2012 Impaired Waters Documentation Sheet

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Waterbody Name: Odana Pond	Watershed Code and Name:

WADRS ID: 34522	WBIC: 3000513	Use i-SWDV (CRTL + Click) to find ID numbers

Choose from the following to indicate what you are recommending:

__X__ Proposed new **impaired water** listing

_____ Proposed new **watch water** listing

_____ Proposed changes for water already on 303(d) list (check type of change below) ➔ TMDL ID #: _____

	_____ Proposed change to existing list (new pollutants, impairments, mileages, etc.)
	_____ Proposed for de-listing
	_____ General 303(d) documentation for water already on list

Description of waterbody segment

Start Mile: _____

End Mile: _____

Total miles: _____

Lake Acres: _____

Detail (describe segment using road crossings, convergence with other waterbodies, etc.):
Odana Pond is a 13.2 acre pond with a 270 acre watershed and should be considered a shallow headwater drainage lake. Its maximum depth is between four and five feet. It is a natural pothole or kettle pond similar to Tiedman's, Essers, Stricker or Graber's ponds in Middleton, not a dug detention pond. All are perched ponds, meaning they have little spring inflow and tend to have relatively impermeable bottoms. Their water comes primarily from runoff. None have natural outlets. It is readily apparent on the original surveyor's maps and native American artifacts have been found along its boundaries. At various times, a surface outlet was constructed with the most recent being a pipe placed through the Odana Golf Course at the time of the golf course creation. Odana Pond today is primarily open water with a monoculture of cattails surrounding the pond. The water tends to be very turbid with a Secchi depth of about 1 foot. It is nutrient rich, and has a surprising Chlorophyll a concentration. It has experienced recent fish kills. In the past (1950s), it has supported a largemouth bass population and a large diverse amphibian population. Today, it is primarily carp and turtles. So, it is highly likely that the decline in the aquatic population is human activity induced. The pond does not freeze to the bottom as the depth may imply. The winter water stratifies based on chloride concentrations, with the heavier high chloride concentration water at the bottom. (Narrative provided in WATERS database by Jim Bauman, 4/30/2010)

Use Designation Categories	List use designation & data source for each category.
Current (Existing) Fish & Aquatic Life Use:	
Attainable (Potential) Fish & Aquatic Life Use:	FAL
Designated (Codified) Fish & Aquatic Life Use:	Default FAL

Is it supporting its FAL Attainable Use? _____ Fully supporting _____ Supporting __X__ Not supporting
Is it supporting its Recreational Use? _____ Fully supporting _____ Supporting __X__ Not supporting

Does a *Specific* Fish Consumption Advisory Exist? ___ Yes __X__ No ___ Don't know

If so, what is the specific advisory:

Pollutants & Impairments

Pollutants (Place an X next to all pollutants that you are recommending for listing or de-listing. If you are recommending adding a new pollutant to a waterbody that is already on the list, write ADD.)

___X___ Phosphorus	_____ Sediment	_____ Bacteria	_____ PAHs	_____ PCBs
_____ NH_3 (Ammonia)	_____ Thermal	_____ Hg	_____ Creosote	_____ Metals
_____ Unknown	Other Pollutants: Chloride			

Impairments (Place an X next to all impairments that you are recommending for listing, de-listing, or monitoring needs. If you are recommending adding a new pollutant to a waterbody that is already on the list, write ADD.)

_____ Degraded Habitat	___X___ Eutrophication	_____ Temperature
_____ Contaminated Fish Tissue	_____ Chronic Toxicity	___X___ Acute Aquatic Toxicity
_____ Unknown	_____ Degraded Biological Community	

Specific causes of impairment (Describe to the best of your ability what you think is contributing to the impairment.)

Odana Pond receives large volumes of stormwater from the surrounding area. It is situated on a golf course adjacent to Hwy 12, and likely receives high amounts of road salt which contributes to high chloride levels. High levels of phosphorus are also likely due to stormwater runoff from the adjacent land.

Information is based on:

Monitoring data (specific data) less than 5 years old? __X____ YES _____ NO

Map

Please create a map of your waterbody and submit it with this form. The Intranet Surface Water Viewer i-SWDV (CRTL + Click) may be used to construct the map. Choose "Find Location" to find the waterbody, then "Layers" to choose "Standards, Monitoring and Assessment". If it is already on the 303(d) list, then click "Impaired Waters 303d". If you want to show the monitoring stations, also click on "SWIMS Station Points". Then choose "Print" (this will create a pdf map), add a title under "Map Title" and your name and date under "Map Notes", click "OK" and then "Open Map" at the next screen. Save the file and attach it when you send in this sheet. For additional help on how to make a map, check out page 12-14 on the website http://www.dnr.state.wi.us/org/water/SWDV/help/documents/SWDV_Basic_User_Guide_%209_07.pdf

Monitoring & Listing Data

1. Monitoring Study, Date, Results. List water quality exceedences indicating magnitude, duration and frequency (attach additional sheets, if needed).

Attachment 1.
Stations: MG&E Golf Course Pond (Odana Pond) sampling station
Parameters: Chlorides, 2006-2010
Database where data is stored (Fish Database, SWIMS, FishSED, Personal PC): SWAMP, and DNR Watershed Drive (W:\2012_IR_Project\2012_IR_Data_Submittals\Public_Data_Submittals\odana pond)

Attachment 2.
Stations: Madison Department of Public Health
Parameters: Chlorides, 2006-2012
Database where data is stored: DNR Watershed Drive, (W:\2012_IR_Project\2012_IR_Data_Submittals\Public_Data_Submittals\odana pond)

Attachment 3.
Stations: Odana Pond Deepest Point, DNR data
Parameters: Total Phosphorus, chlorophyll a, 2007-2010
Database where data is stored: SWIMS and Watershed Drive, (W:\2012_IR_Project\2012_IR_Data_Submittals\Public_Data_Submittals\odana pond)

Narrative on why you are proposing this waterbody to be listed or de-listed?

Chlorides:
Sampling data were submitted by Madison Gas & Electric (MG&E) from 2006-2010 (70 sample dates). Chloride levels exceeded the acute toxicity threshold of 757 mg/L (757,000 ug/L) 8 times. These samples were taken from the eastern lobe of Odana Pond, in open water near the outflow of the pond (before where it would enter MG&E's intake). Madison Department of Public Health also provided data, but no values from this data set exceeded the acute threshold.

Phosphorus:
Odana Pond exceeds the Total Phosphorus (TP) and Chlorophyll a thresholds for Shallow Lowland Drainage Lakes for both Recreation and Fish and Aquatic Life uses. These thresholds are:

TP Recreation	40 ug/L
TP Fish & Aquatic Life	100 ug/L
Chl a Recreation	25 ug/L
Chl a Fish & Aquatic Life	60ug/L

Due to these exceedance, Odana Pond is proposed for addition to the 2012 303(d) list for both recreation and fish and aquatic life impairments with total phosphorus listed as the responsible pollutant and eutrophication the impairment.

List and attach any additional reports, updated watershed tables, analyses etc. including use designation survey.

1.

2.

3.

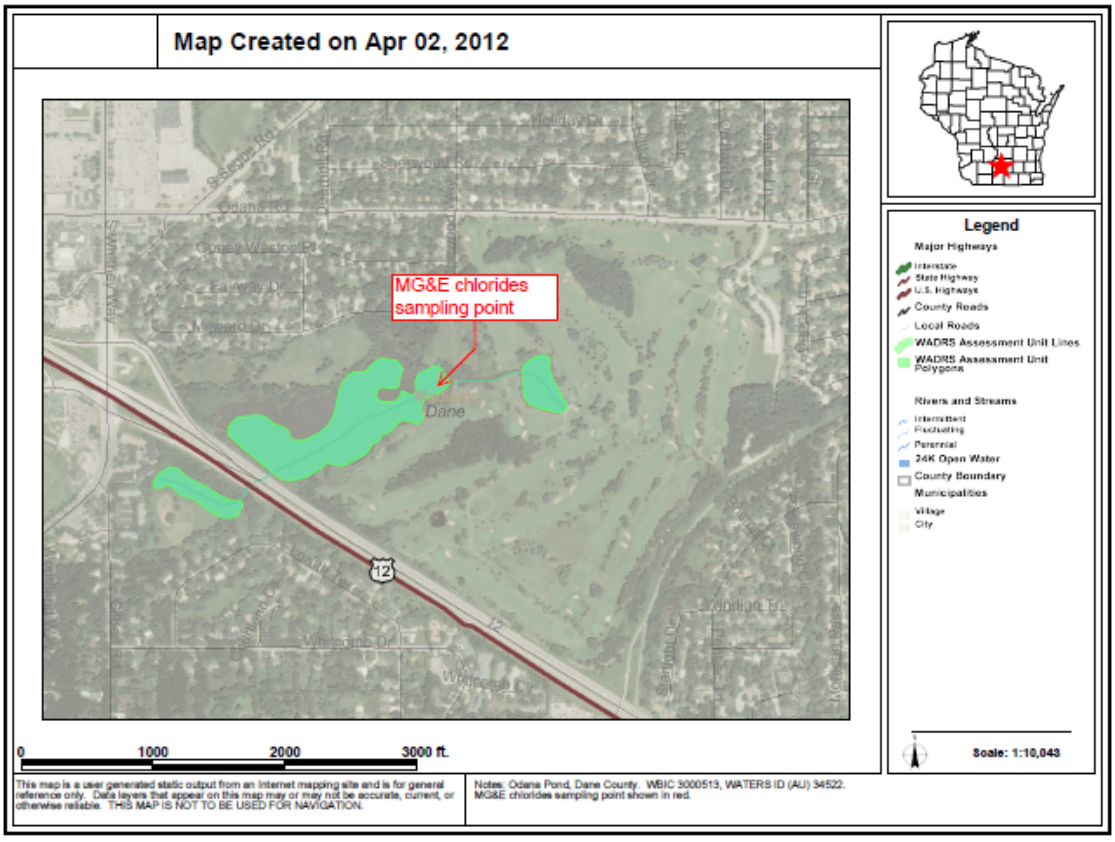
4.

5.

Attachment 1. Chlorides Data from Madison Gas & Electric, "Golf Course Pond" sampling point in Odana Pond. 2006-2010 data and map of sampling site. The eight dates shaded in red exceed the chlorides acute toxicity criteria (757 mg/L).

sample_pt_short_desc	sample_date	result_amt
Golf course pond	07/05/2006 0:00	35
Golf course pond	07/13/2006 0:00	26
Golf course pond	08/17/2006 0:00	20
Golf course pond	09/21/2006 0:00	12
Golf course pond	10/12/2006 0:00	14
Golf course pond	11/06/2006 0:00	15
Golf course pond	12/19/2006 0:00	56
Golf course pond	01/08/2007 0:00	76
Golf course pond	02/05/2007 0:00	93
Golf course pond	03/26/2007 0:00	280
Golf course pond	04/11/2007 0:00	160
Golf course pond	05/07/2007 0:00	150
Golf course pond	05/30/2007 0:00	94
Golf course pond	06/11/2007 0:00	96
Golf course pond	07/09/2007 0:00	81
Golf course pond	08/06/2007 0:00	24
Golf course pond	09/11/2007 0:00	16
Golf course pond	10/08/2007 0:00	15
Golf course pond	11/08/2007 0:00	15
Golf course pond	12/03/2007 0:00	20
Golf course pond	01/02/2008 0:00	520
Golf course pond	02/04/2008 0:00	1300
Golf course pond	03/04/2008 0:00	1600
Golf course pond	04/09/2008 0:00	270
Golf course pond	05/05/2008 0:00	100
Golf course pond	06/02/2008 0:00	74
Golf course pond	07/01/2008 0:00	60
Golf course pond	08/05/2008 0:00	18
Golf course pond	09/10/2008 0:00	32
Golf course pond	10/02/2008 0:00	33
Golf course pond	11/03/2008 0:00	49
Golf course pond	12/02/2008 0:00	60
Golf course pond	01/05/2009 0:00	920
Golf course pond	02/02/2009 0:00	670
Golf course pond	03/02/2009 0:00	1200
Golf course pond	04/01/2009 0:00	260
Golf course pond	05/11/2009 0:00	64
Golf course pond	06/01/2009 0:00	54
Golf course pond	07/01/2009 0:00	44
Golf course pond	08/03/2009 0:00	55
Golf course pond	09/14/2009 0:00	40
Golf course pond	10/01/2009 0:00	18
Golf course pond	11/03/2009 0:00	14
Golf course pond	12/01/2009 0:00	17
Golf course pond	01/11/2010 0:00	570
Golf course pond	02/02/2010 0:00	490

Golf course pond	03/01/2010 0:00	1200
Golf course pond	04/01/2010 0:00	260
Golf course pond	05/03/2010 0:00	130
Golf course pond	06/01/2010 0:00	72
Golf course pond	07/01/2010 0:00	16
Golf course pond	08/02/2010 0:00	13
Golf course pond	09/13/2010 0:00	16
Golf course pond	10/11/2010 0:00	19
Golf course pond	11/02/2010 0:00	15
Golf course pond	12/01/2010 0:00	21
Golf course pond	01/04/2011 0:00	1100
Golf course pond	02/01/2011 0:00	770
Golf course pond	03/14/2011 0:00	2100
Golf course pond	04/05/2011 0:00	2300
Golf course pond	05/04/2011 0:00	280
Golf course pond	06/02/2011 0:00	250
Golf course pond	06/20/2011 0:00	120
Golf course pond	07/05/2011 0:00	120
Golf course pond	08/02/2011 0:00	120
Golf course pond	09/01/2011 0:00	70
Golf course pond	10/03/2011 0:00	54
Golf course pond	11/01/2011 0:00	39
Golf course pond	12/01/2011 0:00	64
Golf course pond	01/04/2012 0:00	430



Attachment 2. Odana Pond chlorides data from Madison Department of Public Health. 2006-2012 data. No exceedances of chlorides acute toxicity data.

Sampling Date	Chloride mg/L
08/14/2006	19.28
09/25/2006	11.72
10/25/2006	12.57
11/20/2006	58.23
12/14/2006	48.49
03/20/2007	153.1
04/17/2007	222.8
06/11/2007	87.95
07/09/2007	70.83
09/04/2007	14.42
10/29/2007	13.55
4/3/08	80.5
5/27/08	92.4
7/14/08	13.9
8/26/08	22.3
9/29/08	27.4
10/21/08	22.6
3/16/09	15.8
04/16/2009	322
05/26/2009	63.7
06/15/2009	48.3
07/13/2009	38.4
09/08/2009	40.6
10/27/2009	16.1
11/23/2009	18.6
04/22/2010	173
05/24/2010	85.8
06/30/2010	16.2
07/14/2010	21.6
08/12/2010	13.1
09/09/2010	11.4
10/18/2010	20.7
11/15/2010	16.8
04/28/2011	321
06/01/2011	211
06/29/2011	108
07/25/2011	122
09/13/2011	58.1
10/03/2011	36.2
02/07/2012	144

Attachment 3. Odana Pond Total Phosphorus and Chlorophyll a data from SWIMS database. 2007-2010 data.

WDNR Odana Pond data (deepest point)

TP (mg/l)	sample date	Growing Season Average (mg/l)	Growing Season Average (ug/l)
0.313	06/20/2010		
0.352	07/18/2010	0.294333333	294.3333333
0.218	08/29/2010		
0.435	06/21/2009		
0.271	07/19/2009	0.323666667	323.6666667
0.265	09/07/2009		
0.373	06/15/2008		
0.324	07/20/2008	0.322333333	322.3333333
0.27	08/19/2008		
0.261	07/04/2007		
0.213	08/12/2007	0.23	230
0.216	09/09/2007		

Violates REC TP (40ug/l)	**4 of 4**	**Impaired**
Violates FAL TP (100ug/l)	**4 of 4**	**Impaired**

Chl. *a* (ug/l)	sample date	Growing Season Average (ug/l)
170	07/18/2010	154.5
139	08/29/2010	
25.7	07/19/2009	49.9
74.1	09/07/2009	
63.8	07/20/2008	86.9
110	08/19/2008	
107	08/12/2007	74.1
41.2	09/09/2007	

Violates REC Chl a (25ug/l)	**4 of 4**	**Impaired**
Violates FAC Chl a (60ug/l)	**3 of 4**	**Impaired**