



Documentation, Validation, & Analysis
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DISCLAIMER

PRESTO, the included help manuals, and sample data files are made available free on an "as is" basis with no implied or expressed warranties. The user must assume the entire risk of using the tool. Although PRESTO has been tested with statewide data, good engineering practice requires that all work completed using this program should be checked with alternative methods.

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Executive Summary

The objective of the Wisconsin Department of Natural Resources' (WDNR) Bureau of Water Quality is to protect and enhance Wisconsin's water resources. As part of this, the Water Quality Modeling Technical Team strives to provide the public with timely information on water quality and decision support tools to guide management decisions. Phosphorus, which is a nutrient that can impair water quality, is the focus of several new water quality regulations in Wisconsin. Reduction of phosphorus concentrations within Wisconsin waterways requires identification of the sources of phosphorus. To assist in achieving phosphorus reductions, a state-wide screening tool was developed that identifies the dominant source (point vs. nonpoint) of phosphorus within a watershed. The regulatory catalysts for this work include:

- Chapter NR 217, Wisconsin Administrative Code which controls the point source effluent limits for phosphorus;
- The Federal Clean Water Act which requires the prioritization and targeting of TMDLs in order to set limits on pollutant loading.

The Pollutant Load Ratio Estimation Tool (PRESTO) is a statewide GIS-based tool that compares the average annual phosphorus loads originating from point and nonpoint sources within a watershed. The comparison provides a screening tool for industrial and municipal dischargers to determine one of the conditions of eligibility for adaptive management as part of ch. NR 217, Wis. Adm. Code. The watershed adaptive management option described in s. NR 217.18, Wis. Adm. Code, allows a point source to achieve compliance with applicable water quality based effluent limits needed to achieve the phosphorus water quality standards criteria in a more economically efficient manner, through comprehensively managing point and nonpoint sources of phosphorus in the watershed. Under this option the permitted facility is given interim effluent limits and must work with watershed partners to implement a watershed adaptive management plan. PRESTO also helps industrial and municipal dischargers determine if water quality trading is a feasible option within their watershed. PRESTO provides dischargers with a consistent and transparent method for determining regulatory compliance and allows the DNR to make fast and effective permitting decisions to aid in the permit streamlining effort.

PRESTO was used to evaluate approximately 652 permitted industrial and municipal outfall locations throughout the state. The ratio of point to nonpoint source phosphorus loads for each evaluated facility was calculated. For 82% of the facilities evaluated (533 of 652), point sources of phosphorus were less than 50% of the total annual phosphorus load, thus satisfying one of the eligibility conditions for adaptive management.

1.0 INTRODUCTION

While phosphorus (P) is an essential nutrient for plant growth, excess phosphorus can accelerate eutrophication of water bodies, increasing the frequency of algal blooms that can negatively impact both human and ecosystem health. Locating and effectively managing the sources of phosphorus within a watershed is critical for improving water quality. The most general categories of phosphorus sources are waste water treatment facilities (hereafter called “point sources” because they discharge to surface waters at a defined point) and nonpoint sources, which include runoff from diffuse sources across the landscape. The relative significance of point and nonpoint sources of phosphorus vary substantially among watersheds, which means there is no “one-size-fits-all” approach to managing phosphorus.

The Wisconsin Department of Natural Resources (WDNR) has developed a spatial toolset called the Pollutant Load Ratio Estimation Tool (PRESTO) to compare a watershed’s average annual point and nonpoint phosphorus loads (Figure 1). PRESTO was designed to be easily modified, transparent to the end user, and provide a consistent result based on readily available datasets. PRESTO performs three basic functions: watershed delineation, nonpoint source loading estimation, and point source loading aggregation. The PRESTO outputs include a delineated watershed, watershed land cover composition, the estimated average annual nonpoint source and measured point source phosphorus loads (pounds per year), and the ratio of point to nonpoint phosphorus at a watershed outlet.

The comparison provides a screening tool for industrial and municipal dischargers to determine whether they have fulfilled s. NR 217.18(2)(b), Wis. Adm. Code, one of the conditions to determine eligibility for adaptive management. Adaptive management allows a point source to control phosphorus discharges from other point and/or nonpoint sources to achieve compliance with applicable phosphorus water quality criteria in s. NR 102.06 in the most economically efficient manner possible. PRESTO also helps industry and municipalities determine if water quality trading is a feasible option within their watershed.

While the main use of PRESTO is in support of NR 217, it also has other more general applications. The tool can be used solely for watershed delineation. The methods used in PRESTO are such that delineations performed for locations throughout the state will be consistent, following the previously established Watershed Boundary Dataset HUC12 unit boundaries (USGS and NRCS, 2011). Also, instead of using PRESTO delineated basins, the model can accept custom user-specified basins on which to perform the nonpoint and point source calculations. One example of the use of this function would be to summarize the point and nonpoint phosphorus loads for every HUC12 in Wisconsin.

The following report provides information on the model inputs, methodology, outputs and limitations; it also describes the statewide model validation and presents model output for over six hundred permitted outfalls throughout the state. Throughout the report phosphorus will refer to total phosphorus which includes both dissolved and particulate

forms of phosphorus. Section 2 of this report describes the framework upon which PRESTO is built. Section 3 specifies the standard and user-defined inputs to PRESTO. Section 4 explains the methodologies behind the watershed delineation and nonpoint source loading processes. Section 5 describes the outputs generated by PRESTO. The model limitations are outlined in Section 6. Section 7 illustrates the statewide validation of the model methodologies. Section 8 describes the results of the statewide outfall analysis. The appendices contain additional validation information, PRESTO scripting details, a statewide analysis table and table of permitted outfall locations excluded from this analysis. A companion report, the PRESTO User Manual, outlines in detail, the necessary steps to install and run PRESTO with default and user-supplied data.

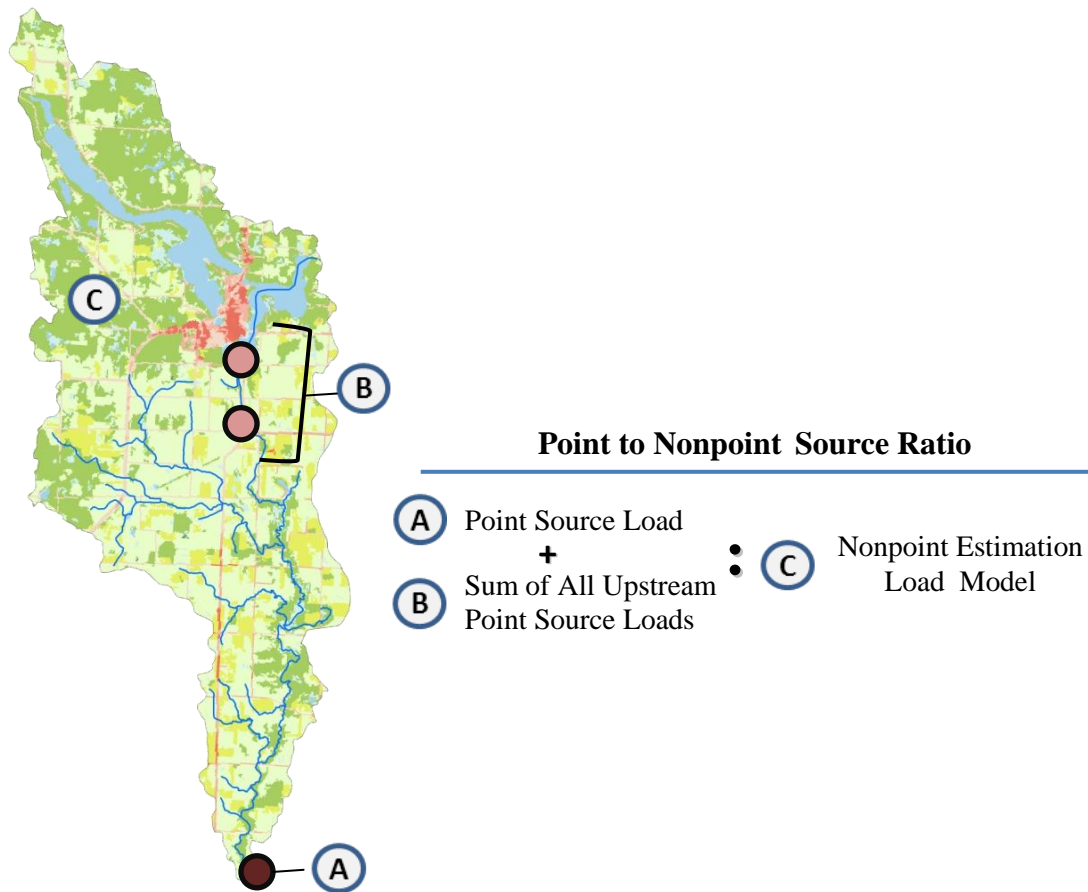


Figure 1: PRESTO Point to Nonpoint Source Phosphorus Load Ratio Calculation

2.0 PRESTO FRAMEWORK

PRESTO is written in the Python scripting language, which has been adopted as the native scripting language for ArcGIS 10, replacing Visual Basic in the command line and map algebra environments. Python was chosen as the scripting language for PRESTO not only because of the ease of integration with ArcGIS 10, but because of its transparency, availability, and power. ESRI aptly describes Python as “free, cross platform, open source, stable, mature, simple, and powerful” – with this in mind, PRESTO is designed to be easily customizable and transparent to users with only a basic knowledge of scripting. Because PRESTO performs a large number of distinct functions, these functions are divided into separate libraries (script files) for the ease of reading the script and making changes to the various subroutines in the tool.

The PRESTO interface was developed within the ArcGIS 10 Desktop framework and requires the Spatial Analyst extension. Additional system requirements are presented in the accompanying User Manual. PRESTO is packaged with an ESRI ArcMap document (*PRESTO 1.1.mxd*), toolbox (*PRESTO 1.1.tbx*), and six folders containing the model scripts and default input datasets. Even though PRESTO is comprised of several Python script files, the user needs only to open the PRESTO ToolBox within ArcMap to run PRESTO. The input screen for PRESTO requires the user to specify their input data and other datasets required for the tool to run. PRESTO can be run with only the datasets included in the tool package, though it allows the user to specify custom datasets as necessary. Detailed descriptions of the tool inputs and required datasets are included in the User Manual. The tool runs within the ArcGIS window and inserts the output files into the open ArcMap document.

3.0 PRESTO DATA SOURCES

PRESTO requires up to five spatial datasets in order to accomplish its core functions: watershed delineation, nonpoint source loading, and point source loading aggregation. PRESTO is packaged with a default set of input datasets with which the tool was designed to work. To allow for greater flexibility, PRESTO allows the user to load other datasets into the tool, provided they follow a similar attribute structure.

There are five statewide inputs included with PRESTO:

Digital Elevation Model (DEM): A DEM is used to subdelineate the area within the most downstream subbasin (e.g., HUC12) containing the user defined outfall location or delineation point. The DEM is also necessary to determine where the water drains as it leaves a subbasin. To ensure that delineation coincides with known flow paths, the DEM is hydrologically modified by filling sinks, burning in the streams, and building walls. Stream burning ensures that flow is forced to those cells that correspond to the true locations of streams; this is especially important in flat areas where the DEM may not accurately represent stream locations. In addition to developing preferred stream paths,

walls were created within the DEM ensuring that pre-defined subbasin (HUC12) boundaries are always used as part of the upstream watershed delineation. Building walls involves raising the elevation of the DEM cells along the subbasin boundaries in order to prevent flow across them.

Hydrologic Network: The hydrologic network provides PRESTO with polylines to which outfall/delineation points can be snapped and then linked with the DEM's flow accumulation grid. The hydrologic network is also necessary for one of the nonpoint source loading calculation methods.

Subbasin Boundaries: Subbasin boundaries can be used to provide consistency between the delineations that are used by other sources and ones derived by PRESTO. In addition, user-defined subbasins can be used as the basis for summarizing point and nonpoint loads.

Outfall or Delineation Points: These points define the spatial locations from which the delineation and subsequent load calculations occur. For the Wisconsin outfall file, the outfall points represent the location where a facility's end-of-pipe discharge enters a receiving water. The dataset should contain attribute information for each outfall including a unique numeric identifier, the receiving water to which the outfall discharges, and the annual effluent load per year.

Land cover: The land cover dataset is used by the nonpoint source loading calculation methods. Additional information regarding the use of the land cover dataset for the nonpoint calculations can be found in Section 4.0.

4.0 PRESTO METHODOLOGY

PRESTO performs two routines: (1) delineation of a drainage basin upstream of a point, and (2) application of a spatially-explicit nonpoint source phosphorus model (or models) to a drainage basin polygon. When running PRESTO, it is possible to perform both of these functions in sequence, or either of them individually.

4.1 *Delineation*

While tools exist to delineate watersheds within GIS (e.g., ArcHydro), one of the main goals of the delineation function within PRESTO was to have a method that was consistent throughout Wisconsin and conformed to the standard HUC12 boundaries where appropriate. The delineation method employed by PRESTO is novel and is distinguished from conventional batch watershed delineation algorithms in two primary ways: (1) short processing times and (2) minimal requirements for data preprocessing. PRESTO is capable of rapid delineation of watersheds using a DEM with burned streams, a corresponding set of stream polylines, and a set of hierarchical subbasins. These

advantages are achieved through a relatively complex delineation algorithm, which is displayed graphically in Figure 2.

The delineation algorithm can be summarized in five steps illustrated in Figure 2:

1. Subbasin topology (how each subbasin connects to another) is created using upstream-downstream basin attributes and intersecting stream lines with subbasin boundaries;
2. The outfall point is snapped to a stream;
3. The upstream section of the subbasin containing the outfall point, or “**inner watershed**”, is derived using terrain analysis;
4. Upstream subbasins are identified and joined to form an “**outer watershed**”;
5. The inner watershed and outer watershed are joined and dissolved to create the “**total watershed**”.

Rapid delineation is achieved by performing time-consuming terrain analysis on only a small area (sub-HUC12 by default), then conforming to existing basin boundaries for the upstream portions of the watersheds. The tool was designed to use the HUC12 basins, with average areas of 30 square miles.

4.2 Nonpoint Source Loading

PRESTO uses the land use classifications and drainage lines within a specific watershed to calculate the nonpoint source phosphorus loading. The nonpoint source phosphorus loading is calculated using three different methods: land use specific export coefficients, multiple regression model #1, and multiple regression model #2. This section describes the basic structure of each method. The relative merits of the three approaches are discussed in Section 7.

The first method uses land-cover-specific export coefficients from the Wisconsin Lake Modeling Suite (WiLMS) software which were derived from values published in Panuska and Lillie, 1995 and Corsi et al, 1998 and values from MPCA, 2004 (Table 2). Nonpoint phosphorus loads are calculated by multiplying the area of each land cover type in a watershed by an export coefficient for each type. Low, high, and most likely export coefficients are used to give low, high, and most likely annual loading values. Table 1 displays the NLCD land cover categories and their corresponding export coefficients.

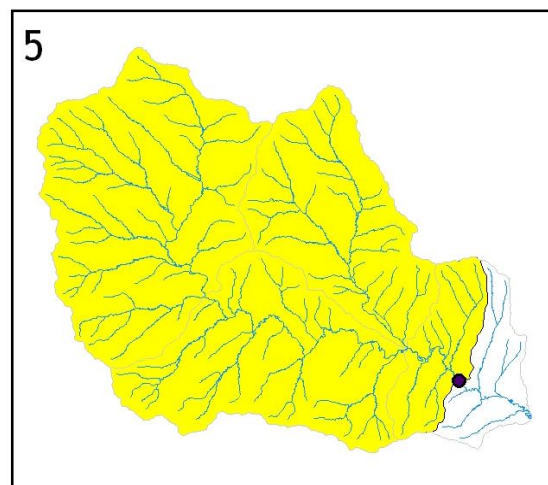
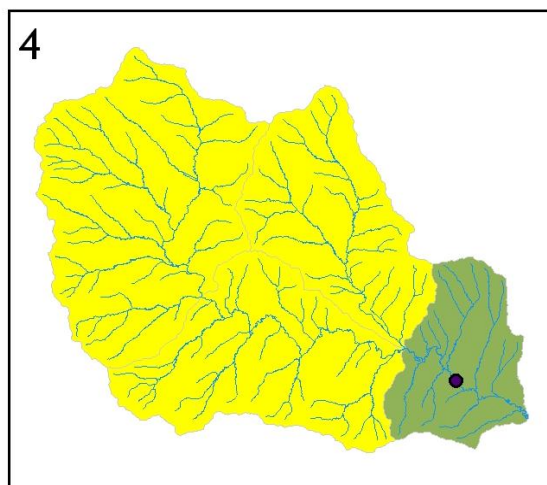
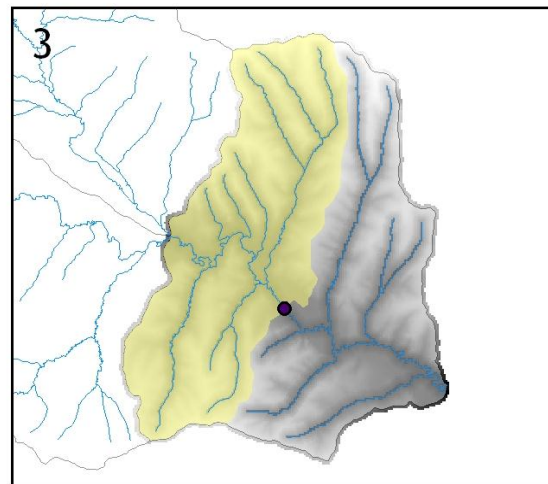
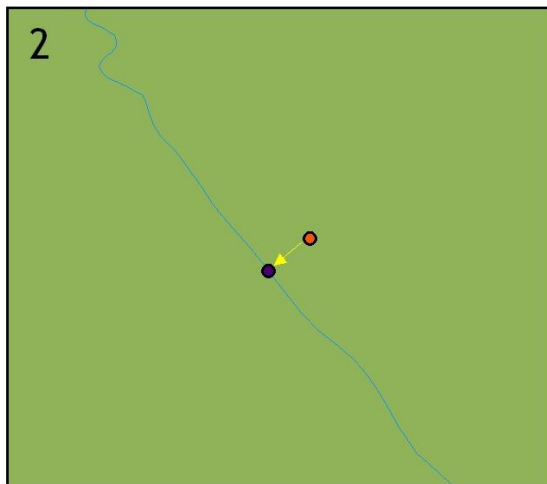
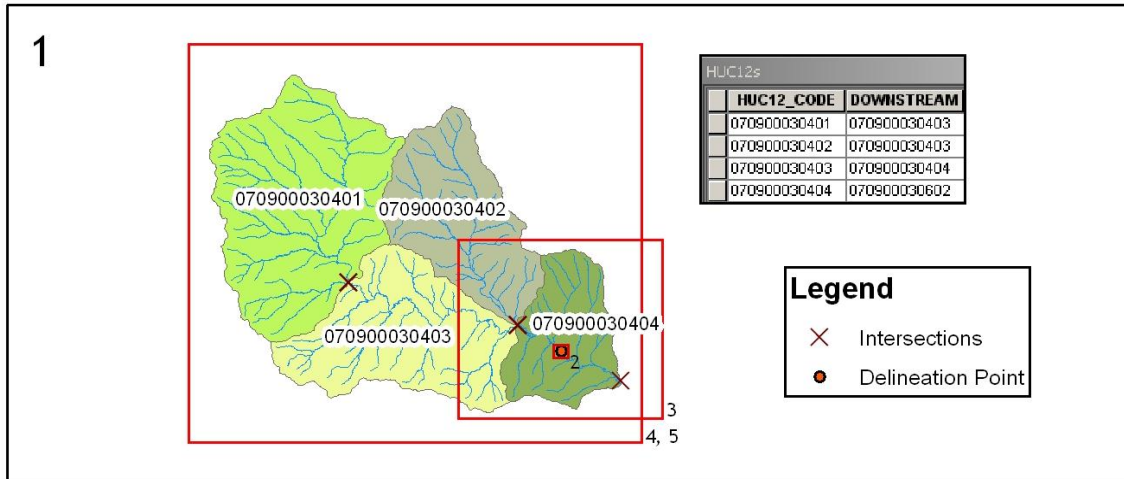


Figure 2: Delineation Process

Table1: Phosphorus export coefficients by land cover category.

LC ID	Description	P Low		P Most Likely		P High		Source
		lb/mi ²	(kg/ha)	lb/mi ²	(kg/ha)	lb/mi ²	(kg/ha)	
11	Open Water	0	(0)	0	(0)	0	(0)	NA
21	Developed, Open Space	57	(0.1)	171	(0.3)	286	(0.5)	WiLMS: Pasture/Grass
22	Developed, Low Intensity	29	(0.05)	57	(0.1)	143	(0.25)	WiLMS: Rural Residential (> 1 Ac)
23	Developed, Medium Intensity	171	(0.3)	286	(0.5)	457	(0.8)	WiLMS: Medium Density Urban (1/4 Ac)
24	Developed, High Intensity	571	(1.0)	856	(1.5)	1142	(2.0)	WiLMS: High Density Urban (1/8 Ac)
31	Barren Land	0	(0)	0	(0)	0	(0)	NA
41	Deciduous Forest	29	(0.05)	54	(0.09)	103	(0.2)	WiLMS: Forest
42	Evergreen Forest	29	(0.05)	54	(0.09)	103	(0.2)	WiLMS: Forest
43	Mixed Forest	29	(0.05)	54	(0.09)	103	(0.2)	WiLMS: Forest
52	Shrub/Scrub	43*	(0.08)*	74	(0.13)*	123*	(0.22)*	MPCA, 2004: Shrubland/Transitional
71	Grassland/Herbaceous	57	(0.1)	97	(0.17)	143	(0.25)	MPCA, 2004: Grassland/Herbaceous
81	Pasture/Hay	57	(0.1)	171	(0.30)	286	(0.5)	WiLMS: Pasture/Grass
82	Cultivated Crops	286	(0.5)	571	(1.0)	1713	(3.0)	WiLMS: Row Crop AG
90	Woody Wetlands	0	(0)	0	(0)	0	(0)	NA
95	Emergent Herbaceous Wetlands	0	(0)	0	(0)	0	(0)	NA

* Average of Deciduous Forest and Grassland/Herbaceous values

The second method (MR #1) uses a multiple regression model that was modified from a version originally developed for the Wisconsin Buffer Initiative (Diebel, *et. al.* 2009). In the model, grassland along streams is associated with more nonpoint phosphorus loading, and may represent phosphorus from grazing animals. Forest in the stream watershed is associated with less phosphorus, and can be considered the inverse of cropland. Stream density represents the capacity of the landscape to transport phosphorus. The validation analysis described in Section 7 showed that Model #1 is the best predictor of measured phosphorus loads statewide.

$$\log_{10}(P) = -0.01284 + 0.12966 * \sqrt{G} + 4.80482 * \frac{1}{F + 4} + 1.57791 * \ln(S + 1)$$

Where

- P = average annual total phosphorus load in kg/km²
- G = % grassland in 30 meter zone around 24k streams
- F = % forest in the watershed
- S = stream density or the total length of 24k streams in watershed divided by the watershed area

The third method uses multiple regression model #2, which was developed from the same dataset as MR #1, but using a different combination of variables. The land cover variables in MR #2 are cropland and urban land, whose connections to phosphorus loading are more well-defined than the variables in MR #1. Despite its more intuitive structure, the predictive ability of MR #2 is somewhat less than MR #1, which is why both models are included in PRESTO.

$$\log_{10}(P) = 0.241141 + 0.006127 * C + 0.127819 * \ln(U + 1) + 1.666141 * \ln(S + 1)$$

Where

- P = average annual total phosphorus load in kg/km²
- C = % cropland in the watershed
- U = % urban land in the watershed
- S = stream density or the total length of 24k streams in watershed divided by the watershed area

As with the export coefficients (Table 1), both multiple regression models can also be used to predict low, high, and most likely load estimates. Most likely values are derived directly from the equations above. Low and high load estimates account for uncertainty in the actual effects of the model variables and are calculated as the bounds of the 80% prediction interval from the regression equation. This means that we can be 80% confident that the load will fall within that range.

4.3 Point Source Loading

Annual permitted municipal and industrial point source loads have been calculated from permitted facilities with effluent flow and phosphorus monitoring records stored in the WDNR's SWAMP database. To calculate the annual phosphorus loads, first the average annual discharge and phosphorus concentration were calculated from the specific year's monitoring data. There were several instances in which missing records (usually phosphorus, rarely flow) were replaced with estimated values. Some permittees, typically smaller facilities, were not required to collect routine phosphorus data. In those instances, an estimated value based on the most recent year's monitoring record was used.

$$\text{Annual Discharge (MGD)} = \frac{\text{Measured Total Flow (MGD)}}{\text{\# of Discharge Days}}$$

$$\text{Annual P (mg/L)} = \frac{\sum (\text{P Sample Concentrations (mg/L)})}{\text{\# of Samples}}$$

$$\text{Annual P Mass (lbs)} = \text{Annual Discharge} * \text{Annual P Concentration} * 8.344 * 365.25$$

The annual loading data was joined to the georeferenced active outfalls coverage stored within WDNR's SDE spatial server. In the instances where a permit had multiple outfalls, the loads were summed together to represent a single load per permitted site. At the time of this effort, there were 722 permitted outfalls throughout Wisconsin that were georeferenced and had phosphorus monitoring data.

To define the point source loading, PRESTO calculates the total loading upstream from a particular point source and exports that value along with the loading at the location of interest (if applicable). These results and the nonpoint source load are used to calculate the ratio of point to nonpoint source loads at each outfall location or user-defined subbasin.

5.0 PRESTO OUTPUTS

PRESTO applies the methodology in Section 4.0 to determine the ratio of the point source loading to the nonpoint loading, which is dependent on the nonpoint estimation model that is used. In conjunction with the phosphorus point to nonpoint source ratio, the PRESTO outputs information related to the watershed's land cover and other calculations related to the nonpoint source (Table 2).

Table 2: PRESTO Output Categories

Output Category	Output Sub-Category
Watershed Characteristics	Basin Area
	Stream Density
	% Grassland within 30 meters of stream reach
Land Cover	% composition of each land cover type in the watershed
Point Load	P load of all upstream point sources
	P load of point source
Nonpoint Estimation Model – Export Coefficient (EC)	EC Model P Load Estimate (most likely)
	ECModel P Load Estimate (lower bound)
	ECModel P Load Estimate (upper bound)
	ECModel Total Load (most likely estimate load, point source load, all upstream point source load)
	PS:EC NPS Load Ratio (%)
	Export Coefficient Model P Yield Estimate
Nonpoint Estimation Model – Multiple Regression #1 (MR #1)	MR #1 Load Estimate (most likely)
	MR #1 Load Estimate (lower bound)
	MR #1 Load Estimate (upper bound)
	MR#1 Total Load (most likely estimate MR#1 load, point source load, all upstream point source load)
	PS:MR #1 NPS Load Ratio (%)
	Multiple Regression Model #1 P Yield Estimate
Nonpoint Estimation Model – Multiple Regression #2 (MR #2)	MR #2 Load Estimate (most likely)
	MR #2 Load Estimate (lower bound)
	MR #2 Load Estimate (upper bound)

	MR#2 Total Load (most likely estimate MR#2 load, point source load, all upstream point source load)
	PS : MR #2 NPS Load Ratio (%)
	Multiple Regression Model #2 P Yield Estimate

The attribute information in Table 2 can be output in three spatial forms, as specified by the user:

- **Points** – A point shapefile containing the locations of the snapped outfall/delineation points, with model outputs as attributes
- **Combined Watersheds** – A single polygon shapefile containing polygons representing delineated watersheds, with model outputs as attributes
- **Individual Watersheds** – A series of polygon shapefiles containing a single polygon representing a delineated watershed, with model outputs as attributes

6.0 PRESTO LIMITATIONS

PRESTO was designed for the purpose of supporting NR 217 and TMDL prioritization at a statewide level. While several of its functions may have other applications, users should be aware of the following limitations:

- The most downstream HUC12 typically requires sub-delineation using a 30-meter DEM (default dataset). The subwatershed delineation is only as accurate as the DEM resolution and burned hydrology, though PRESTO does allow the user to integrate more detailed datasets if they are available.
- PRESTO can only be applied for watersheds fully within Wisconsin. All input data layers are clipped at the Wisconsin border even though some watersheds extend into neighboring states.
- PRESTO may not be very accurate for watersheds with significant internally drained areas because the nonpoint load estimation assumes that the entire drainage contributes.
- Application to highly urban areas may lead to inaccurate results because of the highly modified drainage patterns indicative of urban areas. Landscapes that drain to stormwater systems export pollutants differently than those that rely primarily on overland runoff. PRESTO's nonpoint estimation models were developed in landscapes with a small urban land cover component.
- The watershed delineation may not accurately delineate small watershed areas in very flat regions due to the resolution of the default DEM.

- The nonpoint source load estimation methods predict loading under average climatic conditions and therefore will not accurately predict loading in years with extremely high or low runoff.
- The applicability of PRESTO for subwatershed prioritization (HUC12 or smaller) cannot be verified due to lack of extensive monitoring data within watersheds of that scale.

7.0 PRESTO STATEWIDE VALIDATION

Each nonpoint estimation model used in PRESTO was developed based on measured phosphorus load data from throughout Wisconsin. Therefore, these methods should give reasonable results when applied to watersheds within the state. To verify this, the three PRESTO nonpoint estimation models were compared to measured annual loadings at numerous points throughout the state. This exercise demonstrates the validity of the methods, reveals which method performs best statewide, and which nonpoint estimation models are more appropriate for watersheds with different characteristics.

7.1 *Measured Phosphorus Loading*

The measured annual phosphorus loading values were obtained from two main sources. The first was a USGS publication (Corsi et. al., 1997) that reported unit-area loads from small watersheds in Wisconsin. This publication presented median annual total phosphorus loads at 52 sites throughout the state. The sites represented watersheds with data from 1975 to 1996, drainage areas less than 200 square miles, one or more years of continuous data, and less than 15% of the total monitored yearly load attributable to point sources.

The second source of measured annual phosphorus loading was data developed by the USGS to support SPARROW model calibration (Saad et. al., 2011). This dataset consisted of mean annual phosphorus loads that were detrended to a 2002 base year. These annual loads were determined using Fluxmaster and consisted of data from 1970 to 2007. Individual measurement locations had between 27 and 1038 phosphorus concentration measurements that were used in the loading calculation. The process of detrending helps “compensate for differences in the length and amount of monitoring data among sites, and minimizes the inherent noise introduced by year-to-year variations” (Saad et. al., 2011).

While these two datasets were not developed in exactly the same way, it was the best information available for this analysis. Therefore, the inconsistencies between datasets can be included as a source of uncertainty in this validation analysis.

In order to validate the multiple regression models against an independent data source, any measured load location that was used in the development of the multiple regression analysis was excluded from the validation dataset. The export coefficients developed in Panuska and Lilly, 1995, (and used in WiLMS) used phosphorus loads from various

studies throughout the state. Some of the data used to determine those loads, and thus the export coefficients, may overlap with some of the data being used for the validation. Without knowing exactly what data overlaps, it was not possible to exclude it from the validation dataset.

7.2 Validation Analysis

PRESTO was used to delineate drainage basins for each of the measured data locations. After eliminating the known monitoring sites used in the development of one the nonpoint estimation models, 77 were selected to measure how well the three nonpoint methods performed (Figure 3).

In addition to the drainage basin delineation, PRESTO also calculated the annual nonpoint phosphorus load using each of the three nonpoint estimation methods for each delineated drainage basin and summed the total average annual point loads (upstream point load plus primary point load) using the average point load from 1995-2009. Again, since this timeframe does not necessarily match that of the measured data, this also contributes to the uncertainty in this analysis. The upstream point source loads were added to the nonpoint loads and then compared to the measured loads. This comparison assumes there is no loss or gain of phosphorus within the stream channels, presenting another source of uncertainty in the analysis.

7.3 Validation Statistics

Several goodness-of-fit measures were used to determine which nonpoint estimation method predicted loads that best corresponded with measured loads; they included graphical, Nash-Sutcliffe, percent bias, ratio of root mean square error to standard deviation, average percent error, and coefficient of determination as suggested by Moriasi et al, 2007. Since each measure has its own strengths and weaknesses, looking at several measures provides a more holistic view of model performance.

Figure 4 is a plot of the observed versus “most likely” predicted annual phosphorus loads for each of the three nonpoint methods. This plot reveals that, in general, the larger the annual load the larger the error, though with the great range of values, it is difficult to visualize the performance of the models at low annual load values.

Since there was a large scale range of the data, it was also plotted on a log-log scale shown in Figure 5. This type of plot is better at displaying percent differences of the predicted values from observed. This plot now shows less variability in the larger loads and more in the smaller loads. Both this and the previous plots show that MR #2 tends to overpredict, while the other two methods appear to have the tendency to over- and under-predict.

Plots such as figures 4 and 5 are useful to visualize the data; but to more objectively evaluate the goodness-of-fit of each model, several statistics are presented in Table 3.

Table 3: Statewide fit statistics.

	Export Coefficient	MR #1	MR #2
Nash-Sutcliffe	0.64	0.81	-0.11
Percent Bias	23%	-17%	69%
RSR (RMSE/SD)	0.60	0.43	1.05
Average % Error	47%	-6%	113%
R²	0.88	0.83	0.89

The fit statistics calculated in Table 3 show that MR#1 gives the best results in all measures except coefficient of determination, though the value is not significantly different than for the other two models.

In addition the fit statistics were calculated on subsets of the data according to ecoregion, drainage area, stream density, and percentages of land use in agriculture, forest and urban. Those results are shown in Tables A1-A10 Appendix A. See Figure 6 for a map of Wisconsin ecoregions, based on the Level III classification with the addition of the Central Sands region. Data plots of fit statistics and error versus various watershed metrics are shown in Appendix A Figures A1-A9.

7.4 Discussion

The fit statistics show that, in general, the MR #1 model performs best statewide, with the land use export coefficient method the next best. The MR #2 model generally over-predicts loads at larger drainage areas, though when the data are log-transformed, the fit statistics are comparable to the other two methods. The MR #1 and export coefficient models perform better at higher stream densities than the MR #2 model and similarly for drainage basins where agriculture is dominant, though stream density is slightly positively correlated to percent agriculture in these basins. There are fewer drainage areas that are dominated by forest and urban, but all models perform well in forested basins while the MR #2 model performs best in highly urbanized basins, which is expected since it uses percent urban area in the basin in its calculation. None of the methods simulated phosphorus loading in the Central Sands area well, though there were only 4 validation points within this ecoregion. The export coefficient model performs best in the Driftless Area with little difference between models in the remaining ecoregions.

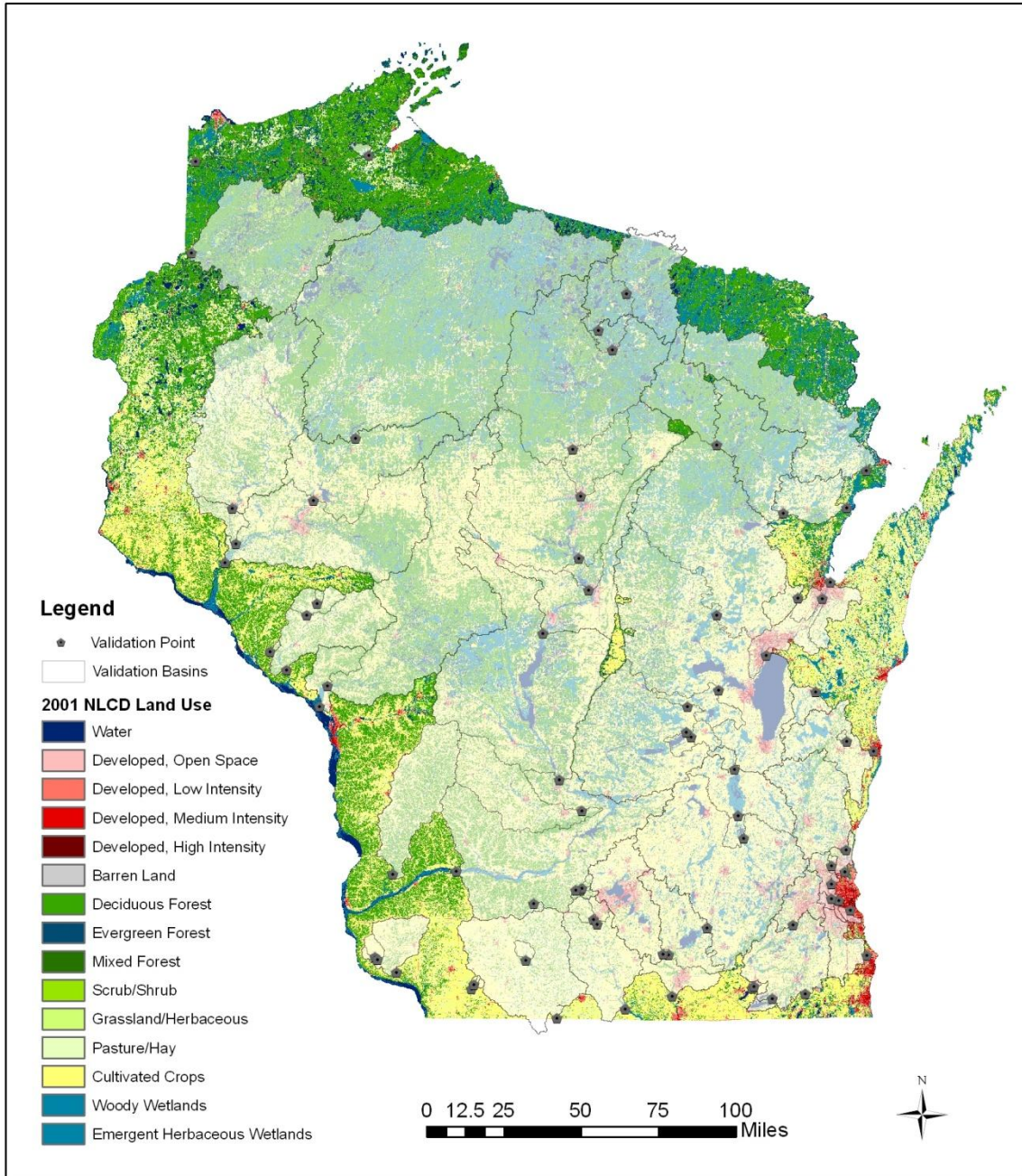


Figure 3: Validation analysis points and associated drainage basins

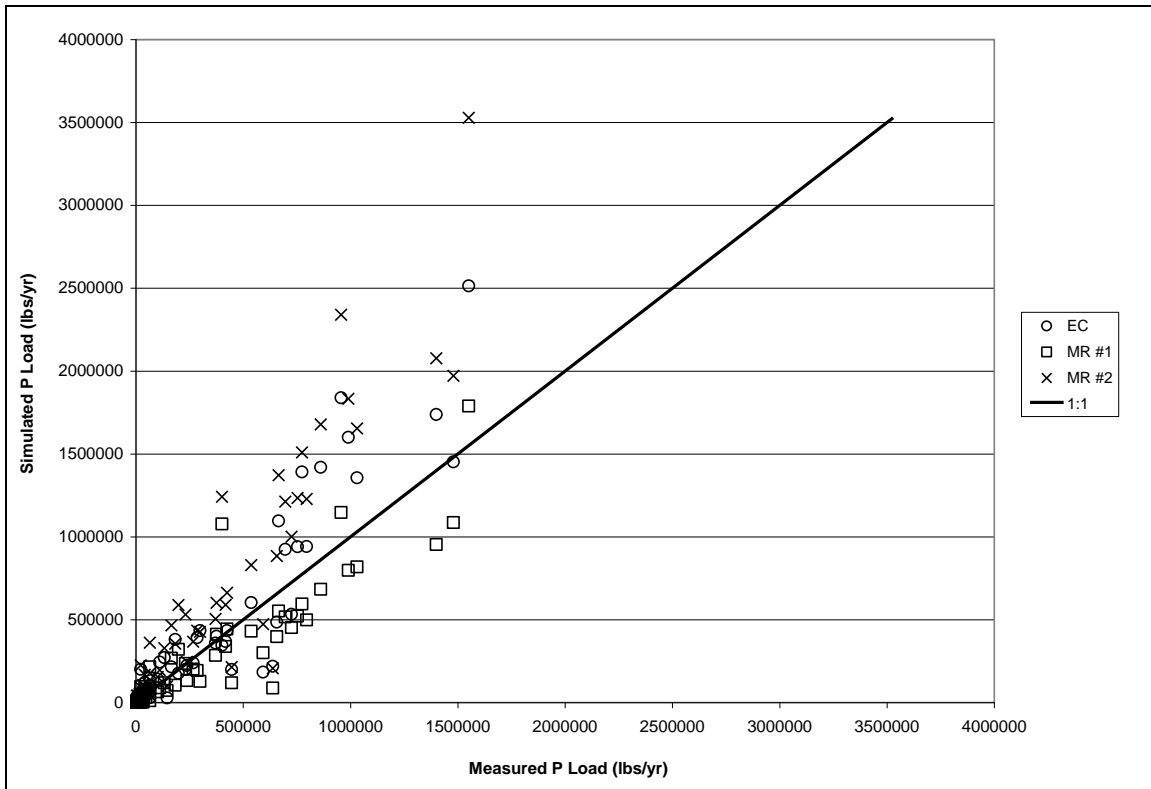


Figure 4: Measured versus “most likely” simulated annual phosphorus loads.

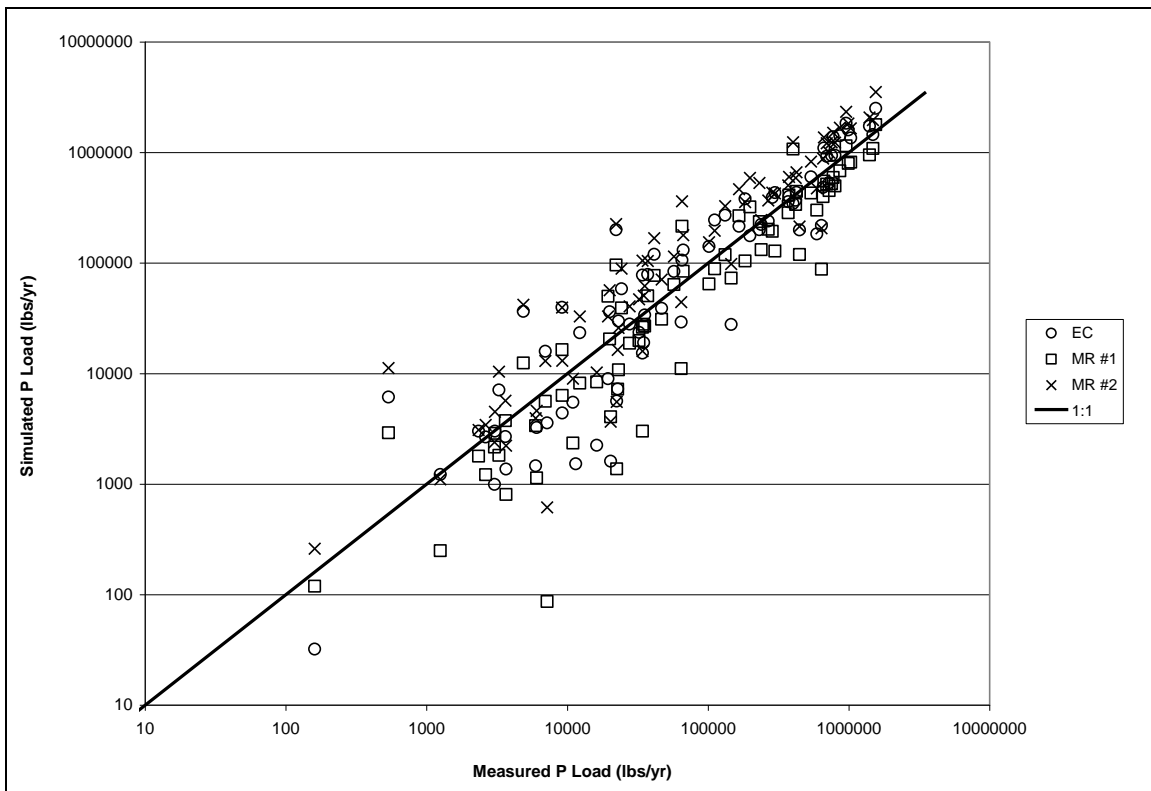


Figure 5: Log measured versus log simulated annual phosphorus loads

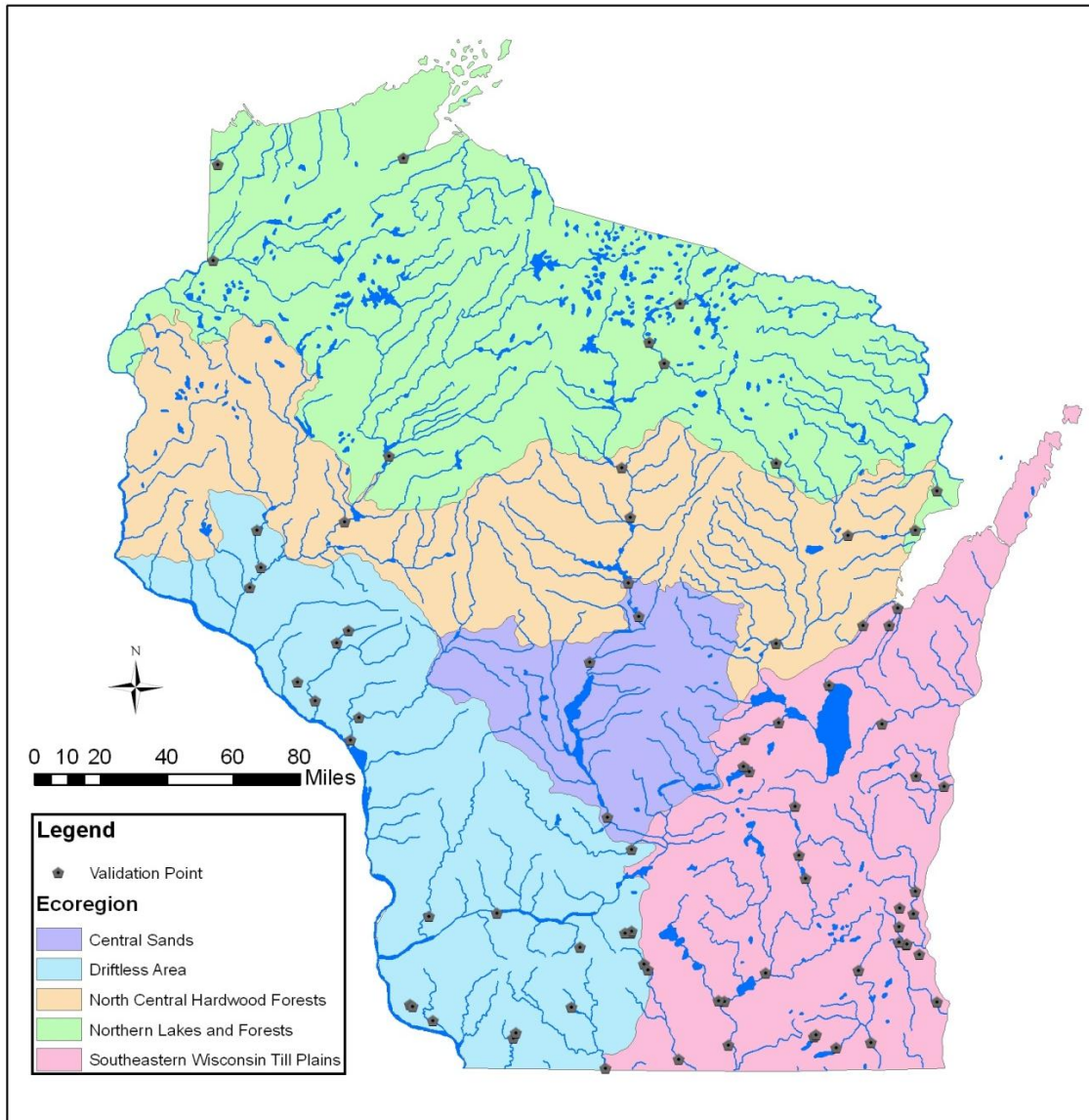


Figure 6: Validation Points per Wisconsin Ecoregion

8.0 VALIDATION OF SUBWATERSHED PRIORITIZATION

In addition to calculating the ratio of point to nonpoint source contributions based on a specified outfall or delineation point, PRESTO can also be applied to pre-defined subwatersheds such as the PRESTO default HUC12 subwatersheds. Each individual subwatershed serves as the spatial unit for modeling and analysis and therefore point and nonpoint loads are calculated for each subwatershed. One application for this type of analysis would be a screening level approach towards identifying subwatersheds with the largest pollutant loads.

To validate the applicability of the different nonpoint source estimation models in targeting phosphorus export from subwatersheds within a large drainage, two of the three

nonpoint estimation models (export coefficient and MR #1) used in PRESTO were compared to the results of a data intensive, process based model called the Soil and Water Assessment Tool (SWAT). The MR #2 model was omitted from this analysis because the estimated loads were statistically less relevant than the other two methods when evaluated against statewide monitoring data. The Eau Claire River Watershed in western Wisconsin was used for the comparison of SWAT and the PRESTO nonpoint estimation models since the SWAT model had already been applied there. Given the process-based nature of the SWAT model, the detail of the input data, and rigor of calibration, we consider the SWAT model results to be the best information available. The Eau Claire Watershed is an 800 square mile watershed with 37 subwatersheds (average size 22 mi²).

When comparing the two PRESTO nonpoint source estimation methods against SWAT, the MR #1 model estimated a watershed outlet load that most closely matched the SWAT simulated load. While the MR #1 model most closely matched the SWAT simulated phosphorus load at the watershed outlet, the individual subwatershed loads calculated by the MR #1 model did not have the same spatial pattern as the SWAT model results (Figure 7). The export coefficient model more closely matched the spatial pattern of the SWAT model; however, the annual total nonpoint source load was overestimated compared to the SWAT model results. These same trends held true in other SWAT modeled watersheds including the Mead Lake and Red Cedar watersheds.

The results of this analysis indicate that without detailed monitoring data to verify phosphorus export from both the larger basin and its contributing subwatersheds, the use of PRESTO for targeting nonpoint source reduction efforts toward subwatersheds with high phosphorus export may be inappropriate. At the watershed outlet, the MR #1 produced a similar phosphorus load as the SWAT model, indicating that when compared to a multi-objective calibrated SWAT model, MR #1 is best choice of the three models nonpoint source estimation for watersheds not dominated by urban land use.

9.0 PRESTO STATEWIDE ANALYSIS

One of the main objectives of the PRESTO development was to provide industrial and municipal dischargers throughout Wisconsin the information necessary to determine if they satisfy one of the preconditions for adaptive management as stated in Wisconsin administrative code NR 217. Appendix B presents the point to nonpoint source phosphorus load ratio for every georeferenced permitted outfall in Wisconsin for which effluent monitoring data was available (excluding some in the Milwaukee River Basin in the highly urbanized area). If the facility and all permitted upstream point sources within their watershed contribute less than 50% of the phosphorus loading at the outfall point, then the facility has fulfilled NR 217.18(2)(b) and may be eligible for adaptive management.

Comparison of Eau Claire River Watershed (800 mi²) Phosphorus Loads per Subwatershed
Using Three Nonpoint Source Estimation Models

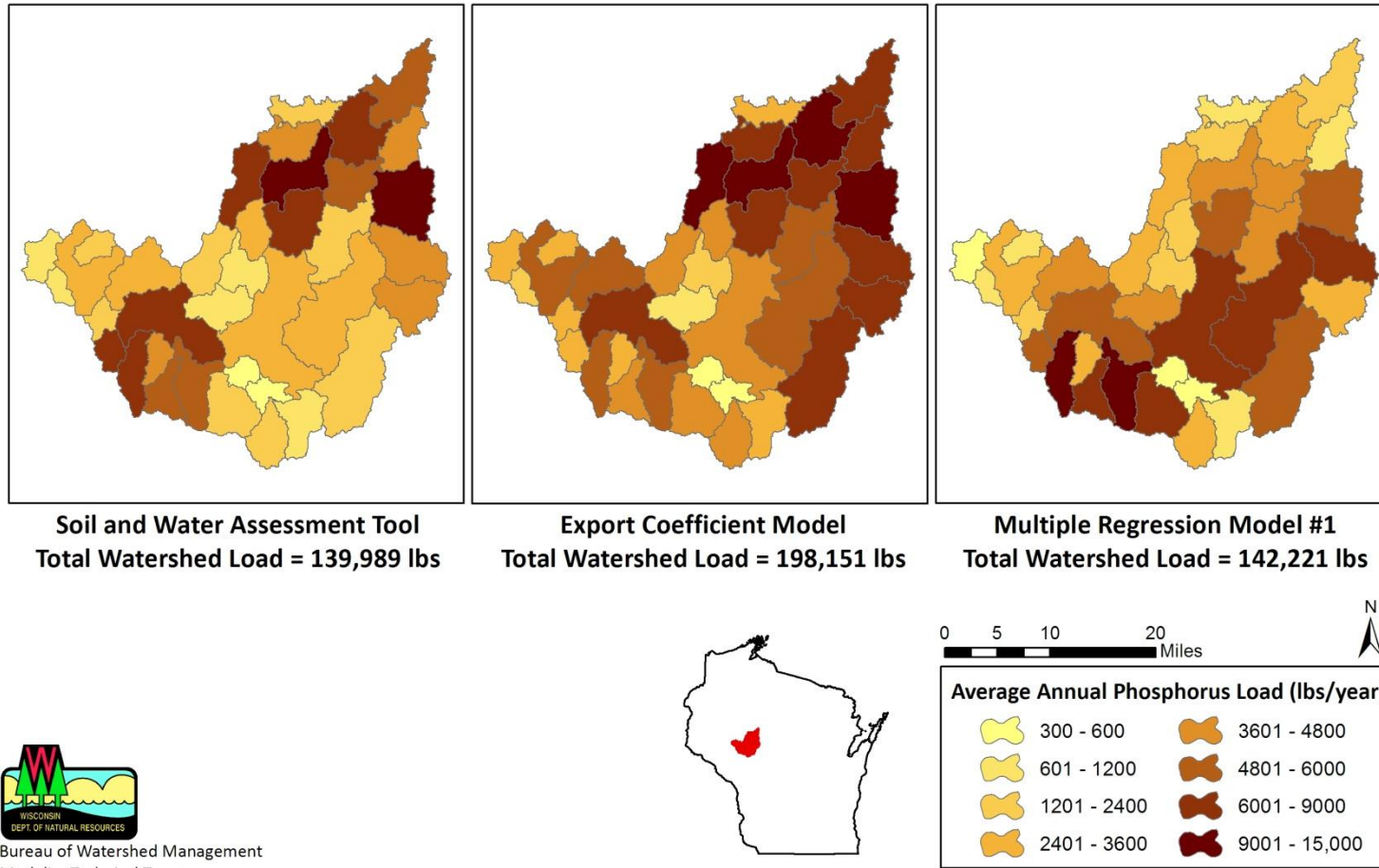


Figure 7: Comparison of nonpoint estimation models for subwatershed prioritization

9.1 Data

The data used for this analysis are described in Section 3. Some modifications to the original datasets were necessary to enable the tool to delineate the appropriate contributing watershed. The data are listed below along with the modifications made.

- HUC 12 Boundaries: Some of the “Downstream” HUC12 values were modified because errors were found in the original dataset.
- Outfall locations: Some outfall locations were eliminated from the analysis because their contributing watershed extended beyond the state boundary (the input datasets were clipped at the state line) or they were located in Lake Michigan or Lake Superior. In addition, because of the resolution of the DEM and stream drainage network, adjustments were necessary to some of the outfall (end of pipe) locations so that PRESTO would delineate the appropriate contributing watershed. Outfall locations were moved for the following reasons:
 - The outfall was near a stream junction and had to be moved slightly past the junction because of DEM resolution;
 - The outfall discharged to a ditch tributary upstream of its official receiving water and had to be moved to the receiving water.
- Hydrography: orphan reaches and lake/reservoir shorelines were removed.
- Land use: no modifications made for this analysis.
- DEM: no modifications made for this analysis.

9.2 Results

PRESTO was run on the outfall points for each major basin in Wisconsin except those within the densely urban region of the Milwaukee River Basin. These points were omitted from the analysis because of the highly altered drainage pattern (storm sewers, etc.) and is therefore outside the nonpoint source models’ application range. The results of the statewide analysis are shown in Appendix B. They are organized by major drainage basin, then by phosphorus source ratio, then by alphabetical order. Because there is some uncertainty in the output results, plots of the reported point source contribution percentage along with the 80% confidence interval are presented in Appendix B. The delineated contributing watersheds for each point source are in *watersheds.shp* and will also be available on the WDNR’s Surface Water Data Viewer.

According to this screening-level analysis, 533 dischargers (if the lower limit of the confidence interval is used) out of the 652 evaluated would satisfy NR 217.18(2)(b) and may be eligible for adaptive management.

As was mentioned, numerous outfall locations were not evaluated as part of this analysis. First, some points falling within the Milwaukee River Watershed were excluded because of the highly urbanized nature of the lower portion of the basin. In addition, there are many outfalls that discharge into Lakes Michigan and Superior, the Mississippi River and

other waters located along the state boundary. Since the contributing basins at those points contain areas outside the state, they were eliminated from this analysis. Finally, there were also some outfalls that have not yet been geo-located and added to the WDNR outfall GIS layer. The facility outfalls excluded from this analysis are presented in Appendix C along with their receiving water and reason for exclusion.

10.0 CONCLUSIONS

The Wisconsin Department of Natural Resources (WDNR) has developed a spatial toolset called the Pollutant Load Ratio Estimation Tool (PRESTO) to compare a watershed's average annual point and nonpoint phosphorus loads. The comparison provides a screening tool for industrial and municipal dischargers to determine whether they have fulfilled NR 217.18(2)(b), one of the conditions to determine eligibility for adaptive management.

PRESTO is written in the Python scripting language, and is run through ArcGIS 10 with Spatial Analyst. It is designed to be easily customizable and transparent to users with even basic scripting skills.

PRESTO can be run with only the datasets included in the tool package, though it allows the user to specify custom datasets as necessary. The default datasets include: 30 meter digital elevation model (DEM), 1:24k hydrologic network, HUC12 subbasin boundaries, statewide georeferenced permitted outfall points, and 2006 statewide land cover.

PRESTO performs two routines: (1) delineation of a drainage basin upstream of a point, and (2) application of a spatially-explicit nonpoint source phosphorus model (or models) to a drainage basin polygon. The delineation method employed by PRESTO is novel and is distinguished from conventional batch watershed delineation algorithms in two primary ways: (1) short processing times and (2) minimal requirements for data preprocessing. PRESTO uses the land use classifications and drainage lines within a specific watershed to calculate the nonpoint source phosphorus loading, which can be calculated using three different methods: land use specific export coefficients, multiple regression model #1, and multiple regression model #2. High, low, and most likely values are calculated for each method providing the user with the understanding of the range of model certainty.

The PRESTO outputs include snapped outfall locations and watershed polygons with the following associated attributes: watershed characteristics, land cover breakdown, aggregated point source phosphorus loading, nonpoint phosphorus load estimations from three methods, and ratios of point to nonpoint phosphorus loading.

As with any model system, PRESTO has limitations related to both the methods employed for estimating the nonpoint source phosphorus loading and the default datasets provided for those calculations. While PRESTO can be employed for uses other than in support of NR217, the user is encouraged to be aware of the limitations for other applications.

To verify the validity of the nonpoint source estimation models used in PRESTO the outputs from the three nonpoint estimation models were compared to measured annual loadings at numerous points throughout the state. This process revealed that the multiple regression model #1 (MR #1) performed the best statewide. The validation also showed that the other nonpoint estimation models may be more appropriate for watersheds with certain characteristics.

The PRESTO results were also compared to results of a more detailed model, SWAT, for a few basins in the state to determine if the PRESTO results were appropriate to use to target specific subbasins for implementation of phosphorus load reduction strategies. The results of this analysis indicate that without detailed monitoring data to verify phosphorus export from both the larger basin and its contributing subwatersheds, the use of PRESTO for implementation targeting of subwatersheds with high phosphorus export may be inappropriate. Further validation with a more detailed monitoring dataset is warranted.

PRESTO (using multiple regression model #1 for nonpoint phosphorus load estimation) was used to evaluate 652 permitted industrial and municipal outfall locations throughout the state. According to this screening-level analysis, 533 dischargers out of the 652 evaluated would satisfy NR 217.18(2)(b) and may be eligible for adaptive management.

PRESTO, the documentation, user manual, model scripts and datasets, and results of the statewide analysis are being made available to both internal and external DNR customers and will be supported by the WDNR Modeling Technical Team.

11.0 REFERENCES

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- Panuska, J.C. and R.A. Lillie. 1995. Phosphorus Loadings from Wisconsin Watersheds: Recommended Phosphorus Export Coefficients for Agricultural and Forested Watersheds. WDNR Research Findings Report No. 38. PUBL-RS-738 95. 8p.
- Saad, D.A., G.E. Schwarz, D.M. Robertson, and N.L. Booth. 2011. A Multi-Agency Nutrient Dataset Used to Estimate Loads, Improve Monitoring Design, and Calibrate Regional Nutrient SPARROW Models. *Journal of the American Water Resources Association (JAWRA)* 1-17.

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<<http://www.pca.state.mn.us/index.php/view-document.html?gid=3985>>.

U.S. Geological Survey and U.S. Department of Agriculture, Natural Resources Conservation Service, 2011, Federal Standards and procedures for the National Watershed Boundary Dataset (WBD), (2d ed.): U.S. Geological Survey Techniques and Methods 11–A3, 62 p.

APPENDIX A
VALIDATION STATISTICS TABLES AND PLOTS

Table A1. Fit statistics for drainage basins within Central Sands (N=4).

	LU Export Coeff.	MR #1	MR #2
Nash-Sutcliffe	-11.73	-1.18	-35.70
RSR (RMSE/SD)	3.57	1.48	6.06
R2	0.61	0.61	0.52

Table A2. Fit statistics for drainage basins within Driftless Area (N=24).

	LU Export Coeff.	MR #1	MR #2
Nash-Sutcliffe	0.74	0.89	-0.05
RSR (RMSE/SD)	0.51	0.33	1.02
R2	0.87	0.90	0.89

Table A3. Fit statistics for drainage basins within North Central Hardwood Forests (N=5).

	LU Export Coeff.	MR #1	MR #2
Nash-Sutcliffe	0.87	0.77	-0.01
RSR (RMSE/SD)	0.36	0.48	1.00
R2	0.93	0.98	0.98

Table A4. Fit statistics for drainage basins with within NorthernLakes and Forests (N=10).

	LU Export Coeff.	MR #1	MR #2
Nash-Sutcliffe	0.90	0.93	0.53
RSR (RMSE/SD)	0.32	0.26	0.69
R2	0.90	0.97	0.94

Table A5. Fit statistics for drainage basins within Southeastern Wisconsin Till Plains (N=34).

	LU Export Coeff.	MR #1	MR #2
Nash-Sutcliffe	0.59	0.69	0.00
RSR (RMSE/SD)	0.64	0.56	1.00
R2	0.88	0.71	0.86

Table A6. Fit statistics for drainage basins with areas greater than median (511 mi², N=38).

	LU Export Coeff.	MR #1	MR #2
Nash-Sutcliffe	0.50	0.72	-0.39
RSR (RMSE/SD)	0.71	0.52	1.18
R2	0.83	0.76	0.87

Table A7. Fit statistics for drainage basins with stream density greater than median (0.81, N=38).

	LU Export Coeff.	MR #1	MR #2
Nash-Sutcliffe	0.47	0.78	-0.78
RSR (RMSE/SD)	0.73	0.47	1.34
R2	0.87	0.81	0.89

Table A8. Fit statistics for drainage basins with agriculture > 50% (N=13).

	LU Export Coeff.	MR #1	MR #2
Nash-Sutcliffe	0.56	0.44	-0.36
RSR (RMSE/SD)	0.66	0.75	1.17
R2	0.79	0.51	0.73

Table A9. Fit statistics for drainage basins with forest > 50% (N=7).

	LU Export Coeff.	MR #1	MR #2
Nash-Sutcliffe	0.97	0.94	0.59
RSR (RMSE/SD)	0.17	0.25	0.64
R2	0.97	1.00	0.99

Table A10. Fit statistics for drainage basins with urban > 50% (N=4).

	LU Export Coeff.	MR #1	MR #2
Nash-Sutcliffe	0.31	-0.50	0.67
RSR (RMSE/SD)	0.83	1.23	0.57
R2	0.96	0.95	0.95

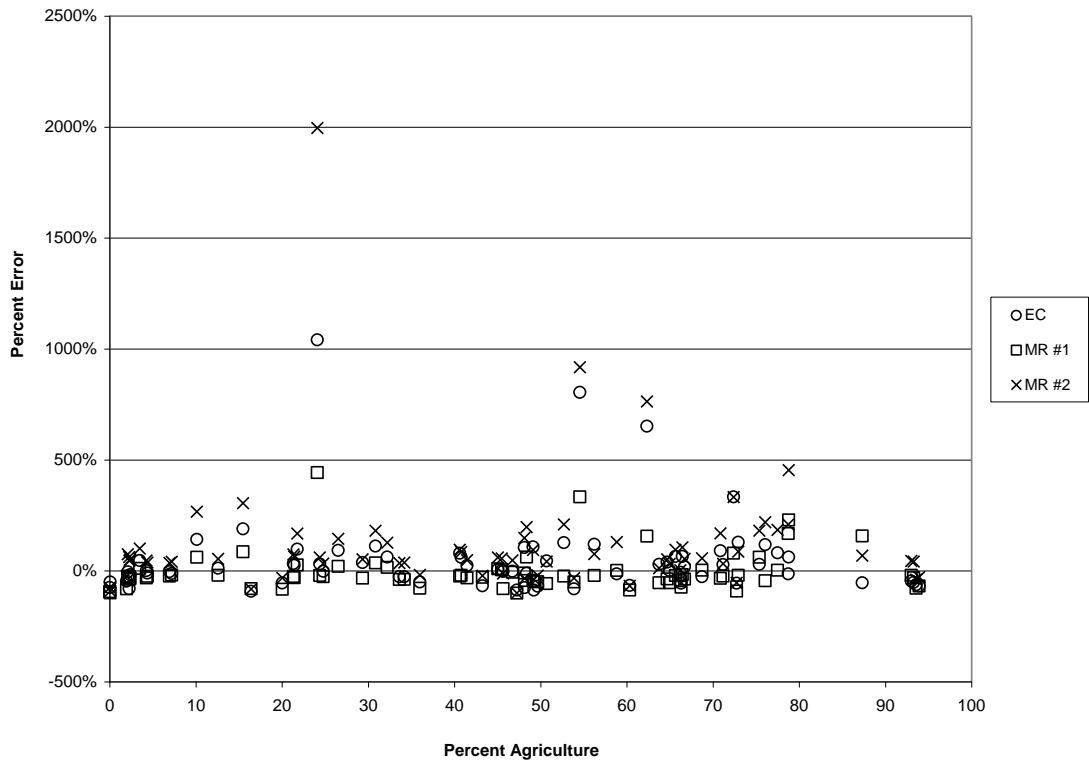


Figure A1. Percent error versus percent agriculture.

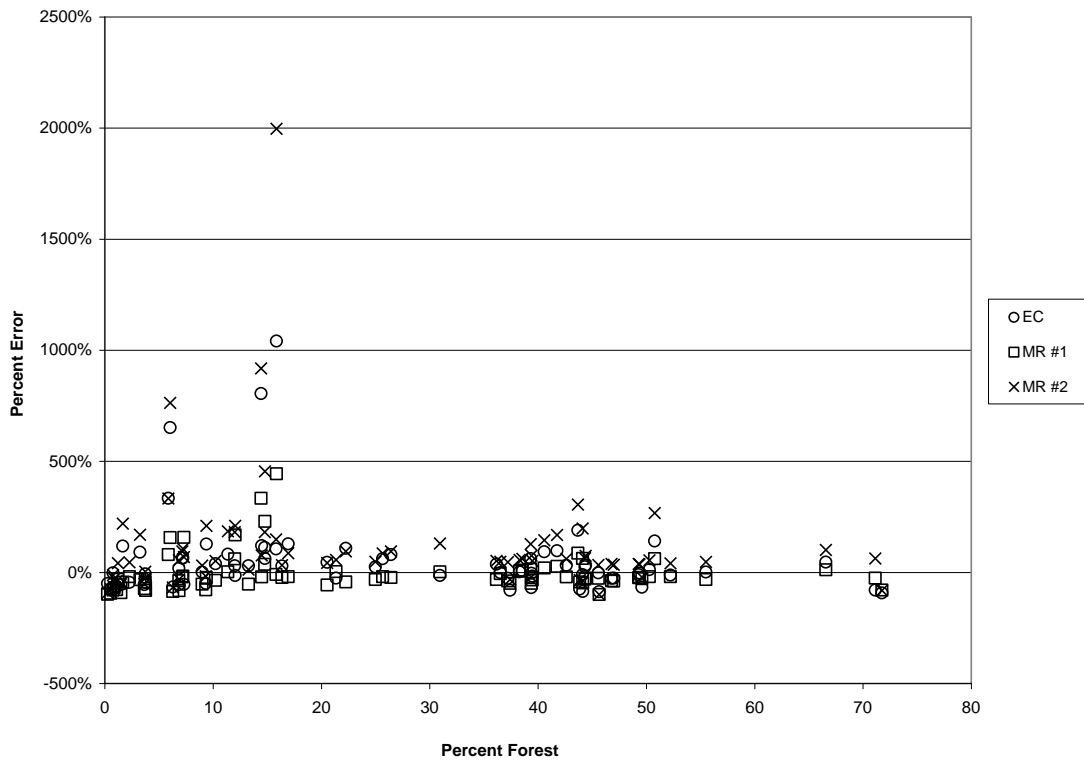


Figure A2. Percent error versus percent forest.

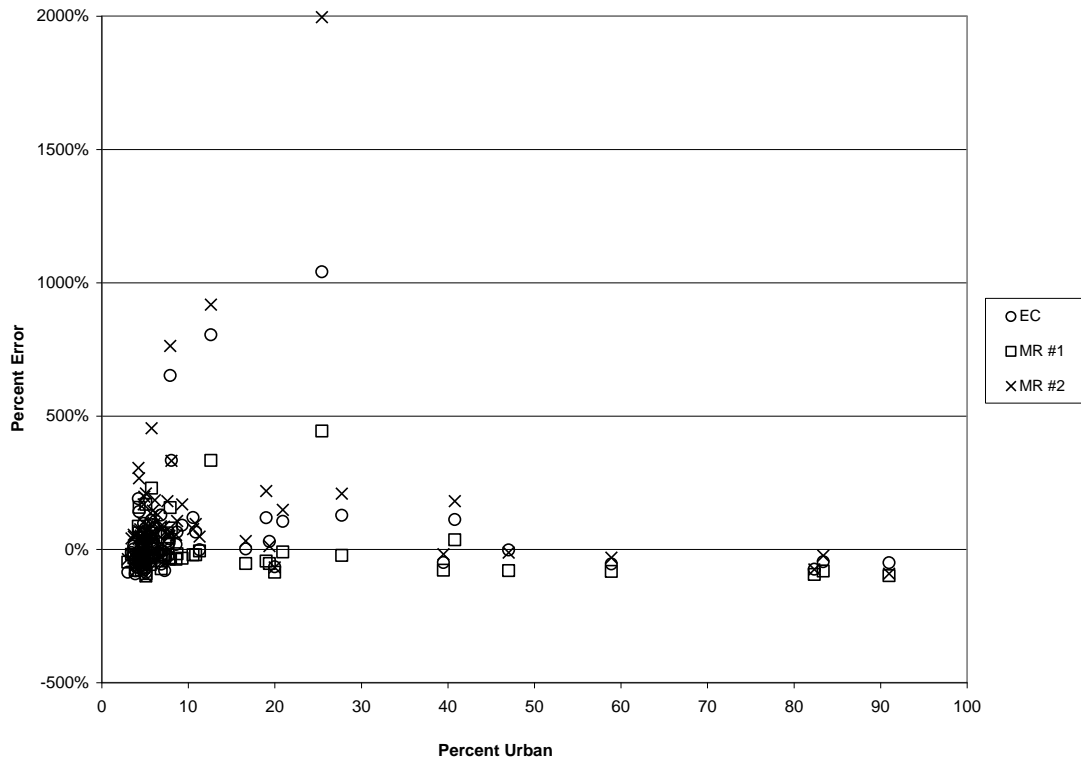


Figure A3. Percent error versus percent urban.

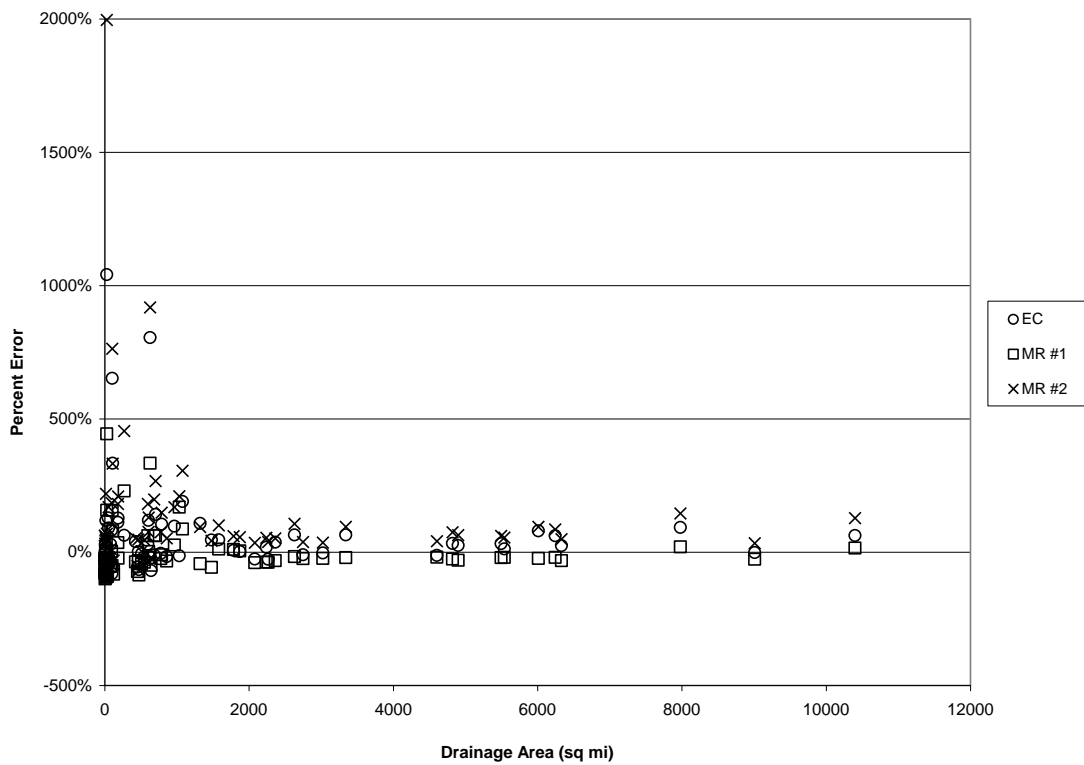


Figure A4. Percent error versus drainage area.

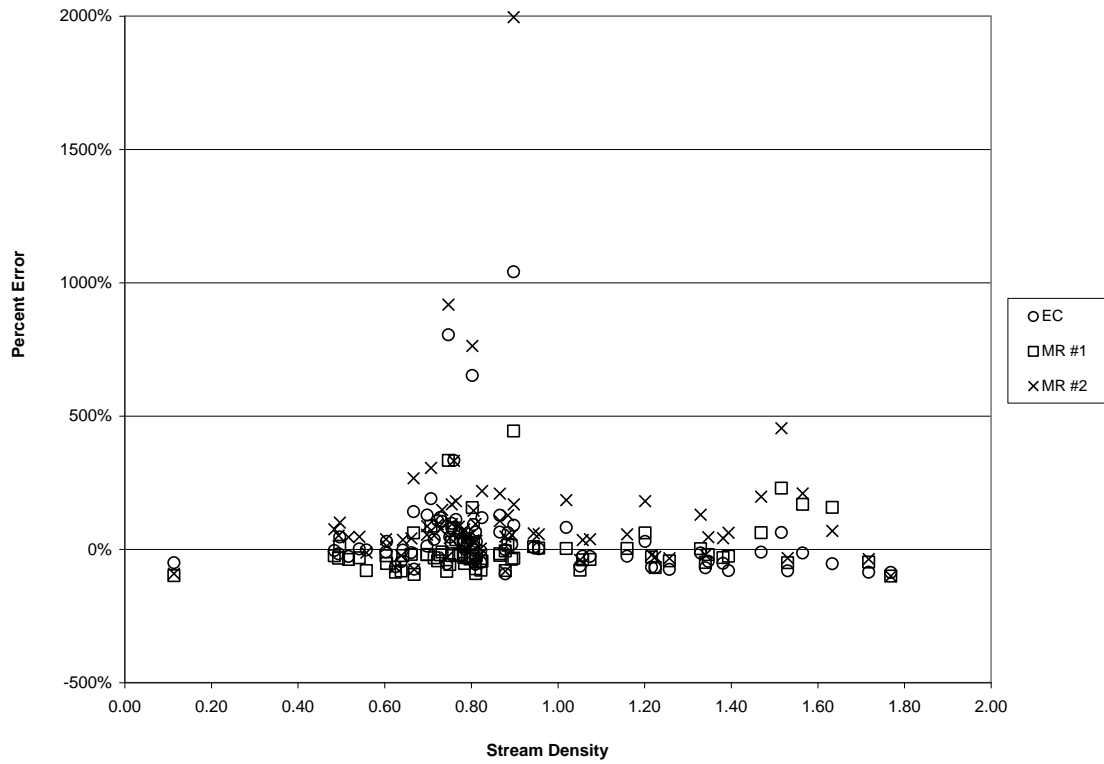


Figure A5. Percent error versus stream density.

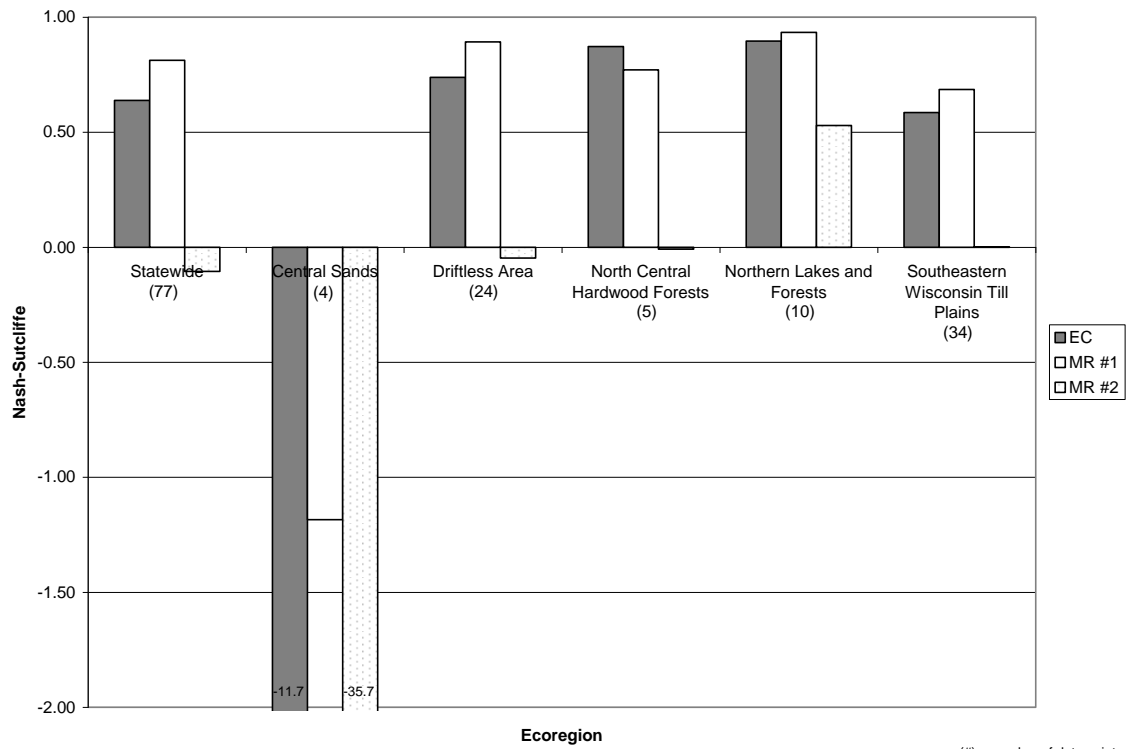


Figure A6. Nash-Sutcliffe by ecoregion.

(#) = number of data points

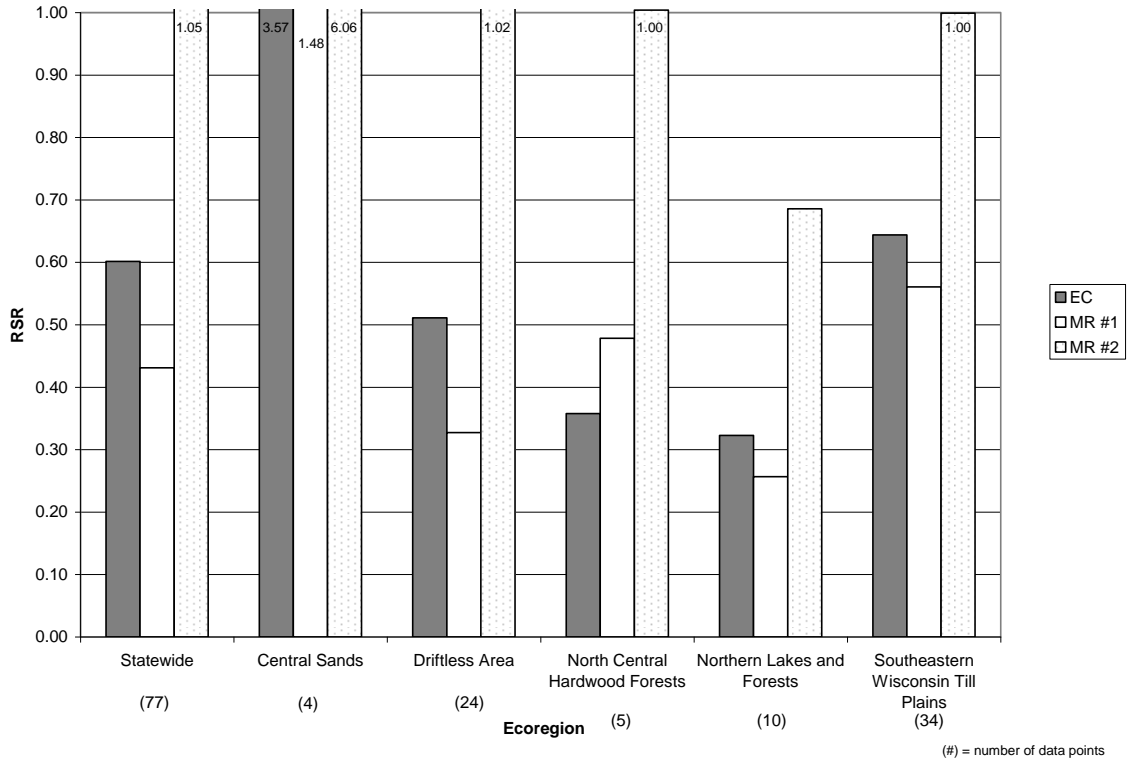


Figure A7.RSR by ecoregion.

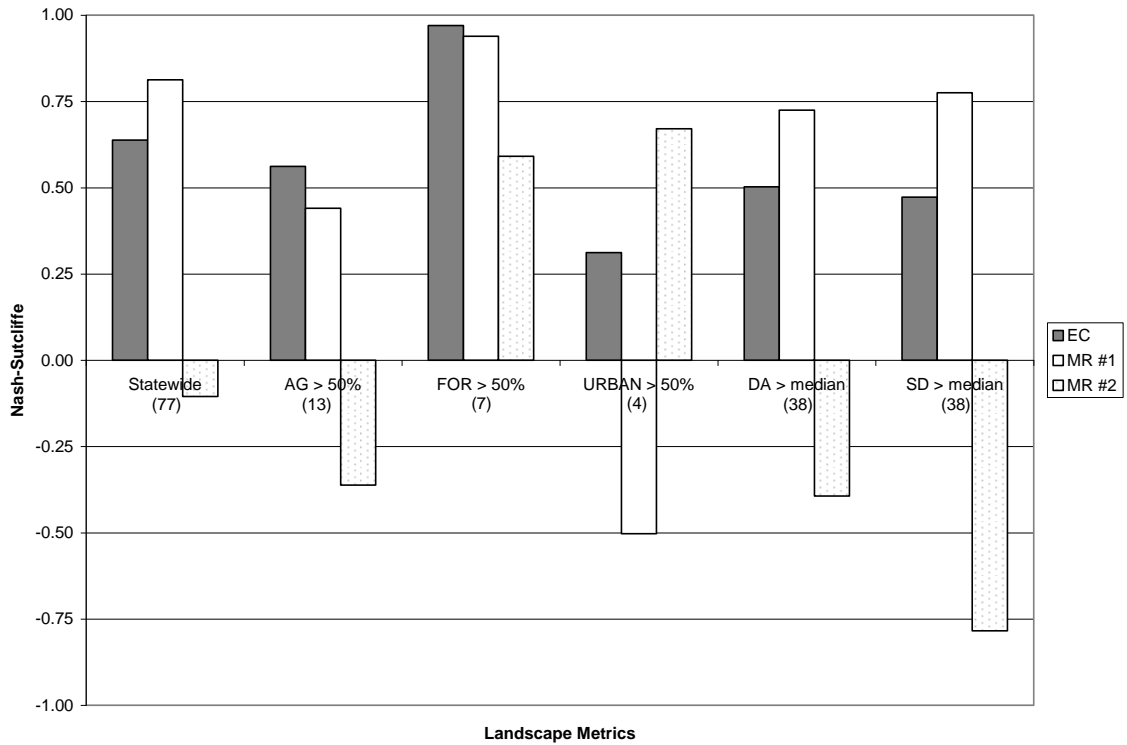


Figure A8.Nash-Sutcliffe by watershed metric.

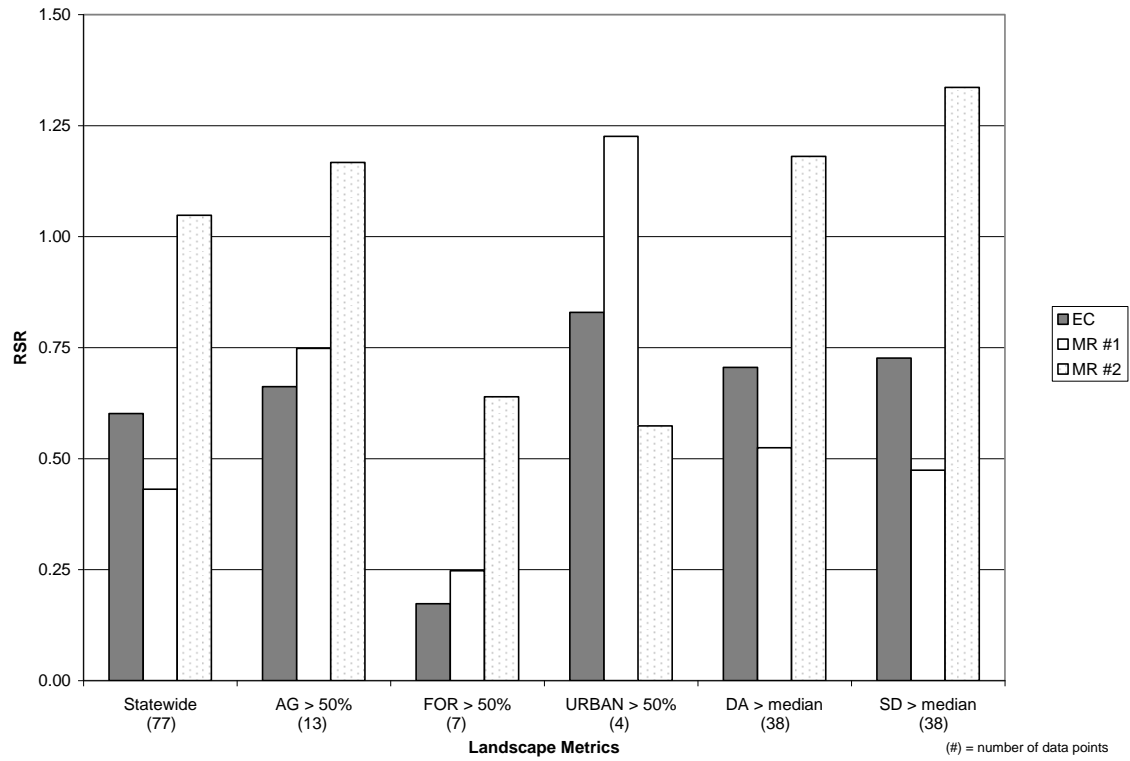


Figure A9.RSR by watershed metric on log-transformed data.

APPENDIX B
STATEWIDE ANALYSIS RESULTS TABLE & PLOTS

Facility Name	Receiving Water	Major Basin	Watershed Area (mi ²)	Nonpoint Load	Nonpoint Load	Nonpoint Load	2009-2011 Avg. Upstream Point Source Load	2009-2011 Avg. Point Source Load	Total Load	Total Load	Total Load	PS:NPS Ratio	PS Range (80% CI)	Model Flag		
				LOW	MOST LIKELY	HIGH	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(%)	(%)	**	***
				(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(%)	(%)	(%)	(%)	
Bad Axe - La Crosse																
FERRYVILLE WASTEWATER TREATMENT FACILITY	Sugar Creek	Bad Axe - La Crosse	24.6	6291	12925	26557	0	127	6418	13052	26684	0:100	0 - 2			
FOREMOST FARMS USA COOP SPARTA	La Crosse River	Bad Axe - La Crosse	149.5	12428	24833	49617	667	36	13131	25536	50320	1:99	1 - 5			
COON VALLEY WASTEWATER TREATMENT FACILITY	Coon Creek	Bad Axe - La Crosse	79.2	16079	32797	66897	0	1032	17111	33829	67929	2:98	2 - 6			
CHASEBURG WASTEWATER TREATMENT FAC	Coon Creek	Bad Axe - La Crosse	107.2	23146	47267	95625	1032	756	24934	49055	98313	2:98	2 - 7			
MAPLE GROVE ESTATES SANITARY DISTRICT	Unnamed	Bad Axe - La Crosse	5.3	1339	2737	5598	0	111	1450	2848	5709	2:98	2 - 8			
US ARMY HEADQUARTERS, FORT MCCOY WWTP	La Crosse River	Bad Axe - La Crosse	60.4	5811	11634	23293	0	667	6478	12301	23960	3:97	3 - 10			
WEST SALEM WASTEWATER TREATMENT FACILITY	La Crosse River	Bad Axe - La Crosse	389.3	41595	83622	168112	3929	892	46416	88443	172933	3:97	3 - 10			
BANGOR WASTEWATER TREATMENT FACILITY	La Crosse River	Bad Axe - La Crosse	316.5	30658	61529	123486	3261	668	34587	65458	127415	3:97	3 - 11			
SPARTA WASTEWATER TREATMENT FACILITY	La Crosse River	Bad Axe - La Crosse	168.7	14346	28681	57341	703	1767	16816	31151	59811	4:96	4 - 15			
ST JOSEPH SANITARY DISTRICT	Mormon Creek	Bad Axe - La Crosse	0.7	123	250	508	0	322	445	572	830	39:61	39 - 72			
WESTBY WASTEWATER TREATMENT FACILITY	Unnamed	Bad Axe - La Crosse	1.8	462	938	1903	4075	1160	5697	6173	7138	73:27	73 - 92			
CASHTON WASTEWATER TREATMENT FACILITY	Little LaCrosse River	Bad Axe - La Crosse	0.3	11	22	43	0	196	207	218	239	82:18	82 - 95			
VIROQUA WASTEWATER TREATMENT FACILITY	Unnamed	Bad Axe - La Crosse	1.7	42	83	163	0	772	814	855	935	83:17	83 - 95			
ROCKLAND WATER SEWER UTILITIES WWTF	Unnamed	Bad Axe - La Crosse	0.1	14	29	83	0	595	609	624	678	88:12	88 - 98	EC		
WESTBY COOP CREAMERY	Unnamed	Bad Axe - La Crosse	0.4	53	107	215	0	4075	4128	4182	4290	95:5	95 - 99			
Black																
ETTRICK WASTEWATER TREATMENT FACILITY	North Fork Beaver Creek	Black River	50.7	9520	19461	39785	0	306	9826	19767	40091	1:99	1 - 3			
MERRILLAN WASTEWATER TREATMENT FACILITY	Halls Creek	Black River	47.1	4707	9505	19191	0	199	4906	9704	19390	1:99	1 - 4			
MELROSE WASTEWATER TREATMENT FACILITY	Black River	Black River	1927.0	168257	339684	681738	8652	367	177276	347703	690757	1:99	1 - 5			
WAZEE AREA WASTEWATER COMMISSION	Black River	Black River	1531.3	135515	272930	549686	6876	395	142786	280201	558957	1:99	1 - 5			
MINDORO SAN DIST 1 WWTF	Fleming Creek	Black River	24.6	4141	8425	17139	0	228	4369	8653	17367	1:99	1 - 5			
HATFIELD SANITARY DISTRICT	Black River	Black River	1290.3	112957	227592	458567	6002	675	119634	234269	465244	1:99	1 - 6			
BLACK RIVER FALLS WWTF	Black River	Black River	1595.6	141694	285335	574592	7271	1381	150346	293987	583244	1:99	1 - 6			
GALESVILLE WASTEWATER TREATMENT PLANT	Beaver Creek	Black River	157.1	26186	53278	108399	306	1532	28024	55116	110237	2:98	2 - 7			
HOLMEN WASTEWATER TREATMENT FACILITY	Halfway Creek	Black River	31.3	5906	12074	24682	0	691	6597	12765	25373	3:97	3 - 10			
NEILLSVILLE WASTEWATER TREATMENT FACILITY	Black River	Black River	744.9	43683	87752	176278	5529	473	49685	93754	182280	3:97	3 - 12			
OWEN WASTEWATER TREATMENT FACILITY	Black River	Black River	330.2	13344	26633	53158	1280	761	15385	28674	55199	4:96	4 - 13			
LOYAL WASTEWATER TREATMENT FACILITY	Black River	Black River	611.0	32894	65954	132239	5069	0	37963	71023	137308	4:96	4 - 13			
GRASSLAND DAIRY PRODUCTS, INC.	Black River	Black River	611.0	32894	65954	132239	4795	274	37963	71023	137308	4:96	4 - 13			
GREENWOOD WASTEWATER TREATMENT FACILITY	Black River	Black River	526.9	25802	51664	103450	4033	762	30597	56459	108245	4:96	4 - 16			
GRANTON WASTEWATER TREATMENT FACILITY	South Branch O'Neill Creek	Black River	16.6	1796	3648	7412	398	62	2256	4108	7872	6:94	6 - 20			
CHELSEA SANITARY DISTRICT	Black River	Black River	4.4	217	436	874	0	69	286	505	943	7:93	7 - 24			
CLARK COUNTY HEALTH CARE CENTER WWTF	North Fork of the Popple River	Black River	54.4	2847	5714	11467	634	3918	6785	12538	9:91	9 - 27				
LYNN DAIRY/LYNN PROTEIN, INC.	South Branch O'Neill Creek	Black River	11.1	955	1933	3910	0	398	1353	2331	4308	9:91	9 - 29			
MEDFORD CITY OF	Black River	Black River	46.6	2017	4018	8004	69	1192	3278	5279	9265	14:86	14 - 38			
MAPLE ISLAND INC	Black River	Black River	47.0	2043	4070	8108	1261	19	3323	5350	9388	14:86	14 - 39			
DORCHESTER WASTEWATER TREATMENT FACILITY	Unnamed	Black River	2.5	40	79	157	0	634	674	713	791	80:20	80 - 94			
CURTISS WASTEWATER TREATMENT FACILITY	Unnamed	Black River	0.5	9	19	37	0	921	930	940	958	96:4	96 - 99			
Buffalo - Trempealeau																
FOREMOST FARMS USA COOP ALMA CENTER	South Branch Trempealeau River	Buffalo-Trempealeau	9.6	1321	2662	5365	0	19	1340	2681	5384	0:100	0 - 1			
AMPI BLAIR CHEESE PLANT	Trempealeau River	Buffalo-Trempealeau	180.8	22212	44985	91106	273	77	22562	45335	91456	0:100	0 - 2			
TAYLOR WASTEWATER TREATMENT FACILITY	Trempealeau River	Buffalo-Trempealeau	138.8	16434	33244	67248	19	254	16707	33517	67521	0:100	0 - 2			
OSSEO WASTEWATER TREATMENT FACILITY	Buffalo River	Buffalo-Trempealeau	70.7	9958	20194	40950	0	244	10202	20438	41194	1:99	1 - 2			
SPF NORTH AMERICA, INC	Buffalo River	Buffalo-Trempealeau	217.8	39818	81035	164921	983	0	40801	82018	165904	1:99	1 - 2			
MONDOVI WASTEWATER TREATMENT FACILITY	Buffalo River	Buffalo-Trempealeau	237.5	45239	92109	187540	983	390	46612	93482	188913	1:99	1 - 3			
INDEPENDENCE WASTEWATER TREATMENT PLANT	Trempealeau River	Buffalo-Trempealeau	454.7	95124	193785	394775	1570	1362	98058	196717	397707	1:99	1 - 3			
ELEVA WASTEWATER TREATMENT FACILITY	Buffalo River	Buffalo-Trempealeau	165.2	29053	59132	120352	742	241	30036	60115	121335	1:99	1 - 3			
STRUM WASTEWATER TREATMENT FACILITY	Buffalo River	Buffalo-Trempealeau	127.8	20764	42212	85815	244	498	21506	42954	86557	1:99	1 - 3			
WHITEHALL WASTEWATER TREATMENT FACILITY	Trempealeau River	Buffalo-Trempealeau	224.0	30647	62126	125938	350	1220	32217	63696	127508	1:99	1 - 5			
DODGE SANITARY DISTRICT NO 1	Trempealeau River	Buffalo-Trempealeau	642.0	137847	280713	571648	7867	110	145824	288690	579625	1:99	1 - 5			
ARCADIA WASTEWATER TREATMENT FACILITY	Trempealeau River	Buffalo-Trempealeau	561.0	127853	260703	531598	2932	4935	135720	268570	539465	1:99	1 - 6			
WAUMANDEE SANITARY DISTRICT #1	Waumandee Creek	Buffalo-Trempealeau	43.2	16850	34566	70912	1371	25	18246	35962	72308	2:98	2 - 8			
FOREMOST FARMS USA COOP WAUMANDEE	Waumandee Creek	Buffalo-Trempealeau	41.3	16056	32948	67612	0	1371	17427	34319	68983	2:98	2 - 8			
Chippewa																
CADY CHEESE INC	Unnamed	Chippewa River	0.1	1	2	4	0	0	1	2	4	0:100	0 - 0			
HAMMOND WASTEWATER TREATMENT FACILITY	Unnamed	Chippewa River	0.0	8	17	50	0	0	8	17	50	0:100	0 - 0	EC		
NORTHERN WISCONSIN CENTER FOR DEV DISABLED	Unnamed	Chippewa River	0.4	13	26	53	0	0	13	26	53	0:100	0 - 0			
SENECA FOODS CORPORATION	Hay River	Chippewa River	13.5	73	142	276	0	0	73	142	276	0:100	0 - 0			
BIRCHWOOD MANUFACTURING CO	Red Cedar River	Chippewa River	384.9	16228	32179	63807	0	3	16231	32182	63810	0:100	0 - 0			
GLIDDEN SANITARY DISTRICT	East Fork Chippewa River	Chippewa River	98.2	4738	9444	18821	0	47	4785	9491	18868	0:100	0 - 1			
RIDGELAND WASTEWATER TREATMENT PLANT	Lower Pine Creek	Chippewa River	32.5	5520	11202	22733	0	74	5594	11276	22807	0:100	0 - 1			
BOYCEVILLE WASTEWATER TREATMENT FACILITY	South Fork Hay River	Chippewa River	92.4	18559	37736	76729	0	363	18922	38099	77092	0:100	0 - 2			
FAIRCHILD WASTEWATER TREATMENT FAC	South Fork Eau Claire River	Chippewa River	216.7	12987	26136	52597	0	308	13295	26444	52905	1:99	1 - 2			
CHETEK CITY OF	Chetek River	Chippewa River	198.9	7557	15039	29927	0	243	7800	15283	30170	1:99	1 - 3			
JENNIE O TURKEY STORE INC BARRON PLANT	Yellow River	Chippewa River	160.3	34347	69562	140881	36	1121	35504	70719	142038	1:99	1 - 3			
CONRATH VILLAGE OF	Main Creek	Chippewa River	118.3	6214	12429	24858	180	71	6465	12880	25109	1:99	1 - 4			
CADOTT WASTEWATER TREATMENT FACILITY	Yellow River	Chippewa River	364.8	14513	28992	57913	470	278	15261	29740	58661	1:99	1 - 5			
AUGUSTA WASTEWATER TREATMENT FACILITY	Bridge Creek	Chippewa River	40.6	9437	19213	39118	0	523	9960	19736	39641	1:99	1 - 5			
KNAPP WASTEWATER TREATMENT FACILITY	Wilson Creek	Chippewa River	27.3	6794	13870	28315	93	329	7216	14292	28737	1:99	1 - 6			
COLFAX WASTEWATER TREATMENT FACILITY	Red Cedar River	Chippewa River	1163.6	95846	191918	384290	4295	1545	101686	197758	390130	1:99	1 - 6			
WHEELER WASTEWATER TREATMENT FACILITY	Hay River	Chippewa River	422.7	95206	193248	392251	5991	362	101559	199601	396804	2:98	2 - 6			
PLUM CITY WASTEWATER TREATMENT PLANT	Plum Creek	Chippewa River	31.8	5487	11182	22787	0	378	5865	11550	23165	2:98	2 - 6			
SHELDON VILLAGE OF	Jump River	Chippewa River	570.5	20033	39901	79472	1224	141	21398	41266	80837	2:98	2 - 6			
DALLAS VILLAGE OF	Upper Pine Creek	Chippewa River	22.1	4540	9206	18667	0	316	4856	9522	18983	2:98	2 - 7			

Facility Name	Receiving Water	Major Basin	Watershed Area	Nonpoint Load	Nonpoint Load	Nonpoint Load	2009-2011 Avg. Upstream Point Source Load	2009-2011 Avg. Point Source Load	Total Load	Total Load	Total Load	PS:NPS Ratio	PS Range (80% CI)	Model Flag
				LOW	MOST LIKELY	HIGH			LOW	MOST LIKELY	HIGH			
				(mi ²)	(lbs)	(lbs)			(lbs)	(lbs)	(lbs)			
WILSON WASTEWATER TREATMENT FACILITY	Unnamed	Chippewa River	1.3	1231	2548	5275	0	93	1324	2641	5368	2:98	2 - 7	
GILMAN VILLAGE OF	Yellow River	Chippewa River	188.7	6363	12670	25229	0	470	6833	13140	25699	2:98	2 - 7	
DOWNSVILLE SANITARY DISTRICT #1 WWTF	Red Cedar River	Chippewa River	1880.3	208199	418567	841493	16341	249	224789	435157	858083	2:98	2 - 7	
SPRING VALLEY WASTEWATER TREATMENT FACILITY	Eau Galle River	Chippewa River	70.2	15042	30541	62011	0	1250	16292	31791	63261	2:98	2 - 8	
MENOMONIE WASTEWATER TREATMENT FACILITY	Red Cedar River	Chippewa River	1795.1	197154	396239	796360	12615	3726	213495	412580	812701	2:98	2 - 8	
GLENWOOD CITY WASTEWATER TREATMENT FACILITY	Tiffany Creek	Chippewa River	15.5	11799	24344	50227	0	1048	12847	25392	51275	2:98	2 - 8	
WESTBORO SANITARY DISTRICT #1	Silver Creek	Chippewa River	29.2	1767	3552	7140	0	169	1936	3721	7309	2:98	2 - 9	
ELMWOOD VILLAGE WWTP	Eau Galle River	Chippewa River	99.6	22313	45386	92317	1250	928	24491	47564	94495	2:98	2 - 9	
CATAWBA KENNAN JOINT SEWAGE COMMISSION	North Fork Jump River	Chippewa River	70.7	1726	3421	6784	0	167	1893	3588	6951	2:98	2 - 9	
ARKANSAW WASTEWATER TREATMENT FACILITY	Eau Galle River	Chippewa River	224.1	36132	73201	148302	3519	158	39809	76878	151979	2:98	2 - 9	
MAIDEN ROCK WASTEWATER TREATMENT FACILITY	Rush River	Chippewa River	214.5	34905	70695	143181	3642	259	38806	74596	147082	3:97	3 - 10	
PRAIRIE FARM VILLAGE OF	Hay River	Chippewa River	97.3	25696	52095	105617	2903	253	28852	55251	108773	3:97	3 - 11	
GLEN FLORA VILLAGE OF	Deer Trail Creek	Chippewa River	11.1	477	953	1904	0	65	542	1018	1969	3:97	3 - 12	
DURAND WASTEWATER TREATMENT FACILITY	Chippewa River	Chippewa River	8999.4	492608	983635	1964110	70171	1182	563961	1054988	2035463	4:96	4 - 13	
BLOOMER WASTEWATER TREATMENT FACILITY	Duncan Creek	Chippewa River	53.8	2541	5061	10082	0	381	2922	5442	10463	4:96	4 - 13	
RICE LAKE UTILITIES CITY OF	Red Cedar River	Chippewa River	387.2	16422	32566	64580	3	2502	18927	35071	67085	4:96	4 - 13	
CHIPPWEA FALLS WWTP	Chippewa River	Chippewa River	5666.7	193308	384236	763744	30432	5009	228749	419677	799185	4:96	4 - 15	
FALL CREEK WASTEWATER TREATMENT FACILITY	Fall Creek	Chippewa River	17.5	3365	6823	13837	0	631	3996	7454	14468	4:96	4 - 16	
LAKE HOLCOMBE SANITARY DISTRICT #1 WWTF	Chippewa River	Chippewa River	4700.0	149465	296744	589146	27684	0	177149	324428	616830	4:96	4 - 16	
AMPI JIM FALLS DIVISION	Chippewa River	Chippewa River	4884.7	156169	310093	615729	29191	112	185472	339396	645032	5:95	5 - 16	
CASCADES TISSUE GROUP WISCONSIN INC	Chippewa River	Chippewa River	5731.0	195659	388896	772977	35441	1402	232502	425739	809820	5:95	5 - 16	
CORNELL WASTEWATER TREATMENT FACILITY	Chippewa River	Chippewa River	4800.2	152253	302275	600121	27684	1507	181444	331466	629312	5:95	5 - 16	
EAU CLAIRE WASTEWATER TREATMENT FACILITY	Chippewa River	Chippewa River	6645.5	264451	526739	1049170	39796	12852	317099	579387	1101818	5:95	5 - 17	
HAWKINS VILLAGE OF	South Fork Main Creek	Chippewa River	16.1	704	1407	2811	0	180	884	1587	2991	6:94	6 - 20	
PHILLIPS CITY OF	Elk River	Chippewa River	177.2	3298	6528	12923	566	360	4224	7454	13849	7:93	7 - 22	
PHILLIPS PLATING CORPORATION	Elk Lake	Chippewa River	177.2	3298	6528	12923	360	566	4224	7454	13849	7:93	7 - 22	
THORP WASTEWATER TREATMENT FACILITY	North Fork Eau Claire River	Chippewa River	49.8	2158	4324	8665	85	625	2868	5034	9375	8:92	8 - 25	
CELLU TISSUE - CITYFOREST LLC	Flambeau River	Chippewa River	1859.9	50146	99301	196639	16543	4456	71145	120300	217638	10:90	10 - 30	
STANLEY WASTEWATER TREATMENT FACILITY	Wolf River	Chippewa River	30.7	1618	3257	6558	0	781	2399	4038	7339	11:89	11 - 33	
LADYSMITH CITY OF	Flambeau River	Chippewa River	1861.5	50278	99565	197166	20999	4845	76122	125409	223010	12:88	12 - 34	
ALMENA VILLAGE OF	Hay River	Chippewa River	32.9	4840	9683	19372	1762	944	7546	12389	22078	12:88	12 - 36	
PRENTICE VILLAGE OF	South Fork Jump River	Chippewa River	56.4	1141	2262	4484	0	847	1988	3109	5331	16:84	16 - 43	
FLAMBEAU RIVER PAPERS LLC	Flambeau River	Chippewa River	758.7	16653	32893	64973	0	12454	29107	45347	77427	16:84	16 - 43	
WI DOC FLAMBEAU CORRECTIONAL CENTER	Hackett Creek	Chippewa River	9.0	183	361	711	0	169	352	530	880	19:81	19 - 48	
PARK FALLS CITY OF	Flambeau River	Chippewa River	759.7	16683	32953	65092	12454	2994	32131	48401	80540	19:81	19 - 48	
LUBLIN VILLAGE OF	North Fork Eau Claire River	Chippewa River	5.2	87	173	343	0	85	172	258	428	20:80	20 - 49	
SAPUTO CHEESE USA INC ALMENA	Unnamed	Chippewa River	0.4	53	106	213	0	54	107	160	267	20:80	20 - 51	
LAKELAND SANITARY DISTRICT # 1	Unnamed	Chippewa River	0.4	28	67	116	0	36	64	103	152	24:76	24 - 56	EC
FOREMOST FARMS USA COOP WILSON	Cady Creek	Chippewa River	1.8	695	1417	2889	0	1341	2036	2758	4230	32:68	32 - 66	
CRYSTAL LAKE SANITARY DISTRICT	Unnamed	Chippewa River	1.0	64	125	247	0	143	207	268	390	37:63	37 - 69	
ELLSWORTH COOP CREAMERY	Isabelle Creek	Chippewa River	1.7	373	762	1555	0	1147	1520	1909	2702	42:58	42 - 75	
ELLSWORTH WASTEWATER TREATMENT FACILITY	Isabelle Creek	Chippewa River	2.5	423	860	1748	1147	630	2200	2637	3525	50:50	50 - 81	
BALDWIN WASTEWATER TREATMENT FACILITY	Baldwin Creek	Chippewa River	3.9	658	1370	3667	0	3642	4300	5012	7309	50:50	50 - 85	EC
CUMBERLAND CITY OF	Hay River	Chippewa River	14.0	225	439	858	0	1762	1987	2201	2620	67:33	67 - 89	
WEYERHAEUSER VILLAGE OF	Unnamed	Chippewa River	0.3	4	8	17	0	112	116	120	129	87:13	87 - 96	
TURTLE LAKE VILLAGE OF	Unnamed	Chippewa River	0.3	15	31	62	0	1424	1439	1455	1486	96:4	96 - 99	
ELK MOUND WASTEWATER TREATMENT FACILITY	Unnamed	Chippewa River	0.5	3	5	11	0	933	936	938	944	99:1	99 - 100	
OGEMA SANITARY DISTRICT	Unnamed	Chippewa River	0.0	0	0	0	0	41	41	41	41	100:0	100 - 100	EC
Fox (IL)														
WISCONSIN ELECTRIC POWER CO -TN OF PARIS	Unnamed	Fox (IL)	0.0	2	3	4	0	0	2	3	4	0:100	0 - 0	EC
PLYMOUTH TUBE - EAST TROY & TRENT PLANTS	Honey Creek	Fox (IL)	42.4	1622	3213	6365	539	0	2161	3752	6904	8:92	8 - 25	
EAST TROY WASTEWATER TREATMENT FACILITY	Unnamed	Fox (IL)	42.4	1620	3209	6356	0	539	2159	3748	6895	8:92	8 - 25	
V I P SERVICES INC	Unnamed	Fox (IL)	0.3	31	63	126	0	11	42	74	137	8:92	8 - 26	
KENOSHA BEEF INTERNATIONAL	Unnamed	Fox (IL)	0.5	17	35	69	0	7	24	42	76	9:91	9 - 29	
PLEASANT PRAIRIE UTILITY DISTRICT 73 1	Unnamed	Fox (IL)	3.5	451	915	1857	0	301	752	1216	2158	14:86	14 - 40	
WI DNR RICHARD BONG RECREATION AREA	Peterson Creek	Fox (IL)	2.3	39	77	153	0	26	65	103	179	15:85	15 - 40	
LYONS SANITARY DISTRICT NO 2	White River	Fox (IL)	62.8	3447	6903	13825	1249	1241	5937	9393	16315	15:85	15 - 42	
GRAND GENEVA RESORT & SPA	Como Creek	Fox (IL)	16.8	1405	2829	5697	0	1249	2654	4078	6946	18:82	18 - 47	
SILVER LAKE VILLAGE	Fox River	Fox (IL)	832.4	37586	74875	149157	48229	425	86240	123529	197811	25:75	25 - 56	
SALEM UTILITY DISTRICT	Fox River	Fox (IL)	844.1	38319	76339	152086	48654	2529	89502	127522	203269	25:75	25 - 57	
WHEATLAND ESTATES MHP	Fox River	Fox (IL)	791.5	34793	69288	137983	47232	105	82130	116625	185320	26:74	26 - 58	
BURLINGTON WATER POLLUTION CONTROL	Fox River	Fox (IL)	755.2	33027	65772	130984	41081	6151	80259	113004	178216	27:73	27 - 59	
SCHOOL DISTRICT OF NEW BERLIN	Unnamed	Fox (IL)	0.4	20	40	80	0	29	49	69	109	27:73	27 - 59	
PELL LAKE SANITARY DISTRICT NO. 1	Unnamed	Fox (IL)	2.1	148	297	597	0	216	364	513	813	27:73	27 - 59	
WESTERN RACINE COUNTY SEWERAGE DISTRICT	Fox River	Fox (IL)	447.3	17867	35542	70705	34132	2328	54327	72002	107165	34:66	34 - 67	
MUKWONAGO WASTEWATER TREATMENT PLANT	Fox River	Fox (IL)	303.4	10086	20035	39796	30687	1715	42488	52437	72198	45:55	45 - 76	
WAUKESHA CITY	Fox River	Fox (IL)	127.1	5800	11569	23077	22689	7998	36487	42256	53764	57:43	57 - 84	
BROOKFIELD, CITY OF	Fox River	Fox (IL)	73.9	3790	7571	15121	2884	19805	26479	30260	37810	60:40	60 - 86	
BRISTOL UTILITY DISTRICT 1	Bristol Creek	Fox (IL)	0.9	31	61	120	0	213	244	274	333	64:36	64 - 87	
LAKEVIEW NEUROLOGICAL REHAB CENTER-MIDWEST	Unnamed	Fox (IL)	1.2	22	42	83	0	231	253	273	314	74:26	74 - 91	
EAGLE LAKE SEWER UTILITY	Unnamed	Fox (IL)	6.3	81	159	311	0	1581	1662	1740	1892	84:16	84 - 95	
PLEASANT PRAIRIE UTILITY DISTRICT D WWTF	Unnamed	Fox (IL)	0.9	10	19	38	0	205	215	224	243	84:16	84 - 95	
NORWAY TN SANITARY DISTRICT 1 WWTF	Unnamed	Fox (IL)	5.3	59	116	228	0	1499	1558	1615	1727	87:13	87 - 96	
SUSSEX WASTEWATER TREATMENT FACILITY	Unnamed	Fox (IL)	7.9	74	145	283	0	2855	2929	3000	3138	91:9	91 - 97	
PADDOCK LAKE WASTEWATER TRTMT FAC	Unnamed	Fox (IL)	1.1	12	24	47	0	565	577	589	612	92:8	92 - 98	

Facility Name	Receiving Water	Major Basin	Watershed Area (mi ²)	Nonpoint Load	Nonpoint Load	Nonpoint Load	2009-2011 Avg. Upstream Point Source Load (lbs)	2009-2011 Avg. Point Source Load (lbs)	Total Load	Total Load	Total Load	PS:NPS Ratio (%)	PS Range (80% CI) (%)	Model Flag (*)
				LOW	MOST LIKELY	HIGH			LOW	MOST LIKELY	HIGH			
				(lbs)	(lbs)	(lbs)			(lbs)	(lbs)	(lbs)			
FONKS HOME CENTER, INC. - HICKORY HAVEN	Unnamed	Fox (IL)	0.3	2	3	6	0	140	142	143	146	96.4	96 - 99	
TWIN LAKES WASTEWATER TREATMENT FAC	Unnamed	Fox (IL)	1.0	4	7	14	0	866	870	873	880	98.2	98 - 100	
Grant - Platte														
JAMESTOWN SANITARY DISTRICT NO 3 WWTF	Louisburg Creek	Grant - Platte	2.3	835	1705	3481	0	12	847	1717	3493	0:100	0 - 1	
JAMESTOWN SANITARY DISTRICT NO 2 WWTF	Menominee River	Grant - Platte	12.5	4670	9514	19383	12	64	4746	9590	19459	0:100	0 - 2	
BENTON WASTEWATER TREATMENT FACILITY	Galena River	Grant - Platte	71.6	27801	56961	116710	0	831	28632	57792	117541	1:99	1 - 3	
BLOOMINGTON WASTEWATER TREATMENT FACILITY	Blake Fork	Grant - Platte	18.0	8173	16808	34563	338	396	8907	17542	35297	2:98	2 - 8	
PLATTEVILLE WASTEWATER TREATMENT FACILITY	Rountree Branch	Grant - Platte	12.4	4795	9852	20243	0	1625	6420	11477	21868	7:93	7 - 25	
BAGLEY WASTEWATER TREATMENT FACILITY	Glass Hollow Creek	Grant - Platte	7.7	1594	3250	6629	0	719	2313	3969	7348	10:90	10 - 31	
MOUNT HOPE WASTEWATER TREATMENT FACILITY	Little Grant River	Grant - Platte	0.7	154	310	625	0	113	267	423	738	15:85	15 - 42	
STITZER SANITARY DISTRICT WWTF	Gregory Branch	Grant - Platte	6.5	964	1957	3974	598	145	1707	2700	4717	16:84	16 - 44	
SHULLSBURG WASTEWATER TREATMENT FACILITY	Shullsburg Branch	Grant - Platte	7.8	2076	4244	8679	0	1804	3880	6048	10483	17:83	17 - 46	
PATCH GROVE WASTEWATER TREATMENT FACILITY	Unnamed	Grant - Platte	1.3	175	354	717	0	338	513	692	1055	32:68	32 - 66	
ORCHARD MANOR WASTEWATER TREATMENT FACILITY	Austin Branch	Grant - Platte	0.4	51	101	202	0	275	326	376	477	58:42	58 - 84	
FENNIMORE WASTEWATER TREATMENT FACILITY	Gregory Branch	Grant - Platte	0.6	80	162	328	0	598	678	760	926	65:35	65 - 88	
POTOSI-TENNYSON SEWAGE COMMISSION WWTF	Unnamed	Grant - Platte	3.2	183	367	735	0	1430	1613	1797	2165	66:34	66 - 89	
LIVINGSTON WASTEWATER TREATMENT FACILITY	Little Platte River	Grant - Platte	0.5	23	45	91	0	959	982	1004	1050	91:9	91 - 98	
DICKEYVILLE WASTEWATER TREATMENT FACILITY	Unnamed	Grant - Platte	0.2	23	46	90	0	1097	1120	1143	1187	92:8	92 - 98	
SINSINAWA DOMINICANS INC WWTF	Unnamed	Grant - Platte	0.1	5	10	20	0	333	338	343	353	94:6	94 - 99	
KIELER SANITARY DISTRICT NO 1 WWTF	Sinnipee Creek	Grant - Platte	0.1	4	9	17	0	474	478	483	491	97:3	97 - 99	
LANCASTER WASTEWATER TREATMENT FACILITY	Unnamed	Grant - Platte	0.4	13	26	53	0	1453	1466	1479	1506	96:4	96 - 99	
CUBA CITY WASTEWATER TREATMENT FACILITY	Coon Branch	Grant - Platte	0.6	21	42	85	0	2434	2455	2476	2519	97:3	97 - 99	
Green Bay														
LITTLE SUAMICO SANITARY DISTRICT NO 1	Little Suamico River	Green Bay	60.1	12058	24573	50075	0	255	12313	24828	50330	1:99	1 - 2	
GRAF CREAMERY INC	Pensaukee River	Green Bay	6.5	1120	2270	4600	0	24	1144	2294	4624	1:99	1 - 2	
KRAKOW SANITARY DISTRICT WWTF	Pensaukee River	Green Bay	46.3	11500	23508	48055	24	706	12230	24238	48785	1:99	1 - 6	
ABRAMS SANITARY DISTRICT 1	Pensaukee River	Green Bay	113.5	18107	36760	74627	730	507	19344	37997	75864	2:98	2 - 6	
SURING WASTEWATER TREATMENT FACILITY	Oconto River	Green Bay	602.4	15412	30562	60605	1497	505	17444	32594	62637	3:97	3 - 12	
PESHIGO JOINT WASTEWATER TREATMENT FACILITY	Peshigo River	Green Bay	1113.4	37397	74350	147818	3834	1352	42583	79536	153004	3:97	3 - 12	
CRIVITZ WASTEWATER TREATMENT FACILITY	Peshigo River	Green Bay	659.4	20414	40542	80515	1477	1435	23326	43454	83427	3:97	3 - 12	
OCONTO UTILITY COMMISSION WWTF	Oconto River	Green Bay	956.3	39304	78295	155967	6295	589	46188	85179	162851	4:96	4 - 15	
GILLETT WASTEWATER TREATMENT FACILITY	Oconto River	Green Bay	682.1	19268	38246	75914	2032	1768	23068	42046	79714	5:95	5 - 16	
ST PAPER LLC	Oconto River	Green Bay	713.5	20432	40555	80497	3908	1534	25874	45997	85939	6:94	6 - 21	
OCONTO FALLS WASTEWATER TREATMENT FACILITY	Oconto River	Green Bay	713.7	20439	40569	80525	5442	417	26298	46428	86384	7:93	7 - 22	
COLEMAN WASTEWATER TREATMENT FACILITY	Little Peshigo River	Green Bay	45.7	2064	4121	8227	0	922	2986	5043	9149	10:90	10 - 31	
LAONA SANITARY DISTRICT #1	Rat River	Green Bay	38.1	598	1178	2320	0	273	871	1451	2593	11:89	11 - 31	
SENECA FOODS CORPORATION GILLETT	Christie Brook	Green Bay	8.0	207	410	810	0	108	315	518	918	12:88	12 - 34	
LAKEWOOD SANITARY DISTRICT NO 1	McCaslin Brook	Green Bay	58.0	882	1736	3417	0	503	1385	2239	3920	13:87	13 - 36	
WABENO SANITARY DISTRICT #1	North Branch Oconto River	Green Bay	31.2	629	1243	2458	0	640	1269	1883	3098	21:79	21 - 50	
WI DNR LAKEWOOD REARING STATION	Unnamed	Green Bay	4.2	97	192	382	0	129	226	321	511	25:75	25 - 57	
WI DNR THUNDER RIVER REARING STATION	South Fork Thunder River	Green Bay	21.1	787	1573	3145	0	1204	1991	2777	4349	28:72	28 - 60	
WI DNR LANGLADE REARING STATION	Dalton Creek	Green Bay	11.0	112	219	430	0	225	337	444	655	34:66	34 - 67	
PROVIMI FOODS INC	Unnamed	Green Bay	0.1	13	27	78	0	33	46	60	111	30:70	30 - 71	EC
LENA WASTEWATER TREATMENT FACILITY	Jones Creek	Green Bay	0.9	25	49	98	0	336	361	385	434	77:23	77 - 93	
SAPUTO CHEESE USA LENA	Jones Creek	Green Bay	0.9	25	51	101	336	100	461	487	537	81:19	81 - 95	
Lake Superior														
BURLINGTON NORTHERN SANTA FE RAILWAY COMPANY	Unnamed	Lake Superior	240.9	31816	65007	132821	1	10	31827	65018	132832	0:100	0 - 0	
KNIGHT TOWN OF	Alder Creek	Lake Superior	10.1	1255	2543	5155	0	11	1266	2554	5166	0:100	0 - 1	
WHITECAP MOUNTAINS SANITARY DISTRICT	Alder Creek	Lake Superior	19.2	1563	3144	6325	11	15	1589	3170	6351	0:100	0 - 2	
GRAND VIEW SANITARY DISTRICT	Twentymile Creek	Lake Superior	17.1	1497	3019	6088	0	57	1554	3076	6145	1:99	1 - 4	
MIDDLE RIVER HEALTH & REHABILITATION CENTER	Middle River	Lake Superior	33.4	1042	2066	4099	0	107	1149	2173	4206	3:97	3 - 9	
MELLEN CITY OF	Bad River	Lake Superior	99.0	5035	10073	20152	0	587	5622	10660	20739	3:97	3 - 10	
SCHOOL DISTRICT OF SUPERIOR	Unnamed	Lake Superior	0.1	8	17	35	0	1	9	18	36	3:97	3 - 11	
WI DNR LES VOIGT STATE FISH HATCHERY	Pikes Creek	Lake Superior	30.8	2049	4112	8253	0	276	2325	4388	8529	3:97	3 - 12	
DULUTH WINNIPEG & PACIFIC RAILWAY	Unnamed	Lake Superior	0.9	20	39	76	0	5	25	44	81	6:94	6 - 20	
MAPLE SCHOOL DISTRICT	Bardon Creek	Lake Superior	0.2	69	139	282	0	20	89	159	302	7:93	7 - 23	
MONTREAL CITY OF	West Fork Montreal River	Lake Superior	75.8	3213	6407	12776	0	978	4191	7385	13754	7:93	7 - 23	
PORT WING TOWN OF	Unnamed	Lake Superior	7.4	274	639	1178	0	225	499	864	1403	16:84	16 - 45	EC
SUPERIOR VILLAGE OF	Pohegama River	Lake Superior	26.1	415	890	1737	0	361	776	1251	2098	17:83	17 - 47	EC
SAXON SANITARY DISTRICT #1	Vaughn Creek	Lake Superior	1.4	50	100	201	0	66	116	166	267	25:75	25 - 57	
POPLAR VILLAGE OF	Barden Creek	Lake Superior	0.3	230	474	977	20	456	706	950	1453	33:67	33 - 67	
WI DNR BRULE RIVER STATE FISH HATCHERY	Little Bois Brule River	Lake Superior	28.8	97	188	365	0	369	466	557	734	50:50	50 - 79	
IRON RIVER NATIONAL FISH HATCHERY	Schacte Creek	Lake Superior	2.5	58	114	224	0	953	1011	1067	1177	81:19	81 - 94	
CLOVER SANITARY DISTRICT	Unnamed	Lake Superior	0.1	3	6	11	0	90	93	96	101	89:11	89 - 97	EC
MURPHY OIL USA INC	Newton Creek	Lake Superior	0.7	3	6	11	0	234	237	240	245	95:5	95 - 99	
AMINCON FOUNDATION	Wetland	Lake Superior	0.0	0	0	0	0	2	2	2	2	97:3	97 - 99	EC
Manitowoc														
PARKER HANNIFIN CORPORATION PARFLEX DIV	Unnamed	Manitowoc	0.1	5	10	19	0	0	5	10	19	0:100	0 - 0	
HOLY FAMILY CONVENT WASTEWATER TREATMENT FAC	Silver Lake	Manitowoc	18.9	2655	5351	10786	0	14	2669	5365	10800	0:100	0 - 1	
LEMBERGER LANDFILL SUPERFUND SITE	Branch River	Manitowoc	79.7	24795	50285	101978	1089	0	25884	51374	103067	1:99	1 - 4	
ROCKLAND SD1 WASTEWATER TREATMENT FACILITY	Mud Creek	Manitowoc	53.1	8449	16954	34021	516	60	9025	17530	34597	2:98	2 - 6	
LAKESIDE FOODS INC MANITOWOC PLANT	Manitowoc River	Manitowoc	526.4	79848	160632	323147	6437	0	86285	167069	329584	2:98	2 - 7	
REEDSVILLE WASTEWATER TREATMENT FACILITY	Mud Creek	Manitowoc	26.8	4797	9641	19378	0	516	5313	10157	19894	3:97	3 - 10	
CLARKS MILLS SANITARY DISTRICT	Manitowoc River	Manitowoc	392.2	43572	87404	175330	5303	45	48920	92752	180678	3:97	3 - 11	
CHILTON WASTEWATER TREATMENT FACILITY	South Branch Manitowoc River	Manitowoc	74.6	4225	8425	16799	976	1093	6294	10494	18868	11:89	11 - 33	

Facility Name	Receiving Water	Major Basin	Watershed Area (mi ²)	Nonpoint Load	Nonpoint Load	Nonpoint Load	2009-2011 Avg. Upstream Point Source Load (lbs)	2009-2011 Avg. Point Source Load (lbs)	Total Load	Total Load	Total Load	PS:NPS Ratio **	PS Range (80% CI) (%)	Model Flag ***
				LOW	MOST LIKELY	HIGH			LOW	MOST LIKELY	HIGH			
				(lbs)	(lbs)	(lbs)			(lbs)	(lbs)	(lbs)			
BRILLION IRON WORKS	Spring Creek	Manitowoc	6.5	510	1014	2017	0	268	778	1282	2285	12:88	12 - 34	
BRILLION WASTEWATER TREATMENT FACILITY	Unnamed	Manitowoc	6.8	769	1548	3118	0	529	1298	2077	3647	15:85	15 - 41	
VALDERS WASTEWATER TREATMENT FACILITY	Unnamed	Manitowoc	4.4	814	1643	3318	0	639	1453	2282	3957	16:84	16 - 44	
HILBERT WASTEWATER TREATMENT FACILITY	Unnamed	Manitowoc	3.4	238	473	943	0	233	471	706	1176	20:80	20 - 50	
KOHLER COMPANY GENERATOR	Unnamed	Manitowoc	1.0	140	283	572	0	193	333	476	765	25:75	25 - 58	
POTTER WASTEWATER TREATMENT FACILITY	Unnamed	Manitowoc	1.8	45	88	174	0	69	114	157	243	28:72	28 - 61	
MORRISON SANITARY DISTRICT NO 1	Unnamed	Manitowoc	0.8	310	629	1275	0	561	871	1190	1836	31:69	31 - 64	
NEW HOLSTEIN WASTEWATER TREATMENT FACILITY	Jordan Creek	Manitowoc	3.4	144	286	567	0	547	691	833	1114	49:51	49 - 79	
ST NAZIANZ WASTEWATER TREATMENT FACILITY	Unnamed	Manitowoc	2.1	88	173	342	0	373	461	546	715	52:48	52 - 81	
WHITELAW WASTEWATER TREATMENT FACILITY	Unnamed	Manitowoc	0.6	39	76	150	0	528	567	604	678	78:22	78 - 93	
FOREMOST FARMS USA CHILTON	Unnamed	Manitowoc	1.3	4	8	16	0	976	980	984	992	98:2	98 - 100	
Milwaukee														
WASTE MANAGEMENT OMEGA HILLS LANDFILL	Menomonee River	Milwaukee River	34.5	2115	4235	8481	0	3	2118	4238	8484	0:100	0 - 0	
KRIER FOODS INC RANDOM LAKE	Silver Creek	Milwaukee River	9.6	193	381	751	0	7	200	388	758	1:99	1 - 3	
KEWASKUM VILLAGE	Milwaukee River	Milwaukee River	147.2	8523	16993	33880	1232	625	10380	18850	35737	5:95	5 - 18	
CAMPBELLSPORT WASTEWATER TREATMENT FACILITY	Milwaukee River	Milwaukee River	53.9	3570	7131	14244	0	1232	4802	8363	15476	8:92	8 - 26	
SCHREIBER FOODS INC - WEST BEND	Cedar Creek	Milwaukee River	85.0	5654	11312	22630	2494	182	8330	13988	25306	11:89	11 - 32	
FREDONIA MUNICIPAL SEWER AND WATER UTILITY	Milwaukee River	Milwaukee River	430.3	19862	39524	78652	13038	261	33161	52823	91951	14:86	14 - 40	
SAUKVILLE VILLAGE SEWER UTILITY	Milwaukee River	Milwaukee River	454.8	21320	42435	84461	13299	1553	36172	57287	99313	15:85	15 - 41	
JACKSON (VILLAGE) WASTEWATER TREATMENT PLANT	Cedar Creek	Milwaukee River	53.6	3525	7044	14078	0	2494	6019	9538	16572	15:85	15 - 41	
CEDARBURG WASTEWATER TREATMENT FACILITY	Cedar Creek	Milwaukee River	125.2	6834	13638	27216	2676	2733	12243	19047	32625	17:83	17 - 44	
NEWBURG VILLAGE	Milwaukee River	Milwaukee River	263.2	12808	25504	50785	9586	630	23024	35720	61001	17:83	17 - 44	
GRAFTON VILLAGE WATER & WASTEWATER UTILITY	Milwaukee River	Milwaukee River	470.7	22170	44133	87854	14852	2988	40010	61973	105694	17:83	17 - 45	
WEST BEND CITY	Milwaukee River	Milwaukee River	245.7	11737	23360	46496	1857	7729	21323	32946	56082	17:83	17 - 45	
MAYNARD STEEL CASTING CO	Kinnickinnic River	Milwaukee River	17.7	441	875	1736	419	1	861	1295	2156	19:81	19 - 49	
RANDOM LAKE VILLAGE	Silver Creek	Milwaukee River	10.1	214	422	833	7	521	742	950	1361	39:61	39 - 71	
CASCADE WASTEWATER TREATMENT FACILITY	North Branch Milwaukee River	Milwaukee River	9.1	238	470	927	0	658	896	1128	1585	42:58	42 - 73	
MILK SPECIALTIES CO INC - ADELL FACILITY	Unnamed	Milwaukee River	2.8	39	76	150	0	1350	1389	1426	1500	90:10	90 - 97	
WI DNR KETTLE MORAIN SPRINGS FISH HATCHERY	Unnamed	Milwaukee River	0.3	8	16	32	0	286	294	302	318	90:10	90 - 97	
Rock														
SENECA FOODS CORPORATION - CLYMAN	Clyman Creek	Rock River	0.1	2	4	7	0	0	2	4	7	0:100	0 - 0	
SENSIENT FLAVORS INC	Dead Creek	Rock River	0.7	3	5	10	0	0	3	5	10	0:100	0 - 0	
WI ACADEMY WASTEWATER TREATMENT FACILITY	Crawfish River	Rock River	55.7	2251	4482	8925	0	110	2361	4592	9035	1:99	1 - 5	
FALL RIVER WASTEWATER TREATMENT FACILITY	Crawfish River	Rock River	135.7	5899	11766	23467	110	214	6223	12090	23791	1:99	1 - 5	
ALLEN TOWN SANITARY DISTRICT WWTP	East Branch rock River	Rock River	28.3	2939	5898	11835	0	317	3256	6215	12152	3:97	3 - 10	
MADISON GAS & ELECTRIC BLOUNT STATION	Lake Monona	Rock River	262.6	11336	22491	44621	1596	11	12943	24098	46228	3:97	3 - 12	
MARSHALL WASTEWATER TREATMENT FACILITY	Maunasha River	Rock River	70.2	5337	10719	21529	0	976	6313	11695	22505	4:96	4 - 15	
WATERLOO WASTEWATER TREATMENT FACILITY	Maunasha River	Rock River	90.6	7621	15332	30846	976	469	9066	16777	32291	4:96	4 - 16	
SENECA FOODS MAYVILLE	Unnamed	Rock River	0.5	10	21	41	0	2	12	23	43	5:95	5 - 16	
COLUMBUS WASTEWATER TREATMENT FACILITY	Crawfish River	Rock River	165.5	8121	16227	32425	324	1282	9727	17833	34031	5:95	5 - 17	
PLYMOUTH TOWN SANITARY DISTRICT #1 WWTF	Bass Creek	Rock River	49.1	7997	16232	32946	1835	87	9919	18154	34868	6:94	6 - 19	
STOUGHTON WASTEWATER TREATMENT FACILITY	Yahara River	Rock River	409.8	17912	35582	70683	2029	2860	22801	40471	75572	6:94	6 - 21	
MAYVILLE WASTEWATER TREATMENT FACILITY	East Branch Rock River	Rock River	176.0	17830	35794	71857	1402	859	23091	41055	77118	7:93	7 - 23	
THERESA WASTEWATER TREATMENT FACILITY	East Branch Rock River	Rock River	141.1	11643	23308	46660	2401	2001	16045	27710	51062	9:91	9 - 27	
NESTLE PURINA PETCARE CO - JEFFERSON	Rock River	Rock River	1848.3	128476	257420	515777	53208	390	182074	311018	569375	9:91	9 - 29	
JEFFERSON WASTEWATER TREATMENT FACILITY	Rock River	Rock River	1849.1	128462	257390	515712	53598	2938	184998	313926	572248	10:90	10 - 31	
ASHIPPUN SANITARY DISTRICT WWTF	Rock River	Rock River	691.8	54434	109999	218662	23529	1654	79617	134282	243845	10:90	10 - 32	
NASCO DIVISION OF ARISTOTLE	Rock River	Rock River	2268.5	151441	303310	607480	69794	371	221606	373475	677645	10:90	10 - 32	
JOHNSON CREEK WASTEWATER TREATMENT FACILITY	Rock River	Rock River	1055.8	77919	156131	312851	35844	676	114439	192651	349371	10:90	10 - 32	
VALERO RENEWABLE FUELS COMPANY, LLC	Rock River	Rock River	1058.2	77977	156246	313075	36520	839	115336	193605	350434	11:89	11 - 32	
HUSTISFORD WASTEWATER TREATMENT FACILITY	Rock River	Rock River	553.4	39076	78193	156469	17214	1612	57902	97019	175295	11:89	11 - 33	
FORT ATKINSON WASTEWATER TREATMENT FACILITY	Rock River	Rock River	2268.6	151455	303339	607538	70165	4406	226026	377910	682109	11:89	11 - 33	
WATERTOWN WASTEWATER TREATMENT FACILITY	Rock River	Rock River	970.0	70998	142213	284863	32811	3033	106842	178057	320707	11:89	11 - 34	
IRON RIDGE WASTEWATER TREATMENT FACILITY	Unnamed	Rock River	1.1	338	687	1395	0	178	516	865	1573	11:89	11 - 34	
MILTON WASTEWATER TREATMENT FACILITY	Rock River	Rock River	2564.2	165388	331064	662703	84384	1610	251382	417058	748697	11:89	11 - 34	
CONSOLIDATED KOSHKONONG SANITARY DIST WWTF	Rock River	Rock River	2564.2	165388	331064	662703	84384	3632	253404	419080	750719	12:88	12 - 35	
EDGERTON WASTEWATER TREATMENT FACILITY	Rock River	Rock River	2635.5	167096	334390	669175	89626	5633	257285	424579	759364	12:88	12 - 35	
HORTON WASTEWATER TREATMENT FACILITY	Rock River	Rock River	454.4	29826	59609	119130	15302	1118	46246	76029	135550	12:88	12 - 36	
FOOTVILLE WASTEWATER TREATMENT FACILITY	Bass Creek	Rock River	13.9	2716	5528	11250	0	1835	4551	7363	13085	14:86	14 - 40	
HORMEL FOODS CORPORATION	Spring Brook	Rock River	9.2	670	1346	2703	477	32	1179	1855	3212	16:84	16 - 43	
RIVERSIDE ENERGY CENTER LLC	Rock River	Rock River	3432.4	203194	405996	811208	169352	76	372622	575424	980636	17:83	17 - 45	
BELOIT TOWN WASTEWATER TREATMENT FACILITY	Rock River	Rock River	3441.3	202914	405409	809981	169428	1304	373646	576141	980713	17:83	17 - 46	
ROCKDALE WASTEWATER TREATMENT FACILITY	Koshkonong Creek	Rock River	143.1	11284	22640	45423	9675	138	21097	32453	55236	18:82	18 - 47	
JANESVILLE WASTEWATER UTILITY	Rock River	Rock River	3336.1	192901	385333	769731	134596	32834	360331	552763	937161	18:82	18 - 46	
BELOIT WASTEWATER TREATMENT FACILITY	Rock River	Rock River	3467.0	204805	409198	817572	170732	8117	383654	588047	996421	18:82	18 - 47	
CAMBRIDGE OAKLAND WASTEWATER COMMISSION	Koshkonong Creek	Rock River	120.2	10118	20321	40814	8245	1430	19793	29996	50489	19:81	19 - 49	
SULLIVAN TWN SANITARY DISTRICT #1 WWTF	Bark River	Rock River	147.6	6073	12094	24086	5817	363	12253	18274	30266	20:80	20 - 50	
LEWEL WASTEWATER TREATMENT FACILITY	Beaver Dam River	Rock River	239.0	9699	19307	38433	9937	111	19747	29355	48481	21:79	21 - 51	
LEROY KEKOSKEE WWTF COMMISSION	Irish Creek	Rock River	3.0	670	1358	2752	0	728	1398	2086	3480	21:79	21 - 52	
REESEVILLE WASTEWATER TREATMENT FACILITY	Beaver Dam River	Rock River	244.3	10175	20262	40349	10048	980	21203	31290	51377	21:79	21 - 52	
BURNETT SANITARY DISTRICT #1 WWTF	Spring Brook	Rock River	205.7	7719	15321	30411	8994	317	17030	24632	39722	23:77	23 - 55	
WHITEWATER WASTEWATER TREATMENT FACIL	Whitewater Creek	Rock River	43.5	1776	3531	7019	0	2889	4665	6420	9908	29:71	29 - 62	
OCONOMOWOC WASTEWATER TREATMENT PLNT	Oconomowoc River	Rock River	100.8	3458	6858	13601	0	5938	9396	12796	19539	30:70	30 - 63	
LSP WHITEWATER LIMITED PARTNERSHIP	Whitewater Creek	Rock River	43.5	1776	3532	7022	2889	171	4836	6592	10082	30:70	30 - 63	
BEAVER DAM WASTEWATER TREATMENT FACILITY	Beaver Dam River	Rock River	157.0	5419	10761	21371	2376	7561	15356	20698	31308	32:68	32 - 65	

Facility Name	Receiving Water	Major Basin	Watershed Area	Nonpoint Load	Nonpoint Load	Nonpoint Load	2009-2011 Avg. Upstream Point Source Load	2009-2011 Avg. Point Source Load	Total Load	Total Load	Total Load	PS:NPS Ratio	PS Range (80% CI)	Model Flag
				LOW	MOST LIKELY	HIGH			LOW	MOST LIKELY	HIGH			
				(mi ²)	(lbs)	(lbs)			(lbs)	(lbs)	(lbs)			
LEBANON SANITARY DISTRICT #2 WWTF	Unnamed	Rock River	0.7	136	284	802	0	297	433	581	1099	27.73	27 - 69	EC
NATIONAL RIVET AND MANUFACTURING COMPANY	South Branch Rock River	Rock River	59.7	2719	5403	10738	5620	40	8379	11063	16398	35:65	35 - 68	
WALWORTH COUNTY METRO	Turtle Creek	Rock River	83.5	2855	5656	11207	0	6347	9202	12003	17554	36:64	36 - 69	
GREAT LAKES INVESTORS LLC WWTF	Unnamed	Rock River	0.2	30	60	175	0	68	98	128	243	28.72	28 - 70	EC
PALMYRA WASTEWATER TREATMENT FACILITY	Scuppernong River	Rock River	30.3	1100	2194	4377	0	2681	3781	4875	7058	38:62	38 - 71	
GRANDE CHEESE CO BROWNSVILLE	Kummel Creek	Rock River	11.4	523	1035	2049	881	612	2016	2528	3542	42:58	42 - 74	
BROWNSVILLE WASTEWATER TREATMENT FACILITY	Kummel Creek	Rock River	11.4	523	1035	2049	612	881	2016	2528	3542	42:58	42 - 74	
SULLIVAN WASTEWATER TREATMENT FACILITY	Duck Creek	Rock River	8.6	210	418	830	0	603	813	1021	1433	42:58	42 - 74	
WAUPUN WASTEWATER TREATMENT FACILITY	South Branch Rock River	Rock River	62.2	2806	5576	11080	5660	3334	11800	14570	20074	45:55	45 - 76	
LAKE MILLS WASTEWATER TREATMENT FACILITY	Rock Creek	Rock River	15.4	537	1063	2102	0	1770	2307	2833	3872	46:54	46 - 77	
LANDMARK SERVICES COOPERATIVE	Unnamed	Rock River	0.4	2	3	7	0	6	8	9	13	47:53	47 - 77	
HARTFORD WATER POLLUTION CONTROL FACILITY	Rubicon River	Rock River	29.5	1137	2259	4488	879	3645	5661	6783	9012	50:50	50 - 80	
DELAFIELD HARTLAND POLLUTION CONTROL COMM	Bark River	Rock River	59.5	1142	2253	4444	0	4684	5826	6937	9128	51:49	51 - 80	
DOUSMAN WASTEWATER TREATMENT FACILITY	Bark River	Rock River	62.1	1210	2388	4713	4684	462	6356	7534	9859	52:48	52 - 81	
CLYMAN WASTEWATER TREATMENT FACILITY	Unnamed	Rock River	0.9	38	77	153	0	216	254	293	369	58:42	58 - 85	
JUNEAU WASTEWATER TREATMENT FACILITY	Dead Creek	Rock River	1.2	67	134	266	0	400	467	534	666	60:40	60 - 86	
LOMIRA WASTEWATER TREATMENT FACILITY	Lomira Creek	Rock River	3.4	65	127	249	0	591	656	718	840	70:30	70 - 90	
SUN PRAIRIE WASTEWATER TREATMENT FACILITY	Koshkonong Creek	Rock River	12.4	822	1644	3288	0	7940	8762	9584	11228	71:29	71 - 91	
FONTANA WALWORTH WATER POLLUTION CONT. COMM	Piscasaw Creek	Rock River	10.8	284	562	1113	0	2804	3088	3366	3917	72:28	72 - 91	
LEBANON SANITARY DISTRICT #1 WWTF	Unnamed	Rock River	0.3	12	25	51	0	179	191	204	230	78:22	78 - 93	
CLINTON WASTEWATER TREATMENT FACILITY	Unnamed	Rock River	0.5	24	47	92	0	477	501	524	569	84:16	84 - 95	
RUSHING WATERS FISHERIES, INC	Unnamed	Rock River	0.6	46	93	186	0	1337	1383	1430	1523	88:12	88 - 97	
ARLINGTON WASTEWATER TREATMENT FACILITY	Goose Lake	Rock River	0.2	32	60	140	0	1089	1121	1149	1229	89:11	89 - 97	EC
SLINGER WASTEWATER TREATMENT FACILITY	Unnamed	Rock River	2.0	19	38	75	0	879	898	917	954	92:8	92 - 98	
SAPUTO CHEESE WAUPUN FACILITY	Unnamed	Rock River	1.7	95	188	373	0	4562	4657	4750	4935	92:8	92 - 98	
OREGON WASTEWATER TREATMENT FACILITY	Oregon Branch	Rock River	11.7	36	70	135	0	4151	4187	4221	4286	97:3	97 - 99	
DEERFIELD WASTEWATER TREATMENT FACILITY	Unnamed	Rock River	0.6	2	5	9	0	299	301	304	308	97:3	97 - 99	
WI DNR NEVIN FISH HATCHERY	Unnamed	Rock River	0.2	4	7	15	0	422	426	429	437	97:3	97 - 99	
IXONIA SANITARY DISTRICT #1 WWTF	Unnamed	Rock River	0.3	7	14	27	0	1393	1400	1407	1420	98:2	98 - 100	
SHARON WASTEWATER TREATMENT FACILITY	Little Turtle Creek	Rock River	0.2	8	17	34	0	1884	1892	1901	1918	98:2	98 - 100	
RANDOLPH WASTEWATER TREATMENT FACILITY	Unnamed	Rock River	0.4	9	19	37	0	2376	2385	2395	2413	98:2	98 - 100	
BRANDON WASTEWATER TREATMENT FACILITY	Unnamed	Rock River	0.0	3	6	14	0	1058	1061	1064	1072	99:1	99 - 100	EC
MIDDLETON CITY TIEDEMAN POND	Lake Mendota	Rock River	0.0	1	2	4	0	507	508	509	511	99:1	99 - 100	EC
MADISON METROPOLITAN SEWERAGE DISTRICT WWTF	Unnamed	Rock River	0.3	5	9	196	0	35367	35372	35376	35563	99:1	99 - 100	
Root - Pike														
MAPLE LEAF FARMS MAIN FARM	Unnamed	Root - Pike	28.7	1984	3970	7943	1435	0	3419	5405	9378	15:85	15 - 42	
FONKS HOME CENTER INC., HARVEST VIEW ESTATES	East Branch Root River Canal	Root - Pike	3.3	152	303	603	0	122	274	425	725	17:83	17 - 45	
PPG INDUSTRIES INC	Unnamed	Root - Pike	0.8	16	31	62	0	18	34	49	80	22:78	22 - 53	
UNION GROVE VILLAGE	West Branch Root River Canal	Root - Pike	3.9	202	399	791	0	1435	1637	1834	2226	64:36	64 - 88	
YORKVILLE SEWER UTILITY DISTRICT NO 1	Unnamed	Root - Pike	2.1	54	106	207	0	1276	1330	1382	1483	86:14	86 - 96	
Sheboygan														
SARTORI FOOD CORPORATION-WEST MAIN BUILDING	Mullet River	Sheboygan	54.2	1768	3506	6950	0	59	1827	3565	7009	1:99	1 - 3	
HOWARDS GROVE WASTEWATER TRTMT FAC	Pigeon River	Sheboygan	48.8	4107	8205	16393	0	491	4598	8696	16884	3:97	3 - 11	
ST CLOUD VILLAGE UTILITY COMMISSION	Sheboygan River	Sheboygan	73.5	6506	13050	26175	931	227	7664	14208	27333	4:96	4 - 15	
BEMIS MANUFACTURING COMPANY PLANT D	Sheboygan River	Sheboygan	229.2	14387	28726	57356	5072	73	19532	33871	62501	8:92	8 - 26	
WALDO WASTEWATER UTILITY	Onion River	Sheboygan	27.6	706	1396	2760	0	251	957	1647	3011	8:92	8 - 26	
KIEL WASTEWATER TREATMENT FACILITY	Sheboygan River	Sheboygan	157.7	9506	18980	37894	1158	2948	13612	23086	42000	10:90	10 - 30	
PENTAIR - PLYMOUTH PRODUCTS INC	Sheboygan River	Sheboygan	434.8	26447	52814	105468	12053	33	38533	64900	117554	10:90	10 - 31	
KOHLER COMPANY	Sheboygan River	Sheboygan	425.2	26163	52256	104369	11948	105	38216	64309	116422	10:90	10 - 32	
LAKELAND COLLEGE	Sheboygan River	Sheboygan	192.9	10518	20971	41812	4106	779	15403	25856	46697	10:90	10 - 32	
JOHNSONVILLE SAUSAGE LLC	Sheboygan River	Sheboygan	196.9	10882	21699	43270	4885	187	15954	26771	48342	10:90	10 - 32	
GIBBSVILLE SANITARY DISTRICT	Onion River	Sheboygan	84.5	5281	10547	21063	2100	574	7955	13221	23737	11:89	11 - 34	
LAKESIDE FOODS, INC. - BELGIUM PLANT	Unnamed	Sheboygan	1.8	6	11	22	0	3	9	14	25	12:88	12 - 34	
ONION RIVER WASTEWATER COMMISSION	Onion River	Sheboygan	36.9	1512	3004	5971	251	1100	2863	4355	7322	18:82	18 - 47	
CEDAR GROVE WASTEWATER TRTMT FACIL	Barr Creek	Sheboygan	8.6	952	1920	3873	0	1530	2482	3450	5403	28:72	28 - 62	
MOUNT CALVARY WASTEWATER TREATMENT FACILITY	Unnamed	Sheboygan	6.2	555	1114	2238	0	931	1486	2045	3169	29:71	29 - 63	
PLYMOUTH CITY UTIL COMMISSION WWTF	Mullet River	Sheboygan	56.3	1856	3680	7296	59	4070	5985	7809	11425	36:64	36 - 69	
CEDAR VALLEY CHEESE INC	Unnamed	Sheboygan	0.9	3	6	12	0	51	54	57	63	81:19	81 - 94	
OOSTBURG WASTEWATER TREATMENT PLANT	Unnamed	Sheboygan	0.2	23	46	92	0	592	615	638	684	87:13	87 - 96	
BELGIUM WASTEWATER TREATMENT FACIL	Unnamed	Sheboygan	2.5	15	28	56	3	746	764	777	805	93:7	93 - 98	
St. Croix														
LAKESIDE FOODS, INC. NEW RICHMOND	Willow River	St. Croix River	181.1	41010	82964	167840	493	87	41590	83544	168420	0:100	0 - 1	
BURNETT DAIRY COOPERATIVE	Wood River	St. Croix River	76.9	4660	9249	18356	0	99	4759	9348	18455	1:99	1 - 2	
DEER PARK WASTEWATER TREATMENT FACILITY	Willow River	St. Croix River	81.8	20644	41787	84583	357	136	21137	42280	85076	1:99	1 - 2	
NEW RICHMOND WASTEWATER TREATMENT FACILITY	Willow River	St. Croix River	195.5	39362	79454	160383	580	1183	41125	81217	162146	1:99	1 - 4	
STAR PRAIRIE WASTEWATER TREATMENT FACILITY	Apple River	St. Croix River	450.8	16392	32374	63940	1663	474	18529	34511	66077	3:97	3 - 12	
SOMERSET WASTEWATER TREATMENT FACILITY	Apple River	St. Croix River	545.3	17855	35232	69521	2137	427	20419	37796	72085	4:96	4 - 13	
AMERY CITY OF	Apple River	St. Croix River	255.0	11110	21984	43501	820	843	22773	23647	45164	4:96	4 - 13	
WI DNR GOV TOMMY THOMPSON FISH HATCHERY	Yellow River	St. Croix River	61.3	906	1778	3490	0	153	1059	1931	3643	4:96	4 - 14	
RIVER FALLS MUNICIPAL UTILITY WWTF	Kinnickimic River	St. Croix River	120.0	11099	22267	44673	0	2162	13261	24429	46835	5:95	5 - 16	
GRANTSBURG VILLAGE OF	Wood River	St. Croix River	151.1	8298	16469	32685	99	1813	10210	18381	34597	6:94	6 - 19	
CLEAR LAKE VILLAGE OF	Unnamed	St. Croix River	2.3	658	1326	2671	0	151	1015	1683	3028	12:88	12 - 35	
AMANI SANITARY DISTRICT	Wetland	St. Croix River	0.1	6	14	32	0	16	22	30	48	33:67	33 - 72	EC
CLAYTON VILLAGE OF	Unnamed	St. Croix River	1.6	141	282	564	0	820	961	1102	1384	59:41	59 - 85	
LUCK VILLAGE OF	Wetland	St. Croix River	1.2	94	186	368	0	825	919	1011	1193	69:31	69 - 90	

Facility Name	Receiving Water	Major Basin	Watershed Area	Nonpoint Load	Nonpoint Load	Nonpoint Load	2009-2011 Avg. Upstream Point Source Load	2009-2011 Avg. Point Source Load	Total Load	Total Load	Total Load	PS:NPS Ratio	PS Range (80% CI)	Model Flag
				LOW	MOST LIKELY	HIGH			LOW	MOST LIKELY	HIGH			
				(mi ²)	(lbs)	(lbs)			(lbs)	(lbs)	(lbs)			
WEBSTER VILLAGE OF	Unnamed	St. Croix River	0.3	6	12	24	0	586	592	598	610	96.4	96 - 99	
WI DNR OSCEOLA FISH HATCHERY	Unnamed	St. Croix River	0.1	2	3	7	0	334	336	337	341	98.2	98 - 99	
ROBERTS WASTEWATER TREATMENT FACILITY	East Twin Lake	St. Croix River	0.0	0	1	2	0	156	156	157	158	98.2	98 - 100	EC
Sugar - Pecatonica														
WI DNR YELLOWSTONE LAKE STATE PARK WWTF	Unnamed	Sugar - Pecatonica	0.6	226	460	938	0	0	226	460	938	0:100	0 - 0	
BROWNTOWN WASTEWATER TREATMENT FACILITY	Skinner Creek	Sugar - Pecatonica	69.2	39125	80501	165631	53	315	39493	80869	165999	0:100	0 - 1	
GRATIOT WASTEWATER TREATMENT FACILITY	Wolf Creek	Sugar - Pecatonica	27.8	21783	44859	92378	0	312	22095	45171	92690	0:100	0 - 1	
ARGYLE WASTEWATER TREATMENT FACILITY	East Branch Pecatonica River	Sugar - Pecatonica	329.2	204533	422144	871278	4489	712	209734	427345	876479	1:99	1 - 2	
DARLINGTON WASTEWATER TREATMENT FACILITY	Pecatonica River	Sugar - Pecatonica	273.2	111494	228924	470037	3122	472	115088	232518	473631	1:99	1 - 3	
BLANCHARDVILLE WASTEWATER TREATMENT FACILITY	East Branch Pecatonica River	Sugar - Pecatonica	217.2	132082	272679	562940	4104	385	136571	277168	567429	1:99	1 - 3	
HOLLANDALE WASTEWATER TREATMENT FACILITY	Dodge Branch	Sugar - Pecatonica	67.8	37709	77784	160450	1054	312	39075	79150	161816	1:99	1 - 3	
NEW GLARUS WASTEWATER TREATMENT FACILITY	Little Sugar River	Sugar - Pecatonica	22.8	12790	26397	54483	0	1099	13889	27496	55582	2:98	2 - 8	
ALBANY WASTEWATER TREATMENT FACILITY	Sugar River	Sugar - Pecatonica	463.4	90870	184149	373179	7735	457	99062	192341	381371	2:98	2 - 8	
MINERAL POINT WASTEWATER TREATMENT FACILITY	Brewery Creek	Sugar - Pecatonica	6.9	3454	7067	14457	0	567	4021	7634	15024	4:96	4 - 14	
BLOOMFIELD MANOR WASTEWATER TREATMENT FAC	Pedler Creek	Sugar - Pecatonica	1.7	442	906	1856	0	74	516	980	1930	4:96	4 - 14	
BELLEVILLE WASTEWATER TREATMENT FACILITY	Sugar River	Sugar - Pecatonica	174.2	26126	52684	106240	4232	210	30568	57126	110682	4:96	4 - 15	
BRODHEAD WASTEWATER TREATMENT FACILITY	Sugar River	Sugar - Pecatonica	21.6	3726	7591	15467	0	668	4394	8259	16135	4:96	4 - 15	
MONTECELLO WASTEWATER TREATMENT FACILITY	West Branch Little Sugar River	Sugar - Pecatonica	33.7	4037	8980	22754	0	922	4959	9902	23676	4:96	4 - 19	EC
BARNEVELD WASTEWATER TREATMENT FACILITY	East Branch Pecatonica River	Sugar - Pecatonica	17.7	10468	21553	44376	548	1778	12794	23879	46702	5:95	5 - 18	
LACTALIS USA BELMONT INC	Bonner Branch	Sugar - Pecatonica	5.6	1665	3410	6986	0	400	2065	3810	7386	5:95	5 - 19	
REWEY WASTEWATER TREATMENT FACILITY	Williams-Rewey Branch	Sugar - Pecatonica	0.6	442	912	1881	0	144	586	1056	2025	7:93	7 - 25	
KLONDIKE CHEESE CORP	Unnamed	Sugar - Pecatonica	0.6	110	222	446	0	53	163	275	499	11:89	11 - 32	
PGP INTERNATIONAL INC	North Fork Juda Branch	Sugar - Pecatonica	3.0	625	1264	2557	0	476	1101	1740	3033	16:84	16 - 43	
RIDGEWAY WASTEWATER TREATMENT FACILITY	Smith Conley Creek	Sugar - Pecatonica	0.9	468	963	1981	0	412	880	1375	2393	17:83	17 - 47	
BELMONT WASTEWATER TREATMENT FACILITY	Bonner Branch	Sugar - Pecatonica	5.6	1730	3545	7264	400	1218	3348	5163	8882	18:82	18 - 48	
LINDEN WASTEWATER TREATMENT FACILITY	Unnamed	Sugar - Pecatonica	3.0	630	1275	2580	0	719	1349	1994	3299	22:78	22 - 53	
MOUNT HOREB WASTEWATER TREATMENT FACILITY	West Branch Sugar River	Sugar - Pecatonica	1.8	306	621	1260	0	1172	1478	1793	2432	48:52	48 - 79	
ORFORDVILLE WASTEWATER TREATMENT FACILITY	Unnamed	Sugar - Pecatonica	0.9	304	619	1259	0	1259	1563	1878	2518	50:50	50 - 81	
BROOKLYN WASTEWATER TREATMENT FACILITY	Allen Creek	Sugar - Pecatonica	10.9	272	538	1062	0	1272	1544	1810	2334	55:45	55 - 82	
MONROE WASTEWATER TREATMENT FACILITY	Honey Creek	Sugar - Pecatonica	4.8	413	829	1666	0	4030	4443	4859	5696	71:29	71 - 91	
DODGEVILLE WASTEWATER TREATMENT FACILITY	Dodge Branch	Sugar - Pecatonica	1.1	99	202	412	0	1054	1153	1256	1466	72:28	72 - 91	
BLUE MOUNDS WASTEWATER TREATMENT FACILITY	Unnamed	Sugar - Pecatonica	0.6	40	80	161	0	548	588	628	709	77:23	77 - 93	
MADISON METROPOLITAN SEWERAGE DISTRICT WWTF	Badger Mill Creek	Sugar - Pecatonica	15.5	219	430	844	0	3060	3279	3490	3904	78:22	78 - 93	
Twin - Door - Kewaunee														
KEWAUNEE WASTEWATER TREATMENT FACILITY	Kewaunee River	Twin - Door - Kewaunee	141.4	59709	121616	247710	357	165	60231	122138	248232	0:100	0 - 1	
MISHICOT WASTEWATER TREATMENT FAC	East Twin River	Twin - Door - Kewaunee	114.0	21890	44003	88454	316	0	22206	44319	88770	0:100	0 - 1	
TWO RIVERS WASTEWATER TREATMENT FACILITY	West Twin River	Twin - Door - Kewaunee	305.9	94747	191966	388941	1149	2928	98824	196043	393018	1:99	1 - 4	
SEVASTOPOL SD NO 1 WWTF	Donlans Creek	Twin - Door - Kewaunee	6.6	885	1766	3524	0	39	924	1805	3563	1:99	1 - 4	
KOSSUTH SANITARY DISTRICT NO. 2 WWTF	Unnamed	Twin - Door - Kewaunee	0.9	554	1132	2314	0	28	582	1160	2342	1:99	1 - 5	
ALGOMA WASTEWATER TREATMENT FACILITY	Ahnapee River	Twin - Door - Kewaunee	116.7	14921	29787	59466	449	288	15658	30524	60203	1:99	1 - 5	
PACKERLAND WHEY PRODUCTS INC	Unnamed	Twin - Door - Kewaunee	1.9	1088	2219	4527	0	93	1181	2312	4620	2:98	2 - 8	
FORESTVILLE WASTEWATER TREATMENT FACILITY	Ahnapee River	Twin - Door - Kewaunee	42.2	2908	5761	11411	0	449	3357	6210	11860	4:96	4 - 13	
MARIBEL WASTEWATER TREATMENT FACILITY	Unnamed	Twin - Door - Kewaunee	2.1	1363	2795	5732	0	254	1617	3049	5986	4:96	4 - 16	
CASCO WASTEWATER TREATMENT FACILITY	Casco Creek	Twin - Door - Kewaunee	13.4	1348	2690	5368	0	264	1612	2954	5632	5:95	5 - 16	
DENMARK WASTEWATER TREATMENT FACILITY	Unnamed	Twin - Door - Kewaunee	1.9	903	1847	3779	0	551	1454	2398	4330	13:87	13 - 38	
AGROPUR INC LUXEMBURG	Unnamed	Twin - Door - Kewaunee	0.2	50	101	201	0	316	366	417	517	61:39	61 - 86	
Wisconsin														
WISCONSIN POWER & LIGHT COLUMBIA GEN. STATION	Duck Creek	Wisconsin River	6.2	403	808	1618	0	0	403	808	1618	0:100	0 - 0	
BOAZ WASTEWATER TREATMENT FACILITY	Mill Creek	Wisconsin River	59.0	14846	30404	62285	0	106	14952	30510	62371	0:100	0 - 1	
HUSTLER WASTEWATER TREATMENT FACILITY	Little Lemonweir River	Wisconsin River	37.9	14330	29447	60511	0	103	14433	29550	60614	0:100	0 - 1	
HUB ROCK SANITARY DISTRICT #1 WWTF	Pine River	Wisconsin River	121.1	29012	59199	120796	0	231	29243	59430	121027	0:100	0 - 1	
FENWOOD WASTEWATER TREATMENT FACILITY	Fenwood Creek	Wisconsin River	16.3	1784	3622	7355	0	18	1802	3640	7373	0:100	0 - 1	
SEXTONVILLE SANITARY DISTRICT #1 WWTF	Willow Creek	Wisconsin River	78.2	19655	40114	81867	0	506	20161	40620	82373	1:99	1 - 3	
WAUZeka WASTEWATER TREATMENT FACILITY	Kickapoo River	Wisconsin River	766.9	168280	343825	702493	5435	445	174160	349705	708373	1:99	1 - 3	
CAZENOVIA WASTEWATER TREATMENT FACILITY	Little Baraboo River	Wisconsin River	60.9	15608	31968	65477	0	551	16159	32519	66028	1:99	1 - 3	
GAYS MILLS WASTEWATER TREATMENT FACILITY	Kickapoo River	Wisconsin River	616.1	138420	282775	577675	4497	557	143474	287829	582729	1:99	1 - 4	
SOLDIERS GROVE WASTEWATER TREATMENT FACILITY	Kickapoo River	Wisconsin River	530.3	120619	246397	503331	4191	306	125116	250894	507828	1:99	1 - 4	
READSTOWN WASTEWATER TREATMENT FACILITY	Kickapoo River	Wisconsin River	484.3	110361	225411	460398	4131	60	114552	229602	464589	1:99	1 - 4	
LOGANVILLE WASTEWATER TREATMENT FACILITY	Narrows Creek	Wisconsin River	43.3	12402	25345	51798	201	284	12887	25830	52283	1:99	1 - 4	
LA FARGE WASTEWATER TREATMENT PLANT	Kickapoo River	Wisconsin River	301.6	68994	140876	287653	2237	560	71791	143673	290450	1:99	1 - 4	
HILL POINT SANITARY DISTRICT WWTF	Hill Point Creek	Wisconsin River	9.4	2831	5792	11849	0	143	2974	5935	11992	1:99	1 - 5	
HILLSBORO WASTEWATER TREATMENT FACILITY	West Branch Baraboo River	Wisconsin River	39.3	8264	16887	34508	0	439	8703	17326	34947	1:99	1 - 5	
VIOLA WASTEWATER TREATMENT FACILITY	Kickapoo River	Wisconsin River	339.3	77401	158073	322826	2797	1334	81532	162204	326957	1:99	1 - 5	
NEW LISBON WASTEWATER TREATMENT FACILITY	Lemonweir River	Wisconsin River	503.7	58524	118113	238378	3345	437	62306	121895	242160	2:98	2 - 6	
DANE IOWA WASTEWATER COMMISSION WWTF	Black Earth Creek	Wisconsin River	101.9	16828	34000	68697	443	731	18002	35174	69871	2:98	2 - 7	
WI DNR ART OEHMCKE STATE FISH HATCHERY	Minocqua Throughfare	Wisconsin River	22.0	172	338	661	0	12	184	350	673	2:98	2 - 7	
SAUK COUNTY HEALTH CARE CENTER WWTF	Unnamed	Wisconsin River	4.5	921	1872	3805	0	98	988	1939	3872	2:98	2 - 7	
MAUSTON WASTEWATER TREATMENT FACILITY	Lemonweir River	Wisconsin River	567.0	81694	124428	250955	3782	755	66231	128965	255492	2:98	2 - 7	
O DELL BAY SANITARY DISTRICT 1	Wisconsin River	Wisconsin River	672.3	61101	123286	248758	4184	372	65657	127842	253314	2:98	2 - 7	
LA VALLE WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	307.8	64101	130844	267080	4643	225	68969	135712	271948	2:98	2 - 7	
LAKESIDE FOODS INC. - REEDSBURG	Baraboo River	Wisconsin River	385.7	75657	154262	314535	4868	990	81515	160120	320393	2:98	2 - 7	
FOREMOST FARMS USA REEDSBURG	Baraboo River	Wisconsin River	386.8	75679	154303	314608	5858	38	81675	160199	320504	2:98	2 - 7	
WI AIR NATIONAL GUARD	Lemonweir River	Wisconsin River	417.1	42112	84841	170924	2068	1174	45354	88083	174166	2:98	2 - 7	
TOMAH WASTEWATER TREATMENT FACILITY	South Fork Lemonweir River	Wisconsin River	48.5	9051	18364	37262	0	702	9753	19066	37964	2:98	2 - 7	
UNION CENTER WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	165.0	39572	80925	165493	2394	835	42801	84154	168722	2:98	2 - 8	

Facility Name	Receiving Water	Major Basin	Watershed Area	Nonpoint Load	Nonpoint Load	Nonpoint Load	2009-2011 Avg. Upstream Point Source Load	2009-2011 Avg. Point Source Load	Total Load	Total Load	Total Load	PS:NPS Ratio	PS Range (80% CI)	Model Flag
				LOW	MOST LIKELY	HIGH			LOW	MOST LIKELY	HIGH			
				(mi ²)	(lbs)	(lbs)			(lbs)	(lbs)	(lbs)			
NECEDAH WASTEWATER TREATMENT FACILITY	Yellow River	Wisconsin River	540.9	50050	101179	204539	3186	998	54234	105363	208723	2.98	2 - 8	
NORWALK WASTEWATER TREATMENT FACILITY	Moore Creek	Wisconsin River	18.1	4308	8805	17994	0	369	4677	9174	18363	2.98	2 - 8	
VPP GROUP, LLC	Moore Creek	Wisconsin River	20.9	4729	9656	19716	369	73	5171	10098	20158	2.98	2 - 9	
WONEWOC WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	174.4	40655	83110	168988	3229	863	44747	87202	173990	2.98	2 - 9	
PITTSVILLE WATER AND SEWER DEPT WWTF	Yellow River	Wisconsin River	184.9	16455	33273	67279	753	911	18119	34937	68943	2.98	2 - 9	
MONTFORT WASTEWATER TREATMENT FACILITY	Blue River	Wisconsin River	19.5	6884	14081	28800	0	708	7592	14789	29508	2.98	2 - 9	
ONTARIO WASTEWATER TREATMENT FACILITY	Brush Creek	Wisconsin River	31.6	6369	12975	26433	0	668	7037	13643	27101	2.98	2 - 9	
WILTON WASTEWATER TREATMENT FACILITY	Kickapoo River	Wisconsin River	35.1	10445	21389	43800	0	1127	11572	22516	44927	3.97	3 - 10	
ELROY WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	65.5	17980	36789	75277	551	1404	19935	38744	77232	3.97	3 - 10	
EASTMAN WASTEWATER TREATMENT FACILITY	Pine Creek	Wisconsin River	12.8	3320	6783	13859	0	381	3701	7164	14240	3.97	3 - 10	
KENDALL WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	16.0	4452	9087	18548	0	551	5003	9638	19099	3.97	3 - 11	
MARATHON WATER & SEWER DPT WW TREATMNT PLANT	Big Rib River	Wisconsin River	370.4	27227	54958	110935	2582	813	30622	58353	114330	3.97	3 - 11	
GOETZ COMPANIES INC (PORTAGE PETRO TRAVEL P)	Baraboo River	Wisconsin River	648.5	108463	220405	447878	14689	141	123293	235235	462708	3.97	3 - 12	
CEDAR GROVE CHEESE FACTORY	Honey Creek	Wisconsin River	43.0	7782	15801	32083	1070	27	8879	16898	33180	3.97	3 - 12	
BARABOO WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	573.8	101328	206111	419248	13637	1052	116017	220800	439397	3.97	3 - 13	
ROCK SPRINGS WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	484.4	90037	183276	373073	12781	435	103253	196492	386289	3.97	3 - 13	
CROSS PLAINS WASTEWATER TREATMENT FACILITY	Black Earth Creek	Wisconsin River	26.6	3044	6112	12272	0	443	3487	6555	12715	3.97	3 - 13	
NORTH FREEDOM WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	491.2	91710	186706	380101	13216	421	105347	200343	393738	3.97	3 - 13	
REEDSBURG WASTEWATER TREATMENT FACILITY	Baraboo River	Wisconsin River	389.0	75288	153470	312840	5896	6224	87408	165590	324960	4.96	4 - 14	
SAPUTO CHEESE USA INC REEDSBURG	Baraboo River	Wisconsin River	389.4	75244	153377	312640	12120	109	87473	165606	324869	4.96	4 - 14	
LAKE TOMAHAWK TOWNSHIP SANITARY DISTRICT 1	Wisconsin River	Wisconsin River	745.5	12279	24235	47832	1593	460	14332	26288	49885	4.96	4 - 14	
ROXBURY SANITARY DISTRICT #1 WWTF	Roxbury Creek	Wisconsin River	18.6	3392	6849	13829	0	624	4016	7473	14453	4.96	4 - 16	
ADAMS WASTEWATER TREATMENT FACILITY	Little Roche a Cri Creek	Wisconsin River	57.8	1513	2987	5899	0	324	1837	3311	6223	5.95	5 - 18	
AVOCA WASTEWATER TREATMENT FACILITY	Morrey Creek	Wisconsin River	18.6	2158	4358	8802	0	461	2639	4839	9283	5.95	5 - 18	
GRANDE CHEESE CORP WYOCENA	Unnamed	Wisconsin River	74.6	5483	11013	22121	1190	34	6707	12237	23345	5.95	5 - 18	
RICHLAND CENTER WASTEWATER TREATMENT FAC	Pine River	Wisconsin River	190.0	42564	86696	176583	231	11708	54503	98635	188522	6.94	6 - 22	
FOREMOST FARMS USA - RICHLAND CENTER	Pine River	Wisconsin River	191.1	42344	86227	175589	11939	0	54283	98166	187528	6.94	6 - 22	
MILK SPECIALTIES CO, INC	Crooked Creek	Wisconsin River	16.7	3494	7154	14649	0	1013	4507	8167	15662	6.94	6 - 22	
RIB LAKE VILLAGE OF	Sheep Ranch Creek	Wisconsin River	6.0	450	912	1850	0	131	581	1043	1981	7.93	7 - 23	
COLBY CITY WWTF	Dill Creek	Wisconsin River	12.9	955	1929	3897	0	314	1269	2243	4211	7.93	7 - 25	
SENECA FOODS CORPORATION CAMBRIA	Unnamed	Wisconsin River	0.4	118	239	486	0	40	158	279	526	8.92	8 - 25	
EAGLE RIVER CITY OF	Eagle River	Wisconsin River	237.7	4732	9358	18506	1142	451	6325	10951	20099	8.92	8 - 25	
LODI WASTEWATER TREATMENT FACILITY	Spring Creek	Wisconsin River	37.7	2883	5758	11501	0	986	3869	6744	12487	8.92	8 - 25	
BOSCobel WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	10762.7	730035	1463122	2932360	270462	325	1000822	1739909	3203147	8.92	8 - 27	
BLUE RIVER WASTEWATER TREATMENT FACILITY	Blue River	Wisconsin River	10614.7	709621	1421913	2849180	270204	258	980083	1692375	3119642	9.91	9 - 28	
ATHENS WASTEWATER TREATMENT FACILITY	Black Creek	Wisconsin River	52.8	3878	7818	15762	0	1503	5381	9321	17265	9.91	9 - 28	
SPRING GREEN WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	9646.4	544614	1089380	2179060	255657	347	800618	1345384	2435064	11.89	11 - 32	
LIME RIDGE WASTEWATER TREATMENT FACILITY	Narrows Creek	Wisconsin River	0.9	113	228	462	0	58	171	286	520	11.89	11 - 34	
EDGAR WASTEWATER TREATMENT FACILITY	Scotch Creek	Wisconsin River	15.2	1766	3599	7335	0	948	2714	4547	8283	11.89	11 - 35	
BADGER ARMY AMMUNITION PLANT	Wisconsin River	Wisconsin River	9010.5	466105	931636	1862130	248920	3320	118345	1183876	2114370	12.88	12 - 35	
FISH, CRYSTAL AND MUD LAKE REHABILITATION DISTRICT	Wisconsin River	Wisconsin River	9032.0	466490	932373	1863530	252240	387	719117	1185000	2116157	12.88	12 - 35	
CAMBRIA WASTEWATER TREATMENT FACILITY	North Branch Duck Creek	Wisconsin River	8.7	1131	2287	4624	0	646	1777	2933	5270	12.88	12 - 36	
LYNDON STATION WASTEWATER TREATMENT FACILITY	Lyndon Creek	Wisconsin River	6.8	495	998	2012	0	306	801	1304	2318	13.87	13 - 38	
LIGNOTECH USA INC	Wisconsin River	Wisconsin River	3987.3	118625	235880	469036	72778	336	191739	308994	542150	13.87	13 - 38	
PORTAGE WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	8010.5	356112	710705	1418380	228885	2369	587366	941959	1649634	14.86	14 - 39	
STEVENS POINT WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	4953.8	164712	328148	653756	101148	5793	271653	435089	760697	14.86	14 - 39	
WI DELLS LK DELTON SEWERAGE COMMISSION WWTF	Wisconsin River	Wisconsin River	7869.1	345781	690005	1376900	225864	3021	574666	918890	1605785	14.86	14 - 40	
CROCKETT'S RESORT	Wisconsin River	Wisconsin River	7763.9	338502	675438	1347750	225538	20	564060	900996	1573308	14.86	14 - 40	
MULLINS CHEESE INC	Wisconsin River	Wisconsin River	4490.6	145676	290103	577716	98448	459	244583	389010	676623	15.85	15 - 40	
DOMTAR PAPER CO LLC	Wisconsin River	Wisconsin River	3987.6	118633	235896	469069	73114	9982	201729	318992	552165	15.85	15 - 41	
FOREMOST FARMS USA COOP ROTHSCHILD	Wisconsin River	Wisconsin River	4002.2	118945	236514	470291	83096	466	202507	320076	553853	15.85	15 - 41	
NEW PAGE WISCONSIN	Wisconsin River	Wisconsin River	4957.0	164766	328256	653968	106941	9941	281648	445138	770590	15.85	15 - 41	
WHITING WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	4957.2	164769	328262	653979	116882	736	282387	445880	771597	15.85	15 - 42	
NEENAH PAPER INC WHITING MILL	Wisconsin River	Wisconsin River	5138.0	166693	331958	661072	117618	1338	285649	450914	780028	15.85	15 - 42	
POYNETTE WASTEWATER TREATMENT FACILITY	Rowan Creek	Wisconsin River	11.3	741	1483	2969	0	543	1284	2026	3512	15.85	15 - 42	
FOREMOST FARMS USA COOP PLOVER	Wisconsin River	Wisconsin River	5163.6	166726	331998	661101	118956	3215	288897	454169	783272	16.84	16 - 42	
PLOVER WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	5170.4	166822	332185	661466	122171	1534	290527	455890	785171	16.84	16 - 43	
RIB MOUNTAIN METRO SEWAGE DISTRICT WWTF	Wisconsin River	Wisconsin River	4002.9	118957	236536	470334	83562	5902	208421	326000	559798	16.84	16 - 43	
WISCONSIN PUBLIC SERVICE CORP WESTON 3 & 4	Wisconsin River	Wisconsin River	4003.5	118966	236554	470370	89464	1327	209757	327345	561161	16.84	16 - 43	
DEL MONTE FOODS CAMBRIA PLANT #108	North Branch Duck Creek	Wisconsin River	11.0	1529	3091	6250	686	504	2719	4281	7440	16.84	16 - 44	
WAUSAU PAPER MILLS, LLC	Wisconsin River	Wisconsin River	4092.5	122929	244485	486239	90791	4557	218277	339833	581587	16.84	16 - 44	
MOSINEE WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	4092.8	122934	244493	486255	95348	577	218859	340418	582180	16.84	16 - 44	
WAUSAU PAPER MILLS, LLC	Wisconsin River	Wisconsin River	3024.2	75428	149585	296650	55435	5170	136033	210190	357255	17.83	17 - 45	
BROKAW WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	3024.9	75441	149611	296700	60605	21	136067	210237	357326	17.83	17 - 45	
MCCAIN FOODS USA, INC., PLOVER	Wisconsin River	Wisconsin River	5314.4	176851	352271	701691	133627	11250	321728	497148	846568	17.83	17 - 45	
MERRILL CITY OF	Wisconsin River	Wisconsin River	2750.1	63463	125703	248984	52848	2587	118898	181138	304419	18.82	18 - 47	
WAUSAU WATER WORKS WW TREATMENT FACILITY	Wisconsin River	Wisconsin River	3054.7	76333	151383	300223	60626	7320	144279	219329	368169	18.82	18 - 47	
WAUSAU PAPER MILLS LLC	Wisconsin River	Wisconsin River	861.4	14906	29430	58104	2053	11392	28351	42875	71549	19.81	19 - 47	
RUSSELL SANITARY DISTRICT #1 TOWN OF	North Branch Praine River	Wisconsin River	39.3	515	1013	1992	248	219	982	1480	2459	19.81	19 - 48	
LAKELAND SANITARY DISTRICT	Tomahawk River	Wisconsin River	71.6	554	1085	2127	12	502	1068	1599	2641	19.81	19 - 48	
NEWPAGE CORPORATION- WATER QUALITY CENTER	Wisconsin River	Wisconsin River	5384.5	183048	364688	726569	145305	41598	369951	551591	913472	20.80	20 - 51	
WISCONSIN RAPIDS WWTF	Wisconsin River	Wisconsin River	5387.3	183081	364751	726692	186903	4023	374007	555677	917618	21.79	21 - 51	
NIKOOSA WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	5575.8	190409	379297	755655	215699	422	406530	595418	971686	22.78	22 - 53	
DOMTAR A W LLC	Wisconsin River	Wisconsin River	5543.1	187290	379044	743030	190926	22726	400942	586696	956862	22.78	22 - 53	
PORT EDWARDS WASTEWATER TREATMENT FACILITY	Wisconsin River	Wisconsin River	5543.7	187308	373079	743099	213652	221	401181	586952	956972	22.78	22 - 53	

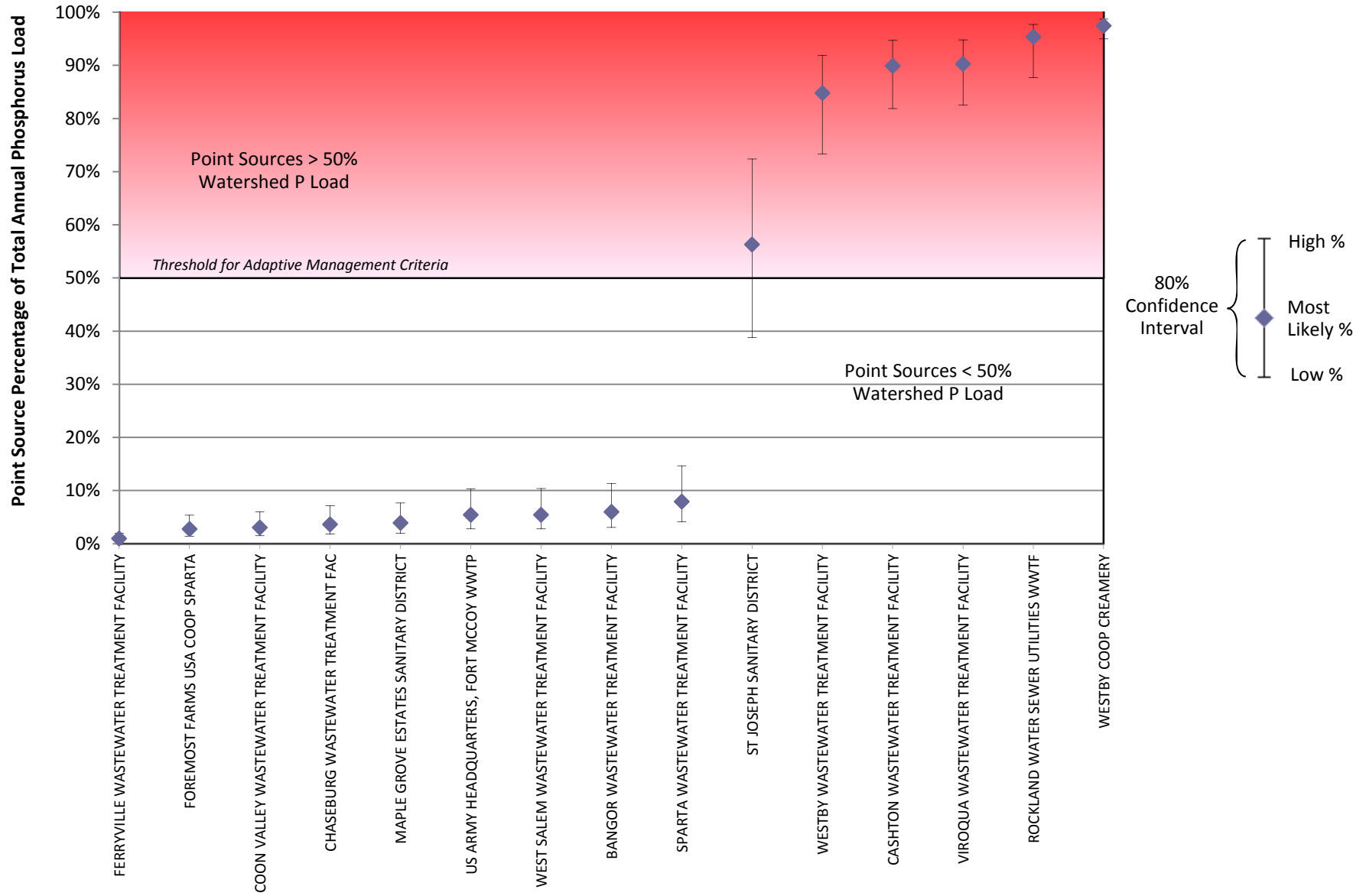
Facility Name	Receiving Water	Major Basin	Watershed Area	Nonpoint Load	Nonpoint Load	Nonpoint Load	2009-2011 Avg. Upstream Point Source Load	2009-2011 Avg. Point Source Load	Total Load	Total Load	Total Load	PS:NPS Ratio	PS Range (80% CI)	Model Flag
				LOW	MOST LIKELY	HIGH			LOW	MOST LIKELY	HIGH			
				(mi ²)	(lbs)	(lbs)			(lbs)	(lbs)	(lbs)			
ERCO WORLDWIDE (USA) INC - PORT EDWARDS	Wisconsin River	Wisconsin River	5548.6	187728	373923	744793	213873	1826	403427	589622	960492	22.78	22 - 53	
RHINELANDER CITY OF	Wisconsin River	Wisconsin River	862.0	14923	29464	58172	13445	5079	33447	47988	76696	24.76	24 - 55	
PACKAGING CORPORATION OF AMERICA	Wisconsin River	Wisconsin River	2014.2	39993	79041	156217	19038	32769	91800	130848	208024	25.75	25 - 56	
TOMAHAWK CITY OF	Wisconsin River	Wisconsin River	2015.7	39993	79041	156215	51807	574	92374	131422	208596	25.75	25 - 57	
UNITY WASTEWATER TREATMENT FACILITY	Little Eau Pleine River	Wisconsin River	7.4	409	821	1648	0	557	966	1378	2205	25.75	25 - 58	
MILLADORE WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	2.7	184	368	738	0	264	448	632	1002	26.74	26 - 59	
CHILI WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	0.7	126	255	514	0	252	378	507	766	33.67	33 - 67	
JUNCTION CITY WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	0.7	69	139	280	0	139	208	278	419	33.67	33 - 67	
STRATFORD WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	2.2	98	196	395	0	198	296	394	593	33.67	33 - 67	
SPRING GREEN GOLF CLUB SANITARY DIST #2 WWTF	Unnamed	Wisconsin River	0.5	58	118	239	0	135	193	253	374	36.64	36 - 70	
ARPIN WASTEWATER TREATMENT FACILITY	Hemlock Creek	Wisconsin River	5.3	252	505	1013	0	589	841	1094	1602	37.63	37 - 70	
ANTIGO CITY OF	Spring Brook	Wisconsin River	37.8	613	1204	2364	0	1437	2050	2641	3801	38.62	38 - 70	
BLENKER SHERRY SANITARY DISTRICT WWTP	Mill Creek	Wisconsin River	41.8	3554	7167	14454	9271	248	13073	16686	23973	40.60	40 - 73	
PLAIN WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	4.2	394	796	1606	0	1070	1464	1866	2676	40.60	40 - 73	
BETHEL CENTER WWTF	Unnamed	Wisconsin River	1.8	45	90	178	0	202	247	292	380	53.47	53 - 82	
RIO WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	1.7	16	31	61	0	83	99	114	144	58.42	58 - 84	
STETSONVILLE VILLAGE OF	West Branch Big Eau Pleine Riv	Wisconsin River	2.9	122	245	493	0	865	987	1110	1358	64.36	64 - 88	
MULLINS CHEESE INC MARSHFIELD	Unnamed	Wisconsin River	0.3	14	28	56	0	103	117	131	159	65.35	65 - 88	
THREE LAKES SANITARY DISTRICT #1	Wetland	Wisconsin River	1.4	93	190	385	0	699	792	889	1084	64.36	64 - 88	
ABBVLYND FOODS INC ABBOTSFORD PLANT	Unnamed	Wisconsin River	0.5	8	17	33	0	63	71	80	96	66.34	66 - 88	
VESPER WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	1.1	111	225	459	0	933	1044	1158	1392	67.33	67 - 89	
HIGHLAND WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	0.3	39	80	163	0	460	499	540	623	74.26	74 - 92	
SPENCER WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	1.2	27	53	105	0	328	355	381	433	76.24	76 - 92	
WARRENS WASTEWATER TREATMENT FACILITY	Apple Creek	Wisconsin River	1.1	39	77	152	0	599	638	676	751	80.20	80 - 94	
ROZELLVILLE SANITARY DISTRICT NO 1	NA	Wisconsin River	0.1	2	3	6	0	26	28	29	32	81.19	81 - 94	
MILAN S D WASTEWATER TREATMENT FACILITY	Wetland	Wisconsin River	0.2	27	57	158	0	549	576	606	707	78.22	78 - 95	EC
AUBURNDALE WASTEWATER TREATMENT FACILITY	Little Bear Creek	Wisconsin River	1.3	57	113	225	0	1227	1284	1340	1452	85.15	85 - 96	
HEWITT SANITARY DISTRICT WWTP	Mill Creek	Wisconsin River	10.3	398	798	1596	8683	588	9669	10069	10867	85.15	85 - 96	
MARSHFIELD WASTEWATER TREATMENT FACILITY	Mill Creek	Wisconsin River	8.5	278	554	1105	0	8683	8961	9237	9788	89.11	89 - 97	
WISCONSIN DAIRY STATE CHEESE, INC.	Unnamed	Wisconsin River	1.0	13	27	53	370	58	441	455	481	89.11	89 - 97	
RUDOLPH WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	1.0	13	27	53	58	370	441	455	481	89.11	89 - 97	
ABBOTSFORD WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	0.5	11	21	43	63	516	590	600	622	93.7	93 - 98	
NASONVILLE DAIRY INC	Unnamed	Wisconsin River	0.2	3	7	13	0	299	302	306	312	96.4	96 - 99	
WI DOC LINCOLN HILLS SCHOOL	Unnamed	Wisconsin River	0.7	3	5	10	0	248	251	253	258	96.4	96 - 99	
OAKDALE WASTEWATER TREATMENT FACILITY	Unnamed	Wisconsin River	0.1	1	2	4	0	767	768	769	771	100.0	100 - 100	
PHELPS SANITARY DISTRICT #1	Wetland	Wisconsin River	0.0	0	0	0	0	443	443	443	443	100.0	100 - 100	EC
Wolf - Fox														
BAY VALLEY FOODS LLC GREEN BAY PLANT	Stormwater to Fox River	Wolf - Fox	0.0	1	2	3	0	0	1	2	3	0.100	0 - 0	EC
CURWOOD WISCONSIN LLC	Unnamed	Wolf - Fox	0.0	0	1	1	0	0	0	1	1	0.100	0 - 0	EC
POWER PACKAGING INC	Unnamed	Wolf - Fox	3.3	211	421	839	0	0	211	421	839	0.100	0 - 0	
SENECA FOODS CORPORATION OAKFIELD	Unnamed	Wolf - Fox	0.3	54	108	218	0	0	54	108	218	0.100	0 - 0	
DARLING INTERNATIONAL INC	Harrington Creek	Wolf - Fox	5.0	292	583	1165	0	3	295	586	1168	0.100	0 - 1	
NICHOLS WASTEWATER TREATMENT FACILITY	Shioc River	Wolf - Fox	91.4	13926	28204	57121	0	231	14157	28435	57352	0.100	0 - 2	
MANAWA WASTEWATER TREATMENT FACILITY	Little Wolf River	Wolf - Fox	310.0	9794	19432	38554	0	226	10020	19658	38780	1.99	1 - 2	
SENECA FOODS CORPORATION RIFON	Unnamed	Wolf - Fox	3.0	123	246	490	0	3	126	249	493	1.99	1 - 2	
GEORGIA-PACIFIC CONSUMER PRODUCTS LP	East River	Wolf - Fox	147.4	53206	109025	223406	537	1316	55059	110878	225259	1.99	1 - 3	
STEPHENSVILLE SANITARY DISTRICT NO 1	Bear Creek	Wolf - Fox	62.1	4719	9475	19022	0	177	4896	9652	19199	1.99	1 - 4	
ARLA FOODS PRODUCTION LLC	Unnamed	Wolf - Fox	3.7	1808	3710	7615	0	103	1911	3813	7718	1.99	1 - 5	
LITTLE RAPIDS CORP SHAWANO SPECIALTY PAPERS	Wolf River	Wolf - Fox	1123.0	23384	46230	91395	750	539	24673	47519	92684	1.99	1 - 5	
MICHELLE MATERIALS FL&B SHEPPARD QUARRY	Unnamed	Wolf - Fox	0.8	25	51	101	0	2	27	53	103	2.98	2 - 7	
MONTELO WASTEWATER TREATMENT FACILITY	Fox River	Wolf - Fox	547.1	17594	34981	69552	1931	153	19678	37065	71636	3.97	3 - 11	
SAPUTO CHEESE USA, FOND DU LAC (SCOTT ST)	Fond Du Lac River	Wolf - Fox	20.4	3180	6360	12887	425	2	3607	6853	13414	3.97	3 - 12	
HORTONVILLE WASTEWATER TREATMENT FACILITY	Wolf River	Wolf - Fox	1553.2	55378	110033	218631	7914	587	63879	118534	227132	4.96	4 - 13	
FREEDOM SANITARY DISTRICT NO 1	Duck Creek	Wolf - Fox	49.7	4910	9852	19765	0	766	5676	10618	20531	4.96	4 - 13	
SHOCTON WASTEWATER TREATMENT FACILITY	Wolf River	Wolf - Fox	1449.7	49365	98033	194685	7279	458	57102	105770	202422	4.96	4 - 14	
REDGRANITE WASTEWATER TREATMENT FACILITY	Willow Creek	Wolf - Fox	58.2	802	1580	3112	0	127	929	1707	3239	4.96	4 - 14	
WRIGHTSTOWN SANITARY DISTRICT 2	Unnamed	Wolf - Fox	1.3	227	465	950	0	38	265	503	988	4.96	4 - 14	
CAROLINE SD 1 WASTEWATER TREATMENT FACILITY	Embarrass River	Wolf - Fox	240.2	6556	13016	25842	1028	95	7679	14139	26965	4.96	4 - 15	
GREEN LAKE SANITARY DISTRICT	Fox River	Wolf - Fox	961.5	32011	63661	126607	5050	727	37788	69438	132384	4.96	4 - 15	
HOLLAND SD 1 WASTEWATER TREATMENT FACILITY	Unnamed	Wolf - Fox	4.9	2465	5058	10379	103	356	2924	5517	10838	4.96	4 - 16	
WISCONSIN VENEER AND PLYWOOD INC	West Branch Red River	Wolf - Fox	27.5	557	1103	2183	0	106	663	1209	2289	5.95	5 - 16	
BRESHAM WASTEWATER TREATMENT FACILITY	Red River	Wolf - Fox	162.0	3740	7415	14701	106	644	4490	8165	15451	5.95	5 - 17	
GUTTE DES MORTS CONSOLIDATED SD 1	Lake Butte des Morts	Wolf - Fox	5228.4	198255	394493	784971	41205	1192	240652	436890	827368	5.95	5 - 18	
FREMONT ORIHULA WOLF RIVER JOINT S C	Wolf River	Wolf - Fox	3213.3	114601	227800	452814	23924	600	139125	252324	477338	5.95	5 - 18	
WITTENBERG WASTEWATER TREATMENT FACILITY	Middle Branch Embarrass River	Wolf - Fox	74.8	1887	3742	7419	0	407	2294	4149	7826	5.95	5 - 18	
OMRO WASTEWATER TREATMENT FACILITY	Fox River	Wolf - Fox	1506.6	56870	113237	225475	11174	1206	69250	125617	237855	5.95	5 - 18	
NEW LONDON WASTEWATER TREATMENT FACILITY	Wolf River	Wolf - Fox	2268.9	86620	172323	342823	16249	2903	105772	191475	361975	5.95	5 - 18	
PRINCETON WASTEWATER TREATMENT FACILITY	Fox River	Wolf - Fox	978.5	32510	64655	128583	5777	1436	39723	71868	135796	5.95	5 - 18	
WOLF TREATMENT PLANT	Wolf River	Wolf - Fox	1123.2	23397	46254	91444	1289	4110	28796	51653	96843	6.94	6 - 19	
BERLIN WASTEWATER TREATMENT FACILITY	Fox River	Wolf - Fox	1374.2	46479	92442	183858	9820	1354	57653	103616	195032	6.94	6 - 19	
SEYMOUR WASTEWATER TREATMENT FACILITY	Black Creek	Wolf - Fox	22.9	3217	6495	13114	0	868	4085	7363	13982	6.94	6 - 21	
NORTH LAKE POYGAN S D WWTF	Lake Poygan	Wolf - Fox	286.9	9327	18529	36809	2340	226	11893	21095	39375	7.93	7 - 22	
TIGERTON WASTEWATER TREATMENT FACILITY	South Branch Embarrass River	Wolf - Fox	93.2	2223	4406	8733	106	515	2844	5027	9354	7.93	7 - 22	
EMBARRASS CLOVERLEAF LAKES SD LAGOON SYSTEM	Embarrass River	Wolf - Fox	412.4	11991	23809	47276	1544	1879	15414	27232	50699	7.93	7 - 22	
GREEN LAKE WASTEWATER TREATMENT FACILITY	Puchyan River	Wolf - Fox	104.2	5160	10297	20550	1152	431	6743	11880	22133	7.93	7 - 23	

Facility Name	Receiving Water	Major Basin	Watershed Area	Nonpoint Load	Nonpoint Load	Nonpoint Load	2009-2011 Avg. Upstream Point Source Load	2009-2011 Avg. Point Source Load	Total Load	Total Load	Total Load	PS:NPS Ratio	PS Range (80% CI)	Model Flag
				LOW	MOST LIKELY	HIGH			LOW	MOST LIKELY	HIGH			
				(mi ²)	(lbs)	(lbs)			(lbs)	(lbs)	(lbs)			
BLACK CREEK WASTEWATER TREATMENT FACILITY	Black Creek	Wolf - Fox	52.0	5053	10163	20441	880	688	6621	11731	22009	7.93	7 - 24	
OSHKOSH WASTEWATER TREATMENT PLANT	Fox River	Wolf - Fox	5354.1	209397	416771	829516	42487	21872	273756	481130	893875	7.93	7 - 24	
DEL MONTE CORPORATION MARKESAN PLANT #116	Grand River	Wolf - Fox	49.2	2741	5470	10917	509	365	6344	11791	7.93	7 - 24		
POYGAN POYSIPPI SD 1 WWTF	Lake Poygan	Wolf - Fox	293.7	9731	19335	38418	2566	562	12859	22463	41546	8.92	8 - 24	
NEENAH PAPER INC NEENAH MILL	Fox River	Wolf - Fox	5896.9	253245	504552	1005240	85147	835	339227	590534	1091222	8.92	8 - 25	
GALLOWAY COMPANY	Fox River	Wolf - Fox	5896.9	253246	504555	1005250	85982	8	339236	590545	1091240	8.92	8 - 25	
EXOPACK - MENASHA PLANT	Fox River	Wolf - Fox	5896.9	253247	504556	1005250	85990	347	339584	590893	1091587	8.92	8 - 25	
MENASHA ELECTRIC AND WATER UTILITY	Fox River	Wolf - Fox	5897.1	253253	504569	1005280	86337	14	339604	590920	1091631	8.92	8 - 25	
BEAR CREEK WASTEWATER TREATMENT FACILITY	Bear Creek	Wolf - Fox	19.5	1376	2757	5525	0	488	1864	3245	6013	8.92	8 - 26	
AMHERST WASTEWATER TREATMENT FACILITY	Waupaca River	Wolf - Fox	68.7	994	1954	3843	0	355	1349	2309	4198	8.92	8 - 26	
NEENAH MENASHA SEWER COMMISSION WWTF	Fox River	Wolf - Fox	5897.2	253256	504575	1005290	86351	14945	354552	605871	1106586	9.91	9 - 29	
CELLU TISSUE NEENAH	Fox River	Wolf - Fox	5897.2	253259	504580	1005300	101296	656	355211	606532	1107252	9.91	9 - 29	
SCA TISSUE NORTH AMERICA LLC	Little Lake Butte des Morts	Wolf - Fox	5897.6	253276	504564	1005370	101952	6457	361685	613023	1113779	10.90	10 - 30	
FOREMOST FARMS USA APPLETON SPENCER ST	Fox River	Wolf - Fox	5962.9	257187	512449	1021060	117037	0	374224	629486	1138097	10.90	10 - 31	
GRAND CHUTE MENASHA WEST SEWERAGE COMMISSION	Little Lake Butte des Morts	Wolf - Fox	5932.7	255030	508113	1012350	108409	8628	372067	625150	1129387	10.90	10 - 31	
FRIELAND WASTEWATER TREATMENT FACILITY	Unnamed	Wolf - Fox	1.4	68	136	271	0	35	103	171	306	11.89	11 - 34	
CLINTONVILLE WASTEWATER TREATMENT FACILITY	Pigeon River	Wolf - Fox	112.4	5229	10415	20746	1803	1035	8067	13253	23584	12.88	12 - 35	
NEWPAGE CORPORATION - KIMBERLY MILL	Fox River	Wolf - Fox	5972.0	257316	512699	1021550	139961	0	397277	652660	1161511	12.88	12 - 35	
APPLETON WASTEWATER TREATMENT FACILITY	Fox River	Wolf - Fox	5969.3	257247	504580	1021280	117037	22924	397208	652524	1161241	12.88	12 - 35	
KINGSTON WASTEWATER TREATMENT FACILITY	Grand River	Wolf - Fox	105.6	5397	10767	21481	2729	237	8363	13733	24447	12.88	12 - 35	
FOREST JUNCTION SANITARY DISTRICT	Plum Creek	Wolf - Fox	2.2	366	738	1491	0	204	570	942	1695	12.88	12 - 36	
WEYAUWEGA WASTEWATER TREATMENT FACILITY	Waupaca River	Wolf - Fox	265.5	5725	11307	22334	2377	770	8872	14454	25481	12.88	12 - 35	
APPLETON PAPERS LLC, COMBINED LOCKS MILL	Fox River	Wolf - Fox	5979.1	257693	513456	1023060	139961	7346	405000	660763	1170367	13.87	13 - 36	
LAKESIDE FOODS INC EDEN	Unnamed	Wolf - Fox	1.9	140	282	568	0	81	221	363	649	12.88	12 - 37	
THE PROCTER & GAMBLE PAPER PRODUCTS CO	Fox River	Wolf - Fox	6347.6	327807	653814	1304830	196921	589	525117	851324	1502340	13.87	13 - 38	
GREEN BAY PACKAGING, INC. - MILL DIVISION	Fox River	Wolf - Fox	6348.1	327604	653807	1304820	197510	353	525467	851670	1502683	13.87	13 - 38	
AGROPUR INC WEYAUWEGA PLANT	Waupaca River	Wolf - Fox	265.7	5732	11321	22361	3147	339	9218	14807	25847	13.87	13 - 38	
THILMANY LLC - DE PERE FACILITY	Fox River	Wolf - Fox	6127.5	284492	567239	1131000	182983	0	467475	750222	1313983	14.86	14 - 39	
GBMSD - DE PERE	Fox River	Wolf - Fox	6128.6	284539	567334	1131190	182983	4479	472001	754796	1318652	14.86	14 - 40	
GEORGIA PACIFIC CONSUMER PRODUCTS LP	Fox River	Wolf - Fox	6193.6	293197	584701	1166030	187462	7596	488255	779759	1361088	14.86	14 - 40	
SCHROEDERS GREENHOUSE	Fox River	Wolf - Fox	6193.9	293208	584724	1166070	195058	10	488276	779792	1361138	14.86	14 - 40	
WRIGHTSTOWN SEWER & WATER UTILITY	Fox River	Wolf - Fox	6061.2	273038	544243	1084830	182619	364	456021	727226	1267813	14.86	14 - 40	
OAKFIELD WASTEWATER TREATMENT FACILITY	Campground Creek	Wolf - Fox	9.8	1881	3808	7711	0	1281	3162	5089	8992	14.86	14 - 41	
THILMANY, LLC	Fox River	Wolf - Fox	6020.1	263146	524390	1044990	147942	28731	439819	701063	1221663	14.86	14 - 40	
FOX ENERGY CO LLC - FOX ENERGY CENTER	Fox River	Wolf - Fox	6024.8	263739	525581	1047380	181749	207	445695	707637	1229336	15.85	15 - 41	
HEART OF VALLEY MSD WW TRTMENT FAC	Fox River	Wolf - Fox	6020.1	263150	524397	1045010	176673	5076	444899	706146	1226759	15.85	15 - 41	
BOWLER WASTEWATER TREATMENT FACILITY	North Branch Embarrass River	Wolf - Fox	39.0	615	1213	2392	0	421	1036	1634	2813	15.85	15 - 41	
WISCONSIN PUBLIC SERVICE CORP PULLIAM	Fox River	Wolf - Fox	6350.6	327559	653712	1304620	235670	423	563652	889805	1540713	15.85	15 - 42	
GREEN BAY METROPOLITAN SEWERAGE DISTRICT	Fox River	Wolf - Fox	6350.6	327559	653712	1304620	198286	37807	563652	889805	1540713	15.85	15 - 42	
NESHKORO WASTEWATER TREATMENT FACILITY	White River	Wolf - Fox	99.3	1428	2815	5547	718	303	2449	3836	6568	16.84	16 - 42	
WAUPACA WASTEWATER TREATMENT FACILITY	Waupaca River	Wolf - Fox	146.9	2900	5717	11272	355	2022	5277	8094	13649	17.83	17 - 45	
MARKESAN WASTEWATER TREATMENT FACILITY	Grand River	Wolf - Fox	58.1	3037	6056	12075	874	1820	5731	8750	14769	18.82	18 - 47	
RIPON WASTEWATER TREATMENT FACILITY	Silver Creek	Wolf - Fox	27.4	1260	2514	5018	3	1149	2412	3666	6170	19.81	19 - 48	
LAKESIDE FOODS INC SEYMOUR PLANT	Unnamed	Wolf - Fox	0.1	11	24	58	0	12	23	36	70	17.83	17 - 52	EC
SILVER LAKE SANITARY DISTRICT	White River	Wolf - Fox	64.5	705	1386	2722	0	718	1423	2104	3440	21.79	21 - 50	
FOND DU LAC WATER POLLUTION CONTROL PLANT	Lake Winnebago	Wolf - Fox	172.0	16782	33800	68075	2621	16476	35879	52897	87172	22.78	22 - 63	
WINNECONNE WASTEWATER TREATMENT FACILITY	Unnamed	Wolf - Fox	4.3	500	1014	2057	0	575	1075	1589	2632	22.78	22 - 63	
RIDGEWAY COUNTRY CLUB WWTF	Unnamed	Wolf - Fox	0.3	7	13	26	0	8	15	21	34	24.76	24 - 54	
STOCKBRIDGE WASTEWATER TREATMENT FACILITY	Unnamed	Wolf - Fox	1.9	906	1868	3851	0	1264	2170	3132	5115	25.75	25 - 68	
MARION WASTEWATER TREATMENT FACILITY	North Branch Pigeon River	Wolf - Fox	21.0	1229	2456	4909	0	1803	3032	4259	6712	27.73	27 - 59	
OXFORD WASTEWATER TREATMENT FACILITY	Neenah Creek	Wolf - Fox	33.4	390	765	1502	0	623	1013	1388	2125	29.71	29 - 62	
POY SIPP SD WASTEWATER TREATMENT FACILITY	Pine River	Wolf - Fox	100.7	1372	2703	5323	1896	317	3585	4916	7536	29.71	29 - 62	
IOLA WASTEWATER TREATMENT FACILITY	South Branch Little Wolf River	Wolf - Fox	30.1	638	1262	2495	0	1060	1698	2322	3555	30.70	30 - 62	
EDEN WASTEWATER TREATMENT FACILITY	Unnamed	Wolf - Fox	2.1	244	493	997	81	344	669	918	1422	30.70	30 - 64	
WRIGHTSTOWN SANITARY DISTRICT 1	Unnamed	Wolf - Fox	0.4	251	515	1057	0	499	750	1014	1556	32.68	32 - 67	
UTICA ENERGY LLC	Unnamed	Wolf - Fox	1.0	42	83	166	0	88	130	171	254	35.65	35 - 68	
WESTFIELD WASTEWATER TREATMENT FACILITY	Westfield Creek	Wolf - Fox	26.4	310	607	1191	0	991	1301	1598	2182	45.55	45 - 76	
LARSEN WINCHESTER SD WWTF	Unnamed	Wolf - Fox	1.9	65	129	257	0	247	312	376	504	49.51	49 - 79	
MAPLE LANE HEALTH CARE CENTER	Wetland	Wolf - Fox	0.8	14	27	54	0	64	78	91	118	54.46	54 - 82	
FAIRWATER WASTEWATER TREATMENT FACILITY	Unnamed	Wolf - Fox	0.4	104	208	419	0	509	613	717	928	55.45	55 - 83	
PACKWAUKEE SANITARY DISTRICT NO 1	Unnamed	Wolf - Fox	0.9	54	108	219	0	317	371	425	536	59.41	59 - 86	
SAPUTO CHEESE USA INC BLACK CREEK	Unnamed	Wolf - Fox	0.6	2	5	9	0	17	19	22	26	65.35	65 - 88	
WILD ROSE WASTEWATER TREATMENT FACILITY	Pine River	Wolf - Fox	22.4	138	269	525	0	1155	1293	1424	1680	69.31	69 - 89	
DALE SANITARY DISTRICT NO 1 WWTF	Unnamed	Wolf - Fox	2.1	40	79	154	0	343	383	422	497	69.31	69 - 90	
SHERWOOD WASTEWATER TREATMENT FACILITY	Unnamed	Wolf - Fox	0.3	27	54	106	0	252	279	306	358	70.30	70 - 90	
WI DNR WILD ROSE FISH HATCHERY	Pine River	Wolf - Fox	23.6	154	301	588	1155	741	2050	2197	2484	76.24	76 - 92	
BELGIOIOSO CHEESE INC SHERWOOD	Unnamed	Wolf - Fox	0.3	19	38	75	0	383	402	421	458	84.16	84 - 95	
ROSENDALE WASTEWATER TREATMENT FACILITY	Unnamed	Wolf - Fox	0.3	22	55	122	0	1340	1362	1395	1462	92.8	92 - 98	EC
BIRNAMWOOD WASTEWATER TREATMENT FACILITY	Unnamed	Wolf - Fox	0.4	2	4	9	0	106	108	110	115	93.7	93 - 98	
SARA LEE FOODS - NEW LONDON	Unnamed	Wolf - Fox	0.1	1	3	6	0	999	1000	1002	1005	99.1	99 - 100	

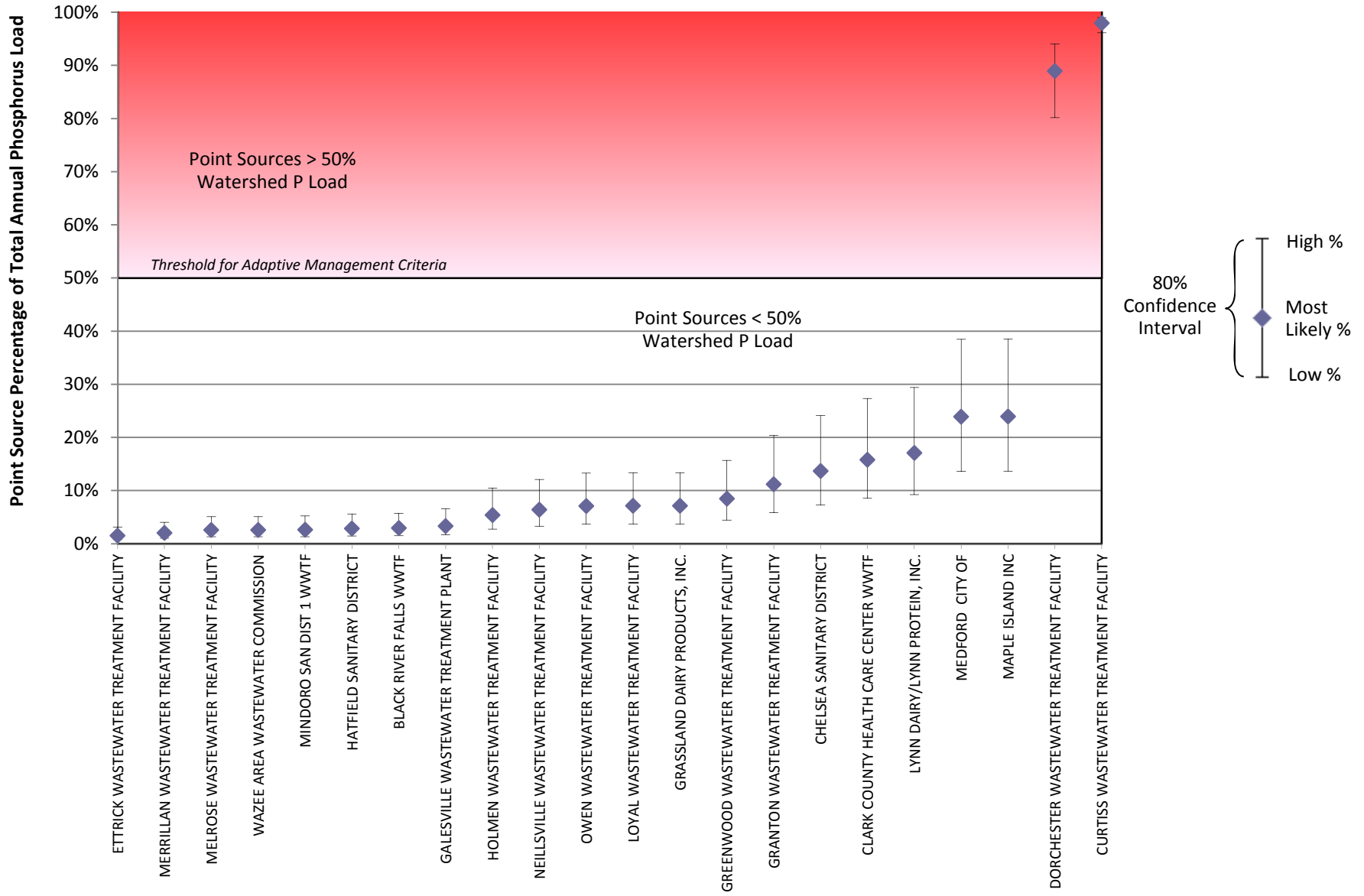
** based on "high" nonpoint source value; this is value used for Adaptive Management determination

*** EC = Export coefficient nonpoint model results are used instead of Multiple Regression #1 nonpoint model results.

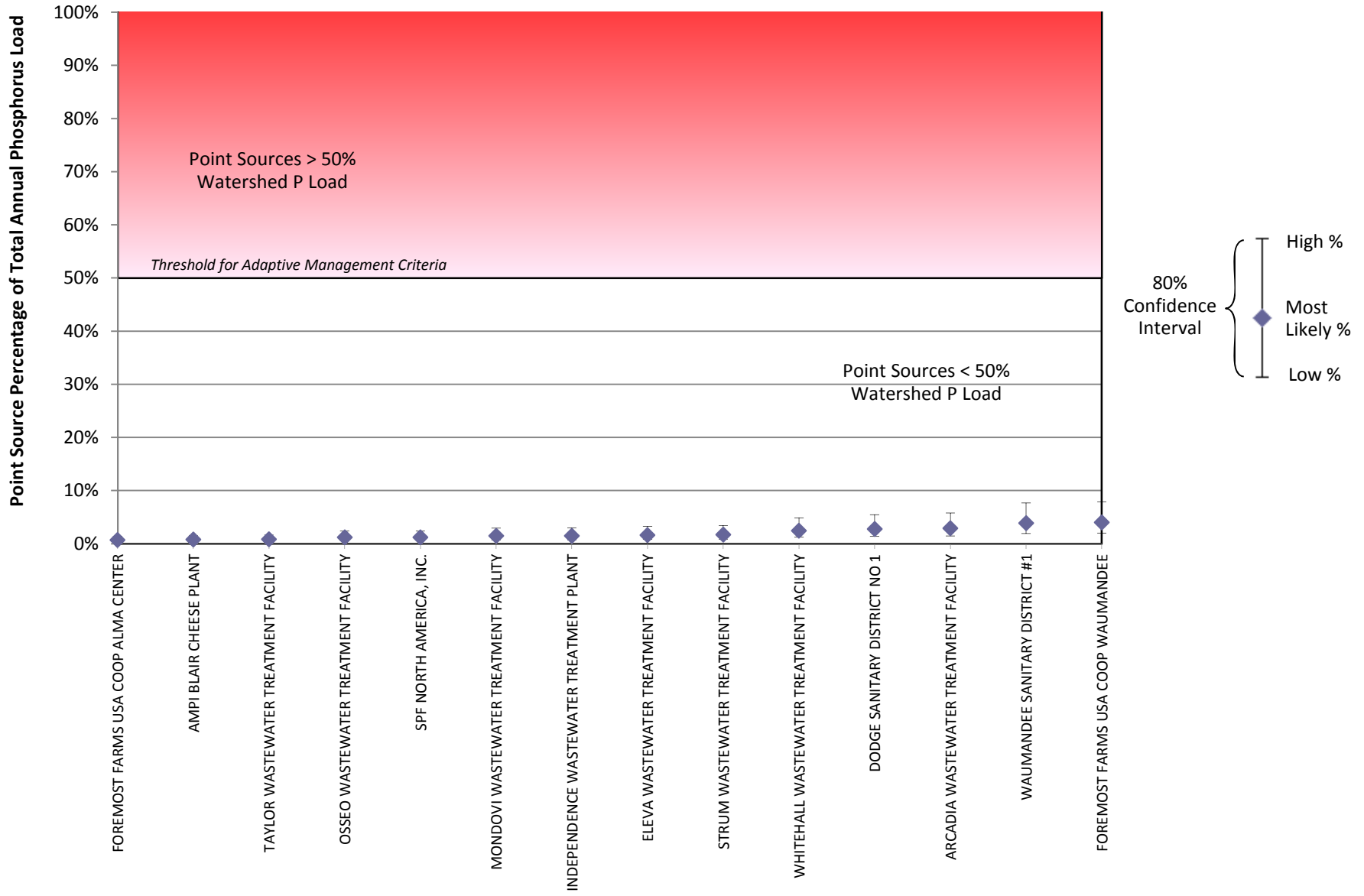
Bad Axe - La Crosse Basin



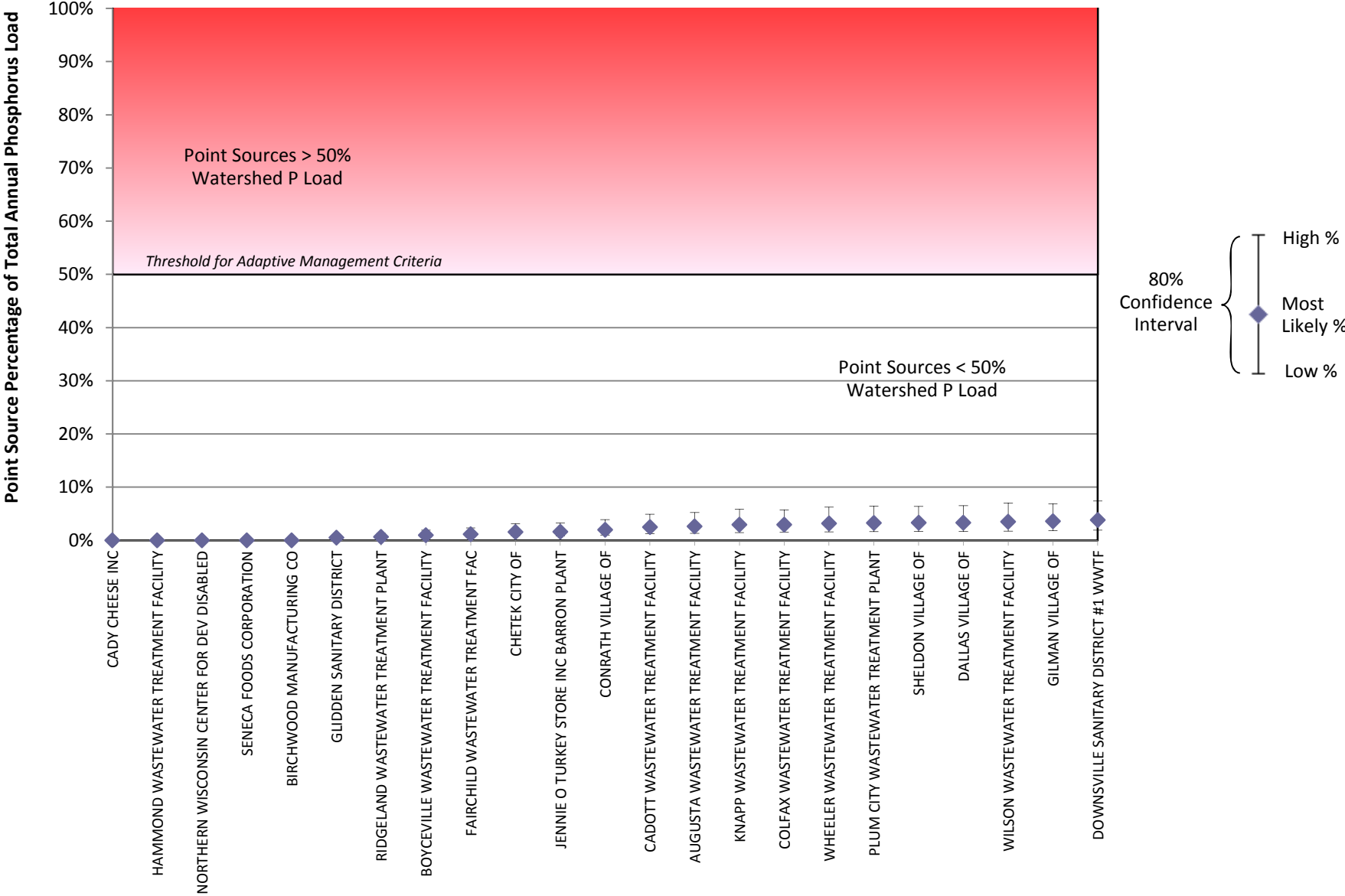
Black Basin



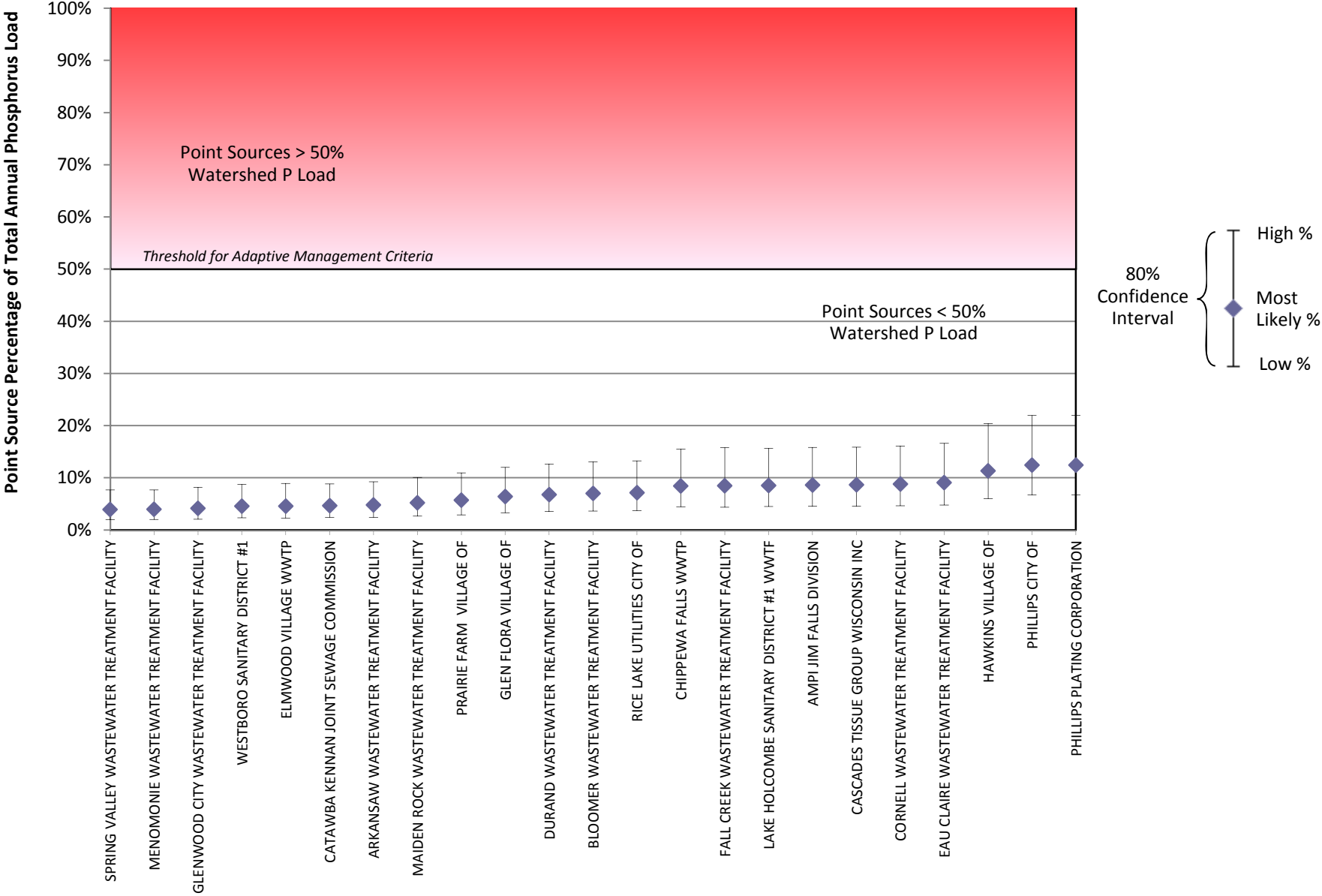
Buffalo - Trempealeau Basin



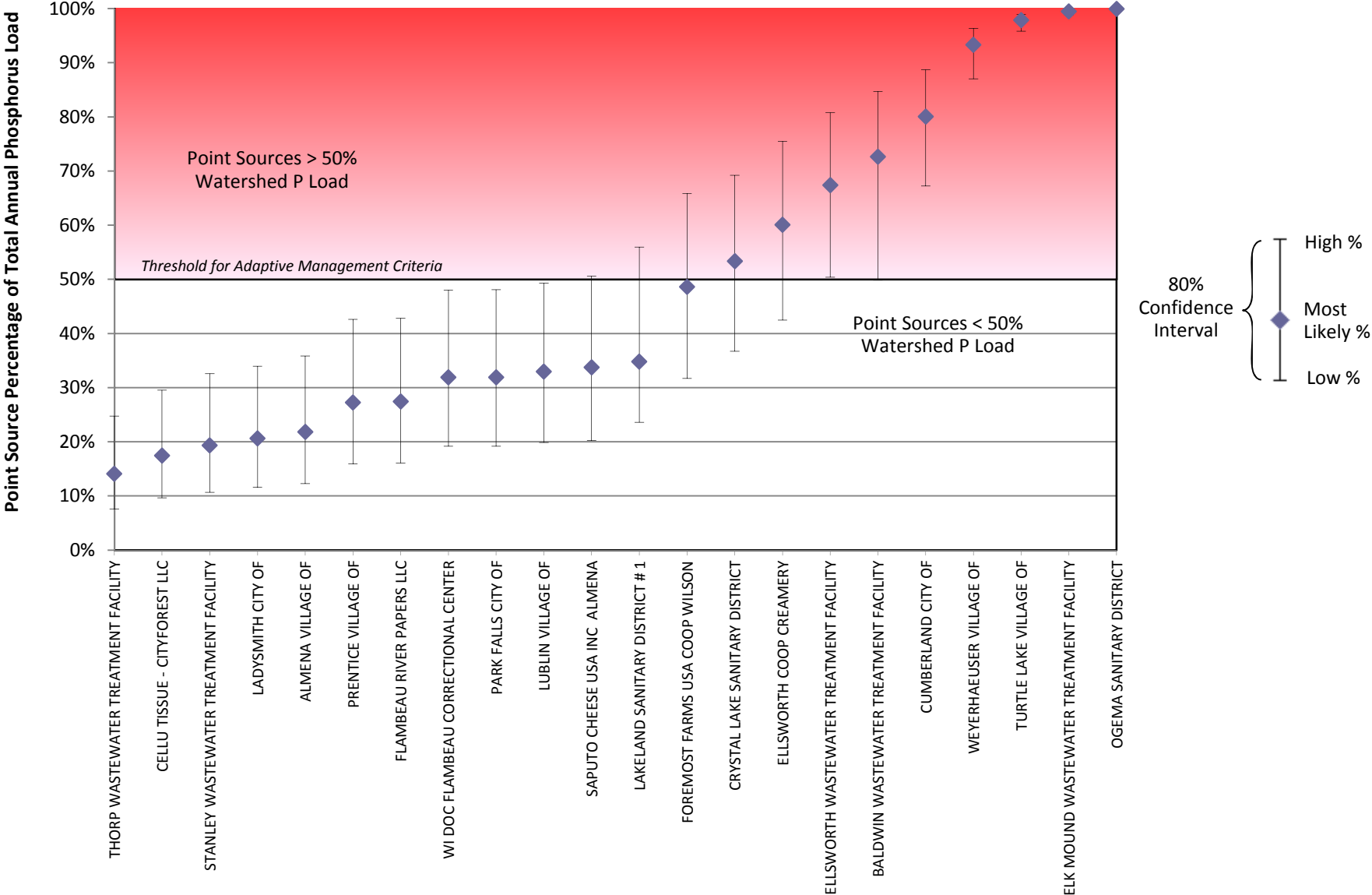
Chippewa Basin



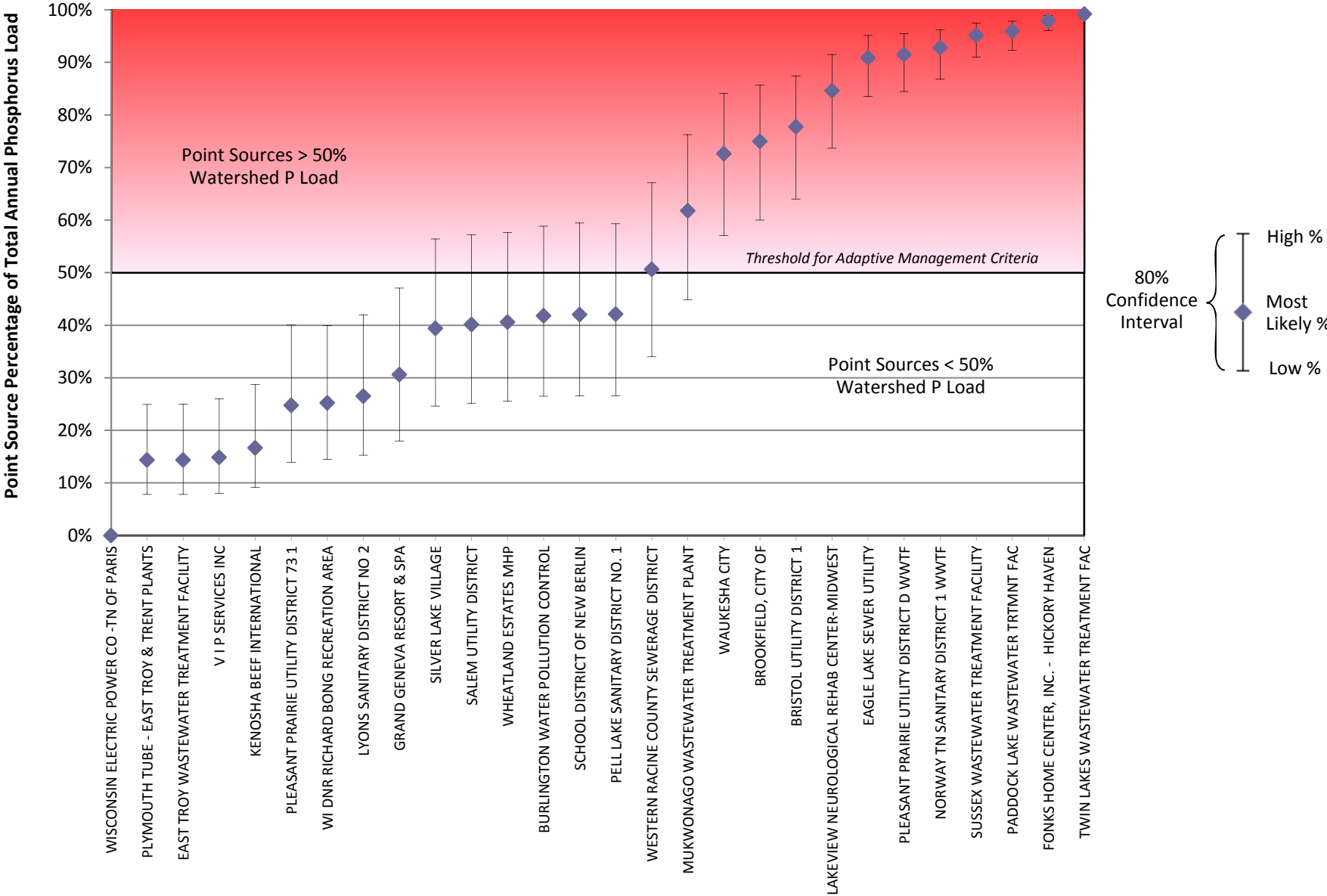
Chippewa Basin



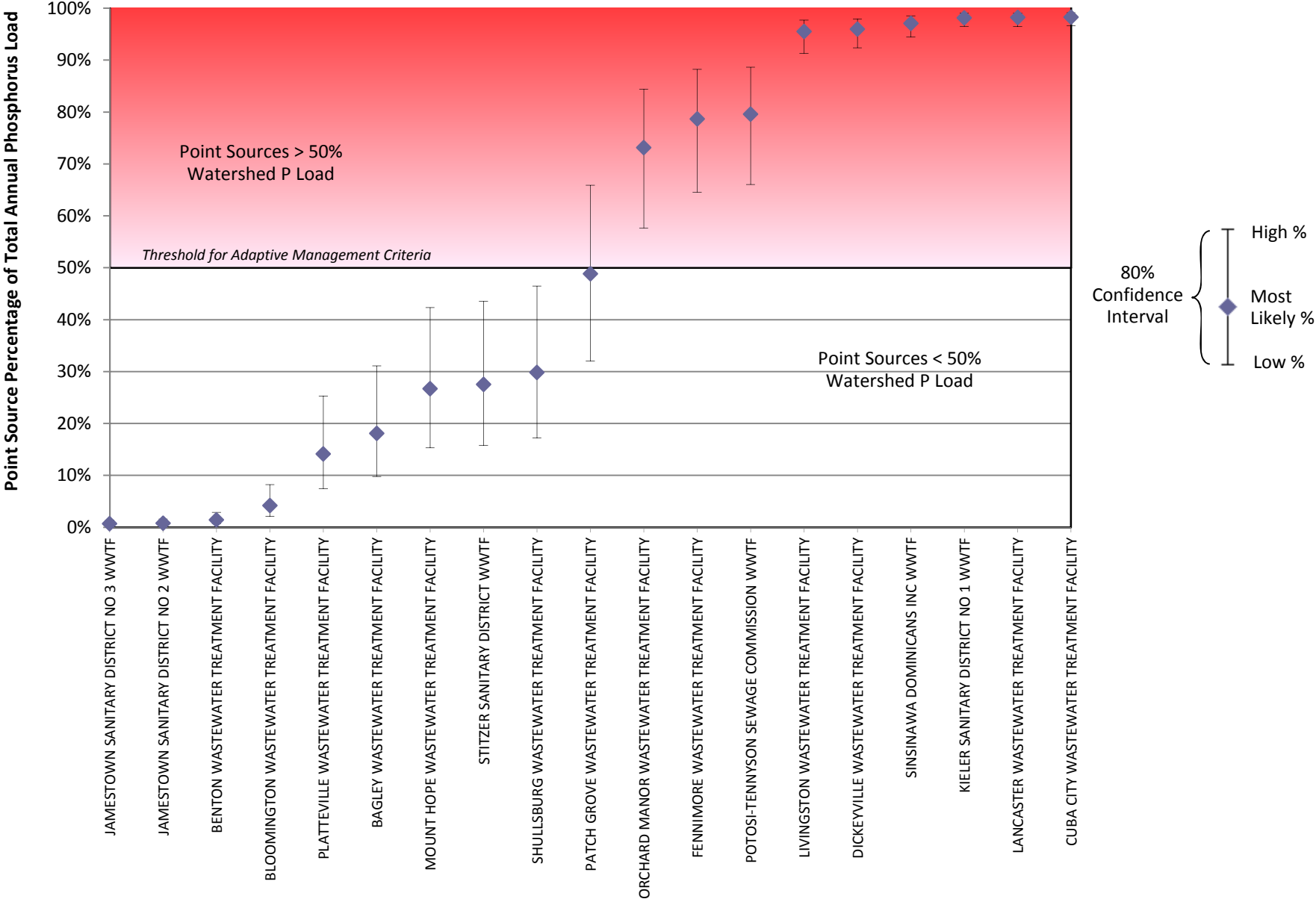
Chippewa Basin



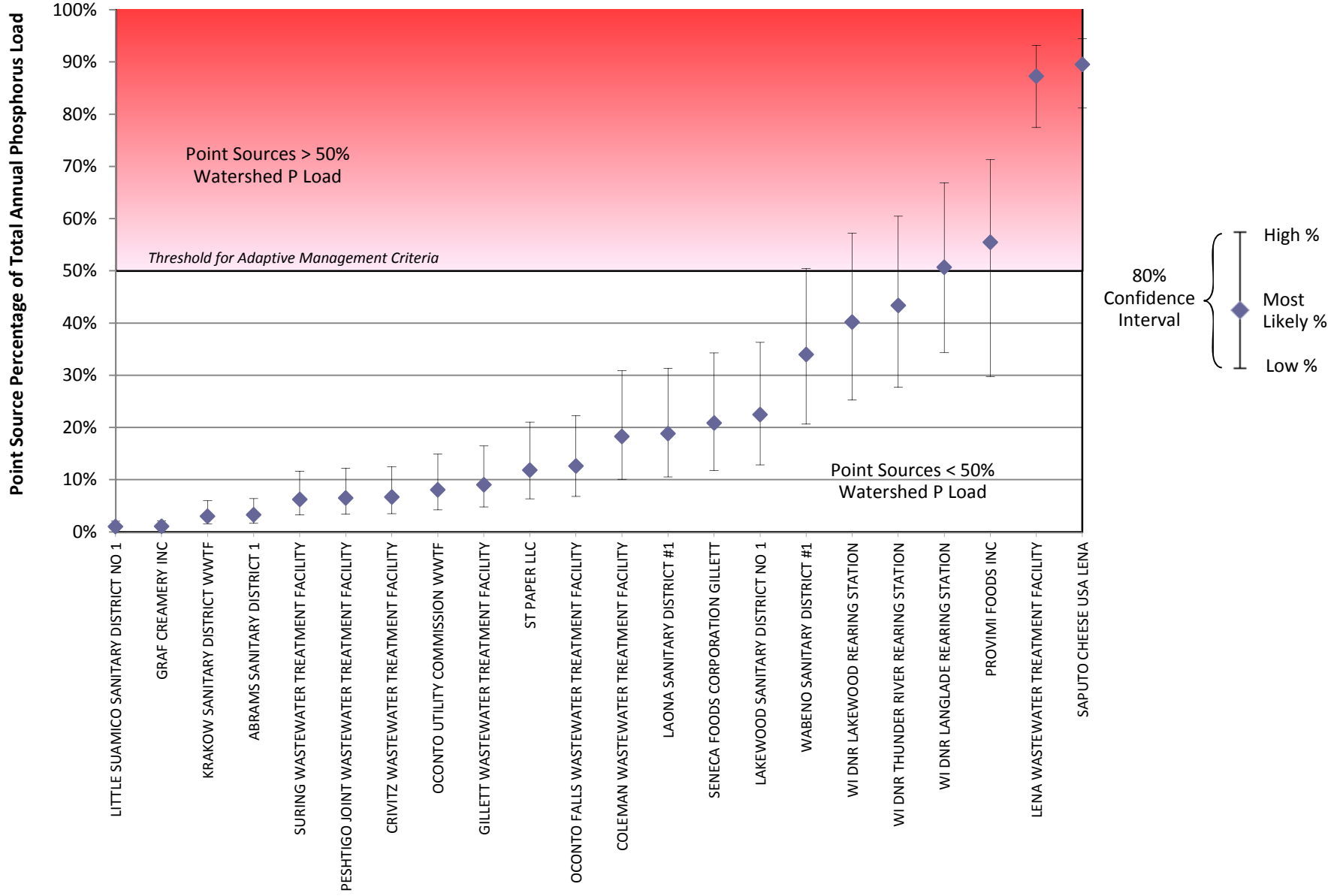
Fox (IL) Basin



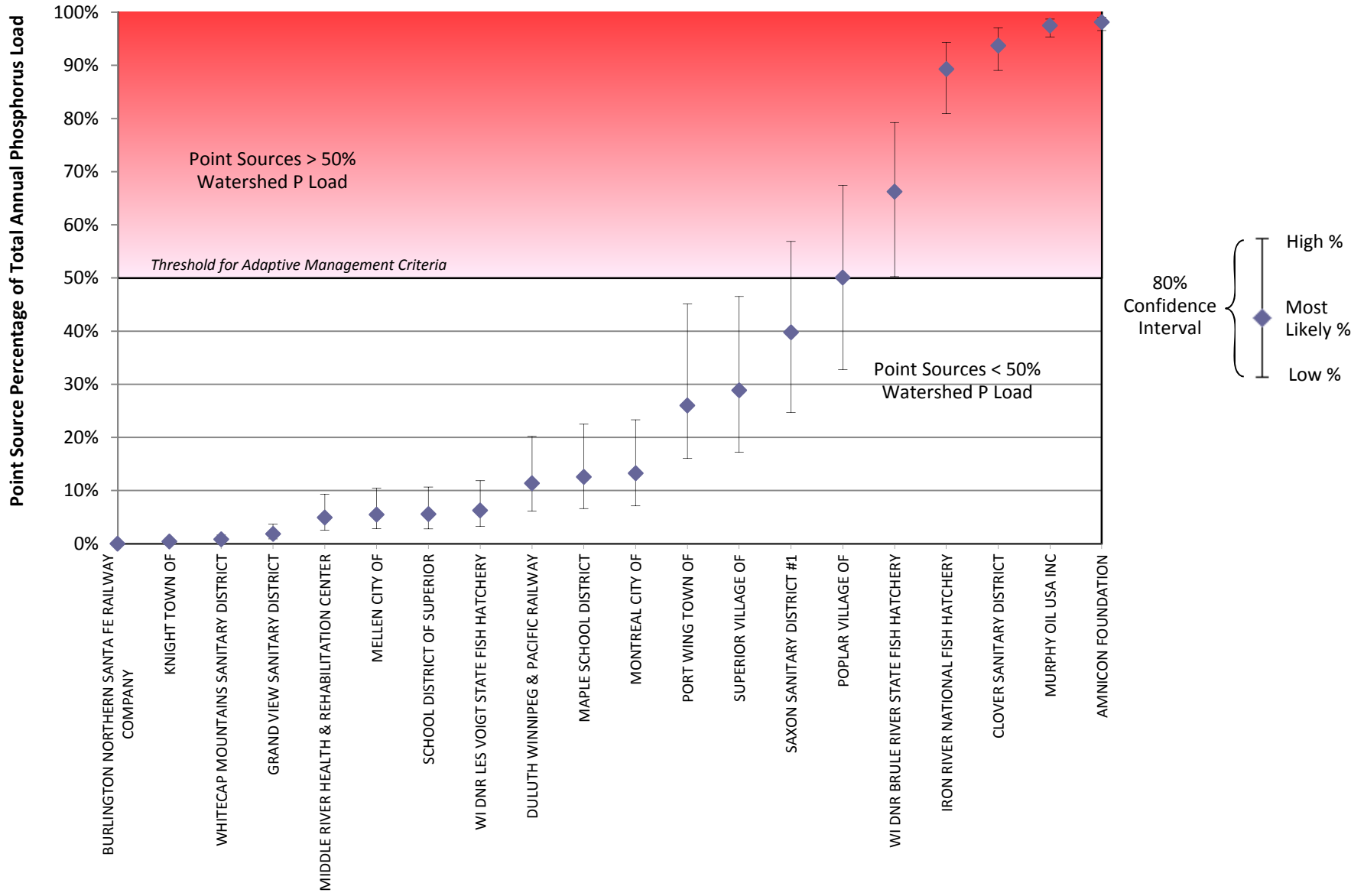
Grant - Platte Basin



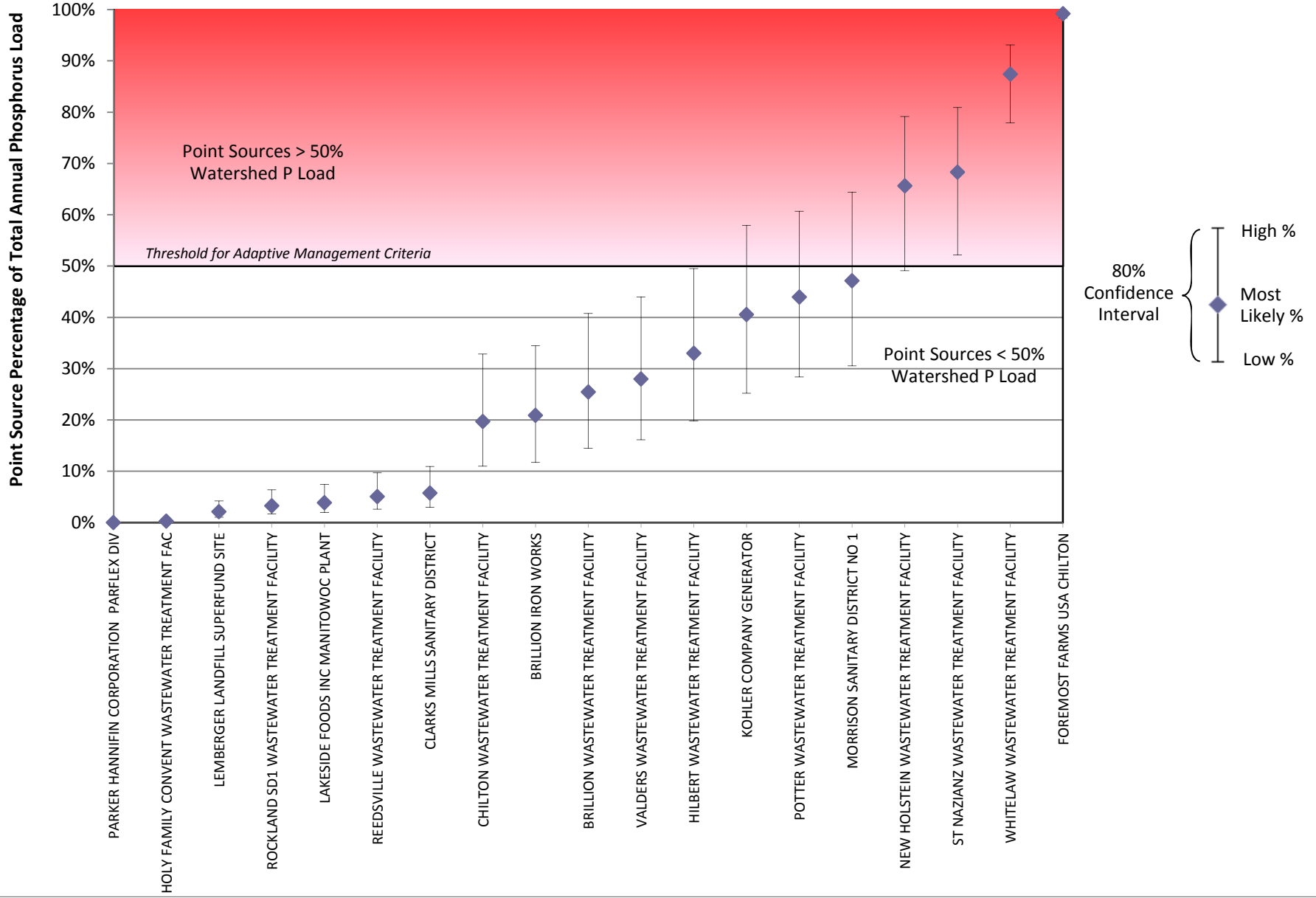
Green Bay Basin



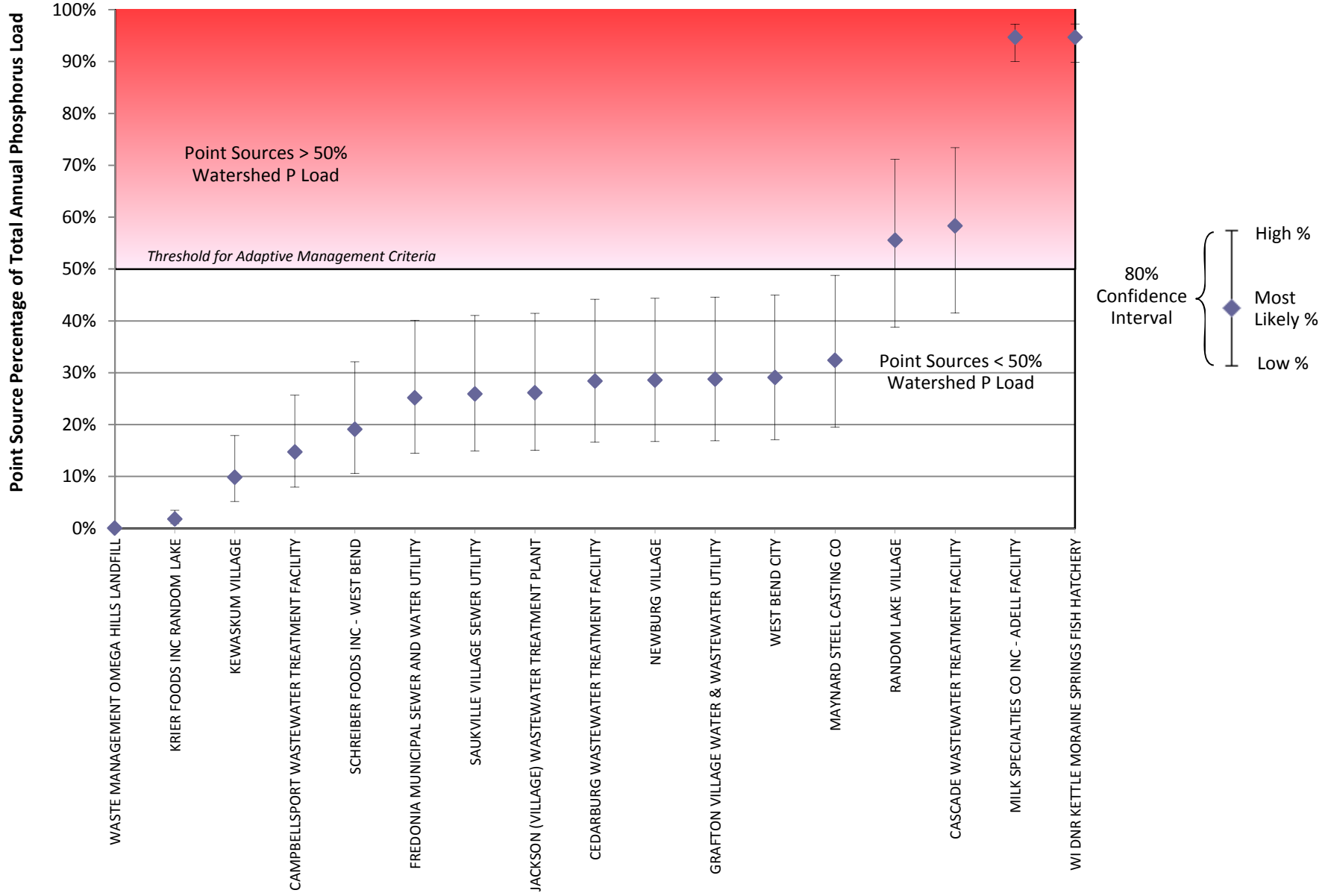
Lake Superior Basin



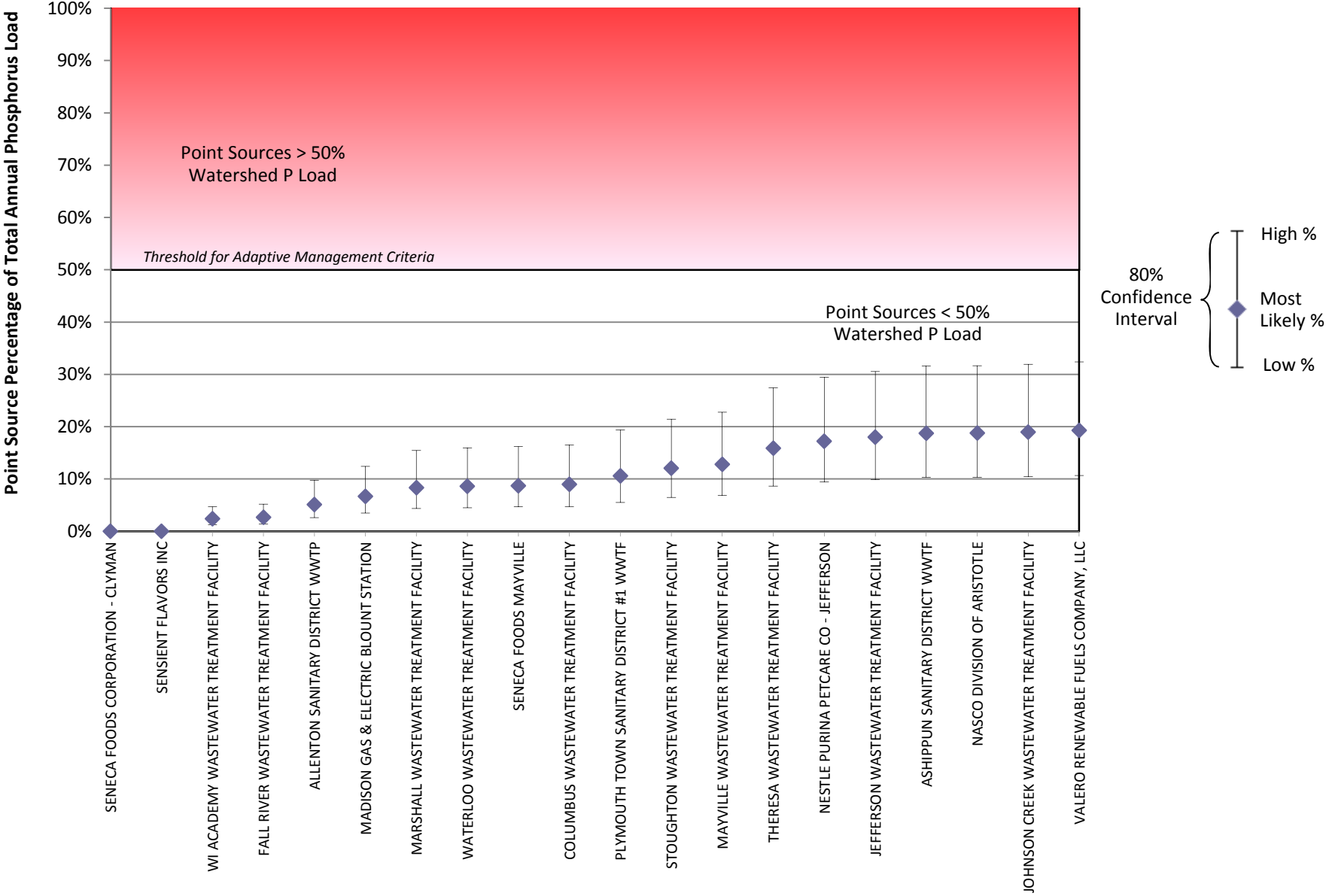
Manitowoc Basin



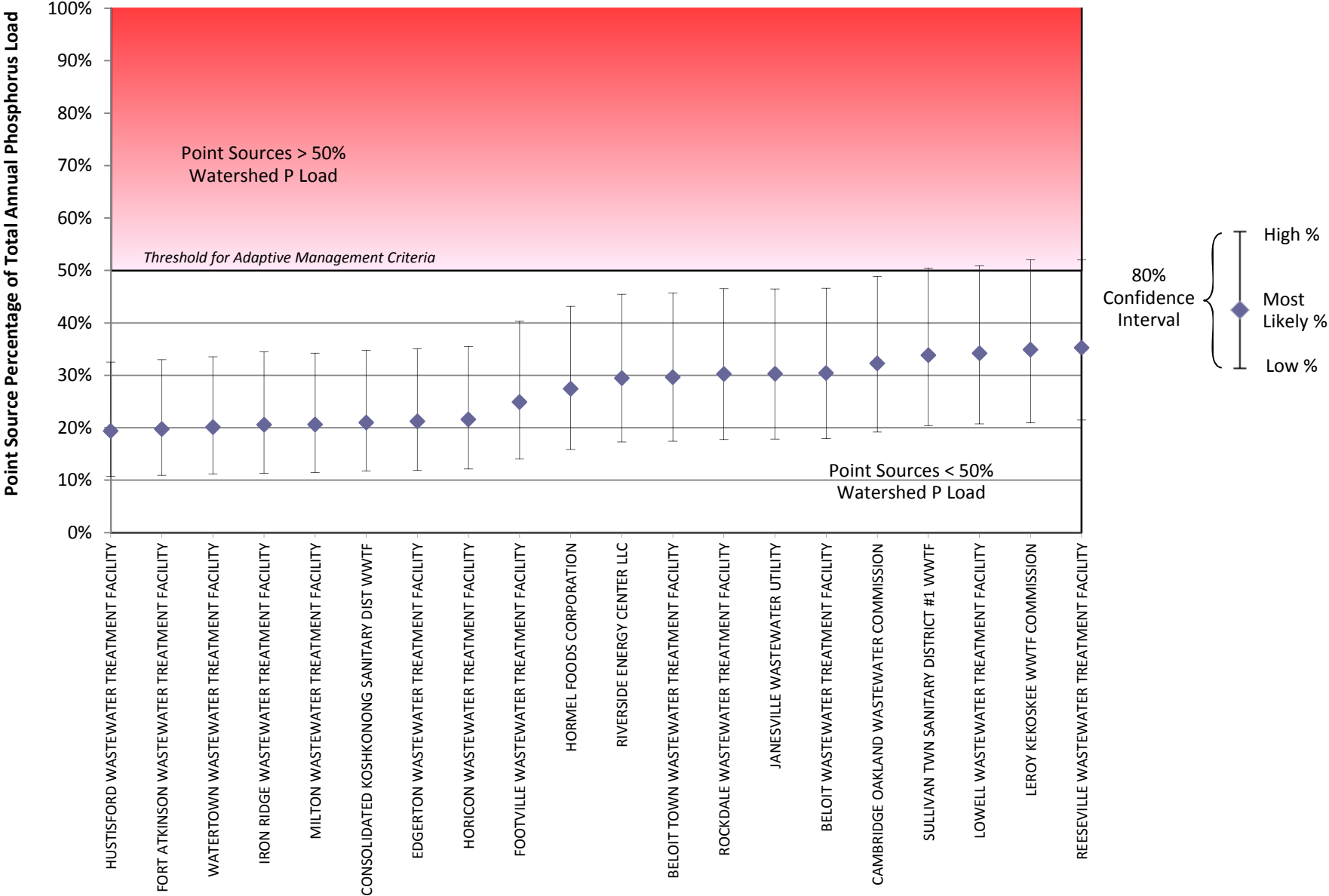
Milwaukee Basin



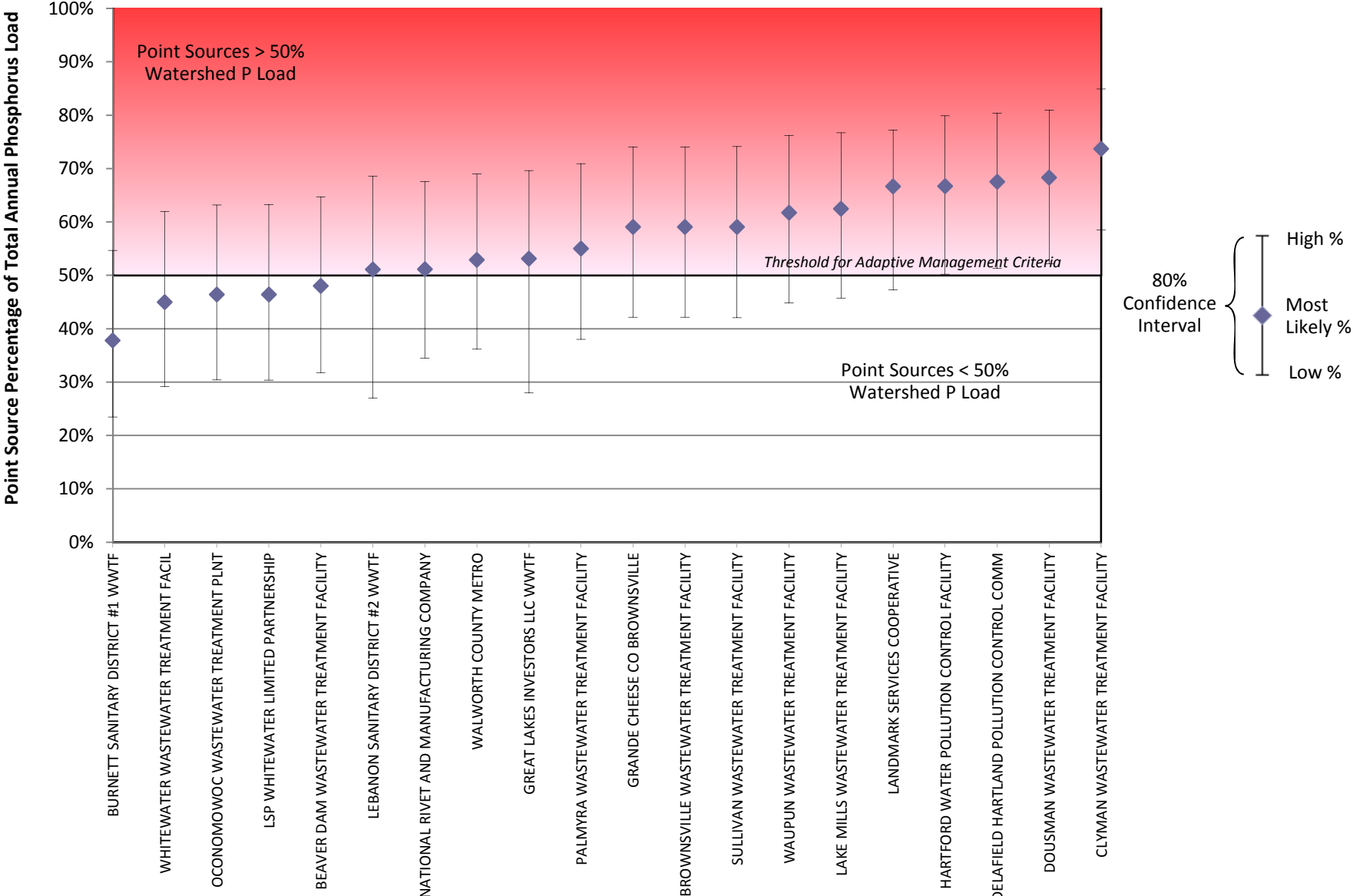
Rock Basin



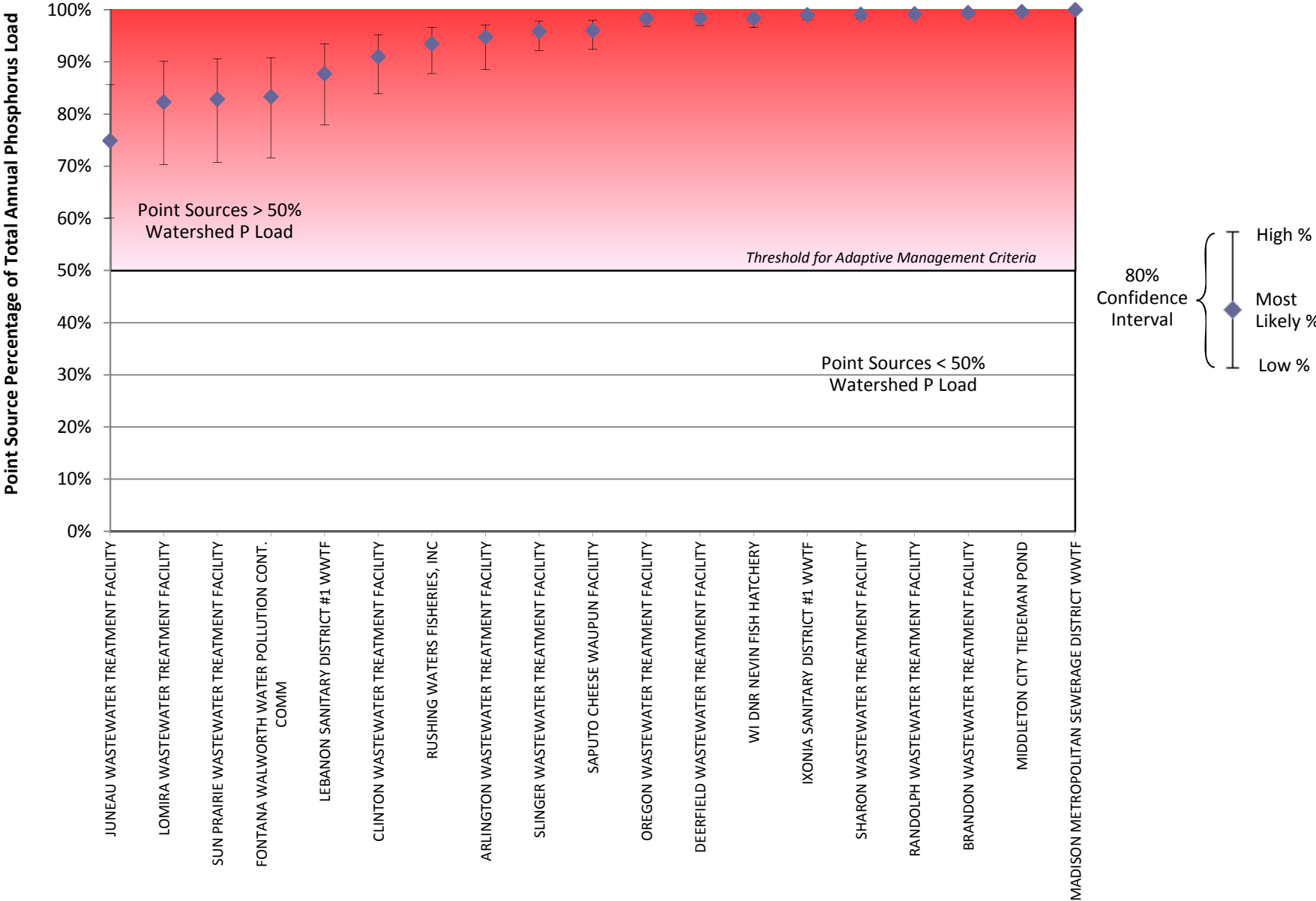
Rock Basin



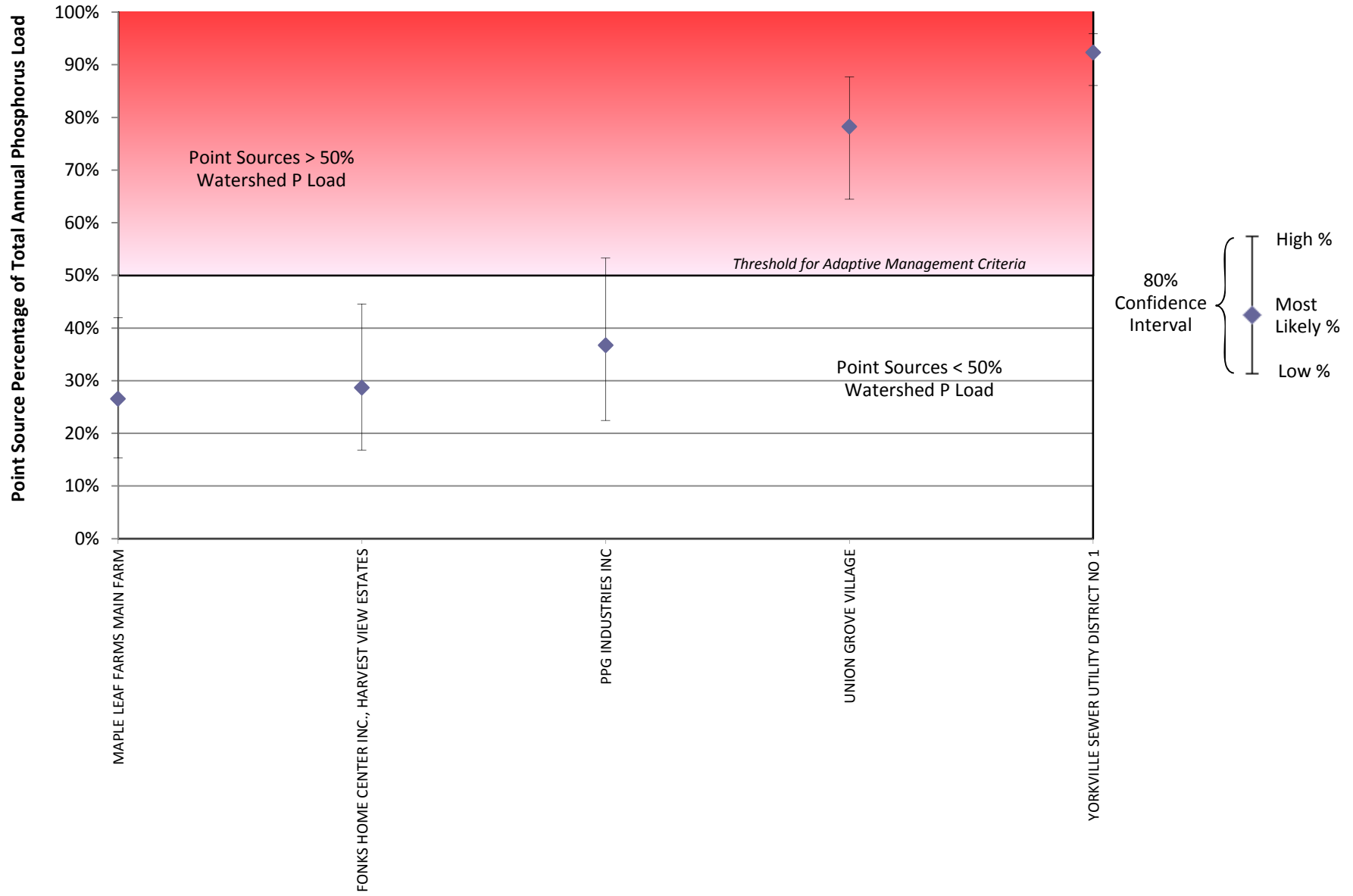
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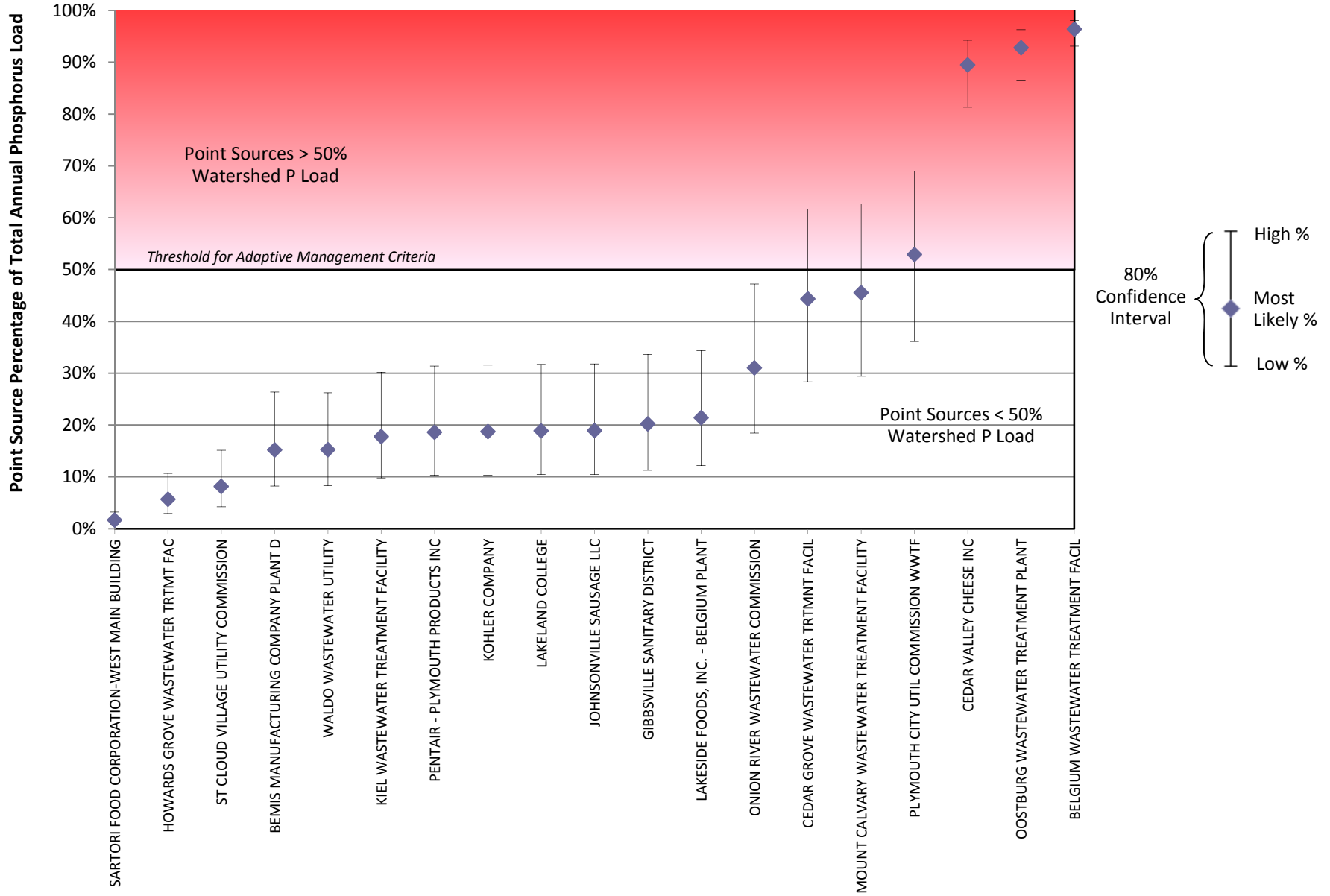
Rock Basin



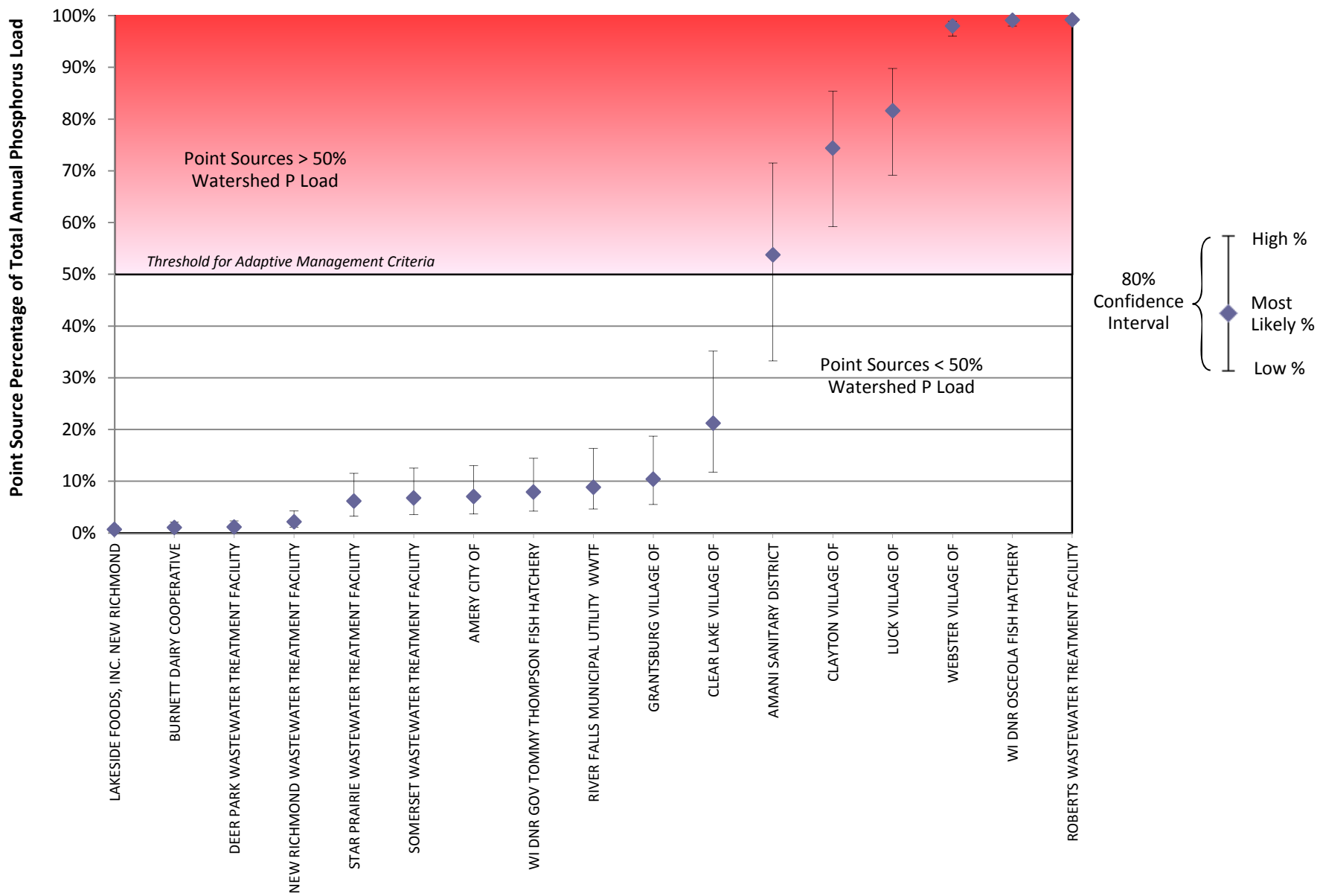
Root - Pike Basin



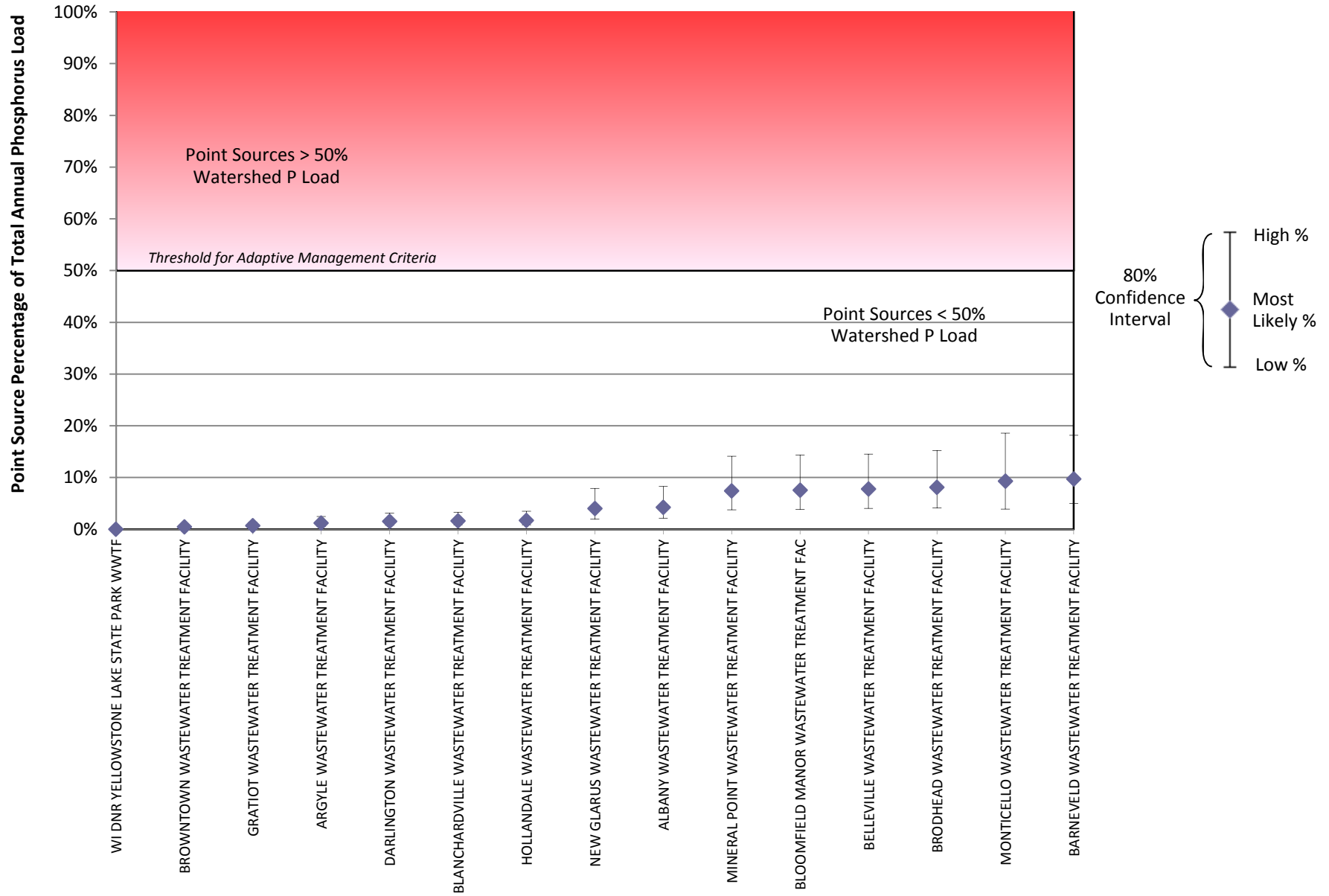
Sheboygan Basin



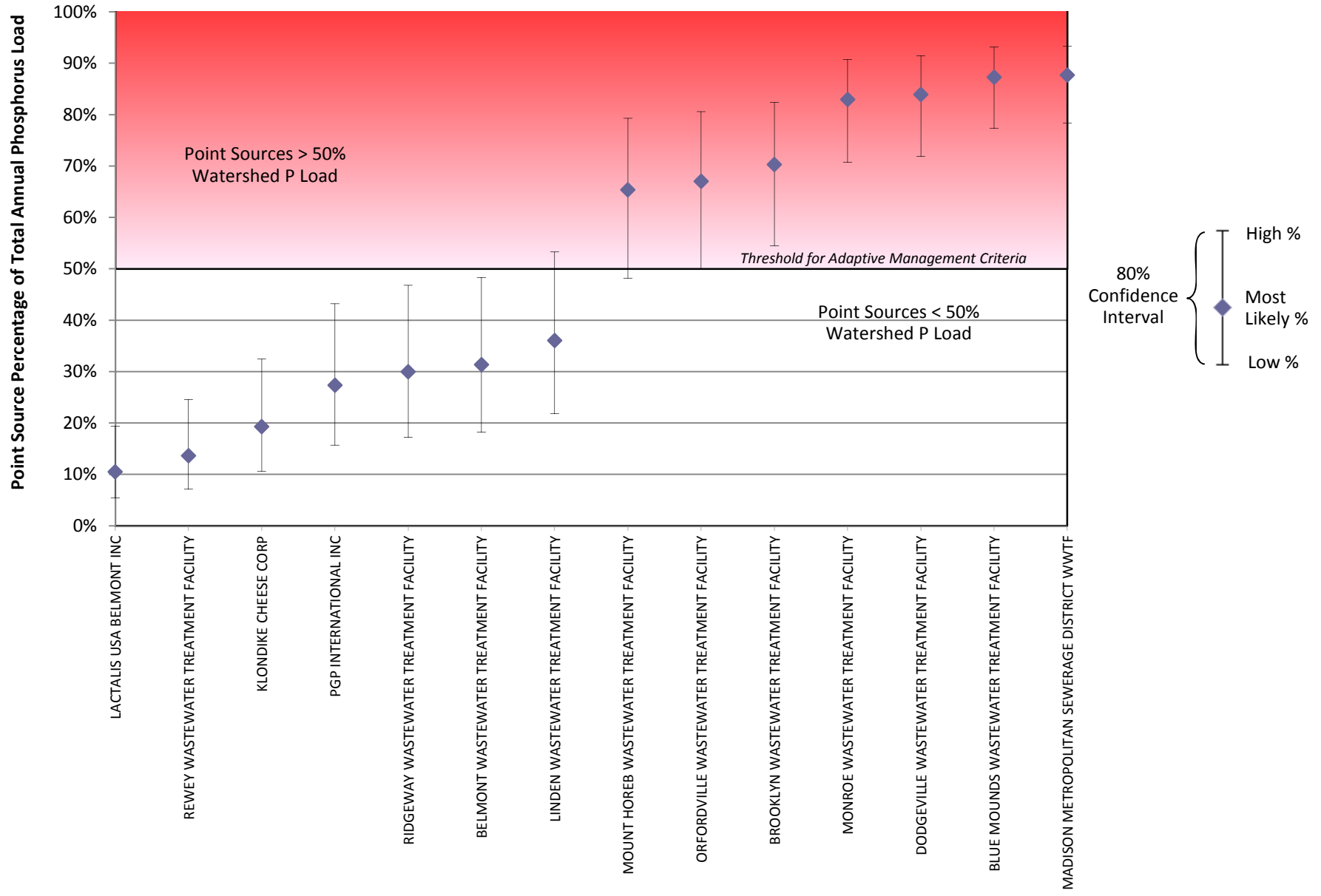
St. Croix Basin



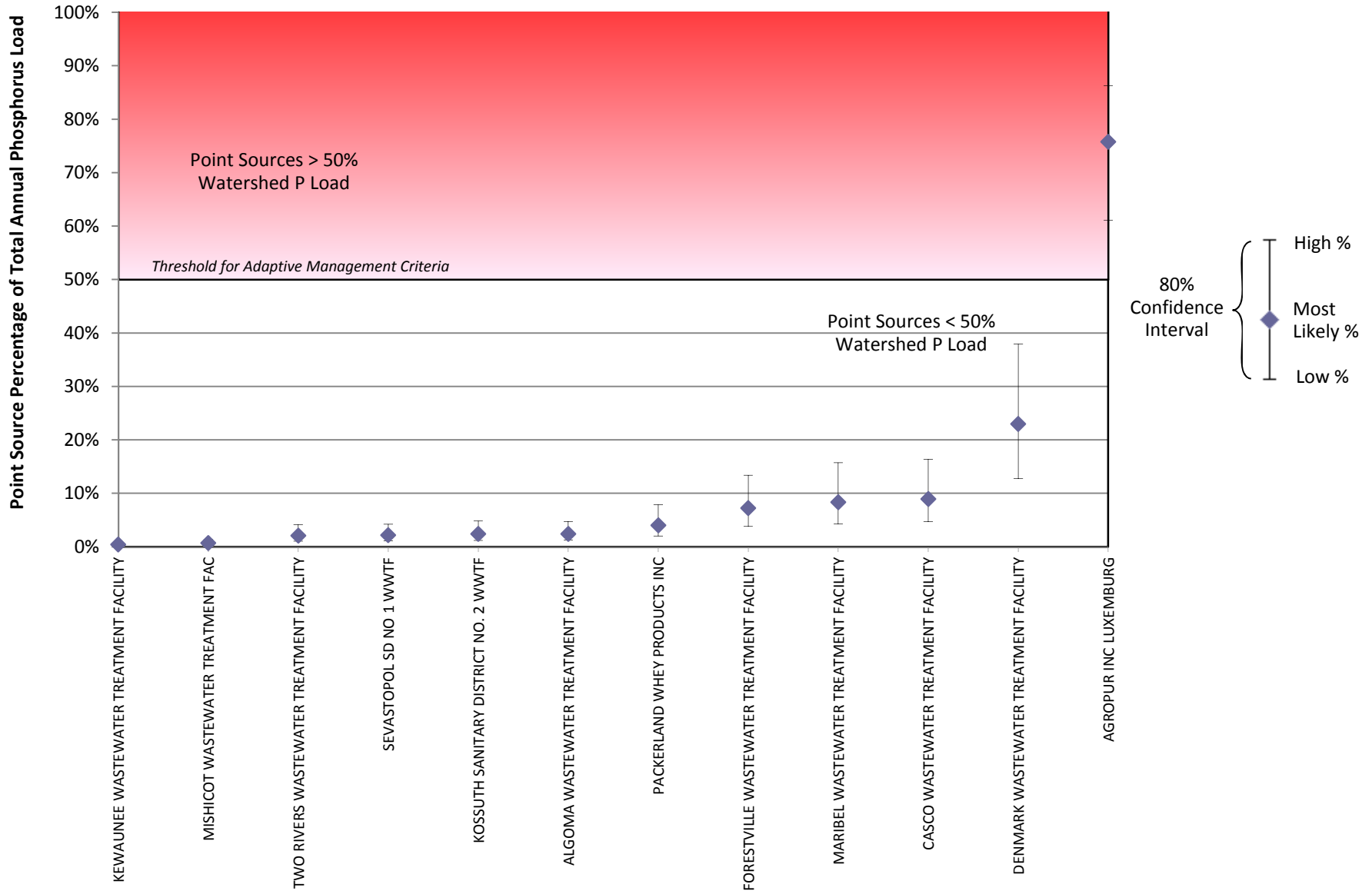
Sugar - Peconica Basin



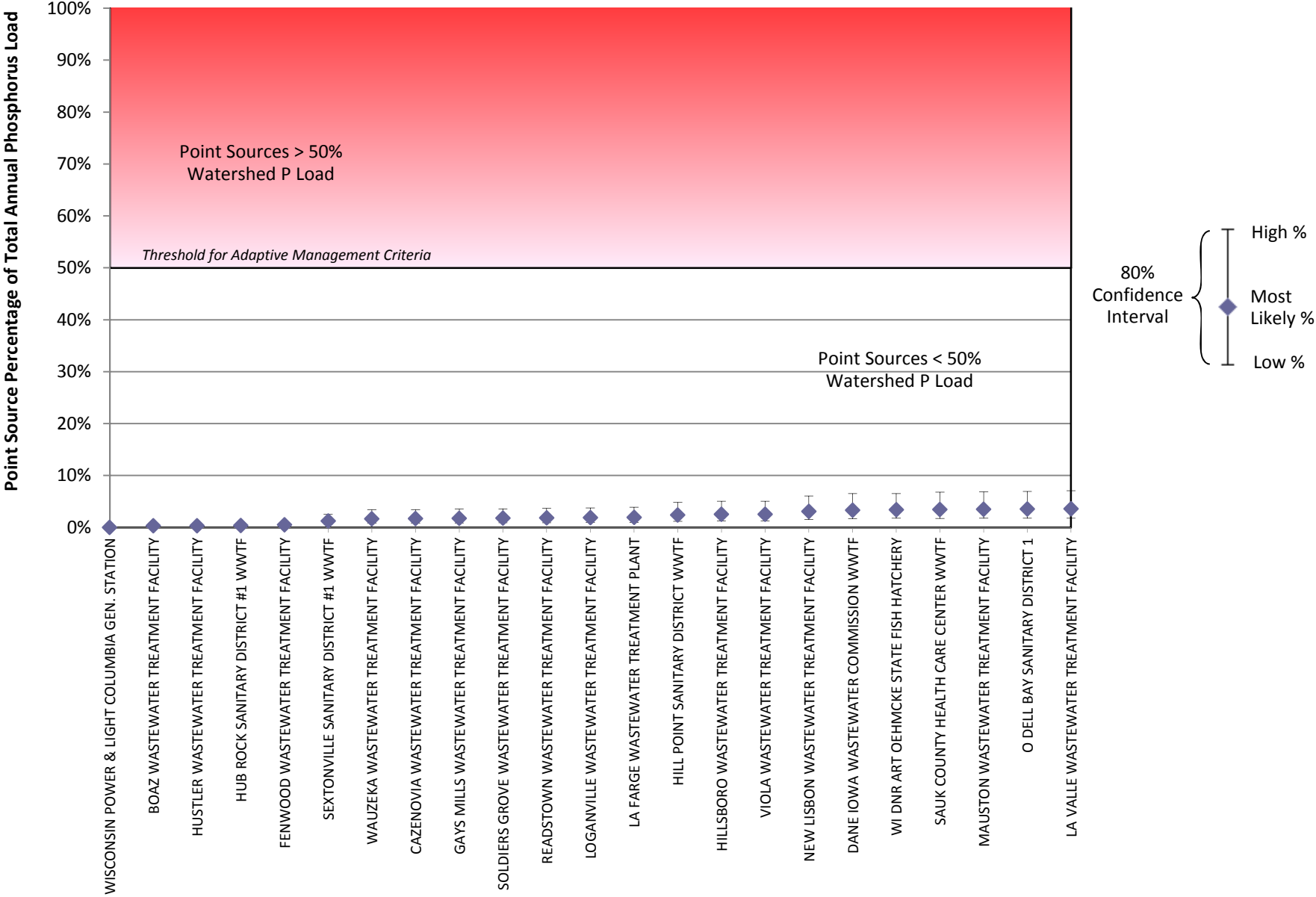
Sugar - Peconica Basin



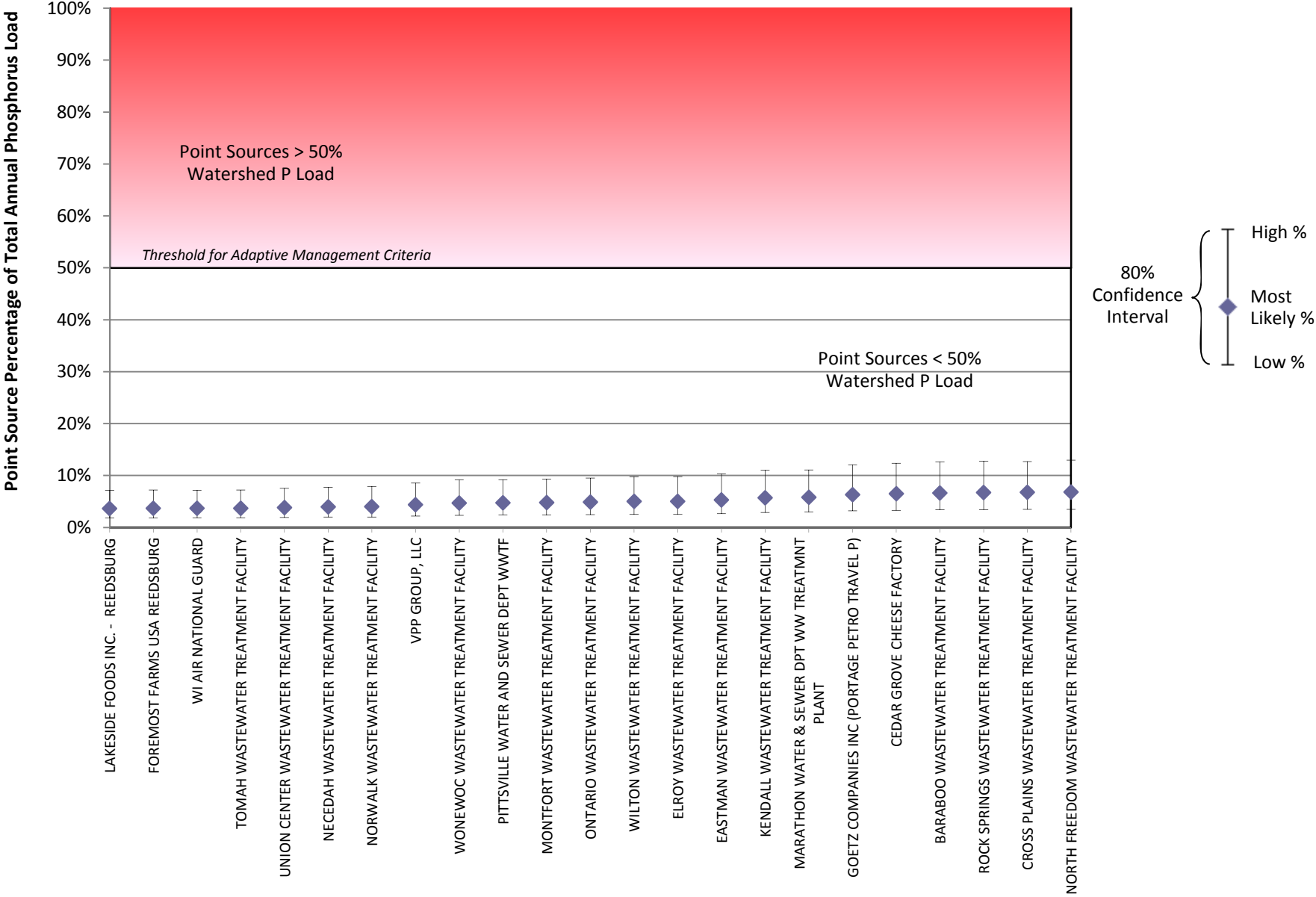
Twin - Door - Kewanee Basin



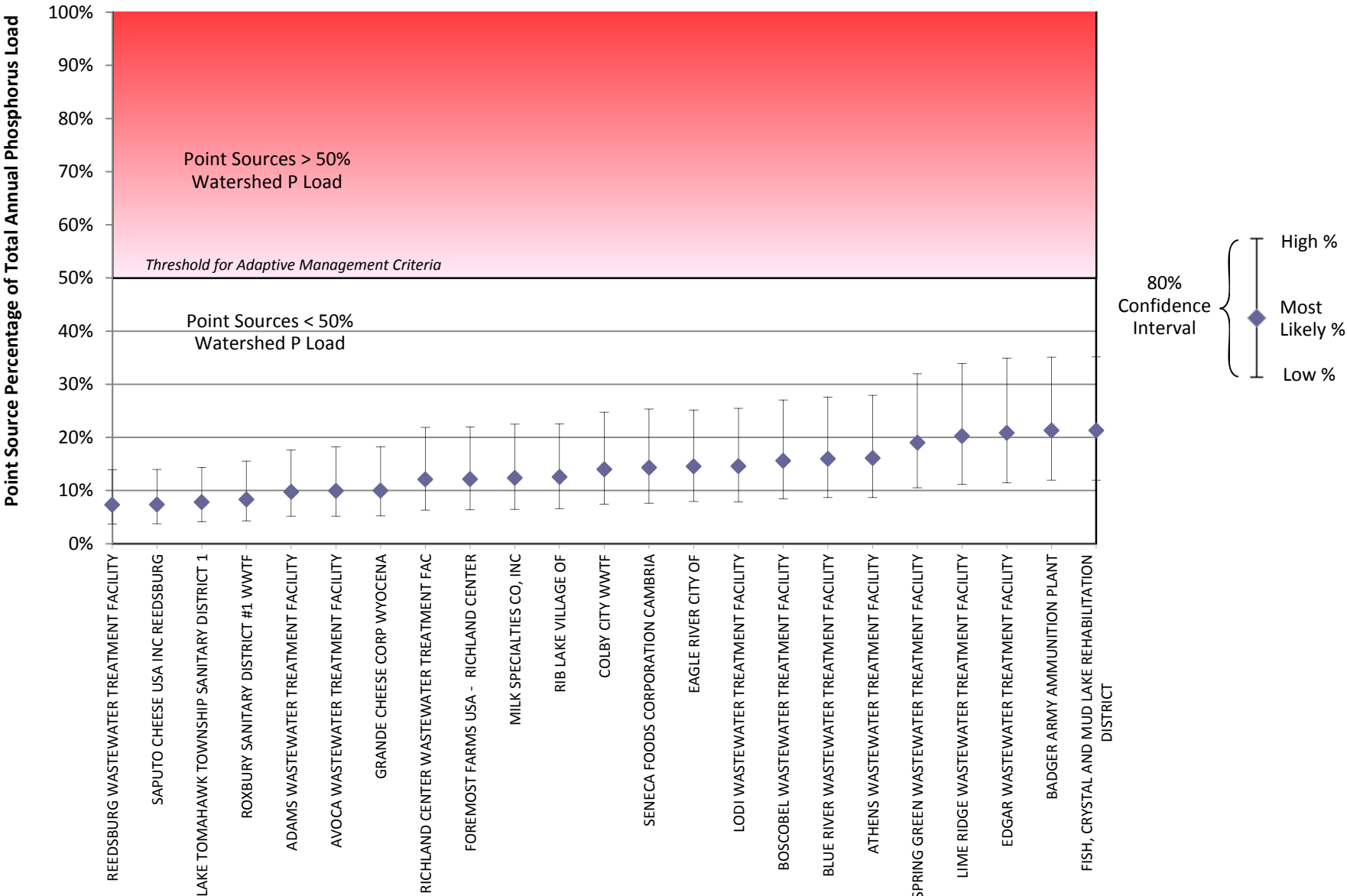
Wisconsin Basin



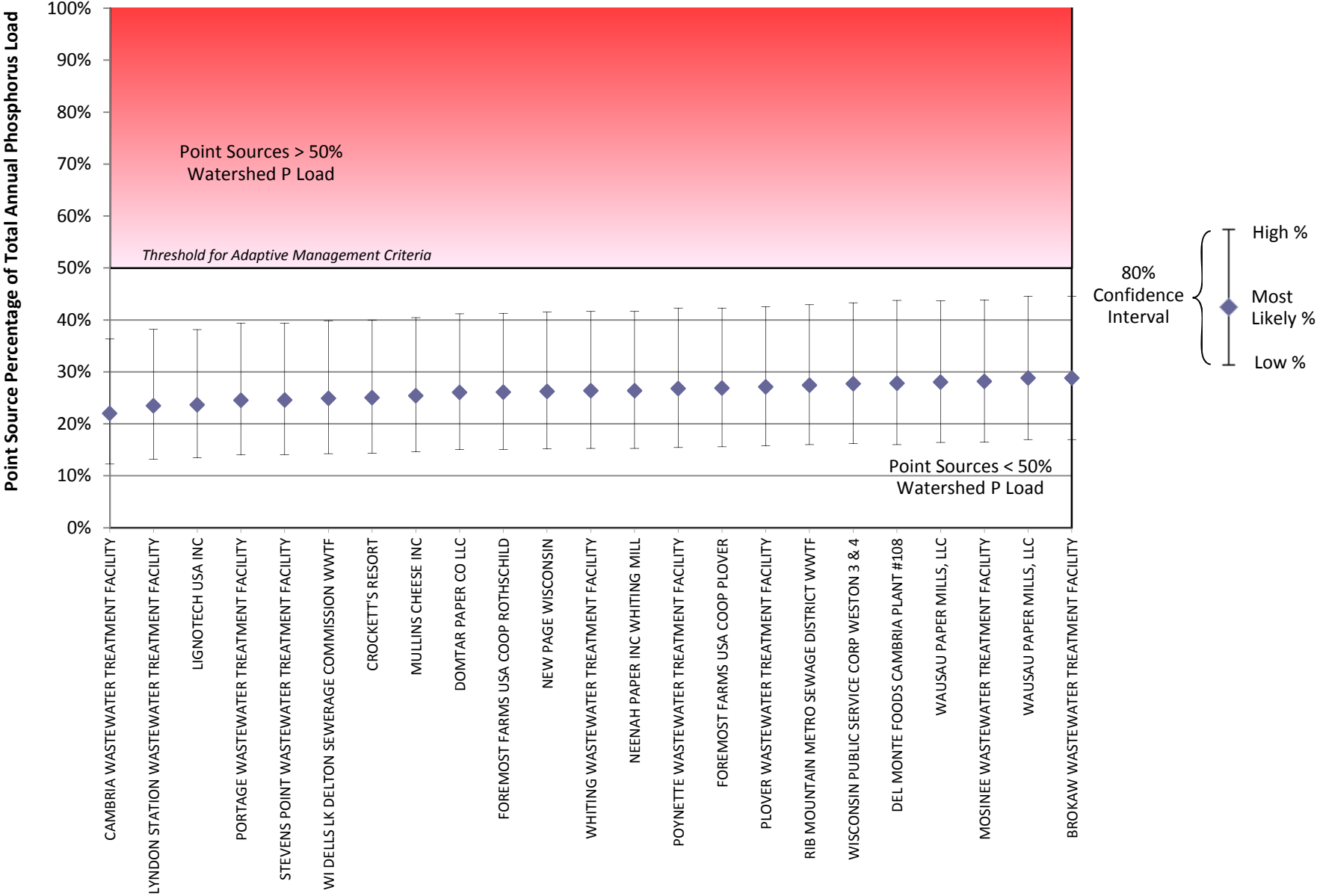
Wisconsin Basin



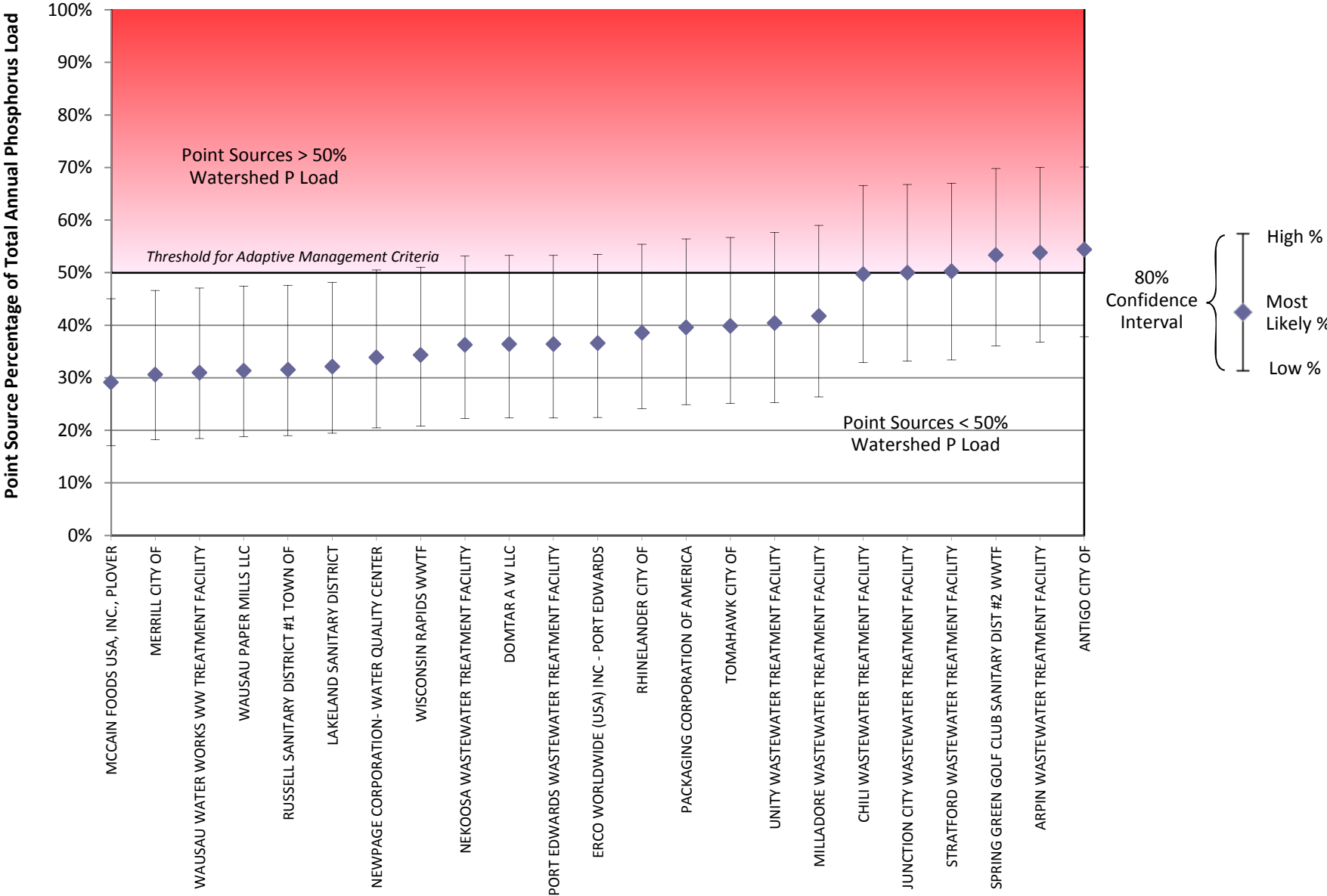
Wisconsin Basin



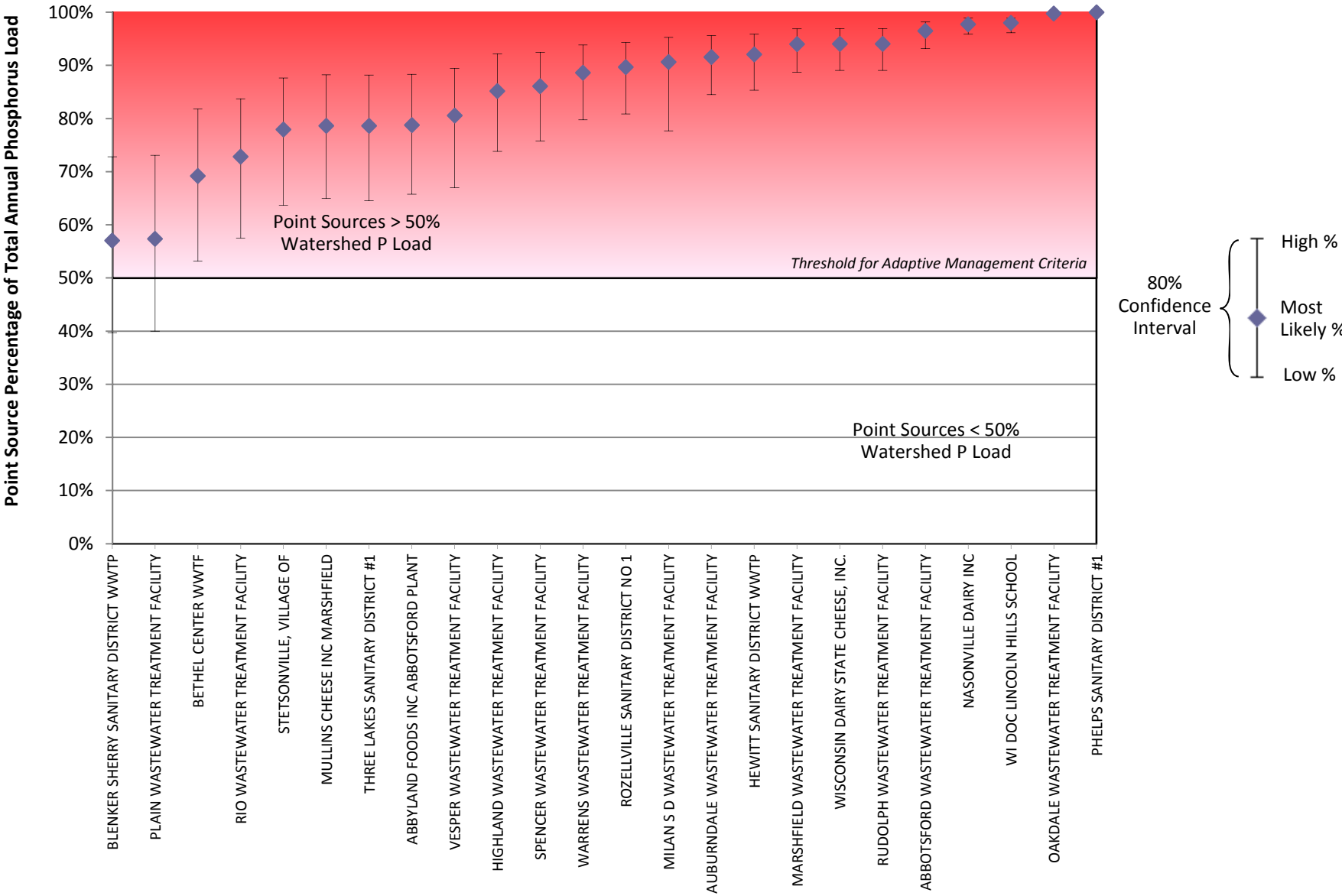
Wisconsin Basin



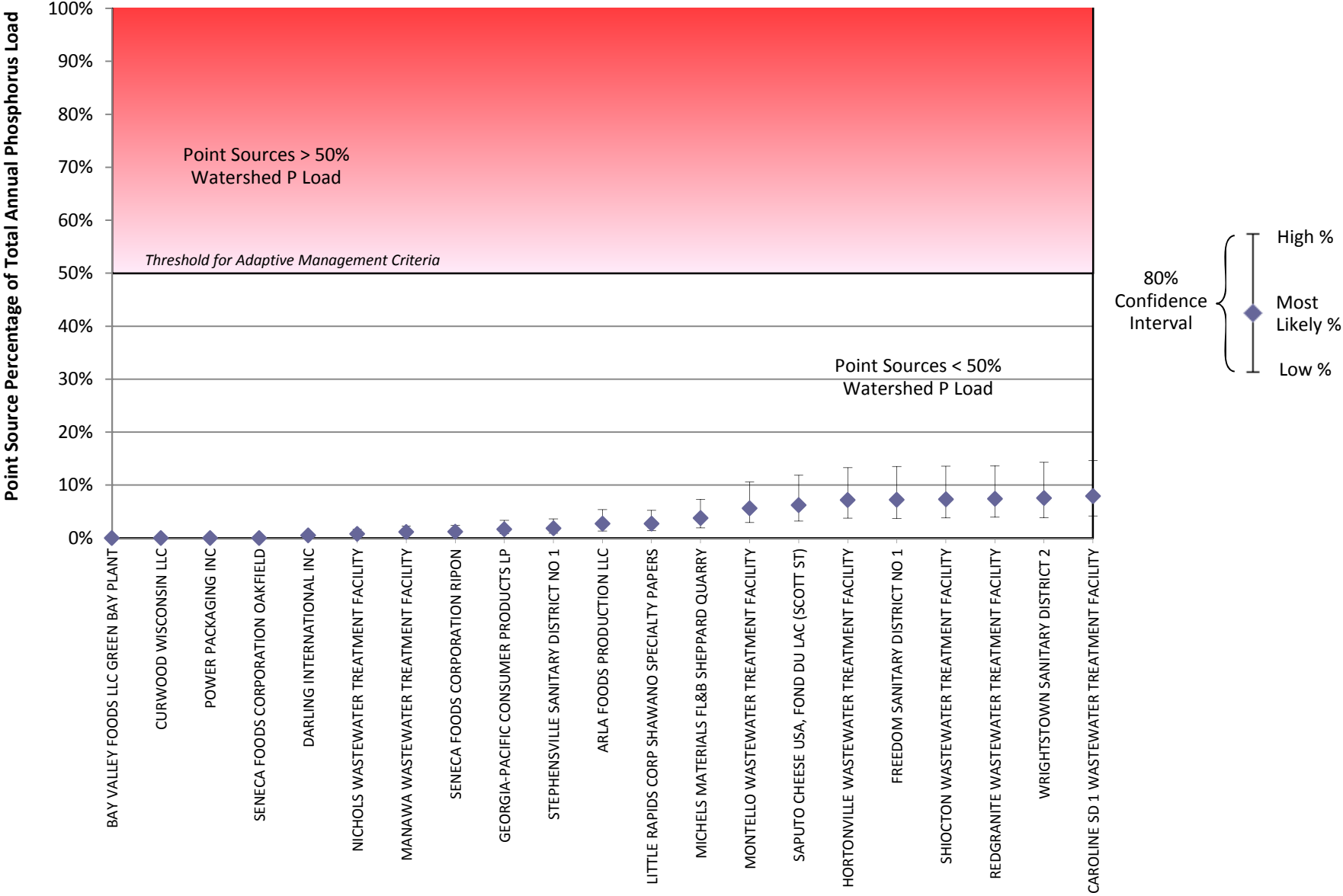
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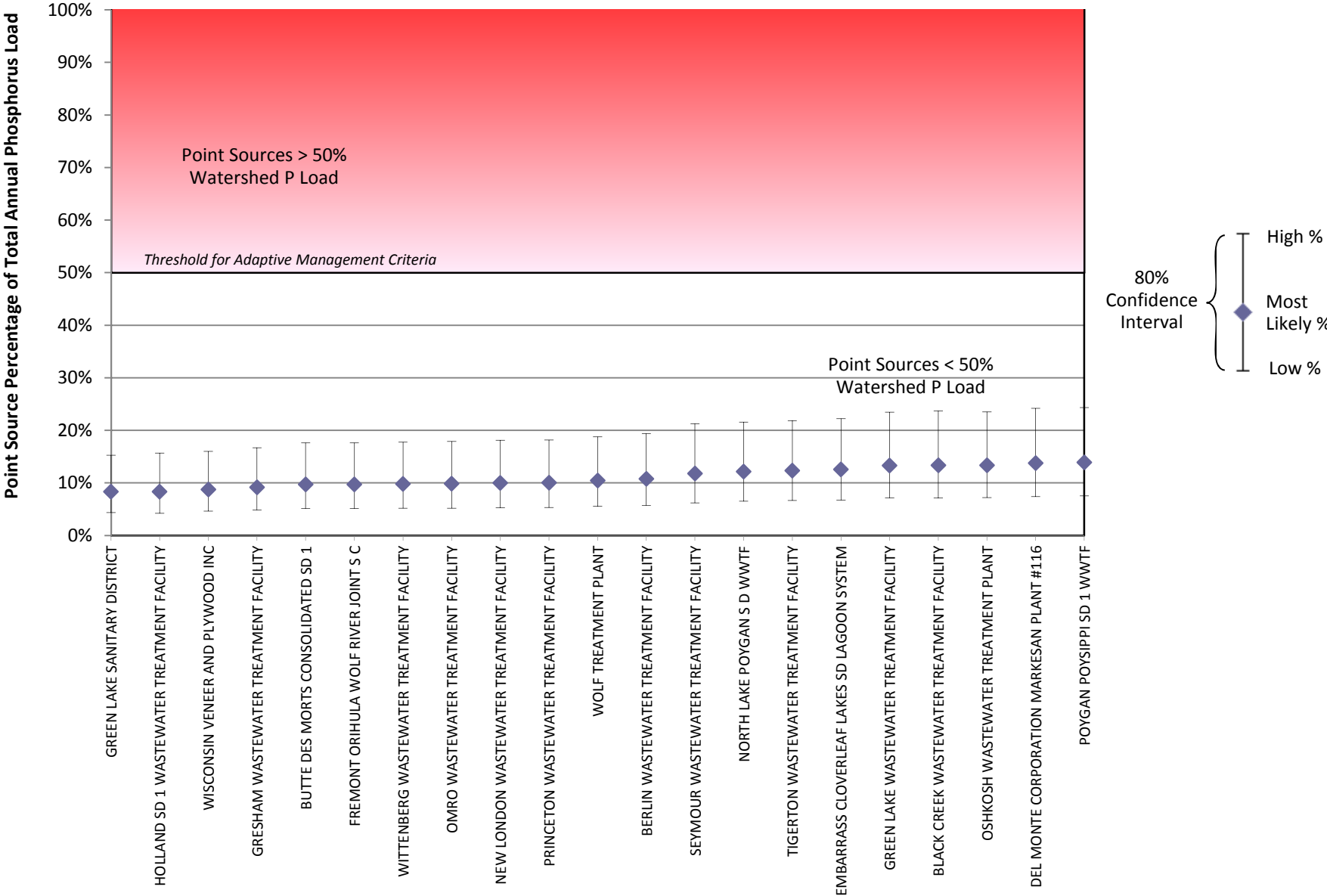
Wisconsin Basin



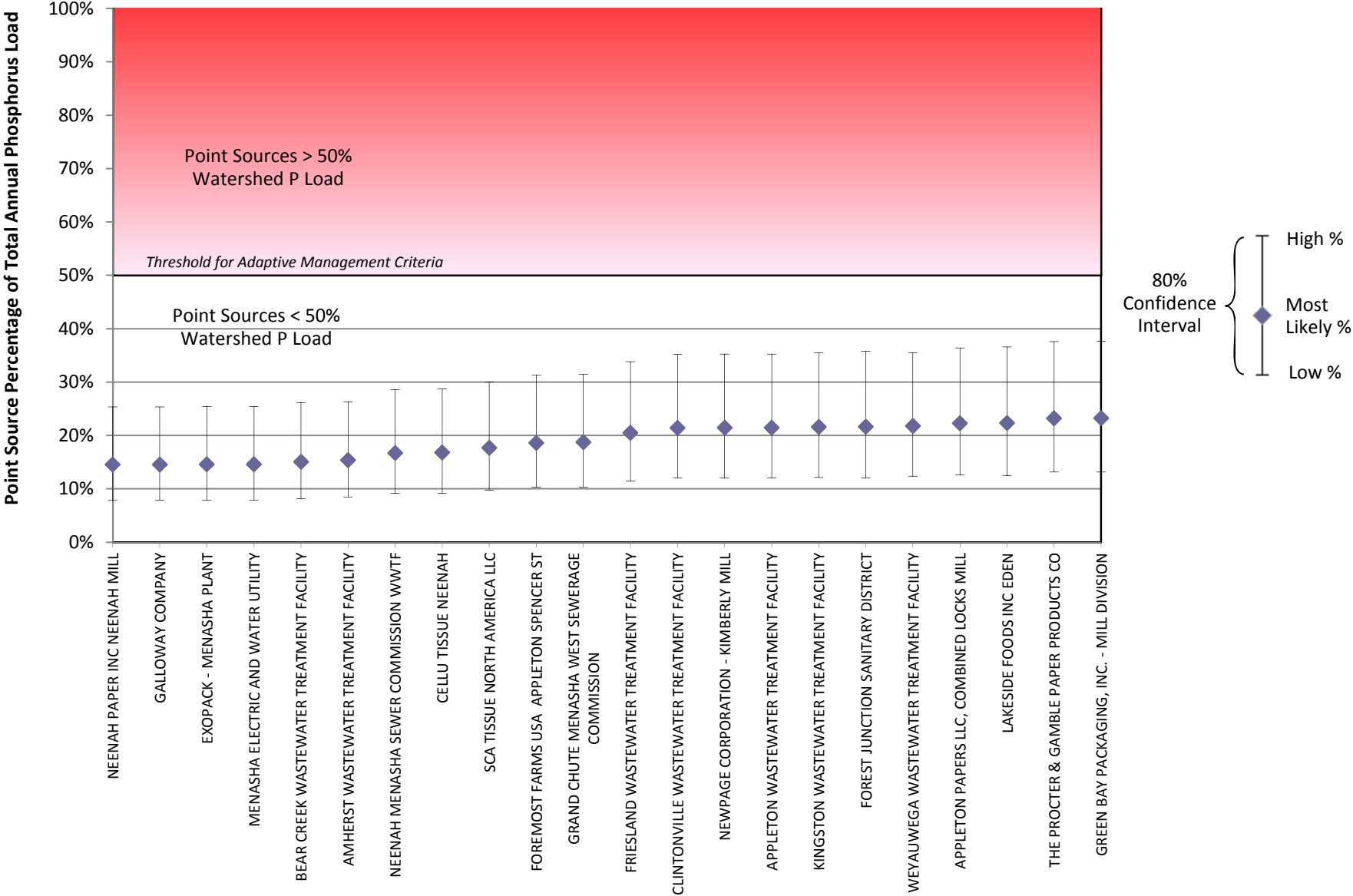
Wolf - Fox Basin



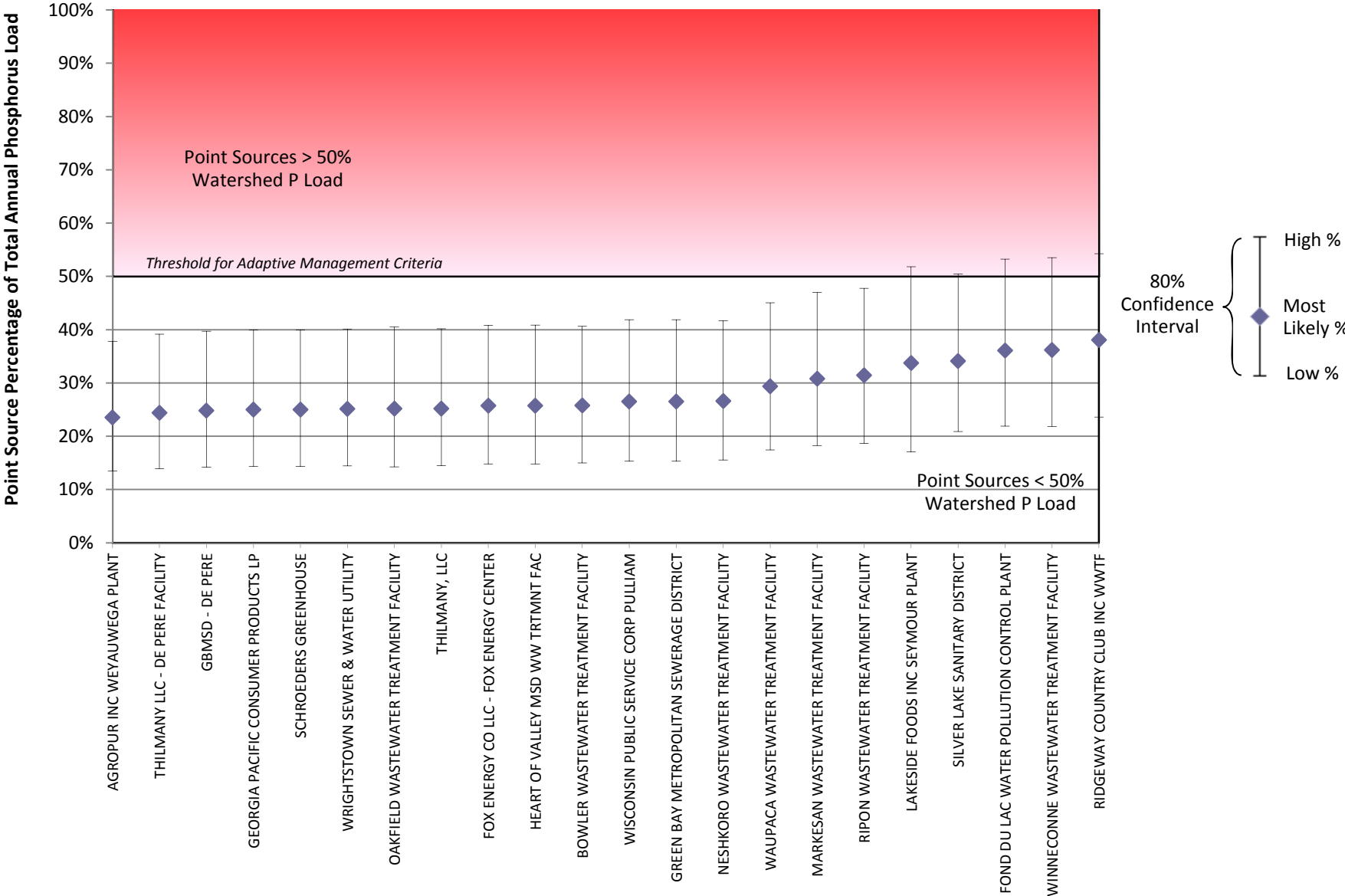
Wolf - Fox Basin



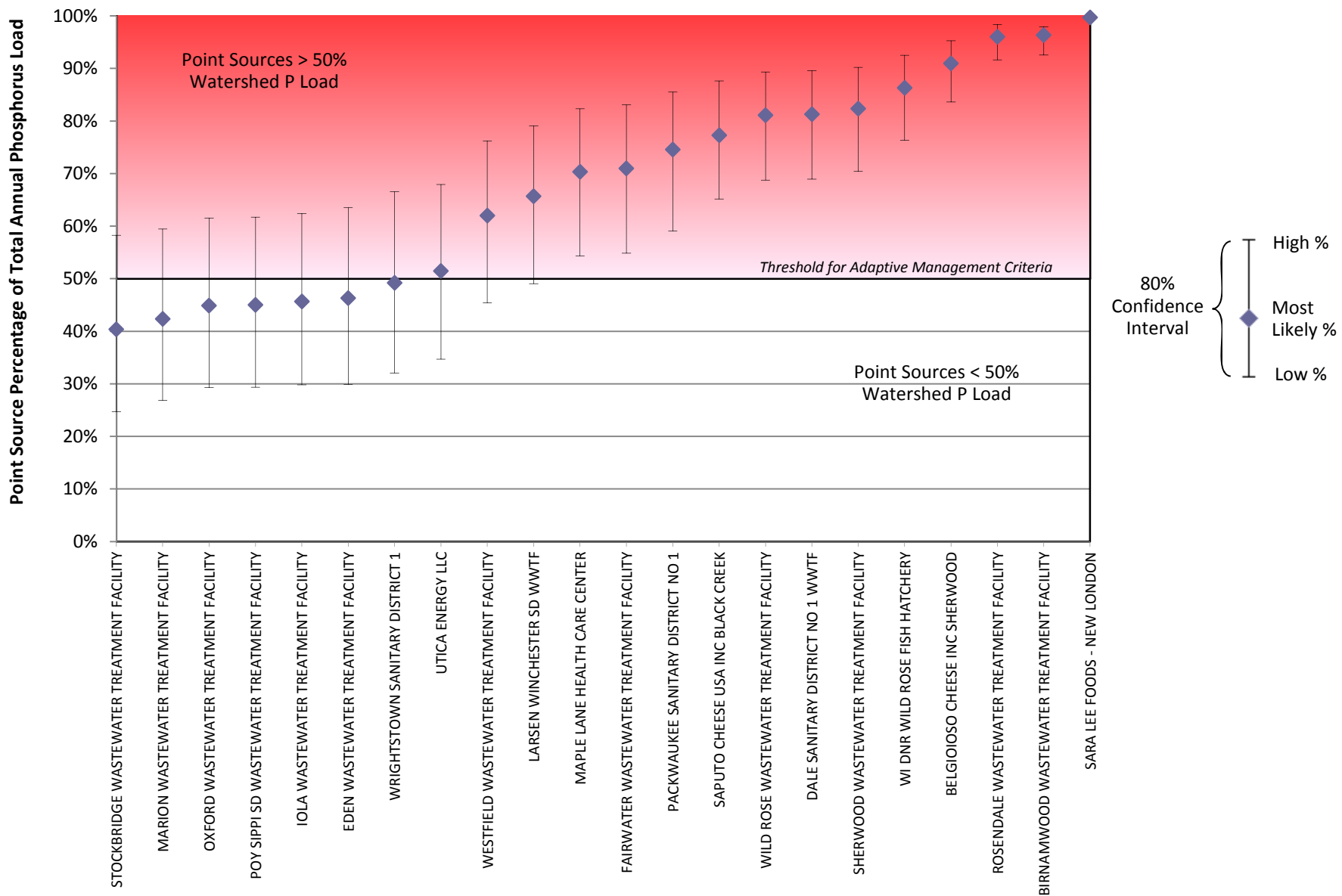
Wolf - Fox Basin



Wolf - Fox Basin



Wolf - Fox Basin



APPENDIX C
TABLE OF FACILITIES EXCLUDED FROM ANALYSIS

Facility Name	Receiving Water	Reason for Exclusion
Bad Axe - La Crosse		
GENOA WASTEWATER TREATMENT FACILITY	Mississippi River	Drainage area extends beyond state boundary
STODDARD WASTEWATER TREATMENT FACILITY	Mississippi River	Drainage area extends beyond state boundary
UNITED STATES DEPARTMENT OF INTERIOR USGS	Black River	Drainage area extends beyond state boundary
LA CROSSE CITY	Mississippi River	Drainage area extends beyond state boundary
PRAIRIE DU CHIEN WASTEWATER TREATMENT FAC.	Mississippi River	Drainage area extends beyond state boundary
DE SOTO WASTEWATER TREATMENT FACILITY	Mississippi River	Drainage area extends beyond state boundary
VALLEY RIDGE CLEAN WATER COMMISSION WWTF	Mississippi River	Drainage area extends beyond state boundary
Black		
Buffalo - Trempealeau		
ALMA WASTEWATER TREATMENT FACILITY	Mississippi River	Drainage area extends beyond state boundary
DAIRYLAND POWER COOP ALMA 1-5 & J.P. MADGETT	Mississippi River	Drainage area extends beyond state boundary
FOUNTAIN CITY WWTF	Mississippi River	Drainage area extends beyond state boundary
TREMPEALEAU WASTEWATER TREATMENT FACILITY	Mississippi River	Drainage area extends beyond state boundary
Chippewa		
PEPIN WASTEWATER TREATMENT FACILITY	Mississippi River	Drainage area extends beyond state boundary
BAY CITY VILLAGE	Mississippi River	Drainage area extends beyond state boundary
PRESCOTT WASTEWATER TREATMENT FACILITY	Mississippi River	Drainage area extends beyond state boundary
Fox (IL)		
GENOA CITY VILLAGE	North Branch Nippersink Creek	Drainage area extends beyond state boundary
BRISTOL RAINBOW LAKE, LLC	Unnamed	Drainage area extends beyond state boundary
Grant - Platte		
WISCONSIN POWER & LIGHT NELSON DEWEY GEN STATION	Mississippi River	Drainage area extends beyond state boundary
CASSVILLE WASTEWATER TREATMENT FACILITY	Mississippi River	Drainage area extends beyond state boundary
HAZEL GREEN WASTEWATER TREATMENT FACILITY	Galena River	Drainage area extends beyond state boundary
Green Bay		
AURORA SANITARY DISTRICT # 1	Menominee River	Drainage area extends beyond state boundary
NIAGARA WASTEWATER TREATMENT FACILITY	Menominee River	Drainage area extends beyond state boundary
NEWPAGE CORPORATION NIAGARA MILL	Menominee River	Drainage area extends beyond state boundary
WAUSAUKEE WASTEWATER TREATMENT FACILITY	Menominee River	Drainage area extends beyond state boundary
KIMBERLY CLARK CORPORATION MARINETTE	Menominee River	Drainage area extends beyond state boundary
MARINETTE WASTEWATER UTILITY	Menominee River	Drainage area extends beyond state boundary
THYSSENKRUPP WAUPACA INC MARINETTE	Menominee River	Drainage area extends beyond state boundary
TYCO FIRE SUPPRESSION & BP - ANSUL LLC	Menominee River	Drainage area extends beyond state boundary
Lake Superior		

Facility Name	Receiving Water	Reason for Exclusion
MIDWEST ENERGY RESOURCES COMPANY	Lake Superior	Drainage area extends beyond state boundary
SUPERIOR SEWAGE DISPOSAL SYSTEM	Lake Superior	Drainage area extends beyond state boundary
BELL SANITARY DISTRICT 1	Lake Superior	Drainage area extends beyond state boundary
DRUMMOND SANITARY DISTRICT 1	Unnamed	Internally drained
WASHBURN CITY OF	Lake Superior	Drainage area extends beyond state boundary
MADELINE SANITARY DISTRICT	Lake Superior	Drainage area extends beyond state boundary
ASHLAND SEWAGE UTILITY	Lake Superior	Drainage area extends beyond state boundary
Manitowoc		
MANITOWOC WASTEWATER TREATMENT FACILITY	Lake Michigan	Drainage area extends beyond state boundary
CLEVELAND WASTEWATER TREATMENT FACILITY	Lake Michigan	Drainage area extends beyond state boundary
Milwaukee		
LADISH FORGING, LLC	Unnamed	Located in highly urbanized area
BADGER METER INC	Beaver Creek	Located in highly urbanized area
PENTAIR RESIDENTIAL FILTRATION, LLC	Milwaukee River	Located in highly urbanized area
WISCONSIN THERMOSET MOLDING INC	Milwaukee River	Located in highly urbanized area
DRS POWER & CONTROL TECHNOLOGIES, INC.	Lincoln Creek	Located in highly urbanized area
MILLERCOORS LLC	Menomonee River	Located in highly urbanized area
WE - VALLEY POWER PLANT	Menomonee River	Located in highly urbanized area
BRIGGS STRATTON CORP WAUWATOSA	Menomonee River	Located in highly urbanized area
P & H MINING EQUIPMENT	Menomonee River	Located in highly urbanized area
MAYFAIR MALL	Menomonee River	Located in highly urbanized area
MILWAUKEE METRO SEW DIST COMBINED	Lake Michigan	Drainage area extends beyond state boundary
Rock		
Root - Pike		
WE ENERGIES OAK CREEK POWER PLANT	Lake Michigan	Drainage area extends beyond state boundary
WE - PLEASANT PRAIRIE POWER PLANT	Lake Michigan	Drainage area extends beyond state boundary
OCEAN SPRAY CRANBERRIES INC KENOSHA	Lake Michigan	Drainage area extends beyond state boundary
RACINE WASTEWATER UTILITY	Lake Michigan	Drainage area extends beyond state boundary
KENOSHA WASTEWATER TREATMENT FACILITY	Lake Michigan	Drainage area extends beyond state boundary
SOUTH MILWAUKEE WASTEWATER TREAT FACILITY	Lake Michigan	Drainage area extends beyond state boundary
Sheboygan		
WE - PORT WASHINGTON GENERATING STATION	Lake Michigan	Drainage area extends beyond state boundary
WISCONSIN POWER & LIGHT EDGEWATER GEN. STATION	Lake Michigan	Drainage area extends beyond state boundary
SHEBOYGAN WASTEWATER TREATMENT PLANT	Lake Michigan	Drainage area extends beyond state boundary
PORT WASHINGTON WWTP	Lake Michigan	Drainage area extends beyond state boundary

Facility Name	Receiving Water	Reason for Exclusion
St. Croix		
OSCEOLA VILLAGE OF	Saint Croix River	Drainage area extends beyond state boundary
WI DNR ST CROIX FALLS HATCHERY	St. Croix River	Drainage area extends beyond state boundary
ST CROIX FALLS CITY OF	Saint Croix River	Drainage area extends beyond state boundary
HUDSON WASTEWATER TREATMENT FACILITY	Saint Croix River	Drainage area extends beyond state boundary
SIREN VILLAGE OF	Wetland	Internally drained
Sugar - Pecatonica		
SOUTH WAYNE WASTEWATER TREATMENT FACILITY	Pecatonica River	Drainage area extends beyond state boundary
Twin - Door - Kewanee		
WI DNR PENINSULA STATE PARK WWTF	Tennison Bay Marsh	Internally drained
BAILEYS HARBOR WASTEWATER TREATMENT FACILITY	Lake Michigan	Drainage area extends beyond state boundary
EGG HARBOR WASTEWATER TREATMENT FACILITY	Lake Michigan	Drainage area extends beyond state boundary
FISH CREEK SD1 WASTEWATER TREATMENT FACILITY	Lake Michigan	Drainage area extends beyond state boundary
STURGEON BAY UTILITIES WWTF	Lake Michigan	Drainage area extends beyond state boundary
SISTER BAY WASTEWATER TREATMENT FACILITY	Lake Michigan	Drainage area extends beyond state boundary
EPHRAIM WASTEWATER TREATMENT FACILITY	Lake Michigan	Drainage area extends beyond state boundary
Wisconsin		
Wolf - Fox		
Facilities with P Data Not Currently Geo-Located		
RADDISON VILLAGE OF	Unnamed	Not in GIS database
FOREMOST FARMS USA COOP LANCASTER	Pigeon Creek Tributary	Not in GIS database
GREATER BAYFIELD WASTEWATER TREATMENT FACILITY	Dry Run Tributary to Lake Superior	Not in GIS database
GRANDE CHEESE JUDA	North Fork Juda Branch	Not in GIS database