY** Any significant disturbance? NO--YES Explain POND EXCAVATION
Inundation now? YES--NO depth 12+ in Inundation in other seasons? YES--NO depth ___ in
Other EXCAVATED POND ↕ ALGAL MATS **Is the HYDROLOGY criterion met? YES--NO**
**DOES THIS LOCATION QUALIFY AS A JURISDICTIONAL WETLAND? YES--NO**

Field Data Sheet for upland evidence.

**WETLAND FIELD DATA**
Routine Onsite Method © 2000

Geographical Services
704 Clover Court Cheney WA 99004
509 235-8984 FAX 509 359-2474

Investigator
Temp 80 F° Wind NO
Precipitation NO Cloud NO

Date 26 JUNE 2002
Project HAAG LOCATION Section ___ Twp ___ Range ___ County STV
Field Station UPL Landscape Type UPLAND MEADOW MARGIN
Do normal environmental conditions exist? YES-NO Explain
Do normal growing season conditions exist? YES-NO Explain

**VEGETATION** General Vegetation Type GRASSES + FORBS NWI type
Any recent disturbance to the vegetation? YES-NO Explain

| Stratum | COMMON NAME | Percent Cover | Relative Cover | Indicator Status | Dominant? | SCIENTIFIC NAME |
|---|---|---|---|---|---|---|
| T | NONE | | | | | |
| SH | NONE | | | | | |
| H | BLUE BUNCH WHEATGRASS | 80 | 73 | NI | ✓ | Agropyron spicatum ? |
| | REED CANARY GRASS | 20 | 18 | FACW | | Phalaris arundinacea |
| | ↳ CANOPY 12-16 IN TALL, NO SEED HEADS | | | | | DROUGHT STRESSED |
| | YARROW | 10 | 1 | FACU | | Achillea millifolium |
| | SAMSIFY | <5 | | NI | | Tragopogon dubius |
| | MULLEIN | <5 | | NI | | Verbascum thapsus |
| | CANADA THISTLE | <5 | | FACU+ | | Cirsium arvense |
| | MORNING GLORY | <10 | | NI | | Convolvulus sp |
| | Rushes in bogs | <5 | | OBL ? | | Juncus |
| | FORGET-ME-NOT | <5 | | OBL | | Myosotis laxa ? |

Percent of the dominant species that are OBL, FACW or FAC 0 **Is the VEGETATION criterion met? YES-NO**

**SOILS** Paper evidence Mapped Soil Series Ritzville On hydric soils list? YES-NO
Subgroup FLUVAQUENTIC HAPLOXEROLL Aquic soil moisture regime? YES-NO

Field Evidence Any recent soil disturbance? YES-NO Explain
Mollic epipedon? YES-NO depth ___ in. Histosol? YES-NO Entisol? YES-NO Saturated? YES-NO depth? ___ in.
A. surface to 12 in. Munsell 10 YR 2/2 Texture SLT LM mottles? rhizoshperes? odor? riverwash?
B. ___ in. to ___ in. Munsell ___ YR ___/___ Texture mottles? rhizoshperes? odor? riverwash?
C. ___ in. to ___ in. Munsell ___ YR ___/___ Texture mottles? rhizoshperes? odor? riverwash?
D. ___ in. to ___ in. Munsell ___ YR ___/___ Texture mottles? rhizoshperes? odor? riverwash?
Other soil evidence
Mottle color ___ YR ___/___ Matrix color ___ YR ___/___ **Is the SOIL criterion met? Yes-NO**

**HYDROLOGY** Any significant disturbance? NO-YES Explain
Inundation now? YES-NO depth ___ in. Inundation in other seasons? YES-NO depth ___ in
Other **Is the HYDROLOGY criterion met? YES-NO**

**DOES THIS LOCATION QUALIFY AS A JURISDICTIONAL WETLAND? YES-NO**

## Wetland Functions and Rating

The site was rated for wetland function using the Wetland Rating Form-Eastern Washington (Ecology May 2004). In that evaluation the wetland was awarded 30 points and a category III rating. The Ecology rating form is Attachment 8 of the Meadowcroft Mitigation Bank Instrument.

A narrative of the wetland's functions and values are as follows;

1. **Habitat value**, under agricultural use, very little. After installation of the ponds, ditch plugs and levee, significantly more. The presence of water in this wetland is limited to the spring season except where constructed topographic depressions sustain surface water into the warming season. That construction increased the diversity of the hydraulic regime that will increase the diversity of vegetation that will in turn increase the habitat value of the site. A persistent problem will be the overwhelming dominance of reed canarygrass, which diminishes the habitat value.
2. **Flood control,** little, but improved. This wetland is supported by seasonal runoff that flows through the site. A small portion of that runoff is now retained in the constructed depressions. The retained water will diminish the annual hydrographic peak and help prevent an unacceptable rise in the level of Loon Lake.
3. **Erosion and Sediment control**, little, but improved. The site is well-vegetated with grasses but lacks woody plants. Water ponded in the constructed depressions and slowed by shallow flow behind the levee will aid is sediment capture.
4. **Pollution control**, good. Runoff water is slowed or retained in the constructed wetland features where bio-filtration can take place.
5. **Ground water recharge**, unknown but improved by the constructed wetland features. Other than in the newly constructed depressions, water presence on the site is so brief and the permeability of the Bridgeson soil so low that there is little opportunity for infiltration to take place.
6. **Agriculture,** little. The northern latitude, short growing season and unreliable summer soil moisture act to limit the agricultural potential of the site.
7. **Education and Research**, little
8. **Open space and Recreation**, very little.

## FINDINGS and RECOMMENDATIONS

1. There were in August of 2002 8.82 acres of wetland on the property. After additional site development in December of 2002 increased the wetland area to 12.6 acres.

2. The wetland is a category three wetland in a low intensity land use area and a buffer zone of 50 feet is called for. The wetland and the buffer zone will not be grazed and there will be no agriculture on the site.

3. The wetland and buffer zone must be put into a permanent form of protection such as a conservation easement that becomes a permanent part of the deed description of this property.

4. After site development is concluded, all potential new owners must be clearly informed about the use restrictions on the wetland and the buffer zone. The wetland and buffer zone are protected natural areas and are not to have their soil, water or vegetation significantly changed. No construction or vehicle traffic is to take place and no material is to be stored or waste disposed of in the buffer zone or wetland. Fire suppression, noxious weed control, low impact recreation and trash removal are not prohibited.

5. Pets or domestic animals, particularly grazing or browsing animals, should be not have free access to the wetland or the buffer zone. The impact of domestic dogs and cats in the sensitive areas should be minimized as much as possible, particularly during spring season runoff and bird migration when the wetland may provide resting and feeding places for waterfowl.

6. The presence of noxious weeds in the wetland and the buffer zone must be minimized.

7. Landscaping, yard maintenance and any construction activity should be conducted so as to minimize impacts on the wetlands and buffer zones. Waste materials including chemical fertilizers and poisons must be carefully prevented from any significantly destructive contact with the wetlands and buffers.

TECHNICAL SOURCES

Deer Lake, Washington Quadrangle Map: 7.5 minute series (topographic). U. S. Geological Survey. 1965.

Donaldson, N. C and J. T. DeFrancesco. Soil Survey, Stevens County Washington. U.S.D.A. Soil Conservation Service (now N.R.C.S.). July 1982.

Federal Manual for Identifying and Delineating Jurisdictional Wetlands. An interagency cooperative publication; Fish and Wildlife Service, Environmental Protection Agency, Department of the Army (Corps of Engineers) and Soil Conservation Service. January 1987. Reprinted as; Field Guide for Wetland Delineation, 1987 Corps of Engineers Manual. Wetland Training Institute. 1995.

Hruby, Thomas. Washington State Wetland Rating System for Eastern Washington, Revised. Ecology Publication #04-06-15. August 2004.

National Wetland Inventory Map. Available on-line from the Forest Service at https://mapper.tat.fws.gov/mapper/ims

Reed, Porter B. National list of Plant Species that Occur in Wetlands: 1988 Washington. U.S. Department of the Interior - Fish and Wildlife Service. 1988. 1993 supplement.

Springdale, Washington Quadrangle Map: 7.5 minute series (topographic). U. S. Geological Survey. 1965.

Stevens County Code Title 13 Critical Areas Ordinance. Stevens County, Washington. 4 March 2003.

Stevens County, Washington, Comprehensive Hydric Soils List. USDA, NRCS/SCS. March 1994.

Washington State Wetlands Identification and Delineation Manual. Ecology Publication # 96-94. March 1997.

Attachment A

Scientific names of plant species mentioned in this document. Items noted with a question mark are uncertainly identified.

| | |
|---|---|
| bindweed | Convulvulus spp. |
| bluebunch wheatgrass | Agropyron spicatum (?) |
| Canada thistle | Circium arvense |
| curly dock | Rumex crispus |
| forget-me-not | Myosotis laxa (?) |
| mullien | Verbascum thapsus |
| pine grass | Calamagrostis rubescen |
| ponderosa pine | Pinus ponderosa |
| red-osier dogwood | Cornus stolonifera |
| reed canarygrass | Phalaris arundinacea |
| serviceberry | Amalanchier alnifolia |
| snowberry | Symphoricarpos albus |
| timothy | Phleum pratense |
| willow | Salix species |
| Woods rose | Rosa woodsii |
| yarrow | Achillea millifolium |

Attachment 2 NRCS Highly Erodible Land and Wetland Conservation Determination

USDA

United States
Department of
Agriculture

Natural
Resources
Conservation
Service

Colville Field Office
232 Williams Lake Road
Colville, Washington
99114-9638

Phone: 509-684-0937
FAX: 509-684-1982

August 7, 1996

Ed Haag
317 West 16th Ave.
Spokane, WA. 99203

Ed,

Thanks for the additional information concerning your parcel in section 10 of T. 29 N. R. 41 E. W.M. The information that I needed was the cropping history which was lacking in our records. The additional information does not change our wetland determination, however it does change your ability to continue to crop the fields and maintain the drainage system.

From the 3rd edition of the Food Security Act Manual, section 514.23 (d) (copy attached) "Uses of FWP" (farmed wetland pasture) "FWP that has not been abandoned can be used as it was before December 23, 1985. Permissible uses are as follows:

- if agricultural commodities were planted on the area before 12/23/85 as a part of a previously established rotation, the rotation can be continued and the drainage maintained, as long as the frequency of cropping is not increased."

Your letter of July 9, 1996 details the previous rotation of small grains, in the cropping pattern, and the FSA Manual allows continued rotation of the crops and maintenance of the drainage system. We should be notified before any maintenance is done so we can determine scope and effect. Since this is in response to an appeal, you have an additional 15 days appeal period on this re-consideration. If you have any questions please contact me.

Jim Gleaton
District Conservationist

U.S.D.A. SCS-CI 26
Soil Conservation Service (June 91)

# IGHLY ERODIBLE LAND AND WETLAND CONSERVATION DETERMINATION

1. Name and Address of Person
ED HAAG
317 West 16 th Ave.
Spokane, Wa. 99203

2. Date of Request
June 10, 1996

3. County
Stevens

4. Name of USDA Agency or Person Requesting Determination
Ed Haag

5. Farm No. and Tract No.
Non - Program Participant no tract No.

## SECTION I - HIGHLY ERODIBLE LAND

| | FIELD NO.(s) | TOTAL ACRES |
|---|---|---|
| 6. Is soil survey now available for making a highly erodible land determination? Yes [X] No [ ] | | |
| 7. Are there highly erodible soil map units on this farm? Yes [ ] No [X] | | |
| 8. List highly erodible fields that, according to ASCS records, were used to produce an agricultural commodity in any crop year during 1981-1985. | | |
| 9. List highly erodible fields that have been or will be converted for the production of agricultural commodities and, according to ASCS records, were not used for this purpose in any crop year during 1981-1985; and were not enrolled in a USDA set-aside or diversion program. | | |
| 10. This Highly Erodible Land determination was completed in the: Office [ ] Field [X] | | |

## SECTION II - WETLAND

| | FIELD NO.(s) | TOTAL ACRES |
|---|---|---|
| 11. Are there hydric soils on this farm? Yes [X] No [ ] | | |
| 12. Wetlands (W), including abandoned wetlands, or Farmed Wetlands (FW) or Farmed Wetlands Pasture (FWP). Wetlands may be farmed under natural conditions. Farmed Wetlands and Farmed Wetlands Pasture may be farmed and maintained in the same manner as they were prior to December 23, 1985, as long as they are not abandoned. | 1 | 12.8 |
| 13. Prior Converted Cropland (PC). Wetlands that were converted prior to December 23, 1985. The use, management, drainage, and alteration of prior converted cropland (PC) are not subject to the wetland conservation provisions unless the area reverts to wetland as a result of abandonment. | | |
| 14. Artificial Wetlands (AW). Artificial wetlands includes irrigation-induced wetlands. These wetlands are not subject to the wetland conservation provisions. | | |
| 15. Minimal Effect Wetlands (MW). These wetlands are to be farmed according to the minimal-effect agreement signed at the time the minimal-effect determination was made. | | |
| Mitigation Wetlands (MIW). Wetlands on which a person is actively mitigating a frequently cropped area or a wetland converted between December 23, 1985 and November 28, 1990. | | |
| 17. Restoration with Violation (RVW-year). A restored wetland that was in violation as a result of conversion after November 28, 1990, or the planting of an agricultural commodity or forage crop. | | |
| 18. Restoration without Violation (RSW). A restored wetland converted between December 23, 1985 and November 28, 1990, on which an agricultural commodity has not been planted. | | |
| 19. Replacement Wetlands (RPW). Wetlands which are converted for purposes other than to increase production, where the wetland values are being replaced at a second site. | | |
| 20. Good Faith Wetlands (GFW+year). Wetlands on which ASCS has determined a violation to be in good faith and the wetland has been restored. | | |
| 21. Converted Wetlands (CW). Wetlands converted after December 23, 1985 and prior to November 28, 1990. In any year that an agricultural commodity is planted on these Converted Wetlands, you will be ineligible for USDA benefits. | | |
| 22. Converted Wetland (CW+year). Wetlands converted after November 28, 1990. You will be ineligible for USDA program benefits until this wetland is restored. | | |
| 23. Converted Wetland Non-Agricultural use (CWNA). Wetlands that are converted for trees, fish production, shrubs, cranberries, vineyards or building and road construction. | | |
| 24. Converted Wetland Technical Error (CWTE). Wetlands that were converted as a result of incorrect determination by SCS. | | |

25. The planned alteration measures on wetlands in fields _____ are considered maintenance and are in compliance with FSA.

26. The planned alteration measures on wetlands in fields _____ are not considered to be maintenance and if installed will cause the area to become a Converted Wetland (CW). See item 22 for information on CW+year.

27. The wetland determination was completed in the office [ ] field [X] and was delivered [ ] mailed [X] to the person on June 26, 1996.

28. Remarks. THIS DETERMINATION IS FOR FOOD SECURITY ACT PURPOSES ONLY AND NOT VALID FOR CLEAN WATER ACT - OTHER STATE AND LOCAL PERMITS MAY ALSO BE REQUIRED PRIOR TO ANY MANIPULATION.

29. *I certify that the above determination is correct and adequate for use in determining eligibility for USDA program benefits, and that wetland hydrology, hydric soils, and hydrophytic vegetation under normal circumstances exist on all areas outlined as Wetlands, Farmed Wetlands, and Farmed Wetlands Pasture.*

30. Signature of SCS District Conservationist
Jimmie W. Heath

31. Date
June 26, 1996

*Assistance and programs of the Soil Conservation Service available without regard to race, religion, color, sex, age, or handicap.*

SCS Copy

COLVILLE FIELD OFFICE

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SCS-CPA-32
2-61

WETLAND DOCUMENTATION RECORD
REMOTELY SENSED DATA SUMMARY

1. Owner/Landuser: Ed Haag
2. County/State: STEVENS, WASHINGTON
3. Slide Reviewer: Gleason — Date: 6/25/96
4. Site Identification No.: No ASCS Tract No. (Sichegal)
5. (Tract No., Farm No., Plus Site No.)

1. ASCS COLOR SLIDE DATA

| Date Mo./Yr. | Climate Condition Wet/Dry/Normal | Interpretation - List of signatures observed e.g., drowned crop, standing water |
|---|---|---|
| | | Not used field visit |
| | | on this one. |
| | | |
| | | |
| | | |

2. Air Photo

| Date Mo./Yr. | Color IR or B/W | Climate condition Wet/Dry/Normal | Interpretation - List of signatures observed e.g., drowned crop, standing water |
|---|---|---|---|
| 1983 | CIR | Wet | Pink area showing wet |
| 1980 | B&W | Wet | Darker Grass / Ditch signature |
| | | | |
| | | | |
| | | | |

NWI Label(s): PEM1A

Hydric Soils: Symbol 39 — Name: Bridgeson Silt loam

Are there wetlands on this tract? yes ✓ no ____

| Wetland Label | Acres |
|---|---|
| W | 1.0 |
| FW | — |
| FWP | 11.8 |

Remarks: field checked this unit 6/25/96

Attachment 3. NRCS Certified Wetland Determination

USDA

United States Department of Agriculture

Natural Resources Conservation Service

Spokane Field Office
1908 N. Dale Lane
Spokane, Washington 99212

Phone: 509-924-7350
FAX: 509-924-7787

Subject: Ed Haag Wetland Delineation

Date: September 18, 1998

To: Jim Gleaton
District Conservationist
Natural Resources Conservation Service
Collville, WA.

Jim,

In reply to Ed Haags CPA 38 request for a certified wetland determination I have enclosed this map. I am labeling the ditches as "W" as per instruction from Washington Bulletin WA180-8-1. This bulletin states areas of concentrated flow (grassed waterway or open channel) located upstream of perennial or intermittent watercourses as indicated on USGS 7.5 minute quad maps, will be included as part of the field when conducting wetland determinations. Since this watercourse is identified on a USGS quad, it should be labeled as W. The area adjacent to the "W" as indicated on the map will be labeled as "FW". This determination was completed by using appropriate tools and methodologies as outlined in the National Food Security Act Manual. This area is subject to wetland conservation provisions of the Food Security Act.

This certified wetland determination is for purposes of the Food Security Act. Other local, state or Federal wetland protection regulations may apply.

Sincerely,

Christopher S. Miller

Christopher S. Miller
Resource Soil Scientist

Attachment 4. Ecology. Wetlands Rating Field Data Form

Pre-Project

WETLANDS RATING FIELD DATA FORM

BACKGROUND INFORMATION:

Name of Rater: C Merker Affiliation: WDOE Date: 12/07/01

Name of wetland (if known): Haag

Government jurisdiction of wetland: _____

Location: 1/4 S: _____ of 1/4 S: _____ SEC: _____ TWNSHP: _____ RNGE: _____

SOURCES OF INFORMATION: (Check all sources that apply)

Site visit: ✓ USGS Topo Map: ✓ NWI map: ✓ Aerial Photo: ✓ Soils survey: ✓

Other: ✓ Describe: Jim Gleason - NRCS Kirk Phillips Ed Haag

| | |
|---|---|
| WHEN THE FIELD DATA FORM IS COMPLETE ENTER CATEGORY HERE: | III |
| Q1. High Quality Natural Heritage Wetland.<br><br>Answer this question if you have adequate information or experience to do so. If not find someone with the expertise to answer the questions. Then, if the answer to questions la, 1b and 1c are all NO, contact the Natural Heritage program of DNR. | Circle answers: |
| la. Is there significant evidence of human-caused changes to topography or hydrology of the wetland? Significant changes could include clearing, grading, filling, logging of the wetland or its immediate buffer, or culverts, ditches, dredging, diking or drainage of the wetland. Briefly describe the changes and your information source/s: Drained WL / ditched | Yes: go to Q.3<br>No: go to 1b. |
| 1b. Are there populations of non-native plants which are currently present and appear to be invading native populations? Briefly describe any non-native plant populations and information source(s): _____ | Yes: go to Q.c.<br>No: go to 1c. |
| 1c. Is there significant evidence of human-caused disturbance of the water quality of the system? Degradation of water quality could be evidenced by culverts entering the system, direct road/parking lot runoff, evidence of historic dumping of wastes, oily sheens, extreme eutrophic conditions, livestock use or dead fish etc. Briefly describe: _____ | Yes: go to Q.e.<br>No: Possible Category 1 |

| | |
|---|---|
| Q.2. Regionally Rare Native Wetland Communities<br><br>The Department of Ecology is developing a methodology for regionally rare native wetland communities. It is not yet available for use. | No |
| Q.3. Irreplaceable Ecological Functions:<br><br>Does the wetland:<br><br>-have at least ½ acre of contiguous peat wetland; ..... NO<br>-or, have a forested class greater than 1 acre; ..... No | No to both:<br>Go to Q.4.<br><br>Yes: go to 3a.<br>Yes: go to 3b. |
| Q.3a. Peat Wetlands:<br><br>3a1. Does at least ½ acre of the contiguous peat wetland have <25% areal cover of any combination of species from the list of invasive/exotic species on p. 19, and have <80% areal cover of *Spirea douglasii?*..... | Yes: Category I<br>No: go to Q.4. |
| Q.3b. Mature forested wetland<br><br>3bl. Is the average age of dominant trees in the forested wetland >80 years?<br><br>3b2. Is the average age of dominant trees in the forested wetland 50-80 years, and *is the structural diversity high as characterized by a multi-layer community of* trees >50' tall and trees 20'-49' tall and shrubs and herbaceous groundcover?... NO No<br><br>3b3. Is > 50% (areal cover) of the dominant plants in one or more layers (canopy, young trees, shrubs, herbs) invasive/exotic plant species from the p.19 list?.... | Yes: Category I<br>No: go to 3b2.<br><br>Yes: go to 3b3.<br>No: go to Q.5.<br><br>Yes: go to Q.5.<br>No: Category I |
| Q.4. Category IV wetlands<br><br>4.1. Is the wetland: less than 1 acre and, NO<br>hydrologically isolated and,<br>comprised of one vegetated class that is dominated (>80% areal cover) by one species from the list in guidance p.18...<br><br>4.2. Is the wetland: less than two acres<br>and, hydrologically isolated,<br>with one vegetated class, and > 90% of areal cover is any combination of species from the list in guidance p.19..... | Yes: Category IV<br>No: go to 4.2<br><br>Yes: Category IV<br>No: go to Q.5. |

| Q.5. Significant habitat value. Answer all questions and enter data requested. | | Circle scores That qualify |
|---|---|---|
| 5a. Total wetland area<br><br>Estimate area, select from choices in the near-right column, and score in the far column:<br><br>Enter acreage of wetland here: 4.9 acres, and source: USDA/NRCS | acres:<br>>20.00<br>10-19.99<br>5-9.99<br>1-4.99<br>0.1-0.99<br><0.1 | Yes=6<br>Yes=5<br>Yes=4<br>Yes=3<br>Yes=2<br>Yes=1 |
| 5b. Wetland classes: Circle the wetland classes below that qualify:<br><br>Open Water: if the area of open water is > 1/2 acre or > 10% of the total wetland area. Source: NO<br><br>Aquatic Beds: if the area of aquatic beds > 10% of the open water area -or > 1/2 acre. NO<br><br>Emergent: if the area of emergent class is > 1/2 acre or > 10% of the total wetland area.<br><br>Scrub-Shrub: if the area of scrub-shrub class is > 1/2 acre or > 10% of the total wetland area. NO<br><br>Forested: if area of forested class is > 1/2 acre or > 10% of the total wetland area. NO | | |
| Add the number of wetland classes, above, that qualify and then score according to the columns at right.<br><br>e.g. If there are 4 classes (aquatic beds, open water, emergent & scrub-shrub), you would circle 8 points in the far right column. | # of classes<br>1.....<br>2.....<br>3.....<br>4.....<br>5..... | Yes =1<br>Yes =3<br>Yes =5<br>Yes =8<br>Yes =11 |
| 5c. Plant species diversity.<br><br>For all wetland classes (at right) that qualify in 5b. above, count the number of different plant species you can find. You do not have to name them.<br><br>Score in column at far right:<br><br>e.g. If a wetland has a aquatic bed class with 3 species, an emergent class with 4 species and a scrub-shrub class with 2 species you would circle 2,2, and 1 in the far column. | Class # of species<br>Aquatic Bed 1-2<br>" " 3<br>" " >3<br><br>Emergent 1-2<br>" 3-4<br>" >4<br><br>Scrub-Scrub 1-2<br>" 3-4<br>" >2<br><br>Forested 1<br>" 2<br>" >2 | <br>Yes =1<br>Yes =2<br>Yes =3<br><br>Yes =1<br>Yes =2<br>Yes =3<br><br>Yes =1<br>Yes =2<br>Yes =3<br><br>Yes =1<br>Yes =2<br>Yes =3 |

3

1

| | |
|---|---|
| 5d. Structural diversity:<br>If the wetland has a forested class, add 1 point 1 point for each of the following:<br>-trees >50' tall.....<br>-trees 20'-49' tall.....<br>-shrubs.....<br>-herbaceous ground cover... | <br><br>Yes =1<br>Yes =1<br>Yes =1<br>Yes =1 |
| 5e. Decide from the diagrams below whether interspersion between wetland classes is high, moderate, low or none? | High =3<br>Moderate=2<br>Low =1<br>None =0 |
| 5f. Habitat features.<br><br>Answer questions below, circle features that apply, and score to right.<br><br>Is there evidence of current use by beavers?.....<br>Is a heron rookery located within 300'?.....<br>Are raptor nest/s located within 300'?.....<br><br>Are there at least 3 standing dead trees (snags) per acre?.....<br>Are any of these standing dead trees (snags) > 10" in diameter?.....<br>Are there any other perches (wires, poles or posts)?.....<br><br>Are there at least 3 downed logs per acre?..... | <br><br><br>Yes =3<br>Yes =2<br>Yes =1<br><br>Yes =1<br>Yes =1<br>Yes =1<br><br>Yes =1 |
| 5g. Connection to streams: (Score one answer only.)<br><br>Is the wetland connected at any time of the year via surface water:<br>to a perennial stream or a seasonal stream with fish;.....<br>or, to a seasonal stream without fish;.....<br>or, is not connected to any stream?..... | <br><br><br>Yes =6<br>Yes =4<br>Yes =0 |

5h. Buffers.

| STEP 1<br>Estimate (to the nearest 5%) the % of each buffer or land-use type (below) that adjoins the wetland boundary.<br><br>Then multiply the %/s by the factor(s) below and enter result in column to right: | STEP 2<br>Multiply result(s) of step 1:<br>by 1, if buffer width is 25-50';<br>by 2, if buffer width is 50-100';<br>by 3, if buffer width is >100'.<br><br>Enter results below and add subscore |
|---|---|
| roads, buildings or parking lots: % 5 x 0 = | 0 |
| lawn, grazed pasture, vineyards or annual crops: % ___ x 1 = | ___ x ___ = ___ |
| ungrazed grassland or orchards: % 90 x 2 = | 180 x 3 = 540 |
| open water or native grasslands: % ___ x 3 = | ___ x ___ = ___ |
| forest or shrub: % 5 x 4 = | 20 x 3 = 60 |
| | Add Buffer total = 600 |

| STEP 3. Score points according to table at right: | Buffer total | |
|---|---|---|
| | 900-1200 ..... | Yes =4 |
| | 600-899 ..... | Yes =3 |
| | 300-599 ..... | Yes =2 |
| | 100-299 ..... | Yes =1 |

3

| 5i. Connection to other habitat areas: | |
|---|---|
| - Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor > 100' wide with good forest or shrub cover to any other habitat area?..... | Yes =6 |
| - Is there a narrow corridor <100' wide with good cover or a wide corridor 100' wide with low cover to any other habitat area?..... | Yes =4 |
| - Is there a narrow corridor <100' wide with low cover or a significant habitat area within 0.25 mile but no corridor?..... | Yes =1 |
| - Is the wetland and buffer completely isolated by development and or cultivated agricultural land?..... | Yes =0 |

4

| | |
|---|---|
| NOW: Add the scores circled (for Q.5a – Q.5I above) to get a Total.....<br>Is the Total greater than or equal to 22 points..... | Total = 17<br>Yes: Category II<br>No: Category III |

Attachment 5. Ecology. Columbia Basin Depressional-Intermittent-Seasonal Functional Assessment Form

WETLAND NAME Haag ID # AU-

Date 12/12/01 Data collected by: Chris Marker - WDOE
Jim Heaton - NRCS
Kirk Phillips
Ed Haag

Pre-Project Condition

## Columbia Basin
## Depressional - Intermittent - Seasonal

*Data Sheet is to be used in conjunction with written guidance*

*AU = Assessment Unit: the area of wetland being assessed*

*Record only numbers, yes/no answers are recorded as a [1] or [0]*

| Estimate/ Score/ Rating | | LANDSCAPE DATA |
|---|---|---|
| 216 ha | D1 | Area of AU |
| ____ ha | D2 | Area of contributing basin (upgradient watershed, including AU) |
| 0 0/1 | D3 | AU is within boundaries of the Reclamation Project |
| 0 0/1 | D4 | AU is outside of reclamation project, but water regime is influenced by it |

| 1km | 2km | | |
|---|---|---|---|
| | | D5 | Land use (as % of total area) within 1km and 2km of AU (include contiguous AU's of different class) |
| 60 | 60 | D5.1 | Undeveloped Forest |
| 15 | 10 | D5.2 | Agriculture - untilled ( pasture, grazing) |
| 0 | 0 | D5.3 | Agriculture -tilled (field ) |
| 0 | 0 | D5.4 | Shrub/steppe - ungrazed |
| 0 | 0 | D5.5 | Shrub/steppe - grazed |
| 0 | 1 | D5.6 | Urban/commercial |
| 5 | 2 | D5.7 | High density residential (> 1residence/acre) |
| 5 | 2 | D5.8 | Low density residential (<= 1 residence/acre) and/or roads |
| 15 | 25 | D5.9 | Not fitting above categories -undeveloped areas, rocks, other wetlands, and open water |

| | | |
|---|---|---|
| | D6 | Habitat types within 1km of AU |
| 1 0/1 | D6.1 | Forest |
| 0 0/1 | D6.2 | Riverine |
| 0 0/1 | D6.3 | Shrub steppe |
| 0 0/1 | D6.4 | Talus and/or cliffs |
| 1 0/1 | D6.5 | Open water, and or other wetlands |

*Habitat type must be at least 0.1 ha in size (1/4 acre) to count*

| | | |
|---|---|---|
| | D7 | Land use (as % of total area) in contributing basin |
| 94 % | D7.1 | Undeveloped Forest |
| 5 % | D7.2 | Agriculture - untilled ( pasture, grazing) |
| 0 % | D7.3 | Agriculture -tilled (field ) |
| 0 % | D7.4 | Shrub/steppe - ungrazed |
| 0 % | D7.5 | Shrub/steppe - grazed |
| 0 % | D7.6 | Urban/commercial |
| 0 % | D7.7 | High density residential (> 1residence/acre) |
| 1 % | D7.8 | Low density residential (<= 1 residence/acre) and/or roads |
| 0 % | D7.9 | Not fitting above categories -undeveloped areas, rocks, other wetlands, and open water |

WETLAND NAME Haag (seasonal) ID # AU-

D8 Different wetland hydrogeomorphic types within 1km of AU

0 0/1 D8.1 Depressional - perennial >10 ...

0 0/1 D8.2 Depressional - seasonal >2 ... <10 ...

0 0/1 D8.3 Depressional - ephemeral <2 ...

0 0/1 D8.4 Riverine

1 0/1 D8.5 Lacustrine

0 0/1 D8.6 Perennial stream or river

300' ___ m D9 Length of "swimmable" connection to a perennial stream, lake, or other wetland

D10 Geologic formation under the AU

1 0/1 D10.1 Alluvium and floodplain deposits

0 0/1 D10.2 Basalts

0 0/1 D10.3 Loess

0 0/1 D10.4 Glacial till

0 0/1 D10.5 Schists and gneiss

**WATER REGIME**

1 0/1 D11 AU has a surface water outflow during some time of the year

D12 Areas of Inundation

0 % D12.1 Percent of AU that is ponded or inundated for >2 months out of the year

100 % D12.5 Percent of AU that is ponded or inundated for < 2 months

0 % D12.6 Percent of AU with unvegetated bars or mudflats

D13 Inundation regimes

0 0/1 D13.2 Seasonally Flooded

1 0/1 D13.3 Occasionally Flooded (<= 2 month)

1 0/1 D13.4 Saturated but seldom inundated

*Chose all that apply : IF the area subject to the water regime is > 0.1 ha, or 10% of the AU*

1 0/1 D13.6 Intermittently flowing stream

0.3 m D14 Average depth of seasonal flooding above lowest point in AU

D15 Topographic cross-section of live-storage

1 0/1 D15.1 Cross section 1

0 0/1 D15.2 Cross section 2

0 0/1 D15.3 Cross section 3

WETLAND NAME Haag (seasonal) ID # AU-

*record a 1 for each category present if >0.1 hec (1/4 acre) or 10% of area*

D17 Categories of water depths present in AU, **areas seasonally inundated**

1 0/1 D17.1 0-50cm (<20in)
0 0/1 D17.2 50-100cm(20-40in)
0 0/1 D17.3 >100cm (>40in)

1.0 m D18 Width of outlet (if no outlet record 0m)

*If the Au has multiple outlets, estimate the width as if all the outlets were combined into one large one.*

**VEGETATION**

D19 Cowardin vegetation classes in AU (as % area of AU)

1 % D19.1 Forest
0 % D19.2 Scrub-shrub
99 % D19.3 Emergent
0 % D19.4 Aquatic Bed

*Include forest only if trees are rooted in AU.*
*If vegetation classes are patchy, add the patches together for each class to get a total.*
*To count, a class must cover at least 0.1 hectares or be more than 10% of the total area of the AU*

100 % D19.5 % area of herbaceous understory **in forest and shrub areas** (not % area in entire AU)
50 % D20 Percent of AU with woody vegetation that has canopy closure >75%

D21 Structure categories in vegetation

1 0/1 D21.1 0 - 30 cm emergent 1 ft
1 0/1 D21.2 31 - 100 cm emergent 1 - 3'
1 0/1 D21.3 > 100 cm emergent 3'
0 0/1 D21.4 Scrub/shrub
0 0/1 D21.5 Aquatic bed

*record a 1 for each category present if >0.1 hec (1/4 acre) or 10% of area*

D22 Plant Richness

4 # D22.1 Record number of native plant species found in AU
3 # D22.2 Record number of non- native plant species found in AU
0 # D22.3 Record the number of aquatic bed plant species

Canada Thistle, Kentucky BLUE Timothy, reed canary quack grass, [illegible], sedges 3

D23 % area of indicator plant species within AU

0 0-5 D23.1 Milfoil
0 0-5 D23.2 Purple loosestrife
0 0-5 D23.3 Phragmites
3 0-5 D23.4 Reed canary grass
0 0-5 D23.5 Potamogeton

*note presence only of following*

0 0/1 D23.6 Russian Olive (in buffer)
0 0/1 D23.7 *Typha* spp. present in AU
1 0/1 D23.8 *Carex* spp. present in AU

Scoring for percent of AU:
0 - plant species is not present in AU
1 - species is present but not dominant or co-dominant
2 - area of AU covered is 1-25%
3 - area of AU covered is 26-50%
4 - area of AU covered is 51-75%
5 - area of AU covered is 76-100%

WETLAND NAME_____(seasonal) ID # AU-

D24 Total area (%) of non-native plant species within AU

1 0/1 D24.1 % area of non-native species >75%

0 0/1 D24.2 % area of non-native species 50-75%

0 0/1 D24.3 %area of non-native species 25-49%

0 0/1 D24.4 % area of non-native species 1-24%

0 0/1 D24.5 NO cover of non-natives in the AU

## HABITAT CHARACTERISTICS

0 0/1 D25 Mats of iron flocculating bacteria present (> 1square meter total)

D26 pH

6.6-7.8 [4-12] D26.1 pH of interstitial water *(measure immediately after digging hole in saturated areas)* Soil reaction

7.0 [4-12] D26.2 pH of seasonal open or standing water (average of at least 2 locations) estimated

___ mS D26.4 Conductivity of standing or open water (average of at least 2 locations) not measured

0 0/1 D27 Salt residues present along edges of the perennial or seasonal water

1 0/1 D28 Drains or tiles present in AU that reduce residence time of surface waters open artificial ditch

20 in. D29 Average annual precipitation in AU

D30 Structures for refuge within AU

0 0/1 D30.1 Rocks >10cm

0 0/1 D30.2 Snags present

0 0/1 D30.3 Large woody debris > 10cm diameter present in AU

0 0/1 D30.4 plant litter > 10 square meters

D31 Shade or thermal buffer around edge of AU

0 % D31.1 % of southern edge of AU with features higher than 6 m (20ft) within 10 of AU edge

0 % D31.2 % of northern edge with features higher than 6 m (20ft)

0 0/1 D33 Steep banks of fine material (>45 degrees slope, >10m long, >0.6m high) *may be a dike*

1 0/1 D34 Grazing is present in AU or in its buffer (within 100m)

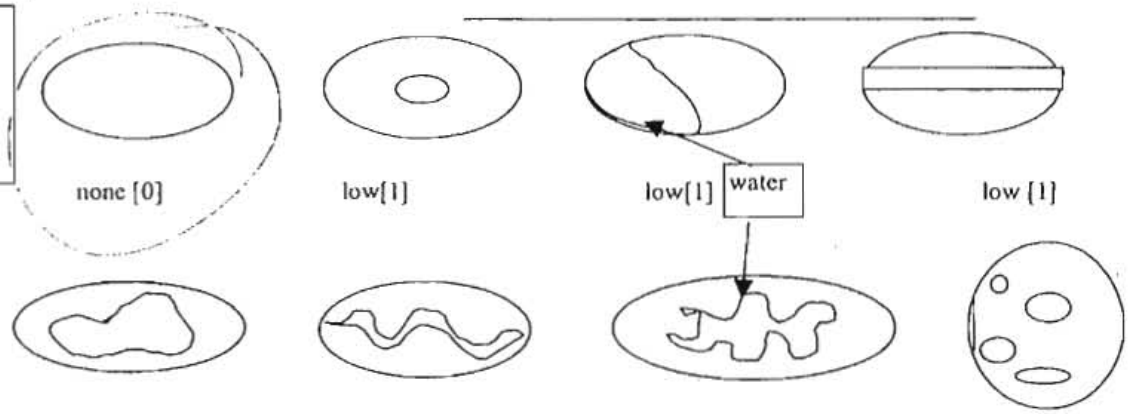
0 0/1 D35 Tannins present in surface waters >10% of water surface

0 0/1 D38 Bullfrogs present in AU - evidence or source _____

WETLAND NAME Haag (seasonal) ID # AU-

D39 Interspension of veg. & perennial open water

*Choose the diagram that best fits field conditions and record score in first column*



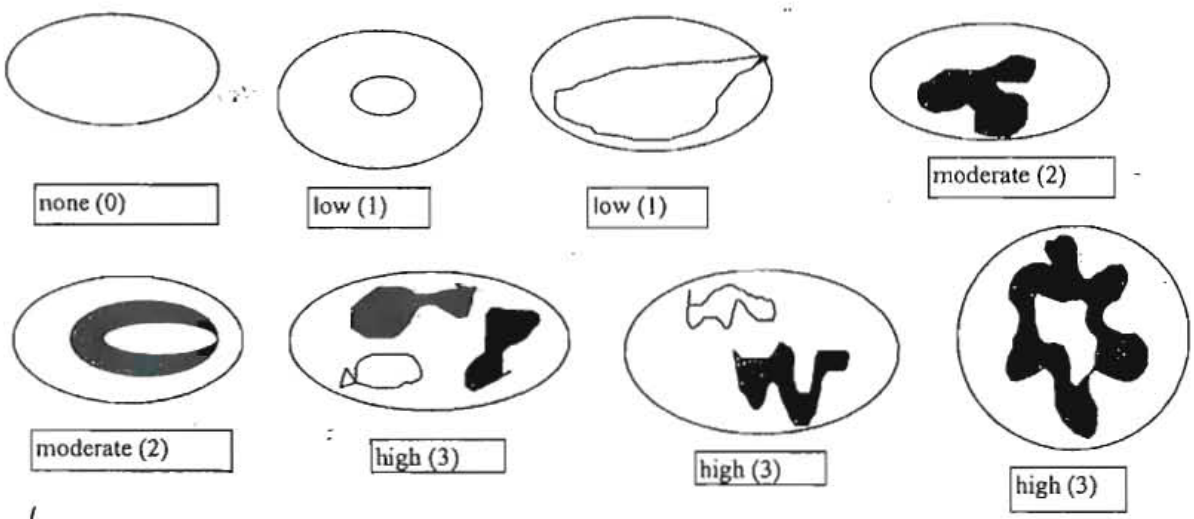

no per open W20

0 D39

1 [0-3] D40 Interspersion between seasonal open water and vegetation (see diagrams above)

0 [0-3] D41 Interspersion between Cowardin vegetation classes

**AU's with only 2 vegetation classes can only score a moderate[2] or lower*
**AU's with 4 vegetation classes score a high [3]*
** AU's with 3 vegetation classes can score a moderate (2) or a high (3)*




1 [0-3] D42 Interspersion between different structure categories of vegetation **(use pictures above)**

*Map the following structure categories:*
*0 - 30 cm emergent* < 1'
*31 - 100 cm emergent* 1 - 3'
*> 100 cm emergent* > 3'
*Scrub/shrub*
*Aquatic bed*

**AU's with only 2 structure categories can only score a moderate[2] or lower*
** AU's with 3 categories can score a moderate (2) or a high (3)*
*AU's with 4 categories score a high (3)*

WETLAND NAME Haag (seasonal) ID # AU-

D43 EDGE of AU: The characteristics of the edge between AU and uplands or adjacent wetlands.

___ ratio D43.1 Ratio of edge of AU to length (estimate of sinuousity)

0 0/1 D43.2 Is the difference in vegetation height along the edge of the AU greater than 2m for at least 25% of the circumference?

5 [0-5] D44 BUFFER of AU: Choose the description that best represents condition of AU buffer

Rating

*• Open water or adjacent wetlands are considered part of the buffer*
*•Infrequently used gravel or paved roads or vegetated dikes in a relatively undisturbed buffer can be ignored as a "disturbance"*

5 100 m (330ft) of forest, shrub steppe, relatively undisturbed grassland or open water >95% of circumference. No developed areas within undisturbed part of buffer

4 100 m (330 ft) of forest, shrub steppe, relatively undisturbed grassland or open water > 50% circumference OR 50 m (170ft) of forest, steppe, grassland or open water >95% circumference. No developed areas within undisturbed part of buffer

3 100 m (330ft) of forest, shrub steppe, grassland or open water > 25% circumference, OR 50 m (170ft) of forest, steppe, grassland or open water > 50% circumference

**If AU does not meet any criteria above:**

2 No paved areas or buildings within 25 m (80ft) of wetland > 95% circumference. Pasture or lawns are OK. OR no paved areas or buildings within 50m of wetland >50% circumference

0 Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference

1 Does not meet any of the criteria above

1 0/1 D44.1 Are there drains, ditches, or streams that route surface water through the buffer?

D45 Human disturbances in AU and its buffer

1 0/1 D45.1 Boating
1 0/1 D45.2 Fishing
1 0/1 D45.3 Hunting and/or target practice
1 0/1 D45.4 Passive recreation (e.g. bird watching, biking, etc.)
1 0/1 D45.5 Camping
1 0/1 D45.6 permanent development
0 0/1 D45.7 disturbance present that cannot be identified

D46 Structures in buffer (within 100m of AU edge)

1 0/1 D46.1 Forest
1 0/1 D46.2 Shrubs
1 0/1 D46.3 Boulder fields, rock outcrops, cliffs, fractured basalts
0 0/1 D46.4 Talus slopes
1 0/1 D46.5 Rodent burrows
1 0/1 D46.6 Downed woody debris > 10 cm diameter

WETLAND NAME Haag (seasonal) ID # AU-

D47 CORRIDORS of AU: Rate corridors using following key *(record rating of 0,1,2,or 3)*

1 [0-3] D47.1 1) Is the wetland part of a vegetated riparian corridor at least 5m wide connecting two or more wetlands within 1 km?

If YES proceed to question # 2 If NO go to question 4

2) Is wetland part of a vegetated riparian corridor 5m wide with at least 30% vegetative cover?

If NO go to question # 3 If YES = [3]

3) Is wetland part of a riparian corridor 5m wide that has less than 30% vegetative coverage?

**If NO = [1]** If YES = [2]

4) Is wetland within 1 km of a riparian corridor?

**If NO = [0]** If YES = [1]

CORRIDORS of AU: Rate corridors using following key *(record rating of 0,1,2,or 3)*

3 [0-3] D47.2 1) Is the wetland part of a vegetated upland corridor at least 5m wide connecting two or more wetlands within 1 km?

If YES proceed to question # 2 If NO go to question 4

2) Is wetland part of a vegetated upland corridor 5m wide with at least 30% vegetative cover?

If NO go to question # 3 If YES = [3]

3) Is wetland part of an upland corridor 5m wide that has less than 30% vegetative coverage?

**If NO = [1]** If YES = [2]

4) Is wetland within 1 km of an upland corridor?

**If NO = [0]** If YES = [1]

**SOILS and SUBSTRATES**

D48 Composition of surface layer (above soil)

0 0/1 D48.1 Muck

0 0/1 D48.2 Fines (clays and silt)

0 0/1 D48.3 Coarse materials

0 0/1 D48.4 > 25% cover of pine needles in seasonally or perennially inundated areas

*record a 1 for each category present if its area is> 10 square meters. Note: bare earth from animal tunnels does NOT count*

D49 Soil Types (record [1] if 1-49% area of AU, [2] if 50-95%, [3] if >95%)

0 [0-3] D49.1 Peat

0 [0-3] D49.2 Muck

3 [0-3] D49.3 Mineral with clay fraction <30% Bridgeson Silt loam

0 [0-3] D49.4 Clay (clay fraction >30%)

*Record the soil type nearest the surface and below the top surface layer*

D50 Infiltration rate of soils in seasonally inundated areas

0 0/1 D50.1 Fast >50% sand, and the rest cobbles, gravel, loamy sand, or sandy loam

1 0/1 D50.2 Slow - anything else

*Record the least permeable layer if there are several down to 60cm.*
*Record permeability of soils with greatest areal extent.*

Attachment 6. NRCS. Wetland Restoration Agreement Between the Commodity Credit Corporation and Ed Haag.

NRCS Agreement No. 66-0546-1-20

# WETLAND RESTORATION AGREEMENT
Between
THE COMMODITY CREDIT CORPORATION
And
ED HAAG

This Wetland Restoration Agreement is entered into by the Commodity Credit Corporation (CCC), an instrumentality of the United States Government, and Ed Haag (PARTNER), whose address is 317 West 16th Avenue, Spokane, Washington 99203. For purposes of this Wetland Restoration Agreement, the term "Parties" refers collectively to the CCC and the PARTNER.

## I. AUTHORITY

This Wetland Restoration Agreement is entered into under the following authorities:

A. For the CCC. This Wetland Restoration Agreement is entered into by the CCC under the authorities of the Commodity Credit Charter Act (15 U.S.C. 174); the Food Security Act of 1985, as amended (16 U.S.C. 3837 et. seq.); and 7 CFR Part 1467.

## II. BACKGROUND AND PURPOSE

CCC, by and through the Natural Resources Conservation Service (NRCS), assists landowners in restoring and protecting wetlands through the Wetlands Reserve Program (WRP), 16 U.S.C. 3837 et. seq. CCC provides technical and financial assistance through the use of permanent easements, 30-year easements, and restoration cost-share agreements. When CCC purchases a 30-year easement or partners in a restoration cost-share agreement, CCC provides up to 75% of the restoration cost-share funds.

Ed Haag is the owner of certain property located in Stevens County, Washington which has been accepted into the Wetlands Reserve Program under a restoration assistance agreement. As a participant in the WRP through this restoration assistance agreement, the PARNTER is responsible for 25% of the restoration funds.

To ensure that the funds are available and the restoration plans implemented as required by WRP program regulations and policies, CCC and PARTNER agree to enter into this wetland restoration agreement.

WHEREAS, CCC and the PARTNER have mutual interests in restoring and protecting wetlands within the agreement area; and

WHEREAS, CCC administers the WRP; and

WHEREAS, the PARTNER has provided written evidence of ownership or control of the land for the duration of this agreement; and

WHEREAS, the PARTNER is a participant in the WRP and is responsible for 25% of the restoration costs; and

WHEREAS, CCC and the PARTNER have agreed to combine their resources to assure that the enrolled land is restored and protected;

NOW THEREFORE, the parties agree to enter into this Wetland Restoration Agreement.

## III. GENERAL IMPLEMENTATION

A. As provided herein, the Parties shall perform restoration of enrolled WRP land. The Parties agree to a total cost not to exceed $36,226.00 for all practice activities.
B. Upon execution of this agreement, the CCC shall make available $27,170.00 for the restoration costs of the wetland restoration activities on the WRP area. This restoration agreement is the authorizing document to obligate CCC funds for these restoration activities.
C. An authorized official of NRCS may, by written order, make revisions to the conservation plan within the general scope of this agreement including revisions in the following:
    - Specifications
    - Method and manner of performance
    - Operation and maintenance plan and agreement
    - Implementation schedule

    Any revision that causes an increase or decrease in the PARTNER's cost of performance will be agreed to by both parties.
D. Cost-share payments for practices and components shall be made to the PARTNER upon satisfactory completion and certification by NRCS of installation of the practices or identifiable components of practices specified in the conservation plan.
E. The PARTNER may utilize the services of other NRCS-approved Federal Agencies, State Agencies, non-governmental organizations, Conservation Districts, or private individuals to meet the requirements of this agreement. NRCS/Federal financial assistance shall not exceed 75% of the cost of treatment activities. The PARTNER certifies that by signing the SF-270 that the amount of funds received from all sources (including NRCS) for this agreement shall not exceed 100% of the total cost of all treatment activities.
F. As a condition of this agreement, the PARTNER certifies that at least one cost-share practice will be initiated within the first 12 months of the effective date of this agreement and that all cost-share practices shall be completed in accordance with *the conservation plan implementation schedule and completely installed two (2)* years prior to the expiration date of this agreement.
G. The land subject to this agreement shall be reviewed by NRCS as often as needed to ensure success during practice installation, at least once a year for the life of the agreement after practices have been established, and after each significant weather or potentially damaging event, including but not limited to flooding, forest fire, or other major storms and in accordance with all requirements of the WRP.
H. Long-term maintenance and management of the treatment area is the responsibility of the PARTNER and will be in accordance with the operation and maintenance as

set forth in the Conservation Practice Job Sheets, Attachment B, which are hereby made a part of this agreement.

## IV. PARTNER RESPONSIBILITIES. The PARTNER will:

A. Provide $9,056.00 for implementation of the treatment plan outlined in Attachment A.
B. Perform or contract for the implementation of the treatment activities for the enrolled land. NRCS shall not be considered a party to any such contract. Any contractor, including the participant, must release NRCS from any claims in connection with the treatment activities.
C. Develop the treatment plan in accordance with WRP regulations, policies, and NRCS Field Office Technical Guide (FOTG) standards. The design shall follow practice standards in Section IV of the NRCS Field Office Technical Guide and include, as necessary, drawings, written specifications, instructions, and related documentation.
D. Request reimbursement for completed works of improvement by Agreement Line Item Number (ALIN) identified in Attachment A upon inspection and certification by NRCS by submission of a properly completed SF-270, Request for Advance or Reimbursement. The request for payment shall include the taxpayer identification number of 502-64-0972. Advance payments are not authorized.
E. Each SF-270 must be accompanied with a certification from the PARTNER to the fact that they are not receiving more than 100% of the total cost of the practices installed and will include certification from the designated local NRCS Official.
F. All payments to the PARTNER will be made via Electronic Funds Transfer (EFT). The PARTNER must complete an SF-1199A, Direct Deposit Sign-Up form and include form with first reimbursement request.
G. Secure all needed Local, State, and Federal permits prior to commencing treatment activities of the designated areas. Any costs associated with the PARTNER's failure to obtain adequate land rights permits shall be 100% responsibility of the PARTNER.
H. Provide NRCS access to the subject site for the life of this agreement and shall notify NRCS prior to any change in maintenance and management requirements outlined in Attachment B.
I. Agree to comply with all applicable Federal, State, Local, and Tribal laws and regulations in performance of activities outlined in this agreement.
J. Maintain all practices in the plan/schedule of operations for the life of and in accordance with the operation and maintenance as set forth in the Conservation Practice Job Sheets, Attachment B.

## V. NRCS RESPONSIBILITIES. NRCS will:

A. Provide $27,170.00 for implementation of the treatment plans outlined in Attachment A.
B. Assist the PARTNER in the development of the operation and maintenance in accordance with WRP regulations and policies for the enrolled area.
C. Provide technical assistance in the development of the conservation plan in accordance with WRP regulations, policies, and NRCS FOTG standards.
D. Perform final inspection and acceptance of completed practices prior to authorizing payment.
E. Make payments to the PARTNER for completed treatment practices listed on Attachment A or revisions thereto, upon completion and certification by NRCS upon submission of a properly completed SF-270.
F. Provide technical assistance for the design of treatment activities which shall comply with practice standards in Section IV of the NRCS FOTG, the National Engineering Manual (NEM) and include as necessary construction drawings, written specifications, instructions, and related documentation.
G. Assign this Wetland Restoration Agreement if an Assignee agrees to assume the PARTNER's restoration responsibilities under this agreement, and NRCS determines that such assignee has the requisite authority, resources, and expertise to assume such responsibilities.

## VI. GENERAL PROVISIONS.

A. This agreement shall be effective upon the date of signature of NRCS authorized official affixed hereto after the signature of the PARTNER and shall continue for a period of TWELVE (12) years.
B. No assignment in whole or in part shall be made of any right of obligation under this agreement without the mutual approval of both NRCS and the PARTNER. Subject to the forgoing, nothing herein shall preclude NRCS or the PARTNER from entering into mutually acceptable arrangements or agreements under which either party may assign its rights and obligations hereunder to an Assignee. Any such assignment shall be in writing, reference this agreement, and be maintained as part of the official agreement file.
C. If ownership or operation of the land changes during the term of this agreement, NRCS shall modify the agreement to reflect the new PARTNER and any new division of payments. NRCS shall make eligible cost-share payments upon presentation of an assignment of rights or other evidence that title has passed. In the event of a dispute or claim on distribution of cost-share payments, NRCS may withhold payments without the accrual of interest pending a settlement or adjudication on the rights to the funds.
D. NRCS shall provide written notification to the PARTNER of any suspected violations. Failure to correct suspected violations in a timely manner may result in the forfeiture of all rights to further payments under this agreement and the PARTNER may be required to refund to the United States all payments received thereunder upon violation of any term of this agreement.
E. This Wetland Restoration Agreement may be amended, extended, modified, or terminated by written amendment signed by the authorized official of NRCS and the PARTNER.

F. NRCS shall approve all designs and construction plans and specifications prior to practice implementation, including all non-structural treatment activities.

G. The PARTNER acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that is has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The PARTNER also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this agreement. Any failure of the PARTNER to take the actions described and acknowledged in this paragraph will not relieve the PARTNER from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

H. Cost-share payments shall be made only upon a determination by the NRCS that the eligible practice has been established in compliance with the conservation plan and any additional requirements of NRCS including any approved modifications.

I. NRCS may terminate this Wetland Restoraiton Agreement if NRCS determines the PARTNER has failed to comply with the provisions of this agreement. Remedies for noncompliance shall be enforced in accordance with 7 CFR Part 614 and 7 CFR Part 636.11.

J. The program or activities conducted under this Wetland Restoration Agreement shall be in compliance with the nondiscrimination provisions contained in Titles VI and VII of the Civil Rights Act of 1964, and other applicable nondiscrimination statutes: namely Section 504 of the Rehabilitation Act of 1973. These statutes are implemented through regulations of the Secretary of Agriculture (7 CFR, Part 15 and 15b), which provides that no person in the United States shall on the grounds of race, color, national origin, or handicap be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program receiving Federal financial assistance from the Department of Agriculture or any agency thereof in any program activity conducted by the Department.

K. The activities under this Wetland Restoration Agreement will be in compliance with Title V of the Drug-free Workplace Act of 1988, 41 U.S.C. 702, and 7 CFR Part 3017, Subpart F.

L. The activities under this Wetland Restoration Agreement will be in compliance with Section 114 of the Clean Air Act as amended (42 U.S.C. 1857, et seq., as amended by Public Law 91-604) and Section 308 of the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq., as amended by Public Law 95-500), respectively, relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in Section 114 and Section 308 of the Air Act and the Water Act, respectively, and all regulations and guidelines issued thereunder before the signing of this agreement by NRCS.

M. Any employees of the PARTNER shall not be considered as Federal employees or agents of the United States for any purpose under this Wildlife Habitat Agreement.

N. The PARTNER shall give NRCS, or the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to implementation of this Wetland Restoration Agreement.

O. Neither the PARTNER or the NRCS are bound by any obligations or other arrangements that involve the expenditure of funds in excess of that authorized by this Wetland Restoration Agreement or amendment thereto. The furnishing of administrative and technical services by NRCS is contingent upon funds made available for the WRP.

P. Long-term maintenance and management is the responsibility of the PARTNER. Maintenance shall be accomplished, for the life of this agreement, in accordance with the operation and maintenance as described in the Conservation Practice Job Sheets (Attachment B).

Q. If during the construction of any treatment practice(s), a previously unidentified archaeological or historic site(s) is encountered, the landowner shall discontinue work in the general area of the site(s) and notify NRCS immediately.

R. The treatment practice(s) must be installed in compliance with the conservation plan.

## VII. PRINCIPAL CONTACTS.

A. NRCS:

1. Ralph Scott, Contracting Officer
   USDA NRCS
   316 W. Boone Avenue, Suite 450
   Spokane, WA 99201-2348
   (509) 323-2925

2. Jimmie Gleaton
   USDA NRCS
   232 Williams Lake Road
   Colville, WA 99114-9638
   (509) 685-0937 x. 106

B. The PARTNER:

1. Ed Haag
   317 West 16th Avenue
   Spokane, WA 99203
   (509) 747-2908

IN WITNESS WHEREOF, the following authorized representatives of NRCS and the PARTNER have executed and agree to be bound by this Wetland Restoration Agreement:

**ED HAAG**

_____ 9/26/2001
Date

**NATURAL RESOURCES CONSERVATION SERVICE**

_____ 9/27/2001
By: R.L. HUGHBANKS, NRCS State Conservationist Date

ATTACHMENT A

Budget

| Agreement Line Item | Installation Date | NRCS Cost Share (75%) | Partner Cost Share (25%) | Total Project Costs (100%) |
|---|---|---|---|---|
| | | | | |
| 1. Critical Area Planting (342) | 2001 | | | |
| Grading and Shaping | | $259.00 | $86.00 | $345.00 |
| Seedbed Preparation | | $18.00 | $6.00 | $24.00 |
| Seed & Seeding | | $225.00 | $75.00 | $300.00 |
| | | | | |
| 2. Pond (378) – Excavation | 2001 | $21,000.00 | $7,000.00 | $28,000.00 |
| | | | | |
| 3. Forest Site Preparation (490) | 2002 | | | |
| Chemical Spot Treatment | | $306.00 | $102.00 | $408.00 |
| Mulch Fabric | | $2,550.00 | $850.00 | $3,400.00 |
| | | | | |
| 4. Tree/Shrub Establishment (612) | 2002 | | | |
| Shrubs & Planting | | $1,665.00 | $555.00 | $2,220.00 |
| Trees & Planting | | $356.00 | $119.00 | $475.00 |
| Wildlife Damage Protection 24" Rigid Tubes | | $791.00 | $263.00 | $1,054.00 |
| | | | | |
| Total Costs: | | $27,170.00 | $9,056.00 | $36,226.00 |

# UNITED STATES DEPARTMENT OF AGRICULTURE
# NATURAL RESOURCES CONSERVATION SERVICE


ADDRESS: 232 WILLIAMS LAKE RD
COLVILLE, WA. 99114

PHONE: (509) 685-0937

FAX: (509) 684-1982


## CONSTRUCTION DRAWINGS AND SPECIFICATIONS

PROJECT: WETLAND RESTORATION PRACTICE CODE: 657

LOCATION: NW¼ SEC: 10 T 29 N. R 41 E. PROJECT CLASS: I

OWNER: ED HAAG

ADDRESS: 317 WEST 16th Ave.

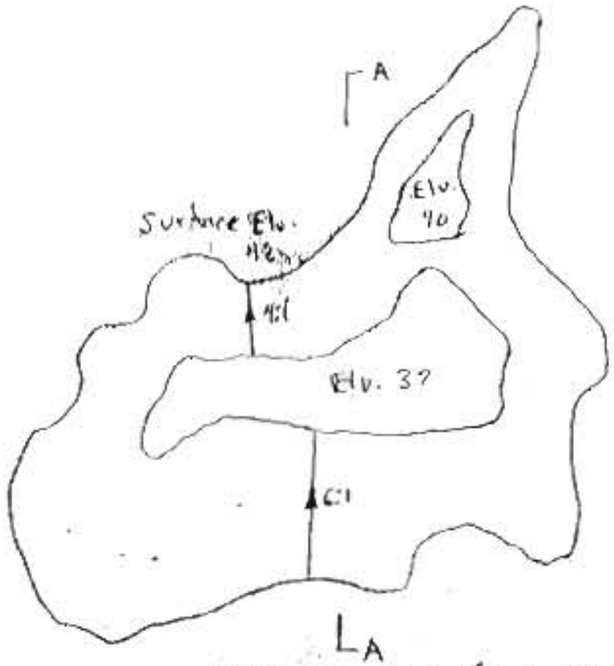
Spokane, WA 99203

PREPARED BY: Gleaton

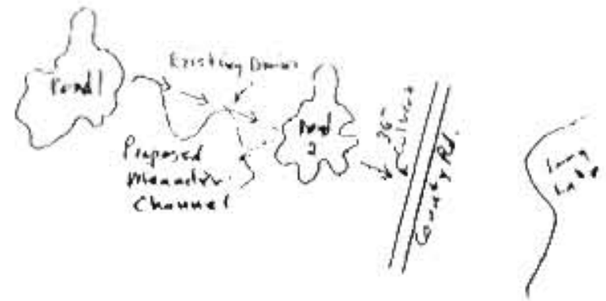
DATE: 9/01

| Check if Applicable | | Construction Specifications | Issue | Date |
|---|---|---|---|---|
| | Concrete | | | |
| | CS-41 | Reinforced Concrete | July | 1997 |
| | CS-42 | Concrete for Minor Structures | July | 1997 |
| | CS-43 | Concrete Canal Lining | July | 1997 |
| | Miscellaneous | | | |
| | CS-51 | Cathodic Protection | July | 1997 |
| | CS-52 | Conduit and Pipelines | July | 1997 |
| | CS-53 | Valves & Meters | July | 1997 |
| | CS-54 | Metal Fabrication | July | 1997 |
| | CS-55 | Painting Metalwork | July | 1997 |
| | CS-56 | Rock Structures | July | 1997 |
| | CS-57 | Rock Surfacing | July | 1997 |
| | CS-58 | Timber Fabrication | July | 1997 |
| | CS-59 | Painting Woodwork | July | 1997 |
| | CS-60 | Well | July | 1997 |
| | CS-61 | Wire Mesh Gabions | July | 1997 |
| | CS-62 | Pump | July | 1997 |
| X | CS-63 | Vegetation of Construction Sites | July | 1997 |
| | CS-64 | Fencing of Construction Sites | July | 1997 |
| | CS-65 | Drainage Filter | July | 1997 |
| | CS-66 | Erosion Control Blankets | July | 1997 |
| | CS-67 | Construction Fabrics | July | 1997 |
| | Special Construction Specifications (Number with the 100 Series) | | | |
| X | CS-342 | Critical Area Seeding | | |
| X | CS-490 | Site preparation | | |
| X | CS-612 | Tree & Shrub planting | | |

| Check if Applicable | | Material Specifications | Issue | Date |
|---|---|---|---|---|
| | Commonly Used Materials | | | |
| | MS-201 | Concrete Aggregates | July | 1997 |
| | MS-202 | Portland Cement | July | 1997 |
| | MS-203 | Concrete | July | 1997 |
| | MS-204 | Concrete Pipe | July | 1997 |
| | MS-205 | Corrugated Metal Pipe | July | 1997 |
| | MS-206 | Plastic Pipe | July | 1997 |
| | MS-207 | Steel Pipe | July | 1997 |
| | MS-208 | Corrugated Plastic Tile | July | 1997 |
| | MS-209 | Woven and Non -Woven Fabrics | July | 1997 |
| | MS-210 | Aggregate Filters | July | 1997 |
| | MS-211 | Bedding | July | 1997 |
| | MS-212 | Rock | July | 1997 |
| | MS-213 | Steel Reinforcement | July | 1997 |
| | MS-214 | Metal, Structural | July | 1997 |
| | MS-215 | Galvanizing | July | 1997 |
| | MS-216 | Structural Timber & Lumber | July | 1997 |

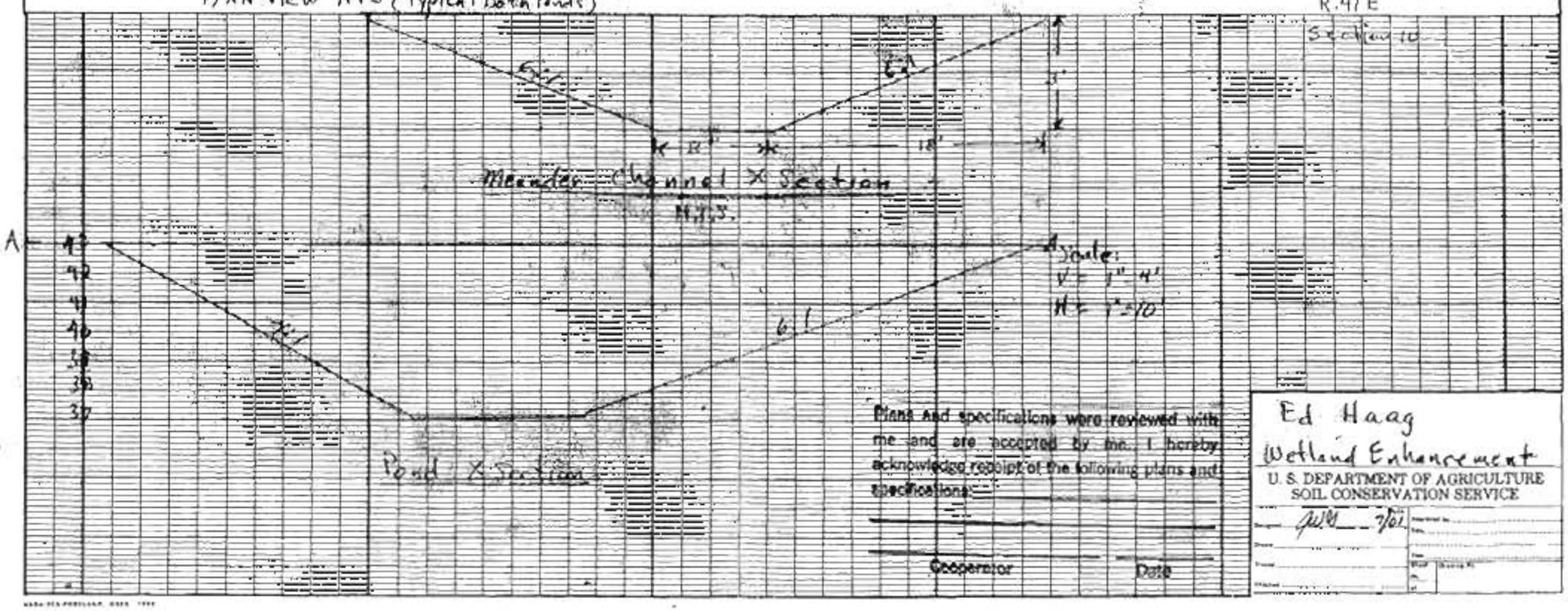



PLAN VIEW NTS (Typical Both Ponds)




Estimated Quantities

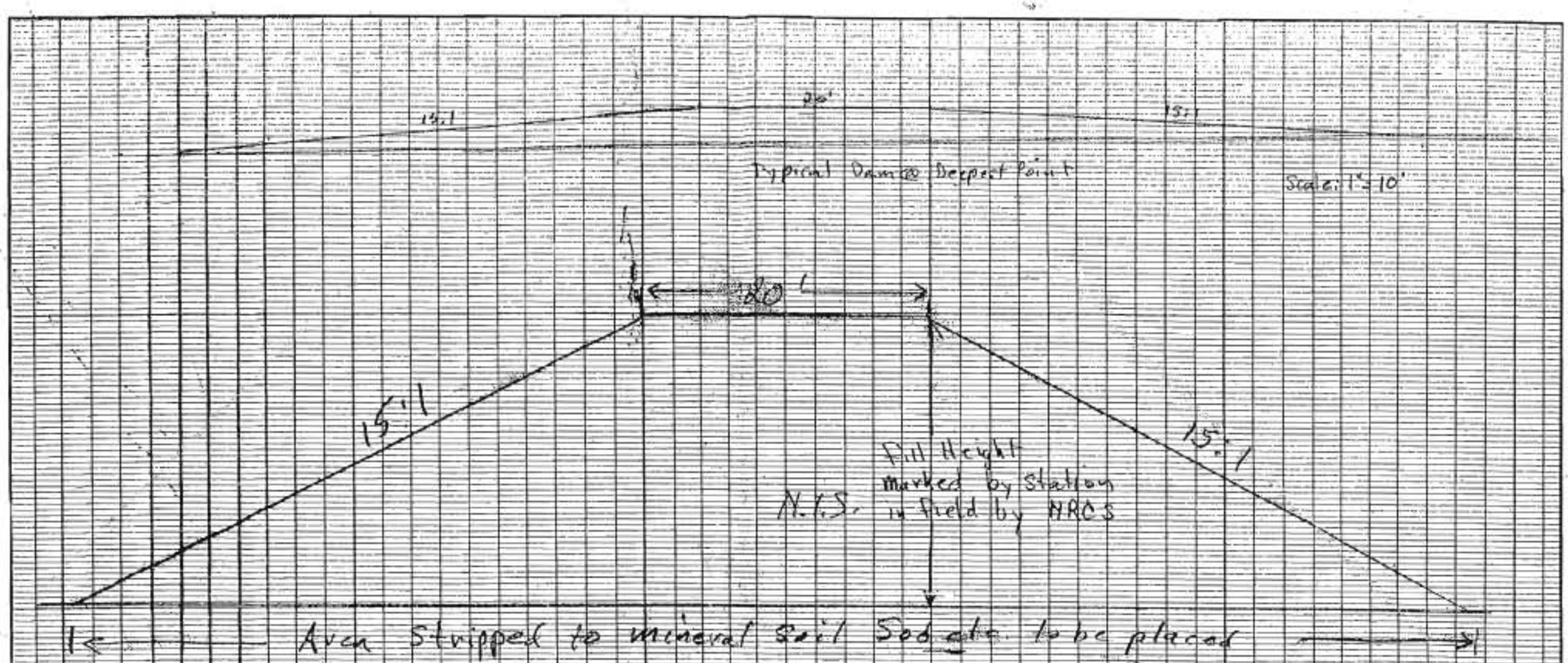
7000 cubic yards excavation
1300 Tree & Shrub plantings
2 acres Critical Area Seeding




Plans and specifications were reviewed with me and are accepted by me. I hereby acknowledge receipt of the following plans and specifications:

Cooperator Date

Ed Haag
Wetland Enhancement
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE




Soil Profile

| | | |
|---|---|---|
| 0-6" | ML | ← Strip Vegetation |
| 6-48" | ML | Borrow Material |
| 48-60 | CL | |
| 61-65 | SM | |
| 65+ | CL | |

Special Instructions
Attached pgs. 4 & 5

ED HAAG WRP COST SHARE
AGREEMENT
WETLAND ENHANCEMENT
DITCH PLUS

P

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed: JWH Date: 7/01
Drawn:
Traced:
Checked:
Approved by:
Date:
Title:
Sheet No. 2 of 5
Drawing No. Job Class I

SCS-ENG-USA (Rev. 1-76)

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
WASHINGTON

# GENERAL REQUIREMENTS

## General:

This construction plan set forth the requirements for this installation as shown on the drawings and described in the construction specifications and material specification. The project shall be constructed at the location and to the lines and grades as shown on the drawings in accordance with the construction and material specifications.

## Responsibilities:

a. Owner/Operator:

The owner/operator is the official spokesperson for this project. The owner/operator is the person who reviewed the construction plan, made all contractual agreements, ensures construction is in accordance with the requirements as set forth in the plans, obtains all permits and is financially responsible. The owner/operator is the sole person who can authorize any changes during construction that incur financial obligations.

b. Technician:

The technician is the NRCS representative who has the authority to review the practice during construction and make necessary tests to ensure that all work is in compliance with the construction plan. The technician reviews all construction changes and insures that the owner/operator approves prior to installation. The technician maintains a job diary and prepares as-built drawings of the project.

c. Contractor:

The contractor has a contractual agreement with the owner/operator for the project installation as set forth in the construction plan. The contractor shall not make changes to the construction plan without NRCS review and owner/operator approval. The contractor shall comply with all applicable permits and conduct the work in a safe manner.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
WASHINGTON

# CONSTRUCTION SPECIFICATION

## CS-06 STRIPPING

### 6.1 SCOPE

The work shall consist of removing vegetation, topsoil and other undesirable materials from borrow areas and foundations for structures and earth fills.

### 6.2 GENERAL

The stripping shall extend to a depth as shown on the drawings. Excavated earth material deemed satisfactory by the technician may be used for earth fill. All waste material shall be disposed of in areas shown on the drawings or as directed by the technician. Stripped material suitable for topsoil shall be stockpiled and spread over disturbed areas as shown on the drawings or as directed by the technician.

+

### 3 STRIPPING FOUNDATIONS

All foundations for structures and/or earthfill shall be stripped of vegetation, roots and unconsolidated soil. The technician shall approve all stripped foundations prior to placement of earth fill and/or structures. The stripped surfaces shall be reasonably smooth and free of unconsolidated or loose soil. Unless otherwise shown on the drawings, the side slopes for foundations shall be 1:1, or flatter.

### 6.4 STRIPPING BORROW AREAS

The areas from which borrow is to be taken shall be stripped of vegetation, roots and other unsuitable material to a sufficient depth to expose material suitable for the earth fill.

# INSTRUCTION FOR USE OF WASHINGTON CONSTRUCTION SPECIFICATION (CS-11)

## EXCAVATION, COMMON

1. Applicability

Construction Specification CS-11 is applicable to all types of excavation not classified as rock. It may be applied to the excavation of core trenches, emergency spillways, outlet channels, supply channels, ditches, pipe trenches, surface drains, borrow area, and other areas to be excavated. This specification and Construction Specification CS-12 for Rock Excavation are the NRCS classifications for excavation.

2. Material Specifications

There are no material specifications complementary to Washington State Construction Specification CS-11.

3. Special Items to be Included on the Drawings:

a. Location, configuration and limits to be excavated including borrow sites.

b. The surface finish requirements.

c. Boring or test pit logs pertinent to all areas to be excavated, if subsurface information is available. Soil logs will identify the soil by the Unified Soil Classification System. Test logs shall include water table elevations and dates.

d. The location and limits of areas where the material may be used, if applicable.

e. The location and limits of the waste disposal areas, if applicable.

f. The location and limits of utility right-of-way or easements, if applicable.

g. Special requirements for dewatering, if applicable.

h. Special requirements for control of erosion, sedimentation water pollution, and air pollution.

i. Specify method measurement and payment, if applicable.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
WASHINGTON

# CONSTRUCTION SPECIFICATION

## CS-15 EARTH FILL, CLASS S

### 15.1 SCOPE

The work shall consist of the construction of compacted earth fills where the amount of compaction is specified by the performance of equipment.

### 15.2 MATERIALS

All fill material shall be obtained from the approved excavation or borrow areas. The selection, blending, routing and disposition of materials within the embankment shall be subject to the approval of the technician. Fill materials shall contain no frozen material and shall be free of organic and foreign material. Cobbles and rock fragments having a maximum lineal dimension of six inches and greater shall be removed from the fill prior to compaction. No fill shall be placed on a frozen surface.

### 5.3 FOUNDATION PREPARATION

After stripping, the foundation shall be sacrificed or plowed to a minimum depth of 2 inches. The foundation area shall then be bonded and compacted with the first layer of earth fill by the process used to place fill. All foundation and abutment surfaces shall not be steeper than 1:1 unless otherwise specified on the drawings.

### 15.4 PLACEMENT

All foundation excavation and/or preparation shall be completed before placing fill. The fill shall be placed such that the distribution of material is essentially uniform throughout the entire fill and is free from lenses, pockets, streaks, frozen soil or layers of materials differing substantially from surrounding material.

Equipment weighing 400 pounds or more per foot of width shall not be operated within 2 feet of any structure.

Fill shall be placed in approximately equal horizontal layers. Fill layer thickness before compaction shall not exceed 6 inches for machine compaction or 4 inches before compaction for hand-directed power tampers.

## 15.5 MOISTURE CONTENT

The moisture content at the time of compaction, shall be maintained within the limits to prevent dilatancy and bulking. In addition, specified moisture limits using ASTM D-698 may be shown on the drawings.

Fill material shall be brought to the allowed moisture condition before compaction. Material that is too wet or too dry is not allowed as fill material and shall be removed from the site.

If the top surface of a preceding layer or foundation is too dry, the surface shall be scarified and moistened prior to placement of fill material.

## 15.6 COMPACTION

The following is the minimum requirement for common types of compaction equipment. The compaction equipment to be used for the work is specified on the drawing.

(1) Sheepsfoot Roller

The sheepsfoot roller shall weigh 2500 per foot of width and have uniformly spaced 7-inch long tamping feet. The surface area of each layer shall receive a minimum of six passes of sheepsfoot roller. The maximum speed of the compaction equipment shall be 3 MPH.

(2) Pneumatic Rollers

The roller shall exert a force of not less than 60 PSI. The surface area of each layer shall receive a minimum of six passes of the pneumatic roller.

(3) Vibratory Rollers

The roller shall have a minimum weight of 10,000 pounds.and have a vibrating frequency of not less than 1000 vibrations per minute. The surface area of each layer shall receive a minimum of six passes of the vibratory roller.

(4) Construction Equipment

The minimum weight of the construction equipment shall be 40,000 pounds and the tracks or wheels shall traverse the entire surface of each layer. The maximum layer thickness shall be 4 inches before compaction.

## 15.7 STRUCTURES OR CONDUITS

The passage of heavy equipment shall not be allowed over cast-in-place conduits until 7 days after placement of the concrete. The passage of heavy equipment over conduits shall not be allowed until the height of the compacted backfill above the top surface of the conduit equals one-half the clear span width of the conduit, or two feet, whichever is greater.

Compaction of backfill adjacent to structures is governed by Construction Specification CS-17, Structural Backfill.

## 15.8 TESTING

The moisture content and the comparative effort of the fill may be tested by the NRCS technician during placement.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
WASHINGTON

CONSTRUCTION SPECIFICATION

CS-63 VEGETATION OF CONSTRUCTION SITES

63.1 SCOPE

The work shall consist of furnishing seed and fertilizer, seedbed preparation, and seeding of all area which was disturbed during construction or on specific areas which are shown or described on the drawing.

63.2 FERTILIZER

Fertilizer shall be applied at the minimum rates of 30 lbs/ac of actual nitrogen. Other elements may be applied at the rate as determined by soil testing. If the fertilizer is applied to the surface, it shall be mixed with the soil prior to seeding. If fertilizer other than nitrogen at the rate of 30 lbs/ac is to be applied, the fertilizer and application rate will be shown on the drawing.

3.3 SEED

The areas shall be seeded to a grass species or mixture of grasses or legumes at the rate of pure live seed per acre as shown on the drawing.

63.4 SEEDING

The seeding will be performed when moisture is adequate for germination and establishment. Prepare the seedbed as for pasture and hayland plantings as common for the climatic area. The seeding will be accomplished in the seeding dates as common for the area unless otherwise specified on the drawing.

When broadcasting, the seeded area will be mulched with 2,000 pounds of grain straw per acre. Grain straw will be used, unless other mulching material and application rate is shown on the drawing..

See attached Spec. 342 for Details

| | | |
|---|---|---|
| **S** | **1.5 SLOPE WETLANDS** | |
| **S** | 1.5.1 Characteristics of average slope of wetland:<br>Slope is1% or less *(a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance)* points = 3<br>Slope is 1% - 2% points = 2<br>Slope is 2% - 5% points = 1<br>Slope is greater than 5% points = 0 | |
| **S** | 1.5.2 The soil 2 inches below the surface is clay, organic, or smells anoxic (hydrogen sulfide or rotten eggs).<br>YES = 3 points NO = 0 points | |
| **S** | 1.5.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants:<br>*Choose the points appropriate for the description that best fit conditions in the wetland. Dense vegetation means you have trouble seeing the soil surface.*<br>Dense, ungrazed, herbaceous vegetation > 90% of the wetland area points = 6<br>Dense, ungrazed, herbaceous vegetation > 1/2 of area points = 3<br>Dense, ungrazed, herbaceous vegetation > 1/4 of area points = 1<br>Does not meet any of the criteria above for herbaceous vegetation points = 0 | |
| **S** | *Add the points in the boxes above* | |
| | **Opportunity Multiplier** (from question 1.1) | x_____ |
| **S** | **1.5 TOTAL Slope Wetlands -** For **Water Quality Improvement Functions**<br>Multiply the sum above by the "opportunity multiplier"<br>***Add score to total on p. 15*** | **NA** |
| | **Comments:** | |

| | 2. HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding, stream degradation, and shoreline erosion | Points |
|---|---|---|
| | **2.1 Opportunity multiplier –Depressional, Riverine, or Slope Wetlands:** Is the wetland in a landscape position where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? *(Answer NO if the major source of water is irrigation return flow or it controlled by a reservoir)*<br>**OR** for: (prior to restoration was flashy w/ excessive flows, now water spreads out)<br>**Lake-Fringe Wetlands:** Are there features along the shore that will be impacted if the shoreline erodes?<br>**YES** multiply score in 2.2, 2.3, 2.4 , or 2.5 **by 2**<br>**NO** multiply score in 2.2, 2.3, 2.4 , or 2.5 **by 1** | **x 2**<br>**or**<br>**x 1** |
| | *Answer the questions that are appropriate for the hydrogeomorphic class of the wetland* | |
| **D** | **2.2 DEPRESSIONAL WETLANDS** | |
| **D** | 2.2.1 Characteristics of surface water flows out of the wetland:<br>Wetland has no surface water outlet - points = 8<br>**Wetland has an intermittently flowing, or highly constricted, outlet – points = 4**<br>Wetland has a permanently flowing surface outlet – points = 0 | **4** |
| **D** | 2.2.2 Depth of storage during wet periods:<br>*Estimate the height of ponding above the surface of the wetland and record the appropriate points (see text for description of measuring height). In wetlands with permanent ponding, the surface is the lowest elevation of permanent water)*<br>Marks of ponding are at least 3 ft above the surface points = 8<br>Marks are at least 2 ft from surface OR the wetland is a "headwater" wetland" *(see text)* points = 6<br>**Marks are at least 1ft from surface (need to check in Aug./Sept.) points = 4**<br>Marks are at least 6 in. ft from surface points = 2<br>No marks above 6 in. evident; wetland has only saturated soils or very shallow ponding points = 0 | **4** |
| | ***Comments:*** | |
| **D** | *Add the points in the boxes above* | **8** |
| | **Opportunity Multiplier** (from question 2.1) | **x 2** |
| **D** | **2.2 TOTAL Depressional Wetlands-** For **Hydrologic Functions**<br>Multiply the sum above by the "opportunity multiplier"<br>***Add score to total on p. 15*** | **16** |

| | |
|---|---|
| *3. SCORE FOR INDICATORS OF HABITAT FUNCTIONS – add the points in the boxes above* | **15** |
| **Comments:** | |
| | |

| | |
|---|---|
| SCORE FOR WATER QUALITY IMPROVEMENT FUNCTIONS | **14** |
| SCORE FOR HYDROLOGIC FUNCTIONS | **16** |
| SCORE FOR HABITAT FUNCTIONS | **15** |
| **TOTAL** | **45** |
| **Category I = Score >70**<br>**Category II = Score 51-69**<br>**Category III = Score 30-50**<br>**Category IV = Score < 30** | Category **III** |

Attachment 9. List of plants and animals observed on the site.

**Subject:** flora and fauna list
**From:** AgScribe@aol.com
**Date:** Fri, 27 Feb 2004 16:47:29 -0500 (EST)
**To:** MFolsom@mail.cwu.edu

Subj: **Loon Lake wetland**
Date: *12/2/2002 1:46:24 PM Pacific Standard Time*
*From: PJOH461@ECY.WA.GOV (Johnson, Patricia) To: agscribe@aol.com (Ed Haag (agscribe@aol.com)) CC: CMER461@ECY.WA.GOV (Merker, Christopher R.)*
File: **LoonlakeWETLANDSRATINGFORM.doc** (271360 bytes) DL Time (TCP/IP): < 1 minute

> Ed,
>
> I have attached an electronic copy of the results of the draft eastern
> Washington wetland rating system rating of the Loon Lake wetland during
> our site visit on June 12, 2002. If you want the results of the old
> rating system I will have to fax or mail it to you, but it came out as a
> Category III on that form as well. Hope this helps.
>
> Plants observed:
> Epilobium spp. (willow herb)
> Phalaris arundinacea (reed canarygrass)
> Poa spp. (bluegrass)
> Bromus spp. (smooth brome)
> Carex spps. - at least 2 and possibly 3 (sedges)
> Alopecurus pratensis (foxtail)
  Potamogeton spp. (pond weed)
  Callitriche neglecta
> Eleocharis spp. (spike rush)
> Myosotis laxa (small-flowered forget-me-not)
>
> Critters observed:
> Killdeer - nesting
> Mallards - nesting
> Tree swallow
> Cliff swallow
> Cooper's hawk
> Blue birds (nesting in boxes)
> Phalaropes
> Northern shoveler
> Red-wing blackbird
> Brewers blackbird
> Golden eye
> Spotted sandpiper
> Snipe
> Sora
> American robin
> Deer
> Garter snake
>
> <>
>
> Patricia Johnson
> Washington Department of Ecology
  Shorelands and Environmental Assistance Program
  PO Box 47600
> Olympia, WA 98504-7600
> (360) 407-6140

Attachment 10. Stevens County Office of Planning. Environmental Check List.

STEVENS COUNTY
OFFICE OF PLANNING
ENVIRONMENTAL CHECKLIST

To the Applicant:

The Sate Environmental Policy Act (SEPA), chapter 43.21c RCW, requires to consider the environmental impacts of a proposal before making decisions.

This environmental checklist asks you to describe some basic information about your proposal. Agencies use this checklist to determine whether the environmental impact of your proposal are significant, requiring preparation of an Environmental Impact Statement (EIS). Please answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or a question does not apply to your proposal, write "do not know" or "does not apply". Complete answers to the question now may avoid unnecessary delays later.

The checklist question to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers to provide additional information reasonably related to determining if there may be significant adverse impact.

## A. BACKGROUND

1. Name of proposed projects, if applicable.

Haag Wetland Reserve Easement Restoration

2. Name of applicant: Ed Haag

3. Address of applicant 317West 16th Ave.

Spokane, WA Zip 99203 Telephone (509) 747-2908

4. Proposed timing or schedule (include phasing, if applicable):

Project is planned to begin October 15, 2001

5. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes, following excavation of a large shallow excavations in the wet pasture to diversify the wetland habitat and create water that will be present through the water fowl brood season the upland portion of the buffer around the restored wetland will be planted to native shrubs and trees in the Spring of 2002.

6. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

We are completing a JARPA applications on this project, a Hydraulic Permit will be applied for, and we are completing an archeological review of the site as required under NEPA.

7. List any applications for permits or authorizations which have been, or will be, submitted to local, state or federal agencies for the project or project area.

We are completing a JARPA applications on this project, a Hydraulic Permit will be applied for, and we are completing an archeological review of the site as required under NEPA.

8. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this from to include additional specific information on project description.)

This is a wetland enhancement project funded by a USDA Wetland Reserve Program (WRP) cost share agreement. The intent of the WRP is to take farmed wetland and restore the hydrology, thus restoring the wetland functions and values. The intent, making them the best wetland possible on the site. The program is basically a waterfowl program, however all other species are considered in the restoration activities. This restoration plan includes de-leveling to create additional open water through the water fowl broad season. By de-leveling, creating diverse micro-topography within the de-leveled areas for water depth diversity, maximum depth not over 4 feet. Most of the excavated material will be moved to upland sites off the farmed wetland. These sites will be re-vegetated to native, herbaceous, and woody vegetation.

9. Location of the proposal. Give sufficient information for a person to understand the precise location of you proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range area, provide the range and boundaries of the site(s). Provide a legal description

Located in Section 10, T. 29 N. R. 41 E. W.M. in Stevens County.

TO BE COMPLETED BY APPLICANT — EVALUATION FOR

## B. ENVIRONMENTAL ELEMENTS — AGENCIES USE ONLY

### 1. Earth

a. General description of the site (circle one): (Flat), Rolling, Hilly, Steep slope, Mountainous, other

Flat

b. What is the steepest slope on the site (approximate percent slope).

3 %

c. What general types of soils are found on the site (for example: clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Bridgeson silt loam

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

None

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

None

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, but all disturbed sites will be re-vegetated at the end of construction with dormant plantings of erosion control grasses.

g. About what percent of the site will be covered with impervious surface (for example: asphalt or buildings) after project construction?

None

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

All disturbed sites will be re-vegetated at the end of construction with dormant plantings of erosion control grasses.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Smoke from construction equipment like an excavator, dump trucks and a crawler tractor.

b. Are there any off-site source of emissions or odor that may affect your proposal? If so, generally describe.

None

c. Proposed measures to reduce or control emissions or other impacts to air, if any.

None

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-around and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

There is an intermittent stream that flows through the project area until about April or May, it is a tributary of Loon Lake. Construction will be off channel and during the time when no water is present on the site. The shallow excavation should have little or no impact on this tributary.

2) Will the project require any work over, in or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Excavation of the shallow ponds will be within 200 feet of this intermittent stream.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Approximately 7,000 cubic yards of material from the wet areas, to create the micro-topography described above. The excavated material will be moved to upland sites of f of the easement.

4) Will the proposal require surface water withdrawals or diversions? Give general descriptions, purpose, and approximate quantities if known.

No

5) Does the proposal lie within a 100 year flood plain? If so, note locations on the site plan.

Yes, see plan map.

6) Does the proposal involve any discharge of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No, the work is planned when there will be no water on the site.

2) Describe waste material that will be discharged in to the ground from septic tanks or other sources, if any (for example: Domestic sewage; Industrial, containing the following chemicals...; Agricultural; etc.). Describe the general size of the system, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

None

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (including quantities, if known). Where will this water flow? Will this water into other waters? If so, describe.

None

2) Could waste materials enter ground or surface waters? If so, generally describe.

No

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

All disturbed sites will be re-vegetated at the end of construction with dormant plantings of erosion control grasses.

4. Plants

a. Check or circle types of vegetation found on the site:

_____deciduous tree: alder, maple, aspen, other
_____evergreen tree: fir, cedar, pine, other
_____shrubs
XX____grass
XX____pasture
_____crops or grain
_____wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
_____water plants: water lily, eelgrass, milfoil, other
_____other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

All disturbed areas to be re-vegetated for erosion control and reduction of weed encroachment. Also entire Riparian zone will be planted to native woody vegetation in 2002.

c. List threatened or endangered species known to be on or near the site.

See Attached USFWS list of T & E species.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Entire riparian zone will be planted to native trees and shrubs, width about 35 feet each side of ordinary high water mark.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site, if any.

Birds: hawk, heron, eagle, songbird, other: _____
Animals: deer, bear, elk, beaver, other: _____
Fish: bass, salmon, trout, herring, shellfish, other: _____

b. List any threatened or endangered species known to be on or near the site.

See Attached USFWS list of T & E species.

c. Is the site part of a migration route? If so, explain.

Water fowl resting, feeding and some nesting.

d. Proposed measures to preserve or enhance wildlife, if any:

This is a wetland/wildlife enhancement project, entirely.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the complete project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

None

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

c. What kinds of energy conservation feature are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None

7. Environmental Health

a. Health Hazards. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

None

1) Describe special energy service that might be required.

None

2) Proposed measures to reduce or control environmental health hazards, if any.

None

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

.Vehicle traffic, only, some farm equipment, and logging equipment operating.

2) What types and levels of noise would be created by or associated with the project on a short-term basis or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Normal heavy equipment operation, this is in a remote area, nearest home is over ¼ mile away

3) Proposed measures to reduce or control noise impacts, if any:

None

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Hay land.

b. Has the site been used for agriculture? If so, describe.

Yes, as Hay land.

c. Describe any structures on the site.

None

d. Will any structure be demolished? If so, What?

None

e. What is the current zoning classification of the site?

Agricultural

f. What is the current comprehensive plan designation of the site?

g. If applicable, what is the current shoreline master program designation of the site?

Would be considered a wetland under the critical areas ordinance.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

Yes, this would fall under a Farmed Wetland Pasture under USDA classifications.

i. Approximately how many people would reside or work in the completed project?

None

j. Approximately how many people would the complete project displace?

None

k. Proposed measure to avoid or reduce displacement impacts, if any:

None

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

None

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

N/A

b. Approximately how many units, if any, would be eliminated? Indicate whether high middle or low-income housing,

N/A

c. Proposed measures to reduce or control housing impacts, if any?

N/A

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building materials(s) proposed?

N/A

b. What views in the immediate vicinity would be altered or obstructed?

N/A

c. Proposed measure to reduce or control aesthetic impacts, if any:

N/A

11. Light and Glare

a. What type of light or glare will the proposed produce? What time of day would it mainly occur?

N/A

b. Could light or glare from the finished project be a safety hazard or interfere with views?

N/A

c. What existing off site sources of light or glare may effect your proposal?

N/A

d. Proposed measures to reduce or control light and glare impacts, if any:

N/A

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Wildlife viewing, hiking.

b. Would the project displace any existing recreational uses? If so, describe.

No

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None, Project will enhance the wildlife habitat resulting in increased recreational opportunities.

13. Historic and Cultural Preservation

a. Are there any place or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None known, However, any findings during construction activities will be addressed under USDA policy.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None known, However, any findings during construction activities will be addressed under USDA policy.

c. Proposed measures to reduce or control impacts, if any:

Any cultural resources found during construction will stop the project, per USDA policy.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

N/A

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No

c. How many parking spaces would the complete project have? How many would the project eliminate?

N/A

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe ( indicate whether public or private).

None

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No

f. How many vehicular trips per day would be generated by the complete project? If known, indicate when peak volumes would occur.

N/A

g. Proposed measures to reduce or control transportation impacts, if any:

None

15. Public Service

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

N/A

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

N/A

c. Proposed measures to reduce or control direct impacts on public services, if any:

None

16. Utilities

a. Circle utilities currently available at the site: Electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None

## C. SIGNATURE

I, the undersigned, state that to the best of my knowledge the above information is true and complete. It is understood that the lead agency may withdraw any declaration of non-significance that it might issue in reliance upon this checklist should there be any willful misrepresentation or willful lack of full disclosure on my part.

Signature_____

Date Prepared_____

March 11, 2005

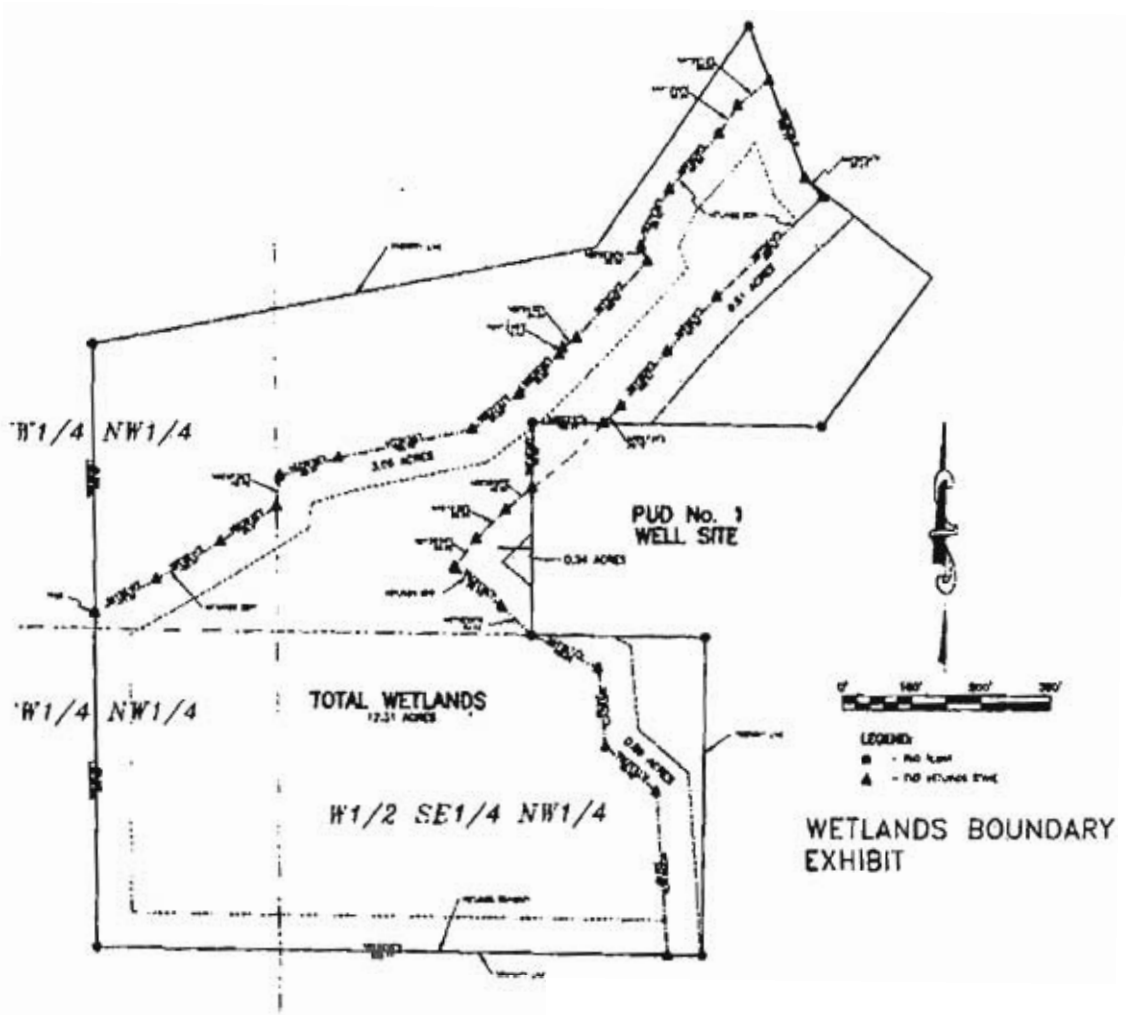
Legal Description
Wetlands Conservation Easement

That portion of the Northwest Quarter of Section 10, Township 29 North, Range 41 East, W.M. in the County of Stevens, State of Washington being more particularly described as follows:

Commencing at the Northwest corner of said Section 10; thence South along the west line of said section, a distance of 970.00 feet; thence East a distance of 1000.00 feet to its intersection with the East line of the West 1000.00 feet of said Northwest Quarter; thence South along said east line, a distance of 380.10 feet to the TRUE POINT OF BEGINNING; thence N61°30'19"E a distance of 101.05 feet; thence N60°28'41"E a distance of 109.60 feet; thence N58°35'22"E a distance of 95.07 feet; thence N06°47'36"E a distance of 42.78 feet; thence N73°09'08"E a distance of 89.36 feet; thence N77°51'53"E a distance of 196.76 feet; thence N53°11'27"E a distance of 85.93 feet; thence N46°33'59"E a distance of 79.82 feet; thence N26°13'48"E a distance of 10.63 feet; thence N54°34'32"E a distance of 24.84feet; thence N44°07'33"E a distance of 150.99 feet; thence N23°52'38"W a distance of 23.60 feet; thence N27°41'56"E a distance of 89.92 feet; thence N43°26'28"E a distance of 107.68 feet; thence N34°13'44"E a distance of 48.29 feet; thence N51°25'13"E a distance of 59.26 feet; thence S20°25'58"E a distance of 148.11 feet; thence S43°00'58"E a distance of 38.23 feet; thence S47°56'42"W a distance of 208.76 feet; thence S43°46'41"W a distance of 107.50 feet; thence S41°38'02"W a distance of 102.51 feet to its intersection with the North line of the PUD No.1 of Stevens County well site as shown on the survey recorded in Book 12 of Surveys, Page 93; thence N89°22'07"W along said line, a distance of 103.77 feet to the Northwest corner of said parcel; thence S00°37'23"W along the west line of said parcel, a distance of 92.92 feet; thence S52°20'57"W a distance of 48.55 feet; thence S46°16'29"W a distance of 60.83 feet; thence S37°30'25"W a distance of 50.96 feet; thence S51°01'58"E a distance of 86.14 feet; thence S47°18'37"E a distance of 60.10 feet to the Southwest corner of said PUD parcel; thence S64°28'13"E a distance of 108.55 feet; thence S05°12'18"E a distance of 111.62 feet; thence S50°07'53"E a distance of 96.52 feet; thence S03°59'44"E a distance of 232.69 feet to its intersection with the south line of the North 450.00 feet of the West Half of the Southeast Quarter of the Northwest Quarter of said Section 10; thence N89°22'40"W along said south line and along the south line of the North 450.00 feet of the Southwest Quarter of the Northwest Quarter of said section, a distance of 830.77 feet to its intersection with the east line of the West 1000.00 feet of said section; thence North along said east line, a distance of 471.50 feet to the true point of beginning.

Containing 12.31 acres more or less

PATRICK J. MOORE
STATE OF WASHINGTON
3/11/05
18091
REGISTERED
PROFESSIONAL LAND SURVEYOR
EXPIRES 12 08 /06




WETLANDS BOUNDARY EXHIBIT