



To: Melissa Curran Mary Gansberg From:

Wisconsin Department of

Natural Resources 2984 Shawano Avenue Green Bay, WI 54313

File: AIS Grant AIRR-165-14

Stantec Project 193703791

Stantec Consulting Services Inc.

1165 Scheuring Road De Pere, WI 54115

Date: February 28, 2016

Reference: Aquatic Invasive Species Control Grant AIRR-165-14 – Project Summary

Little Manitowoc River, Manitowoc County, Wisconsin

Lakeshore Natural Resource Partnership (LNRP) was awarded grant funding in 2013 (AIRR-165-14) to treat the invasive European subspecies of common reed grass (Phragmites australis subsp. australis) within the Little Manitowoc River Restoration Project Area (the "Project Area"). This technical memorandum summarizes results of invasive treatments performed under the Aquatic Invasive Species (AIS) Control Grant for Early Detection and Response awarded to LNRP. The following sections provide background information, treatment results and a discussion of treatment success.

BACKGROUND

The Project Area is situated along the Little Manitowoc River from County Road B to its confluence with Lake Michigan near Maritime Drive in the City of Manitowoc, Manitowoc County, Wisconsin. The Project Area encompasses more than 1.5 miles of stream and 232 acres of adjacent habitat, and includes land owned by the City of Manitowoc. Two community parks (Indian Creek Park and Lincoln Park Zoo and Conservancy) and one special use facility (Little Manitowoc River Walkway) are located within the Project Area (Figure 1). The Project Area is bordered on the north by Albert Drive, on the west by County Road B (N. 8th St.), and on the southeast by Lake Michigan. The Project Area is bordered by a golf course on the east and by residential properties on the southwest. State Highway 42 and Reed Avenue bisect the southern portion of the project area. Currently, some portions of the Project Area are accessible to the public via paved walkways and mowed paths. Additional recreational trails are proposed. A variety of amenities and recreational opportunities are available within the three public properties that comprise the Project Area, as detailed below.

Indian Creek Park comprises 46.41 acres of partially wooded, rolling terrain along the Little Manitowoc River. The park features a natural spring and offers opportunities for hiking, birdwatching, and other outdoor activities.

Lincoln Park Zoo and Conservancy is the largest park in the City of Manitowoc, comprising 115 acres, including a zoo, picnic areas, tennis courts and 45 acres of conservancy land.

Little Manitowoc River Walkway is a 5.24-acre special use facility located along the Little Manitowoc River and Lake Michigan. This site offers scenic vistas, wildlife areas and passive recreational amenities such as paved walkways, fishing areas, benches, picnic areas, parking and wildlife viewing areas.

In November 2012, Stantec completed a riparian habitat assessment within the Project Area for purposes of identifying, documenting, and mapping community types, assessing habitat quality, and mapping problematic invasive plant species. This baseline information was used in developing



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Little Manitowoc River, Manitowoc County, Wisconsin

management strategies for the Little Manitowoc Coastal Wetland Restoration project. The majority of the Project Area remains undeveloped and includes a variety of vegetation types consisting of both native and non-native plant assemblages. Invasive common reed grass occupies approximately 3.5 acres within the Project Area (see Figures 1-3).

MANAGEMENT RESULTS

Invasive common reed grass within the Project Area was assessed annually and treated with aquatic-approved herbicides by Stantec staff from 2013 to 2015. The City of Manitowoc was tasked with removing the dead Phragmites stems by cutting and/or burning post treatment. After the initial treatment in 2013, Fireman from the City of Manitowoc and Silver Creek performed burns at three treatment locations within Indian Creek Park during the week of May 4, 2014. The burns effectively removed the standing dead Phragmites to encourage regrowth and make follow-up treatments easier. Additional burns and/or mowing were not necessary during subsequent years.

All chemical treatments were performed by certified and licensed pesticide applicators within the state of Wisconsin for aquatic applications. Treatment occurred when the plants were preparing for dormancy and were most susceptible to herbicide action (typically August through October).

Foliar application techniques utilizing low volume backpack sprayers and UTV (Utility Task Vehicle) mounted sprayers were used as the primary method of treatment within the Project Area. The foliar application method is advantageous where invasive common reed grass density is high, the target vegetation is greater than 8 ft. in height, and potential to impact sensitive resources is low. Table 1 provides details regarding the treatment dates, locations, methods and herbicide concentrations.

Table 1. Invasive Common Reed Grass Treatment Summary

Treatment Date(s)	Location (see attached figures)	Treatment Method	Trade Name, Concentration, Total Herbicide Volume Applied	Assessment/Treatment Notes
10/16/13 10/17/13	Nine polygons totaling approximately 3.5 acres	Foliar	Habitat 1% 315 fl. oz.	Initial treatment of small to large common reed grass monocultures.
9/19/14 9/22/14	Several polygons with scattered stems – approximately 1000+ stems	Foliar	Habitat 1.5% 176 fl. oz.	2013 treatment successful at reducing dense monoculture. 2014 treatment included several new patches in addition to initial treatment area.
9/17/15	Several polygons with scattered stems – approximately 1000+ stems	Foliar	Habitat 1% 20 fl. oz.	2015 treatment included several new patches in addition to initial treatment area. Continued treatment beyond 2015 is recommended.



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Overall the abundance and distribution of invasive common reed grass has been significantly reduced as a result of treatment efforts. Scattered stems were still observed in 2015, suggesting that three years of chemical treatment is not sufficient to effectively eradicate this species from the Project Area.

DISCUSSION

Stantec performed invasive common reed grass herbicide treatments within the Project Area on behalf of LNRP with support of their WDNR AIS Early Detection and Response grant funding. Treatments were initiated in fall 2013 to treat monocultures of invasive common reed grass observed during a site reconnaissance visit performed in November, 2012. Total invasive common reed grass acreage within the Project Area was initially estimated at 3.5 acres. Follow-up treatments were performed in 2014 and 2015 to target re-growth and newly-identified populations. The location and approximate number of stems were recorded annually during the follow-up treatments in an effort to evaluate the previous year's success (Figures 2 and 3). A significant decrease in the number of invasive common reed grass stems was noted in many of the populations; however, most populations required some level of follow-up treatment annually. Additionally, new populations continued to emerge adjacent to actively treated areas. In order to successfully control invasive common reed grass for the long term, Stantec recommends LNRP continue monitoring the Project Area for invasive common reed grass and perform ongoing, long term treatment to continue the efforts initiated as part of this project.

Please contact me or Jim Kettler (920-304-1919, jim@lnrp.org) if you need any additional information regarding the invasive treatments performed as a part of this project.

STANTEC CONSULTING SERVICES INC.

Melissa Curran

Environmental Scientist/Botanist

Phone: (920) 592-8400 Fax: (920) 592-8444

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Attachments: Photographs

Figures 1-3

Treatment Records

c. Jim Kettler (jim@lnrp.org) – electronic copy





Photo 1. Illustrating 2013 treatment area



Photo 2. Pre-treatment conditions in 2013



Photo 3. Pre-treatment conditions in 2013, adjacent to Lincoln Park Zoo



Photo 4. Second year (2014) treatment conditions. Site mowing and burning completed by City of Manitowoc.



Photo 5. Second year (2014) - Note re-growth from burned area.



Photo 6. Second year (2014) treatment conditions. Note standing dead stems near Zoo.



Photo 7. Third year (2015) treatment conditions. Note standing dead stems.



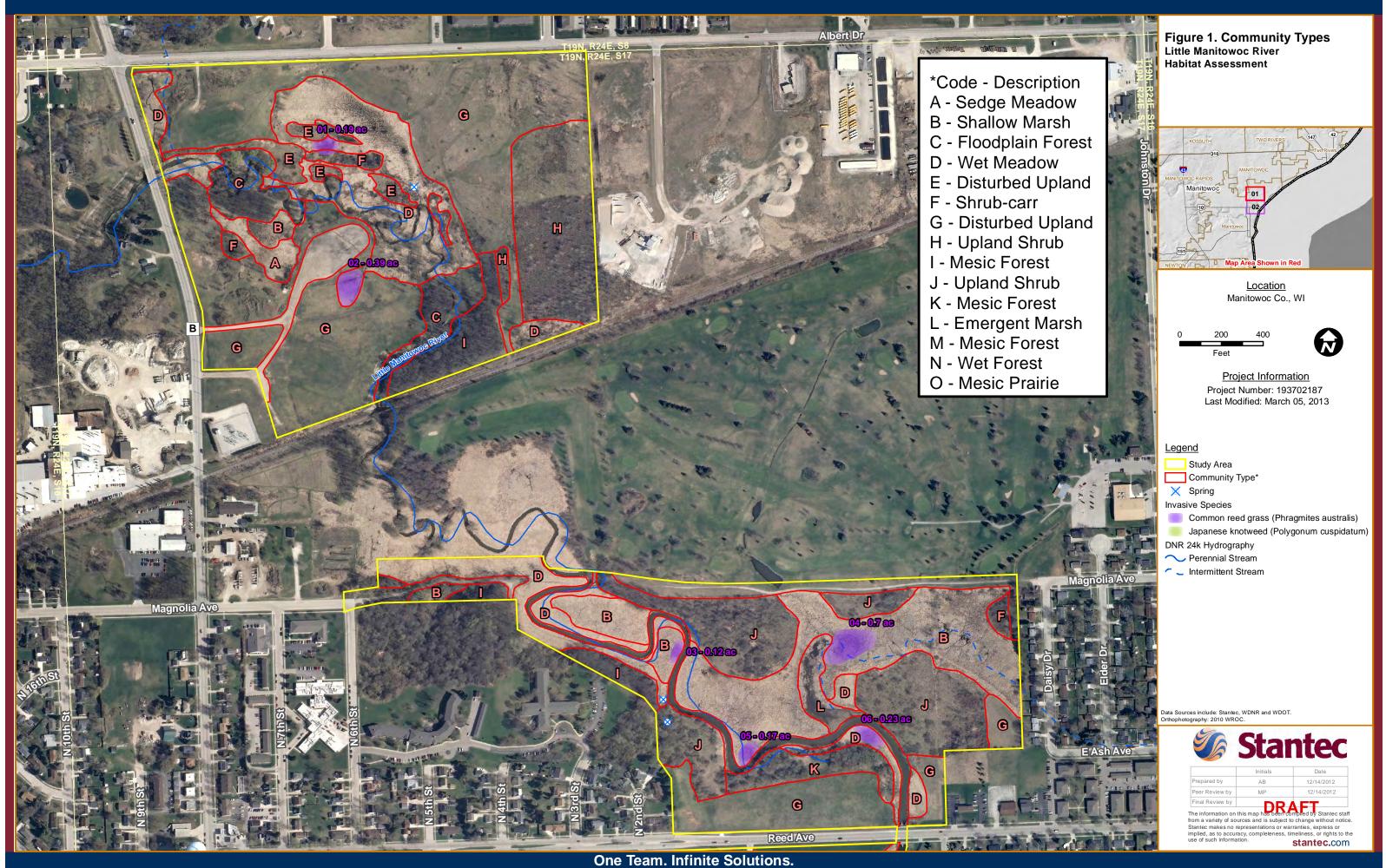
Photo 8. Third year (2015) treatment conditions. Note standing dead stems.



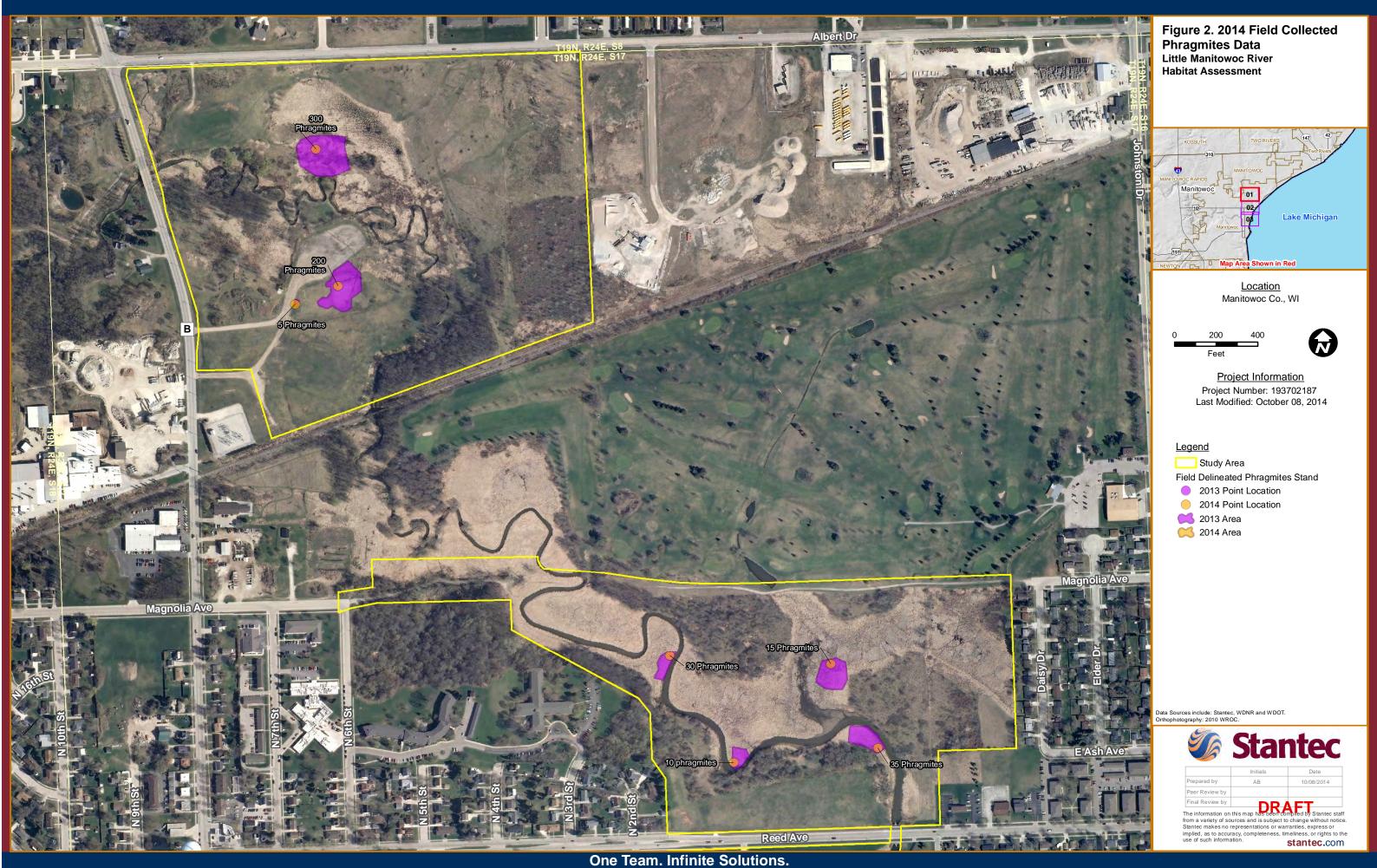
Photo 9. Third year (2015) treatment conditions – no re-growth observed in high water levels.



Photo 10. Third year (2015) treatment conditions at Lake Michigan shoreline – no re-growth observed in high water levels.

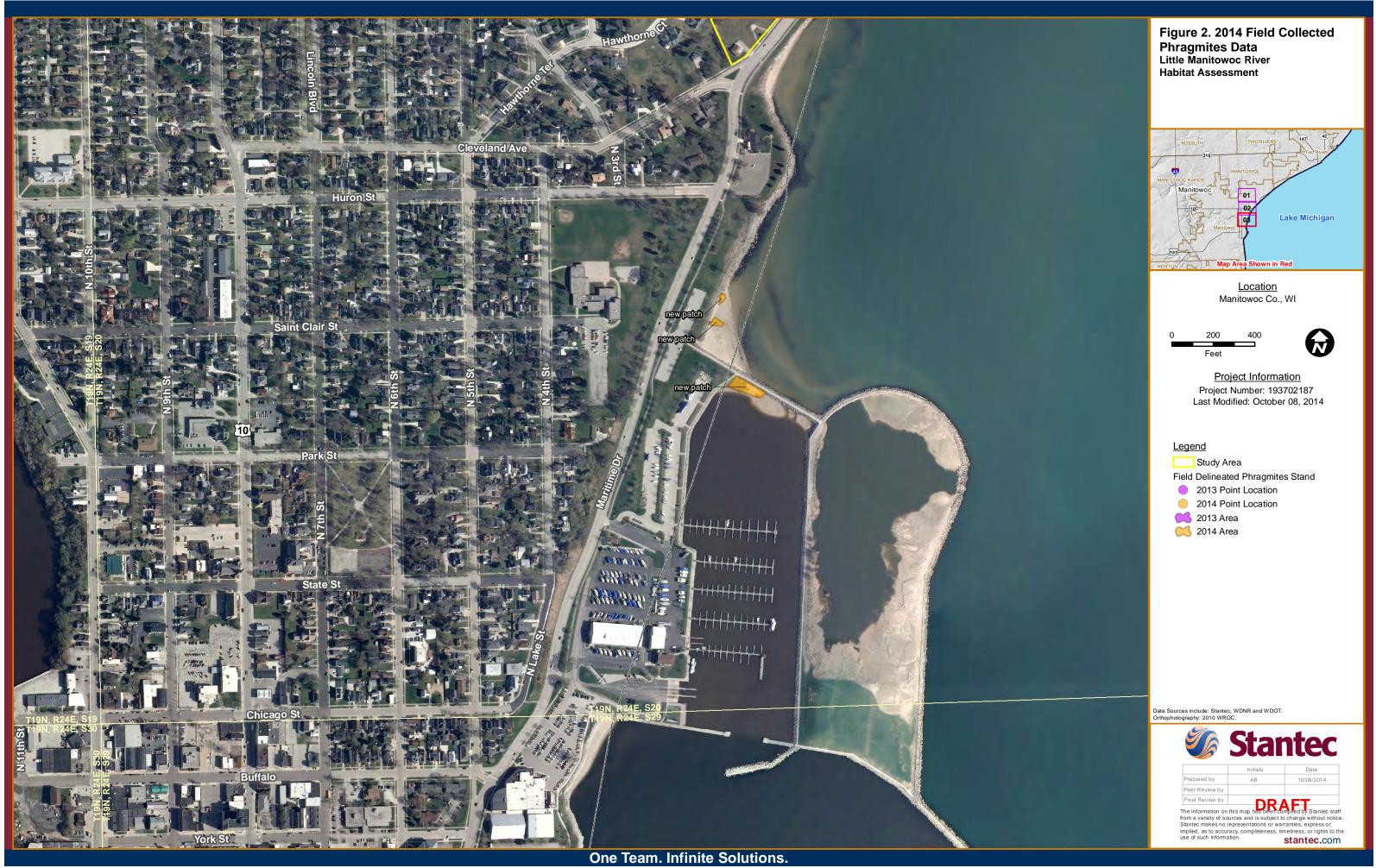




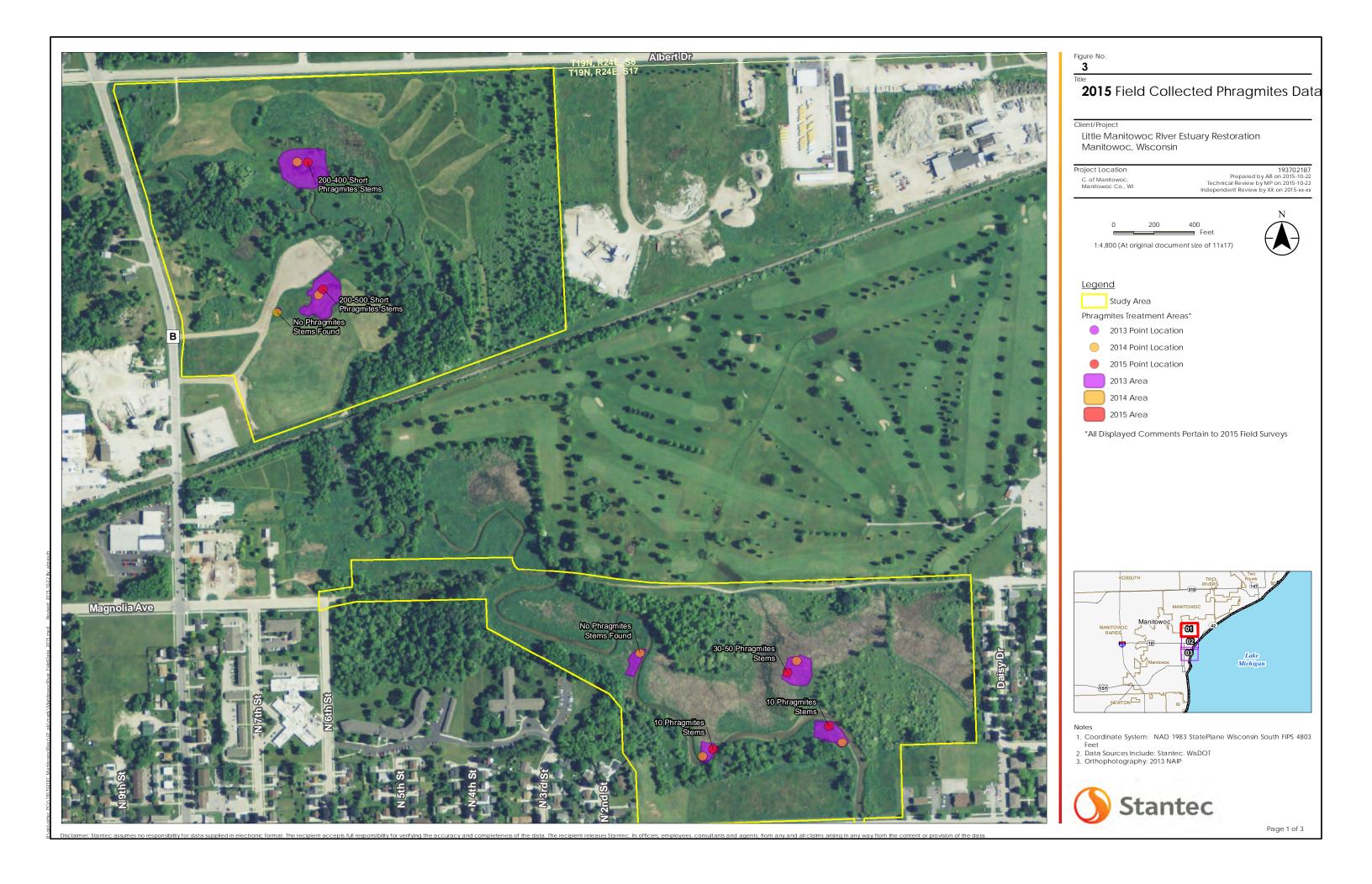


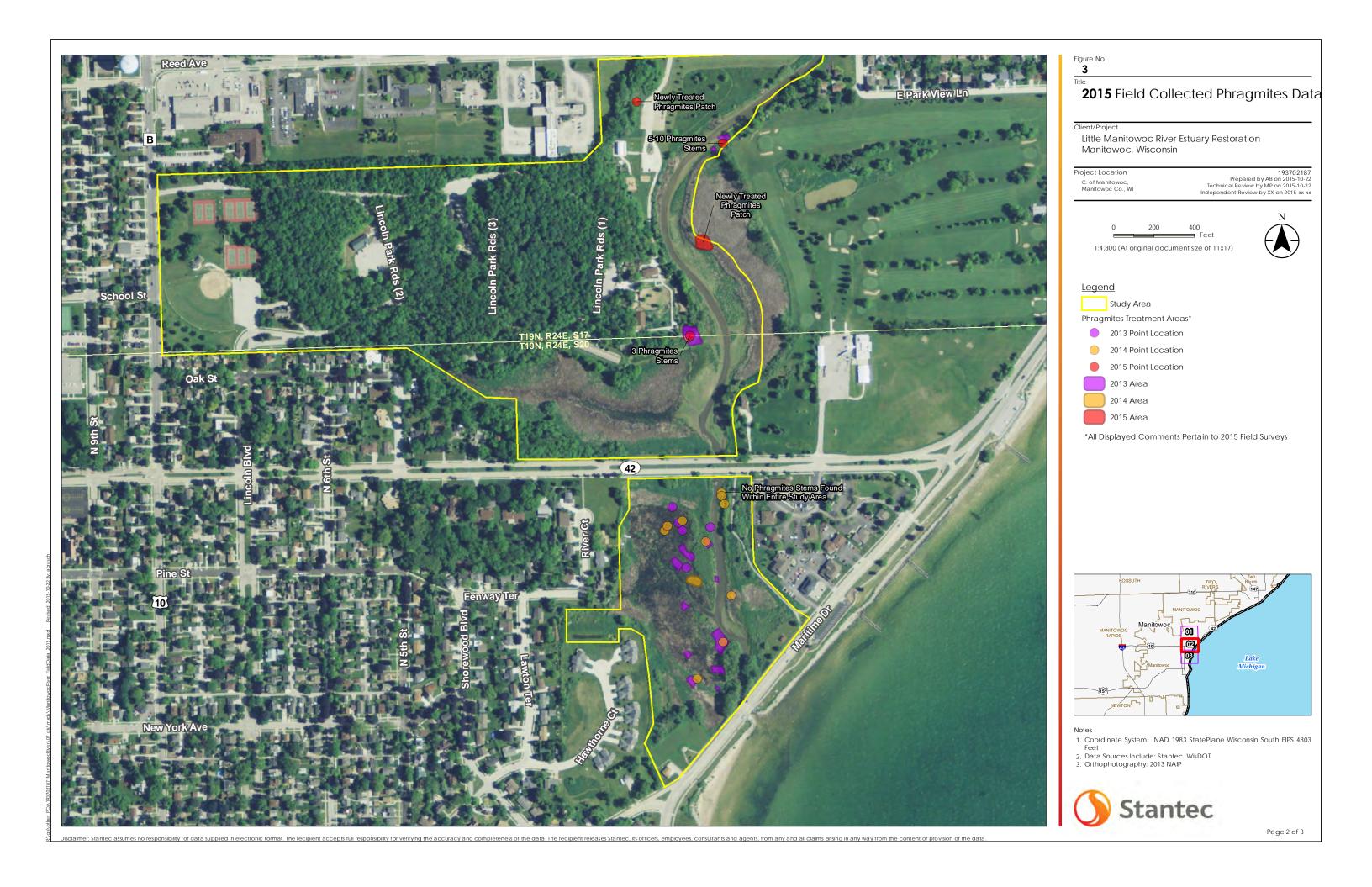
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POST - HERBICIDE APPLICATION RECORD (rev. 7/17/12)

PROLECT NUMBE:	Stantec	703	OSI - HENDICIDE AFFLICATION NECOND (rev. //1//22)	ON MECO	\ U (rev. 7/1//12	3		
PREPARERY PROLECTIMARE PREPARERY NITIALS: PREPARERY NITIALS: PREPARERY NITIALS: PREPARERY NITIALS: PROLECTIMARE	SITE AND APPLICATOR INFO	DRMATION:						-
ER: 3.5 G Backpagk Shrayer PROJECT MGBC CAL Boom Sprayer Granular Agranular Agranula	PROJECT NAME:	who Ohre	41-0		PREPARER'S II	NITIALS:		17
ETHOD: 3.5 G Backpagk Sprayer Call Boom Sprayer Call Call Call Call Call Call Call Ca	PROJECT NUMBER:	1	CT MGB:				1	4
Matt Angethorier (1480p4-CA - Wit, 95529169-1t) Aaron Feggestad (209716-CA - Wit, 95529167-1t) Barain Kraszwark (7254632-CA - Wit, 9552967-1t) Eric Johnson (CA) 4952429-1t, F2222961 - NV)	APPLICATION METHOD:	3.5 G Backpack Sprayer)	Granular		Low Volum	e Bottle / Wick
Sarain Ricaszerest (25-4632-CA - Wi; 9552867 - IL)		Wall Angerhofer (14	WI; 955.		Aaron Feggesta	d (209716-CA -	WI; 9552916	7 - IL)
Donn Lesko (95535268 - IL; PT238526 - IN)		Sarah Kraszewski (2	54632-CA - WI; 95528676 - IL)		Eric Johnson	(CA 9553429 -	IL; F222361 -	Z)
Jay Delmedico (255311-CA - Wi; 95528817 - IL) David Bart (9553520 - IL; F238525 - IN) Justin Streicher (267695-CA - Wi; 9552837 - IL) Togan Bilss (279339; Can 95550277 - IL) Michael Nied (279357 - CA; 95550378 - IL) Ty Hoffman (95551218 - IL) Mark Kruis (95551223 - IL) Other:		Bryan Thiermann (2:	59033-CA - WI; 95535207 - IL)		Donn Lesko	(95535268 - IL;	RT238526 - I	Ž)
Part Streicher (267695-CA - WII; 95542962 - IL)	APPLICATOR(S):	Jay Delmedico (25	5311-CA - WI; 95528817 - IL)		David Bart	(9553520 - IL;	F238525 - IN)	
Michael Nied (2793578 - CA; 95550378 - IL)		Justin Streicher (26	37695-CA - WI; 95542962 - IL)		Cogan Bliss	(279359 - CA	95550377 - IL	1)
Mark Kruis (95551223 - IL.) Other:		Michael Nied (27	93578 - CA; 95550378 - IL)		Тун	loffman (955512	218 - IL)	
		Mark Kr	uis (95551223 - IL)	Other:				
Product A.I. EPA Reg. NO. REI (Hrs) Acres Amount (fluid oz)	12-5/8-4	90°	5-		FULL SUN -	PARTLY SUNN		ST
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s Sethoxydim 7969-58 12 hrs Glyphosate 42750-61 12 hrs 12 hrs Glyphosate 228-365 12 hrs 241-426 12 hrs 25 tive ingredient for spot applications and pints / quarts per acre for boom sprayer applications. 12 hrs 25 tive ingredient for spot applications and pints / quarts per acre for boom sprayer applications. 12 hrs 25 tive ingredient for spot application? Yes 10 No 10 No 10 Grass-specific	Select Max	Clethodim	59639-132	24 hrs				
s Glyphosate 42750-61 12 hrs	Poast	Sethoxydim	7969-58	12 hrs				
Glyphosate 228-365 12 hrs Glyphosate 62719-324 12 hrs 12 hrs 62719-324 12 hrs 1	Gly Star Plus	Glyphosate	42750-61	12 hrs				
Glyphosate Glyphosate Glyphosate Glyphosate G2719-324 12 hrs 241-426 12 hrs 3 tive ingredient for spot applications and pints / quarts per acre for boom sprayer applications. The plant completed prior to application? The planting Preparation Grass-specific General General Grass-specific General	Aquaneat	Glyphosate	228-365	12 hrs			7	
tive ingredient for spot applications and pints / quarts per acre for boom sprayer applications. de plan completed prior to application? on Broadleaf-specific Planting Preparation Panting Preparation Post-Planting Weed Control General Parting Preparation Post-Planting Weed Control Post-Planting Preparation Post-Planting Preparati	Rodeo	Glyphosate	62719-324	12 hrs				
tive ingredient for spot applications and pints / quarts per acre for boom sprayer applications. Completed prior to application? Yes Completed prior to application? Generation: Planting Preparation Post-Planting Weed Control Generation Planting Preparation Post-Planting Weed Control Generation Planting Preparation Post-Planting Weed Control Generation Planting Preparation Plantin	Habitat	lmazapyr	241-426	12 hrs	3.5	315		1%
de plan completed prior to application? On	** Record % active ingre	dient for spot applications and pints	; / quarts per acre for boom sprayer app	lications.				100
Non-Selective Was an herbicide plan completed prior to application? Spot Application Broadleaf-specific General Planting Preparation Post-Planting Weed Control General	TREATMENT TYPE:							
Was an herbicide plan completed prior to application? Yes □ No □ Spot Application □ Broadleaf-specific □ Grass-specific ✓ urpose of Application: □ Planting Preparation □ Post-Planting Weed Control ☑ General	1		\					
Spot Application □ Broadleaf-specific □ Grass-specific urpose of Application: □ Planting Preparation □ Post-Planting Weed Control □ General	Was an herbicide plan co	ompleted prior to application?	Ŕ					
□ Planting Preparation □ Post-Planting Weed Control General					\			
	Purpose of Application:			P	General Invasiv	e Species Cont	rol	

#

TREATMENT AREA INFORMATION:	MATIC	N:								
Were Signs Installed?	Yes	7	No	(Hr	(If no, explain why):	in why):				
Total Acres Treated:	3.5									
Upland / non-aquatic acres:	cres:		Aquanc	Aduatic (welland, shoreline, etc.) acres:	e, etc.) ac	res:				
Total Shoreline Treated (linear feet), if applicable:	ear fe	et), if applicable:	Now	\		'				
Was Herbicide Applied to Standing / Flowing Water?	Standi	ng / Flowing Water?	Yes		No	A			,	
Did Applicator(s) Check for Adverse Impacts to Aquatic Areas Immediately After Application?	r Adve	rse Impacts to Aquatic	Areas Immediately A	After Application?		Yes		No	à	
If yes, was there evider	nce of	If yes, was there evidence of adverse impacts or movement of product out of the treatment area?	ment of product out c	of the treatment are	a?	Yes	0	No	0	
SPECIES TARGETED DURING SPOT APPLICATION	NG SI	OT APPLICATIONS:				10				
Broadleaf Species:	Ag	Ag Broadleaf Weeds:	Grasses:		W	Woody Species:	ies:			
☐ Birds-foot Trefoil		Docks	□ Barnyard Grass	d Grass		□ Buckthorns	sms			
□ Burdock		Lambsquarters	Commo	Common Reed Grass		□ Bush H	Bush Honeysuckles			
□ Cattails		Mustards	□ Other E	Other Exotic Perennial Grasses	_	□ Crabs				
□ Chickweeds		Pigweeds	Poxtails			□ Cut-stumps	sdu			
□ Clovers		Ragweeds	□ Reed Ca	Reed Canary Grass		spoomboq 🗆	spo			
□ Crown Vetch		Velvet Leaf	□ Other:			□ Hawthorns	rns			
□ Dame's Rocket		Other:	□ Other:			udhgiH □	Highbush Cranberry			
☐ ☐ Garlic Mustard		Other:				□ Japanes	Japanese Barberry			
□ Hawkweeds						□ Multiflora Rose	a Rose			
□ Japanese Knotweed]	□ Locusts				
□ Leafy Spurge						□ Oriental	Oriental Bittersweet			
□ Purple Loosestrife						□ Privets				
☐ Queen Anne's Lace						□ Tree-of-	Tree-of-Heaven			
☐ Spotted Knapweed						□ White Mulberry	fulberry			
□ Sweet Clovers						□ Other:				
☐ Tall Goldenrod					F	□ Other:				
□ Teasels										
□ Thistles	_									
☐ Wild Parsnip										
□ Other:							×			
□ ! Other:										
Reminders:										
1. Carry your herbicide applicator license with you when applying herbicide.	cator li	cense with you when app	lying herbicide.							
2. ALWAYS FOLLOW THE HERBICIDE LABEL - THE LABEL IS THE LAW	HERBI	CIDE LABEL - THE LABE	EL IS THE LAW							
3. Placard treated areas with appropriate signage at public access points.	appro	priate signage at public a	ccess points.							
 Record amount of herbicide applied on the 2012 Equipment and Materials Unit Log. 	le app	lied on the 2012 Equipme	nt and Materials Unit	Log.						
										I



POST - HERBICIDE APPLICATION RECORD (rev. 06/13/2014)

Stantec								
PROJECT NAME: / M/P D	MATION:	DATE	9-7-7-14					
PROJECT NUMBER:	5	~ 1	T MGR:	Mell/sa	The same		100	
APPLICATION METHOD:	3.5 G Backpack Sprayer		70 Gal. Boo	Gal. Boom Sprayer		Granular		Low Volume Bottle / Wick
	Mall Angerhofer (148004-CA - WI; 95529169 - IL))169 - IL)	Nikki Rastello (Non-Aquatic Trainee)	-Aquatic Trainee		Brlan Mann (CA 95563501)		
	Chrls Caplan (291571-CA - WI; 95563877 - IL)		Eric Johnson (CA 9553429 - IL; F222361 - IN)	129 - IL; F222361	1	Michael Adamski (PO 03158794)	8794)	
	🗙 Justin Streicher (267695-CA - WI; 95542962 - IL)		David Bart (CA 9553520 - IL; F238525 - IN)	0 - IL; F238525				
APPLICATOR(S):	X Logan Bliss (279359-CA; 95550377 - IL)		Mark Kruis (CO 95551223 - IL)	95551223 - IL)		Jay Demedico (255311-CA - WI)	- WI)	
	Bryan Thiermann (259033-CA - WI; 95535207 - IL)	5207 - IL)	Aaron Winn (CO 95556786)	O 95556786)	Aar	Aaron Feggestad (209716-CA - WI)	A - WI)	
	Kyle Luther (254898-CA - WI; 95563874 - IL)	74 - IL)	Matthew Steplyk (CA 95563549)	(CA 95563549)	يل	James Scharl (224355-CA - WI)	- WI)	
	Tom Lamppa (296773-CA - WI; 95563097 - IL)	97 - IL)	Xochill Lopez (CA 95549623)	CA 95549623)	ل ا	Josh Sulman (197158-CA - WI)	WI)	
TIME: 10:00 AM	TEMP: 60°F	W	WIND: (MPH)	4		T V	SUN - PARTLY SUNNY - OVERCAST	/-OVERCAST
HERBICIDE INFORMATION:				Second Second		BOULD.		
Product Name	Product A.I.	To the same of	EPA Reg. NO.		REI (Hrs)	Acres	Amount (fluid oz)	OZ) Rate **
Weedone LV4 EC	2,4-D		228-139-71368		12 hrs			
Milestone	Aminopyralid		62719-519		12 hrs			
Transline	Clopyralid		62719-259		12 hrs			
Element 3A	Triclopyr amine		62719-37		48 hrs			
Rellegate	Triclopyr BEE		228-521		12 hrs			
Element 4E	Triclopyr ester		62719-40		12 hrs			
Escort XP	Metsulfuron methyl		352-439		4 hrs			
Rifle	Dimethylamine salt of dicamba		34074-861		24 hrs			
Streamline	Aminocycloprachlor and Metsulfuron methyl		352-848		na			
Plateau	lmazapic		241-365		12 hrs			
Select Max	Clethodim		59639-132		24 hrs			
Intensity	Clethodim		34704-864		24 hrs			
Poast	Sethoxydim		7969-58		12 hrs			
Gly Star Plus	Glyphosate		42750-61		12 hrs			
Aquaneat	Glyphosate		228-365		12 hrs			
Rodeo	Glyphosate		62719-324		12 hrs			
Habitat	lmazapyr		241-426		- 1	И	20 921	3/0/2
** Record % active ingred	** Record % active ingredient for spot applications and pints / quarts per acre for boom sprayer applications	/ quarts per	r acre for boom spr	ayer applicati				111
TREATMENT TYPE:								
□ Non-Selective								
Was an herbicide plan co	Was an herbicide plan completed prior to application?	Yes	×	8				
Spot Application	□ Broadleaf-specific		Grass-specific		1			
Purpose of Application:	☐ Planting Preparation	□ Po	Post-Planting Weed Control	Control	A	General Invasive Species Control	Species Control	



POST - HERBICIDE APPLICATION RECORD (rev. 04/24/2014)

Stantec							
SITE AND APPLICATOR INFORMATION:	RMATION:						
PROJECT NAME:	manitowood ohom	DATE: G/1	912014	PREPARER'S INITIALS:	NITIALS:	Tom	
PROJECT NUMBER:	- 1	CI MGR:	1				
APPLICATION METHOD:	3.5 G Backpack Sprayer	Gal. Boom Sprayer	7	Granular		Low Volume Bottle / Wick	e / Wick
	Matt Angerhofer (1	Matt Angerhofer (1)48004-CA - WT; 95529169-IL)	_	Mai	Mark Kruis (95551223 - IL)	3 - IL)	
	Bryan Thiermann (;	Bryan Thiermann (259033-CA - WI; 95535207 - IL)		Eric Johnson	Johnson (CA 9553429 - IL; F222361 - IN)	; F222361 - IN)	
	Justin Streicher (2	Justin Streicher (267695-CA - WI; 95542962 - IL)		Chris C	Chris Caplan (291571-CA - WI; IL)	A - WI; IL)	
APPLICATOR(S):	Logan Bliss (2	Logan Bliss (279359 - CA; 95550377 - IL)		David Bar	David Bart (9553520 - IL; F238525 - IN)	238525 - IN)	
	Aaron Fegg	Aaron Feggestad (209716 - CA - WI)		Brendan	Brendan Farmer (CA -	L	
	Kyle Luthe	Kyle Luther (254898 - CA - WI; IL)		Aaron	Aaron Winn (CA -		
	Tom Lam	Tom Lamppa (296773 - CA- WI)				3	
TIME: 10	TEMP: 655°	WIND: (MPH) 5-10		FULL SUNC	LL SUN PARTLY SUNNY OVERCAST	OVERCAST	
HERBICIDE INFORMATION:			1				
Product Name	Product A.I.	EPA Reg. NO.	REI (Hrs)	Acres	Amount (fluid oz)		Rate **
Weedone LV4 EC	2,4-D	228-139-71368	12 hrs				
Milestone	Aminopyralid	62719-519	12 hrs				
Transline	Clopyralid	62719-259	12 hrs				
Tahoe or Garlon/Element 3A	Triclopyr amine	228-520 / 62719-37	48 hrs				
Tahoe or Garlon/Element 4E	Triclopyr ester	228-517 / 62719-40	12 hrs				
Plateau	Imazapic	241-365	12 hrs				
Select Max	Clethodim	59639-132	24 hrs				
Poast	Sethoxydim	7969-58	12 hrs				
Gly Star Plus	Glyphosate	42750-61	12 hrs				
Aquaneat	Glyphosate	228-365	12 hrs				
Rodeo	Glyphosate	62719-324	12 hrs				
Habitat	lmazapyr	241-426	12 hrs	دلا	90	2:5	2
** Becord % active ingred	lient for spot applications and pint	** Record % active ingredient for spot applications and pints / quarts per acre for boom sprayer applications.	lications.				
THEATMENT TYPE:							
Non-Selective		/					
Was an herbicide plan co	Was an herbicide plan completed prior to application?	Yes 🔏 No	0				
□ Spot Application	□ Broadleaf-specific	☐ Grass-specific					
Purpose of Application:	□ Planting Preparation	□ Post-Planting Weed Control	4	General Invasio	General Invasive Species Control	<i>St</i>	

iline Treated: 4 d / non-aquatic acres: 4 did Applica acres: 4 ide Applicati carres: 7 ide Applicati Standing / Flowing Water? Yes Common Standing / Flowing Water? Common Standing / Flowing Waters impacts or movement of product out of the treatmen ARGETED DURING SPOT APPLICATIONS: Grasses: Common Standing / Common Reed Grass Common Standing / Floweds Common Reed Grass Common Standing / Floweds Common Reed Grass Common Standing / Common Standing Cother: Cother:	Were Signs Installed?	Yes	No (If no. ex	(If no. explain why):	
Adjustic (Negland, shoreline, etc.) acres: Adjustic (Negland, shoreline, etc.) acres: Adjustic (Inner feet), if applicable: Yes	Fotal Acres Treated:	*	3		
Internated (linear feet), if applicable: Internated Internated Internation	Upland / non-aquatic ac	res:	Aquatic (wetland, shoreline, etc.)	acres:	
No. No.	al Shoreline Treated (line	sar feet), if applicable:)		
Name and the standard of product out of the treatment area? Yes No ARRESTED DURING SPOT ApPLICATIONS. Grasses: Moody Species: No Appecies: Ag Broadleaf Weeds: Grasses: Moody Species: No foot Tafoli □ Dooks □ Buck Honeysuckles No foot Tafoli □ Lambsquarters □ Other Exolic Perennial Grasse □ Cut-stumps ck □ Mustands □ Other Exolic Perennial Grasses □ Cut-stumps reeds □ Pigweeds □ Other: □ Other: ry Veloch □ Other: □ Other: □ Hawthoms ry Veloch □ Other: □ Other: □ Other: Rounge □ Other: □ Other: □ Other: Locousis □ Ot	s Herbicide Applied to St	tanding / Flowing Water?	F		•
AREETED DINING SPOT APPLICATIONS: Grasses: Woody Species: Species: Ag Broadleaf Weeds: Grasses: Woody Species: Species: Ag Broadleaf Weeds: Grasses: Bush Honeysuckles Cok — Lambsquarters — Bush Honeysuckles — Bush Honeysuckles Lock — Mustards — Continon Reed Grass — Crabs Needs — Pigweeds — Foxtalis — Cut-stumps rand — Differ: — Other: — Hawthorns rand — Other: — Other: — Highbush Cranberry weeds — Other: — Locusis Spurge — Multiliora Rose Locosestrile — Coule — Indicts Locosestrile — Other: — Indicts Amme's Lace — Other: — Indicts Amme's Lace — Other: — Indicts Clovers — Indicts Clovers <td>Applicator(s) Check for</td> <td>Adverse Impacts to Aquatic Are</td> <td>as Immediately After Application?</td> <td></td> <td></td>	Applicator(s) Check for	Adverse Impacts to Aquatic Are	as Immediately After Application?		
Appecies: Ag Broadleaf Weeds: Grasses: Wood Noor foot Trefoil □ Docks □ Barnyard Grass □ Common Reed Grass □ Common Reed Grass □ Lambsquarters □ Other Exotic Perennial Grasses □ Common Reed Grass □ Common Reed	If yes, was there eviden.	ce of adverse impacts or moverne	nt of product out of the treatment area?		No
Opecies: Ag Broadleaf Weeds: Grasses: Wood foot Trefoil □ Docks □ Barnyard Grass □ ck Lambsquarters □ Other Exotic Perennial Grasses □ ls □ Mustards □ Other Exotic Perennial Grasses □ reeds □ Pigweeds □ Other: □ rs Procket □ Other: □ rs Rocket □ Other: □ rese Knotweed □ Other: □ □ sese Knotweed □ Other: □ □ rLoosestrife <	CIES TARGETED DURIN	IG SPOT APPLICATIONS:			
cok Docks Egarnyard Grass C ck 1 Lambsquarters 2 Common Reed Grass 2 ls Mustards 1 Pigweeds 2 Common Reed Grass 2 reeds 1 Pigweeds 1 Charlis 2 2 rs Ragweeds 1 Chher: 2 2 2 rs Needs 1 Other: 2 2 2 weeds 1 Other: 2 3 3 3 3 3 3 3 3 3 3 3 3 4 3 4	Broadleaf Species:	Ag Broadleaf Weeds:	Grasses:	Woody Species:	
ck Lambsquarters Common Reed Grass I ls Mustards I Other Exotic Perennial Grasses I weeds I Pigweeds I Control Exotic Perennial Grasses I rs I Pigweeds I Control Exotic Perennial Grasses I rs I Pigweeds I Control Exotic Perennial Grasses I rs I Velvet Leaf I Other: I rs I Velvet Leaf I Other: I weeds I Other: I Other: I weeds I Other: I I sese Knotweed I I I I I Anne's Lace I	Birds-foot Trefoil				
Is before the control of the	Burdock				
weeds □ Pigweeds □ Reed Canary Grass □ Other: I Velvet Leaf □ Other: □ Other: □ Other: I Velvet Leaf □ Other: □ Other: □ Other: Mustard □ Other: □ Other: □ Other: weeds □ Other: □ Other: □ Other: weeds □ Other: □ Other: □ Other: Spurge □ Other: □ Other: □ Other: I Loosestrife □ Other: □ Other: □ Other: I Anne's Lace □ Other: □ Other: □ Other: I Anne's Lace □ Other: □ Other: □ Other: I Anne's Lace □ Other: □ Other: □ Other: I Anne's Lace □ Other: □ Other: □ Other: I Anne's Lace □ Other: □ Other: □ Other: I Anne's Lace □ Other: □ Other: □ Other: I Anne's Lace □ Other: □ Other: □ Other: I Anne's Lace □ Other: □ Other: □ Other: <td< td=""><td>Cattails</td><td></td><td></td><td></td><td></td></td<>	Cattails				
rs Ragweeds □ Other: □	Chickweeds				
Vetch □ Other: □ □ Other:	Clovers				
's Flocket Other: Oth	Crown Vetch				
Mustard D Other: Other: Image: Control of the contro	Dame's Rocket				
weeds ses Knotweed Spurge ! Loosestrife n Anne's Lace rd Knapweed Clovers oldenrod is arsnip	Garlic Mustard				
ese Knotweed	Hawkweeds				
Spurge Coosestrife 0 1 Loosestrife 0 0 1 Anne's Lace 0 0 2 In Anne's Lace 0 0 2 In Anne's Lace 0 0 3 In Anne's Lace 0 0 3 In Anne's Lace 0 0 4 In Anne's Lace 0 0 4 In Anne's Lace 0 0 4 In Anne's Lace 0 0 5 In Anne's Lace 0 0 6 In Anne's Lace 0 0 6 In Anne's Lace 0 0 6 In Anne's Lace 0 0 7 In Anne's Lace 0 0 8 In Anne's Lace 0 0 8 In Anne's Lace 0 0 9 In Anne's Lace 0 0 1 In Anne's Lace 0 0 1 In Anne's Lace 0 0 1 In Anne's Lace 0 0 2 In Anne's Lace 0 0 3 In Anne's Lace	Japanese Knotweed				
I Loosestrife □ I Anne's Lace □ In Anne's Lace □	Leafy Spurge				
n Anne's Lace □ Clovers Clovers clowers	Purple Loosestrife				
ad Knapweed Clovers Clovers Soldenrod Is ss arsnip	Queen Anne's Lace				
Clovers oldenrod ls ss arsnip	Spotted Knapweed				
oldenrod oldenrod Control olde	Sweet Clovers				
easels histles histles histles Vild Parsnip histles ther: histles ders: histles	Tall Goldenrod				
histles Vild Parsnip ther:	Teasels				
Vild Parsnip tther:	Thistles				
ther: ther:	Wild Parsnip				
ther:	Other:				
Jers:	Other:				
	Reminders:				

State of Wisconsin Department of Natural Resources dnr.wi.gov

Aquatic Plant Management Herbicide Treatment Record

Form 3200-111 (R 11/11)

Page 1 of 2

Notice: Completion of this form is a condition of the permit and provides records required by WDNR (NR 107) and DATCP (ATCP 29.21 and 29.22). The Department may not issue you future permits unless you complete and submit this form. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].

Submit this form: (1) immediately if any unusual circumstances occurred during treatment

- (2) as soon after treatment as possible, no later than 30 days
- (3) by October 1 if no treatment occurred

Completion of this form along with the permit satisfies the requirements of WDNR (NR 107) and DATCP (ATCP 29.21 and 29.22).

General Permit Information	1			
		ng ponds, e.g., Smith Pond)	
NE	Adjacent to Little Manit	towoc River and Lake Mic	chigan	
	Permit Holder Name (Cus		onigun .	
Manitowoc	Matt Angerhofer	3636-34012-		
Permit Holder Address	man ringernorer	City		State ZIP Code
209 Commerce Prkw		Cottage Grove	P	WI 53527
Treatment Information		Conage Grov		W1 33327
Treatment Date (mm/dd/yyyy)	Starting Time (24 hr)	Ending Time (24 hr)	Water Temp (°C)	Ambient Air Temp (°C)
09/17/2015	0900	1800	N/A	70 F
Wind Speed (mph)	Wind Direction	Expected Duration of Ch		
5-10	west	2 to 3 weeks		
Adverse Conditions Noted (i.e.,				
N/A Onsite Supervision Present? (Yes ● No	s, Supervisor Name		
Herbicide Treatment and Water I	_		•	No .
Applicator Information	snall provide each custo	omer with a free copy of ea	ich pesticide label used	(If requested)
Individual or Business Name				Celephone Number
Stantec Consulting Services				608)839-1998
Street Address				
209 Commerce Prkw				
City			State ZII	Code
Cottage Grove			WI	53527
Individuals Making Pesticide Appli	ication: Last Name		First	Certification #
plan , chris 90	Angerhofer		Matt	63227
chimi. Icuti 2 de	Last Name		First	Certification #
	Eliason		Brett	97785
	Last Name		First	Certification #
	Linton		Alexander	91997
Name of Person Completing For		gnature	/ Date	Signed DNR Use Only
Matt Angerhofer	110.0	Marta Pa	1 //	Date Received

9-17-2015 Date: Sheet 1 of 1

Aquatic Plant Management Herbicide Treatment Record Form 3200-111 (R 11/11)

Page 2 of 2

Concentration (mg/l = ppm) Site(s) Herbicide Name: EPA Reg No. Amount Applied Other Aquatics Concentration (mg/l = ppm) Herbicide Name: EPA Reg No.: Amount Applied Site(s) Concentration Richardson Pondweed (mdd = I/bm)Robbins Pondweed Purple Loosestrife ☐ Robbins Pondweer☐ Sago Pondweed 1% Planktonic Algae Herbicide Name: Habitat EPA Reg No.: 241-426 Amount Applied 20 2 2000 Little Manitowoc Rin Longitude **Totals** SP = Species Present Site(s) Treatment Site and Chemical Information (attach additional sheets if necessary) ☐ Floating-Leaf Pondweed Latitude ☐ Large-Leaf Pondweed ☐ Flat-Stem Pondweed ☐ Filamentous Algae ☐ Illinois Pondweed Northern MilfoilX Phragmites Permitted Sensitive Acreage Area? $\stackrel{\succ}{\Box}$ _ \succeq $\stackrel{\mathsf{_{\sim}}}{\Box}$ <u>≻</u> $\stackrel{\leftarrow}{\Box}$ $\stackrel{\leftarrow}{\Box}$ \vdash \vdash $\stackrel{\leftarrow}{\Box}$ $\stackrel{\mathsf{\scriptstyle \succeq}}{\Box}$ $\stackrel{\succ}{\Box}$ \vdash $\stackrel{\leftarrow}{\Box}$ TS = Target Species Acreage Treated Acreage <.25 Site(s) Aquatics at Treatment Site: Lake Shore Sheboygan Site No, Property Name, Address / Fire No ☐ Eurasian/hybrid Milfoil Curly-Leaf Pondweed Duckweed Coontail Chara ☐ Cattail