

Final Report

Agricultural Targeted Runoff Management & Notice of Discharge Grant Programs

Form 3400-189A (R 05/16)

Page 1 of 3

NOTICE: This document is required under s. 281.65, Wis. Stats., and chs. NR 153 and 154, Wis. Adm. Code. A final project report must be submitted as part of the final reimbursement request. Personally identifiable information contained in this form will be used for determining reimbursement eligibility in the Targeted Runoff Management and Notice of Discharge Grant Programs and will not be used for any other purpose.

INSTRUCTIONS: Send the completed, electronic copy of this form and all attachments to the Department of Natural Resources (DNR) Region Nonpoint Source Coordinator. Please read all instructions prior to completion.

Grant Type

Select Grant Type Small Scale Non Total Maximum Daily Load (TMDL)

Project Name & Location

Project Name

Logan Creek Headwaters Groundwater Protection Project

Grant Number

TRC-TK06-15000-13B

Governmental Unit Name

Door County Soil and Water Conservation Department

County

Door

Watershed Name

Upper Door County

12-Digit HUC

040301020107

Project Contact Name

Greg Coulthurst

Phone Number

(920) 746-2214

E-mail Address

gcoulthurst@co.door.wi.us

☐ For a project with multiple site locations, an aerial photo map is attached with each site location labeled.

Site Location - 1

Name of Cost-Share Recipient

Phil Bley

Animal Units

70.2

Nearest Receiving Waterbody

Lost Lake

Township

29

Range

27

E / W

E

Section

8

Quarter

SW

Quarter/Quarter

NW

Latitude

45.08

Longitude

-87.1434

Compliance Requirements - 1

Chs. NR 151 or 243 Wis. Adm. Code
Notice Type

NR 151

Notice letter
attached

☒

Compliance achieved? If no,
explain in site information

☒ Yes ☐ No

Compliance determination
letter attached

☒

☒ Attached is a copy of the written statement the County provided to the landowner and cost-share recipient of the landowner's obligation to maintain compliance with performance standards & prohibitions on cropland and livestock facilities addressed by the cost-share agreement. Compliance at these sites must be maintained in perpetuity regardless of future cost sharing. The County has also placed a copy of this written statement in the County files.

Summary of Results - 1

Best Management Practice Installed	Quantity	Unit of Measure	Performance Standard/Prohibition Addressed	Total Installation Cost	Load Reduction		
					Phosphorus lbs/yr	Nitrogen lbs/yr	Sediment Tons/yr
Manure Storage Systems	1	No.	Code(s) 4,11,12	\$167,959.00	*289.5	*2,591.7	
Barnyard Runoff Control Systems	1	No.	Code(s) 11,12	\$44,125.00			

Site Location Attachment - 1

Check the box if the required information for the site is attached:

☒ Photos of pre-and post-implementation of BMP(s)

☒ Load reduction modeling documents

☒ Aerial photo map of site with BMPs labeled

☐ Water quality monitoring results/summary, if applicable

Site Information - 1

Narrative space will expand to fit

The primary benefit of this project is the protection of groundwater resources for private and public drinking water supplies as well as the wetland areas associated with Lost Lake, a shallow spring-fed seepage lake that, along with a diverse wetland complex, provides habitat for several species of state significance. Lost Lake is also the origin of Logan Creek, an Outstanding Resource Water. Elimination of

Final Report

runoff from the barnyard and feedlot will prevent discharge to soils that are shallow to bedrock and the BMPs that were installed will reduce the impacts of this operation to the water quality management areas associated with this area. Construction of these appropriate BMPs will also provide adequate storage to prevent the need for winter application of manure in sensitive areas. The substantial land-base for this operation increases the likelihood of negative impacts to drinking water supplies from improperly handled manure. The installed BMPs will result in an efficient, no-runoff system where all potential impacts from bacteria, nitrates, phosphorus and sedimentation are controlled through storage and treatment of all waste and associated runoff and proper application in appropriate areas through an approved nutrient management plan.

Many parts of Door County, particularly in the shallow bedrock areas in Upper Door, show unsafe levels of bacteria and nitrates during certain times of the year. Elimination of winter application of manure from this operation will reduce the threat of contamination within the local drinking water aquifer. The BMPs were selected through a cost analysis based on the most cost-effective alternative that will still achieve the maximum level of pollutant control through total containment of waste generated and treatment of barnyard effluent. The installed BMPs will provide greater ease of operation and maintenance, increasing the likelihood of success and continued compliance. The installed BMPs were selected to take advantage of existing conditions, current management and equipment at the site.

The construction of a pumped manure storage with a roof allows the landowner to handle manure as he did in the past for this operation, as a solid, and with this system it will remain the same consistency and eliminates the need to purchase additional equipment for a different management style. Maintaining a solid-type manure under a roof also reduces the sizes needed for long-term manure storage as it will eliminate the collection of precipitation. The manure storage was sized to store manure for 210 days and eliminate the need to winter spread.

The existing barnyard was modified to add necessary stable feeding areas to remove livestock from areas with shallow soils to bedrock. All solid waste generated from the barnyard will be pushed to the manure storage. Portions of the existing barnyard will be abandoned for livestock feeding

☒ DNR may use this site as a success story to meet state and federal reporting needs.

Additional Project Information and/or Comments

Narrative space will expand to fit

Because of the fragile geology and the shallow depth of soils to bedrock or water table, most projects in Door County require an above-ground storage. A concrete lined manure storage was the most feasible option as bedrock conditions do not allow for an in-ground system and an earth above-ground system would be extremely cost prohibitive. An above-ground tank such as a Slurry Store was not as feasible as manure consistency, the need for pumps and management modifications would prove to be much more costly for the total project and not practical for this type of operation.

A short-term storage was an option, but in this situation there is not sufficient cropland without restrictions for winter application of nutrients.

* The STEPL Model was used to calculate the pollutant load reductions achieved by installing the BMPs. In STEPL on the feedlots BMPs the Waste Management System was selected because this BMP best reflects the holistic Waste Storage System that was installed.

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Agricultural Targeted Runoff Management &
Notice of Discharge Grant Programs
Form 3400-189A (R 05/16) Page 3 of 3

Grantee Certification

A responsible government official (authorized signatory) must authorize and date the final report form prior to submittal to DNR.

I certify that, to the best of my knowledge, the project is complete and the information contained in this final report and attachments are correct and true.

Name of Authorized Government Official	Title of Authorized Government Official	Date
Greg Coulthurst	Interim County Conservationist	02/21/2017

For DNR Use Only

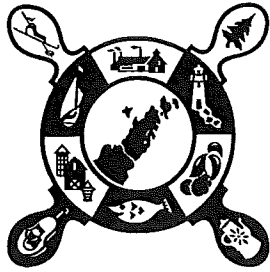
☒ Received complete reports with all attachments ☒ Practices implemented were consistent with the grant agreement

Comments about this project:
None.

Q: SE
Lat/Long: 45.00242, -87.24295

Name of Region Nonpoint Source Coordinator	Date
Erin Hanson	02/23/2017

Send the Final Report and attachments to the Community Financial Assistance Grants Manager and to the Runoff Management Grant Coordinator. Keep a printed copy for the Region file.



COUNTY OF DOOR
SOIL & WATER CONSERVATION DEPT

COUNTY GOVERNMENT CENTER
421 NEBRASKA STREET
STURGEON BAY, WI 54235

PHONE: (920) 746-2214
FAX: (920) 746-2369
swcd@co.door.wi.us

November 19, 2013

Phillip Bley
6832 County T
Egg Harbor, WI 54209

Certified Mail Receipt: Affidavit of Hand Delivery

Mr. Bley:

This letter is to inform you of the status of your livestock operation located in the Town of Jacksonport with regard to compliance with Chapter 23 of the Door County Code. The following parcels were inventoried on September 3, 2008:

0160008292742
0160008292744

Based on the inventory, the SWCD made the determination that the above listed parcels were among several that you own that were determined to be out of compliance with several of the agricultural performance standards and prohibitions outlined in Chapter 23. This was communicated to you in a notification letter dated September 24, 2008.

As outlined in that letter, the following items were found to be noncompliant:

- Sheet, Rill and Wind Erosion
- Clean water diversions in a WQMA
- Nutrient Management
- No unconfined manure pile in a WQMA

In an August 11, 2009 notification, it was documented that you had addressed the requirements for Nutrient Management and Sheet, Rill and Wind Erosion control. Thank you for your effort in addressing some of the identified issues.

It has been determined that installation of the following Best Management Practices and corrective measures will be necessary to achieve compliance with the remaining agricultural standards and/or prohibitions and address water quality needs at the above listed property:

- Installation of a Barnyard Runoff Control System
- Installation of Clean Water Diversions (Roof Gutters)
- Long-term manure storage

The Door County Soil and Water Conservation Department is available to provide or coordinate technical assistance for the planning, design and installation of all best management practices necessary to achieve compliance with the agricultural performance standards and prohibitions. If you choose to address these

issues on your own, consultation with the SWCD will be necessary to ensure compliance with agricultural performance standards and prohibitions.

Cost-sharing is now available for eligible costs and is being offered to you to achieve compliance with the remaining agricultural performance standards and prohibitions and address water quality issues at your operation.

It will be your responsibility to work with the SWCD to develop practices that will enable your operation to meet the minimum state agricultural performance standards and manure management prohibitions. Your input and cooperation will be vital to produce a design that meets the required standards and also fits your management and needs for your operation.

The total estimated cost to install the minimum, required components on your farm associated with the above listed best management practices is \$129,143. The total cost sharing available for these eligible costs is \$90,400.

As paraphrased from Section 1.34 (3) (b) (1) of Chapter 23 of the Door County Code: **An owner or operator that receives a notice shall install or implement best management practices and corrective measures to meet a performance standard or prohibition in the time period specified in the notice if cost-sharing is available.** Accordingly, compliance with the above-listed items shall be accomplished by **December 31, 2014**. However, keep in mind the deadline of December 31, 2014 is a deadline to have completely installed everything; to meet this deadline the planning and commencement of the construction work must begin well before December.

Noncompliance after the established compliance period will result in enforcement. If, after the above mentioned compliance period has elapsed, you remain out of compliance with Nutrient Management, Door County may: issue a citation pursuant to and in accordance with Section 66.0113 Wisconsin Statutes and Chapter 35 Door County Code; issue a cease and desist order for all operations on the above listed property that are out of compliance; institute other proceedings in court including a civil forfeiture or injunction. Non-compliance after the above mentioned period will also result in the loss of offered cost-sharing.

An appeal may be filed regarding a final compliance determination made in writing by the Door County Soil & Water Conservation Department. Please see the enclosed Appeals Procedure for more information.

If you have questions regarding this letter or wish to review copies of the statutes or ordinance mentioned in this letter please contact the Door County Soil and Water Conservation Department at (920) 746-2214.

Sincerely,

A handwritten signature in black ink, appearing to read 'W. Schuster', is written over the typed name.

William Schuster
County Conservationist

Enc.
Appeals Procedure
September 24, 2008 Notification
August 11, 2009 Notification

Appeals Procedure

The final compliance determination or best management practices required to attain compliance stated in this letter can be appealed by the person aggrieved by the decision or a person aggrieved by the decision if such adversely impacts the substantial interests of that person by the following procedure.

1. Payment of \$300 for filing a Notice of Appeal.
2. Filing a Notice of Appeal with the Board of Adjustment (BOA), with a copy to the Soil and Water Conservation Department (SWCD).
3. Notice must identify appellant, specify the decision sought to be reviewed, and designate the factual and legal bases for the appeal.
4. Fee must be paid and Notice of Appeal filed within thirty (30) days from issuance of this letter, or an appeal is barred.

The appeal, ordinarily, stays all proceedings in furtherance of the decision appealed from. The appeal does not stay all proceedings if, after the appeal is filed, SWCD certifies to the BOA that a stay would pose an imminent threat to the environment, public health or public safety.

The burden of proof rests with the appellant. The appellant must submit evidence sufficient to support granting the appeal.

BOA shall fix the time for and location of hearing an appeal. The hearing shall commence within forty-five (45) days of the fee being paid and Notice of Appeal being filed.

The following process shall occur at the appeal hearing.

1. Opening Remarks by Appellant and then by SWCD. These opening remarks are intended to acquaint the BOA with the case and set out, in a general way, each side's case.
2. Appellant presents real and testimonial evidence first.
3. SWCD presents real and testimonial evidence second.
4. Appellant may offer rebuttal real and testimonial evidence.
5. Closing remarks by appellant and then by SWCD. These closing remarks are intended to be a brief summation of each side's position on the contested issues and the reasons each is entitled to prevail.
6. Appellant and SWCD may cross-examine witnesses of the other side.
7. BOA may swear witnesses.
8. BOA will mark and preserve exhibits.
9. BOA may cause the proceedings to be taken by a stenographer or by a recording device. The expense thereof to be paid by the parties to the proceeding. Any record of hearing will be retained by BOA.
10. The rules of evidence should be adhered to, but do not strictly apply.
11. The hearing shall be informal in nature.

The final determination/judicial review will occur by the following process. The BOA may affirm or reverse in whole or part or it may modify the decision on review. Within forty-five (45) days of completion of the hearing BOA shall mail or deliver to each side its written determination stating the reasons therefore. This determination shall be a final determination. Any party to the proceeding may seek judicial review thereof pursuant to and in accordance with Section 68.13 Wisconsin Statutes.

If the Appellant prevails, at the BOA's sole discretion, the filing fee may be refunded in whole, or in part. Otherwise, each party must pay its own costs and fees.



Phone: (920) 746-2214
Fax: (920) 746-2369
swcd@co.door.wi.us

Phil and Mary Bley
6832 County T
Egg Harbor, WI 54209

This letter is being sent as a follow up to the Agricultural Performance Standards and Animal Waste Storage Ordinance notification letter sent to you on November 19, 2013 and changes in management that you have made to your operation.

With the recent construction of long-term manure storage, barnyard runoff control system, continued proper management of your feedlot and manure handling and continued successful implementation of an approved nutrient management plan; you will meet all of the requirements of the statewide agricultural performance standards and manure management prohibitions. **You are currently in compliance with all items associated with Chapter 23 of the Door County Code. There is nothing that you are required to do at this time.**

Thank you for your cooperation and please remember, once compliance with a cropland performance standard and/or livestock performance standard or prohibition is attained, compliance shall be maintained by the existing landowner or operator and heirs or subsequent owners. If, after the date of this letter, you fall out of compliance with any of the statewide agricultural performance standards and/or manure management prohibitions that have previously been determined to be compliant, Door County may: issue a citation pursuant to and in accordance with Section 66.0113 Wisconsin Statutes and Chapter 35 Door County Code; issue a cease and desist order for all operations on the above listed property that are out of compliance; institute other proceedings in court including a civil forfeiture or injunction. Items determined to be compliant in this notification that fall out of compliance will be subject to enforcement without the requirement of an offer of cost-sharing.

An appeal may be filed for a final compliance determination made in writing by the Soil & Water Conservation Department. Please see the attached Appeals Procedure for more information.

If you have questions regarding this letter or wish to review copies of the statutes or ordinance mentioned in this letter please contact the Door County Soil and Water Conservation Department at (920) 746-2214.

Sincerely,

Dale Konkol
Conservationist

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	08/14	Date	WI-006	File Name	Door County SWCD	PLAN VIEW	OWNER: <u>Logan Creek Headwaters Groundwater Protection Project</u>	COUNTY: <u>Door</u>	Designed <u>DK</u>	Date <u>11/2016</u>
									Drawn <u>MRM</u>	Date <u>11/2016</u>
									Checked _____	_____
									Approved _____	_____

P.Bley STEPL Watershed













Logan Creek Headwaters Groundwater Protection Project



Installation of Waste Transfer Pipe



Installation of Barnyard and Waste Storage





Installation of Barnyard and Waste Storage





Completion of Barnyard & Waste Storage



Completion of Barnyard & Waste Storage



Completion of Barnyard & Waste Storage

☒ Treat all the subwatersheds as parts of a single watershed ☒ Groundwater load calculation

State **Wisconsin** County **Door** Weather Station **WI GREEN BAY WSO**

Rain correction factors

1. Input watershed land use area (ac) and precipitation (in)									0.818	0.339	
Watershed	Urban	Cropland	Pastureland	Forest	User Defined	Feedlots	Feedlot Percent Paved	Total	Annual Rainfall	Rain Days	Avg. Rain/Event
W1	3	6	2	0	0	1	50-74%	12	34.96	110.9	0.761

2. Input agricultural animals

Watershed	Beef Cattle	Dairy Cattle	Swine (Hog)	Sheep	Horse	Chicken	Turkey	Duck	# of months manure applied
W1	0	50	0	0	0	0	0	0	0
Total	0	50	0	0	0	0	0	0	

3. Input septic system and illegal direct wastewater discharge data

Watershed	No. of Septic Systems	Population per Septic System	Septic Failure Rate, %	Wastewater Direct Discharge, # of People	Direct Discharge Reduction, %
W1	1	2.43	2	0	0

4. Modify the Universal Soil Loss Equation (USLE) parameters

Watershed	Cropland					Pastureland					Forest	
	R	K	LS	C	P	R	K	LS	C	P	R	
W1	90.000	0.287	0.389	0.200	0.997	90.000	0.287	0.389	0.040	1.000	90.000	
					User Defined							
	K	LS	C	P	R	K	LS	C	P			
	0.287	0.389	0.003	1.000	90.000	0.287	0.389	0.070	1.000			

Optional Data Input:

5. Select average soil hydrologic group (SHG), SHG A = highest infiltration and SHG D = lowest infiltration

Watershed	SHG A	SHG B	SHG C	SHG D	SHG Selected	Soil N conc. %	Soil P conc. %	Soil BOD conc. %
W1	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	B	0.080	0.031	0.160

6. Reference runoff curve number (may be modified)

SHG	A	B	C	D
Urban	83	89	92	93
Cropland	67	78	85	89
Pastureland	49	69	79	84
Forest	39	60	73	79
User Defined	50	70	80	85

7. Nutrient concentration in runoff (mg/l)

Land use	N	P	BOD
1. L-Cropland	1.9	0.3	4
1a. w/ manure	8.1	2	12.3
2. M-Cropland	2.9	0.4	6.1
2a. w/ manure	12.2	3	18.5
3. H-Cropland	4.4	0.5	9.2
3a. w/ manure	18.3	4	24.6
4. Pastureland	4	0.3	13
5. Forest	0.2	0.1	0.5
6. User Defined	0	0	0

6a. Detailed urban reference runoff curve number (may be modified)

Urban\SHG	A	B	C	D
Commercial	89	92	94	95
Industrial	81	88	91	93
Institutional	81	88	91	93
Transportation	98	98	98	98
Multi-Family	77	85	90	92
Single-Family	57	72	81	86
Urban-Cultivated	67	78	85	89
Vacant-Developed	77	85	90	92
Open Space	49	69	79	84

7a. Nutrient concentration in shallow groundwater (mg/l) (may be modified)

Landuse	N	P	BOD
Urban	1.5	0.063	0
Cropland	1.44	0.063	0
Pastureland	1.44	0.063	0
Forest	0.11	0.009	0
Feedlot	6	0.07	0
User-Defined	0	0	0

8. Input or modify urban land use distribution

Watershed	Urban Area (ac.)	Commercial %	Industrial %	Institutional %	Transportation %	Multi-Family %	Single-Family %	Urban-Cultivated	Vacant (developed)	Open Space %	Total % Area
W1	3	0	50	0	5	0	30	5	5	5	100

9. Input irrigation area (ac) and irrigation amount (in)

Watershed	Total Cropland (ac)	Cropland: Acres Irrigated	Water Depth (in) per Irrigation - Before BMP	Water Depth (in) per Irrigation - After BMP	Irrigation Frequency (#/Year)
W1	6	0	0	0	0

Input Ends Here.

1. BMPs and efficiencies for different pollutants on CROPLAND, ND=No Data

Watershed	Cropland					
	N	P	BOD	Sediment	BMPs	% Area BMP Applied
W1	0	0	0	0	0 No BMP	0

2. BMPs and efficiencies for different pollutants on PASTURELAND, ND=No Data

Watershed	Pastureland					
	N	P	BOD	Sediment	BMPs	% Area BMP Applied
W1	0	0	0	0	0 No BMP	0

3. BMPs and efficiencies for different pollutants on FOREST, ND=No Data

Watershed	Forest					
	N	P	BOD	Sediment	BMPs	% Area BMP Applied
W1	0	0	0	0	0 No BMP	0

4. BMPs and efficiencies for different pollutants on USER DEFINED land use, ND=No Data

Watershed	User Defined					
	N	P	BOD	Sediment	BMPs	% Area BMP Applied
W1	0	0	0	0	0 No BMP	0

5. BMPs and efficiencies for different pollutants on FEEDLOTS, ND=No Data

Watershed	Feedlots					
	N	P	BOD	Sediment	BMPs	%Area BMP Applied
W1	0.8	0.9	ND	ND	Waste Mgmt System	100

6. BMPs and efficiencies for different pollutants on URBAN

To change/set BMP/LID for urban land uses, click the 'Urban BMP Tool' button on the top-left of this sheet.

7. Combined watershed BMP efficiencies from the BMP calculator

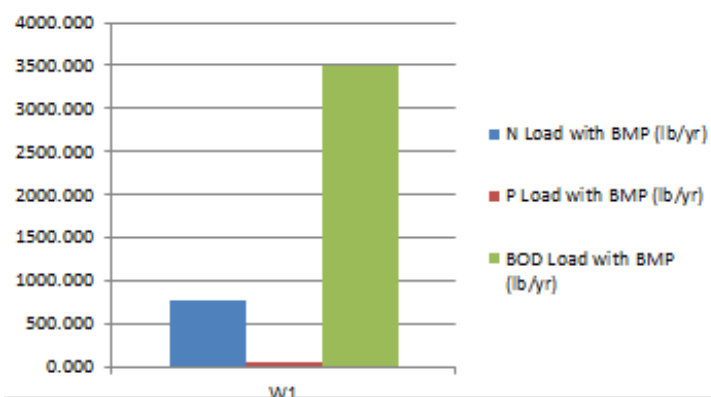
Watershed	Watershed Combined BMP Efficiencies				
	N	P	BOD	Sediment	BMPs
W1-Crop	0	0	0	0	Combined BMPs
W1-Pasture	0	0	0	0	Combined BMPs
W1-Forest	0	0	0	0	Combined BMPs
W1-User	0	0	0	0	Combined BMPs

1. Total load by subwatershed(s)

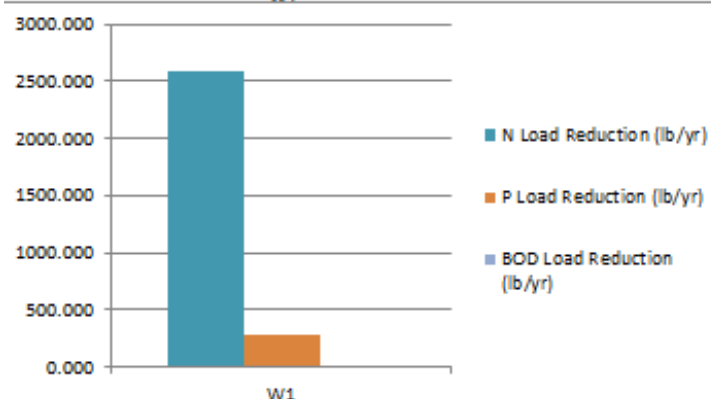
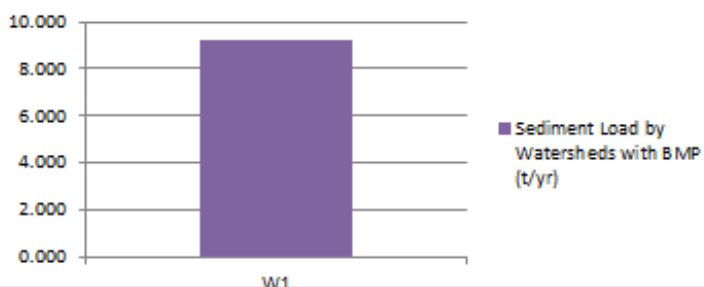
Watershed	N Load (no BMP)	P Load (no BMP)	BOD Load (no BMP)	Sediment Load (no BMP)	N Reduction	P Reduction	BOD Reduction	Sediment Reduction	N Load (with BMP)	P Load (with BMP)	BOD (with BMP)	Sediment Load (with BMP)	%N Reduction	%P Reduction	%BOD Reduction	%Sed Reduction
	lb/year	lb/year	lb/year	t/year	lb/year	lb/year	lb/year	t/year	lb/year	lb/year	lb/year	t/year	%	%	%	%
W1	3368.4	342.2	3500.1	9.2	2591.7	289.5	0.0	0.0	776.7	52.7	3500.1	9.2	76.9	84.6	0.0	0.0
Total	3368.4	342.2	3500.1	9.2	2591.7	289.5	0.0	0.0	776.7	52.7	3500.1	9.2	76.9	84.6	0.0	0.0

2. Total load by land uses (with BMP)

Sources	N Load (lb/yr)	P Load (lb/yr)	BOD Load (lb/yr)	Sediment Load (t/yr)
Urban	16.13	2.60	57.82	0.39
Cropland	69.64	15.12	143.19	8.29
Pastureland	10.82	1.36	32.95	0.55
Forest	0.00	0.00	0.00	0.00
Feedlots	647.93	32.17	3263.54	0.00
User Defined	0.00	0.00	0.00	0.00
Septic	0.62	0.24	2.54	0.00
Gully	0.00	0.00	0.00	0.00
Streambank	0.00	0.00	0.00	0.00
Groundwater	31.54	1.19	0.00	0.00
Total	776.67	52.68	3500.05	9.24



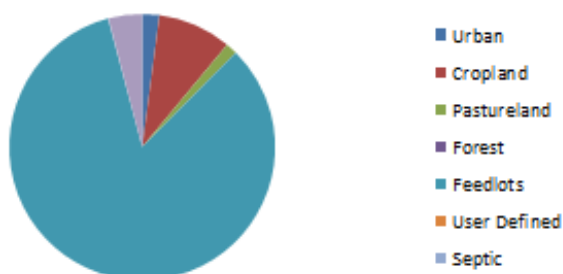
Sediment Load by Watersheds with BMP (t/yr)



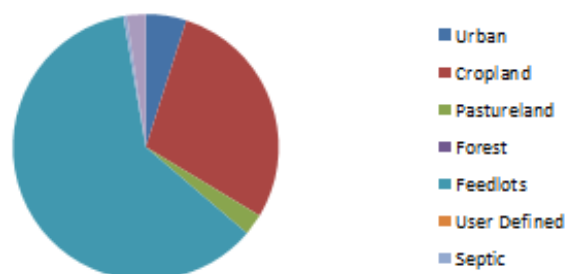
Sediment Load Reduction by Watersheds (t/yr)



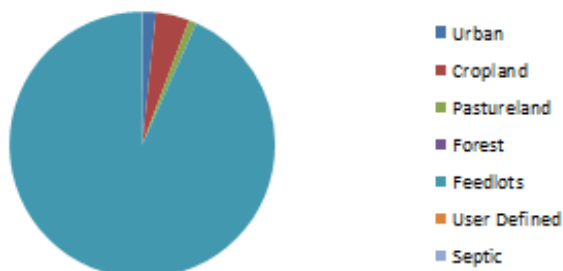
Total N Load by Land Uses (with BMP) (lb/yr)



Total P Load by Land Uses (with BMP) (lb/yr)



Total BOD Load by Land Uses (with BMP) (lb/yr)



Total Sediment Load by Land Uses (with BMP) (t/yr)

