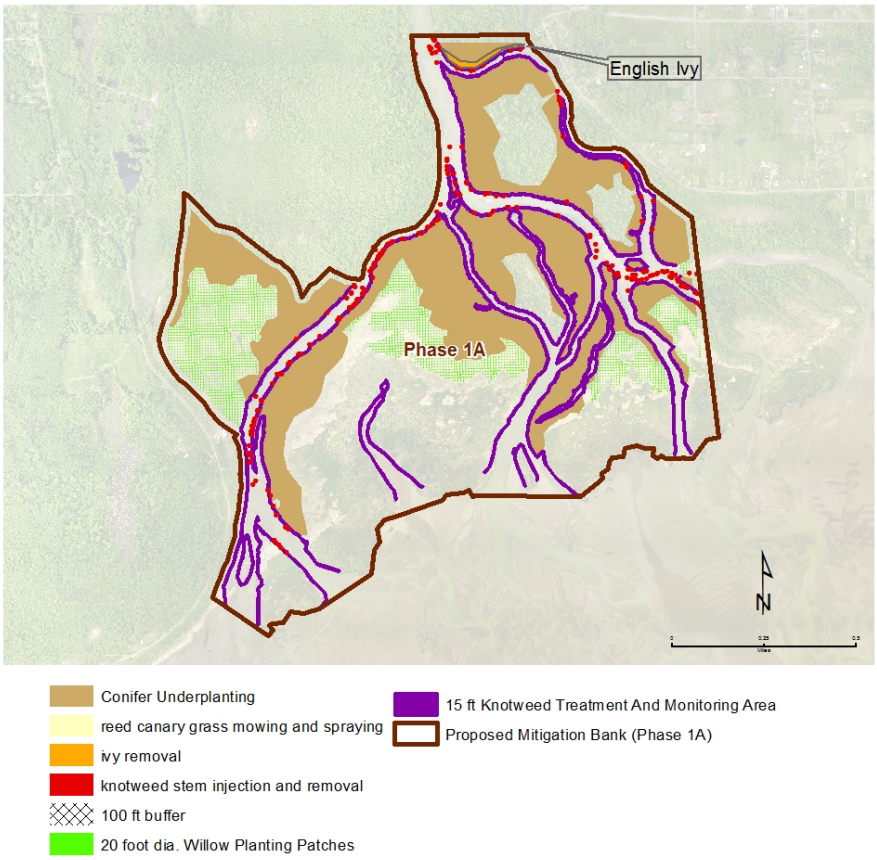
Lummi Nation Wetland and Habitat Mitigation Bank

2011 As-Planted Report
Phase 1A Nooksack Delta Site



Prepared For:

Interagency Review Team – Lummi Nation Wetland and Habitat Mitigation Bank

Prepared By:

Jeremy Freimund, P.H.	Lummi Nation Water Resources Manager
Michael Muscari, PWS	ESA Senior Wetland Ecologist
Frank Lawrence III	Lummi Nation Water Resources Specialist
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March 2013

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EXECUTIVE SUMMARY

Summary of 2011 Activities	
Name of Mitigation Bank	Lummi Nation Wetland and Habitat Mitigation Bank
Bank Phase	Phase 1A
U.S. Army Corps of Engineers Reference Number	NWS-2008-1519-SO
Bank Sponsor	Lummi Natural Resources Department
Project Lead	Jeremy R. Freimund, P.H.; Water Resources Manager; jeremyf@lummi-nsn.gov; 360-384-2212
Field Lead	Frank Lawrence III; Natural Resource Specialist; 360-384-2329
Contracted Technical Support	Michael Muscari, PWS; Senior Wetland Ecologist, ESA – Northwest Biological Research Group; 206-789-9658
Treatment Dates: Mowing Plots and Willow Planting	Mowing/Willow Planting Begins: March 23, 2011 Mowing/Willow Planting Completed: May 2, 2011
Treatment Dates: Mowing Reed Canarygrass Areas for 2012 Planting Season	Mow Area 1 (2.68 acres): July 26 – Aug. 1, 2011 Mow Area 2 (2.67 acres): Aug. 10 – Aug. 16, 2011
Treatment Dates: Herbicide Application Area 1 and Area 2	September 23-24, 2011
Treatment Dates: English Ivy Removal	October 17-21, 2011 December 6-13, 2011

INTRODUCTION

The purpose of this as-planted report is to document enhancement activities conducted during 2011 for Phase 1A of the Lummi Nation Wetland and Habitat Mitigation Bank (Bank). Phase 1A is located at the Nooksack Delta Site. This report is part of the documentation required to demonstrate attainment of the performance standards established in the Mitigation Banking Instrument (MBI). The Interagency Review Team (IRT) must review and approve the documentation as a condition of awarding and releasing additional Bank credits. The IRT award of credits will be reflected in a letter issued using IRT letterhead and signed by the IRT Chair (i.e., the U.S. Army Corps of Engineers, District Engineer or his/her designee).

Documentation of the Baseline Vegetation Conditions of the Nooksack Delta Site – Phase 1A was completed in December 2010 and accepted by the IRT. Because of the limited planting window and anticipation that the MBI would be executed during the second quarter of 2011, enhancement activities were initiated during the first quarter of 2011. Although the MBI was not executed until July 6, 2012, the IRT stated that the December 2010 Baseline Vegetation Conditions report would be the basis for evaluating attainment of the performance standards identified in the MBI.

PHASE 1A DESIGN PLAN SUMMARY

The enhancement design for the Phase 1A Nooksack Delta Site is focused on (1) removing and managing invasive plant species; and (2) increasing native plant species richness through planting native shrubs and coniferous trees. Following the weed control effort and plantings, the primary work on the site will involve monitoring and maintenance activities.

The Nooksack Delta Site Phase 1A enhancement design is comprised of the following elements in the general sequence that they will occur:

1. Designate and protect the land within the site through a conservation easement;
2. Eradicate or control invasive species;
3. Plant native conifer species within the deciduous forests; and
4. Monitor effectiveness of treatments and underplantings, and repeat as needed to meet performance standards.

The areas designated for the different wetland enhancement measures are shown on Figures 1 and 2. Specific design elements for the enhancement areas are summarized in Table 1 and described below.

Table 1. Enhancement Actions – Nooksack Delta Site Phase 1A

Type of Action	Approximate Area (acres)	Approximate Area (percent)
Wetland Enhancement (knotweed removal: treatment and monitoring area)	0.9	0.2
Wetland Enhancement (weed removal/willow planting: reed canarygrass, yellow flag iris)	101.2	26.6
Wetland Enhancement (weed removal: English ivy)	2.1	0.6
Wetland Enhancement (conifer underplanting)	275.7	72.6
Total Enhancement Area	379.9	100

BANK OBJECTIVES AND PERFORMANCE STANDARDS

The Bank's success will be measured by documenting progress toward achieving the objectives and associated performance standards identified in the MBI. The prescribed performance standards are intended to measure the success of the ecological restoration and enhancement efforts at the Bank. Only the Phase 1A performance standards related to the work performed in 2011 (Year 0) are described below.

Objective 1: Permanently protect aquatic ecosystem functions of the Nooksack Delta Site by instituting the MBI and implementing a conservation easement with permanent funding for site stewardship.

Performance Standard: The conservation easement and financial assurances are included in the MBI. The IRT approved the MBI on July 6, 2012 and the Conservation Easement was approved by all parties and recorded on October 17, 2012. The IRT released 19 credits on October 18, 2012.

Objective 2: Enhance ecological function by removing and managing reed canarygrass and yellow flag iris and replanting with native shrubs.

Performance Standard: Planting of willows in reed canarygrass and yellow flag iris treatment area (shrub plots) completed according to IRT approved plans. Documentation of performance standard achievement provided in as-planted reports (one for each of the anticipated four planting years) showing completed planting. The as-planted reports, which must be approved by the IRT, will include a species list, plant spacing and density, a global positioning system (GPS) map showing the center of each planting plot, and final planted acreages each year.

Objective 3: Enhance ecological function by removing and managing English ivy from a 2.1-acre forested area.

Performance Standard:

3A Cutting of English ivy and root pulling with hand tools in treatment area. Documentation will include GPS map showing the perimeter of the treatment area and photographs of removal operations.

PHASE 1A WORK COMPLETED IN 2011 (YEAR 0)

The areas where enhancement actions were completed in 2011 are shown on Figure 3 and summarized in Table 2. Work completed in 2011 includes removal of reed canarygrass and yellow flag iris, planting of willow stakes, and removal of English ivy. Some of the other actions shown in Figures 1 and 2 as potential areas for enhancement in the first year were not completed in 2011. For example, conifer underplanting was not conducted during 2011 because no suitable conifer plants were available from suppliers; a requisition/order and deposit were made during 2011 to ensure the availability of conifers for the 2012 planting season.

Table 2. Phase 1A Enhancement Actions Completed in 2011

Type of Wetland Enhancement Action	Area (acres)
Knotweed removal: treatment and monitoring area	0
Weed removal/willow planting: reed canarygrass, yellow flag iris	29.7
Weed removal: English ivy	2.1
Conifer underplanting	0
Total Enhancement Area 2011	**31.8**

Reed Canarygrass/Yellow Flag Iris Treatment and Willow Plantings

Work Completed in 2011

Work completed during 2011 includes 29.7 acres of reed canarygrass treatment and willow plantings. Willows were planted within 753 plots each measuring approximately 20 feet in diameter. The locations for the plots planted with willow stakes in 2011 were established in a grid pattern with 40-foot on center spacing using a Geographic Information System (GIS). The latitude and longitude of each of the plots was then loaded from the GIS into a mapping grade, hand-held global positioning system (GPS)

unit with a horizontal accuracy of ± 2 feet (Trimble GeoXT). The GPS unit was used to locate the plot centers in the field (see Figure 4). Each plot was designated with a unique identifier (WP001 – WP753) for data tracking purposes and a wood lathe with the unique identifier written on it was used to mark the plot center. Survey flagging was attached to the wood lathe to help field locate the plot centers.

Reed canarygrass within a radius of 10 feet of the plot center was mowed starting on March 23, 2011 using gas-powered brush cutters. Earlier access to the site was limited due to high river flows or unsuitable weather conditions. Following the mowing, live willow stakes were planted in the 20-foot diameter plots. Three species of willow stakes were planted: Pacific (*Salix lasiandra*), Sitka (*S. sitchensis*), and Hooker's (*S. hookeriana*). Stake spacing averaged 2 to 3 feet on center (approximately 57 stems per plot or 1,425 stems per acre).

A total of 42,000 willow stakes were planted within the 753 plots in 2011 over the March 23 through May 2, 2011 period. In some of the plots, the planting density was reduced due to unsuitable planting conditions (e.g., large woody debris, deep holes/excessive water depth) encountered in the field. Following the planting season, the GIS was used to draw a polygon around the planted plot locations, which had been located in the field using the GPS. Using this approach, the overall treatment area for 2011 was determined to be 29.7 acres. For comparison/validation purposes, at a planting density of approximately 1,425 stems per acre the 42,000 willow stakes would be enough to treat 29.5 acres. Similarly, at an average planting density of 25 plots per acre, the 753 plots equates to a treatment area of 30.12 acres.

Willow stakes were purchased from the Washington Conservation District plant materials center located in Skagit County (invoices and picklists are provided in Appendix B). Representative photographs of the weed treatment and willow stake plantings are shown in Figure 5.

During and after the mowing and planting effort, the utility of mowing the essentially dormant reed canarygrass prior to planting the willow stakes was questioned. Field visits during the summer months suggested qualitatively that the mowing effort had little or no effect on suppressing the reed canarygrass growth. That is, although no field measurements were collected to quantitatively evaluate the effectiveness of the mowing, the height of the reed canarygrass within the treated plots was not visibly distinguishable from the height of the reed canarygrass between the treated plots.

Because there were questions about the utility of mowing the plots prior to planting the willow stakes, two alternative planting methods were identified for the 2012 planting season. One identified approach was to just plant the willow stakes within the plot boundaries without mowing first. The second approach identified for the 2012 planting season was to treat an area with herbicide during the summer of 2011 and then plant the 20-foot diameter plots within the herbicide treated area during the spring of 2012.

A 2.68 acre area of the 2012 reedcanary grass planting area was mowed using hand-held brush cutters over the July 26 through August 1, 2011 period. An additional 2.67 acre area was mowed over the August 10 through August 16, 2011 period. The acreage that was mowed was determined by walking the boundary with the Trimble GeoXT GPS unit. The approximately 5.4 acres of mowed areas were allowed to regrow for about a month

and then both areas were treated by a licensed pesticide applicator over the September 23-24, 2011 period by spraying with the herbicide (Rodeo). As this area will be planted with willow stakes during the 2012 planting year, this treated area will be included in the acreage calculation for the 2012 as-planted report. The pesticide application record is provided in Appendix A.

Willow Plot Sampling

Performance standards for the willow planting plots include an increase in the plot diameter in later years. In order to provide a basis of comparison for the future diameters of the plots, the diameter of randomly selected plots was measured as described in the Mitigation Banking Instrument for Year 0 (2011). A sample of the plots (5% of total or 38 plots) was chosen at random for diameter measurements. Plots selected for sampling are shown in orange on Figure 4. The plot locations will also serve as permanent photo points; four photographs will be taken at each plot during future monitoring. Three measurements of the plot diameter were made at each sample plot and averaged for each plot. Diameter measurements were taken near the end of the growing season (October 2011) using a fiberglass tape stretched through the center of the plot (marked with wood lathe) and were made from the outermost portion of the willow stems.

The overall mean diameter of the 38 willow plots sampled in October 2011 was 20.2 feet (the standard error for between plot diameters was 2.6%). Results for each of the 38 plots are shown in Table 3.

The 38 sample plots are designated as permanent plots. The mean diameter for each individual plot will be the baseline used to compare with the mean diameter measured in Years 7 and 10. Performance standards for Year 7 include a 10% minimum increase in plot diameter for at least one-quarter of the plots. The minimum target diameters for the plots in Year 7 are shown in Table 3. Additional details, including error measurements are included in Appendix C.

Table 3. Willow Planting Plots Sampled in 2011 (5% of total shrub plots)

Station Name	Mean Diameter in Year 0 (ft)	Target Diameter (+10%) by Year 7 (ft)
WP014	20.4	22.4
WP058	21.2	23.3
WP075	21.7	23.9
WP115	21.4	23.5
WP191	21	23.1
WP199	20.8	22.9
WP220	21.5	23.7
WP243	20.4	22.5
WP294	20.1	22.1

Station Name	Mean Diameter in Year 0 (ft)	Target Diameter (+10%) by Year 7 (ft)
WP305	21.4	23.5
WP342	21.4	23.5
WP388	21.8	24
WP402	21.3	23.4
WP405	13.8	15.1
WP410	21	23.1
WP417	22.2	24.4
WP428	21.7	23.8
WP435	20	22
WP440	21	23.1
WP465	19.3	21.3
WP466	19.5	21.4
WP501	19	20.9
WP515	19	20.9
WP528	18.6	20.5
WP531	17.6	19.4
WP542	20.7	22.8
WP608	18.7	20.6
WP653	16.8	18.5
WP692	20.4	22.4
WP698	20.7	22.7
WP701	21	23.1
WP730	21.3	23.4
WP742	19.1	21
WP768	19.5	21.5
WP770	18.5	20.4
WP784	20.1	22.1
WP791	22	24.2
WP804	20.2	22.2

English Ivy Removal

The perimeter of the English ivy infestation area (2.1 acres) was surveyed using the Trimble GeoXT GPS unit. Baseline sampling in 2011 within the English ivy treatment area provides a measure of the area covered by this species. Figure 6 shows the perimeter of the English ivy infestation and the location of randomly established transects and sample plots used to estimate cover.

Following the baseline monitoring, English ivy was removed from the 2.1-acre treatment area using hand tools. Aboveground material was cut and roots were grubbed out where possible. All material was removed from the site and disposed of at an offsite location. Figure 7 shows photographs of the ivy removal area prior to removal efforts. Observations during 2012 indicate that some spot herbicide applications will be needed to further control the infestation.

The cover estimates taken along monitoring transects will be used to record progress toward meeting performance standards for English ivy in later years (Years, 3, 5, 7, and 10).

FIGURES

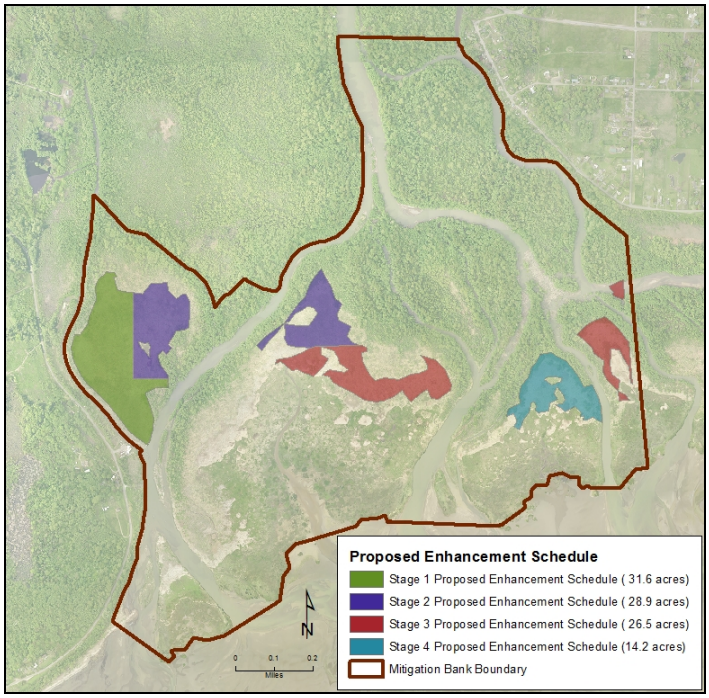

Figure 1. Proposed Reed Canarygrass Treatment Areas (Phase 1A)

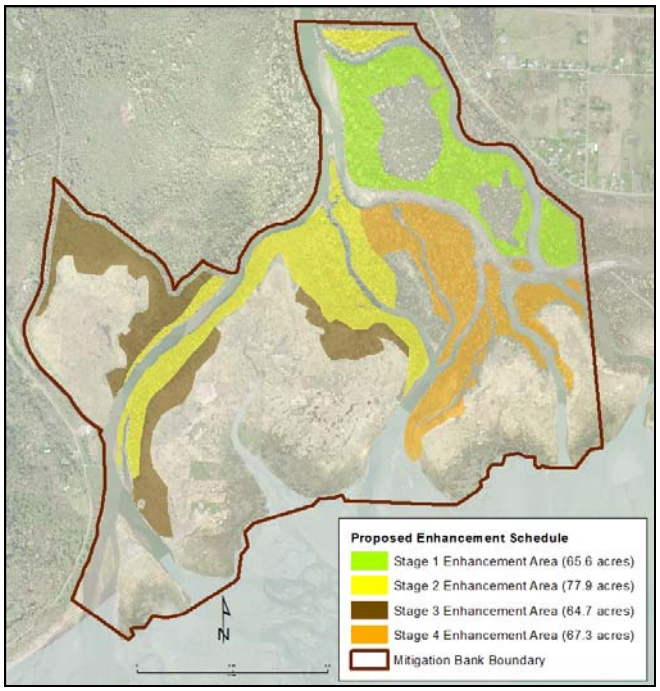

Figure 2. Proposed Conifer Underplanting Areas (Phase 1A)

Figures 1 and 2 are presented for reference to the proposed 4-year enhancement schedule. Full sized images and further details are provided in the MBI.

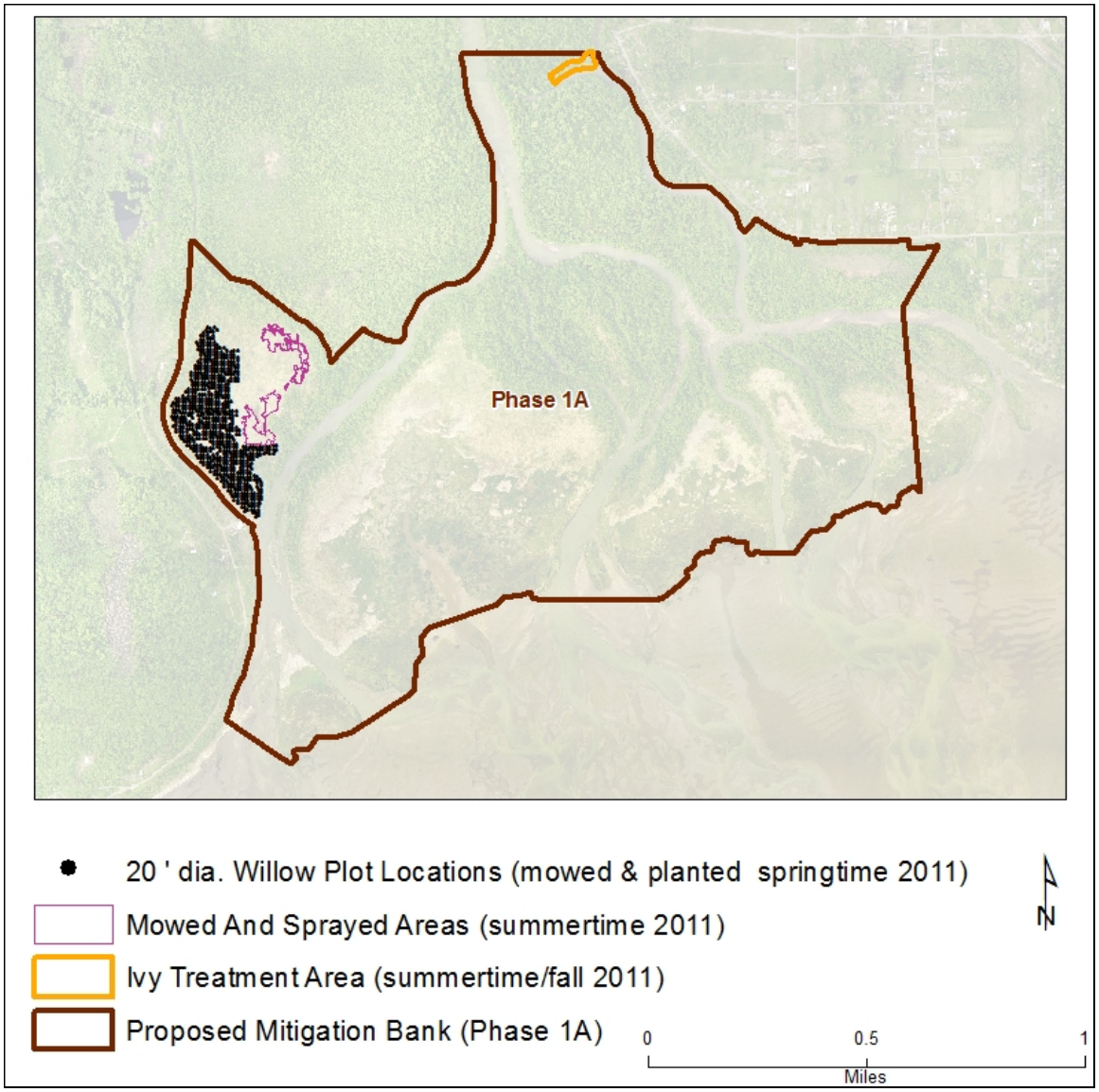

Figure 3. Enhancement Actions Completed in 2011

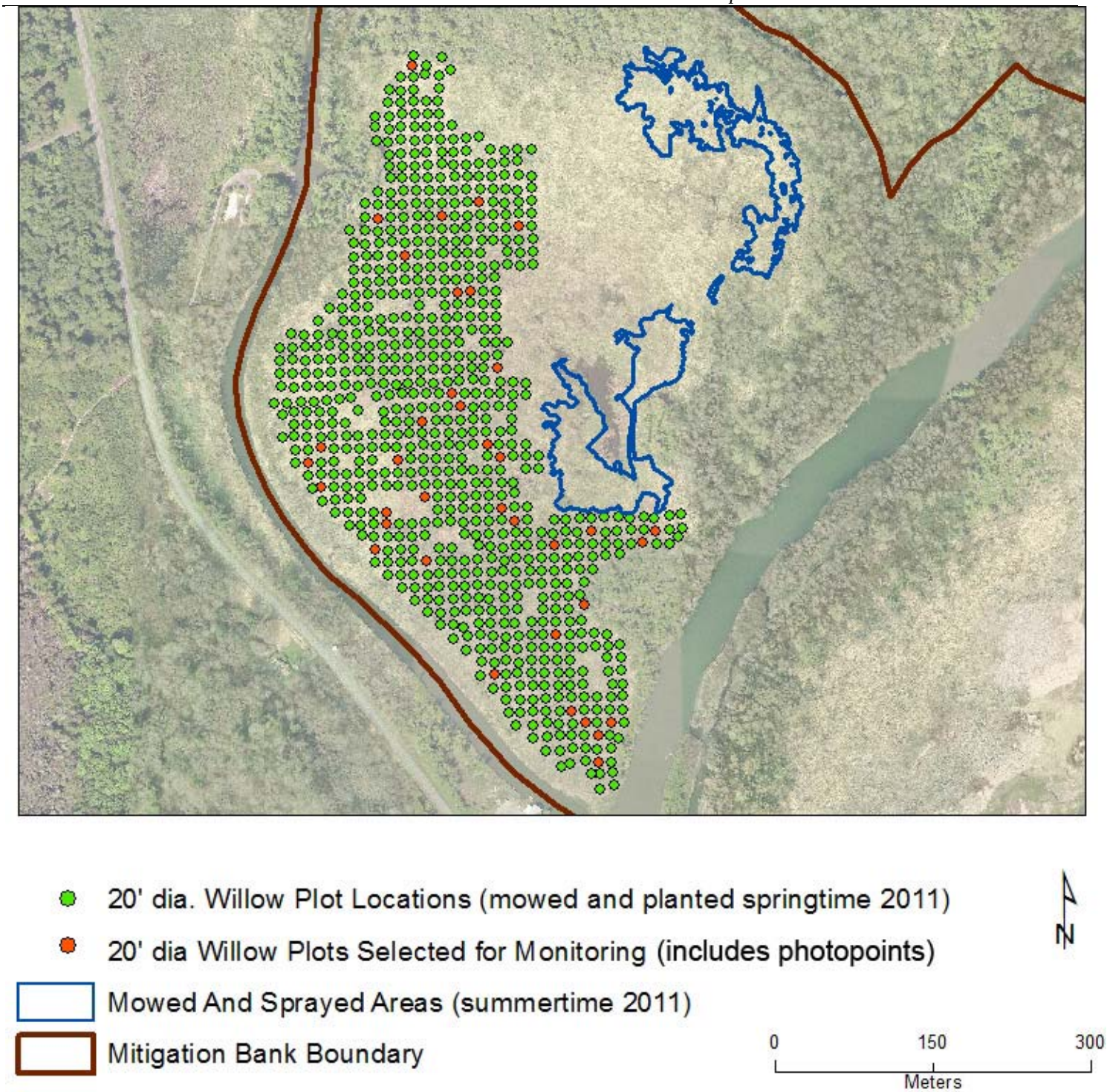

Figure 4. Reed Canarygrass/Yellow Flag Iris Treatment/Willow Plantings 2011

Photograph taken in May 2011 showing a typical willow planting plot. A lathe with blue flagging marks the center of the 20-foot-diameter plot. Willow stakes are spaced on average 2 to 3 feet on center. Reed canarygrass had regrown several inches after being mowed earlier in the spring.

Photograph taken in May 2011 showing a typical willow planting plot. Dead willows in background were part of the large die-off that occurred in 2004.

Figure 5. Photographs of Willow Planting Plots

Photograph taken in July 2011 showing several inches of new growth on willow stake. Reed canarygrass cover did not appear to noticeably affect willow growth.

Photograph taken in October 2011 showing a typical willow planting plot. Willow stakes show several inches of new growth within the reed canarygrass and occasional cattail. Willows in background are naturally occurring.

Figure 6. Photographs of Willow Planting Plots

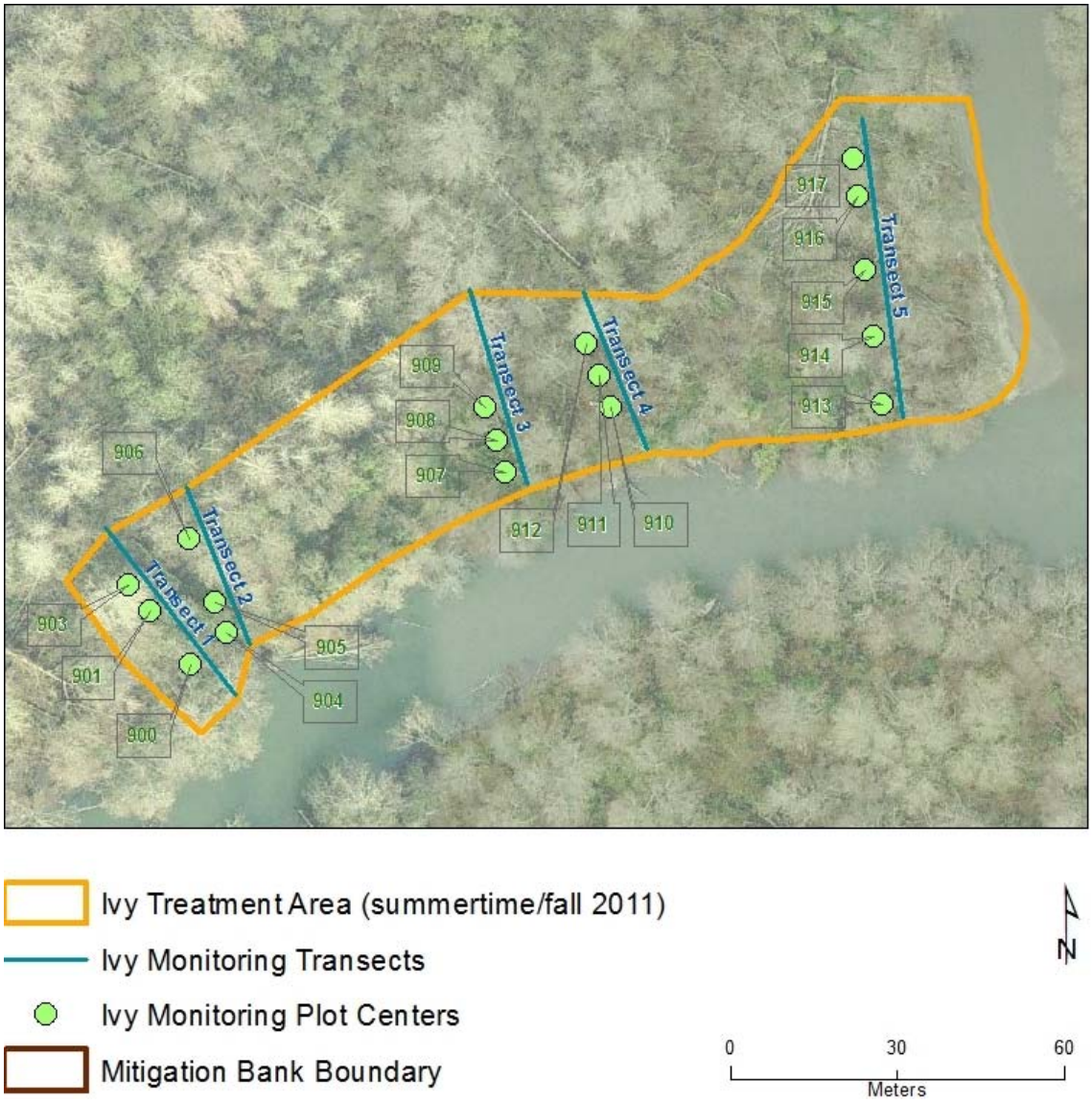

Figure 7. English Ivy Removal Area

Photograph taken in summer 2011 looking north at shoreline of English ivy removal area. Ivy was growing up into several trees.

Photograph taken in summer 2011 showing typical ground conditions within English ivy removal area.

Figure 8. Photographs of English Ivy Removal Area

APPENDIX A: PESTICIDE APPLICATION RECORD

Washington State Department of Agriculture
Pesticide Management Division
PO Box 42560
Olympia WA 98504-2560
(877) 301-4555

PESTICIDE APPLICATION RECORD (Version 1)

NOTE: This form must be completed same day as the application and it must be retained for 7 years (Ref. chapter 17.21 RCW)

1. Date of Application - Year: 2011 Month: September 23/24 Day: 23/24 Start Time: 12pm / 9:30 am
   Stop Time: 3:40pm / 4:55pm
2. Name of person for whom the pesticide was applied: Jeremy Freimund / Frank Lawrence
   Firm Name (if applicable): Lummi Natural Resources
   Street Address: 2616 Kwina Road City: Bellingham State: Wa Zip: 98226
3. Licensed Applicator's Name (if different from #2 above): Nick Saling License No.: 65719
   Firm Name (if applicable): Conservation Contracting Tel No.: 360-756-8050
   Street Address: 2824 Madrona St City: Bellingham State: Wa Zip: 98225
4. Name of person(s) who applied the pesticide (if different from #3 above):
   License No(s). If applicable:
5. Application Crop or Site: Reed Canary grass - spray to wet
6. Total Area Treated (acre, sq. ft., etc.): 5.35 acres / 2.68+2.67 acre plots
7. Was this application made as a result of a WSDA Permit? ☒ No ☐ Yes (If yes, give Permit No.) #
8. Pesticide Information (please list all information for each pesticide, including adjuvants (buffer, surfactant, etc.), in the tank mix):

a) Full Product Name	b) EPA Reg. No.	c) Total Amount of Pesticide Applied in Area Treated	d) Pesticide Applied/Acre (or other measure)	e) Concentration Applied
Rodeo	62719-324	4gal	/	1.5%
Li 700 surfactant	34704-04007	55oz	/	
High light Blue		28 oz	/	
			/	
			/	

9. Address ***or exact location*** of application. NOTE: If the application is made to one acre or more of agricultural land, the field location must be shown on the map on page two of this form.
   2.67 acre plot and 2.68 acre plot center point of 48.46.37.84N 122.36.01.86 W Habitat Restoration Site on the Nooksack river delta.
10. Wind direction and estimated velocity (mph) during the application: 10 mph South Sept 23 / calm Sept 24th
11. Temperature during the application: 71F
12. Apparatus license plate number (if applicable):
13. ☐ Air ☐ Ground ☐ Chemigation
14. Miscellaneous Information:

AGR FORM 640-4226 (R/4/07) Page 1 of 3

Herbicide Application Report

For Lummi Nation Restoration Site

Assessment Restoration Monitoring

Activity: Herbicide application
Activity Dates: September 23rd – September 24th, 2011
Site: Lummi Nation Habitat Restoration Area 2.67/2.68 acre sites

Jeremy,
Here are some notes to accompany a copy of the WSDA application report.

Utilizing the onsite water was almost more trouble than it was worth with this small work window. We strained and fabric filtered the water we used to reduce turbidity as much as was feasible. If I were to do this again I would request that your crew pre -stage water (pre settle and filter a supply ample for the work) which can in turn save some project cost. Preparing water is an extra effort that needs to be planned well in advance for in other phases of your work in this remote location.
The site water quality was a good as we could make it – most of it had a tannin color and was not perceptibly turbid but as access to the water changed locations turbidity became more of an issue. As we discussed this has an unknown impact on the efficacy of the herbicide application.
Although we brought water in each day as well – you can only haul so much water in to a site like this and still have the energy required to do the application work. Jean worked extremely hard filtering water to keep up with the crew demands and she also staged supplies. Frank was trained to apply and joined the four applicators and myself.

The other consideration for utilizing herbicide as part of site prep is that follow up applications are typical for this type of grass and if at all possible lofting or tilling of the site between applications will produce the best results. The thatch of dead grasses harbors unseen shoots/rhizomes and seed. A follow up application during maintenance of the site is advised while shielding the plant materials from over spray.
I am confident that this application will substantially impact the reed canary grass on site but whether or not the impact will persist long enough to reduce maintenance costs I cannot tell.

The weather was very good during the application with optimal temperature and little wind. The application was dry at approximately 6 pm on the 24th and rain did not arrive until sometime early the 25th. Rodeo is rain fast after 6 hours.

The herbicide application proceeded as planned for the most part. The lack of support personnel was inconvenient but I was able to back fill with my people to maintain the effort and get the application completed.
Frank and Jean are very dedicated and hard working; their work was instrumental in getting this work completed and I think everyone involved with this element of the project learned a lot about the complexities of working in this remote terrain – I certainly did.

Monitoring the efficacy of this application should bear out the best plan of action for future phases of this project. I intend to go inspect the site in 2 or 3 weeks with Frank.

Nick Saling, Conservation Contracting

1 | CONSERVATION CONTRACTING

APPENDIX B: INVOICES

WACD Plant Materials Center
16564 Bradley Road
Bow, WA 98232
USA

Voice: 360-757-1094
Fax: 360-757-3923

INVOICE

Invoice Number: 11-344-Final
Invoice Date: Mar 28, 2011
Page: 1

Bill To:	Ship to:
Lummi Natural Resources - Jeremy Attn: Jeremy Freimund 2616 Kwina Road Bellingham, WA 98226 USA	Water Resources Division Attn: Jeremy Freimund 2616 Kwina Road Bellingham, WA 98226 USA

Customer ID	Customer PO	Payment Terms	
8515.5	PO #118742	Net 30 Days	
Sales Rep ID	**Shipping Method**	**Ship Date**	**Due Date**
GauthierJ	Best Way		4/27/11

Quantity	Description	Unit Price	Amount
10,500.00	WW-Hooker Willow (Salix hookeriana) WW, 36" cutting	0.55	5,775.00
5,200.00	WW-Pacific Willow (Salix lasiandra) WW, 36" cutting	0.55	2,860.00
5,300.00	WW-Sitka Willow (Salix sitchensis) WW, 36" cutting	0.55	2,915.00

OK to Pay
- see attached Pick List Report
- Picked up by Frank Lawrence III on March 28, 2011
Jeremy Freimund 4/1/2011

	Subtotal	11,550.00
	Sales Tax	
	Total Invoice Amount	11,550.00
Check/Credit Memo No:	Payment/Credit Applied	
	TOTAL	11,550.00

3/28/11 at 08:30:34.14 Page: 1

WACD Plant Materials Center

Picklist Report

As of Mar 28, 2011

Filter Criteria includes: 1) Sales Order Numbers from 11-344 to 11-344. 2) Includes Drop Shipments. 3) Net Quantity. Report order is by Customer ID. Report is printed in Detail Format.

Customer Customer ID Sales Order Number	Qty on Order		Line Description
Lummi Natural Resources - Jer	10500.00	10500	WW-Hooker Willow (Salix hookeriana) WW, 36" cutting
8515.5	5200.00	5200	WW-Pacific Willow (Salix lasiandra) WW, 36" cutting
11-344	5300.00	5300	WW-Sitka Willow (Salix sitchensis) WW, 36" cutting
	21000.00		

A-OK

25 +40 bags hooker

WACD Plant Materials Center
16564 Bradley Road
Bow, WA 98232
USA

Voice: 360-757-1094
Fax: 360-757-3923

INVOICE

Invoice Number: 11-399-Final
Invoice Date: Apr 14, 2011
Page: 1

Bill To:	Ship to:
Lummi Natural Resources - Lawrence, F Attn: Frank Lawrence 2616 Kwina Road Bellingham, WA 98226	Lummi Natural Resources - Frank L Attn: Frank Lawarence 2616 Kwina Rd. Bellingham, WA 98226 USA

Customer ID	Customer PO	Payment Terms	
L1240.2		Net 30 Days	
Sales Rep ID	**Shipping Method**	**Ship Date**	**Due Date**
GauthierJ	Best Way		5/14/11

Quantity	Description	Unit Price	Amount
4,300.00	WW-Pacific Willow (Salix lasiandra) WW, 36" cutting	0.55	2,365.00
11,700.00	WW-Hooker Willow (Salix hookeriana) WW, 36" cutting	0.55	6,435.00
5,000.00	WW-Sitka Willow (Salix sitchensis) WW, 36" cutting	0.55	2,750.00

OK to pay
- See attached Pick list Report
- Picked up by Frank Lawrence on April 14, 2011
Jeremy Freed 6/28/2011

P.O. # 118942

Subtotal	11,550.00
Sales Tax	
Total Invoice Amount	11,550.00
Payment/Credit Applied	
TOTAL	**11,550.00**

Check/Credit Memo No:

3/30/11 at 09:41:22.68 Page: 1

WACD Plant Materials Center

Picklist Report

As of Mar 30, 2011

Other Criteria includes: 1) Sales Order Numbers from 11-399 to 11-399, 2) Includes Drop Shipments, 3) Net Quantity. Report order is by Customer ID. Report is printed in Detail Format.

Customer Customer ID Sales Order Number	Qty on Order		Line Description
Lummi Natural Resources - Fra	4300.00	4300	WW-Pacific Willow (Salix lasiandra) WW, 36" cutting
85153	11700.00	11700	WW-Hooker Willow (Salix hookeriana) WW, 36" cutting
11-399	5000.00	5000	WW-Sitka Willow (Salix sitchensis) WW, 36" cutting
	21000.00		

APPENDIX C: YEAR 0 SHRUB PLOT DIAMETERS

Shrub Planting Plots Sampled at Nooksack Delta Phase 1A site in 2011 (5% of total shrub patches)

StationName	Mean	Stdev	StdErr	Precision_Percent	CountOfMetricValue	Year 7 target diameter (+10%)
WP058	21.2	0.45	0.15	1.4	3	23.3
WP075	21.7	0.87	0.29	2.6	3	23.9
WP014	20.4	1.55	0.52	5	3	22.4
WP199	20.8	0.15	0.05	0.5	3	22.9
WP191	21	0.52	0.17	1.6	3	23.1
WP220	21.5	1.35	0.45	4.1	3	23.7
WP294	20.1	0.8	0.27	2.6	3	22.1
WP115	21.4	0.76	0.25	2.3	3	23.5
WP243	20.4	0.51	0.17	1.6	3	22.5
WP305	21.4	0.61	0.2	1.9	3	23.5
WP531	17.6	3.86	1.29	14.3	3	19.4
WP501	19	0.78	0.26	2.7	3	20.9
WP528	18.6	0.56	0.19	2	3	20.5
WP402	21.3	0.56	0.19	1.7	3	23.4
WP410	21	1.07	0.36	3.3	3	23.1
WP428	21.7	0.49	0.16	1.5	3	23.8
WP515	19	1.04	0.35	3.6	3	20.9
WP435	20	3.52	1.17	11.5	3	22.0
WP405	13.8	1	0.33	4.8	3	15.1
WP417	22.2	1.54	0.51	4.5	3	24.4
WP342	21.4	0.95	0.32	2.9	3	23.5
WP465	19.3	1.67	0.56	5.7	3	21.3
WP542	20.7	1.21	0.4	3.8	3	22.8
WP466	19.5	2.8	0.93	9.4	3	21.4
WP440	21	0.4	0.13	1.3	3	23.1
WP608	18.7	3.74	1.25	13.1	3	20.6
WP388	21.8	0.17	0.06	0.5	3	24.0
WP653	16.8	2.9	0.97	11.3	3	18.5
WP804	20.2	1.96	0.65	6.4	3	22.2
WP698	20.7	0.68	0.23	2.2	3	22.7
WP692	20.4	0.25	0.08	0.8	3	22.4
WP701	21	0.06	0.02	0.2	3	23.1
WP730	21.3	1.31	0.44	4	3	23.4
WP742	19.1	1.52	0.51	5.2	3	21.0
WP768	19.5	0.81	0.27	2.7	3	21.5
WP770	18.5	1.48	0.49	5.2	3	20.4
WP791	22	0.36	0.12	1.1	3	24.2
WP784	20.1	0.2	0.07	0.7	3	22.1