# RUNOFF CHARACTERISTICS OF NATURAL VEGETATION COMMUNITIES IN FLORIDA

## Draft Final Report
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# SECTION 1

# INTRODUCTION

This document provides a summary of work efforts conducted by Environmental Research & Design, Inc. (ERD) for the Florida Department of Environmental Protection (FDEP) under Agreement No. SO108 to evaluate stormwater characteristics from natural vegetation communities in Florida. This information is collected in support of the proposed Florida Statewide Stormwater Rule. One of the treatment options proposed under the new Statewide Rule is a demonstration that post-development loadings of nitrogen and phosphorus for a developed site do not exceed pre-development loadings of the site under natural vegetated conditions.

Unfortunately, virtually no runoff characterization data currently exists for natural vegetation communities within the State of Florida. A literature review of runoff characterization data for land use categories within the State of Florida was conducted by Harper and Baker (2007), and only four previous studies were identified which provide runoff characterization data for undeveloped land. The vegetation communities included in these studies are referred to simply as "undeveloped", "rangeland", and "forest" areas, and three of the four studies were conducted over 20 years ago. Since natural land use runoff characteristics have a potential to significantly impact the size and design of BMPs used for a proposed development, the existing data are clearly inadequate to support accurate estimates of pre-development loadings. As a result, FDEP contracted with ERD to generate additional runoff characterization data for a variety of natural communities within the State of Florida.

## 1.1 <u>Work Efforts</u>

A total of 34 automated monitoring sites was established in 10 State Parks throughout the State of Florida. Locations of the State Parks used for this project are indicated on Figure 1-1. The selected State Parks extend from the Panhandle to extreme southern portions of the State and cover a wide range of natural vegetation communities. State Parks were selected since these areas are maintained in a relatively natural condition, with minimal impacts from human activities. State Parks also provide limited and regulated access which enhances security for the selected monitoring locations.

Field monitoring was conducted by ERD over a 14-month period from July 2007-August 2008 to include a variety of seasonal conditions. Many of the monitoring sites only generated measurable runoff following significant rain events or during wet season condition. A total of 304 samples was collected during the 14-month monitoring program and analyzed for general parameters, nutrients, demand parameters, fecal coliform, and heavy metals. A Research/ Collecting Permit was obtained by ERD from FDEP (Permit No. 06250710) which authorized ERD to collect water samples from each of the selected State Parks. A copy of the Collecting Permit is given in Appendix A.

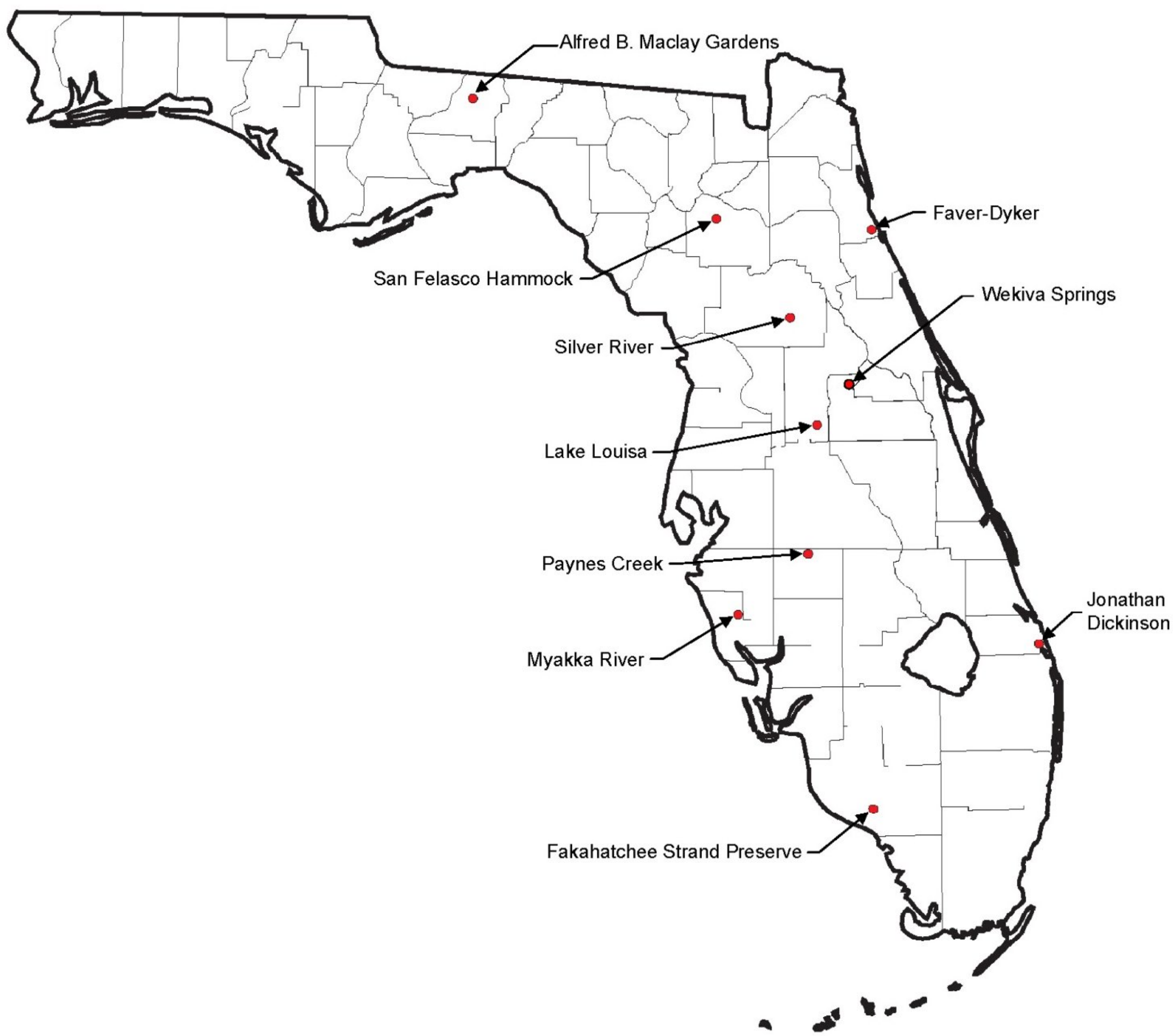



Figure 1-1. Locations of Monitored State Parks.

## 1.2 <u>Natural Community Indices</u>

Currently, two primary indices are used to characterize vegetation and land cover within the State of Florida. These indices include the Florida Vegetation and Land Cover Index, developed by the Florida Fish and Wildlife Conservation Commission (FFWCC), and the Florida Natural Areas Inventory (FNAI), developed by FDEP. Characteristics of each of these indices are summarized in the following sections.

### 1.2.1 Florida Vegetation and Land Cover Index

The Florida Vegetation and Land Cover Index reflects existing land cover within the State based upon a review of aerial photography. The original survey and delineation of land cover was conducted in the 1990s using 1985-1989 LANDSAT Thematic Mapper satellite imagery and included 17 natural and semi-natural cover types, 4 land cover types reflecting disturbed land, and 1 water classification. This survey was updated in 2003 and expanded to include 26 natural and semi-natural cover types, 16 land cover types reflecting disturbed land, and 1 water classification. The FFWCC vegetation and land cover data are indicative of current conditions which exist within the State. The results of the FFWCC database have been widely used in Florida to assist in land acquisition, land use planning, development regulation, and land management programs. A significant advantage of this index is that coverage maps are available for all portions of the State of Florida.

However, there are two significant drawbacks with the use of the FFWCC index for purposes of the Statewide Stormwater Rule. First, this index reflects existing land cover which includes both natural and semi-natural conditions. The pre-development condition referenced under the Statewide Stormwater Rule is assumed to be natural vegetative communities which may or may not be reflected in the FFWCC survey, since many native natural areas have been significantly altered by man.

The second drawback of the FFWCC index is that it groups vegetative communities by the dominant general vegetation type which may include sub-groups with different runoff characteristics. For example, all pine forests are included under the category of “pinelands”. This category includes pine flatwoods dominated by long leaf pine on well drained sites, as well as pond pine, commonly observed in poorly drained soils, and slash pine which occurs on moderately moist soils. Differences in soil characteristics and understory in these areas will likely causes differences in runoff characteristics between different areas included in this general category.

### 1.2.2 Florida Natural Areas Inventory (FNAI)

The Florida Natural Areas Inventory (FNAI) reflects the original, natural vegetation associations within the State of Florida. Natural communities are characterized and defined by a combination of physiognomy, vegetation structure and composition, topography, land form, substrate, soil moisture condition, climate, and fire. Communities are named for their most characteristic biological or physical feature. This index provides a more comprehensive characterization of vegetation communities than the general groups included under the FFWCC index. The FNAI is grouped into six natural community categories, with 13 natural community groups and 66 sub-groups based on hydrology and vegetation. The FNAI is the system which is currently used by State Parks to characterize on-site vegetation.

A summary of primary natural area community categories is given in Table 1-1. The FNAI system defines a natural community as a distinct and recurring assemblage of plants, animals, fungi, and microorganisms which are naturally associated with each other under a particular physical environment. At the broadest level, natural communities are grouped into six Natural Community Categories based on the hydrology and vegetation at the site. Terrestrial Natural Communities are defined as upland habitats dominated by plants which are not adapted to anaerobic soil conditions imposed by water inundation by more than 10% of the growing season. Palustrine Natural Communities consist of fresh water wetlands dominated by plants adapted to anaerobic substrate conditions resulting from inundation during 10% or more of the growing season. Other natural community categories include Lacustrine, Riverine, Subterranean, and Marine and Estuarine.

**TABLE 1-1**

**FLORIDA NATURAL AREAS INVENTORY (FNAI) COMMUNITY CATEGORIES**

| NATURAL COMMUNITY CATEGORY | NUMBER OF CATEGORIES | DESCRIPTION |
|---|---|---|
| Terrestrial (Upland) | 5 Groups<br>23 sub-groups | Upland habitats dominated by plants which are not adapted to anaerobic soil conditions imposed by saturation or inundation for more than 10% of the growing season |
| Palustrine | 4 Groups<br>20 sub-groups | Freshwater wetlands dominated by plants adapted to anaerobic substrate conditions imposed by substrate saturation or inundation during 10% or more of growing season |
| Lacustrine | 6 sub-groups | Non-flowing wetlands of natural depressions lacking persistent emergent vegetation except around the perimeter |
| Riverine | 4 sub-groups | Natural, flowing waters from their source to the downstream limits of tidal influence, and bounded by channel banks |
| Subterranean | 1 sub-group | Communities which occur below ground surface |
| Marine and Estuarine | 4 Groups<br>12 sub-groups | Extend from subtidal, intertidal, and supratidal zones of coastal water bodies with a connection to open ocean, within which seawater is significantly diluted with freshwater inflow to open areas where dilution does not occur |

A second level of hierarchy in the FNAI classification splits the Natural Community Categories into Natural Community Groups based on characteristics such as hydrology and general vegetation type. The third level of classification, Natural Community Types, is the level at which the natural communities are named and described. This level classifies vegetative communities based on physiognomy, vegetation structure and composition, topography, land form, substrate, soil moisture condition, climate, and fire.

After reviewing each of the two primary vegetation indices, the FNAI index was selected for characterization of vegetation types included in the natural areas monitoring program. The FNAI classification is used to describe undisturbed, or relatively undisturbed, vegetation and is often referred to as "potential natural vegetation". In contrast, the FFWCC index reflects existing vegetation on the site rather than the undisturbed natural vegetation. Since natural vegetation is defined in the Statewide Stormwater Rule as vegetation present in a natural or undisturbed condition, the FNAI classification scheme is the most appropriate for describing vegetation communities for purposes of this project.

A distinct drawback of the FNAI index is that coverage is currently available only for areas under State control. Hopefully, this index will be expanded to include other areas within the State of Florida. An applicant wishing to utilize the pre- vs. post-loading option under the proposed Statewide Stormwater Rule would have to conduct an independent biological assessment of vegetation communities within the proposed development area, consistent with the FNAI nomenclature.

The vegetation monitoring conducted as part of this project was performed primarily in upland communities. According to the FNAI index, the upland category is divided into five groups or communities which include Xeric Uplands, Coastal Uplands, Mesic Uplands, Rocklands, and Mesic Flatwoods. Each of these communities is further divided into sub-communities based on differences in dominant vegetation types. A description of upland communities and sub-community types is given on Table 1-2. The sub-community names reflect the nomenclature utilized by ERD to describe vegetation communities for this project. Vegetation sub-communities monitored as part of this work effort are highlighted in **green**.

In addition to the upland communities summarized in Table 1-2, monitoring was also conducted in the wet flatland community which is classified in the Palustrine natural community category based on the FNAI index. Several of these sub-community types, including Hydric Hammock and Wet Flatwoods, are commonly utilized for development within the State of Florida and, therefore, were included in this monitoring program. A summary of wet flatland sub-communities is given in Table 1-3. Vegetation sub-communities monitored as part of this work effort are highlighted in **green**. Both Hydric Hammock and Wet Flatwoods are considered to be upland plant communities according to the FFWCC land cover classification scheme.

## 1.3 Report Organization

This report has been divided into four separate sections for presentation of the work efforts performed by ERD. Section 1 contains an introduction to the report and a discussion of vegetation indices. Section 2 provides a discussion of field and laboratory activities, including a description of monitoring sites, field monitoring activities, and laboratory analyses. Section 3 provides a summary of the results of the vegetation monitoring program, and a discussion of the results is provided in Section 4. Appendices are also attached which contain information and analyses generated as a result of this project.

# TABLE 1-2

## UPLAND COMMUNITIES AND SUB-COMMUNITIES IN FLORIDA (FNAI)

| COMMUNITY NAME | SUB-COMMUNITY | ALTERNATE NAMES | CHARACTERISTICS |
|---|---|---|---|
| Xeric Uplands | Sandhill | Longleaf pine-turkey oak<br>Longleaf pine-xeric oak<br>Longleaf pine-deciduous oak<br>High pine | Upland with deep sand substrate; xeric; temperate vegetation; frequent fire (2-5 yrs); longleaf pine and/or turkey oak with wiregrass understory |
| | **Scrub** | Sand pine scrub<br>Florida scrub<br>Sand scrub<br>Oak scrub | Old dune area with deep fine sand substrate; xeric, temperate or subtropical vegetation; rare fire (20-80 yrs); sand pine/scrub oaks/rosemary/ lichens |
| | **Xeric Hammock** | Xeric forest<br>Sand hammock<br>Live oak forest<br>Oak hammock | Upland with deep sand substrate; xeric-mesic; temperate or subtropical; rare or no fire; live oak/laurel oak, sparkleberry, saw palmetto |
| Coastal Uplands | Beach dune | Sand dunes<br>Pioneer zone<br>Sea oats zone | Wind and wave deposited upper beach sparsely vegetated with pioneer species, especially sea oats; found along shorelines subject to high energy waves; dynamic communities and mobile environment |
| | Coastal berm | Shell ridge<br>Coastal levee<br>Coastal forest | Dense thickets of large shrubs and small trees or sparse shrubby vegetation with xerophytic plants on ridges of storm deposited sand, shells, and debris; occur parallel to shore in a series with alternating swales |
| | Coastal grassland | Overwash plain<br>Coastal savannah<br>Salt flat | Treeless flat land or gently undulating land with barren sand or sparse to dense ground cover of grasses and vines adapted to maritime conditions; periodically covered with salt water |
| | Coastal rock barren | Littoral rock pavement<br>Algal barren<br>Cactus barren | Ecotonal sparse vegetation on rocky coastlines in the Florida Keys; sparsely vegetated with stunted, xeric and halophytic shrubs, cacti, algae, and herbs; thin soils; coastal influences |
| | Coastal strand | Shrub zone<br>Maritime thicket<br>Coastal scrub | Stabilized, wind-deposited coastal dunes vegetated with dense thicket of salt-tolerant shrubs, especially saw palmetto; deep well-drained soils |
| | Maritime hammock | Coastal hammock<br>Maritime forest<br>Tropical hammock | Narrow band of hardwood forest just inland from coastal strand community; streamlined profile; occurs on old coastal dunes; well-drained; infrequent fires |
| | Shell mound | Midden<br>Indian mound<br>Tropical/maritime/coastal hammock | Hardwood, closed-canopy forest on man-made mounds of shells and garbage; neutral to alkaline soils; well-drained; impacted by coastal processes |
| Mesic Uplands | Slope forest | Ravine forest<br>Bluff forest<br>Mesic hammock<br>Southern mixed hardwoods<br>Climax hardwoods<br>Hardwood hammock | Well-developed, closed canopy forests of upland hardwoods on steep slopes, bluffs, and ravines; substantial topographic relief; soils composed of sands, clayey-sands, or sandy-clays with organics and occasional limerock; high species diversity; seepage streams may occur in bottom areas; mesic community with moist, cool microclimates |
| | Upland glade | Chalky limestone glades/barrens<br>North Florida chalk glades<br>Calcareous glades | Forest openings dominated by grasses and sedges on calcareous soils with exposed limestone; woody islands may occur; occur on limestone outcrops on sides or crests of hills; generally <5 acres in size |
| | **Upland hardwood/mixed hardwood forest** | Mesic hammock<br>Climax hardwoods<br>Upland hardwoods<br>Piedmont forest | Well-developed, closed-canopy upland hardwood forest on rolling hills; upland mixed forests lack shortleaf pine and occur in northern and central Florida; mixed hardwood forests occur in northern Panhandle; climax communities |
| | **Upland pine forest** | Longleaf pine forest<br>Loblolly-shortleaf upland forest<br>Clay hills<br>High pineland | Rolling forest of widely spaced pines with poor understory and dense groundcover of grasses and herbs; sandy soils with clay; occurs in extreme northern Florida; fire climax community; fire every 3-5 years |

## TABLE 1-2 -- CONTINUED

## UPLAND COMMUNITIES AND SUB-COMMUNITIES IN FLORIDA (FNAI)

| COMMUNITY NAME | SUB-COMMUNITY | ALTERNATE NAMES | CHARACTERISTICS |
|---|---|---|---|
| Rocklands | Pine rockland | Miami rock ridge pinelands<br>Everglades flatwoods | Open canopy forest of slash pines with patchy understory of shrubs/palms; limited to south Florida; occasional inundation; fire every 3-10 years |
| | Rockland hammock | Tropical hammock<br>Hardwood hammock | Hardwood forest in upland area with limestone near surface; high species diversity; large trees; advanced successional stage of pine rockland |
| | Sinkhole | Lime sink<br>Solution pit<br>Grotto<br>Chimney hole<br>Banana hole | Cylindrical or conical depressions with steep limestone walls; moist microclimate; vegetation ranges from forest to mosses, depending on steepness and soil layers |
| Mesic Flatlands | **Dry prairie** | Palm savannah<br>Palmetto prairie<br>Pineland-threeawn range | Nearly treeless plain with dense ground cover of wiregrass, saw palmetto and other grasses; short inundation period; acidic soils; fires every 1-4 years |
| | **Mesic flatwoods** | Pine flatwoods<br>Pine savannahs<br>Pine barrens | Open canopy forest of widely spaced pine trees with no understory; dense ground cover of herbs and shrubs; seasonal inundation/desiccation; acidic soils; periodic fires; comprises 30-50% of Florida uplands |
| | Mesic hammock | New community classification | Hardwood forest with open or closed canopy dominated by live oak, cabbage palm, ferns, saw palmetto; occurs in fringes along water; limited to central to south Florida |
| | Prairie hammock | Palm/oak hammock<br>Hydric hammock | Clump of tall cabbage palms and live oaks in a prairie or marsh area; slight inundation; rare fires |
| | **Scrubby flatwoods** | Xeric flatwoods<br>Dry flatwoods | Open canopy pine forest with sparse scrubby understory and barren sand; fire every 8-25 yrs; do not flood |

## TABLE 1-3

## WET FLATLAND SUB-COMMUNITIES IN FLORIDA (FNAI)

| COMMUNITY NAME | SUB-COMMUNITY | ALTERNATE NAMES | CHARACTERISTICS |
|---|---|---|---|
| Wet Flatlands<br>(flat, poorly drained sand, marl, or limestone substrates) | Hydric hammock | Wetland hardwood hammock<br>Wet hammock | Well developed hardwood and cabbage palm forest; variable understory with palms and ferns; seasonally inundated |
| | **Marl prairie** | Scrub cypress<br>Marl flat<br>Dwarf cypress savanna<br>Sedge flat<br>Spikerush marsh | Sparsely vegetated seasonal marshes at interface between deeper wetlands and coastal or upland communities where limestone is near surface; alkaline soils; limited to south Florida |
| | **Wet flatwoods** | Low flatwoods<br>Moist pine barren<br>Hydric flatwoods<br>Pond-pine flatwoods<br>Cabbage palm/pine savannah | Open canopy forests of pines or cabbage palms with thick/thin understory and thin/thick ground cover; acidic sandy soils; seasonally inundated; fires every 3-10 yrs. |
| | **Wet prairie** | Sand marsh<br>Savannah<br>Coastal savannah/prairie<br>Pitcher plant prairie | Treeless coastal plain with ground cover of grasses and herbs; seasonally inundated and burns every 2-4 yrs; desiccation during dry season |

## SECTION 2

## FIELD AND LABORATORY ACTIVITIES

### 2.1 Monitoring Sites

Field monitoring was conducted by ERD over a 14-month period from July 2007-August 2008 at a total of 34 monitoring sites located in 10 State Parks throughout the State of Florida. Locations of the State Parks used for this project are indicated on Figure 1-1. A summary of monitoring land use classifications in each of the 10 State Parks is given on Table 2-1. Land use classifications summarized in Table 2-1 are based upon the sub-community nomenclature summarized in Tables 1-2 and 1-3. Many of the monitoring sites have multiple monitoring locations for each land use sub-community. A summary of the number of samples collected at each of the 34 monitoring sites is also included in Table 2-1.

**TABLE 2-1**

**MONITORED UPLAND LAND USE CLASSIFICATIONS**

| STATE PARK | MONITORED LAND CLASSIFICATION (FNAI) | NUMBER OF SITES | NUMBER OF SAMPLES |
|---|---|---|---|
| Alfred B. Maclay | Mixed Hardwood Forest | 2 | 39 |
| Fakahatchee | Wet Prairie<br>Marl Prairie | 2<br>2 | 6<br>6 |
| Faver Dykes | Mesic Flatwoods<br>Scrubby Flatwoods | 6<br>1 | 30<br>13 |
| Jonathan Dickinson | Wet Flatwoods<br>Wet Prairie | 6<br>1 | 76<br>17 |
| Lake Louisa | Ruderal/Upland Pine | 1 | 5 |
| Myakka River | Dry Prairie | 2 | 12 |
| Paynes Creek | Xeric Hammock<br>Mesic Flatwoods | 1<br>1 | 1<br>1 |
| San Felasco | Upland Mixed Forest | 1 | 16 |
| Silver River | Upland Hardwood | 5 | 79 |
| Wekiwa Springs | Xeric Scrub | 3 | 3 |
| | **Total:** | **34** | **304** |

A summary of FFWCC upland land use classifications and coverage areas within the State of Florida is given on Table 2-2. Each of the FNAI monitored sub-communities summarized in Table 1-2 were assigned to one of the FFWCC classifications summarized in Table 2-2. The FFWCC classification is used since this classification includes the entire State of Florida. FFWCC classifications included in the monitoring program conducted by ERD are highlighted in **green**. Based upon this analysis, natural areas included in the monitoring program conducted by ERD include more than 92% of the upland land coverage in Florida based upon the FFWCC classification scheme.

**TABLE 2-2**

**SUMMARY OF FLORIDA UPLAND LAND USE CLASSIFICATIONS (Source: FFWCC)**

| CLASSIFICATION | AREA (acres) | PERCENT OF TOTAL |
|---|---|---|
| Coastal Strand | 15,008 | 0.1 |
| **Dry Prairie** | 1,227,697 | 11.4 |
| **Hardwood Hammock/Forest** | 980,612 | 9.1 |
| **Mixed Pine/Hardwood Forest** | 889,010 | 8.3 |
| **Pinelands** | 6,528,121 | 60.7 |
| **Sand Pine Scrub** | 194,135 | 1.8 |
| Sandhill | 761,359 | 7.1 |
| Tropical Hardwood Hammock | 15,390 | 0.1 |
| **Xeric Oak Scrub** | 146,823 | 1.4 |
| **Totals:** | **10,758,155** | **100.0** |

NOTE: Monitored natural areas include more than 92% of upland land covers in Florida

A discussion of each of the State Park monitoring sites is given in the following sections. Information provided for each of the monitored State Parks, including location maps, natural community maps, and soils maps were obtained from the most recent Management Plans for each of the evaluated parks.

### 2.1.1 Alfred B. Maclay Gardens State Park

Alfred B. Maclay Gardens (Maclay) State Park is located in Leon County within the city limits of Tallahassee, approximately one mile north of the intersection of U.S. 319 and I-10. A location map for the Maclay Gardens State Park is given on Figure 2-1. The park is renowned for its distinctive gardens and natural areas which are forested with mixed hardwood and pines and sloped forest ravines.

An aerial overview of Maclay Gardens State Park is given on Figure 2-2. The park area covers approximately 1179 acres and encompasses all of Lake Overstreet and portions of Lake Hall. Monitoring sites used by ERD are also indicated on Figure 2-2.

The Maclay Gardens State Park is located within the Florida Physiographic Province known as the Tallahassee Hills, consisting of red, sandy clay hills. The topography of the park is characterized by rolling hills and deep ravine systems, with topographic extremes ranging from approximately 138 ft above sea level at Lake Hall and Lake Overstreet, to more than 230 ft at the highest elevation.

A soils map for the Maclay Gardens State Park is given on Figure 2-3. A total of 12 separate soil types have been identified, with the dominant soils consisting of Lucy fine sand and Orangeburg series. The majority of soil types found at the park are clay-based sandy loams that tend to retain moisture and contribute to the mesic conditions of the dense forest of mixed hardwoods and pines.

A natural vegetation communities map for the Maclay Gardens State Park is given on Figure 2-4. The park contains eight distinct natural communities in addition to ruderal and developed areas. The dominant natural community within the park is upland hardwood forest (upland mixed forest) consisting of an early successional forest of various hardwoods and pines, with the forest floor covered by a thick layer of leaf mulch. The canopy is densely closed except during winter in areas where deciduous trees dominate. Monitoring for runoff characteristics was conducted in these areas. Photographs of the mixed hardwood forest communities are given on Figure 2-5. Plastic enclosures used to secure the automated sampling equipment can be seen in several of the photos.

Basin delineations for the two mixed hardwood forest monitoring sites are illustrated on Figure 2-6. The watershed area for Site 1 is approximately 1.6 acres, with a 2.42-acre watershed for Site 2. The dominant land use within each of the two watersheds is mixed hardwood forest, with small areas of sloped forest located in the lowest portions of the sub-basin area. According to FNAI, the vegetation community in a sloped forest is virtually indistinguishable from upland mixed forests since they share many of the same species. The primary difference which distinguishes sloped forests is the steeper slopes than the other upland communities. The two monitoring sites are located in the lowest portions of the basin area which allow the runoff to be concentrated into a shallow channel where stormwater monitoring could be performed.

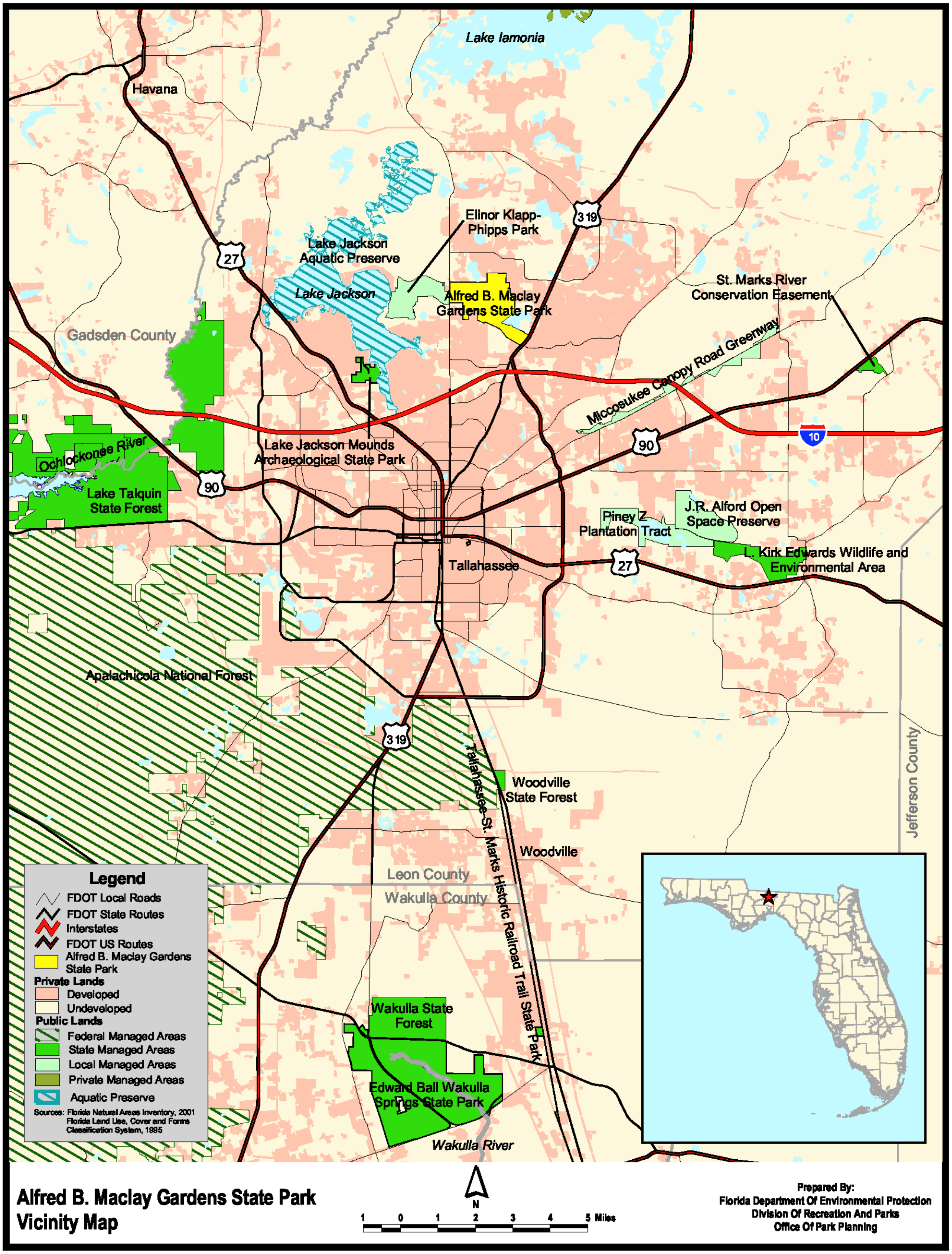



Figure 2-1. Location Map for Alfred B. Maclay Gardens State Park.

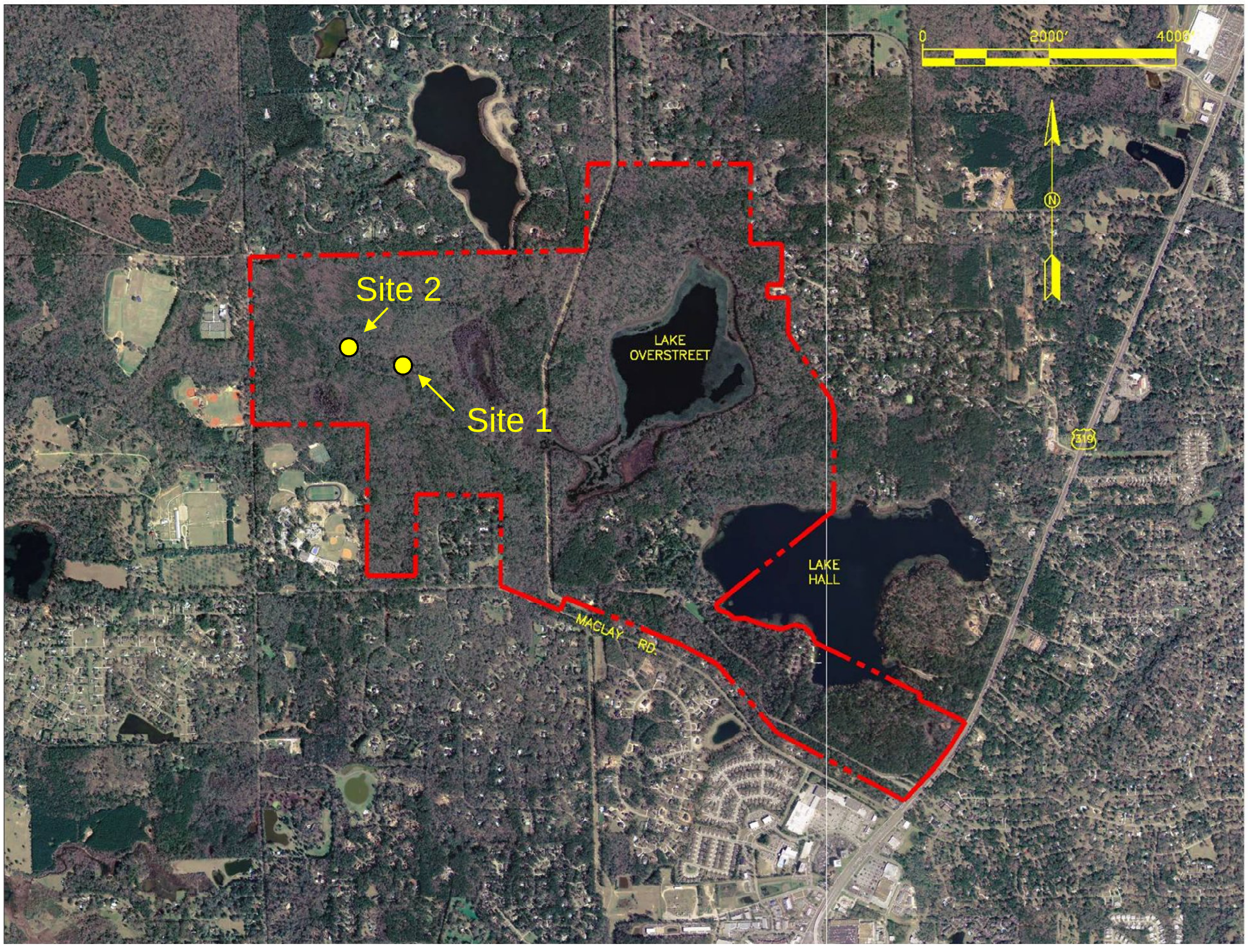



Figure 2-2. Aerial Overview of Alfred B. Maclay Gardens State Park and Vegetation Runoff Monitoring Sites.

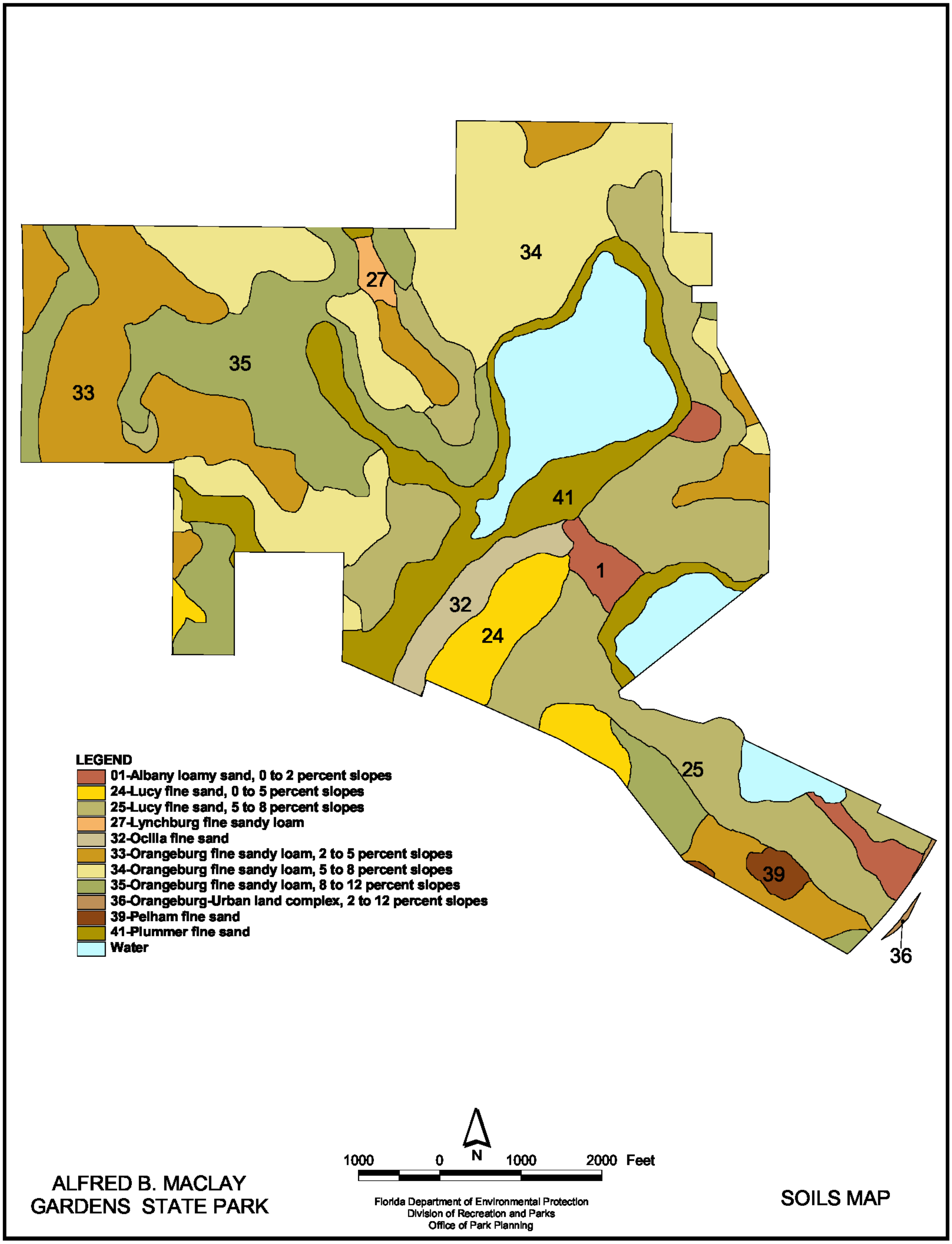



Figure 2-3. Soils Map for Alfred B. Maclay Gardens State Park.

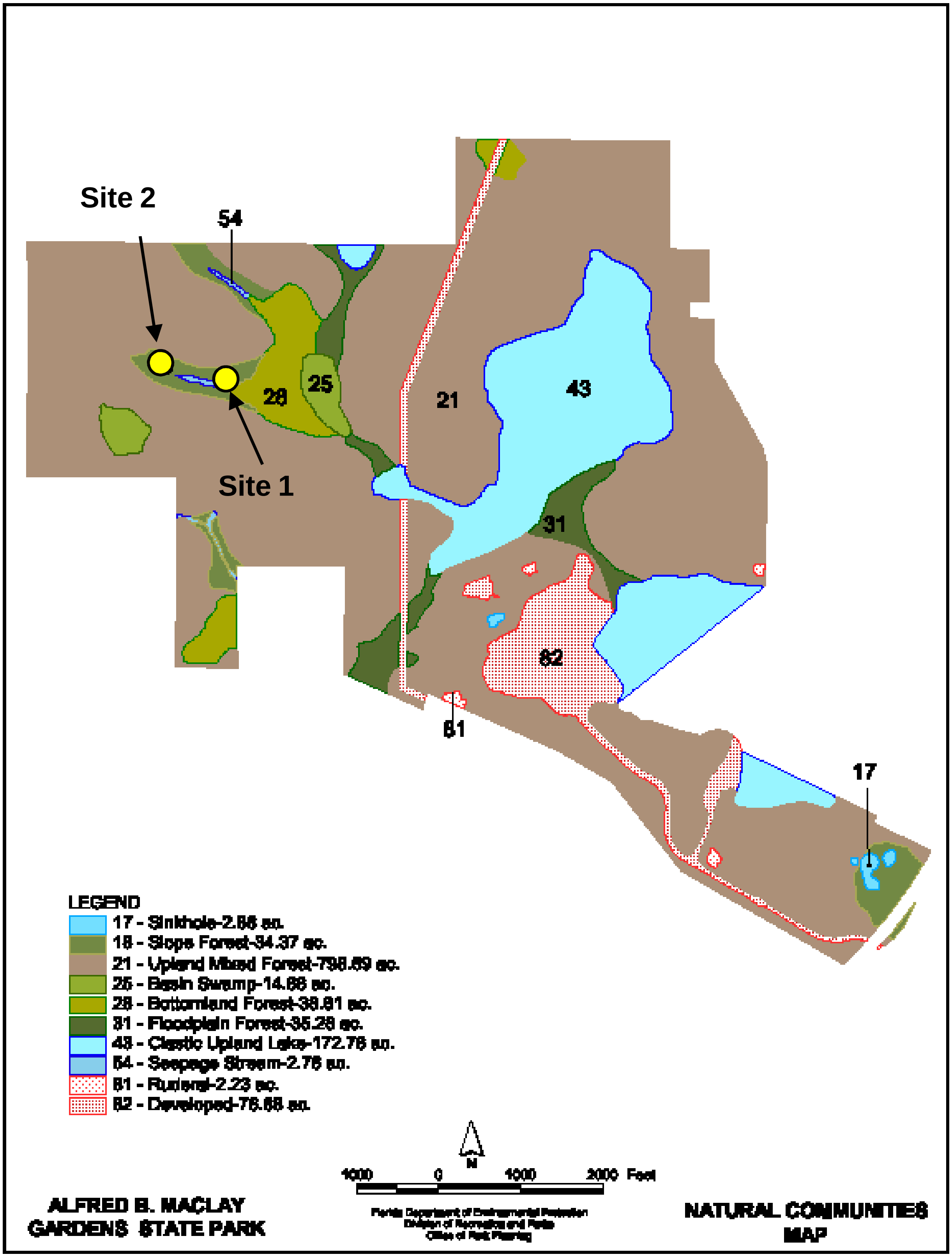



Figure 2-4. Natural Community Inventory in Alfred B. Maclay Gardens State Park.

Figure 2-5. Photographs of Mixed Hardwood Forest Communities in Alfred B. Maclay Gardens State Park.

Figure 2-5. Photographs of Mixed Hardwood Forest Communities in Alfred B. Maclay Gardens State Park (continued).

Figure 2-5. Photographs of Mixed Hardwood Forest Communities in Alfred B. Maclay Gardens State Park (continued).

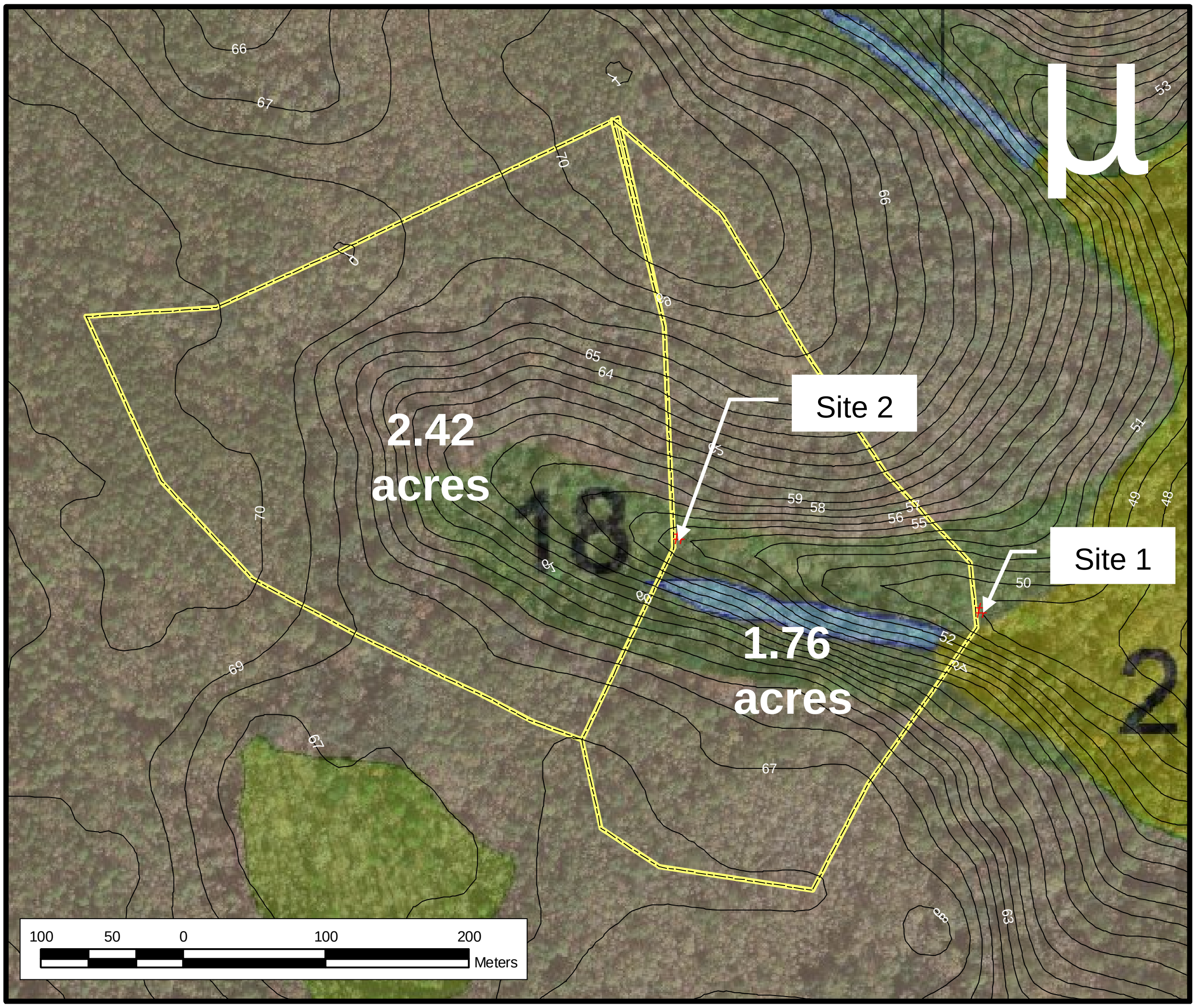



Figure 2-6. Basin Delineations for the Mixed Hardwood Forest Monitoring Sites in Alfred B. Maclay Gardens State Park (contours in meters).

### 2.1.2 Faver-Dykes State Park

Faver-Dykes State Park is located in southern St. Johns County, east of U.S. Highway 1. The park is bordered on the east, north, and south with conservation lands, further isolating the area from human impacts. A location map for the Faver-Dykes State Park is given on Figure 2-7. An aerial overview of the Faver-Dykes State Park is given on Figure 2-8, including the seven monitoring sites used by ERD.

The Faver-Dykes State Park is located within two distinct physiographic divisions. The majority of the park lies within the St. Augustine Ridge Sets division which consists of a relic barrier island with beach ridge sets of several different ages. The easternmost portion of the park is found in the St. Augustine-Edgewater Ridge which consists of a coastal strip created by shoreline processes. Elevation in the park ranges from approximately 25 ft to sea level along Pellicer Creek and the Metanzes River. The park is bordered to the south by Pellicer Creek which is designated as a State Aquatic Preserve and an Outstanding Florida Water (OFW).

A soils map for the Faver-Dykes State Park is given on Figure 2-9. A total of 29 separate soil types have been identified, with the dominant soils consisting of Myakka fine sand, Zolfo fine sand, and Smyrna fine sand.

A natural community inventory for the Faver-Dykes State Park is given on Figure 2-10. The dominant natural community in the park is mesic flatwoods in good to fair condition, with areas designated as fair having been impacted by silviculture practices. Long leaf pine is the dominant pine in the flatwood areas, with slash pine and pond pine being less common. Saw palmetto cover is quite high. Six of the seven monitoring sites selected by ERD in the Faver-Dykes State Park are located in this community.

Numerous small patches of scrubby flatwoods are located on small knolls in mesic flatwood areas. Long leaf pine is the dominant overstory species, with a limited number of slash pine also included. The scrub layer is dominated by sand live oak and myrtle oak, with a diverse ground cover assemblage. One of the seven monitoring sites in the Faver-Dykes State Park was located in these areas. Photographs of natural communities in the Faver-Dykes State Park are given in Figure 2-11.

Basin delineations for each of the seven monitoring sites in the Faver-Dykes State Park are illustrated on Figure 2-12. Watershed areas range from 0.23-0.78 acres. Monitoring Sites 1 and 3 through 7 are located in areas dominated by mesic flatwoods. Monitoring Site 2 is located in an area with mesic flatwood characteristics.

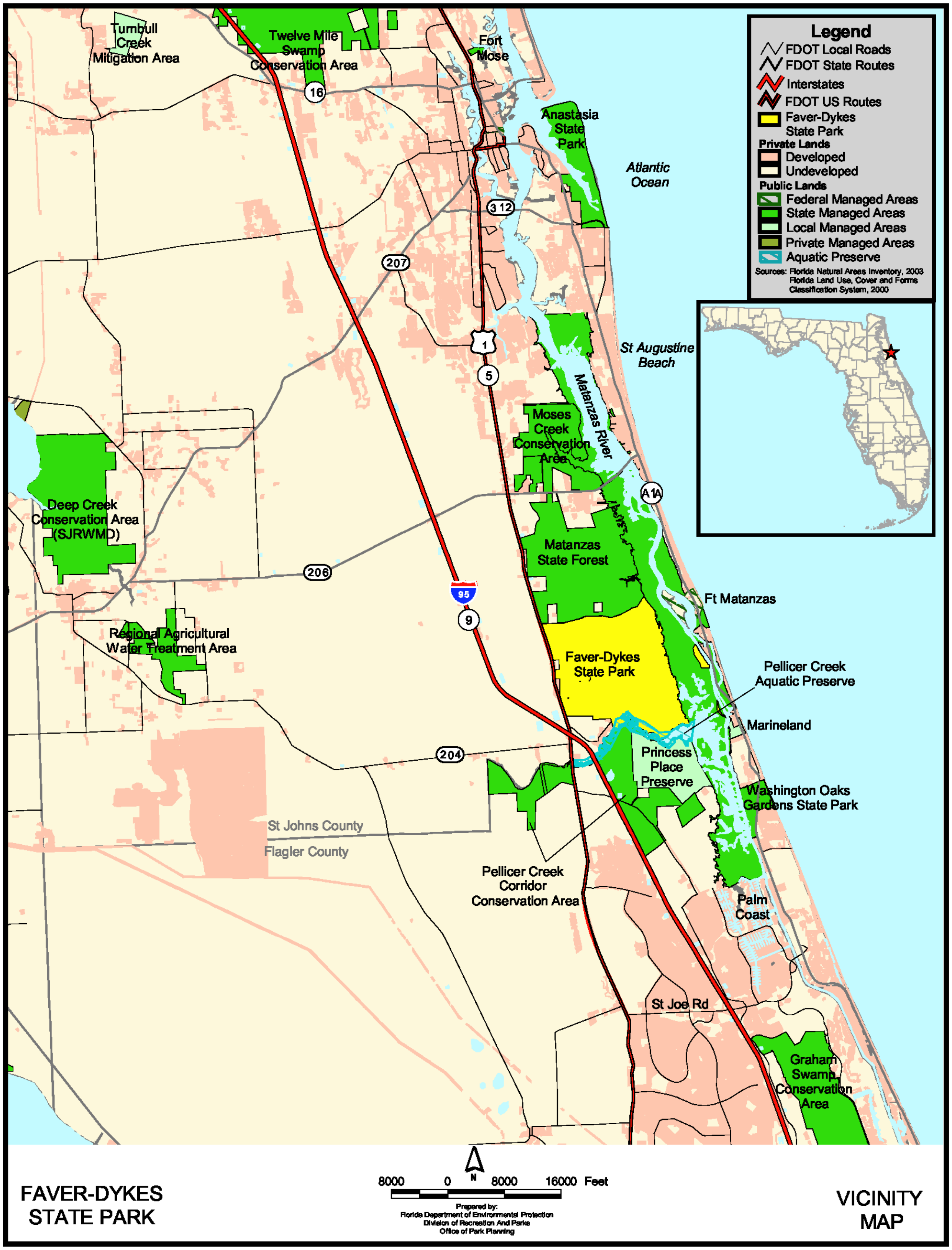



Figure 2-7. Location Map for Faver-Dykes State Park.

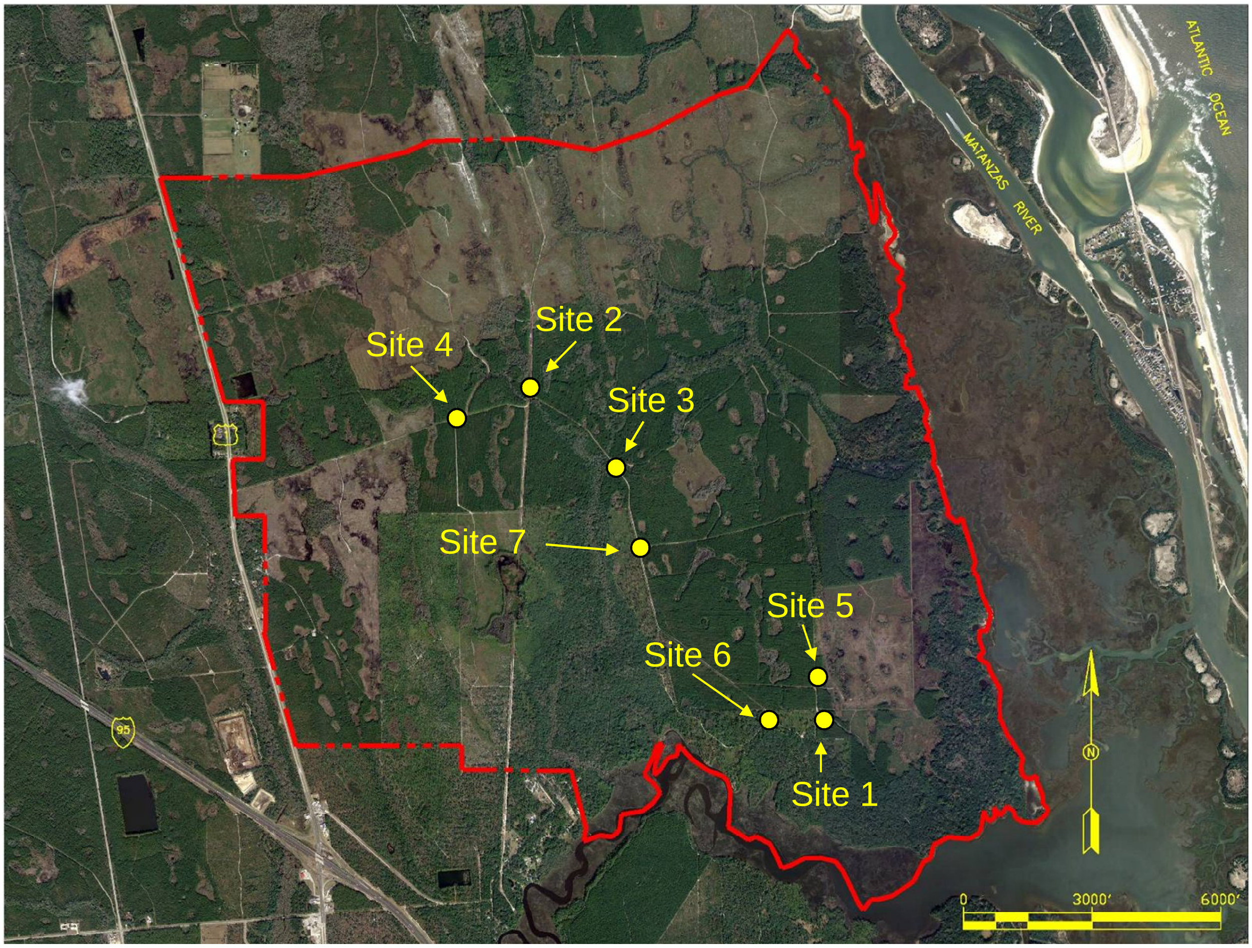



Figure 2-8. Aerial Overview of Faver-Dykes State Park and Vegetation Runoff Monitoring Sites.

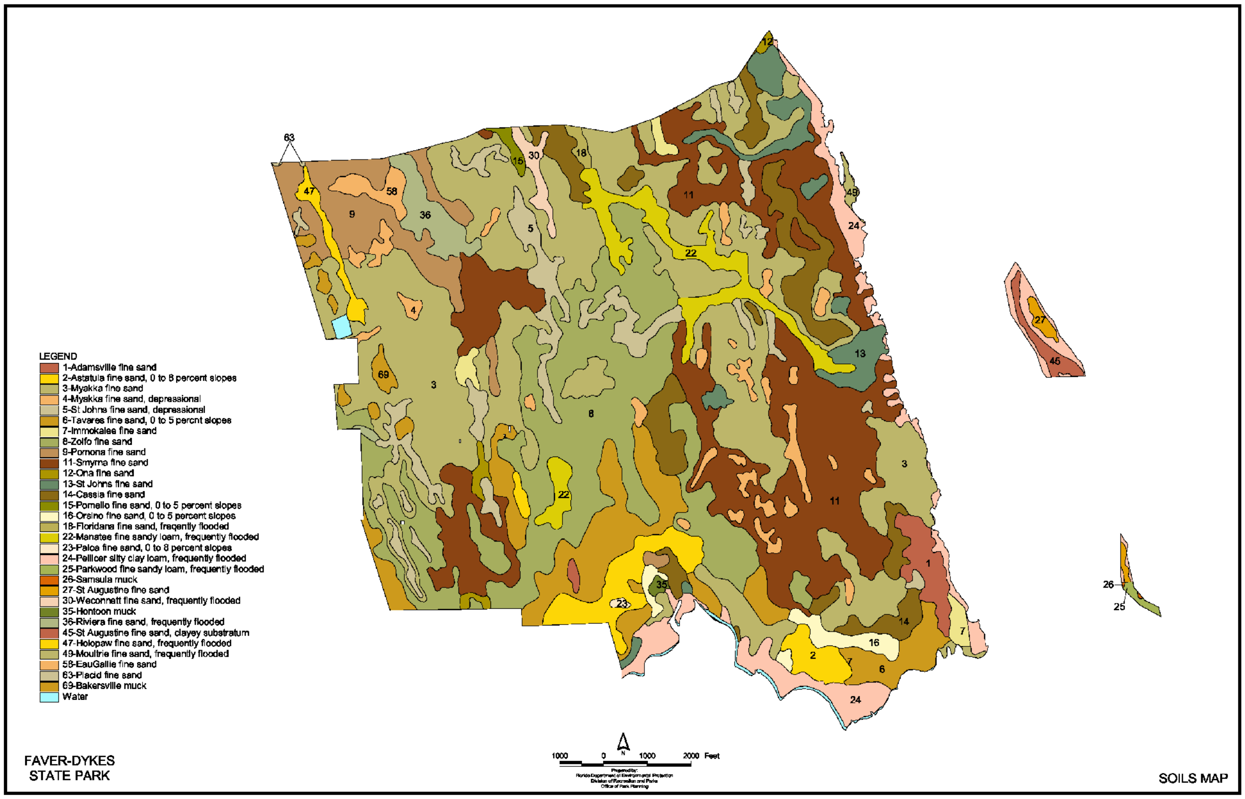



Figure 2-9. Soils Map for Faver-Dykes State Park.

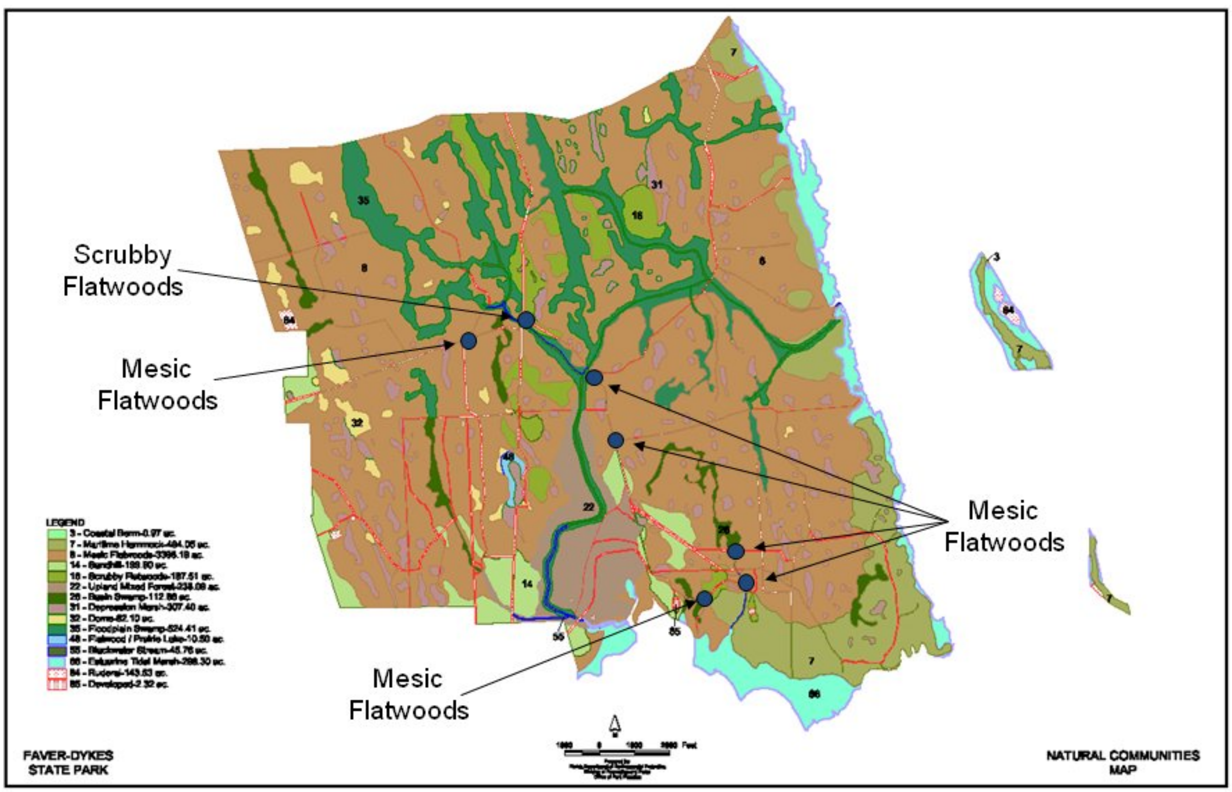
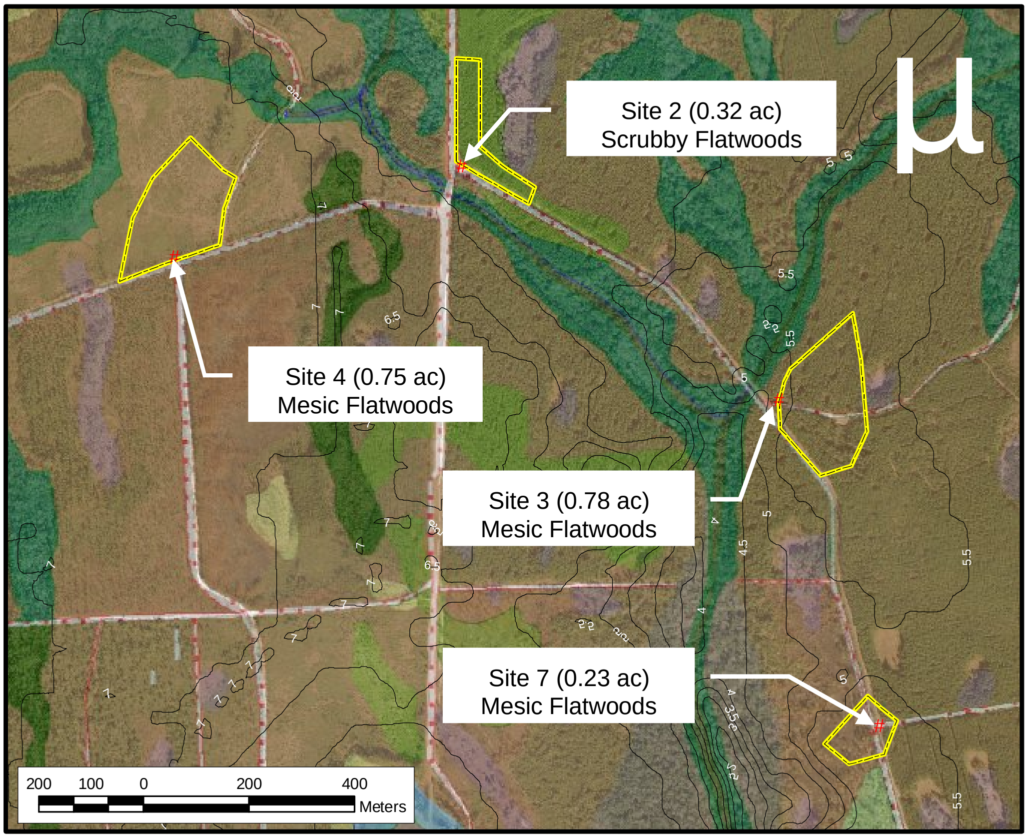



Figure 2-10. Natural Community Inventory in Faver-Dykes State Park.

Figure 2-11. Photographs of the Faver-Dykes State Park Natural Communities.

Figure 2-11.  Photographs of the Faver-Dykes State Park Natural Communities (continued).

Figure 2-11. Photographs of the Faver-Dykes State Park Natural Communities (continued).



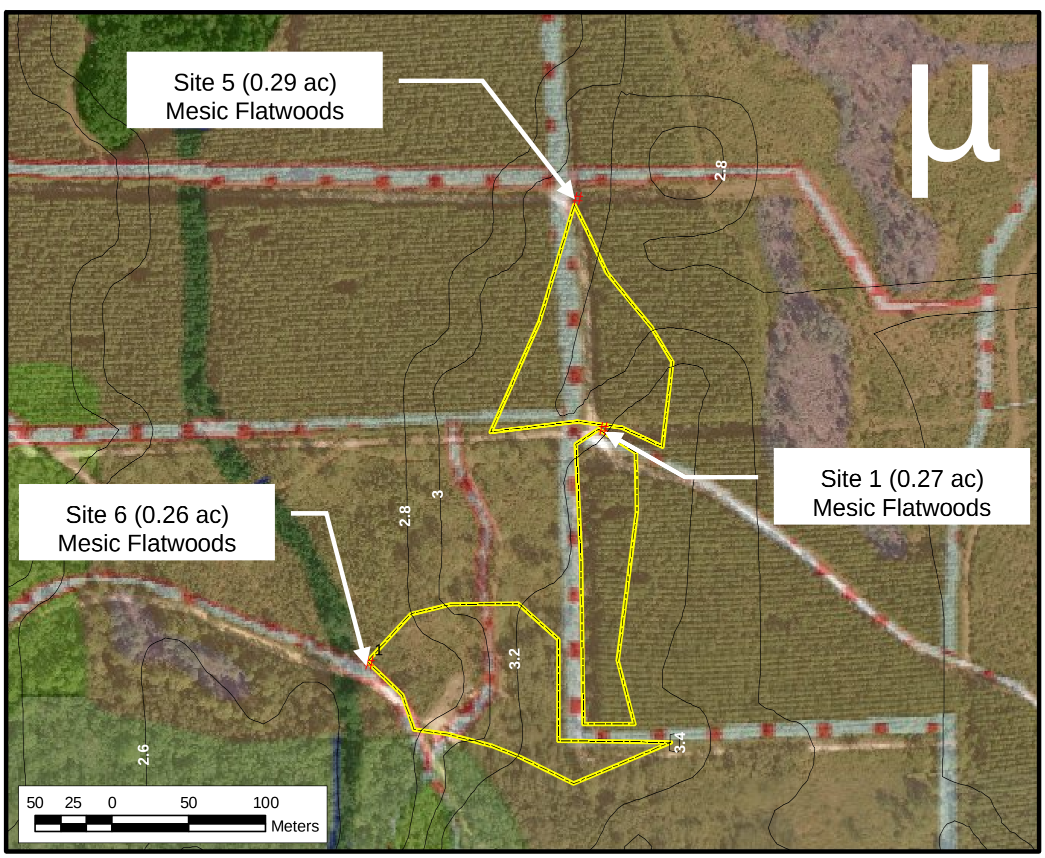




Figure 2-12. Basin Delineations for the Monitoring Sites in the Faver-Dykes State Park.

### 2.1.3 <u>Fakahatchee Strand Preserve State Park</u>

The Fakahatchee Strand Preserve (Fakahatchee) State Park is located in south-central Collier County, about 25 miles southeast of Naples and 75 miles west of Miami. A location map is given on Figure 2-13. The park is accessed from S.R. 29 between I-75 (Alligator Alley) and U.S. 41 (Tamiami Trail). The Fakahatchee State Park contains a rich and abundant assemblage of plants and animals and is one of the best examples of a strand community in the United States. Public outdoor recreation is the designated single use of this property.

An aerial overview of the Fakahatchee State Park area is given on 2-14, including the four monitoring sites used by ERD. All surface waters in the Fakahatchee State Park are designated as Class III waters and all permanent waterbodies are also designated as OFWs.

Topography in the Fakahatchee State Park is relatively flat, with elevations ranging from approximately 5-10 above sea level. A soils map for the Fakahatchee State Park is given on Figure 2-15. Soils within the area consist primarily of organic soil matter overlying a limestone karst feature.

A total of 17 separate soil types have been identified within the strand, although the dominant soil appears to be Boca Riviera which consists of a limestone substratum overlain by Copeland fine sand.

A natural community inventory map for the Fakahatchee State Park is given on Figure 2-16. The preserve contains 11 distinct natural communities in addition to ruderal and developed areas. However, the dominant vegetative communities within the strand consist of marl prairie and strand swamp/wet prairie. Marl prairies include large expanses of wetland grasses intermixed with cypress domes and small strand swamps. Cypress trees and pine trees can be seen encroaching around the perimeter of these areas. Strand swamp/wet prairie is the dominant vegetation community within the Fakahatchee State Park. The word “strand” refers to an elongated swamp forest usually dominated by cypress trees. Many of the existing strand areas have been disturbed by logging, fires, and drought, although cypress trees are now slowly regaining their dominance. Two of the four monitoring sites established by ERD within the Fakahatchee State Park are located within the marl prairie community, with two additional monitoring sites located in the strand swamp/wet prairie area. Photographs of the Fakahatchee State Park vegetation communities are given in Figure 2-17.

Basin delineations for the marl prairie and wet prairie monitoring sites are illustrated on Figure 2-18. The watershed area discharging to the two wet prairie monitoring sites is approximately 760 acres in size, with a general water movement from north to south. The monitoring sites dominated by marl prairie include a watershed area of approximately 826 acres, which also flows from north to south. The vegetation inventory stops at the park boundary, but the areas east of the park boundary are also dominated primarily by marl prairie.

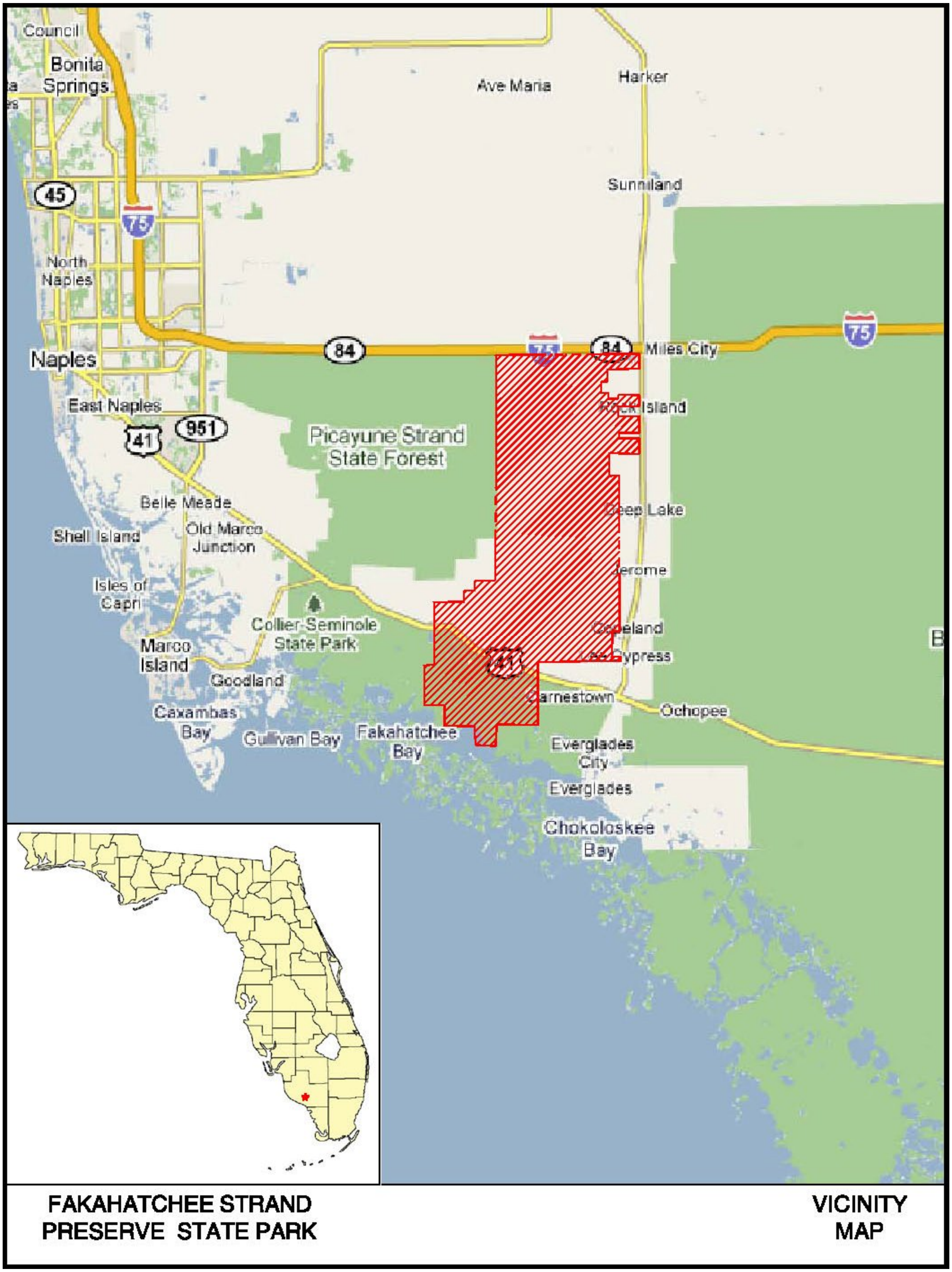



Figure 2-13. Location Map for Fakahatchee Strand Preserve State Park.

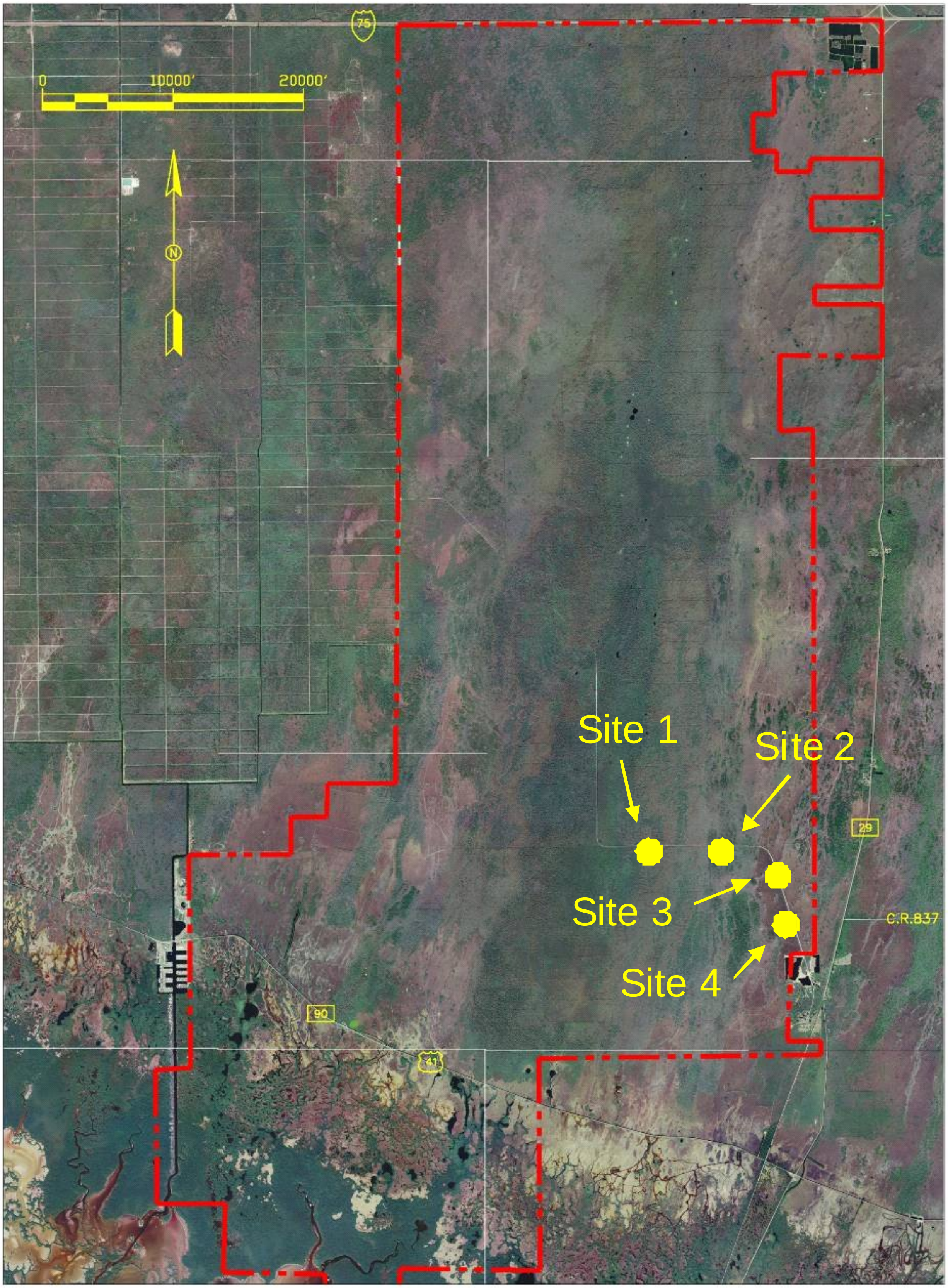



Figure 2-14. Aerial Overview of the Fakahatchee Strand Preserve State Park and Vegetation Runoff Monitoring Sites.

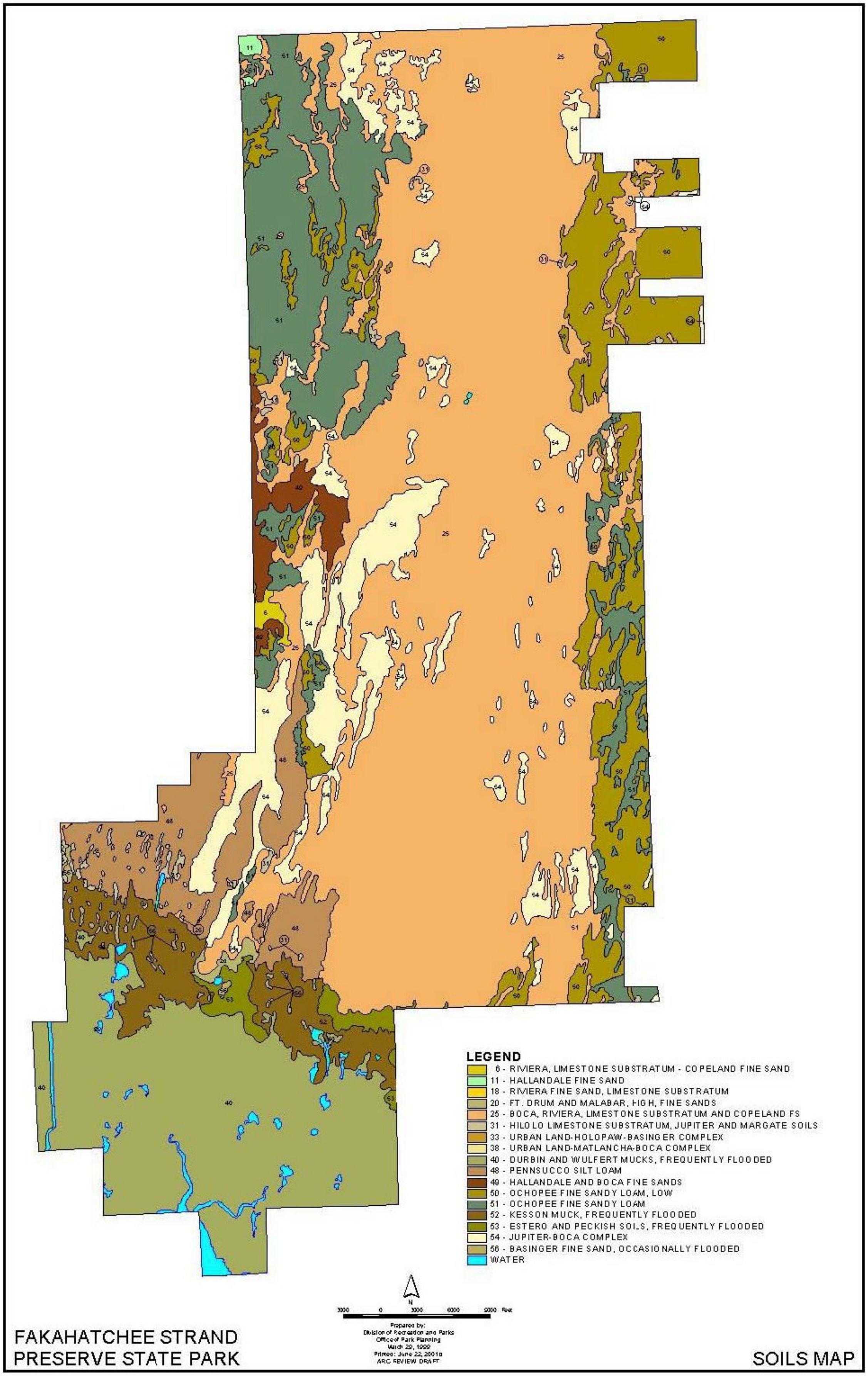



Figure 2-15. Soils Map for the Fakahatchee Strand Preserve State Park.

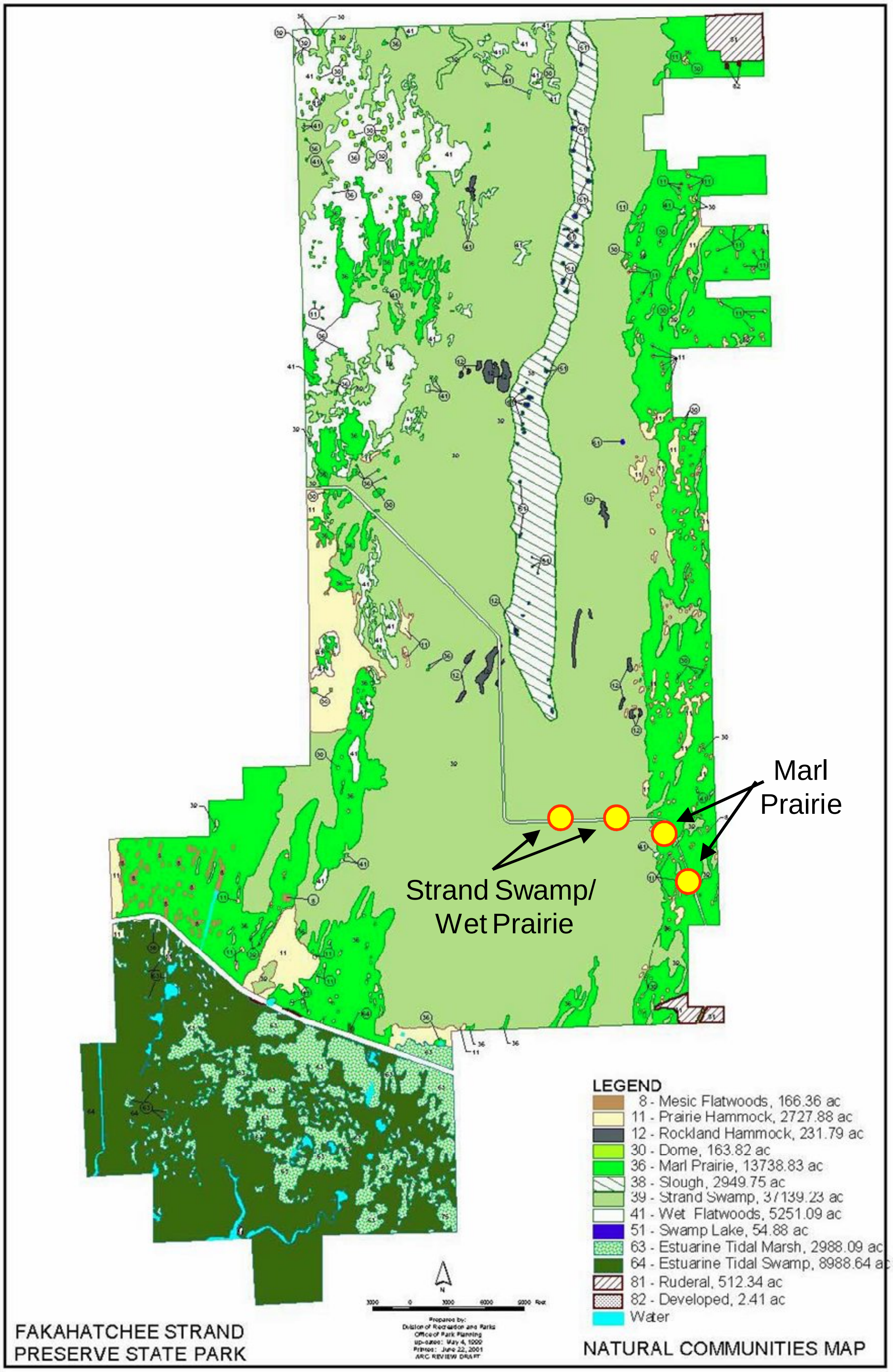



Figure 2-16. Natural Community Inventory in Fakahatchee Strand Preserve State Park.

Figure 2-17. Photographs of the Fakahatchee Strand Preserve State Park Vegetation Communities.

Figure 2-17. Photographs of the Fakahatchee Strand Preserve State Park Vegetation Communities (continued).

Figure 2-17. Photographs of the Fakahatchee Strand Preserve State Park Vegetation Communities (continued).

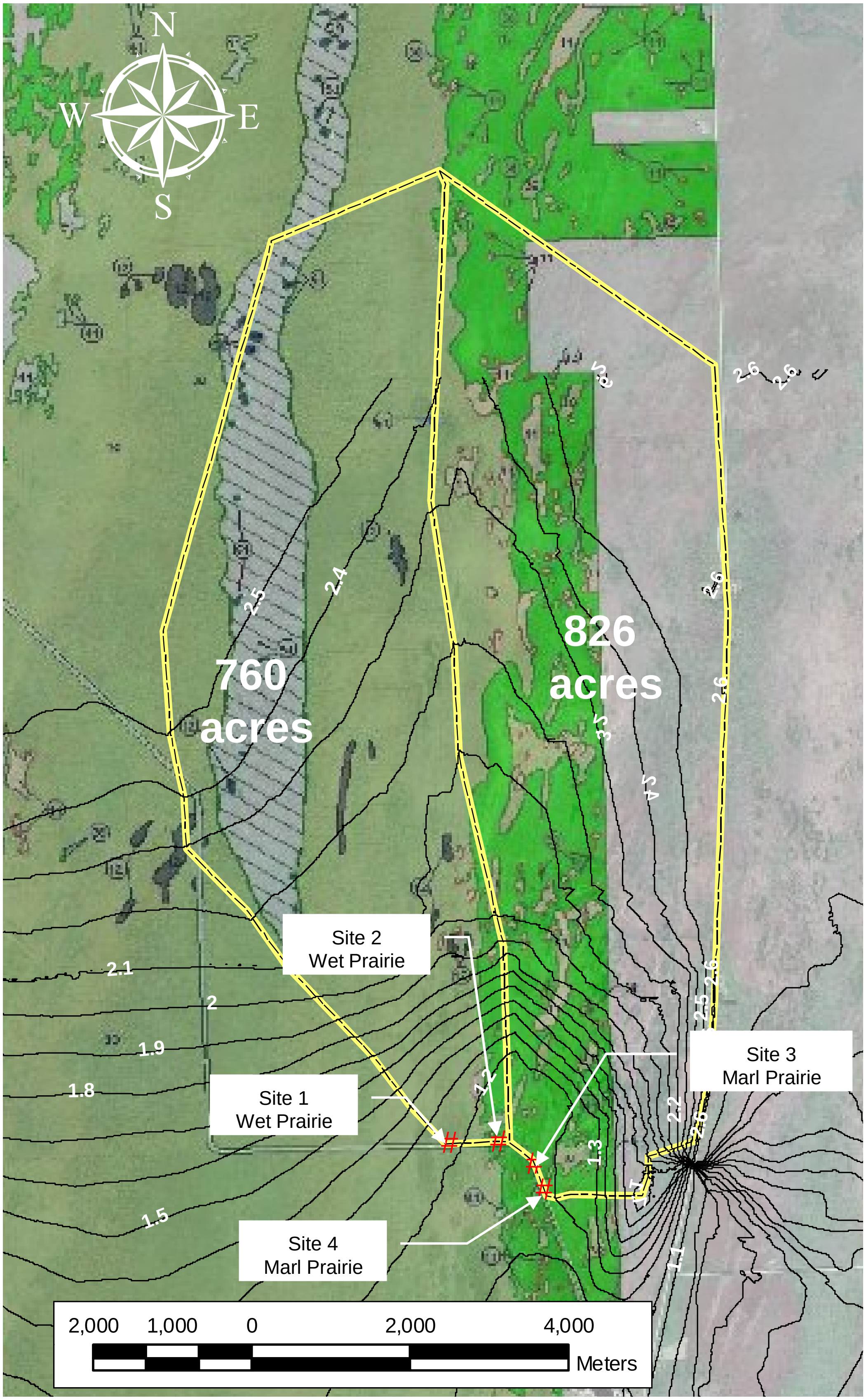



Figure 2-18. Basin Delineations for the Marl Prairie and Wet Prairie Monitoring Sites at the Fakahatchee Strand Preserve State Park.

### 2.1.4 Jonathan Dickinson State Park

Jonathan Dickinson State Park is located in Martin and Palm Beach Counties, adjacent to U.S. 1, approximately 12 miles south of Stuart. A location map is given in Figure 2-19. The park contains approximately 11,470 acres and supports many unique natural features and significant cultural resources. The park contains one of the last remaining coastal sand pine scrub plant communities along the southeast coast and most of the Loxahatchee National Wild and Scenic River. Public outdoor recreation is designated single-use of the property. All surface waters within the park are classified as Class II waters by FDEP and are also designated as OFWs. Portions of the Loxahatchee River which runs through the park have been designated as a component of the National Wild and Scenic Rivers Systems. An aerial overview of Jonathan Dickinson State Park, including the vegetation monitoring sites, is given on Figure 2-20. A total of seven separate monitoring sites was used by ERD within this park.

Physiographic land forms within the Jonathan Dickinson State Park have been highly influenced by marine forces over time, and can be divided into two regions, including the Atlantic Coastal Ridge and Eastern Flatlands. The Atlantic Coastal Ridge parallels the coastline and exhibits a noticeable elevation relief ranging from approximately 25-86 ft above sea level. These areas encompass approximately 20% of the park. Approximately 80% of the park consists of Eastern Flatlands which stretch westward from the coastal ridge. This area contains poorly drained soils and intermittent shallow depressions.

A soils map for Jonathan Dickinson State Park is given on Figure 2-21. A total of 36 separate soil types have been identified within the park area, with dominant soils consisting of Waveland and Immokalee fine sand, Paola and St. Lucie sand, Salerno sand, and Nettles sand.

A natural communities inventory map for Jonathan Dickinson State Park is given on Figure 2-22. Locations of the seven monitoring sites utilized by ERD are also indicated on this figure. The park area contains a total of 14 separate natural communities, with the dominant community consisting of wet flatwoods. Six of the seven monitoring sites in the park reflect this vegetation type. Other significant natural communities include scrub, scrubby flatwoods, and hydric hammock. Photographs of wet flatwood communities within Jonathan Dickinson State Park are given on Figure 2-23.

A delineation of basin areas for the wet flatwood monitoring sites at Jonathan Dickinson State Park is given on Figure 2-24. Watershed areas range in size from 0.15 acres to 31.4 acres among the seven monitoring sites. Monitoring sites designated as 4, 5, 6, and 7 include only wet flatwood vegetation communities. The natural community inventory map given on Figure 2-22 indicates wet prairie communities interspersed within the wet flatwood areas. However, the existing wet prairie areas within these watersheds are substantially smaller than the areas depicted on the natural community inventory map, and wet flatwoods comprise the dominant vegetation community within these watersheds. Monitoring Site 1 consists primarily of wet prairie.

The largest watershed area is designated as Site 3 and includes 31.4 acres of wet flatwoods, hydric hammock, and scrubby flatwoods. The scrubby flatwood communities are located along the eastern and western sides of this basin, and are substantially higher in elevation from the wet flatwood areas located in the center of the basin. The scrubby flatwoods are characterized by sandy soils with an extremely low runoff potential, and it is unlikely that these areas contributed significant runoff during the monitoring program. The central portion of the basin consists primarily of wet flatwoods interspersed with hydric hammock, although wet flatwoods are clearly the dominant vegetation community within this basin as well as within the park itself.

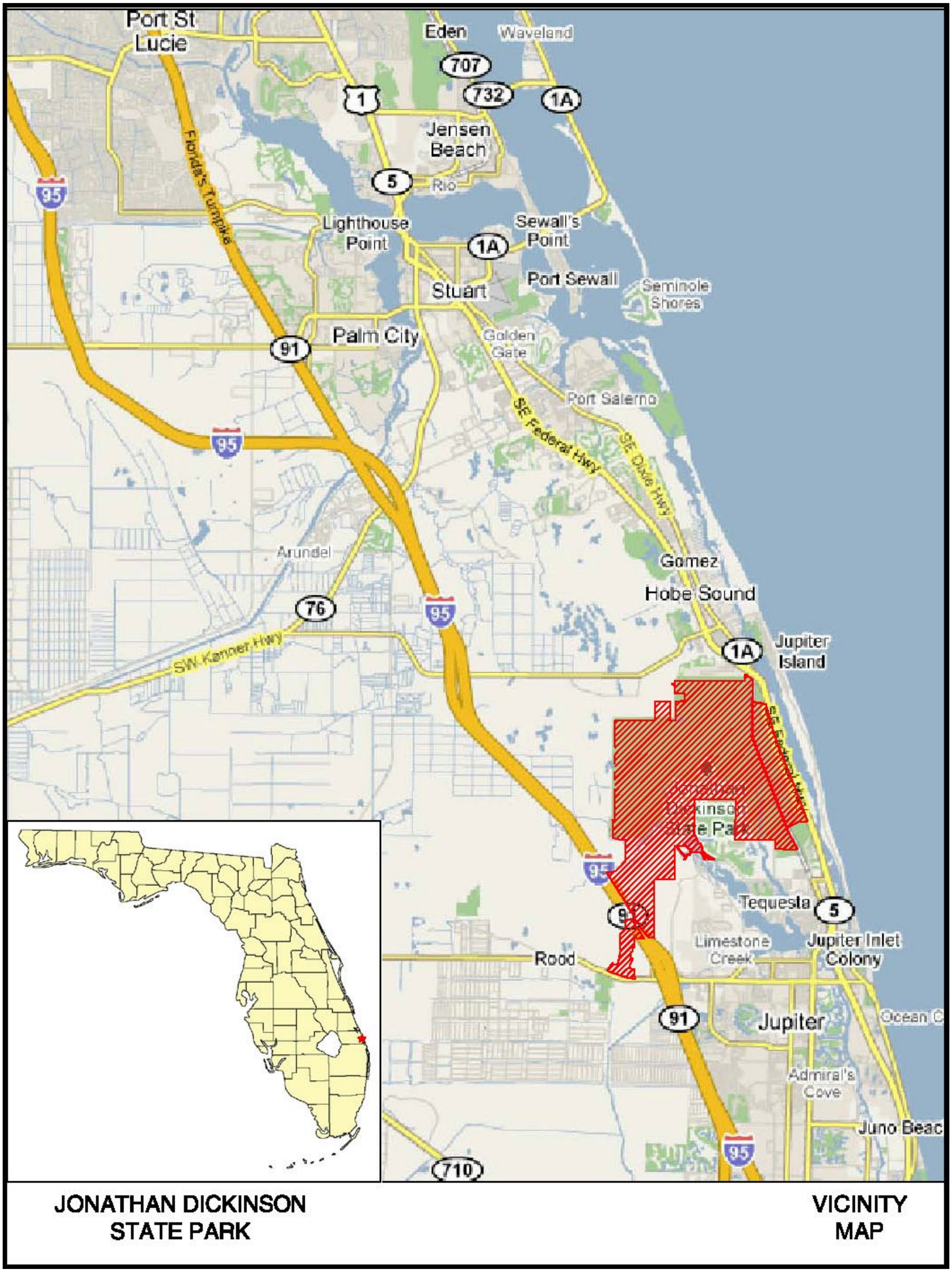



Figure 2-19. Location Map for Jonathan Dickinson State Park.

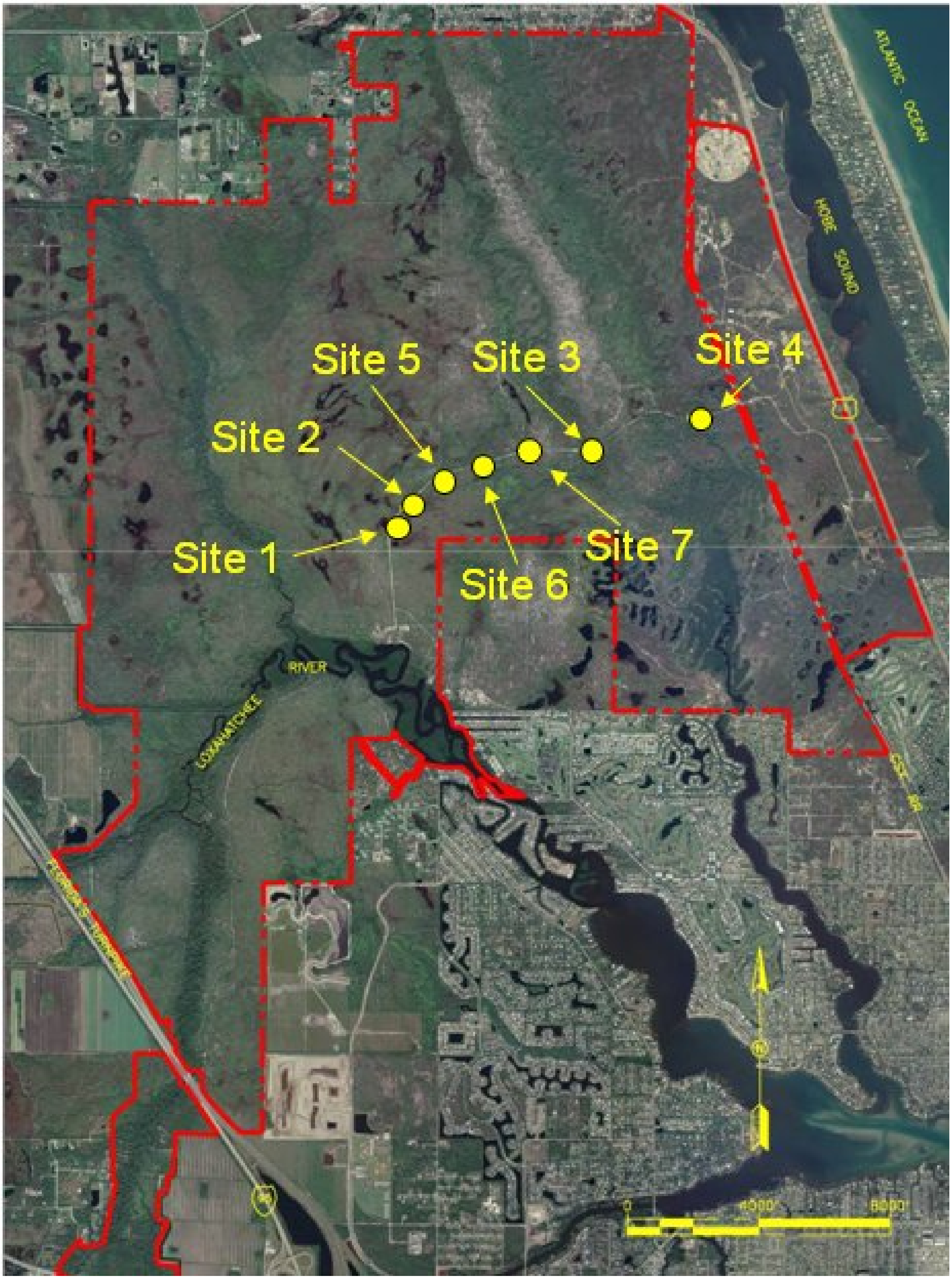



Figure 2-20. Aerial Overview of the Jonathan Dickinson State Park and Vegetation Runoff Monitoring Sites.

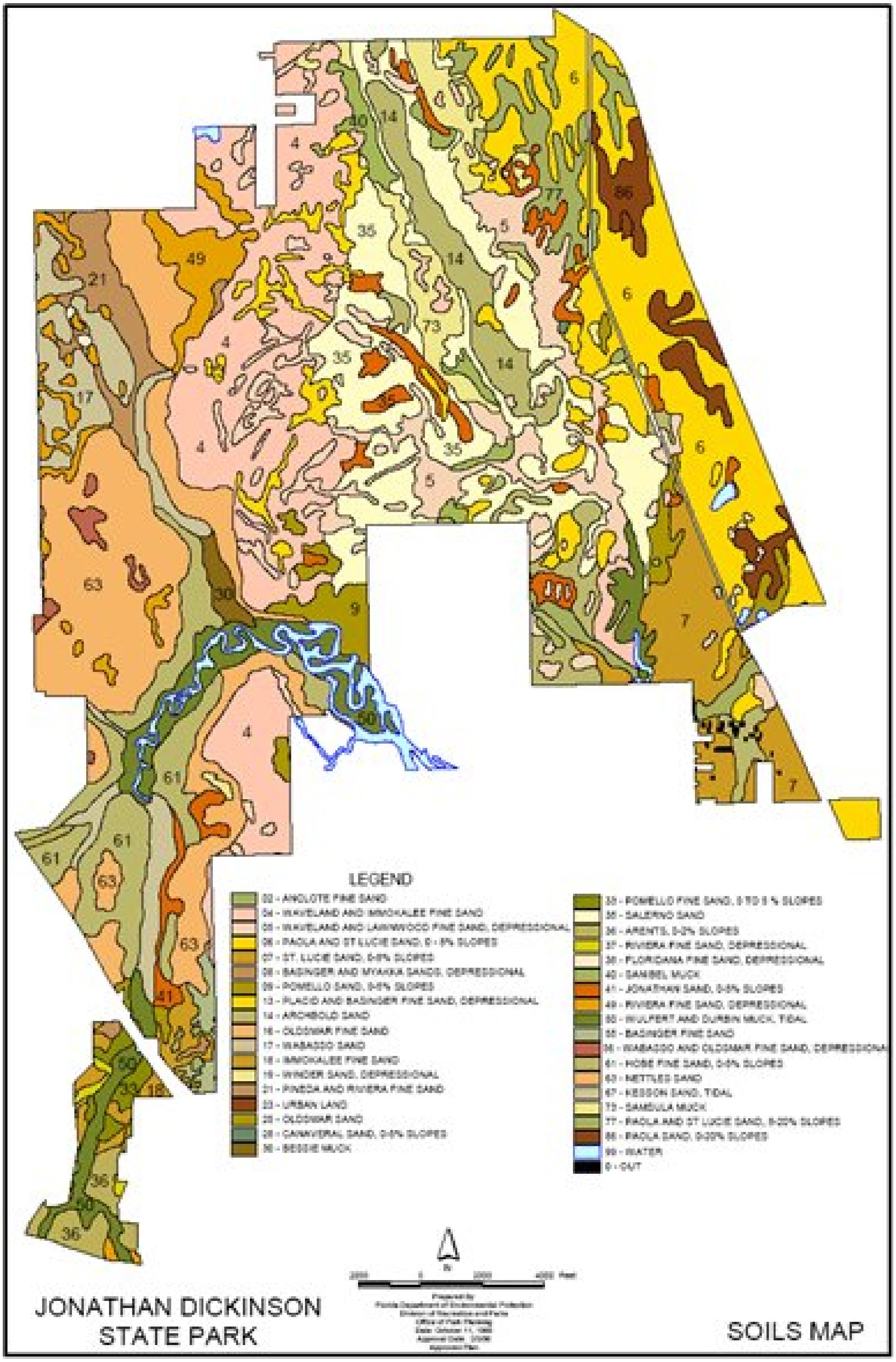



Figure 2-21. Soils Map for the Jonathan Dickinson State Park.

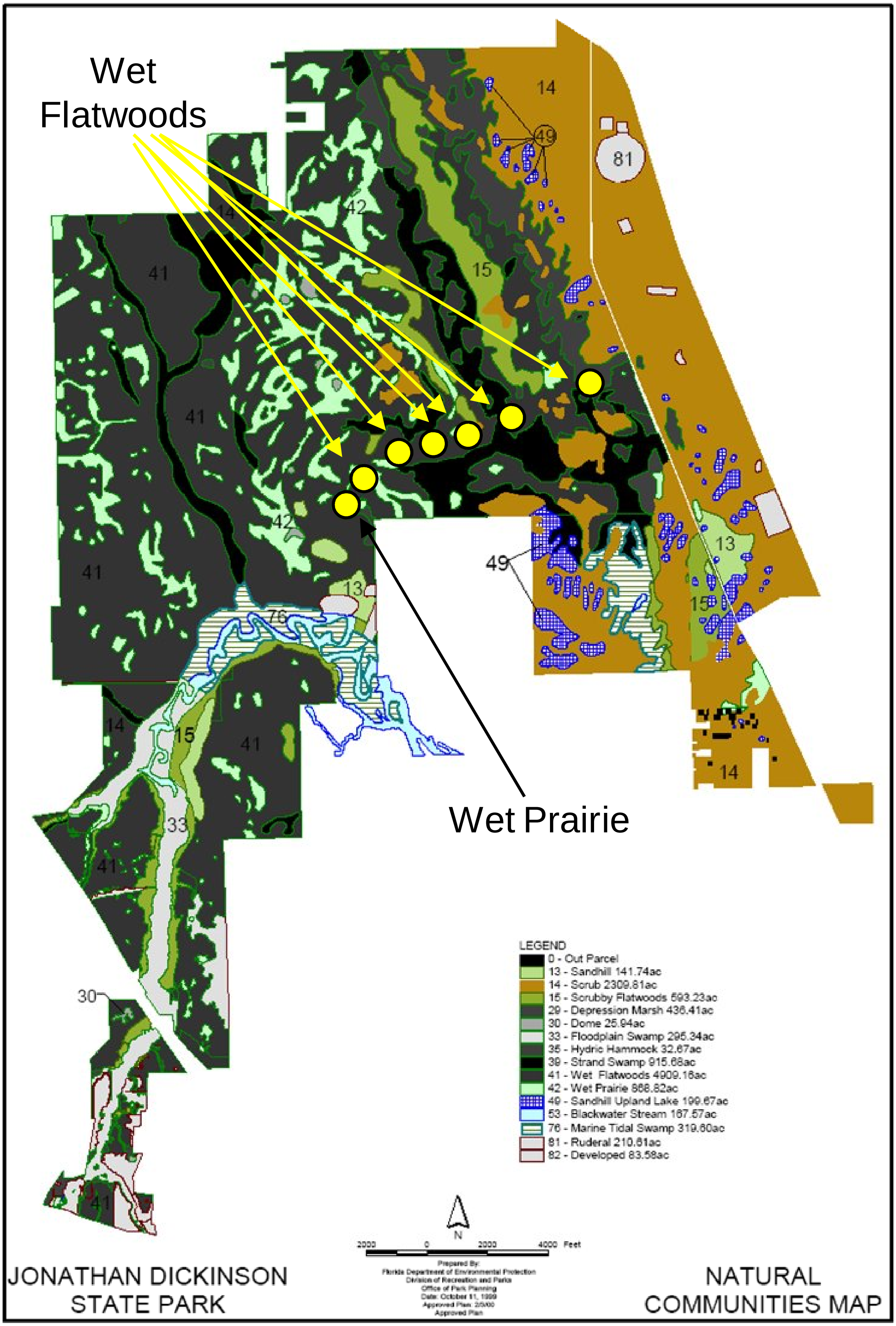



Figure 2-22. Natural Community Inventory in Jonathan Dickinson State Park.

Figure 2-23. Photographs of Wet Flatwood Communities at Jonathan Dickinson State Park.

Figure 2-23. Photographs of Wet Flatwood Communities at Jonathan Dickinson State Park (continued).

Wet Prairie Site

Figure 2-23. Photographs of Wet Flatwood Communities at Jonathan Dickinson State Park (continued).

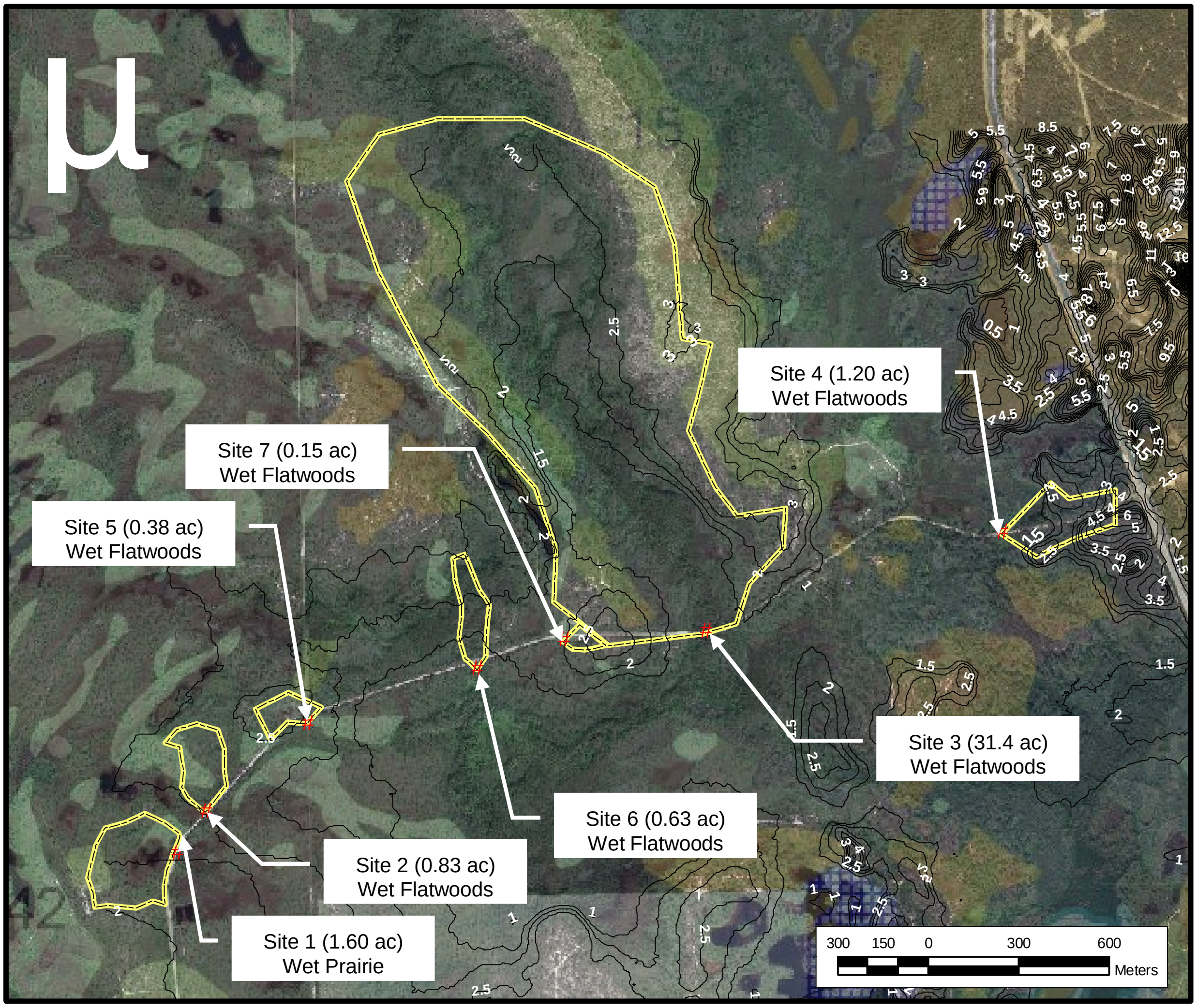



Figure 2-24. Basin Delineations for the Wet Flatwood Monitoring Sites at Jonathan Dickinson State Park.

### 2.1.5 Lake Louisa State Park

Lake Louisa State Park is located in Lake County about 3.5 miles south of Clermont and 14 miles west of Orlando. Main access to the park is from U.S. 27. A location map for Lake Louisa State Park is given on Figure 2-25. The current park area is approximately 4408 acres. Big Creek runs through the western-central portion of the park and has been designated as an OFW. All waters within the park are also classified as Class III waters by FDEP. An aerial overview of the Lake Louisa State Park is given on Figure 2-26, including the vegetation runoff monitoring sites.

The terrain within the Lake Louisa State Park is typical of the Green Swamp area which lies east of the park. Elevations within the park site range from approximately 100-110 ft in low lying areas, to approximately 185 ft above sea level along eastern portions of the site. The park lies within the Groveland Karst sub-district of the Central Lake District which is characterized by linearly oriented low hills and solution lakes.

A soils map for the Lake Louisa State Park is given on Figure 2-27. A total of 23 separate soil types have been identified within the park, with the dominant soils consisting of Astatula and Myakka sands.

A natural community inventory map for the Lake Louisa State Park is given on Figure 2-28. The park contains 11 distinct natural communities in addition to ruderal and undeveloped areas. The dominant vegetation communities within the site are ruderal (covering approximately 50% of the park area), with additional areas covered by hydric, swamp, and wet flatwood species. The existing ruderal areas within the park were once sand hills and pine flatwoods which were converted to citrus groves and pastures. All of the trees, with the exception of scattered oaks, were removed from the uplands during the conversion to pasture. Several of the ruderal areas have been planted in slash pine and sand pine plantations, and most of the remaining areas are currently under restoration. Areas once used for pasture are currently undergoing a natural succession from open areas to pine forested communities. These areas allow an evaluation of runoff characteristics for upland areas previously disturbed by agricultural activities. Photographs of the ruderal/upland pine forest areas in the Lake Louisa State Park are given in Figure 2-29.

The delineated drainage basin area for the ruderal monitoring site at Lake Louisa State Park is given on Figure 2-30. The monitoring site is located at the downhill extreme of a former pasture undergoing natural succession as well as upland mixed pine forest areas. The total basin area is estimated to be approximately 0.9 acres.

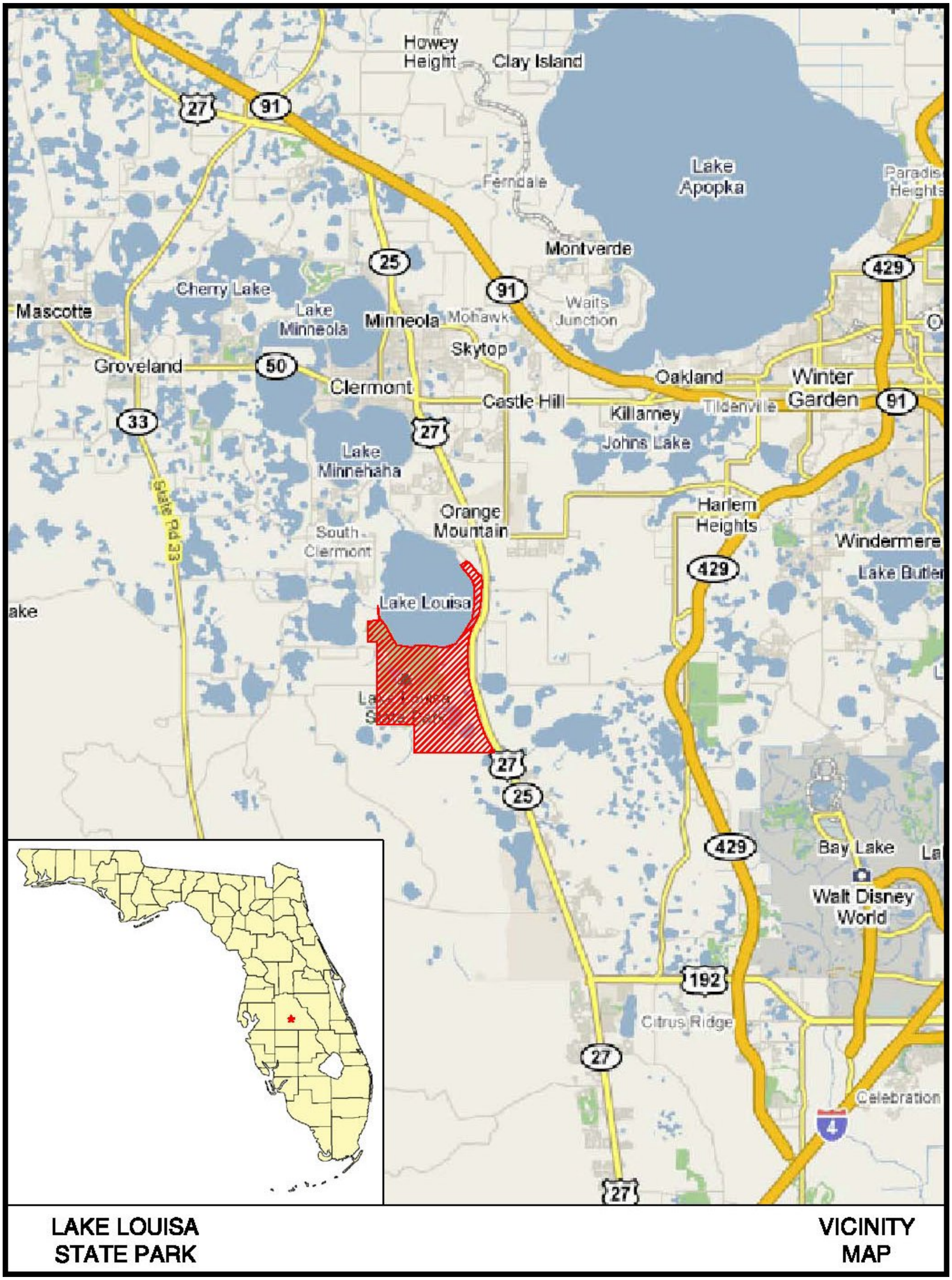



Figure 2-25. Location Map for Lake Louisa State Park.


Figure 2-26. Aerial Overview of the Lake Louisa State Park and Vegetation Runoff Monitoring Sites.

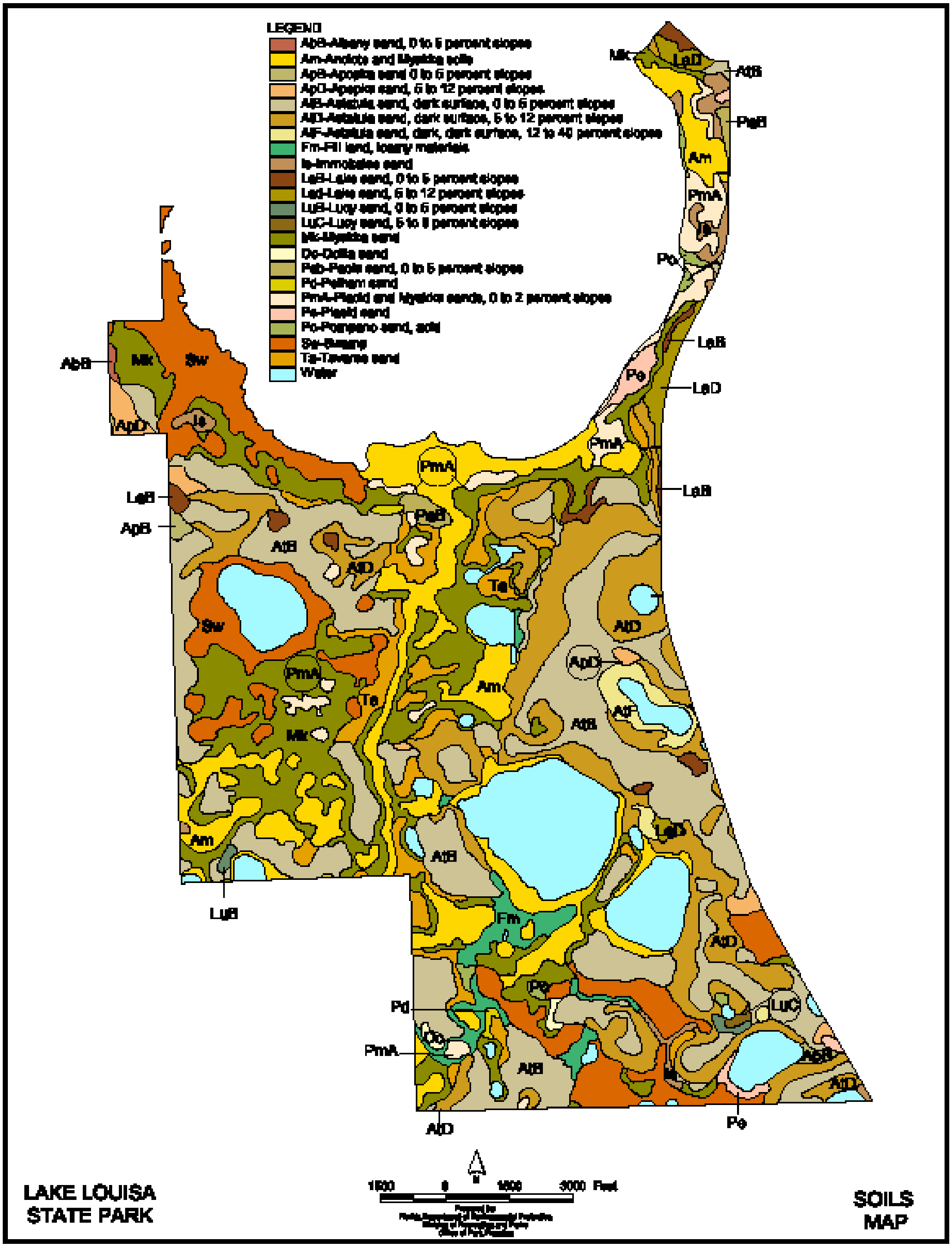



Figure 2-27. Soils Map for Lake Louisa State Park.

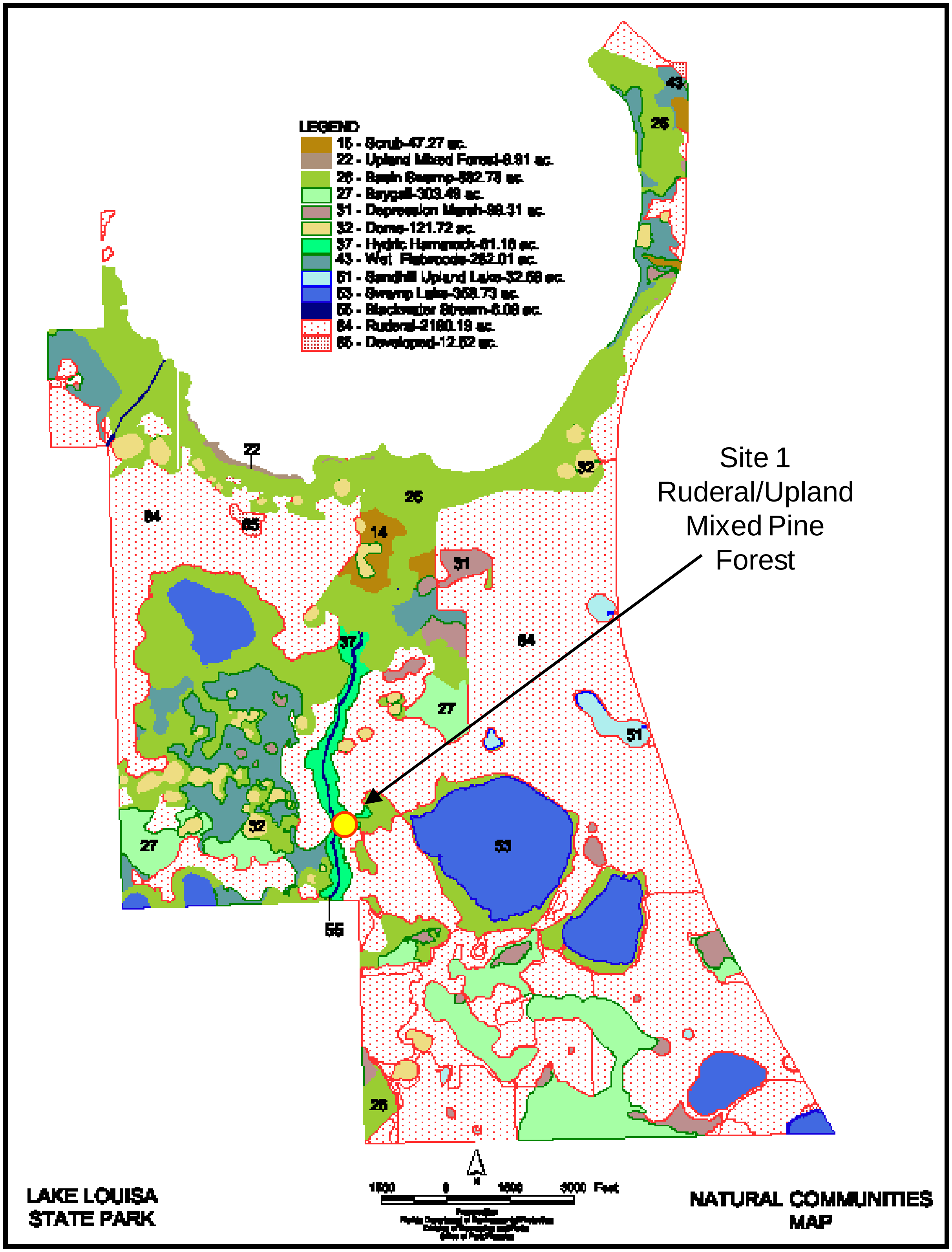



Figure 2-28. Natural Community Inventory in Lake Louisa State Park.

Figure 2-29. Photographs of the Ruderal/Upland Forest Areas in Lake Louisa State Park.

Figure 2-29. Photographs of the Ruderal/Upland Forest Areas in Lake Louisa State Park (continued).

Figure 2-29. Photographs of the Ruderal/Upland Forest Areas in Lake Louisa State Park (continued).

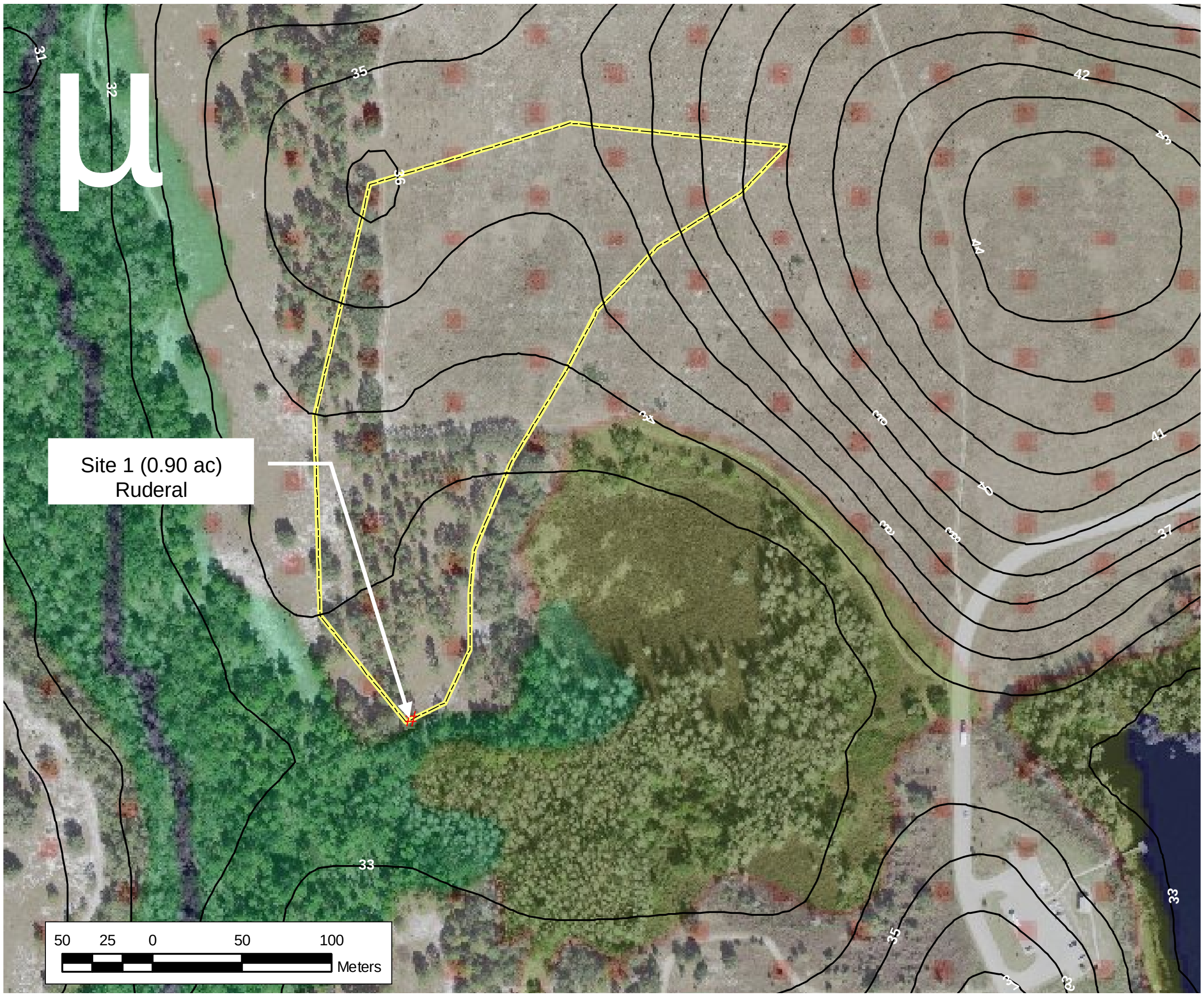



Figure 2-30. Basin Delineations for the Ruderal Monitoring Site at Lake Louisa State Park.

## 2.1.6 Myakka River State Park

Myakka River State Park is located in Sarasota and Manatee Counties, approximately 9 miles east of I-75 and S.R. 72. Primary access into the park is from S.R. 72. A location map for Myakka River State Park is given in Figure 2-31. The park currently contains approximately 37,199 acres of natural communities, in addition to ruderal and developed areas. Public outdoor recreation and conservation is the designated single-use of the property. All waters within the park area designated OFWs and are classified as either Class I (Myakka River) or Class III waters according to FDEP. An aerial overview of Myakka State Park, including the vegetation runoff monitoring sites, is given on Figure 2-32.

A soils map for the Myakka River State Park is given on Figure 2-33. A total of 31 separate soil types has been identified within the park, although the dominant soils appear to be Eau Gallie and Myakka fine sands.

A natural community inventory map for Myakka River State Park is given on Figure 2-34. The park contains 11 distinct natural communities in addition to ruderal and developed areas. The most extensive community type in the park is dry prairie which is considered to be a globally imperiled habitat. Dry prairies are characterized by low, flat topography and relatively poorly drained, acidic sandy soils. These areas are typically dominated by saw palmetto intermixed with various grasses. The second most abundant natural community within the park appears to be mesic flatwoods which are located primarily around the perimeter of the park area. Each of the two monitoring sites selected by ERD within this park is intended to characterize runoff from dry prairie areas. Photographs of the Myakka River State Park dry prairie communities are given in Figure 2-35.

Basin delineations for the Myakka River State Park monitoring sites are given on Figure 2-36. Each of these sites reflects runoff primarily from dry prairie communities. Basin areas range from 5.01 acres for Site 1 to 2.08 acres for Site 2. The dominant vegetation in each of the two basins is dry prairie. Small depressional areas are present in each of the two basins which contribute runoff only during periods of heavy or extended rainfall.


Figure 2-31. Location Map for Myakka River State Park.

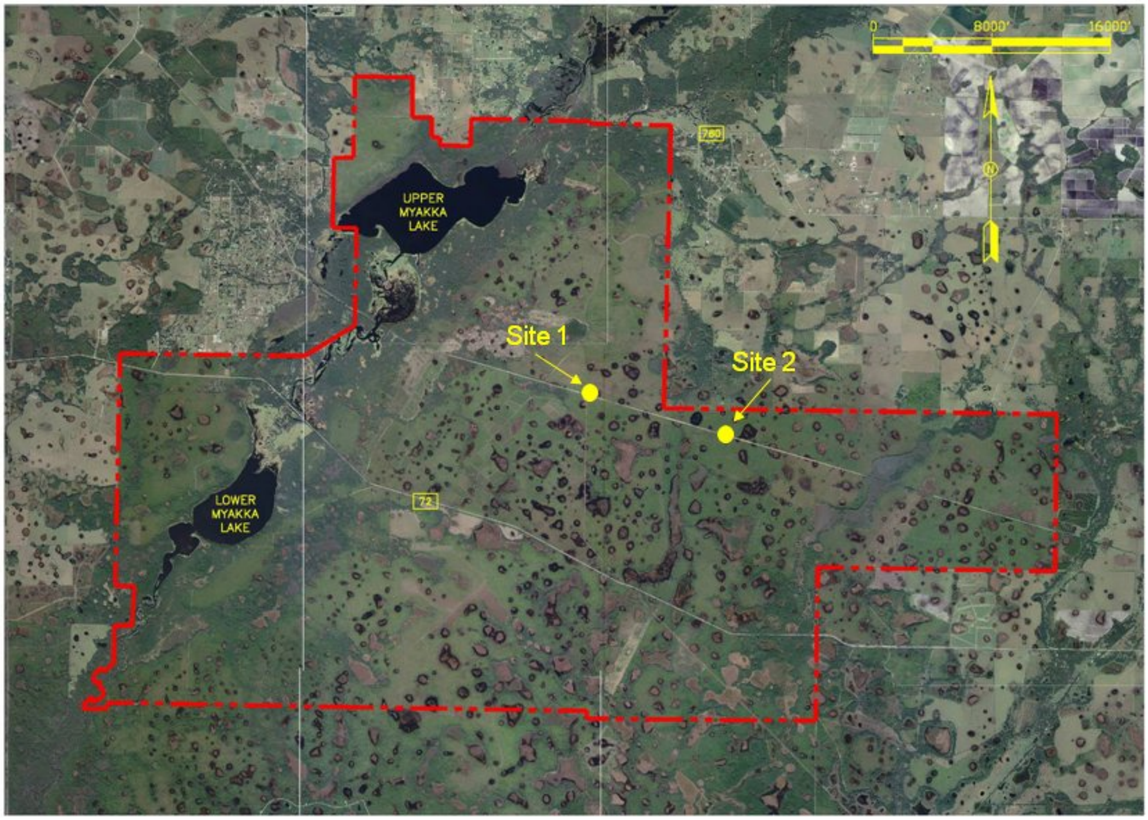



Figure 2-32. Aerial Overview of the Myakka River State Park and Vegetation Runoff Monitoring Sites.

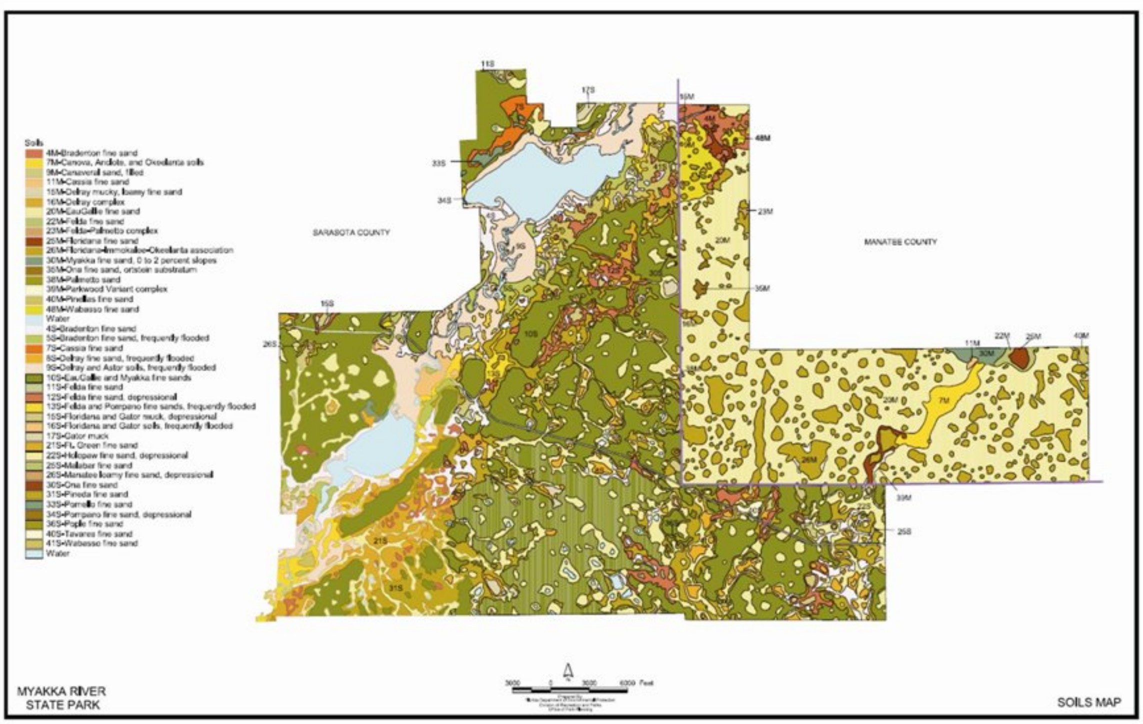



Figure 2-33. Soils Map for Myakka River State Park.

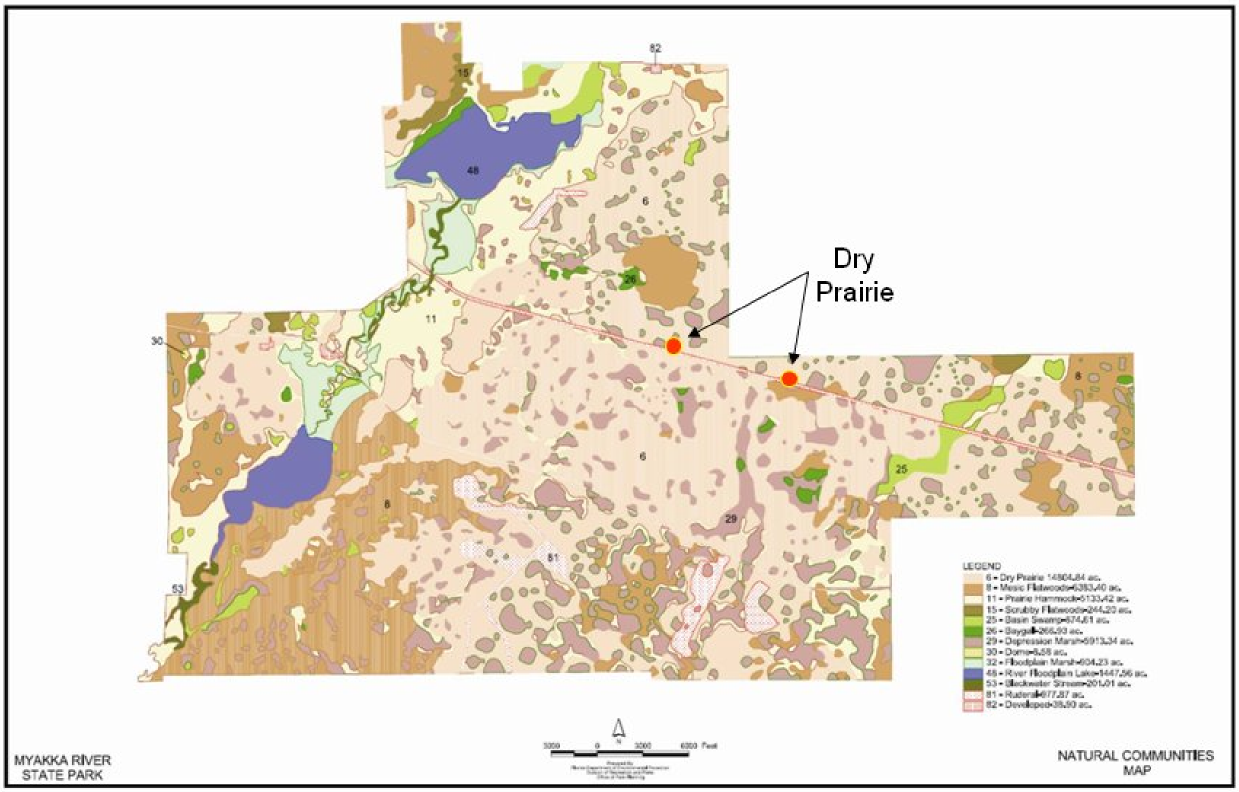



Figure 2-34. Natural Community Inventory in Myakka River State Park.

Figure 2-35. Photographs of Dry Prairie Communities at Myakka River State Park.

Figure 2-35. Photographs of Dry Prairie Communities at Myakka River State Park (continued).

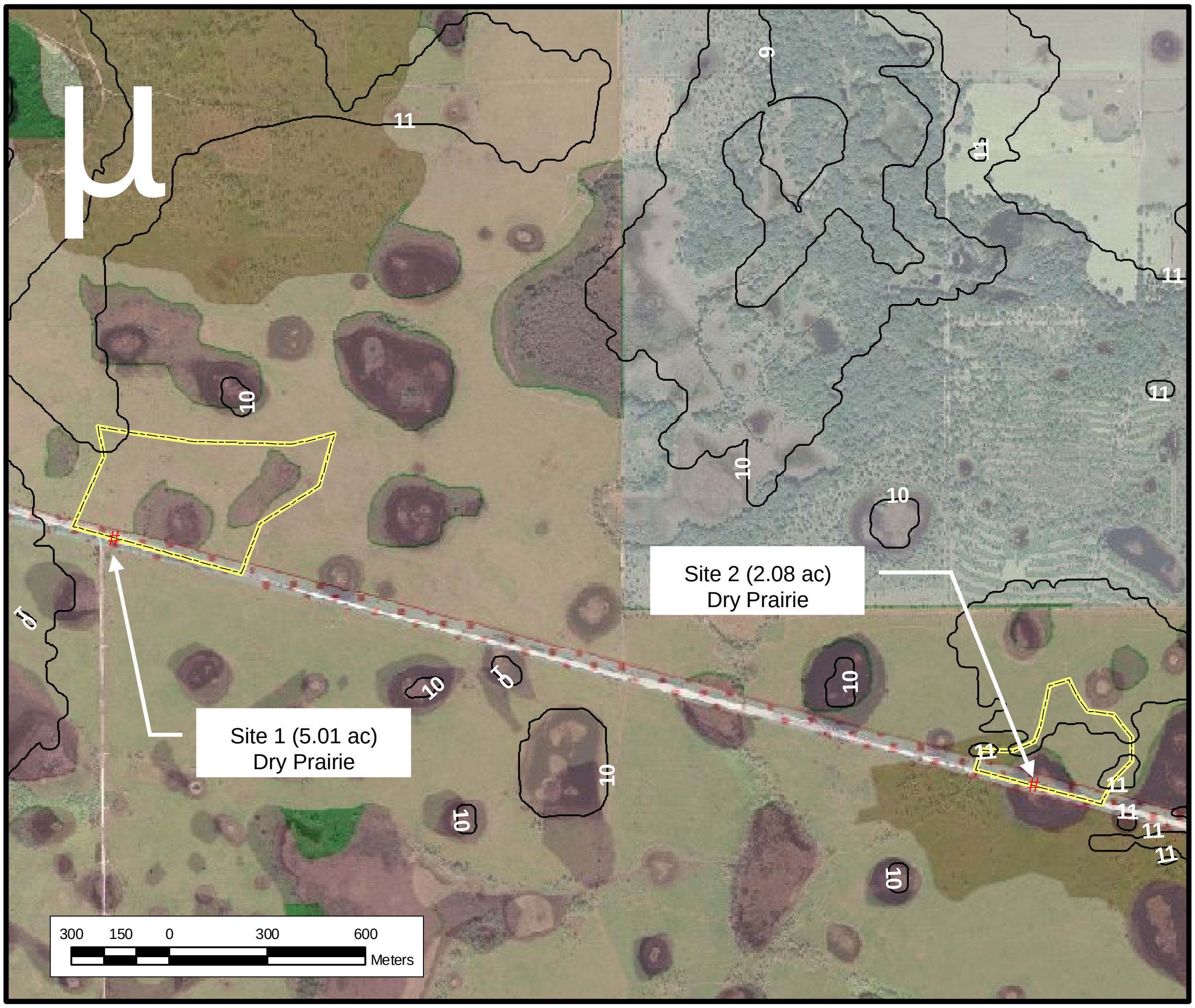



Figure 2-36. Basin Delineations for the Myakka River State Park Monitoring Sites.

## 2.1.7 Paynes Creek Historic State Park

Paynes Creek Historic (Paynes Creek) State Park is located in Hardy County about 3 miles southeast of Bowling Green on S.R. 664-A. Primary access to the park is from U.S. 17 and S.R. 664-A. A location map is given on Figure 2-37. Paynes Creek State Park was acquired primarily to preserve the site of several significant events related to the Third Seminole War. The site also provides facilities for passive outdoor recreational activities. An aerial overview of the Paynes Creek State Park is given on Figure 2-38, including the two monitoring sites used by ERD.

The Paynes Creek State Park is located in the Polk Uplands that covers the northern half of Hardy County. Land surface elevations in the park range from approximately 100-130 ft above sea level, with land surrounding the park generally of lower elevation. The park is characterized by flat bottom land along the Peace River and Paynes Creek which transitions to scrub at higher elevations.

A soils map for the Paynes Creek State Park is given in Figure 2-39. A total of 13 soil map units had been identified within the park boundary. However, due to alterations to the site over time, an accurate assessment of the soil conditions in the park is difficult. Many of the soils have been altered through past agricultural practices, with higher elevations plowed for crop production and lower elevations converted to improved pasture. The dominant soil group within the park is Bradenton-Fleda-Chobee associations, with smaller areas of Pomona fine sand and Myakka fine sand.

A natural community inventory map for Paynes Creek State Park is given on Figure 2-40. The dominant natural community within the park is bottom land forest which covers more than half of the park area. The second most dominant natural community appears to be xeric hammock followed by mesic flatwoods. The xeric hammock communities occur on nearly continuous tracts located on high ground above the creek banks and other low land systems. The canopy in these areas is fairly open and dominated by live oaks, with an understory consisting of sable palm, saw palmetto, and wax myrtle. Some of these areas suffered disturbance prior to acquisition of the park, and are currently returning to the original community structure. This community was monitored as part of this project. Mesic flatwood portions of the site consist of long leaf pine, live oak, and grasses. These areas were also heavily disturbed prior to acquisition and are currently undergoing prescribed burning and replanting of long leaf pines to return the area to a more natural state. Mesic flatwood areas were also monitored as part of this project. Photographs of natural communities in Paynes Creek State Park are given on Figure 2-41.

Basin delineations for each of the two monitoring sites in the Paynes Creek State Park are illustrated on Figure 2-42. Monitoring Site 1 consists of 0.06 acres of xeric hammock vegetation. In general, drainage occurs from west to east and concentrates at the monitoring location. Monitoring Site 2 includes a 0.17-acre area dominated primarily by mesic flatwoods. Upper portions of the basin contain xeric hammock communities, although the runoff potential from these areas is limited due to the sandy well drained soils. Therefore, the vast majority of runoff which reaches the Site 2 monitoring location originates from the mesic flatwoods area.

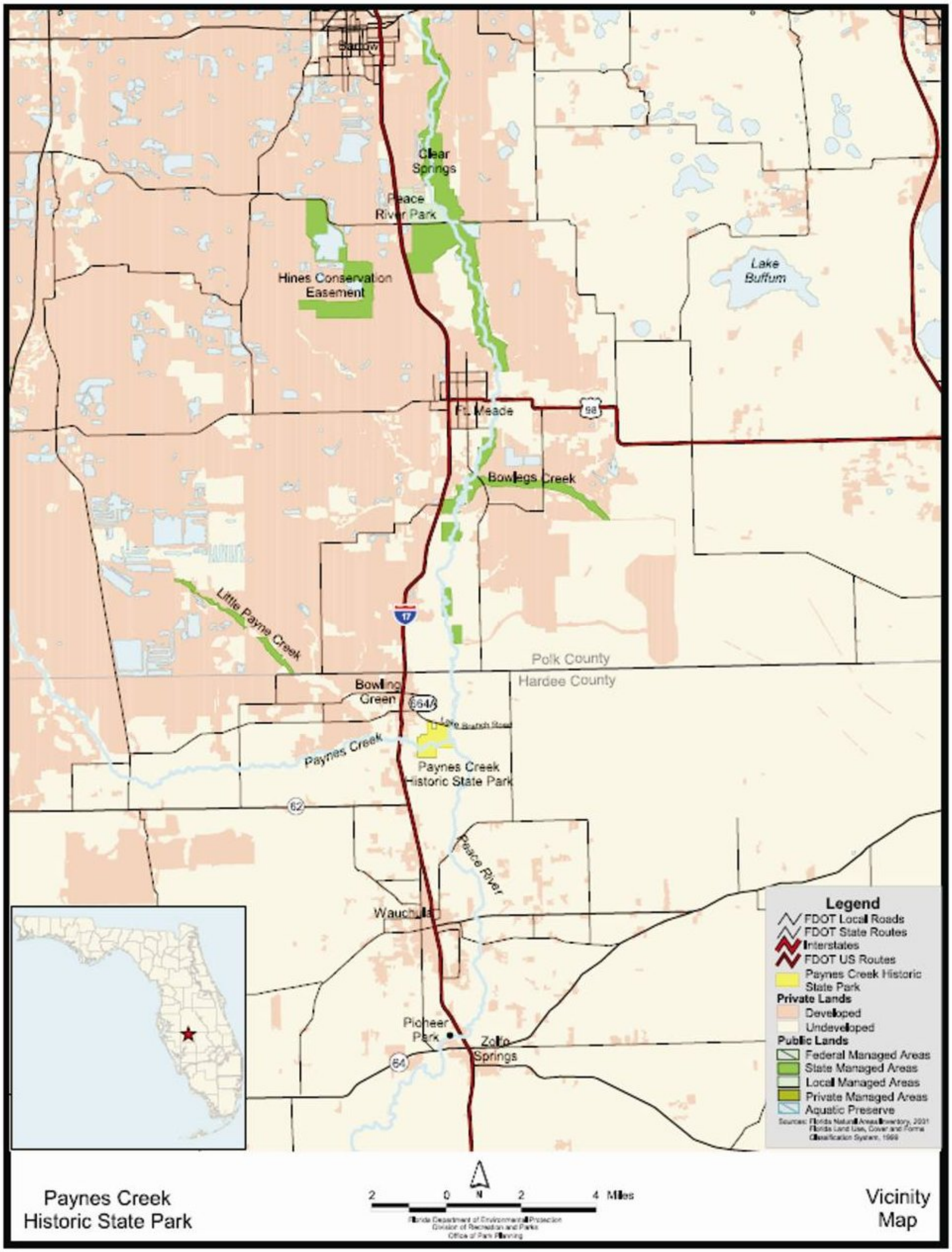



Figure 2-37. Location Map for Paynes Creek Historic State Park.

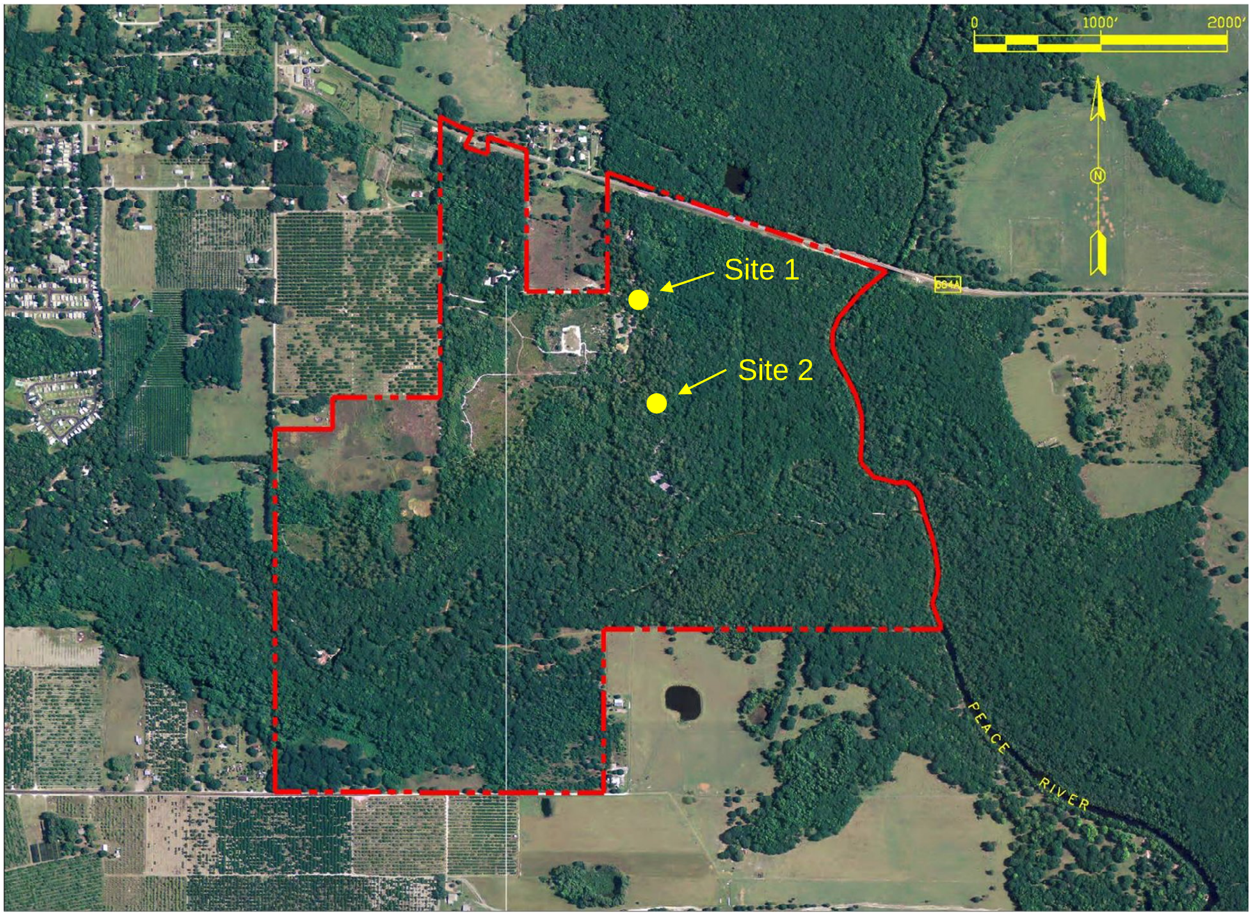



Figure 2-38. Aerial Overview of the Paynes Creek Historic State Park and Vegetation Runoff Monitoring Sites.

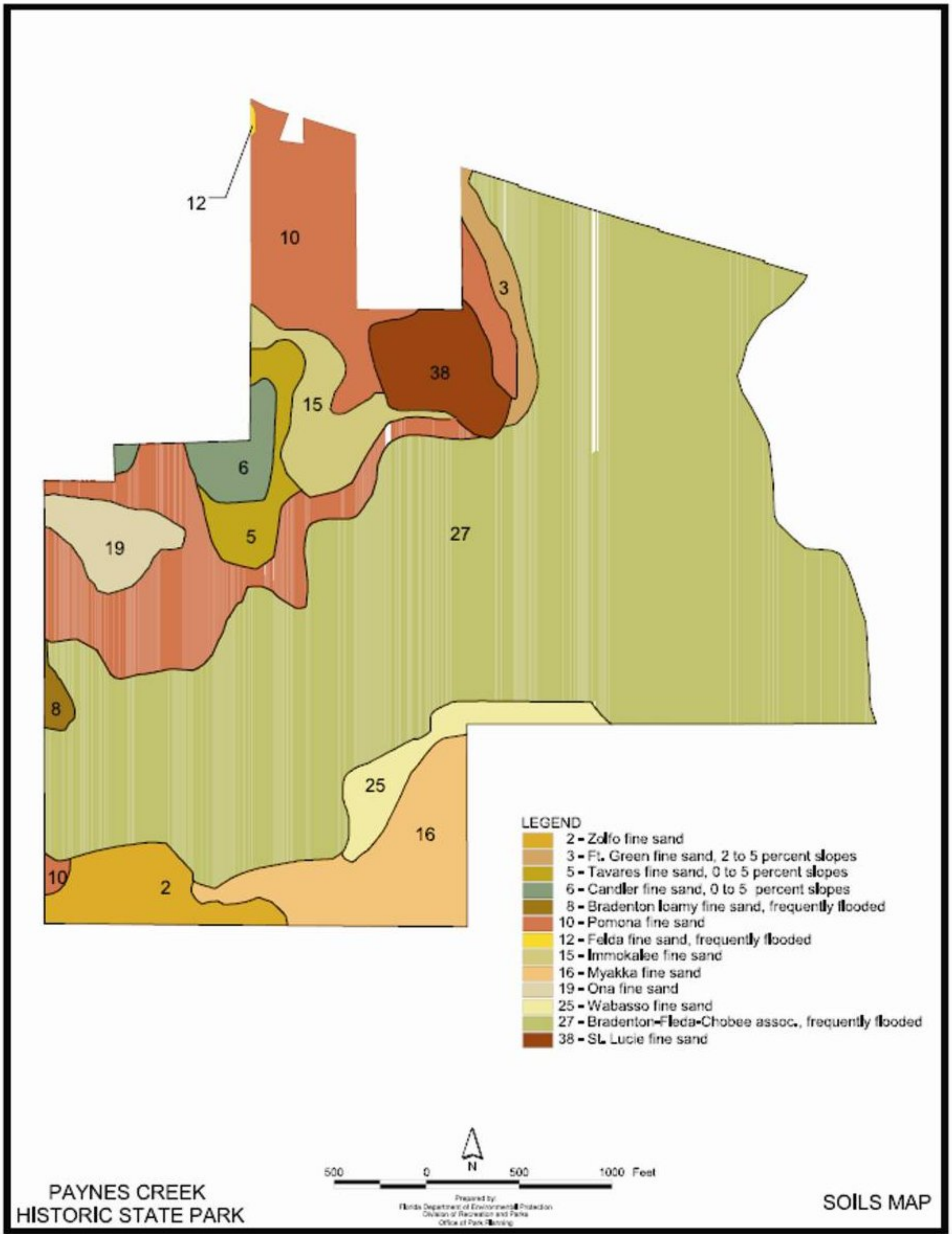



Figure 2-39. Soils Map for Paynes Creek Historic State Park.

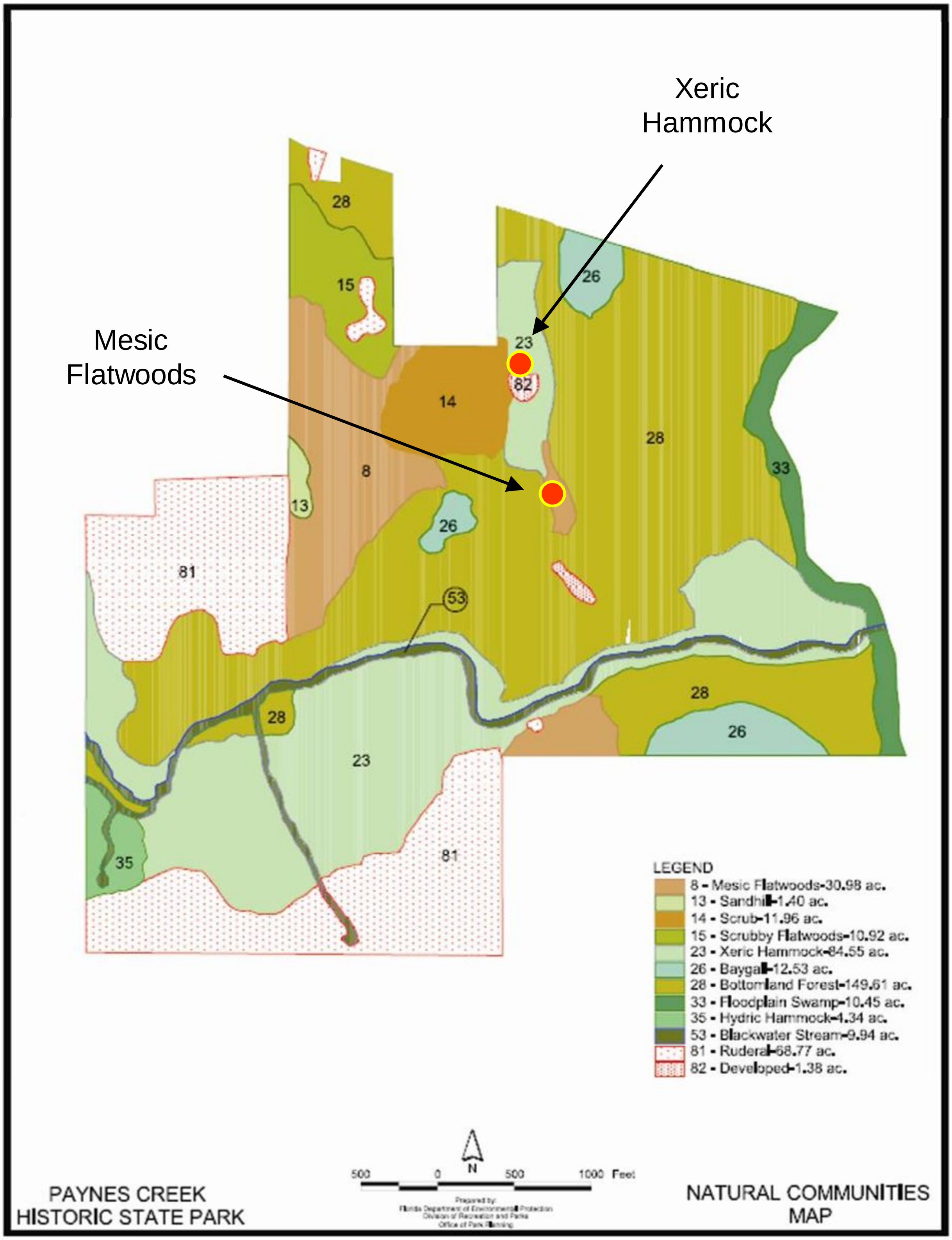



Figure 2-40. Natural Community Inventory in Paynes Creek Historic State Park.

Figure 2-41. Photographs of Natural Communities in Paynes Creek Historic State Park.

Figure 2-41. Photographs of Natural Communities in Paynes Creek Historic State Park (continued).

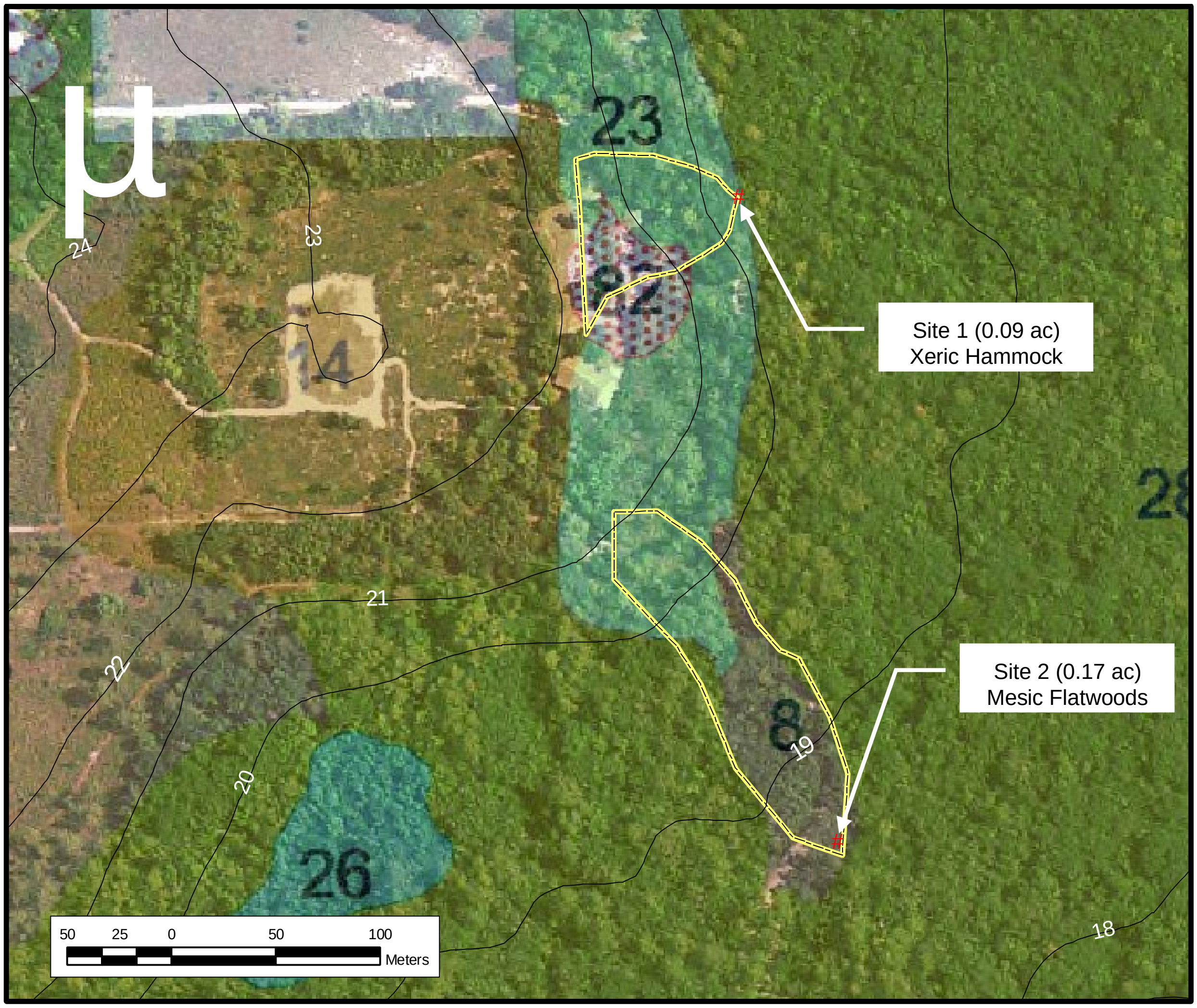



Figure 2-42. Basin Delineations for the Xeric Hammock and Mesic Flatwoods Monitoring Sites at the Paynes Creek Historic State Park.

## 2.1.8 San Felasco Hammock Preserve State Park

San Felasco Hammock Preserve (San Felasco) State Park is located in Alachua County, northwest of the City of Gainesville and south of the City of Alachua. A location map for the park is given on Figure 2-43. Northern portions of the San Felasco State Park are located within the city limits of Alachua. Access into the park is available on S.R. 232 approximately 7 miles west of U.S. Highway 441. The park currently contains approximately 6928 acres. The San Felasco Hammock includes the last large remnant of mesic hammock, one of the most diverse and complex communities in north-central Florida. The preserve is also well known for its unique and dynamic geological features. An aerial overview of San Felasco State Park, including the vegetation runoff monitoring site used by ERD, is given on Figure 2-44.

San Felasco State Park is located in the Central Highlands region of the Midpeninsular Physiographic Zone. Elevations in the preserve range from approximately 70-195 ft above sea level. The preserve contains numerous karst features, including sinkholes, ravines, limestone rock outcrops, seepage streams, and permanent streams which discharge water into the Floridan Aquifer. At higher elevations, the terrain is characterized by gently rolling hills.

A soils map for San Felasco State Park is given on Figure 2-45. A total of 26 individual map soil units has been identified within the park. Soil disturbances have occurred in various parts of the reserve as a result of previous agricultural and silvicultural activities, including cultivation of citrus and cotton, production of tongue oil and turpentine, and harvesting of pines for pulp wood and saw logs.

A natural community inventory map for San Felasco State Park is given on Figure 2-46. The park contains 24 distinct natural communities in addition to ruderal and developed areas. The dominant vegetation community within the park is upland mixed forest which covers more than half of the park area. This community has a very high species diversity and includes a number of locally uncommon species such as bluff oak, shumard oak, and spruce pine. The dominant canopy species includes hickory, southern magnolia, Florida maple, and chestnut oak. Most of these communities are in excellent conditions despite selective logging during the past two centuries. All monitoring activities were conducted in this community. The second most significant vegetation community within the park is upland pine forest which is located primarily in perimeter portions of the park. Photographs of the San Felasco State Park upland mixed forest areas are given on Figure 2-47.

The basin delineations for the upland mixed forest monitoring site within the San Felasco State Park is illustrated on Figure 2-48. The area discharging to the monitoring site used by ERD covers approximately 4.80 acres and includes upland mixed forest, upland pine forest, and a small area of sand hill communities. Since runoff discharges from sand hill areas are infrequent, the primary areas discharging to the monitoring site are the upland mixed forest and upland pine forest areas. However, the upland pine forest areas within the basin area are also characterized by sandy soils with a low runoff potential, and the vast majority of runoff collected at the monitoring site originated within the mixed forest areas rather than other communities within the basin.

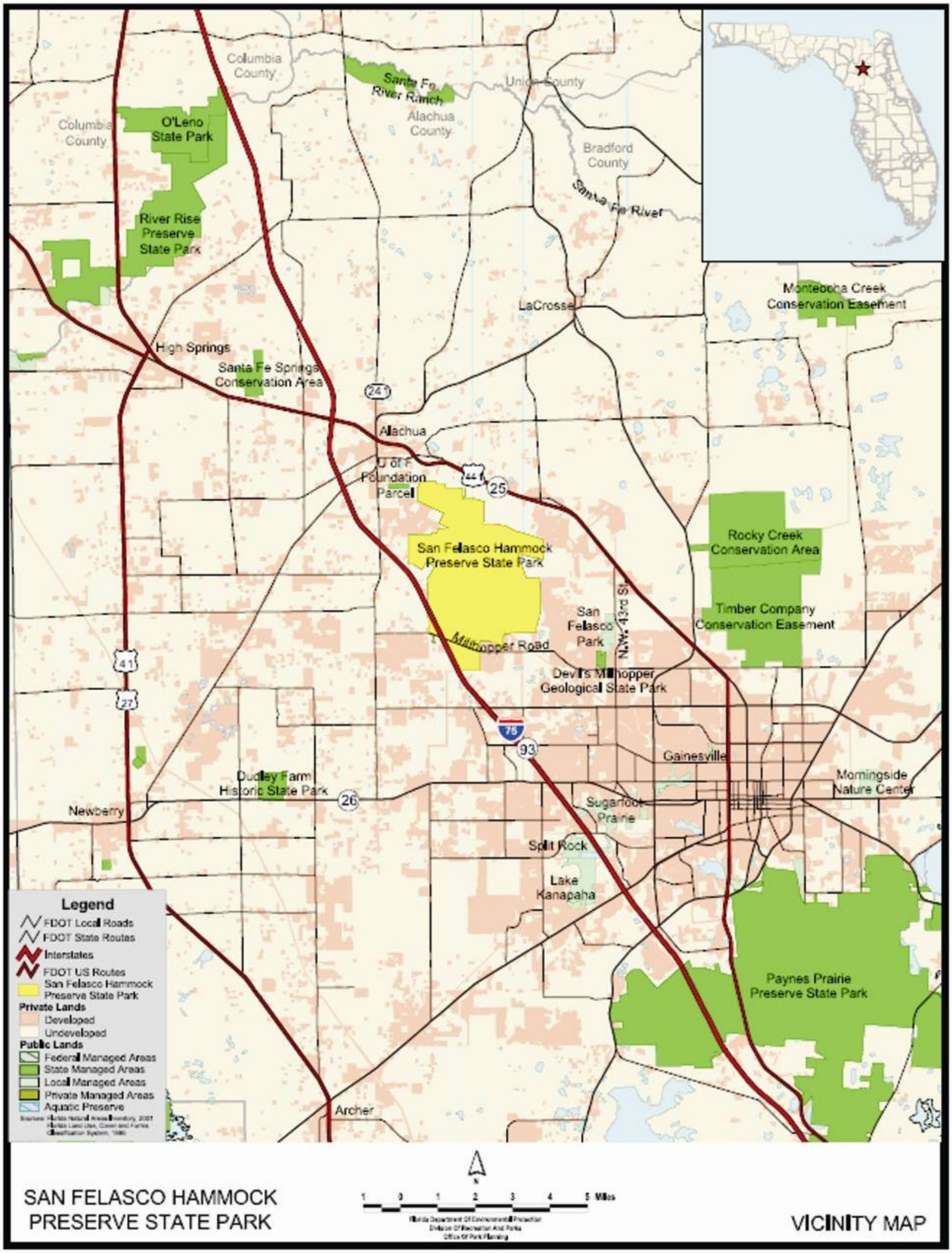



Figure 2-43. Location Map for San Felasco Hammock Preserve State Park.

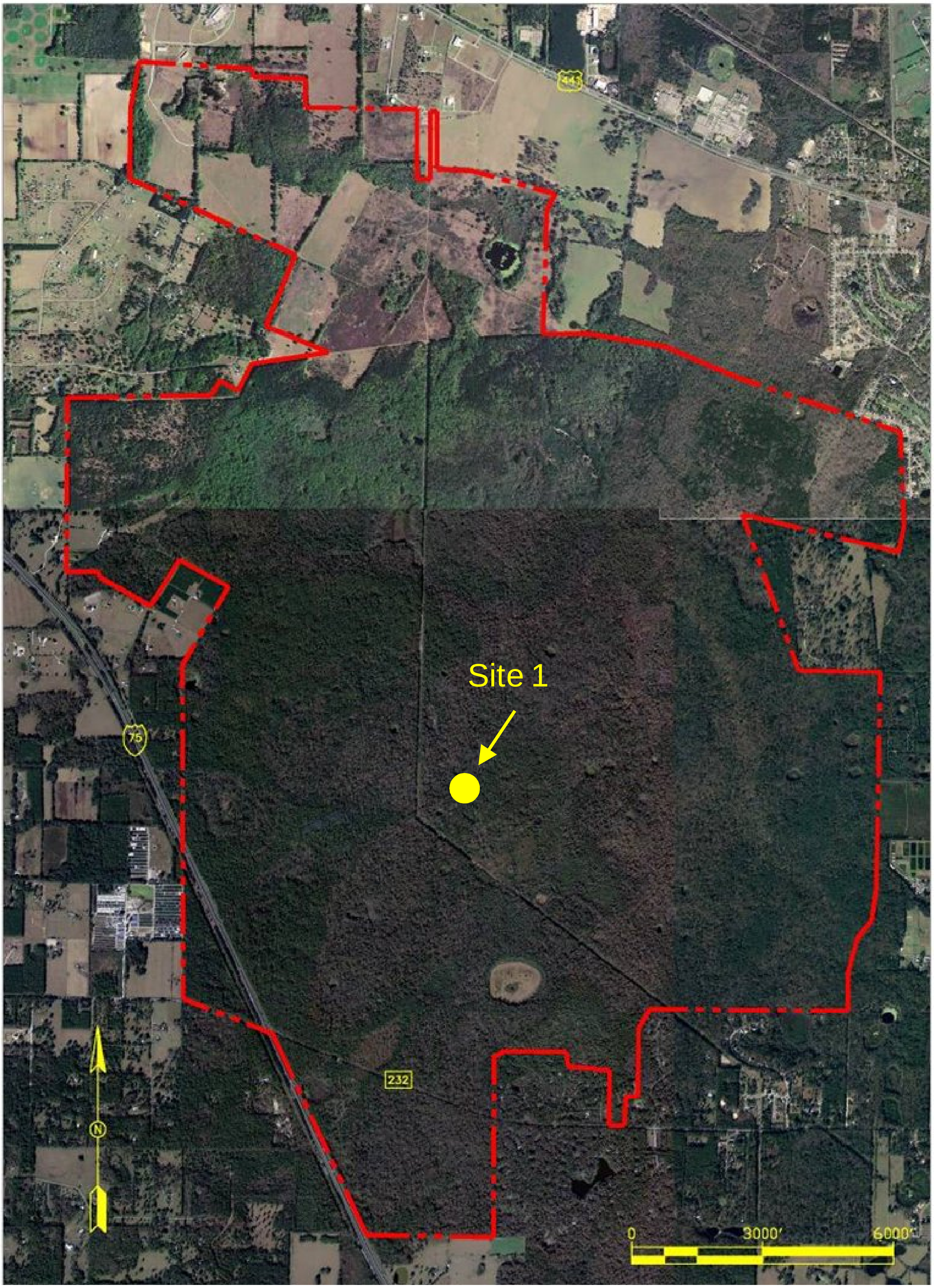



Figure 2-44. Aerial Overview of the San Felasco Hammock Preserve State Park and Vegetation Runoff Monitoring Sites.

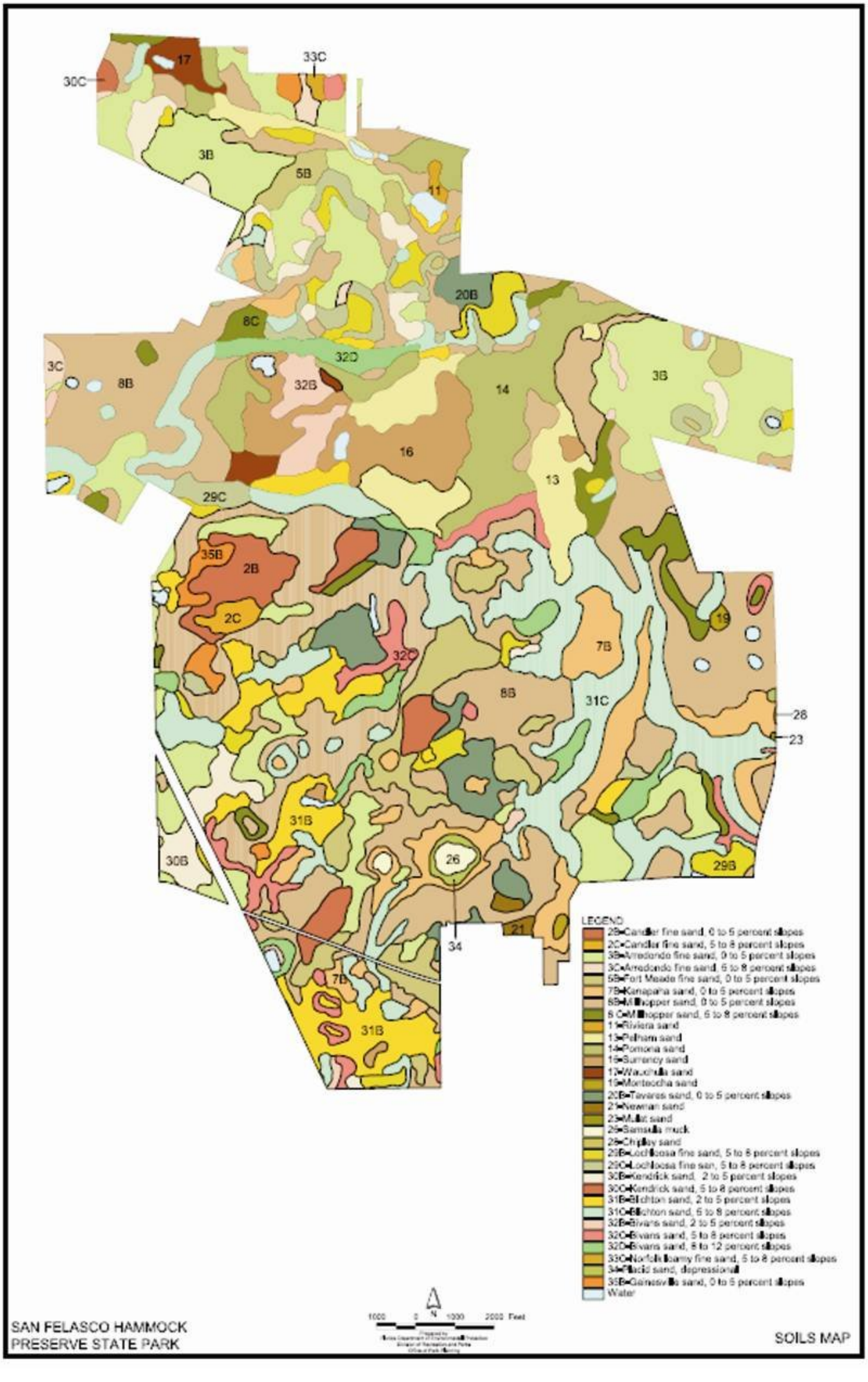



Figure 2-45 Soils Map for San Felasco Hammock Preserve State Park.

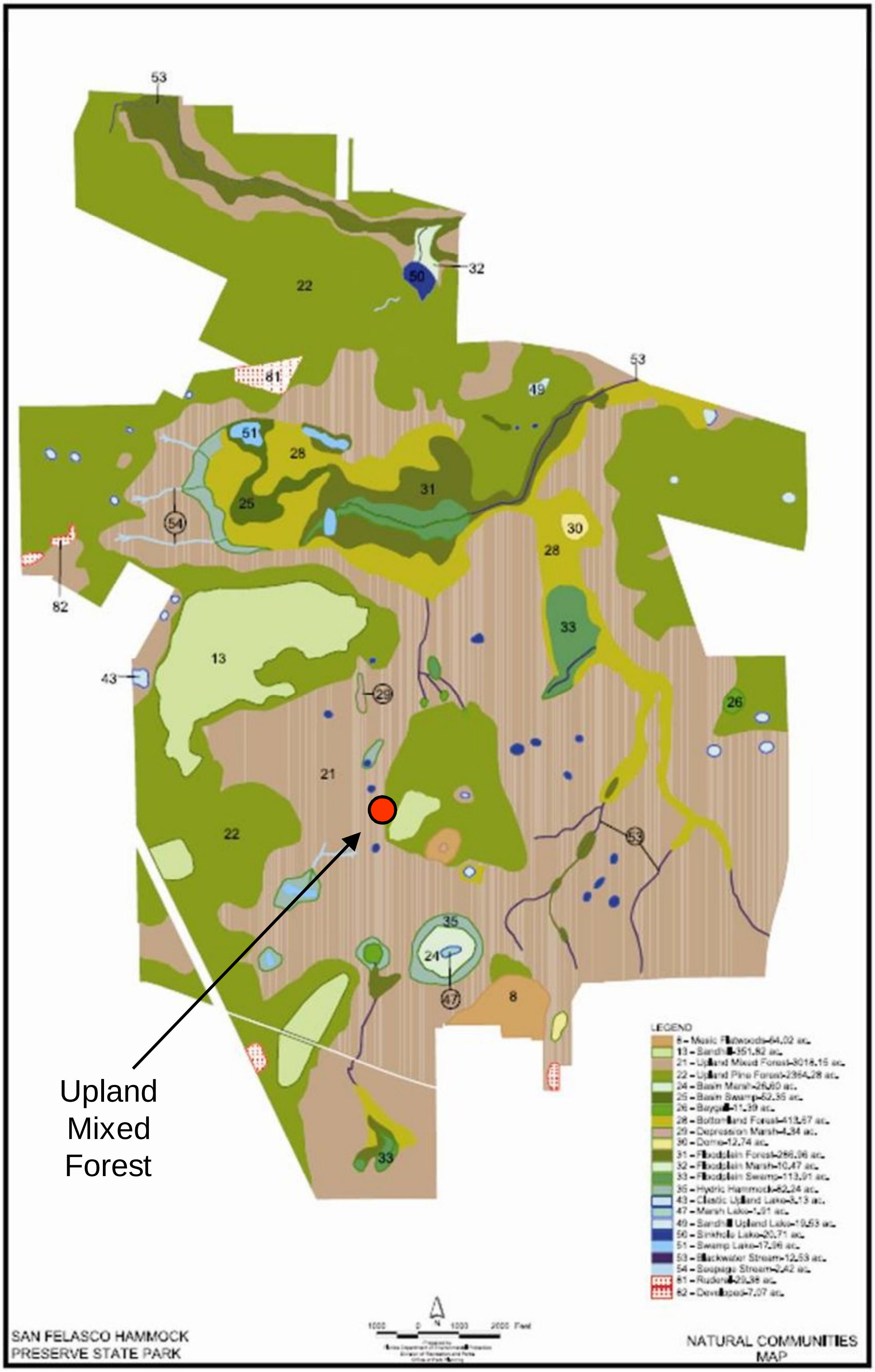



Figure 2-46. Natural Community Inventory in San Felasco Hammock Preserve State Park.

Figure 2-47. Photographs of the Upland Mixed Forest Areas in San Felasco Hammock Preserve State Park.

Figure 2-47. Photographs of the Upland Mixed Forest Areas in San Felasco Hammock Preserve State Park (continued).

Figure 2-47. Photographs of the Upland Mixed Forest Areas in San Felasco Hammock Preserve State Park (continued).

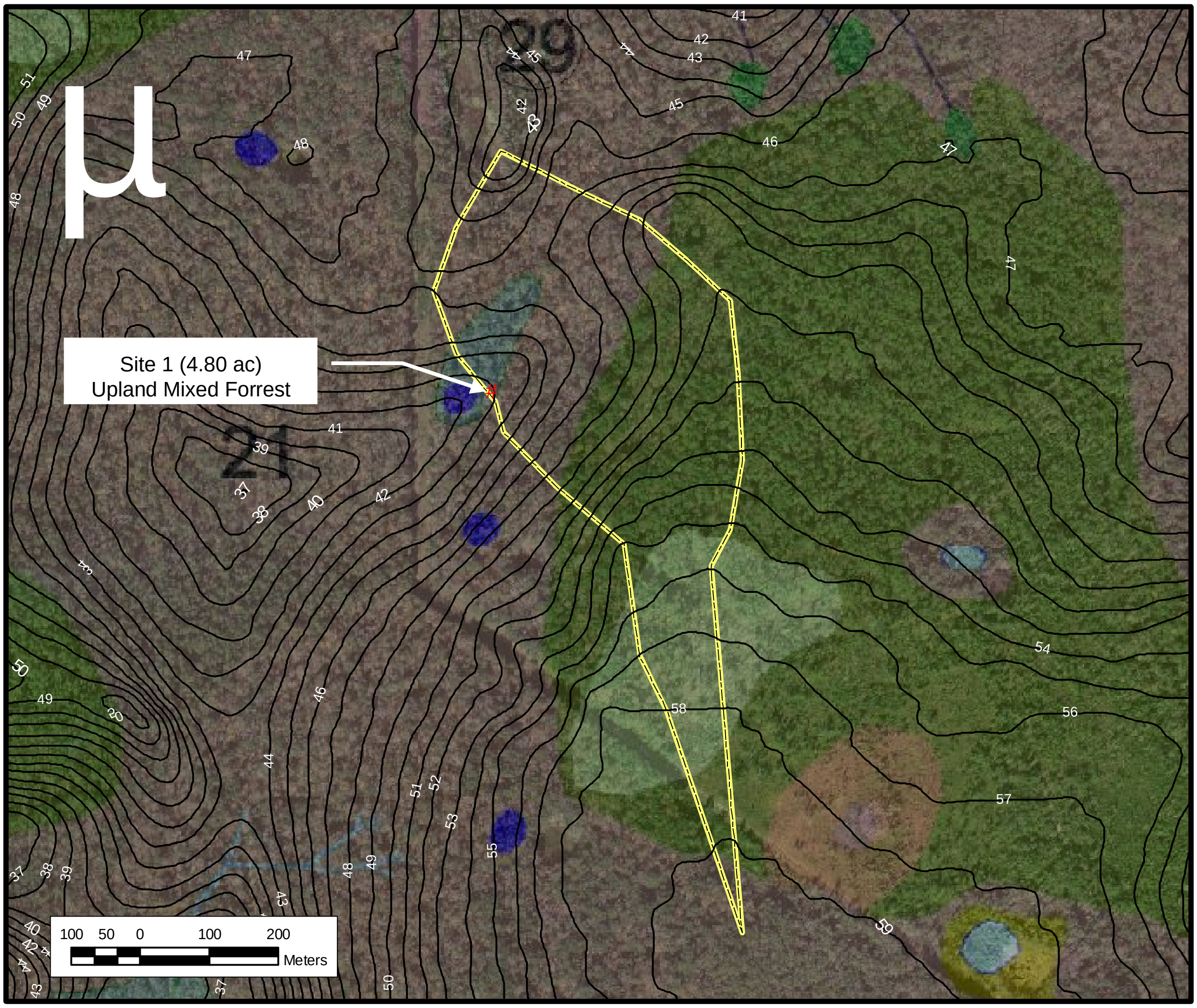



Figure 2-48. Basin Delineations for the Upland Mixed Forest Monitoring Site at San Felasco Hammock Preserve State Park.

### 2.1.9 Silver River State Park

Silver River State Park is located in central Marion County about 7 miles northeast of downtown Ocala. Primary access into the park is from S.R. 35 south of S.R. 40. A location map for Silver River State Park is given on Figure 2-49. The single designated use of the property is for public outdoor recreation and conservation. An aerial overview of Silver River State Park and the vegetation runoff monitoring sites selected by ERD is given on Figure 2-50. The Silver River, which originates from Silver Springs, flows through the park to the east boundary where it joins the Ocklawaha River. The Silver River is designated as an OFW. Areas within the park currently comprise approximately 4229 acres.

Silver River State Park is located on the eastern edge of the Ocala Uplift District. The site consists of relatively flat uplands which gradually slope downward to floodplain areas. A few shallow depressional areas are also present. Elevations within the park range from approximately 75 ft above sea level in the southwest portion, to approximately 35 ft in the northern section along the Ocklawaha River. Portions of the park have been altered by previous excavation, timber harvesting, and agricultural operations.

A soils map for Silver River State Park is given on Figure 2-51. A total of 23 different soil types has been identified within the park, with dominant soil types including Bluff sand clay, Eureka fine sand, Paisley fine sand, and Candler sand.

A natural community inventory map for Silver River State Park is given on Figure 2-52. A total of 12 distinct natural communities have been identified within the park in addition to ruderal and developed areas. The dominant natural community within the park is upland hardwood forest which covers approximately 45% of the park area. The upland mixed forest areas contain a variety of vegetation, including loblolly pine and cabbage palmetto. Many of these areas have been disturbed in the past as a result of logging activities, although significant recovery has occurred in most areas. Other areas within the upland hardwood forest are dominated by mesic hardwoods combined with a few pine species. The upland hardwood community was monitored by ERD as part of this project. Photographs of the upland hardwood community are given on Figure 2-53.

Basin delineations for the upland hardwood monitoring sites are indicated on Figure 2-54. Five separate monitoring sites were used at the Silver River State Park, all of which are located in upland hardwood communities. Basin sizes for the monitoring sites range from 0.01-1.62 acres. No other types of vegetation communities are present within any of the delineated basin areas.

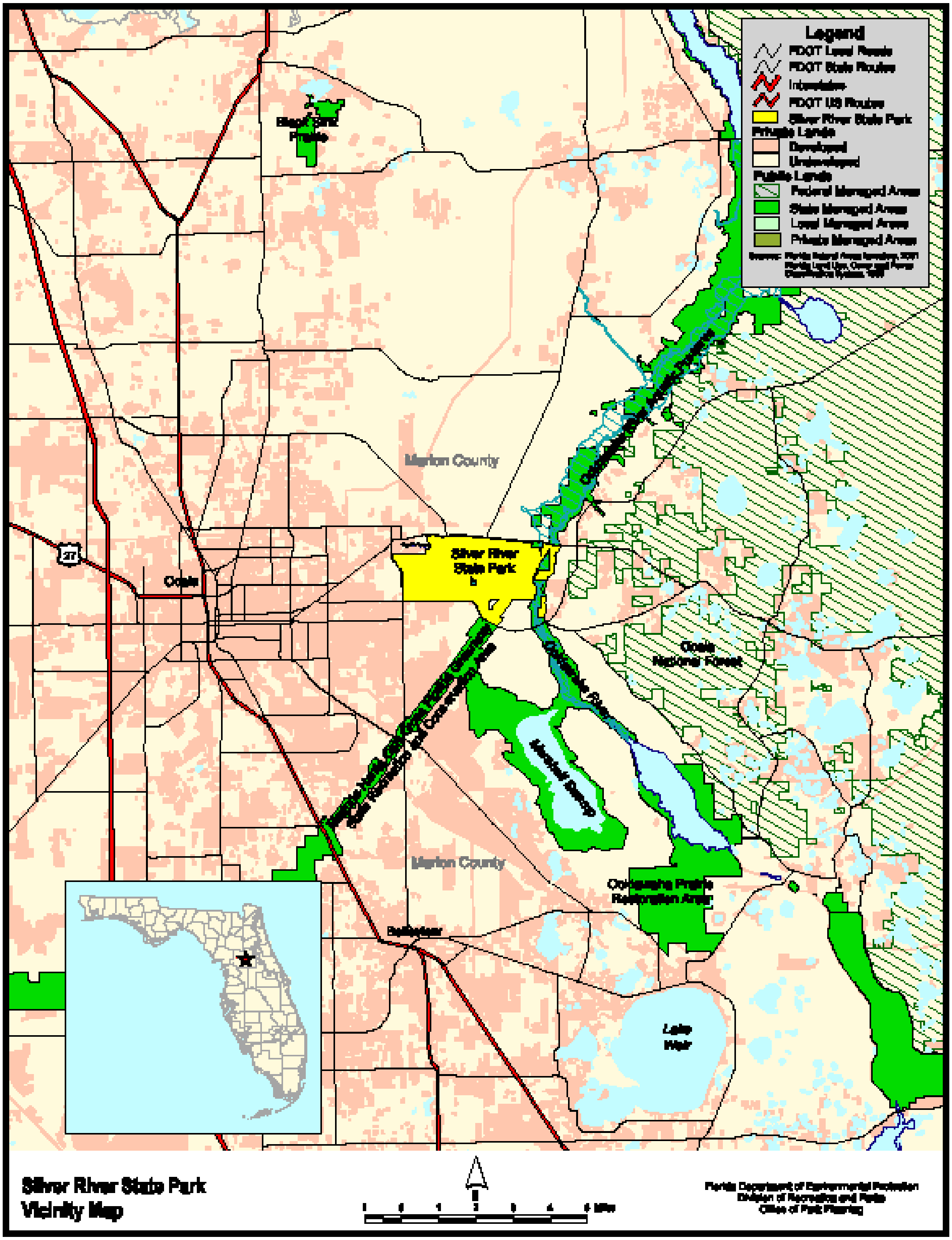



Figure 2-49. Location Map for Silver River State Park.

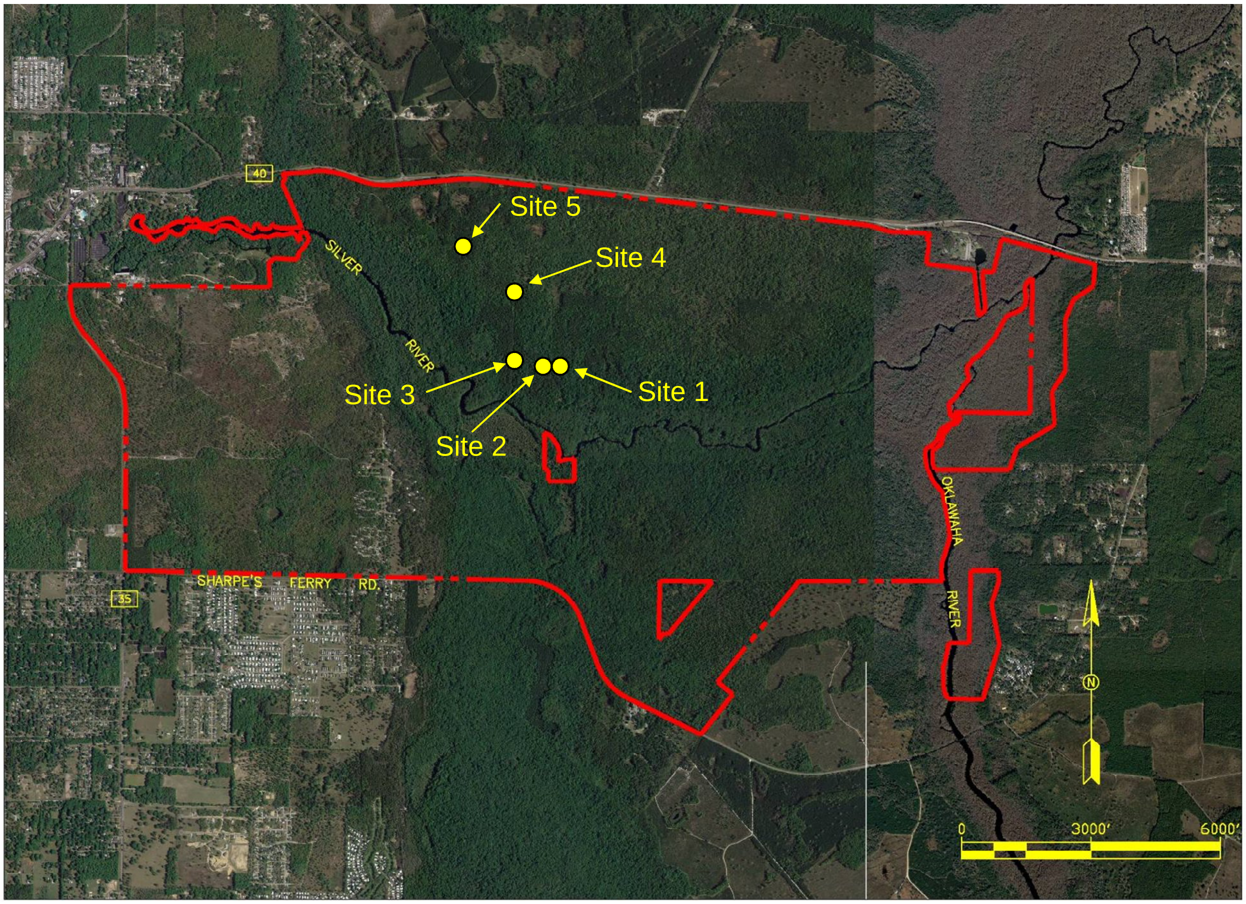
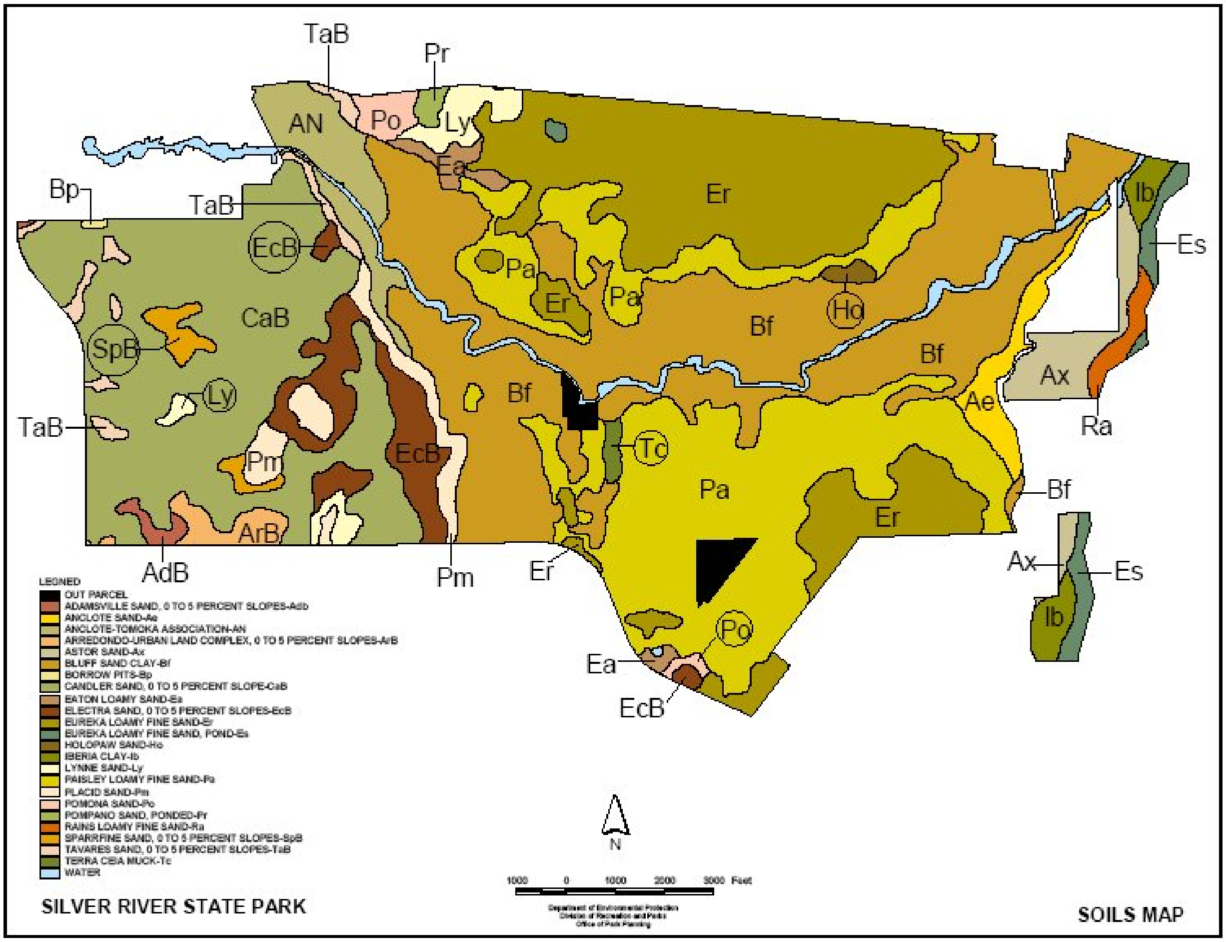



Figure 2-50. Aerial Overview of the Silver River State Park and Vegetation Runoff Monitoring Sites.




HSG Type D Soils – All Sites

Figure 2-51. Soils Map for Silver River State Park.

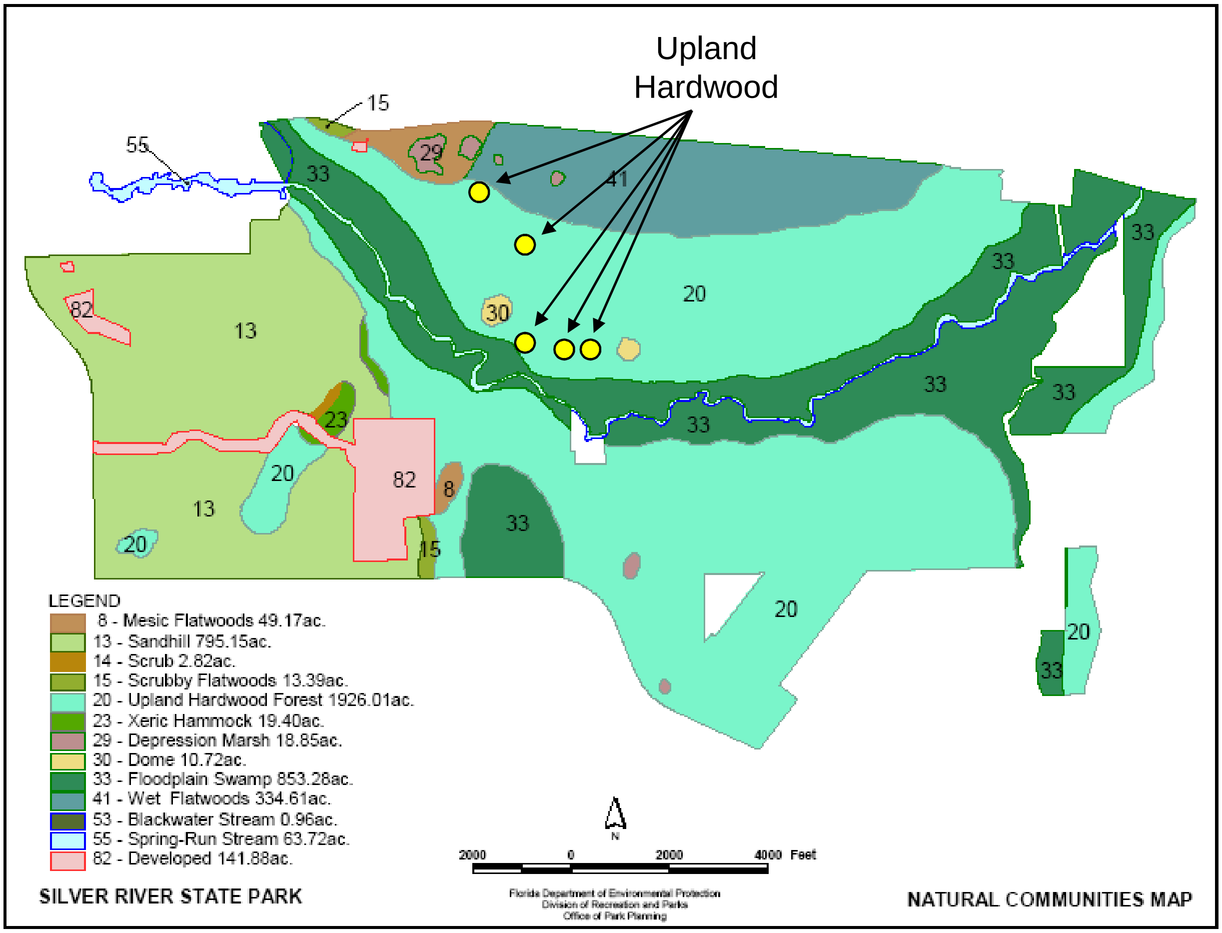



Figure 2-52. Natural Community Inventory in Silver River State Park.

Figure 2-53. Photographs of the Upland Hardwood Communities at Silver River State Park.

Figure 2-53. Photographs of the Upland Hardwood Communities at Silver River State Park (continued).

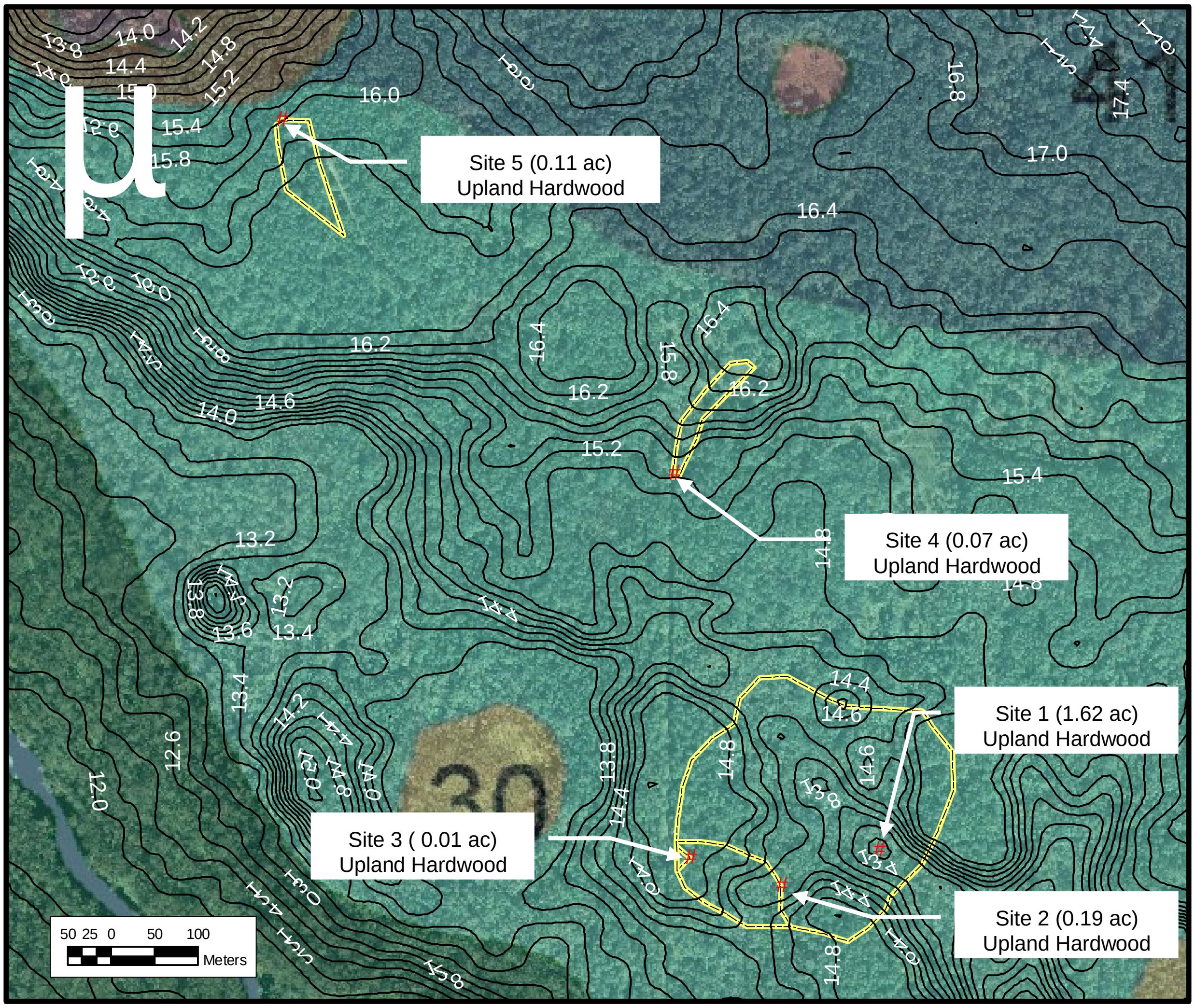



Figure 2-54. Basin Delineations for the Upland Hardwood Monitoring Sites at Silver River State Park.

## 2.1.10 Wekiwa Springs State Park

The Wekiwa Springs State Park is located in Orange and Seminole Counties, approximately 20 miles northwest of Orlando. A location map for Wekiwa Springs State Park is given on Figure 2-55. The Wekiwa Springs State Park contains approximately 7722 acres. Primary access to the park is on S.R. 434 west of I-4. Public outdoor recreation is the designated single use of this property. All waters within the Wekiwa Springs State Park are designated as OFWs and are classified as Class III waters by FDEP.

The Wekiwa Springs State Park is located in the Central Lake District which consists of an uplifted limestone layer below surficial sands. This region is some of the most effective recharge areas for the Floridan Aquifer. The general topography of the park varies from high sandy hills to low flooded areas adjacent to waterbodies. Land surface elevations range from approximately 99 ft above sea level in the highest areas of the park to approximately 15 ft above sea level along the Wekiwa River. The topographic condition within the park is generally undisturbed.

A soils map for the Wekiwa Springs State Park is given on Figure 2-57. A total of 36 separate soil types have been identified within the park, with the dominant soil types consisting of Emeralda and Holopaw fine sand, Candler fine sand, and Samsula-Hontoon-Basinger associations.

A natural community inventory map for the Wekiwa Spring State Park is given on Figure 2-58. The park contains 16 distinct natural communities in addition to ruderal and developed areas. The dominant vegetation within the park consists of mesic flatwoods, hydric hammock, and sand hill and scrub communities. Monitoring conducted as part of this project was conducted in the scrub community area. The scrub communities occur on well drained sandy soils which are generally nutrient-deficient. The canopy species consist primarily of sand pines and scrub oaks, with shrubs dominating the understory. Open patches of barren sand are common within the area. The overstory of sand pines is widely scattered which exposes the understory to more intense sunlight. Typical plant species in these areas include sand pine, sand live oak, myrtle oak, chapman's oak, scrub oak, saw palmetto, and a variety of understory species. Scrub areas typically occur on sand ridges located along former shorelines which originated as wind-deposited dunes. Photographs of the scrub communities are given on Figure 2-59.

Basin delineations for the scrub monitoring sites used by ERD are illustrated on Figure 2-60. Three separate sites were selected by ERD to monitoring scrub runoff characteristics, ranging in size from 0.04-0.54 acres. Each of the monitoring sites includes primarily scrub vegetation communities and dirt trails.

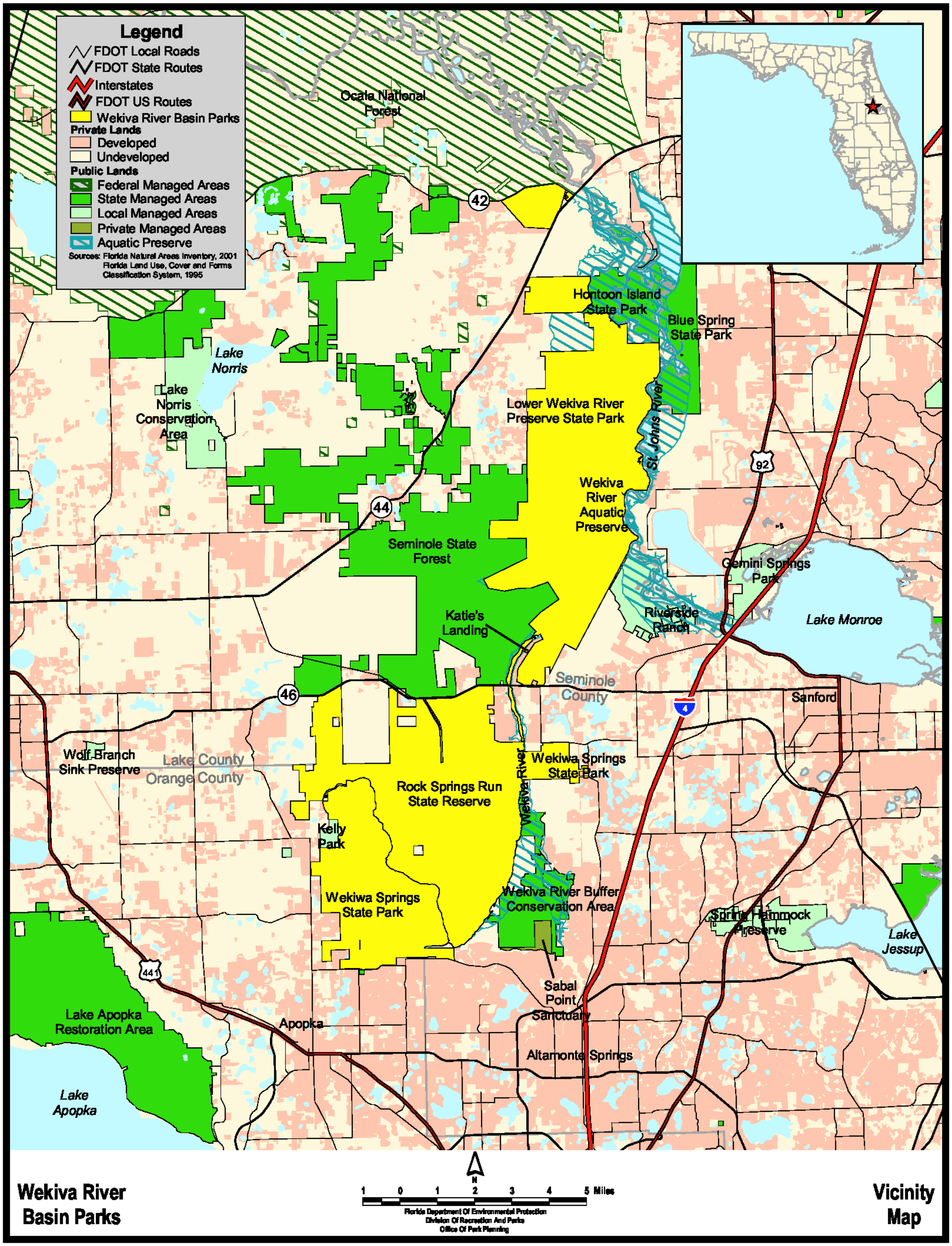



Figure 2-55. Location Map for Wekiwa Springs State Park.

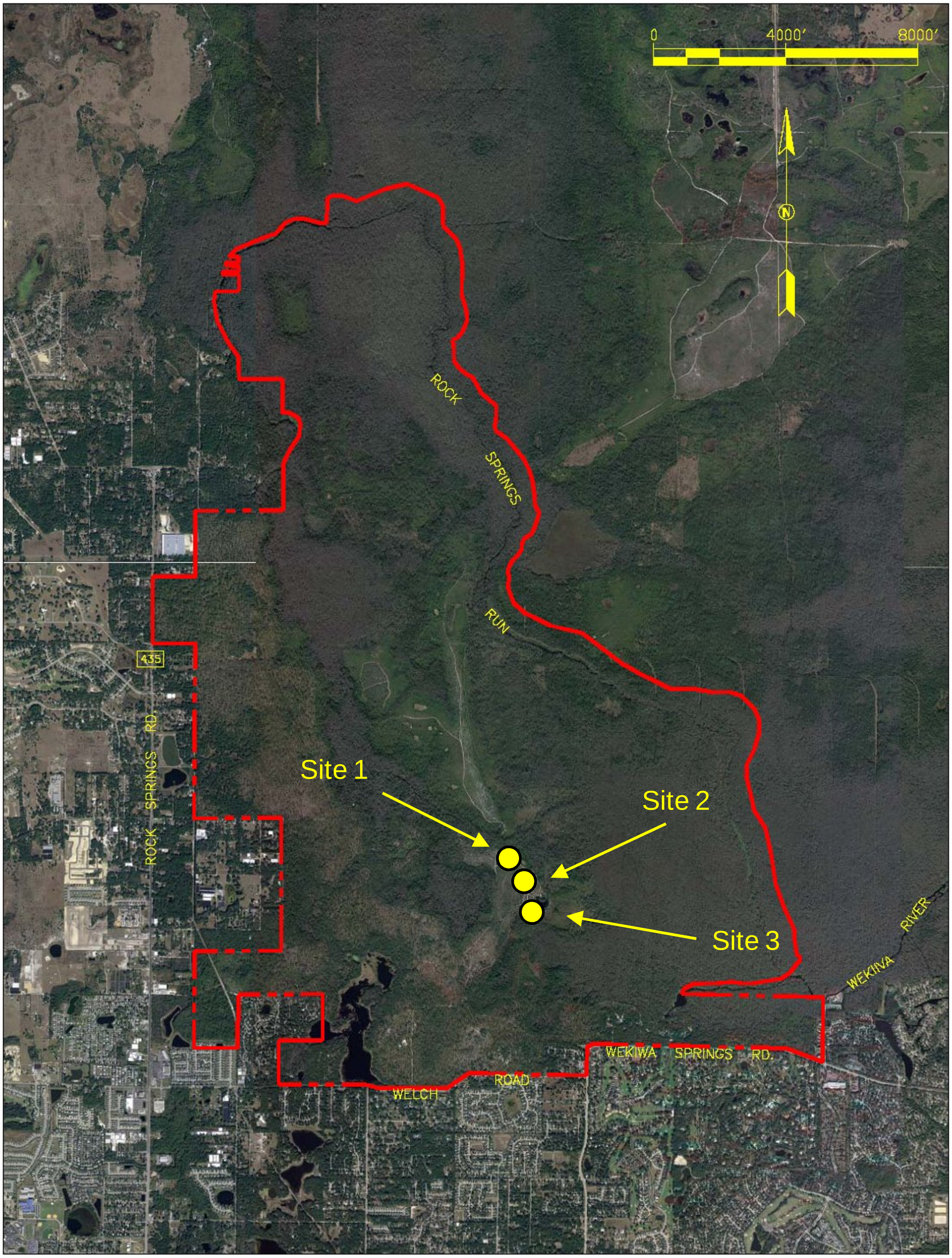



Figure 2-56. Aerial Overview of the Wekiwa Springs State Park and Vegetation Runoff Monitoring Sites.

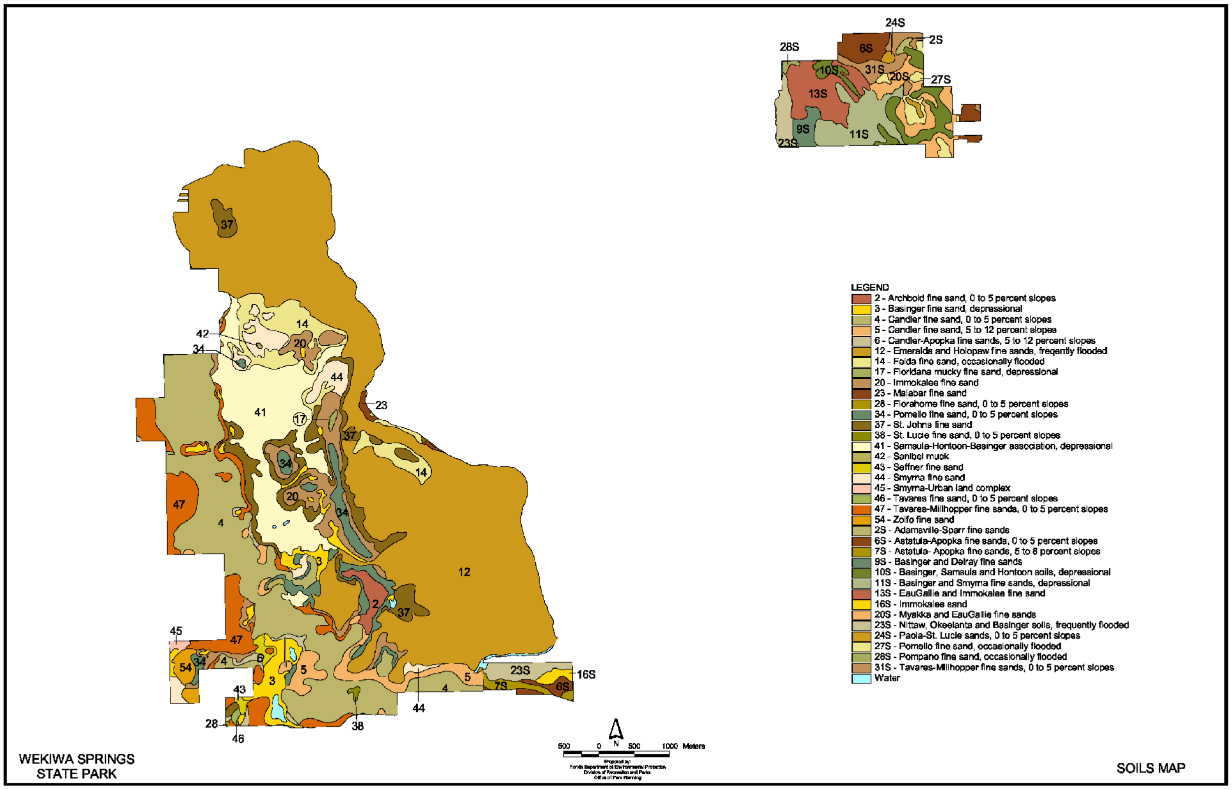



Figure 2-57. Soils Map for Wekiwa Springs State Park.

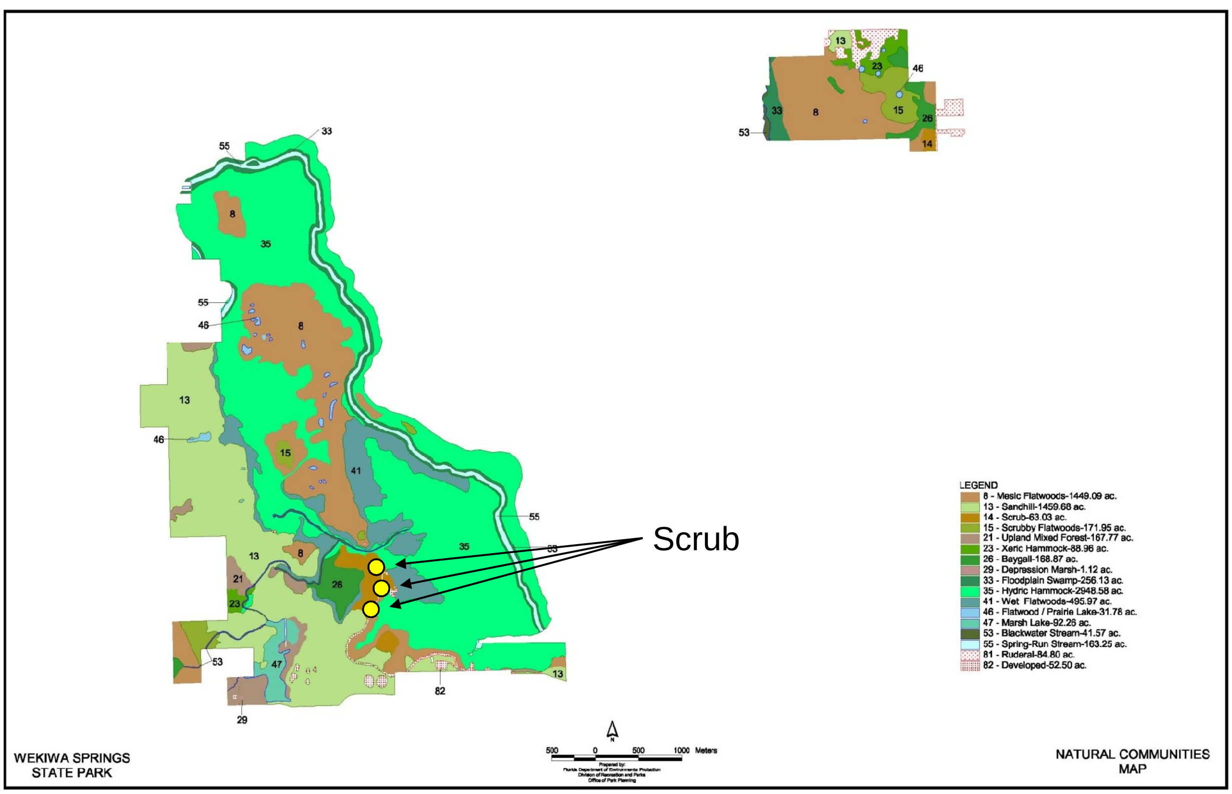



Figure 2-58. Natural Community Inventory in Wekiwa Springs State Park.

Figure 2-59.   Photographs of Xeric Scrub Communities in Wekiwa Springs State Park.

Figure 2-59. Photographs of Xeric Scrub Communities in Wekiwa Springs State Park (continued).

Figure 2-59. Photographs of Xeric Scrub Communities in Wekiwa Springs State Park (continued).

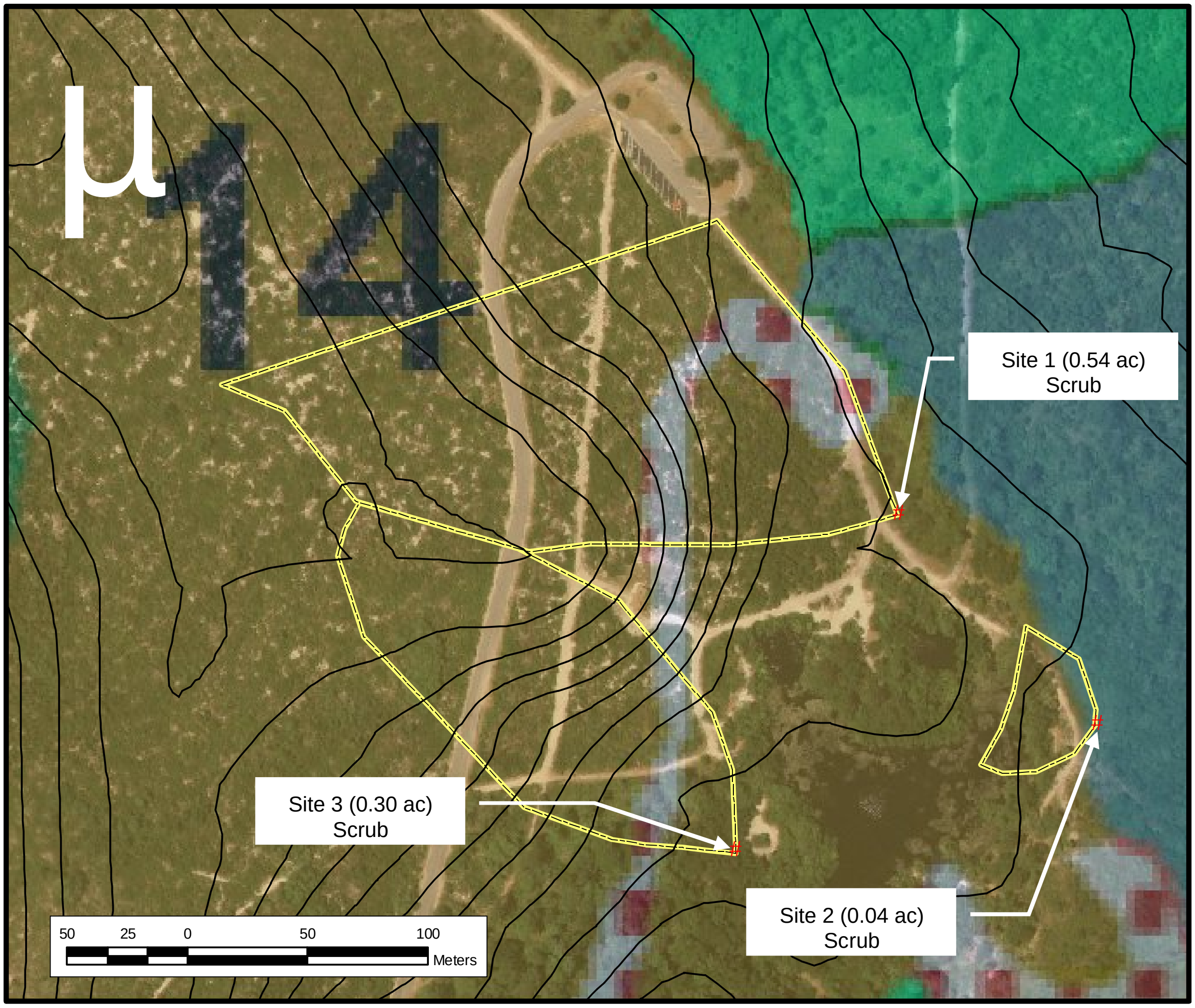



Figure 2-60. Basin Delineations for the Scrub Monitoring Sites at Wekiwa Springs State Park.

## 2.2 Field Instrumentation and Monitoring

Stormwater samplers with integral flow meters were used at each of the 34 monitoring sites described previously. Ten autosamplers were available for this project, and the samplers were rotated between the monitoring sites depending upon hydrologic conditions and rainfall patterns at each of the selected State Parks. One of the most significant criteria for selecting monitoring locations, other than vegetative community type, is that the generated runoff migrates by overland flow into a small channel, ravine, park roadway culverts, or depressional area to create a concentrated flow at the point of sample collection.

The stormwater discharge rate was monitored by the integral flow meters contained within the autosamplers to allow sample collection in a flow-weighted mode. Two separate types of flow probes and monitoring methods were used during this project, depending upon the characteristics of the monitoring site. If the concentrated flow met the requirements for using the Manning Equation, which include a confined channel with a known slope and no tailwater impacts, then flow monitoring was conducted using a pressure transducer probe. The probe provides an accurate measurement of water depth and converts the water depth into a calculated discharge based upon the Manning Equation. Information concerning the physical characteristics of the channel, as well as the channel slope, were entered into the autosampler as input data.

In areas where use of the Manning Equation was not valid, flow measurements were performed using the area/velocity method. This method utilizes a flow probe which provides simultaneously measurements of water depth and flow velocity. The depth measurements are converted into a cross-sectional area based upon the geometry of the channel and the velocity of flow. Discharge is then calculated by the flow meter using the continuity equation ($Q = A \times B$) in cubic feet per second (cfs). Flow measurements conducted at each of the monitoring sites were used to allow collection of samples on a flow-weighted basis and were not intended to provide estimates of runoff volumes discharging from the monitored basin areas.

A Teflon and stainless steel sample strainer was mounted at each of the monitoring sites and connected to the autosampler using 3/8-inch vinyl tubing. Each of the sample collection strainers were mounted to a 2-inch PVC post which was driven into the channel bottom. The sample strainer was mounted 1-2 inches off the channel bottom at each of the monitoring sites to prevent sediment from the channel from being included with the collected samples.

Each of the automatic samplers was equipped with a single 15-liter polyethylene bottle. Each of the autosamplers was programmed to collect samples on a flow-weighted mode, with 250 ml sub-samples placed into the collection bottle at pre-programmed units of water volume. Since 120 VAC power was not available at the site, the automatic samplers were operated on gel cell batteries which were replaced during each periodic visit. In general, samples were retrieved within approximately 24 hours following collection of the last flow-weighted sub-sample. ERD coordinated with each of the State Parks to provide notification for significant rain events occurring at each of the parks.

During periods of heavy or extended rainfall, ERD field personnel visited each of the active monitoring sites approximately 2-3 times each week to retrieve collected runoff samples. The bottom base of each of the autosamplers contained an area sufficient to hold approximately 20 lbs of ice between the collection bottle and the base unit. Ice within each of the autosampler base units was replaced during each site visit. This ice was sufficient to keep the samples chilled during the collection process. At the time of sample retrieval, each of the 15-liter bottles was placed into a large ice-filled cooler for return to the ERD Laboratory.

Rainfall records were obtained from each of the State Parks for the duration of the monitoring program conducted by ERD. The rainfall data reflect daily rainfall totals which are monitored at each park site.

## 2.3 Laboratory Analyses

Each of the collected runoff samples was returned to the ERD Laboratory and evaluated for general parameters, nutrients, BOD, fecal coliform, and selected heavy metals. A summary of laboratory methods and MDLs for analyses conducted on water samples collected during this project is given in Table 2-1. All laboratory analyses were conducted in the ERD Laboratory which is NELAC-certified (No. 1031026). Details on field operations, laboratory procedures, and quality assurance methodologies are provided in the FDEP-approved Comprehensive Quality Assurance Plan No. 870322G for Environmental Research & Design, Inc.

### TABLE 2-3

### ANALYTICAL METHODS AND DETECTION LIMITS FOR LABORATORY ANALYSES

| PARAMETER | METHOD OF ANALYSIS | METHOD DETECTION LIMITS (MDLs)[1] |
|---|---|---|
| pH | EPA-83, Sec. 150.1[2] | N/A |
| Conductivity | EPA-83, Sec. 120.1[2] | 0.3 μmho/cm |
| Alkalinity | EPA-83, Sec. 310.1[2] | 0.5 mg/l |
| Ammonia | EPA-83, Sec. 350.1[2] | 0.005 mg/l |
| $NO_x$ | EPA-83, Sec. 353.2[2] | 0.005 mg/l |
| TKN | Alkaline Persulfate Digestion[3] | 0.01 mg/l |
| Ortho-P | EPA-83, Sec. 365.1[2] | 0.001 mg/l |
| Total Phosphorus | Alkaline Persulfate Digestion[3] | 0.001 mg/l |
| Turbidity | EPA-83, Sec. 180.1[2] | 0.1 NTU |
| Color | EPA-83, Sec. 110.3[2] | 1 Pt-Co Unit |
| TSS | EPA-83, Sec. 160.2[2] | 0.7 mg/l |
| BOD | SM-19, Sec. 5210B[4] | 2 mg/l |
| Fecal Coliform | SM-19, Sec. 9222 D | 1 cfu |
| Copper | SM-19, Sec. 3111 B | 2 μg/l |
| Chromium | SM-19, Sec. 3111B | 5 μg/l |
| Iron | SM-19, Sec. 3111B | 2 μg/l |
| Lead | SM-19, Sec. 3111B | 2 μg/l |
| Zinc | SM-19, Sec. 3111B | 1 μg/l |

1. MDLs are calculated based on the EPA method of determining detection limits
2. Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, Revised March 1983.
3. FDEP-approved alternate method
4. Standard Methods for the Examination of Water and Wastewater, 19th Ed., 1995.

## 2.4 Quality Control

Multiple QA/QC procedures were used by ERD during this project. A summary of QA/QC procedures is given in Table 2-4. The listed QA/QC procedures are designed to evaluate both the field and laboratory systems. Approximately 140 laboratory QA/QC samples were evaluated by ERD as part of the analyses for the 304 collected runoff samples. In addition, more than 60 field QA/QC samples were collected and analyzed to address potential field contamination. A complete listing of QA/QC samples evaluated as part of this project is given in Appendix B.

**TABLE 2-4**

**QA/QC PROCEDURES USED BY ERD**

| QC ITEM | FREQUENCY |
|---|---|
| Continuous Calibration Verification Standards | Every 10 samples |
| Continuing Calibration Blanks | Every 10 samples |
| Lab Control Samples (Check Standards) | Every 20 samples and beginning/end of each run |
| Method Blank | Every 20 samples and beginning/end of each run |
| Duplicate Samples (Precision) | Every 10 samples |
| Spiked Samples (Accuracy) | Every 20 samples |
| Initial Calibration Verification (pH) | Every run |
| Field Equipment Blanks | Every 10 samples |
| Pre-Cleaned Equipment Blank | Every 10 samples |

## 2.5 Statistical Treatment of Data

Statistical analyses for this project were conducted using several different programs. All laboratory data were initially entered into an Excel spreadsheet which was used as a data base for subsequent analyses. The Excel program was also used to conduct log-normal transformations of the data and to calculate mean values for the log-transformed data. The Sigma Plot program was used to generate probability distribution plots of the data as well as bar charts and box and whisker plots. Analysis of variance procedures were conducted using the PROC GLM subroutine of SAS (Statistical Analysis System) to conduct analysis of variance procedures for unbalanced data sets. The Tukey multiple comparison technique was used to identify statistically similar groupings. Data indicated as less than the detection limit for a particular variable were entered into the data set as one-half of the detection limit presented.

# SECTION 3

# RESULTS

Field monitoring, sample collection, and laboratory analyses for natural area stormwater samples were conducted at 34 monitoring sites in 10 State Parks within the State of Florida over a 14-monthy period from June 2007-July 2008. A total of 304 separate samples was collected during the monitoring program. A discussion of the results of the monitoring program is given in the following sections.

## 3.1 Rainfall Characteristics

As discussed in Section 2, rainfall data were provided to ERD by the monitored State Parks over the period from July 2007-July 2008. Since monitoring was conducted at the Wekiwa Springs State Park only during 2008, rainfall records for this site were provided from January-September 2008. Rainfall records provided by each of the State Parks reflect daily rainfall recorded at each site. A complete listing of rainfall records provided by the State Parks is given in Appendix C.

The rainfall data summarized in Appendix C were used to compare rainfall characteristics during the monitoring program conducted by ERD to "typical" or "normal" rainfall in the vicinity of each of the monitoring sites. For this comparison, measured daily rainfall at each of the State Parks was summed over the 12-month period from July 2007-June 2008. These values were compared with mean rainfall over the period from 1971-2000 measured at the closest National Climatic Data Center (NCDC) recording station to each of the evaluated State Parks. These values are assumed to reflect "typical" or "mean" rainfall characteristics near each of the State Parks.

A comparison of measured and "typical" rainfall at the State Park monitoring sites from July 2007-June 2008 is given on Table 3-1. The Wekiwa Springs State Park is not included in this analysis since monitoring at this site was only conducted over a period of a few months. Measured rainfall at the State Park monitoring sites over the period from July 2007-June 2008 ranged from 27.53 inches at the Paynes Creek Historic State Park to 85.11 inches at Jonathan Dickinson State Park. However, the 27.53 inches of rainfall recorded at the Paynes Creek Historic State Park does not appear to be realistic since rainfall depths of 40 inches of more were measured at all of the neighboring monitoring sites. The measured rainfall of 80.97 inches recorded at Alfred B. Maclay Gardens State Park and 85.11 inches recorded at Jonathan Dickinson State Park also appear to be questionable and would reflect near-record annual rainfall for these regions of the State of Florida. Ignoring these three questionable values, rainfall during the monitoring program appears to be relatively normal, ranging from 15% above normal at Faver Dykes State Park to approximately 20% less than normal at Myakka River State Park. Overall, excluding the three questionable values, rainfall was approximately 6% less than normal during the field monitoring program.

**TABLE 3-1**

**COMPARISON OF MEASURED AND "TYPICAL" RAINFALL AT THE STATE PARKS DURING THE MONITORING PROGRAM**

| STATE PARK | NCDC STATION | NCDC I.D. | MEASURED RAINFALL (7/07 – 6/08) (inches) | MEAN RAINFALL (1971-2000) (inches) | DEPARTURE FROM NORMAL (%) |
|---|---|---|---|---|---|
| Alfred B. Maclay Gardens | Tallahassee Municipal Airport | 88758 | 80.97 | 63.21 | 28 |
| Fakahatchee Strand | Everglades | 82850 | 48.88 | 52.10 | -6 |
| Faver Dykes | St. Augustine Wfoy | 87826 | 54.71 | 47.42 | 15 |
| Jonathan Dickinson | Stuart 1S | 88620 | 85.11 | 59.53 | 43 |
| Lake Louisa | Clermont 7S | 81641 | 48.58 | 49.74 | -2 |
| Myakka River | Myakka River State Park | 86065 | 47.32 | 58.91 | -20 |
| Paynes Creek Historic | Wauchula | 89401 | 27.53 | 50.44 | -45 |
| San Felasco | Gainesville 11 WNW | 83322 | 42.50 | 49.56 | -14 |
| Silver River | Ocala | 86414 | 43.37 | 49.68 | -13 |

## 3.2 Natural Land Use Characterization Data

A complete listing of the results of laboratory analyses conducted on natural area samples is given in Appendix D. These data are used to estimate runoff characteristics from the evaluated natural area communities. A discussion of the results of these analyses is given in the following sections.

### 3.2.1 Data Probability Distribution

The first step in evaluating the collected natural area data is to examine the distribution of the data to determine if data transformations are necessary prior to conducting subsequent statistical analyses. Both normal and log-normal probability plots were generated for each measured parameter in each of the identified vegetation communities. A complete listing of the generated probability plots for each of the vegetative community types is given in Appendix E. The distribution type which most closely follows a straight-line relationship with the data is used to identify the distribution of the data for a given parameter. This information is necessary to identify the most appropriate types of statistical analyses to characterize the central tendency for the data and to identify the type of data sets to be used in subsequent statistical analyses.

As seen in Appendix E, all of the evaluated vegetative communities exhibit a poor fit for the normal probability plots. When plotted in this manner, most of the data generate a curvilinear relationship rather than a straight-line relationship, suggesting that a normal probability distribution does not fit the collected data. However, when plotted on a log-normal probability plot, the data appear to fit a straight-line relationship for virtually all parameters. This relationship suggests that the data are not normally distributed but observe a log-normal distribution type which is commonly observed in environmental data. As a result, all subsequent statistical analyses on the monitoring data were conducted using log-transformed values. At the completion of the statistical analyses, the log-transformed data were then retransformed into customary values for each evaluated parameter. Log transformations were not conducted on pH values since pH values have already undergone log transformations.

### 3.2.2 Statistical Comparisons

A statistical comparison of the measured characteristics at each of the vegetation monitoring sites was developed in the form of Tukey box plots, also often called "box and whisker plots". The bottom line of the box portion of each plot represents the lower quartile, with 25% of the data points falling below this value. The upper line of the box represents the 75% upper quartile, with 25% of the data falling above this value. The horizontal line within the box represents the median value, with 50% of the data falling both above and below this value. The vertical lines, also known as "whiskers", represent the 5 and 95 percentiles for the data sets. Individual values which fall outside of the 5-95 percentile range, sometimes referred to as "outliers", are indicated as **red dots**.

A statistical comparison of pH, alkalinity, conductivity, and color at the vegetation monitoring sites is given on Figure 3-1. In general, measured pH values in the natural areas are less than neutral at the majority of the monitoring sites, with the exceptions of the marl prairie and upland hardwood sites. Relatively high degrees of variability in measured pH values were observed in the mesic flatwoods, ruderal/upland pine, wet flatwoods, and wet prairie monitoring sites. In contrast, a low degree of variability in measured pH values was observed at the dry prairie, marl prairie, mixed hardwood forest, upland mixed forest, and xeric scrub sites.

Measured alkalinity values at the vegetation monitoring sites were highly variable, ranging from poorly buffered to well buffered depending upon location. Low levels of alkalinity were observed in the dry prairie, mixed hardwood forest, scrubby flatwoods, upland mixed forest, xeric hammock, and xeric scrub. Highly variable alkalinity values were observed in the mesic flatwoods, ruderal/upland pine, upland hardwood, wet flatwood, and wet prairie sites. The highest level of alkalinity was observed in the marl prairie, with measured alkalinity values in excess of 225 mg/l.

A high degree of variability was also observed in measured conductivity values at each of the vegetation monitoring sites. Relatively low levels of conductivity were observed in the dry prairie, mixed hardwood forest, upland mixed forest, and xeric scrub monitoring sites. Higher conductivity values, along with a higher degree of variability in measured values, were observed in the mesic flatwoods, ruderal/upland pine, upland hardwood, wet flatwoods, and wet prairie sites. The highest measured conductivity values were observed in the marl prairie which also exhibited elevated pH and alkalinity values.

A high level of variability was also present for color concentrations measured in the vegetation monitoring sites. Relatively low levels of color were observed in the marl prairie, mixed hardwood forest, upland hardwoods, and upland mixed forest sites. Higher color concentrations, as well as a substantially higher degree of variability in measured values, were observed at the remaining sites. Measured color concentrations of more than 500 Pt-Co units were observed at approximately half of the monitoring sites which include dry prairie, mesic flatwoods, scrubby flatwoods, and wet flatwoods, which exhibited the highest color concentrations measured during this study. Elevated concentrations of color are common in wet flatwood areas.

A statistical comparison of nitrogen species measured at the vegetation monitoring sites is given on Figure 3-2. In general, relatively low levels of ammonia were observed at each of the monitoring sites, although outlier values in excess of 200 μg/l are present at several of the sites, including mixed hardwood forest, upland hardwood, upland mixed forest, wet flatwoods, and wet prairie.

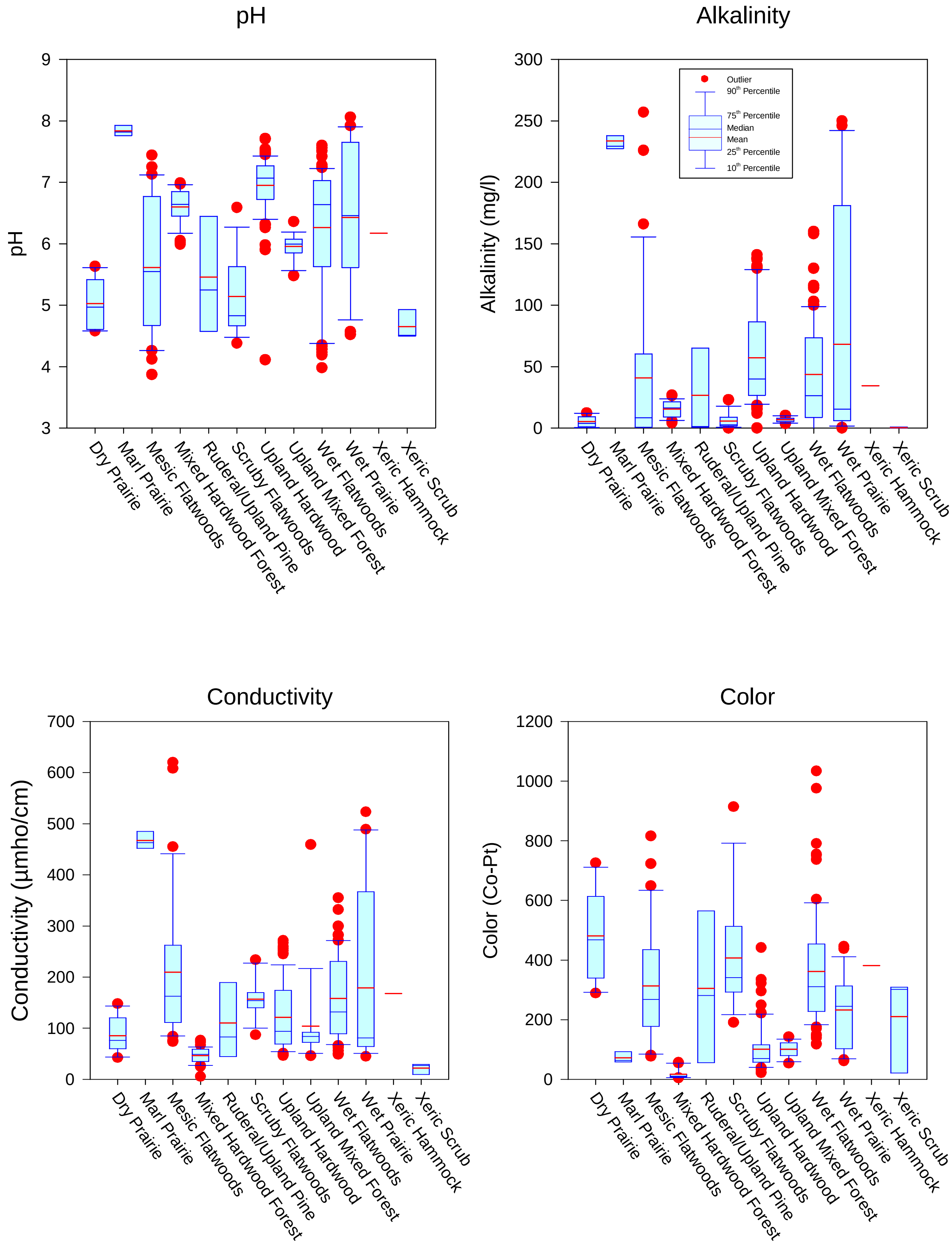



Figure 3-1. Statistical Comparison of pH, Alkalinity, Conductivity, and Color at the Vegetation Monitoring Sites.

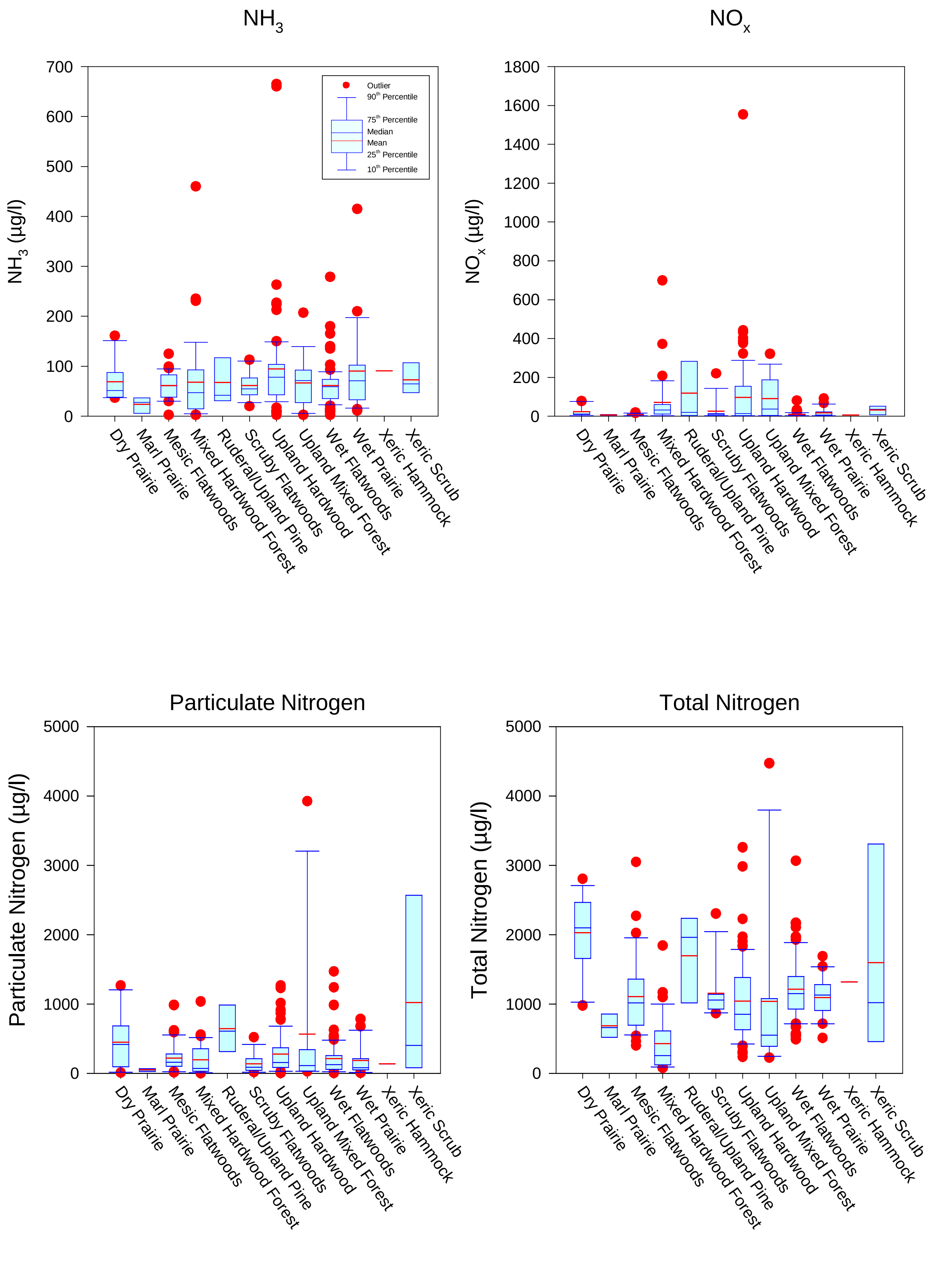



Figure 3-2. Statistical Comparison of Nitrogen Species at the Vegetation Monitoring Sites.

Low levels of $NO_x$ were observed at 9 of the 12 vegetation community sites. More elevated levels of $NO_x$ were observed at the mixed hardwood forest, upland hardwood, and upland mixed forest sites, with several values exceeding 500 μg/l. In general, measured concentrations of particulate nitrogen were found to be relatively uniform in value at 10 of the 12 monitoring sites. Somewhat more elevated levels of particulate nitrogen were observed in several samples collected at the upland mixed forest and xeric scrub sites.

A high degree of variability was observed in measured total nitrogen concentrations between the 12 vegetation communities. Relatively low levels of total nitrogen, defined as concentrations less than 1000 μg/l, were observed in many of the samples collected at the marl prairie, mixed hardwood forest, upland hardwood, and upland mixed forest sites. More elevated levels of total nitrogen were observed at the dry prairie, ruderal/upland pine, and xeric scrub sites. Samples collected at the mesic flatwoods, upland hardwood, upland mixed forest, and wet flatwood sites were characterized by a high degree of variability between measured concentrations in the individual samples.

A statistical comparison of phosphorus species measured at the vegetation monitoring sites is given in Figure 3-3. Low levels of SRP were observed at 6 of the 12 monitoring sites, including mesic flatwoods, ruderal/upland pine, scrubby flatwoods, wet flatwoods, wet prairie, and xeric scrub sites. More elevated levels were observed at the remaining sites, with the highest SRP concentrations measured at the upland mixed forest and xeric hammock sites. Relatively low levels of dissolved organic phosphorus were observed at 8 of the 12 vegetation types, including dry prairie, marl prairie, mesic flatwoods, ruderal/upland pine, scrubby flatwood, wet flatwoods, wet prairie, xeric hammock, and xeric scrub. Elevated levels of dissolved organic phosphorus were observed at the upland hardwood and upland mixed forest sites with values many times greater than measured at the remaining sites.

In general, particulate phosphorus concentrations were low in value at the majority of the monitored sites, with only mixed hardwood forest and upland mixed forest exhibiting elevated concentrations. A high degree of variability is apparent in measured total phosphorus concentrations at each of the monitoring sites. Relatively low phosphorus concentrations were observed in the marl prairie, mesic flatwoods, ruderal/upland pine, scrubby flatwood, wet flatwoods, wet prairie, and xeric scrub sites. Substantially higher phosphorus concentrations were observed at the mixed hardwood forest and upland mixed forest sites. Both of these sites are characterized by large communities of deciduous trees and a thick forest layer of litter. It appears that decomposition of this litter is contributing substantial quantities of total phosphorus to generated runoff within the area. These areas also exhibited elevated concentrations of total nitrogen which also appears to be leaching into runoff.

A statistical comparison of measured concentrations of fecal coliform, turbidity, TSS, and BOD at the natural area monitoring sites is given in Figure 3-4. In general, fecal coliform concentrations were low in value in approximately half of the monitoring sites. However, substantially elevated fecal coliform concentrations were observed at the remaining sites during individual storm events. Fecal coliform counts in excess of 50,000 cfu/100 ml were observed in the mesic flatwoods at the sites, with concentrations in excess of 25,000 cfu/100 ml observed at the upland hardwood and upland mixed forest sites. Since none of the monitoring sites had potential sources of fecal coliform contamination, the observed values probably reflect natural occurrences.

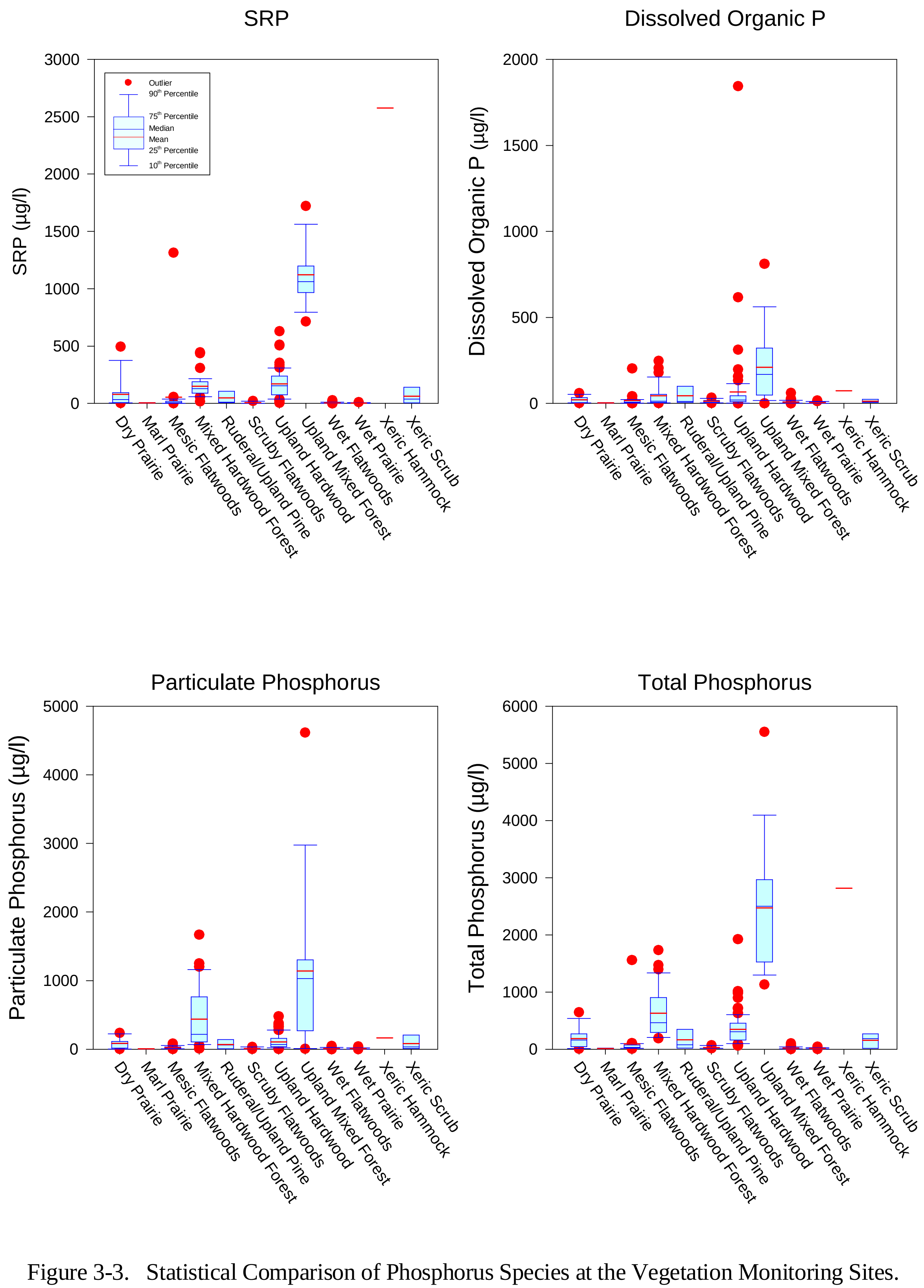



Figure 3-3. Statistical Comparison of Phosphorus Species at the Vegetation Monitoring Sites.

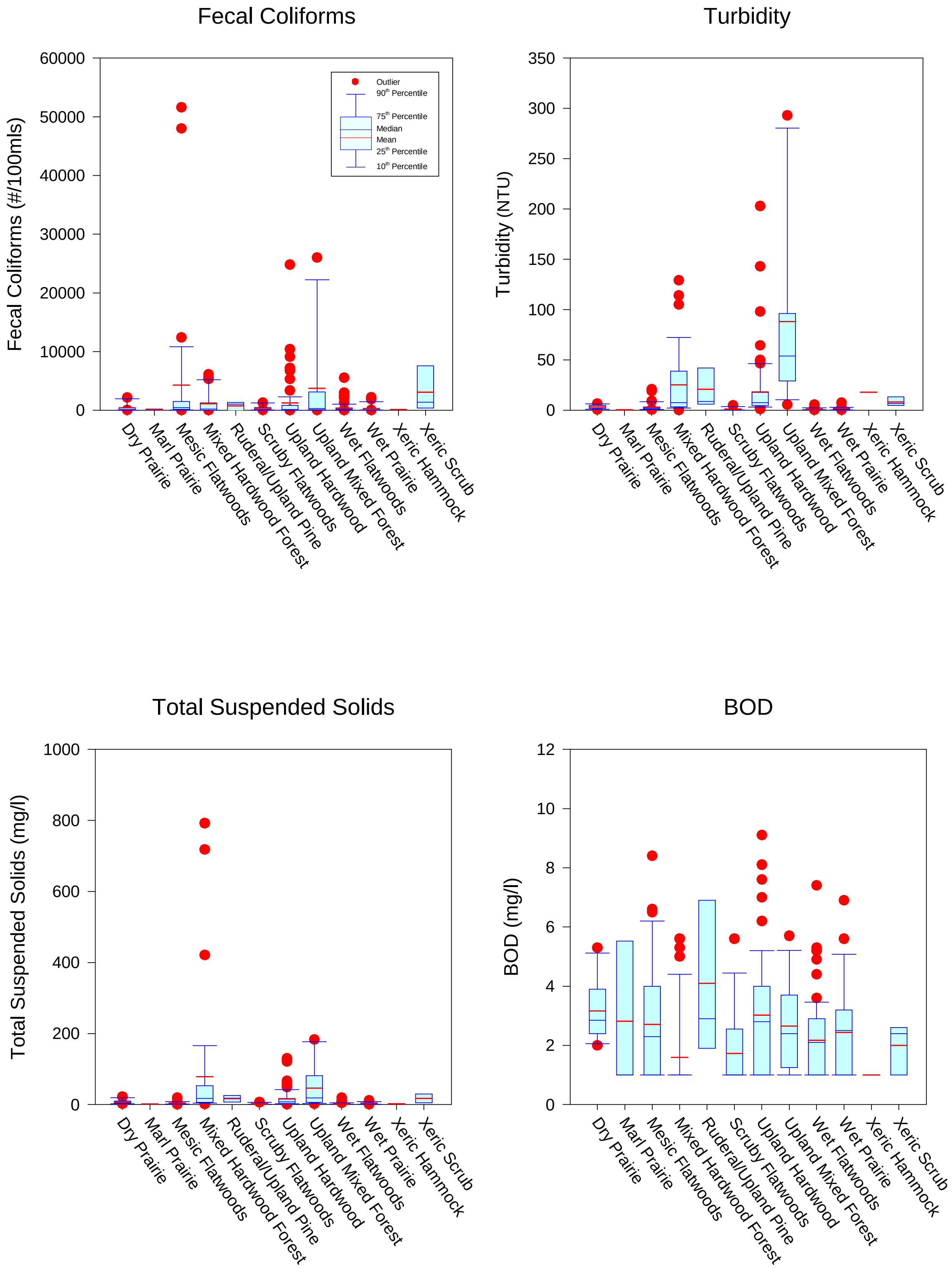



Figure 3-4. Statistical Comparison of Fecal Coliform, Turbidity, TSS, and BOD at the Vegetation Monitoring Sites.

Measured turbidity values were also low at approximately half of the monitoring sites. More elevated turbidity values were observed in the mixed hardwood forest, upland forest, and upland mixed forest communities, with turbidity values in excess of 100 NTU observed at each of these sites on multiple occasions. Low levels of TSS were observed at 9 of the 12 monitoring sites, with more elevated concentrations observed in the mixed hardwood forest, upland forest, and upland mixed forest areas, with TSS concentrations in excess of 200 mg/l observed at each of these sites.

In general, measured concentrations of BOD were relatively low in value at the majority of the monitoring sites. However, elevated BOD concentrations, defined as values in excess of 5 mg/l, were observed on multiple occasions in the mesic flatwoods, mixed hardwood forest, ruderal/upland pine, upland hardwood, wet flatwood, and wet prairie monitoring sites. Since none of these sites have significant anthropogenic sources, the observed elevated BOD concentrations must reflect naturally occurring organic matter generated within each of the vegetation communities.

A statistical comparison of measured concentrations of iron and zinc in runoff samples collected at each of the vegetation monitoring sites is given on Figure 3-5. Iron and zinc are the only metals included in this analysis since measured concentrations for cadmium, chromium, copper, and lead are near the limits of detection in the majority of samples. Relatively low levels of total iron were observed in the majority of samples collected at the marl prairie, wet flatwoods, wet prairie, and xeric scrub monitoring sites. Each of the remaining sites exhibited substantially elevated levels of total iron, with many measured values in excess of the Class III criterion of 1000 μg/l. Individual samples in excess of 10,000 μg/l were measured in the mixed hardwood forest and upland mixed forest areas.

Measured zinc concentrations were found to be highly variable between the monitoring sites. Relatively low levels of total zinc were observed at the dry prairie, marl prairie, ruderal/upland pine forest, and xeric scrub sites. Each of the remaining sites exhibited elevated levels of total zinc on multiple occasions during the monitoring program. Much of the total zinc measured at these sites may be associated with detrital matter which is exported from these communities during storm events.

### 3.2.3 <u>Estimates of Central Tendency</u>

As discussed previously, the natural community data exhibit a log-normal probability distribution. Therefore, statistical analyses must be conducted on the log-transformed data sets to maintain the assumptions of normal probability distributions inherent in many statistical procedures. A summary of calculated mean water quality characteristics at the natural area monitoring site, based upon the log-transformed data, is given in Appendix F. The data summarized in this appendix reflect means for the log-transformed data sets which were then retransformed into normal values.

A summary of mean characteristics of general parameters in natural community runoff samples is given in Table 3-2. The values summarized in this table reflect the means of the log-transformed data sets. Mean measured pH values for the natural communities range from a low of 4.65 at the xeric scrub sites to 7.84 at the marl prairie sites. Measured conductivity values range from a low of 43 μmho/cm in the mixed hardwood to a high of 467 μmho/cm in the marl prairie. With the exception of the marl prairie value, relatively low conductivity levels were observed at the natural area sites.

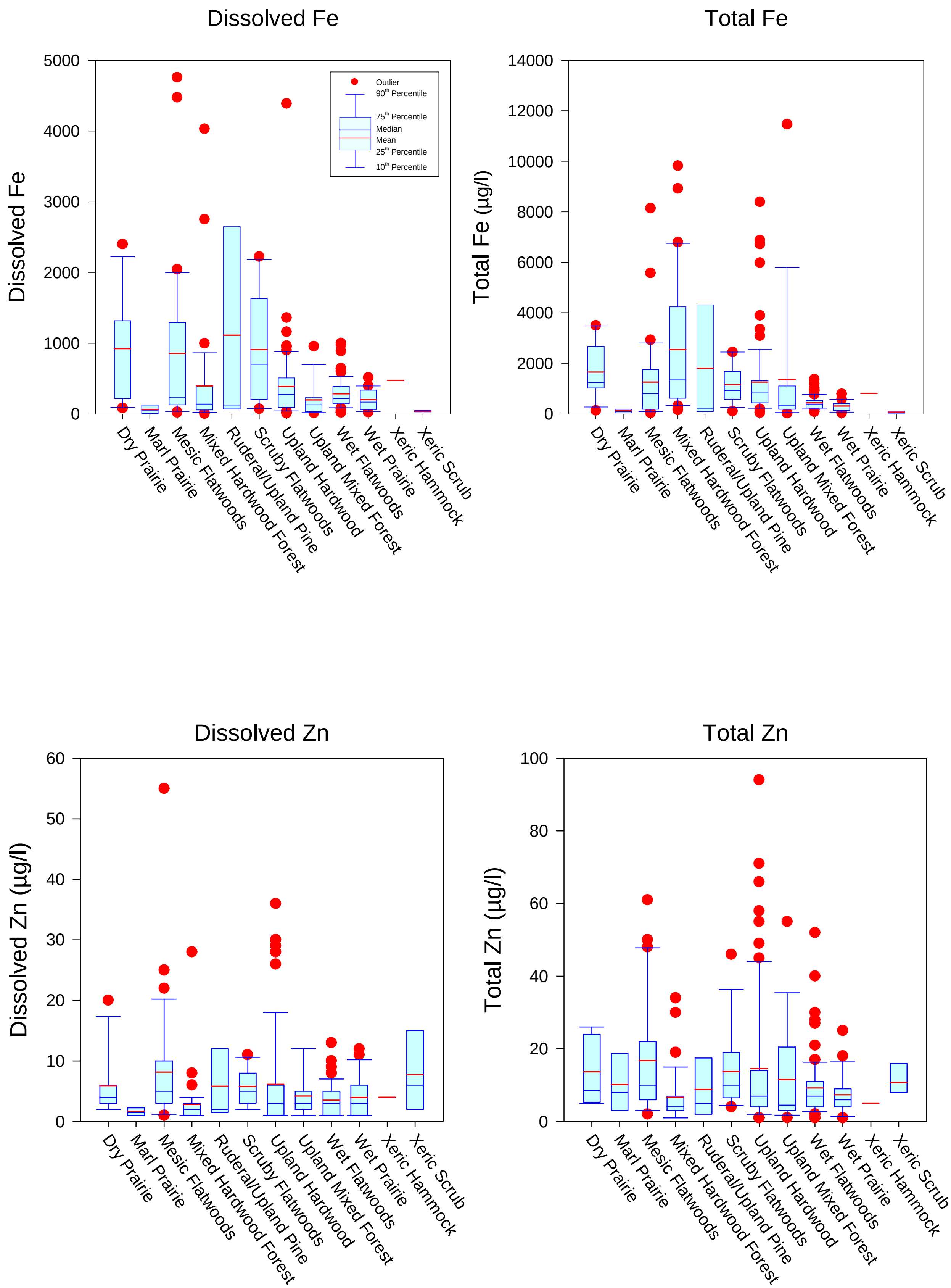



Figure 3-5. Statistical Comparison of Iron and Zinc at the Vegetation Monitoring Sites.

**TABLE 3-2**

**MEAN CHARACTERISTICS OF GENERAL PARAMETERS IN NATURAL COMMUNITY RUNOFF SAMPLES**

| LAND TYPE | NO. OF SAMPLES | pH (s.u.) | CONDUCTIVITY (μmho/cm) | ALKALINITY (mg/l) | COLOR (Pt-Co) | TURBIDITY (NTU) | TSS (mg/l) |
|---|---|---|---|---|---|---|---|
| Dry Prairie | 12 | 5.02 | 80 | 2.9 | 459 | 2.7 | 5.1 |
| Marl Prairie | 6 | 7.84 | 467 | 233 | 70 | 0.5 | 1.1 |
| Mesic Flatwoods | 31 | 5.61 | 175 | 12.1 | 254 | 1.7 | 3.0 |
| Mixed Hardwood | 39 | 6.60 | 43 | 13.7 | 13 | 9.9 | 21.7 |
| Ruderal/Pine | 5 | 5.46 | 78 | 2.8 | 156 | 14.1 | 13.6 |
| Scrubby Flatwoods | 13 | 5.14 | 153 | 4.1 | 373 | 0.9 | 1.6 |
| Upland Hardwood | 79 | 6.95 | 105 | 46.3 | 82 | 9.5 | 8.3 |
| Upland Mixed | 16 | 5.95 | 88 | 6.5 | 98 | 53.8 | 19.2 |
| Wet Flatwoods | 76 | 6.26 | 139 | 34.2 | 322 | 1.0 | 1.7 |
| Wet Prairie | 23 | 6.42 | 120 | 21.1 | 200 | 1.3 | 2.5 |
| Xeric Hammock | 1 | 6.17 | 168 | 34.4 | 382 | 18.0 | 1.8 |
| Xeric Scrub | 3 | 4.65 | 19 | 0.8 | 125 | 7.5 | 13.7 |

Measured alkalinity values range from a low of 2.9 mg/l in the dry prairie to a high of 233 mg/l in the marl prairie. In general, the natural area samples were poorly buffered, with 11 of the 12 community types exhibiting mean alkalinities less than 50 mg/l.

Measured turbidity values at the natural area sites were also relatively low in value, with 9 of the 12 community types exhibiting turbidity values less than 10 NTU. A relatively elevated turbidity of 53.8 NTU was observed at the upland mixed forest. Measured TSS samples at the natural area sites were found to be relatively low in value at most sites. Somewhat elevated TSS concentrations were observed in the mixed hardwood, ruderal pine, and upland mixed forest communities. Measured color concentrations at the natural area sites were highly variable, ranging from a low of 13 Pt-Co units in the mixed hardwood forest to a high of 459 Pt-Co units in the dry prairie site.

A comparison of mean characteristics for nitrogen species and BOD measured at the natural land use runoff sites is given in Table 3-3. However, due to the log transformations of the data and issues related to evaluation of data listed as BDL, the sum of the means of the individual nitrogen species do not always add up to the measured total nitrogen values. In general, low levels of both ammonia and $NO_x$ were observed at each of the natural area monitoring sites, suggesting a low level of available inorganic nitrogen within the communities. The vast majority of total nitrogen measured at the natural area sites is comprised of either dissolved organic nitrogen or particulate nitrogen, suggesting an organic origin. Elevated levels of either dissolved organic nitrogen or particulate nitrogen were observed at the dry prairie, marl prairie, mesic flatwood, ruderal/pine forest, scrubby flatwood, wet flatwoods, wet prairie, xeric hammock, and xeric scrub sites. Low levels of total nitrogen, defined as concentrations less than 1000 μg/l on an average basis, were observed in the marl prairie, mesic flatwoods, mixed hardwood, upland hardwood, and upland mixed forest communities. Mean total nitrogen concentrations ranging from 1000-2000 μg/l were observed at the dry prairie, ruderal/pine forest, scrubby flatwoods, wet flatwood, wet prairie, and xeric scrub monitoring sites. An elevated total nitrogen concentration of 2577 μg/l was measured in the xeric hammock community.

# TABLE 3-3

## MEAN CHARACTERISTICS OF NITROGEN SPECIES AND BOD IN NATURAL COMMUNITY RUNOFF SAMPLES

| LAND TYPE | NO. OF SAMPLES | AMMONIA (µg/l) | $NO_x$ (µg/l) | DISS. ORG. N (µg/l) | PART. N (µg/l) | TOTAL N (µg/l) | BOD (mg/l) |
|---|---|---|---|---|---|---|---|
| Dry Prairie | 12 | 61 | 14 | 1407 | 235 | 1940 | 3.0 |
| Marl Prairie | 6 | 18 | 6 | 584 | 45 | 667 | 1.8 |
| Mesic Flatwoods | 31 | 52 | 6 | 651 | 145 | 976 | 2.1 |
| Mixed Hardwood | 39 | 36 | 28 | 42 | 81 | 286 | 1.3 |
| Ruderal/Pine | 5 | 55 | 25 | 604 | 526 | 1565 | 3.1 |
| Scrubby Flatwoods | 13 | 56 | 10 | 898 | 89 | 1109 | 1.4 |
| Upland Hardwood | 79 | 66 | 20 | 434 | 164 | 900 | 2.5 |
| Upland Mixed | 16 | 46 | 32 | 226 | 148 | 683 | 2.3 |
| Wet Flatwoods | 76 | 50 | 6 | 874 | 123 | 1139 | 1.8 |
| Wet Prairie | 23 | 64 | 10 | 686 | 93 | 1055 | 2.0 |
| Xeric Hammock | 1 | 91 | 7 | 1083 | 137 | 2577 | 1.0 |
| Xeric Scrub | 3 | 69 | 24 | 448 | 443 | 1158 | 1.8 |

In general, mean BOD concentrations measured at each of the natural community sites are relatively low in value, with virtually all mean concentrations less than 3 mg/l. However, as discussed previously, elevated BOD concentrations in excess of 5 mg/l were observed in some of the land use types during individual storm events.

A comparison of mean concentrations of phosphorus species and fecal coliform at the natural area monitoring sites is given in Table 3-4. Mean concentrations are provided for SRP, dissolved organic phosphorus, particulate phosphorus, and total phosphorus, which represents the sum of the previous three species. However, due to the log transformations of the data and issues related to evaluation of data listed as BDL, the sum of the means of the individual phosphorus species do not always add up to the measured total phosphorus values. The individual species are provided in Table 3-4 to allow an evaluation of principle phosphorus forms present at each monitoring site.

In general, low levels of SRP were observed at the dry prairie, marl prairie, mesic flatwoods, ruderal/pine, scrubby flatwoods, wet flatwood, wet prairie, and xeric scrub sites. A somewhat elevated level of 126 µg/l was observed in the mixed hardwood forest. Extremely elevated levels of 1094 µg/l were observed in the upland mixed forest, with a value of 2577 µg/l measured in the xeric hammock area. Relatively low levels of dissolved organic phosphorus were observed at each of the monitoring sites, with the possible exceptions of the upland mixed forest and xeric hammock communities. A similar pattern was apparent for measured concentrations of particulate phosphorus, with relatively low values at all of the monitoring sites with the exceptions of the mixed hardwood forest, upland forest, and xeric hammock areas.

## TABLE 3-4

## MEAN CHARACTERISTICS OF PHOSPHORUS SPECIES AND FECAL COLIFORM IN NATURAL COMMUNITY RUNOFF SAMPLES

| LAND TYPE | NO. OF SAMPLES | SRP (μg/l) | DISS. ORG. P (μg/l) | PART. P (μg/l) | TOTAL P (μg/l) | FECAL COLIFORM (cfu/100 ml) |
|---|---|---|---|---|---|---|
| Dry Prairie | 12 | 30 | 14 | 45 | 107 | 73 |
| Marl Prairie | 6 | 4 | 2 | 3 | 9 | 87 |
| Mesic Flatwoods | 31 | 5 | 7 | 14 | 35 | 468[1] |
| Mixed Hardwood | 39 | 126 | 17 | 253 | 506 | 166 |
| Ruderal/Pine | 5 | 20 | 20 | 31 | 84 | 223[1] |
| Scrubby Flatwoods | 13 | 4 | 9 | 5 | 23 | 151 |
| Upland Hardwood | 79 | 125 | 20 | 69 | 271 | 154 |
| Upland Mixed | 16 | 1094 | 106 | 495 | 2272 | 372[1] |
| Wet Flatwoods | 76 | 3 | 4 | 6 | 16 | 91 |
| Wet Prairie | 23 | 2 | 3 | 4 | 12 | 108 |
| Xeric Hammock | 1 | 2577 | 74 | 165 | 2816 | 108 |
| Xeric Scrub | 3 | 28 | 11 | 38 | 96 | 1533[1] |

1. Mean values which exceed Class III criterion

In general, low levels of total phosphorus were measured at the marl prairie, scrubby flatwood, wet flatwoods, and wet prairie sites. Moderate levels of total phosphorus were measured at the dry prairie, ruderal/pine, and xeric scrub sites. An elevated phosphorus concentration of 506 μg/l was observed at the mixed hardwood site. However, extremely elevated total phosphorus concentrations in excess of 2200 μg/l were measured at the upland mixed forest and xeric hammock sites. These measured concentrations are approximately 5-10 times higher than phosphorus concentrations commonly observed in open runoff.

Mean fecal coliform concentrations are also provided in Table 3-4 for each of the vegetation community sites. In general, relatively low levels of fecal coliform bacteria were observed at approximately half of the monitoring sites. Elevated levels of fecal coliform bacteria, with mean values in excess of the Class III criterion of 200 cfu/100 ml, were observed in the mesic flatwood, ruderal/pine forest, upland mixed forest, and xeric scrub sites. Since the State Park sites have minimal impacts from human activities, the observed elevated fecal coliform levels must be a result of naturally occurring processes.

A comparison of mean heavy metal concentrations in runoff samples collected from the various vegetation communities is given in Table 3-5. In general, samples collected at the natural monitoring sites are characterized by extremely low levels of cadmium, chromium, and lead. As seen in Appendix D, the vast majority of measured values for these parameters at the natural area monitoring sites were at or below the limits of detection for these metals. Extremely low levels of total copper were also measured at the natural area sites. On an average basis, dissolved copper comprised approximately 60-100% of the total copper measured at each site. This finding is consistent with the fact that copper migrates through a natural environment primarily in a dissolved form associated with organic compounds.

**TABLE 3-5**

**MEAN CHARACTERISTICS OF HEAVY METALS IN NATURAL COMMUNITY RUNOFF SAMPLES**

| LAND TYPE | NO. OF SAMPLES | CADMIUM (µg/l) | | CHROMIUM (µg/l) | | COPPER (µg/l) | | IRON (µg/l) | | LEAD (µg/l) | | ZINC (µg/l) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Diss. | Total | Diss. | Total | Diss. | Total | Diss. | Total | Diss. | Total | Diss. | Total |
| Dry Prairie | 12 | 1.0 | 1.2 | <5 | <5 | 1.7 | 1.9 | 601 | 1263[1] | 1.0 | 1.1 | 4.6 | 10.9 |
| Marl Prairie | 6 | 1.0 | 1.3 | <5 | <5 | 1.5 | 2.3 | 37 | 89 | 1.0 | 1.0 | 1.5 | 7.8 |
| Mesic Flatwoods | 31 | 1.1 | 1.3 | <5 | <5 | 1.5 | 2.4 | 324 | 558 | 1.0 | 1.5 | 5.1 | 10.9 |
| Mixed Hardwood | 39 | 1.1 | 1.1 | <5 | <5 | 1.6 | 2.3 | 153 | 1481[1] | 1.0 | 1.1 | 1.8 | 4.5 |
| Ruderal/Pine | 5 | 1.0 | 1.0 | <5 | <5 | 3.0 | 5.0 | 272 | 449 | 1.0 | 1.0 | 3.2 | 5.1 |
| Scrubby Flatwoods | 13 | 1.1 | 1.2 | <5 | <5 | 1.5 | 2.2 | 539 | 897 | 1.1 | 1.3 | 5.0 | 10.9 |
| Upland Hardwood | 79 | 1.0 | 1.2 | <5 | <5 | 1.7 | 2.5 | 213 | 270 | 1.0 | 1.1 | 3.2 | 7.7 |
| Upland Mixed | 16 | 1.1 | 1.3 | <5 | <5 | 1.8 | 2.7 | 104 | 440 | 1.1 | 1.2 | 3.1 | 6.4 |
| Wet Flatwoods | 76 | 1.1 | 1.2 | <5 | <5 | 1.6 | 2.1 | 218 | 374 | 1.0 | 1.3 | 2.7 | 6.6 |
| Wet Prairie | 23 | 1.1 | 1.2 | <5 | <5 | 1.8 | 2.5 | 146 | 246 | 1.0 | 1.0 | 2.8 | 5.5 |
| Xeric Hammock | 1 | 1.0 | 1.0 | <5 | <5 | 1.5 | 1.5 | 475 | 814 | 1.0 | 1.0 | 4.0 | 5.0 |
| Xeric Scrub | 3 | 1.0 | 1.0 | <5 | <5 | 2.1 | 3.4 | 36 | 60 | 1.0 | 1.6 | 5.6 | 10.1 |

1. Mean values which exceed Class III criterion

Measured concentrations of iron were found to be highly variable between the natural monitoring sites. Low levels of iron were observed at the marl prairie, upland hardwood, wet prairie, and xeric scrub monitoring sites. Mean measured iron concentrations at the dry prairie and mixed hardwood sites exceed the Class III criterion of 1000 µg/l for iron in discharges to Class III waters. With the exception of the upland hardwood and wet prairie monitoring sites, iron appears to be present primarily as a particulate form at the natural sites.

Low levels of total zinc were measured at each of the 12 natural area sites, with virtually all mean zinc concentrations equal to or less than 10 μg/l. Zinc appears to be present primarily in a particulate form at the majority of the monitoring sites.

A graphical comparison of mean concentrations of nitrogen, phosphorus, fecal coliform, and iron in the natural area samples is given on Figure 3-6. The previously assumed natural area concentrations of 1150 μg/l for total nitrogen and 55 μg/l for total phosphorus, used prior to the current natural area monitoring program, are also indicated on Figure 3-6 for comparison purposes. In general, mean total nitrogen concentrations measured at five of the monitoring sites appear to be less than the previously assumed value for natural areas of 1150 μg/l, with five sites at or near the previous value, and two values substantially in excess of the previous estimate. For total phosphorus, four of the 12 natural communities appear to have mean total phosphorus concentrations approximately equal to the previously assumed value of 55 μg/l, with four community types exhibiting values substantially less and four community sites exhibiting concentrations substantially higher than the previous assumptions.

In general, low levels of fecal coliform bacteria were observed at the majority of the natural area sites. However, mean coliform counts exceeding the Class III criterion of 200 cfu/100 ml were observed in the mesic flatwoods, ruderal/upland pine, upland mixed forest, and xeric scrub sites.

Relatively low levels of total iron were observed at 10 of the 12 monitoring sites. However, mean values exceeding the Class III criterion of 1000 μg/l for total iron were observed at the dry prairie and mixed hardwood forest sites.

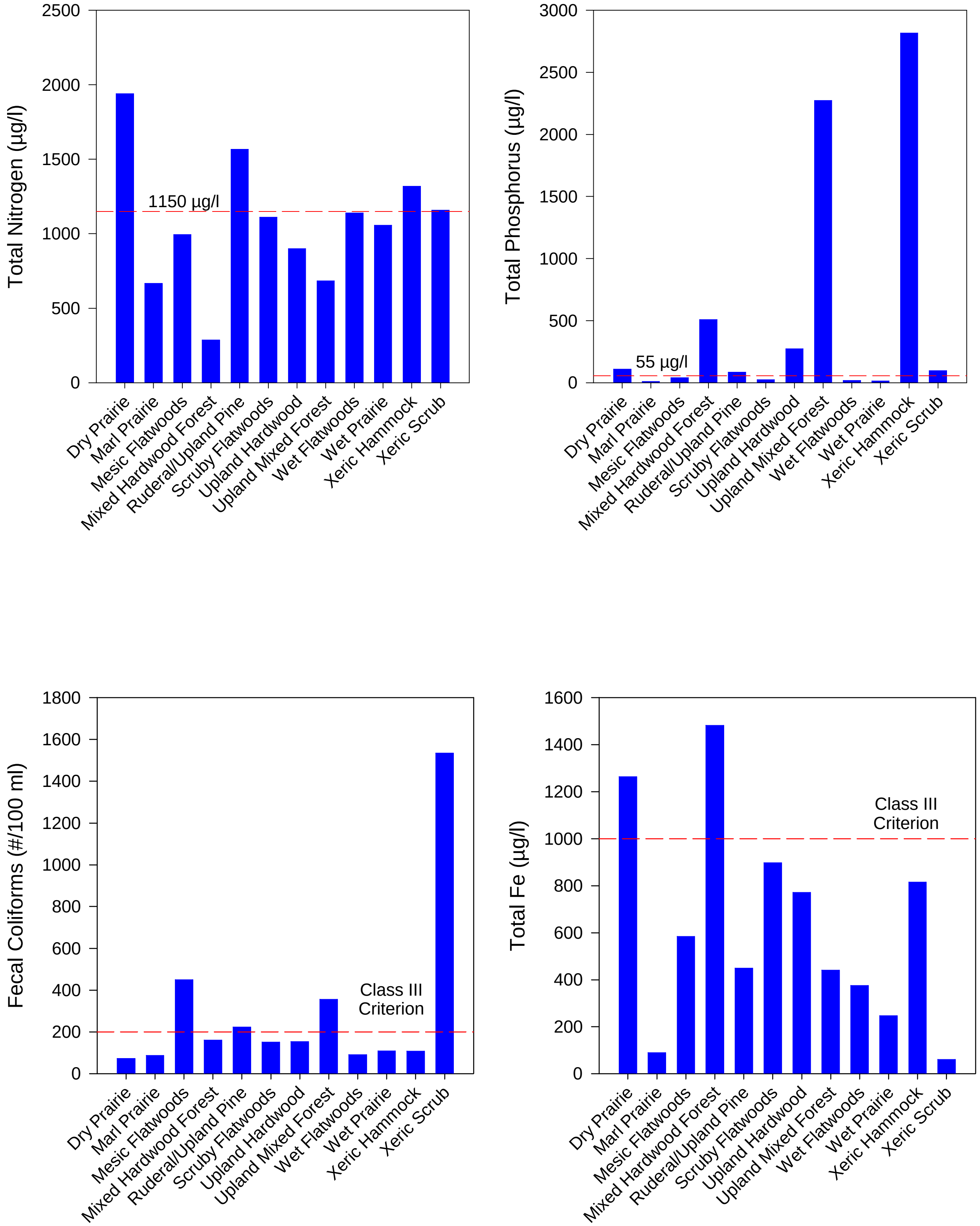



Figure 3-6. Comparison of Mean Concentrations of Nitrogen, Phosphorus, Fecal Coliform, and Total Iron in the Natural Area Samples.

# SECTION 4

# ANALYSIS AND RECOMMENDATIONS

## 4.1 ANOVA Comparisons

An analysis of the chemical characteristics of the runoff samples collected at each of the vegetation monitoring sites was given in Section 3. Mean values are provided for each evaluated parameter and vegetation community type. This information is intended to be used as input data for conducting pre- vs. post-pollutant loading analyses associated with proposed development projects.

However, selecting the appropriate native vegetative community can be difficult for many sites. Many of the vegetated communities discussed in the previous sections have similar physical characteristics and share many of the same species. As a result, it may be difficult to distinguish between similar vegetation community types such as fixed hardwood forest and upland hardwood forest which share many similar species. From a practical standpoint, identifying individual community types which have overlapping physical and biological characteristics may increase the complexity of the pre- vs. post- calculations.

In order to simplify pre- vs. post-development calculations involving natural vegetation communities, a subsequent series of analyses were conducted to evaluate statistical similarities between runoff characteristics for the 12 vegetation communities. This analysis was conducted in an attempt to identify vegetation community which could potentially be grouped together to reduce the number of categories required to conduct loading analyses for total phosphorus and total nitrogen.

An analysis of variance (ANOVA) comparison was conducted to evaluate statistical similarities in measured concentrations of total phosphorus and total nitrogen in the vegetation community samples. These analyses were conducted by calculating the F statistic for the 12 community types and the corresponding statistical level of significance. If the statistical level of significance is equivalent to the 0.05 level of significance or less, then statistically significant differences exist between the different community types. For parameters which exhibit significant differences, Tukey's multiple comparison technique was used to evaluate similarities and differences between the community data sets. All ANOVA comparisons were conducted using the log-transformed data as discussed previously.

The results of the ANOVA comparison of land use groupings for total phosphorus is summarized in Table 4-1. The Tukey multiple comparison technique suggests that there are four statistically similar groupings for total phosphorus concentrations in the 12 vegetation communities. Group 1 includes the wet flatwoods, wet prairie, and marl prairie community types, all of which exhibit extremely low total phosphorus concentrations. The mean value for this grouping is 12 μg/l. Group 2 includes community types with moderate total phosphorus concentrations, including dry prairie, xeric scrub, ruderal/upland pine, mesic flatwoods, and scrubby flatwoods, all of which are considered to be statistically similar. The overall mean for these groups for total phosphorus is 60 μg/l.

## TABLE 4-1

## STATISTICALLY SIMILAR LAND USE GROUPINGS FOR TOTAL PHOSPHORUS

| GROUP | COMMUNITY TYPE | LOG TOTAL PHOSPHORUS | MEAN TOTAL PHOSPHORUS |
|---|---|---|---|
| 1 | Wet Flatwoods | 1.207 | 16 |
| | Wet Prairie | 1.094 | 12 |
| | Marl Prairie | 0.973 | 9 |
| | **Mean Value:** | **1.091** | **12** |
| 2 | Dry Prairie | 2.030 | 107 |
| | Xeric Scrub | 1.981 | 96 |
| | Ruderal/Upland Pine | 1.924 | 84 |
| | Mesic Flatwoods | 1.595 | 39 |
| | Scrubby Flatwoods | 1.369 | 23 |
| | **Mean Value:** | **1.780** | **60** |
| 3 | Mixed Hardwood Forest | 2.704 | 506 |
| | Upland Hardwood | 2.433 | 271 |
| | **Mean Value:** | **2.569** | **370** |
| 4 | Xeric Hammock | 3.450 | 2818 |
| | Upland Mixed Forest | 3.356 | 2270 |
| | **Mean Value:** | **3.403** | **2529** |

Group 3 includes vegetation communities with elevated total phosphorus concentrations, including mixed hardwood forest and upland hardwood forest. The mean value for these statistically similar groups is 370 µg/l. The final group, Group 4, consists of community types with significantly elevated total phosphorus concentrations. These communities include xeric hammock and upland mixed forest. The overall mean total phosphorus concentration for these communities is 2529 µg/l.

A summary of statistically similar land use groupings for total nitrogen is given on Table 4-2. Community types with low total nitrogen concentrations are given in Group 2 and include upland mixed forest, marl prairie, and mixed hardwood forest. The overall mean total nitrogen concentration for these communities is 507 µg/l. Group 1 contains community types with moderate to elevated total nitrogen concentrations and include all the community types not previously summarized in Group 2. The overall mean value for this grouping is 1209 µg/l.

**TABLE 4-2**

**STATISTICALLY SIMILAR LAND USE GROUPINGS FOR TOTAL NITROGEN**

| GROUP | COMMUNITY TYPE | LOG TOTAL NITROGEN | MEAN TOTAL NITROGEN |
|---|---|---|---|
| 1 | Dry Prairie | 3.288 | 1941 |
| | Ruderal/Upland Pine | 3.195 | 1567 |
| | Xeric Hammock | 3.120 | 1318 |
| | Xeric Scrub | 3.064 | 1159 |
| | Wet Flatwoods | 3.056 | 1138 |
| | Scrubby Flatwoods | 3.045 | 1109 |
| | Wet Prairie | 3.023 | 1054 |
| | Mesic Flatwoods | 2.997 | 993 |
| | Upland Hardwood | 2.954 | 899 |
| | **Mean Value:** | **3.082** | **1209** |
| 2 | Upland Mixed Forest | 2.834 | 682 |
| | Marl Prairie | 2.824 | 667 |
| | Mixed Hardwood Forest | 2.456 | 286 |
| | **Mean Value:** | **2.705** | **507** |

## 4.2 Recommendations

Based on the analyses summarized in previous sections, it is recommended that the groupings summarized in Tables 4-1 and 4-2 be used to estimate total phosphorus and total nitrogen concentrations in natural community areas for purposes of conducting pre- vs. post-pollutant loading analyses. Each of these groupings contain statistically similar vegetation communities with respect to pollutant loadings of nitrogen and phosphorus. Use of these groupings will simplify the evaluation process and avoid some confusion which may arise from attempting to classify habitats with similar or overlapping vegetative communities.

It is also recommended that the data base of natural community runoff characteristics be expanded as additional runoff characterization data for natural areas becomes available. As significant amounts of additional data become available, the data analysis, including the groupings summarized in Tables 4-1 and 4-2, should be updated to reflect the additional available data.

# APPENDICES

# APPENDIX A

# FDEP COLLECTING PERMITS

# Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000




June 25, 2007

Mr. Chip Harper
Env Researcy & Design
3419 Trentwood Blvd #102
Tallahassee, FL 32301

RE: Permit Number 06250710

Dear Mr. Harper:

Enclosed is the above-referenced Research/Collecting Permit, a list of all state parks and their managers, and a list of all state park biologists. You must contact the District or Park Biologist and the Park Manager at least one week prior to visiting a park so that the locations of your collecting devices can be arranged.

A copy of this permit must be carried at all times while conducting research on park lands. We would appreciate receiving a research report relative to this permit within 90 days of the expiration date, or appended to any renewal request. Please call me at 850/245-3104 if you have any questions or if I can be of any further assistance.

Sincerely,

Donna Watkins

Donna Watkins
Special Projects Coordinator
Bureau of Natural and Cultural Resources

Enclosures

Florida Department of Environmental Protection

Division of Recreation and Parks

| Permit Number |
|---|
| **06250710** |

## RESEARCH / COLLECTING PERMIT

**This Permit Must Be Carried At All Times While Researching/Collecting**

| Applicant | Address | Dates |
|---|---|---|
| Harper, Chip | Env Researcy & Design | **Issue Date** |
| **Representing** | 3419 Trentwood Blvd #102 | Monday, June 25, 2007 |
| Environmental Research and Design, Inc. | Tallahassee, FL 32301 | **Expiration Date** |
| | **Phone:** (407) 855-9465 **Alt.:** | Tuesday, June 24, 2008 |

**Additional Authorized Collector**

Feller, Brian

Harper, Harvey

Seanauth, Harry

**Permitted Activity**

Subject: Stormwater runoff

Collection to occur by grab sample or by installed stormwater collector in a location to be approved in advance by the park manager.

**In the Following Park/s**

| District | Park |
|---|---|
| 1 | Alfred B. Maclay State Park |
| 2 | San Felasco Hammock Preserve State Park |
| 3 | Faver-Dykes State Park |
| 3 | Lake Louisa State Park |
| 3 | Silver River State Park |
| 3 | Wekiwa Springs State Park |
| 4 | Fakahatchee Strand Preserve State Park |
| 4 | Myakka River State Park |
| 4 | Paynes Creek Historic State Park |
| 5 | Jonathan Dickinson State Park |

**Permitted Collection**

5-8 water samples from a variety of vegetative communities during and following rain events; 2 liters per site.

**Special Conditions or Restrictions**

NOTE: Location of automatic stormwater sampler device must be approved in advance by the park manager.

1. Contact the Park Manager and Park or District Biologist one week in advance of visits for coordination and arrangements. Failure to do this may result in denial of park entry.

2. Check in with the park manager upon arrival at and departure from the park. Collected material is subject to inspection.

3. Collect only materials as stated above, in the quantities and manner indicated in the attached application form or proposal.

4. Any other applicable state and federal permits are the responsibility of the permittee.

5. Collected objects may not be sold, bartered, or traded.

6. A project report containing a summary of research findings (including species lists and voucher numbers of museum donations where applicable) shall be s appended to any renewal request, or submitted to the issuing office within 90 days of permit expiration.

7. Collecting shall be conducted in such a manner as not to attract attention or cause damage to the environment. Vehicular traffic shall be limited to park roads; other methods of access must be approved by park manager. All gates shall be left as found.

8. The permit is non-transferable. At least one named collector (above) must be present.

9. The permittee and research associates will not be subject to park day-fees.

10. The permit is revocable.

11. The permit may be extended or modified upon submission of the project report and a letter requesting renewal. Contact the issuing office for amendment or extension.

**Approved By**

Donna Watkins

Donna Watkins, Special Projects Coordinator

**Issuing Office**

Division of Recreation and Parks
Bureau of Natural and Cultural Resource
3900 Commonwealth Boulevard, MS 5
Tallahassee, Florida 32399-300

*Phone No.* 850-245-3104
*Fax No.* 850-245-3114

# Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary


June 23, 2008

Mr. Chip Harper
Env Researcy & Design
3419 Trentwood Blvd #102
Tallahassee, FL 32301

RE: Permit Number 06250810

Dear Mr. Harper:

Enclosed is the above-referenced Research/Collecting Permit, a list of all state parks and their managers, a map of our district boundaries, and a list of all state park biologists. We ask that you notify both the park and the appropriate district office staff a minimum of one week prior to visiting a park. Failure to make arrangements ahead of your visits may result in denial of park entry. Your primary contact is the park biologist if one is assigned to the park; otherwise contact the park manager. The attached map will help you identify the appropriate district office to contact. A copy of this permit must be carried at all times while conducting research on park lands. We would appreciate receiving a research report relative to this permit within 90 days of the expiration date, or appended to any renewal request.

Please call me at 850/245-3104 if you have any questions or if I can be of any further assistance.

Sincerely,

Donna Watkins

Donna Watkins
Special Projects Coordinator
Bureau of Natural and Cultural Resources

Enclosures

cc: Affected Park and District Offices
District LE Captains

Florida Department of Environmental Protection

Division of Recreation and Parks

| Permit Number |
|---|
| **06250810** |

## RESEARCH / COLLECTING PERMIT

**This Permit Must Be Carried At All Times While Researching/Collecting**

| Applicant | Address | Issue Date |
|---|---|---|
| Harper, Chip<br>**Representing**<br>Environmental Research and Design, Inc. | Env Researcy & Design<br>3419 Trentwood Blvd #102<br>Tallahassee, FL 32301<br>(407) 855-9465 charper@erd.org | Wednesday, June 25, 2008<br>**Expiration Date**<br>Wednesday, June 24, 2009 |

**Additional Authorized Collector**

Feller, Brian

Harper, Harvey

Seanauth, Harry

Staff, DEP

**Subject**

*Stormwater runoff*

**Permitted Activity**

Collection to occur by grab sample or by installed stormwater collector in a location to be approved in advance by the park manager.

**In the Following Park/s**

| District | Park |
|---|---|
| 1 | Alfred B. Maclay State Park |
| 2 | San Felasco Hammock Preserve State Park |
| 3 | Faver-Dykes State Park |
| 3 | Lake Louisa State Park |
| 3 | Silver River State Park |
| 3 | Wekiwa Springs State Park |
| 4 | Fakahatchee Strand Preserve State Park |
| 4 | Myakka River State Park |
| 4 | Paynes Creek Historic State Park |
| 5 | Jonathan Dickinson State Park |

**Permitted Collection**

5-8 water samples from a variety of vegetative communities during and following rain events; 2 liters per site.

**Special Conditions or Restrictions**

NOTE: Location of automatic stormwater sampler device must be approved in advance by the park manager.

1. Important Contact information:

a. Please refer to the attached list of state park biologists. If you collect from any park on this list, the named biologist is your primary contact.

b. Please refer to the attached list of state parks. If the park has no assigned biologist, the park manager is your primary contact.

c. Please refer to the attached map of district boundaries. In addition to contacting the manager or park biologist, you must also contact the appropriate District Biologist. The contact phone numbers for those staff are included on the list of biologists.

2. Contact the Park Manager and Park or District Biologist one week in advance of visits for coordination and arrangements. Failure to do this may result in denial of park entry.

3. Check in with the park manager upon arrival at and departure from the park. Collected material is subject to inspection.

4. Collect only materials as stated above, in the quantities and manner indicated in the attached application form or proposal.

5. Any other applicable state and federal permits are the responsibility of the permittee.

6. Collected objects may not be sold, bartered, or traded.

7. A project report containing a summary of research findings (including species lists and voucher numbers of museum donations where applicable) shall be appended to any renewal request, or submitted to the issuing office within 90 days of permit expiration.

8. Collecting shall be conducted in such a manner as not to attract attention or cause damage to the environment. Vehicular traffic shall be limited to park roads; other methods of access must be approved by park manager. All gates shall be left as found.

9. The permit is non-transferable. At least one named collector (above) must be present.

10. The permittee and research associates will not be subject to park day-fees.

11. The permit is revocable.

Florida Department of Environmental Protection
Division of Recreation and Parks

| Permit Number |
|---|
| **06250810** |

## RESEARCH / COLLECTING PERMIT

**This Permit Must Be Carried At All Times While Researching/Collecting**

12. The permit may be extended or modified upon submission of the project report and a letter requesting renewal. Contact the issuing office for amendment or extension.

| Approved By | Issuing Office | | |
|---|---|---|---|
| Donna Watkins, Special Projects Coordinator | | Division of Recreation and Parks<br>Bureau of Natural and Cultural Resource<br>3900 Commonwealth Boulevard, MS 5<br>Tallahassee, Florida 32399-300 | *Phone No.*<br>*850-245-3104*<br>*Fax No.*<br>*850-245-3114* |

Attachments: Application for Research/Collecting Permit

cc: Affected Park and District Offices
District LE Captains

# APPENDIX B

# QA/QC DATA

## METHOD BLANK RECOVERY STUDY

| PARAMETERS | UNITS | DATE ANALYZED | MEASURED CONC. | MDL |
|---|---|---|---|---|
| pH | s.u. | 03/07/08 | 5.71 | NA |
| pH | s.u. | 04/23/08 | 5.40 | NA |
| pH | s.u. | 05/12/08 | 5.73 | NA |
| pH | s.u. | 06/18/08 | 5.84 | NA |
| pH | s.u. | 07/23/08 | 5.82 | NA |
| pH | s.u. | 08/04/08 | 5.7 | NA |
| Alkalinity | mg/l | 02/06/08 | 1.6 | 0.5 |
| Alkalinity | mg/l | 03/12/08 | 0.6 | 0.5 |
| Alkalinity | mg/l | 03/27/08 | 0.4 | 0.5 |
| Alkalinity | mg/l | 06/25/08 | 0.8 | 0.5 |
| Alkalinity | mg/l | 07/18/08 | 1.0 | 0.5 |
| Alkalinity | mg/l | 08/25/08 | 1.0 | 0.5 |
| Specific Conductivity | µmho/cm | 01/22/08 | 2.0 | 0.2 |
| Specific Conductivity | µmho/cm | 04/22/08 | 2.1 | 0.2 |
| Specific Conductivity | µmho/cm | 07/07/08 | 2.0 | 0.2 |
| Specific Conductivity | µmho/cm | 07/28/08 | 2.4 | 0.2 |
| Specific Conductivity | µmho/cm | 08/04/08 | 2.1 | 0.2 |
| Specific Conductivity | µmho/cm | 08/26/08 | 2.3 | 0.2 |
| Turbidity | NTU | 01/15/08 | 0.0 | 0.1 |
| Turbidity | NTU | 02/06/08 | 0.1 | 0.1 |
| Turbidity | NTU | 03/07/08 | 0.1 | 0.1 |
| Turbidity | NTU | 04/09/08 | 0.1 | 0.1 |
| Turbidity | NTU | 05/09/08 | 0.0 | 0.1 |
| Turbidity | NTU | 09/16/08 | 0.0 | 0.1 |
| $BOD_5$ | mg/l | 02/21/08 | 0.2 | 2 |
| $BOD_5$ | mg/l | 03/07/08 | 0.1 | 2 |
| $BOD_5$ | mg/l | 04/17/08 | 0.1 | 2 |
| $BOD_5$ | mg/l | 05/09/08 | 0.2 | 2 |
| $BOD_5$ | mg/l | 07/11/08 | 0.2 | 2 |
| $BOD_5$ | mg/l | 08/01/08 | 0.2 | 2 |
| $BOD_5$ | mg/l | 08/22/08 | 0.1 | 2 |
| Fecal Coliform | cfu | 01/14/08 | 0 | 1 |
| Fecal Coliform | cfu | 01/24/08 | 0 | 1 |
| Fecal Coliform | cfu | 02/26/08 | 0 | 1 |
| Fecal Coliform | cfu | 02/29/08 | 0 | 1 |
| Fecal Coliform | cfu | 06/17/08 | 0 | 1 |
| Fecal Coliform | cfu | 08/22/08 | 0 | 1 |
| Chloride | mg/l | 01/30/08 | 0.3 | 0.9 |
| Chloride | mg/l | 03/10/08 | 0.4 | 0.9 |
| Chloride | mg/l | 04/16/08 | 0.4 | 0.9 |
| Chloride | mg/l | 05/20/08 | 0.3 | 0.9 |
| Chloride | mg/l | 06/30/08 | 0.2 | 0.9 |
| Chloride | mg/l | 08/11/08 | 0.3 | 0.9 |
| Chloride | mg/l | 09/22/08 | 0.4 | 0.9 |
| Color | PCU | 02/20/08 | 0 | 1 |
| Color | PCU | 03/12/08 | 0 | 1 |
| Color | PCU | 04/10/08 | 0 | 1 |
| Color | PCU | 06/17/08 | 0 | 1 |
| Color | PCU | 07/11/08 | 0 | 1 |
| Color | PCU | 08/06/08 | 0 | 1 |
| Color | PCU | 09/16/08 | 0 | 1 |
| SRP | µg/l | 01/25/08 | 0 | 1 |
| SRP | µg/l | 02/27/08 | 0 | 1 |
| SRP | µg/l | 03/07/08 | 0 | 1 |
| SRP | µg/l | 03/11/08 | 0 | 1 |
| SRP | µg/l | 05/09/08 | 0 | 1 |
| SRP | µg/l | 06/25/08 | 0 | 1 |
| NOX-N | µg/l | 01/25/08 | 0 | 5 |
| NOX-N | µg/l | 02/27/08 | 0 | 5 |
| NOX-N | µg/l | 03/07/08 | 0 | 5 |
| NOX-N | µg/l | 03/11/08 | 0 | 5 |
| NOX-N | µg/l | 05/09/08 | 0 | 5 |
| NOX-N | µg/l | 06/25/08 | 0 | 5 |
| Ammonia | µg/l | 02/10/08 | 1 | 5 |
| Ammonia | µg/l | 03/10/08 | 1 | 5 |
| Ammonia | µg/l | 04/22/08 | 2 | 5 |
| Ammonia | µg/l | 05/14/08 | 1 | 5 |
| Ammonia | µg/l | 07/15/08 | 1 | 5 |
| Ammonia | µg/l | 08/06/08 | 0 | 5 |
| Total N | µg/l | 01/24/08 | 4 | 10 |
| Total N | µg/l | 02/18/08 | 1 | 10 |
| Total N | µg/l | 03/03/08 | 1 | 10 |
| Total N | µg/l | 03/25/08 | 4 | 10 |
| Total N | µg/l | 04/28/08 | 1 | 10 |
| Total N | µg/l | 08/04/08 | 8 | 10 |
| Total P | µg/l | 01/24/08 | 0 | 1 |
| Total P | µg/l | 02/18/08 | 0 | 1 |
| Total P | µg/l | 03/03/08 | 0 | 1 |
| Total P | µg/l | 03/25/08 | 0 | 1 |
| Total P | µg/l | 04/28/08 | 0 | 1 |
| Total P | µg/l | 08/04/08 | 0 | 1 |

# CONTINUING CALIBRATION VERIFICATION RECOVERY STUDY

| PARAMETERS | UNITS | DATE ANALYZED | INITIAL CONC. | INITIAL VOLUME (ml) | SPIKE CONC. | SPIKE VOLUME ADDED (ml) | FINAL CONC. | MEASURED CONC. | PERCENT RECOVERY | ACCEPT RANGE |
|---|---|---|---|---|---|---|---|---|---|---|
| **Color** | PCU | 02/20/08 | 0 | 25 | 500 | 2.5 | 50 | 49 | 98.0% | 87-104 |
| **Color** | PCU | 03/12/08 | 0 | 25 | 500 | 2.5 | 50 | 48 | 96.0% | 87-104 |
| **Color** | PCU | 04/10/08 | 0 | 25 | 500 | 0.5 | 10 | 10 | 100% | 87-104 |
| **Color** | PCU | 06/17/08 | 0 | 25 | 500 | 0.5 | 10 | 10 | 100% | 87-104 |
| **Color** | PCU | 07/11/08 | 0 | 25 | 500 | 1.0 | 20 | 20 | 100% | 87-104 |
| **Color** | PCU | 08/06/08 | 0 | 25 | 500 | 1.0 | 20 | 19 | 95.0% | 87-104 |
| **Color** | PCU | 09/16/08 | 0 | 25 | 500 | 1.0 | 20 | 19 | 95.0% | 87-104 |
| **SRP** | µg/l | 01/25/08 | 0 | 10 | 10000 | 0.250 | 250 | 262 | 105% | 92-111 |
| **SRP** | µg/l | 02/27/08 | 0 | 10 | 10000 | 0.250 | 250 | 260 | 104% | 92-111 |
| **SRP** | µg/l | 03/07/08 | 0 | 10 | 10000 | 0.200 | 200 | 202 | 101% | 92-111 |
| **SRP** | µg/l | 03/11/08 | 0 | 10 | 10000 | 0.250 | 250 | 259 | 104% | 92-111 |
| **SRP** | µg/l | 05/09/08 | 0 | 10 | 10000 | 0.150 | 150 | 151 | 101% | 92-111 |
| **SRP** | µg/l | 06/25/08 | 0 | 10 | 10000 | 0.150 | 150 | 155 | 103% | 92-111 |
| **NOX-N** | µg/l | 01/25/08 | 0 | 10 | 100000 | 0.250 | 2500 | 2479 | 99.2% | 92-108 |
| **NOX-N** | µg/l | 02/27/08 | 0 | 10 | 100000 | 0.250 | 2500 | 2420 | 96.8% | 92-108 |
| **NOX-N** | µg/l | 03/07/08 | 0 | 10 | 100000 | 0.200 | 2000 | 1961 | 98.1% | 92-108 |
| **NOX-N** | µg/l | 03/11/08 | 0 | 10 | 100000 | 0.250 | 2500 | 2355 | 94.2% | 92-108 |
| **NOX-N** | µg/l | 05/09/08 | 0 | 10 | 100000 | 0.150 | 1500 | 1386 | 92.4% | 92-108 |
| **NOX-N** | µg/l | 06/25/08 | 0 | 10 | 100000 | 0.150 | 1500 | 1573 | 105% | 92-108 |
| **Ammonia** | µg/l | 02/10/08 | 0 | 10 | 10000 | 0.400 | 400 | 406 | 102% | 88-120 |
| **Ammonia** | µg/l | 03/10/08 | 0 | 10 | 100000 | 0.100 | 1000 | 999 | 100% | 88-120 |
| **Ammonia** | µg/l | 04/22/08 | 0 | 10 | 100000 | 0.200 | 2000 | 1960 | 98.0% | 88-120 |
| **Ammonia** | µg/l | 05/14/08 | 0 | 10 | 100000 | 0.150 | 1500 | 1496 | 99.7% | 88-120 |
| **Ammonia** | µg/l | 07/15/08 | 0 | 10 | 100000 | 0.040 | 400 | 396 | 99.0% | 88-120 |
| **Ammonia** | µg/l | 08/06/08 | 0 | 10 | 100000 | 0.045 | 450 | 454 | 101% | 88-120 |
| **Total N** | µg/l | 01/24/08 | 0 | 5 | 100 | 5.000 | 100 | 99 | 99.0% | 92-110 |
| **Total N** | µg/l | 02/18/08 | 0 | 5 | 400 | 5.000 | 400 | 407 | 102% | 92-110 |
| **Total N** | µg/l | 03/25/08 | 0 | 5 | 100 | 5.000 | 100 | 93.0 | 93.0% | 92-110 |
| **Total N** | µg/l | 04/28/08 | 0 | 5 | 4000 | 5.000 | 4000 | 4057 | 101% | 92-110 |
| **Total N** | µg/l | 07/28/08 | 0 | 5 | 4000 | 5.000 | 4000 | 4040 | 101% | 92-110 |
| **Total N** | µg/l | 08/04/08 | 0 | 5 | 100 | 5.000 | 100 | 101 | 101% | 92-110 |
| **Total P** | µg/l | 01/24/08 | 0 | 5 | 100 | 5.000 | 100 | 99 | 99.0% | 93-109 |
| **Total P** | µg/l | 02/18/08 | 0 | 5 | 100 | 5.000 | 100 | 95 | 95.0% | 93-109 |
| **Total P** | µg/l | 03/25/08 | 0 | 5 | 500 | 5.000 | 500 | 497 | 99.4% | 93-109 |
| **Total P** | µg/l | 04/28/08 | 0 | 5 | 1000 | 5.000 | 1000 | 998 | 99.8% | 93-109 |
| **Total P** | µg/l | 07/28/08 | 0 | 5 | 1000 | 5.000 | 1000 | 1007 | 101% | 93-109 |
| **Total P** | µg/l | 08/04/08 | 0 | 5 | 100 | 5.000 | 100 | 104 | 104% | 93-109 |

## BLANK SPIKE RECOVERY STUDY

| PARAMETERS | UNITS | DATE ANALYZED | INITIAL CONC. | INITIAL VOLUME (ml) | SPIKE CONC. | SPIKE VOLUME ADDED (ml) | FINAL CONC. | MEASURED CONC. | PERCENT RECOVERY | ACCEPT RANGE |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity | mg/l | 02/06/08 | 0.6 | 50 | 1000 | 0.5 | 10.6 | 9.8 | 92.5% | 91-105 |
| Alkalinity | mg/l | 03/12/08 | 0.8 | 50 | 1000 | 0.4 | 8.8 | 8.4 | 95.5% | 91-105 |
| Alkalinity | mg/l | 03/27/08 | 0.8 | 50 | 1000 | 0.4 | 8.8 | 8.4 | 95.5% | 91-105 |
| Alkalinity | mg/l | 06/25/08 | 0.8 | 50 | 1000 | 0.6 | 12.8 | 12.6 | 98.4% | 91-105 |
| Alkalinity | mg/l | 07/18/08 | 0.8 | 50 | 1000 | 0.5 | 10.8 | 10.8 | 100% | 91-105 |
| Alkalinity | mg/l | 08/25/08 | 0.8 | 50 | 1000 | 0.5 | 10.8 | 10.8 | 100% | 91-105 |
| Specific Conductivity | µmho/cm | 01/22/08 | 2 | 50 | 1409 | 50 | 1411 | 1425 | 101% | 96-104 |
| Specific Conductivity | µmho/cm | 04/22/08 | 2.1 | 50 | 1409 | 50 | 1411 | 1352 | 95.8% | 96-104 |
| Specific Conductivity | µmho/cm | 07/07/08 | 2 | 50 | 1409 | 50 | 1411 | 1419 | 101% | 96-104 |
| Specific Conductivity | µmho/cm | 07/28/08 | 2.4 | 50 | 1409 | 50 | 1411 | 1419 | 101% | 96-104 |
| Specific Conductivity | µmho/cm | 08/04/08 | 2.1 | 50 | 1409 | 50 | 1411 | 1430 | 101% | 96-104 |
| Specific Conductivity | µmho/cm | 08/26/08 | 2.3 | 50 | 1409 | 50 | 1411 | 1382 | 97.9% | 96-104 |
| Turbidity | NTU | 01/15/08 | 0 | 50 | 18 | 50 | 18.0 | 18.5 | 103% | 87-104 |
| Turbidity | NTU | 02/06/08 | 0 | 50 | 18 | 50 | 18.0 | 18.5 | 103% | 87-104 |
| Turbidity | NTU | 03/07/08 | 0 | 50 | 18 | 50 | 18.0 | 18.2 | 101% | 87-104 |
| Turbidity | NTU | 04/09/08 | 0 | 50 | 18 | 50 | 18.0 | 1.2 | 7% | 87-104 |
| Turbidity | NTU | 05/09/08 | 0 | 50 | 18 | 50 | 18.0 | 18.4 | 102% | 87-104 |
| Turbidity | NTU | 09/16/08 | 0 | 50 | 18 | 50 | 18.0 | 17.6 | 97.8% | 87-104 |
| TSS | mg/l | 1/25/2008 | 0 | 1000 | 26.9 | 1000 | 26.9 | 25.8 | 95.9% | 91-105 |
| TSS | mg/l | 03/13/08 | 0 | 1000 | 29.8 | 1000 | 29.8 | 28.1 | 94.3% | 91-105 |
| TSS | mg/l | 04/08/08 | 0 | 1000 | 27.8 | 1000 | 27.8 | 27.8 | 100% | 91-105 |
| TSS | mg/l | 05/07/08 | 0 | 1000 | 30.1 | 1000 | 30.1 | 29.5 | 98.0% | 91-105 |
| TSS | mg/l | 07/30/08 | 0 | 1000 | 28.1 | 1000 | 28.1 | 27.7 | 98.6% | 91-105 |
| TSS | mg/l | 08/05/08 | 0 | 1000 | 36.3 | 1000 | 36.3 | 37.9 | 104% | 91-105 |
| TSS | mg/l | 08/22/08 | 0 | 1000 | 31.6 | 1000 | 31.6 | 32.9 | 104% | 91-105 |
| $BOD_5$ | mg/l | 02/21/08 | 0 | 300 | 198 | 6 | 198 | 190 | 96.0% | 85-115 |
| $BOD_5$ | mg/l | 03/07/08 | 0 | 300 | 198 | 6 | 198 | 219 | 111% | 85-115 |
| $BOD_5$ | mg/l | 04/17/08 | 0 | 300 | 198 | 6 | 198 | 180 | 90.9% | 85-115 |
| $BOD_5$ | mg/l | 05/09/08 | 0 | 300 | 198 | 6 | 198 | 182 | 91.9% | 85-115 |
| $BOD_5$ | mg/l | 07/11/08 | 0 | 300 | 198 | 6 | 198 | 179 | 90.4% | 85-115 |
| $BOD_5$ | mg/l | 08/01/08 | 0 | 300 | 198 | 6 | 198 | 202 | 102% | 85-115 |
| $BOD_5$ | mg/l | 08/22/08 | 0 | 300 | 198 | 6 | 198 | 192 | 97.0% | 85-115 |
| Chloride | mg/l | 01/30/08 | 0 | 50 | 500 | 4.0 | 40.0 | 39.1 | 97.8% | 88-122 |
| Chloride | mg/l | 03/10/08 | 0 | 50 | 500 | 4.0 | 40.0 | 38.4 | 96.0% | 88-122 |
| Chloride | mg/l | 04/16/08 | 0 | 50 | 500 | 3.0 | 30.0 | 28.7 | 95.7% | 88-122 |
| Chloride | mg/l | 05/20/08 | 0 | 50 | 500 | 3.0 | 30.0 | 30.1 | 100% | 88-122 |
| Chloride | mg/l | 06/30/08 | 0 | 50 | 500 | 3.0 | 30.0 | 29.8 | 99.3% | 88-122 |
| Chloride | mg/l | 08/11/08 | 0 | 50 | 500 | 2.0 | 20.0 | 19.9 | 99.5% | 88-122 |
| Chloride | mg/l | 09/22/08 | 0 | 50 | 500 | 2.0 | 20.0 | 20.1 | 101% | 88-122 |
| Color | PCU | 02/20/08 | 0 | 25 | 500 | 1.0 | 20 | 20 | 100% | 87-104 |
| Color | PCU | 03/12/08 | 0 | 25 | 500 | 0.5 | 10 | 10 | 100% | 87-104 |
| Color | PCU | 04/10/08 | 0 | 25 | 500 | 3.0 | 60 | 57 | 95.0% | 87-104 |
| Color | PCU | 06/17/08 | 0 | 25 | 500 | 3.0 | 60 | 56 | 93.3% | 87-104 |
| Color | PCU | 07/11/08 | 0 | 25 | 500 | 4.0 | 80 | 75 | 93.8% | 87-104 |
| Color | PCU | 08/06/08 | 0 | 25 | 500 | 4.0 | 80 | 74 | 92.5% | 87-104 |
| Color | PCU | 09/16/08 | 0 | 25 | 500 | 4.0 | 80 | 75 | 93.8% | 87-104 |
| SRP | µg/l | 01/25/08 | 0 | 10 | 10000 | 0.250 | 250 | 260 | 104% | 92-111 |
| SRP | µg/l | 02/27/08 | 0 | 10 | 10000 | 0.250 | 250 | 255 | 102% | 92-111 |
| SRP | µg/l | 03/07/08 | 0 | 10 | 10000 | 0.200 | 200 | 201 | 101% | 92-111 |
| SRP | µg/l | 03/11/08 | 0 | 10 | 10000 | 0.250 | 250 | 263 | 105% | 92-111 |
| SRP | µg/l | 05/09/08 | 0 | 10 | 10000 | 0.150 | 150 | 150 | 100% | 92-111 |
| SRP | µg/l | 06/25/08 | 0 | 10 | 10000 | 0.150 | 150 | 152 | 101% | 92-111 |
| NOX-N | µg/l | 01/25/08 | 0 | 10 | 10000 | 0.250 | 250 | 257 | 103% | 92-108 |
| NOX-N | µg/l | 02/27/08 | 0 | 10 | 10000 | 0.250 | 250 | 235 | 94.0% | 92-108 |
| NOX-N | µg/l | 03/07/08 | 0 | 10 | 10000 | 0.200 | 200 | 188 | 94.0% | 92-108 |
| NOX-N | µg/l | 03/11/08 | 0 | 10 | 10000 | 0.250 | 250 | 237 | 94.8% | 92-108 |
| NOX-N | µg/l | 05/09/08 | 0 | 10 | 10000 | 0.150 | 150 | 139 | 92.7% | 92-108 |
| NOX-N | µg/l | 06/25/08 | 0 | 10 | 10000 | 0.150 | 150 | 150 | 100% | 92-108 |
| Ammonia | µg/l | 02/10/08 | 0 | 10 | 10000 | 0.400 | 400 | 421 | 105% | 88-120 |
| Ammonia | µg/l | 03/10/08 | 0 | 10 | 100000 | 0.100 | 1000 | 1029 | 103% | 88-120 |
| Ammonia | µg/l | 04/22/08 | 0 | 10 | 100000 | 0.220 | 2200 | 2262 | 103% | 88-120 |
| Ammonia | µg/l | 05/14/08 | 0 | 10 | 100000 | 0.170 | 1700 | 1717 | 101% | 88-120 |
| Ammonia | µg/l | 07/15/08 | 0 | 10 | 100000 | 0.040 | 400 | 430 | 108% | 88-120 |
| Ammonia | µg/l | 08/06/08 | 0 | 10 | 100000 | 0.045 | 450 | 445 | 98.9% | 88-120 |
| Total N | µg/l | 01/24/08 | 0 | 5 | 22600 | 0.050 | 226 | 228 | 101% | 92-110 |
| Total N | µg/l | 02/18/08 | 0 | 5 | 22600 | 0.040 | 181 | 176 | 97.3% | 92-110 |
| Total N | µg/l | 03/25/08 | 0 | 5 | 4520 | 0.200 | 181 | 186 | 103% | 92-110 |
| Total N | µg/l | 04/28/08 | 0 | 5 | 2000 | 5.000 | 2000 | 2027 | 101% | 92-110 |
| Total N | µg/l | 07/28/08 | 0 | 5 | 4520 | 5.000 | 4520 | 4462 | 99% | 92-110 |
| Total N | µg/l | 08/04/08 | 0 | 5 | 5650 | 5.000 | 5650 | 5686 | 101% | 92-110 |
| Total P | µg/l | 01/24/08 | 0 | 5 | 16300 | 0.100 | 326 | 340 | 104% | 93-109 |
| Total P | µg/l | 02/18/08 | 0 | 5 | 16300 | 0.100 | 326 | 323 | 99.1% | 93-109 |
| Total P | µg/l | 03/25/08 | 0 | 5 | 16300 | 0.100 | 326 | 346 | 106% | 93-109 |
| Total P | µg/l | 04/28/08 | 0 | 5 | 1000 | 5.000 | 1000 | 998 | 99.8% | 93-109 |
| Total P | µg/l | 07/28/08 | 0 | 5 | 1500 | 5.000 | 1500 | 1528 | 102% | 93-109 |
| Total P | µg/l | 08/04/08 | 0 | 5 | 1500 | 5.000 | 1500 | 1551 | 103% | 93-109 |

## SAMPLE DUPLICATE RECOVERY

| PARAMETERS | UNITS | SAMPLE ID | DATE ANALYZED | REPEAT 1 | REPEAT 2 | MEAN | s | % RELATIVE STD. DEVIATION (RSD) | ACCEPTANCE RANGE (% RSD) |
|---|---|---|---|---|---|---|---|---|---|
| pH | s.u. | 08-0455 | 03/07/08 | 5.97 | 5.99 | 5.98 | 0.014 | 0.24 | 0-2 |
| pH | s.u. | 08-0768 | 04/23/08 | 5.11 | 5.1 | 5.11 | 0.007 | 0.14 | 0-2 |
| pH | s.u. | 08-0884 | 05/12/08 | 6.3 | 6.3 | 6.30 | 0.000 | 0.00 | 0-2 |
| pH | s.u. | 08-1112 | 06/18/08 | 4.59 | 4.6 | 4.60 | 0.007 | 0.15 | 0-2 |
| pH | s.u. | 08-1413 | 07/23/08 | 5.27 | 5.29 | 5.28 | 0.014 | 0.27 | 0-2 |
| pH | s.u. | 08-1538 | 08/04/08 | 6.02 | 6.05 | 6.04 | 0.021 | 0.35 | 0-2 |
| Alkalinity | mg/l | 08-0233 | 02/06/08 | 138.0 | 139 | 138.5 | 0.707 | 0.51 | 0-4 |
| Alkalinity | mg/l | 08-0470 | 03/12/08 | 17 | 17.2 | 17.10 | 0.141 | 0.83 | 0-4 |
| Alkalinity | mg/l | 08-0565 | 03/27/08 | 35.8 | 36 | 35.90 | 0.141 | 0.39 | 0-4 |
| Alkalinity | mg/l | 08-1148 | 06/25/08 | 23.8 | 23.6 | 23.7 | 0.141 | 0.60 | 0-4 |
| Alkalinity | mg/l | 08-1392 | 07/18/08 | 23.8 | 23.4 | 23.60 | 0.283 | 1.20 | 0-4 |
| Alkalinity | mg/l | 08-1687 | 08/25/08 | 0.8 | 0.8 | 0.8 | 0.000 | 0.00 | 0-4 |
| Specific Conductivity | µmho/cm | 08-0095 | 01/22/08 | 119 | 119 | 119 | 0.000 | 0.00 | 0-4 |
| Specific Conductivity | µmho/cm | 08-0677 | 04/22/08 | 282 | 283 | 283 | 0.707 | 0.25 | 0-4 |
| Specific Conductivity | µmho/cm | 08-1172 | 07/07/08 | 85.9 | 85.7 | 85.8 | 0.141 | 0.16 | 0-4 |
| Specific Conductivity | µmho/cm | 08-1392 | 07/28/08 | 76.5 | 75.3 | 75.9 | 0.849 | 1.12 | 0-4 |
| Specific Conductivity | µmho/cm | 08-1497 | 08/04/08 | 479 | 477 | 478.0 | 1.414 | 0.30 | 0-4 |
| Specific Conductivity | µmho/cm | 08-1687 | 08/26/08 | 9.4 | 9.2 | 9.3 | 0.141 | 1.52 | 0-4 |
| Turbidity | NTU | 08-0095 | 01/15/08 | 10.2 | 10.4 | 10.30 | 0.141 | 1.37 | 0-4 |
| Turbidity | NTU | 08-0233 | 02/06/08 | 5.4 | 5.3 | 5.35 | 0.071 | 1.32 | 0-4 |
| Turbidity | NTU | 08-0455 | 03/07/08 | 5.5 | 5.4 | 5.45 | 0.071 | 1.30 | 0-4 |
| Turbidity | NTU | 08-0670 | 04/09/08 | 3.2 | 3.3 | 3.25 | 0.071 | 2.18 | 0-4 |
| Turbidity | NTU | 08-0884 | 05/09/08 | 7.5 | 7.8 | 7.65 | 0.212 | 2.77 | 0-4 |
| Turbidity | NTU | 08-2038 | 09/16/08 | 0.8 | 0.8 | 0.80 | 0.000 | 0.00 | 0-4 |
| TSS | mg/l | 08-0192 | 1/25/2008 | 62.5 | 62.3 | 62.40 | 0.141 | 0.23 | 0-5 |
| TSS | mg/l | 08-0481 | 3/13/2008 | 1.4 | 1.5 | 1.45 | 0.071 | 4.88 | 0-5 |
| TSS | mg/l | 08-0670 | 4/8/2008 | 3.6 | 3.9 | 3.75 | 0.212 | 5.66 | 0-5 |
| TSS | mg/l | 08-0884 | 5/7/2008 | 14.0 | 14.3 | 14.15 | 0.212 | 1.50 | 0-5 |
| TSS | mg/l | 08-1439 | 7/30/2008 | 10.5 | 10.6 | 10.55 | 0.071 | 0.67 | 0-5 |
| TSS | mg/l | 08-1538 | 8/5/2008 | 3.4 | 3.3 | 3.35 | 0.071 | 2.11 | 0-5 |
| TSS | mg/l | 08-1684 | 08/22/08 | 3.1 | 2.9 | 3.00 | 0.141 | 4.71 | 0-5 |
| $BOD_5$ | mg/l | 08-309 | 02/21/08 | 2.9 | 3.0 | 2.95 | 0.071 | 2.40 | 0-20 |
| $BOD_5$ | mg/l | 08-455 | 03/07/08 | 2.5 | 2.4 | 2.45 | 0.071 | 2.89 | 0-20 |
| $BOD_5$ | mg/l | 08-730 | 04/17/08 | 2.0 | 2.0 | 2.00 | 0.000 | 0.00 | 0-20 |
| $BOD_5$ | mg/l | 08-884 | 05/09/08 | 2.0 | 2.0 | 2.00 | 0.000 | 0.00 | 0-20 |
| $BOD_5$ | mg/l | 08-1328 | 07/11/08 | 2.7 | 2.7 | 2.70 | 0.000 | 0.00 | 0-20 |
| $BOD_5$ | mg/l | 08-1497 | 08/01/08 | 2.0 | 2.0 | 2.00 | 0.000 | 0.00 | 0-20 |
| $BOD_5$ | mg/l | 08-1684 | 08/22/08 | 3.1 | 2.9 | 3.00 | 0.141 | 4.71 | 0-20 |
| Fecal Coliform | cfu | 08-095 | 01/14/08 | 2280.0 | 1940.0 | 2110.00 | 240.416 | 11.39 | 0.33 |
| Fecal Coliform | cfu | 08-0192 | 01/24/08 | 310.0 | 228.0 | 269.00 | 57.983 | 21.55 | 0.33 |
| Fecal Coliform | cfu | 08-0366 | 02/26/08 | 2420.0 | 2660.0 | 2540.00 | 169.706 | 6.68 | 0.33 |
| Fecal Coliform | cfu | 08-0404 | 02/29/08 | 100.0 | 120.0 | 110.00 | 14.142 | 12.86 | 0.33 |
| Fecal Coliform | cfu | 08-1112 | 06/17/08 | 260.0 | 210.0 | 235.00 | 35.355 | 15.04 | 0.33 |
| Fecal Coliform | cfu | 08-1684 | 08/22/08 | 1060.0 | 1180.0 | 1120.00 | 84.853 | 7.58 | 0.33 |
| Chloride | mg/l | 08-0192 | 01/30/08 | 4.9 | 4.8 | 4.85 | 0.071 | 1.46 | 0-5 |
| Chloride | mg/l | 08-0310 | 03/10/08 | 11.7 | 11.8 | 11.8 | 0.071 | 0.60 | 0-5 |
| Chloride | mg/l | 08-0673 | 04/16/08 | 4.4 | 4.4 | 4.40 | 0.000 | 0.00 | 0-5 |
| Chloride | mg/l | 08-0884 | 05/20/08 | 3.1 | 3.3 | 3.20 | 0.141 | 4.42 | 0-5 |
| Chloride | mg/l | 08-1216 | 06/30/08 | 45.4 | 44.4 | 44.90 | 0.707 | 1.57 | 0-5 |
| Chloride | mg/l | 08-1538 | 08/11/08 | 14.3 | 14.2 | 14.25 | 0.071 | 0.50 | 0-5 |
| Chloride | mg/l | 08-2038 | 09/22/08 | 5.6 | 5.1 | 5.35 | 0.354 | 6.61 | 0-5 |
| Color | PCU | 08-341 | 02/20/08 | 6 | 6 | 6.00 | 0.000 | 0.00 | 0-5 |
| Color | PCU | 08-470 | 03/12/08 | 412 | 412 | 412.00 | 0.000 | 0.00 | 0-5 |
| Color | PCU | 08-680 | 04/10/08 | 184 | 184 | 184.00 | 0.000 | 0.00 | 0-5 |
| Color | PCU | 08-1101 | 06/17/08 | 6 | 6 | 6.00 | 0.000 | 0.00 | 0-5 |
| Color | PCU | 08-1328 | 07/11/08 | 477 | 474 | 475.50 | 2.121 | 0.45 | 0-5 |
| Color | PCU | 08-1538 | 08/06/08 | 99 | 100 | 99.50 | 0.707 | 0.71 | 0-5 |
| Color | PCU | 08-2038 | 09/16/08 | 75 | 75 | 75.00 | 0.000 | 0.00 | 0-5 |
| SRP | µg/l | 08-0192 | 01/25/08 | 115 | 115 | 115.00 | 0.000 | 0.00 | 0-5 |
| SRP | µg/l | 08-0370 | 02/27/08 | 229 | 231 | 230.00 | 1.414 | 0.61 | 0-5 |
| SRP | µg/l | 08-0455 | 03/07/08 | 831 | 827 | 829.00 | 2.828 | 0.34 | 0-5 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SRP** | µg/l | 08-0470 | 03/11/08 | 2 | 2 | 2.00 | 0.000 | 0.00 | 0-5 |
| **SRP** | µg/l | 08-0884 | 05/09/08 | 150 | 158 | 154.00 | 5.657 | 3.67 | 0-5 |
| **SRP** | µg/l | 08-1168 | 06/25/08 | 16 | 16 | 16.00 | 0.000 | 0.00 | 0-5 |
| **NOX-N** | µg/l | 08-0192 | 01/25/08 | 11 | 12 | 11.5 | 0.141 | 1.23 | 0-4 |
| **NOX-N** | µg/l | 08-0370 | 02/27/08 | 0 | 0 | 0.10 | 0.000 | 0.00 | 0-4 |
| **NOX-N** | µg/l | 08-0455 | 03/07/08 | 3 | 3 | 3.00 | 0.000 | 0.00 | 0-4 |
| **NOX-N** | µg/l | 08-0470 | 03/11/08 | 0 | 0 | 0.10 | 0.000 | 0.00 | 0-4 |
| **NOX-N** | µg/l | 08-0884 | 05/09/08 | 8 | 8 | 8.00 | 0.000 | 0.00 | 0-4 |
| **NOX-N** | µg/l | 08-1168 | 06/25/08 | 5 | 5 | 5.0 | 0.000 | 0.00 | 0-4 |
| **Ammonia** | µg/l | 09-0233 | 02/10/08 | 11 | 10 | 10.5 | 0.707 | 6.73 | 0-10 |
| **Ammonia** | µg/l | 09-0310 | 03/10/08 | 70 | 71 | 70.50 | 0.707 | 1.00 | 0-10 |
| **Ammonia** | µg/l | 08-0710 | 04/22/08 | 72 | 75 | 73.50 | 2.121 | 2.89 | 0-10 |
| **Ammonia** | µg/l | 08-0730 | 05/14/08 | 56 | 53 | 54.50 | 2.121 | 3.89 | 0-10 |
| **Ammonia** | µg/l | 08-1216 | 07/15/08 | 113 | 116 | 114.50 | 2.121 | 1.85 | 0-10 |
| **Ammonia** | µg/l | 08-1493 | 08/06/08 | 33 | 33 | 33.00 | 0.000 | 0.00 | 0-10 |
| **Total N** | µg/l | 08-0095f | 01/24/08 | 582 | 585 | 583.5 | 2.121 | 0.36 | 0-6 |
| **Total N** | µg/l | 08-0253f | 02/18/08 | 177 | 177 | 177.0 | 0.000 | 0.00 | 0-6 |
| **Total N** | µg/l | 08-0362f | 03/10/08 | 283 | 275 | 279.0 | 5.657 | 2.03 | 0-6 |
| **Total N** | µg/l | 08-0461 | 03/25/08 | 565 | 555 | 560.0 | 7.071 | 1.26 | 0-6 |
| **Total N** | µg/l | 08-0765f | 04/29/08 | 132 | 134 | 133.0 | 1.414 | 1.06 | 0-6 |
| **Total N** | µg/l | 08-1392f | 07/28/08 | 342 | 332 | 337.0 | 7.071 | 2.10 | 0-6 |
| **Total P** | µg/l | 08-0095f | 01/24/08 | 1892 | 1841 | 1866.5 | 36.062 | 1.93 | 0-5 |
| **Total P** | µg/l | 08-0253f | 02/18/08 | 94 | 100 | 97.0 | 4.243 | 4.37 | 0-5 |
| **Total P** | µg/l | 08-0362f | 03/10/08 | 159 | 154 | 156.5 | 3.536 | 2.26 | 0-5 |
| **Total P** | µg/l | 08-0461 | 03/25/08 | 194 | 194 | 194.0 | 0.000 | 0.00 | 0-5 |
| **Total P** | µg/l | 08-0765f | 04/29/08 | 582 | 550 | 566.0 | 22.627 | 4.00 | 0-5 |
| **Total P** | µg/l | 08-1392f | 07/28/08 | 6 | 6 | 6.0 | 0.000 | 0.00 | 0-5 |

# MATRIX SPIKE RECOVERY STUDY

| PARAMETERS | UNITS | SAMPLE ID | DATE ANALYZED | INITIAL CONC. | INITIAL VOLUME (ml) | SPIKE CONC. | SPIKE VOLUME ADDED (ml) | FINAL CONC. | MEASURED CONC. | PERCENT RECOVERY | ACCEPT RANGE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $BOD_5$ | mg/l | 08-0367 | 02/28/08 | 3.6 | 100 | 198 | 6 | 222 | 217 | 97.9% | 91-105 |
| $BOD_5$ | mg/l | 08-0455 | 03/07/08 | 2.5 | 100 | 198 | 6 | 221 | 214 | 97.1% | 91-105 |
| $BOD_5$ | mg/l | 08-0565 | 03/27/08 | 1.1 | 100 | 198 | 6 | 199 | 188 | 94.4% | 92-111 |
| $BOD_5$ | mg/l | 08-0770 | 04/24/08 | 2.1 | 100 | 198 | 6 | 200 | 192 | 96.0% | 92-111 |
| $BOD_5$ | mg/l | 08-0884 | 05/09/08 | 1.2 | 100 | 198 | 6 | 199 | 193 | 96.9% | 92-111 |
| $BOD_5$ | mg/l | 08-1684 | 08/22/08 | 3.1 | 100 | 198 | 6 | 201 | 193 | 96.0% | 92-111 |
| Chloride | mg/l | 08-0192 | 01/30/08 | 4.9 | 50 | 500 | 4.0 | 44.9 | 44.6 | 99.3% | 92-111 |
| Chloride | mg/l | 08-0363 | 03/10/08 | 4.2 | 50 | 500 | 4.0 | 44.2 | 44.2 | 100% | 92-111 |
| Chloride | mg/l | 08-0884 | 05/20/08 | 3.1 | 50 | 500 | 3.0 | 33.1 | 32.6 | 98.5% | 92-108 |
| Chloride | mg/l | 08-1148 | 06/24/08 | 1.3 | 50 | 500 | 3.0 | 31.3 | 30.9 | 98.7% | 92-108 |
| Chloride | mg/l | 08-1216 | 06/30/08 | 45.4 | 50 | 500 | 3.0 | 75.4 | 75.9 | 101% | 92-108 |
| Chloride | mg/l | 08-1538 | 08/11/08 | 14.3 | 50 | 500 | 2.0 | 34.3 | 34.4 | 100% | 92-108 |
| Chloride | mg/l | 08-2038 | 09/22/08 | 5.6 | 50 | 500 | 2.0 | 25.6 | 25.4 | 99.2% | 92-108 |
| Color | PCU | 08-0341 | 02/20/08 | 6 | 25 | 500 | 1 | 26 | 24 | 92.3% | 92-108 |
| Color | PCU | 08-0470 | 03/12/08 | 412 | 25 | 500 | 2 | 2412 | 2526 | 105% | 88-120 |
| Color | PCU | 08-0766 | 04/24/08 | 8 | 25 | 500 | 3 | 68 | 66 | 97.1% | 88-120 |
| Color | PCU | 08-1165 | 06/24/08 | 257 | 25 | 500 | 3 | 377 | 366 | 97.1% | 88-120 |
| Color | PCU | 08-1538 | 08/06/08 | 99 | 25 | 500 | 4 | 179 | 171 | 95.5% | 92-110 |
| Color | PCU | 08-2038 | 09/16/08 | 75 | 25 | 500 | 4 | 155 | 149 | 96.1% | 92-110 |
| SRP | µg/l | 08-0192 | 01/25/08 | 115 | 10 | 10000 | 0.250 | 365 | 371 | 102% | 92-110 |
| SRP | µg/l | 08-0370 | 02/27/08 | 229 | 10 | 10000 | 0.250 | 479 | 464 | 96.9% | 92-110 |
| SRP | µg/l | 08-0455 | 03/07/08 | 831 | 10 | 10000 | 0.100 | 931 | 969 | 104% | 92-110 |
| SRP | µg/l | 08-0470 | 03/11/08 | 2 | 10 | 10000 | 0.250 | 252 | 264 | 105% | 92-110 |
| SRP | µg/l | 08-0884 | 05/09/08 | 150 | 10 | 10000 | 0.150 | 300 | 295 | 98% | 93-109 |
| SRP | µg/l | 08-1168 | 06/25/08 | 16 | 10 | 10000 | 0.150 | 166 | 168 | 101% | 93-109 |
| NOX-N | µg/l | 08-0192 | 01/25/08 | 11 | 10 | 10000 | 0.250 | 261 | 265 | 101% | 93-109 |
| NOX-N | µg/l | 08-0370 | 02/27/08 | 0 | 10 | 10000 | 0.250 | 250 | 244 | 97.6% | 93-109 |
| NOX-N | µg/l | 08-0455 | 03/07/08 | 3 | 10 | 10000 | 0.200 | 203 | 193 | 95.1% | 93-109 |
| NOX-N | µg/l | 08-0470 | 03/11/08 | 0 | 10 | 10000 | 0.250 | 250 | 236 | 94.4% | 93-109 |
| NOX-N | µg/l | 08-0884 | 05/09/08 | 8 | 10 | 10000 | 0.150 | 158 | 153 | 96.8% | 93-109 |
| NOX-N | µg/l | 08-1168 | 06/25/08 | 5 | 10 | 10000 | 0.150 | 155 | 153 | 98.7% | 93-109 |
| Ammonia | µg/l | 08-0233 | 02/10/08 | 11 | 10 | 100000 | 0.350 | 3511 | 3667 | 104% | 93-109 |
| Ammonia | µg/l | 08-0310 | 03/10/08 | 70 | 10 | 100000 | 0.100 | 1070 | 1076 | 101% | 93-109 |
| Ammonia | µg/l | 08-0710 | 04/22/08 | 72 | 10 | 100000 | 0.100 | 1072 | 1037 | 96.7% | 93-109 |
| Ammonia | µg/l | 08-0730 | 05/14/08 | 56 | 10 | 100000 | 0.100 | 1056 | 1084 | 103% | 93-109 |
| Ammonia | µg/l | 08-1216 | 07/15/08 | 113 | 10 | 100000 | 0.050 | 613 | 568 | 92.7% | 93-109 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ammonia** | µg/l | 08-1493 | 08/06/08 | 33 | 10 | 100000 | 0.190 | 1933 | 1880 | 97.3% | 93-109 |
| **Total N** | µg/l | 08-095f | 01/24/08 | 582 | 5 | 10000 | 0.100 | 782 | 811 | 104% | 93-109 |
| **Total N** | µg/l | 08-0253f | 02/18/08 | 177 | 5 | 10000 | 0.100 | 377 | 358 | 95.0% | 93-109 |
| **Total N** | µg/l | 08-0362f | 03/10/08 | 283 | 5 | 10000 | 0.100 | 483 | 468 | 96.9% | 93-109 |
| **Total N** | µg/l | 08-0461 | 03/25/08 | 565 | 5 | 10000 | 0.150 | 865 | 828 | 95.7% | 93-109 |
| **Total N** | µg/l | 08-0763f | 04/28/08 | 474 | 5 | 10000 | 0.350 | 1174 | 1196 | 102% | 93-109 |
| **Total N** | µg/l | 08-1392f | 07/28/08 | 342 | 5 | 100000 | 0.080 | 1942 | 1914 | 98.6% | 93-109 |
| **Total P** | µg/l | 08-095f | 01/24/08 | 1892 | 5 | 10000 | 0.100 | 2092 | 2110 | 101% | 93-109 |
| **Total P** | µg/l | 08-0253f | 02/18/08 | 38 | 5 | 10000 | 0.175 | 388 | 380 | 97.9% | 93-109 |
| **Total P** | µg/l | 08-0362f | 03/10/08 | 94 | 5 | 10000 | 0.175 | 444 | 443 | 100% | 93-109 |
| **Total P** | µg/l | 08-0461 | 03/25/08 | 159 | 5 | 10000 | 0.200 | 559 | 539 | 96.4% | 93-109 |
| **Total P** | µg/l | 08-0763f | 04/28/08 | 14 | 5 | 10000 | 0.350 | 714 | 679 | 95.1% | 93-109 |
| **Total P** | µg/l | 08-1392f | 07/28/08 | 582 | 5 | 10000 | 0.600 | 1782 | 1826 | 102% | 93-109 |

# APPENDIX C

# RAINFALL RECORDS FOR THE MONITORED STATE PARKS FROM JULY 2007 – JULY 2008

# Alfred B. Maclay Gardens State Park Rainfall

| Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7/1/07 | 0.55 | 8/1/07 | 0.00 | 9/1/07 | 3.42 | 10/1/07 | 0.00 | 11/1/07 | 0.00 | 12/1/07 | 0.00 | 1/1/08 | 0.00 | 2/1/08 | 0.30 | 3/1/08 | 0.00 | 4/1/08 | 0.00 | 5/1/08 | 0.00 | 6/1/08 | 0.00 | 7/1/08 | 0.00 |
| 7/2/07 | 0.10 | 8/2/07 | 0.80 | 9/2/07 | 0.50 | 10/2/07 | 0.00 | 11/2/07 | 0.00 | 12/2/07 | 0.00 | 1/2/08 | 0.00 | 2/2/08 | 0.00 | 3/2/08 | 0.00 | 4/2/08 | 0.00 | 5/2/08 | 0.00 | 6/2/08 | 0.00 | 7/2/08 | 0.00 |
| 7/3/07 | 2.50 | 8/3/07 | 0.05 | 9/3/07 | 0.90 | 10/3/07 | 0.00 | 11/3/07 | 0.00 | 12/3/07 | 0.00 | 1/3/08 | 0.00 | 2/3/08 | 0.00 | 3/3/08 | 0.00 | 4/3/08 | 0.10 | 5/3/08 | 0.20 | 6/3/08 | 0.00 | 7/3/08 | 0.00 |
| 7/4/07 | 2.10 | 8/4/07 | 0.50 | 9/4/07 | 0.00 | 10/4/07 | 0.70 | 11/4/07 | 0.73 | 12/4/07 | 0.00 | 1/4/08 | 0.00 | 2/4/08 | 0.00 | 3/4/08 | 0.00 | 4/4/08 | 0.00 | 5/4/08 | 0.00 | 6/4/08 | 0.00 | 7/4/08 | 0.00 |
| 7/5/07 | 0.00 | 8/5/07 | 0.00 | 9/5/07 | 1.10 | 10/5/07 | 0.10 | 11/5/07 | 0.00 | 12/5/07 | 0.00 | 1/5/08 | 0.00 | 2/5/08 | 0.00 | 3/5/08 | 0.60 | 4/5/08 | 0.00 | 5/5/08 | 0.00 | 6/5/08 | 0.00 | 7/5/08 | 0.00 |
| 7/6/07 | 0.00 | 8/6/07 | 0.00 | 9/6/07 | 0.00 | 10/6/07 | 0.30 | 11/6/07 | 0.00 | 12/6/07 | 0.00 | 1/6/08 | 0.00 | 2/6/08 | 0.00 | 3/6/08 | 0.00 | 4/6/08 | 3.10 | 5/6/08 | 0.00 | 6/6/08 | 0.00 | 7/6/08 | 0.00 |
| 7/7/07 | 0.00 | 8/7/07 | 0.00 | 9/7/07 | 0.00 | 10/7/07 | 0.10 | 11/7/07 | 0.00 | 12/7/07 | 0.00 | 1/7/08 | 0.00 | 2/7/08 | 0.50 | 3/7/08 | 2.00 | 4/7/08 | 0.00 | 5/7/08 | 0.00 | 6/7/08 | 0.00 | 7/7/08 | 1.90 |
| 7/8/07 | 0.00 | 8/8/07 | 0.00 | 9/8/07 | 0.00 | 10/8/07 | 0.20 | 11/8/07 | 0.00 | 12/8/07 | 0.00 | 1/8/08 | 0.00 | 2/8/08 | 0.00 | 3/8/08 | 1.50 | 4/8/08 | 0.00 | 5/8/08 | 0.00 | 6/8/08 | 0.00 | 7/8/08 | 0.40 |
| 7/9/07 | 0.00 | 8/9/07 | 0.00 | 9/9/07 | 0.00 | 10/9/07 | 0.00 | 11/9/07 | 0.00 | 12/9/07 | 0.00 | 1/9/08 | 0.00 | 2/9/08 | 0.00 | 3/9/08 | 0.00 | 4/9/08 | 0.00 | 5/9/08 | 0.00 | 6/9/08 | 0.00 | 7/9/08 | 0.00 |
| 7/10/07 | 0.20 | 8/10/07 | 0.05 | 9/10/07 | 0.00 | 10/10/07 | 0.00 | 11/10/07 | 0.00 | 12/10/07 | 0.00 | 1/10/08 | 0.00 | 2/10/08 | 0.00 | 3/10/08 | 0.00 | 4/10/08 | 0.00 | 5/10/08 | 0.00 | 6/10/08 | 0.40 | 7/10/08 | 0.20 |
| 7/11/07 | 0.00 | 8/11/07 | 0.00 | 9/11/07 | 0.00 | 10/11/07 | 0.00 | 11/11/07 | 0.00 | 12/11/07 | 0.78 | 1/11/08 | 0.00 | 2/11/08 | 0.00 | 3/11/08 | 0.00 | 4/11/08 | 0.00 | 5/11/08 | 0.00 | 6/11/08 | 0.01 | 7/11/08 | 0.00 |
| 7/12/07 | 0.00 | 8/12/07 | 0.80 | 9/12/07 | 0.30 | 10/12/07 | 0.00 | 11/12/07 | 0.00 | 12/12/07 | 0.00 | 1/12/08 | 1.40 | 2/12/08 | 0.00 | 3/12/08 | 0.15 | 4/12/08 | 0.00 | 5/12/08 | 0.00 | 6/12/08 | 0.50 | 7/12/08 | 0.90 |
| 7/13/07 | 0.00 | 8/13/07 | 0.60 | 9/13/07 | 0.30 | 10/13/07 | 0.00 | 11/13/07 | 0.00 | 12/13/07 | 0.00 | 1/13/08 | 0.00 | 2/13/08 | 1.11 | 3/13/08 | 0.00 | 4/13/08 | 0.40 | 5/13/08 | 0.00 | 6/13/08 | 0.60 | 7/13/08 | 0.86 |
| 7/14/07 | 0.00 | 8/14/07 | 0.00 | 9/14/07 | 0.00 | 10/14/07 | 0.00 | 11/14/07 | 0.00 | 12/14/07 | 0.00 | 1/14/08 | 0.00 | 2/14/08 | 0.00 | 3/14/08 | 0.00 | 4/14/08 | 0.00 | 5/14/08 | 0.00 | 6/14/08 | 0.00 | 7/14/08 | 0.10 |
| 7/15/07 | 0.00 | 8/15/07 | 0.00 | 9/15/07 | 0.10 | 10/15/07 | 0.00 | 11/15/07 | 0.00 | 12/15/07 | 0.00 | 1/15/08 | 0.00 | 2/15/08 | 0.00 | 3/15/08 | 0.00 | 4/15/08 | 0.00 | 5/15/08 | 0.00 | 6/15/08 | 0.10 | 7/15/08 | 0.13 |
| 7/16/07 | 0.00 | 8/16/07 | 0.00 | 9/16/07 | 0.00 | 10/16/07 | 0.00 | 11/16/07 | 0.50 | 12/16/07 | 1.00 | 1/16/08 | 0.00 | 2/16/08 | 0.00 | 3/16/08 | 0.00 | 4/16/08 | 0.00 | 5/16/08 | 0.10 | 6/16/08 | 0.90 | 7/16/08 | 0.00 |
| 7/17/07 | 0.00 | 8/17/07 | 0.00 | 9/17/07 | 0.00 | 10/17/07 | 0.00 | 11/17/07 | 0.00 | 12/17/07 | 0.00 | 1/17/08 | 0.40 | 2/17/08 | 0.00 | 3/17/08 | 0.00 | 4/17/08 | 0.00 | 5/17/08 | 0.40 | 6/17/08 | 0.00 | 7/17/08 | 0.00 |
| 7/18/07 | 0.00 | 8/18/07 | 0.20 | 9/18/07 | 0.00 | 10/18/07 | 0.00 | 11/18/07 | 0.00 | 12/18/07 | 0.00 | 1/18/08 | 0.00 | 2/18/08 | 1.10 | 3/18/08 | 0.00 | 4/18/08 | 0.00 | 5/18/08 | 0.00 | 6/18/08 | 0.00 | 7/18/08 | 0.00 |
| 7/19/07 | 0.00 | 8/19/07 | 0.05 | 9/19/07 | 0.00 | 10/19/07 | 2.30 | 11/19/07 | 0.00 | 12/19/07 | 0.00 | 1/19/08 | 2.00 | 2/19/08 | 0.00 | 3/19/08 | 0.00 | 4/19/08 | 0.90 | 5/19/08 | 0.00 | 6/19/08 | 0.00 | 7/19/08 | 0.00 |
| 7/20/07 | 0.00 | 8/20/07 | 0.00 | 9/20/07 | 0.00 | 10/20/07 | 1.70 | 11/20/07 | 0.00 | 12/20/07 | 0.00 | 1/20/08 | 1.50 | 2/20/08 | 0.00 | 3/20/08 | 0.00 | 4/20/08 | 0.00 | 5/20/08 | 0.00 | 6/20/08 | 0.00 | 7/20/08 | 0.00 |
| 7/21/07 | 0.00 | 8/21/07 | 0.00 | 9/21/07 | 0.60 | 10/21/07 | 0.00 | 11/21/07 | 0.00 | 12/21/07 | 1.80 | 1/21/08 | 0.00 | 2/21/08 | 0.00 | 3/21/08 | 0.20 | 4/21/08 | 0.00 | 5/21/08 | 0.00 | 6/21/08 | 0.00 | 7/21/08 | 0.00 |
| 7/22/07 | 0.00 | 8/22/07 | 0.00 | 9/22/07 | 1.10 | 10/22/07 | 0.00 | 11/22/07 | 0.00 | 12/22/07 | 0.00 | 1/22/08 | 0.00 | 2/22/08 | 5.10 | 3/22/08 | 0.00 | 4/22/08 | 0.00 | 5/22/08 | 0.10 | 6/22/08 | 0.00 | 7/22/08 | 1.02 |
| 7/23/07 | 0.90 | 8/23/07 | 0.00 | 9/23/07 | 0.30 | 10/23/07 | 0.00 | 11/23/07 | 1.25 | 12/23/07 | 0.00 | 1/23/08 | 0.10 | 2/23/08 | 0.00 | 3/23/08 | 0.00 | 4/23/08 | 0.00 | 5/23/08 | 0.50 | 6/23/08 | 0.60 | 7/23/08 | 0.00 |
| 7/24/07 | 0.00 | 8/24/07 | 3.60 | 9/24/07 | 0.20 | 10/24/07 | 0.05 | 11/24/07 | 0.00 | 12/24/07 | 0.00 | 1/24/08 | 0.00 | 2/24/08 | 0.00 | 3/24/08 | 0.00 | 4/24/08 | 0.00 | 5/24/08 | 0.00 | 6/24/08 | 0.74 | 7/24/08 | 0.70 |
| 7/25/07 | 0.00 | 8/25/07 | 0.00 | 9/25/07 | 0.00 | 10/25/07 | 0.00 | 11/25/07 | 0.20 | 12/25/07 | 0.00 | 1/25/08 | 0.12 | 2/25/08 | 0.00 | 3/25/08 | 0.00 | 4/25/08 | 0.00 | 5/25/08 | 0.00 | 6/25/08 | 0.00 | 7/25/08 | 0.00 |
| 7/26/07 | 0.00 | 8/26/07 | 1.50 | 9/26/07 | 2.20 | 10/26/07 | 0.00 | 11/26/07 | 0.00 | 12/26/07 | 0.40 | 1/26/08 | 0.00 | 2/26/08 | 0.00 | 3/26/08 | 0.00 | 4/26/08 | 0.90 | 5/26/08 | 0.00 | 6/26/08 | 2.60 | 7/26/08 | 0.00 |
| 7/27/07 | 0.10 | 8/27/07 | 0.00 | 9/27/07 | 0.00 | 10/27/07 | 0.00 | 11/27/07 | 0.30 | 12/27/07 | 0.00 | 1/27/08 | 0.40 | 2/27/08 | 0.40 | 3/27/08 | 0.00 | 4/27/08 | 1.40 | 5/27/08 | 0.00 | 6/27/08 | 0.00 | 7/27/08 | 0.00 |
| 7/28/07 | 0.15 | 8/28/07 | 2.30 | 9/28/07 | 0.40 | 10/28/07 | 0.00 | 11/28/07 | 0.00 | 12/28/07 | 0.00 | 1/28/08 | 0.00 | 2/28/08 | 0.50 | 3/28/08 | 0.00 | 4/28/08 | 0.00 | 5/28/08 | 0.00 | 6/28/08 | 3.10 | 7/28/08 | 0.10 |
| 7/29/07 | 0.00 | 8/29/07 | 0.00 | 9/29/07 | 0.00 | 10/29/07 | 0.00 | 11/29/07 | 0.00 | 12/29/07 | 0.00 | 1/29/08 | 0.00 | 2/29/08 | 0.00 | 3/29/08 | 0.00 | 4/29/08 | 0.00 | 5/29/08 | 0.00 | 6/29/08 | 0.16 | 7/29/08 | 0.00 |
| 7/30/07 | 0.05 | 8/30/07 | 0.00 | 9/30/07 | 0.00 | 10/30/07 | 0.00 | 11/30/07 | 0.00 | 12/30/07 | 0.00 | 1/30/08 | 0.40 | | | 3/30/08 | 0.00 | 4/30/08 | 0.00 | 5/30/08 | 0.40 | 6/30/08 | 0.20 | 7/30/08 | 0.00 |
| 7/31/07 | 0.00 | 8/31/07 | 1.50 | | | 10/31/07 | 0.00 | | | 12/31/07 | 1.13 | 1/31/08 | 0.00 | | | 3/31/08 | 0.00 | | | 5/31/08 | 0.00 | | | 7/31/08 | 1.00 |
| **Total Rainfall** | 6.65 | | 11.95 | | 11.42 | | 5.45 | | 2.98 | | 5.11 | | 6.32 | | 9.01 | | 4.45 | | 6.80 | | 1.70 | | 9.91 | | 7.31 |
| **average** | 0.21 | | 0.39 | | 0.38 | | 0.18 | | 0.10 | | 0.16 | | 0.20 | | 0.31 | | 0.14 | | 0.23 | | 0.05 | | 0.33 | | 0.24 |
| **min** | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **max** | 2.50 | | 3.60 | | 3.42 | | 2.30 | | 1.25 | | 1.80 | | 2.00 | | 5.10 | | 2.00 | | 3.10 | | 0.50 | | 3.10 | | 1.90 |
| **Days with rain** | 9 | | 12 | | 13 | | 8 | | 5 | | 5 | | 8 | | 7 | | 5 | | 6 | | 6 | | 12 | | 11 |
| **Days with no rain** | 22 | | 19 | | 17 | | 23 | | 25 | | 26 | | 23 | | 22 | | 26 | | 24 | | 25 | | 18 | | 20 |
| **Days >0.10" rain** | 6 | | 9 | | 12 | | 5 | | 5 | | 5 | | 7 | | 7 | | 5 | | 5 | | 4 | | 10 | | 9 |

# Fakahatchee Strand State Park Rainfall

| Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7/1/07 | 0.00 | 8/1/07 | 0.45 | 9/1/07 | 0.57 | 10/1/07 | 0.12 | 11/1/07 | 0.04 | 12/1/07 | 0.01 | 1/1/08 | 0.09 | 2/1/08 | 0.00 | 3/1/08 | 0.00 | 4/1/08 | 1.93 | 5/1/08 | 0.00 | 6/1/08 | 0.00 | 7/1/08 | 0.00 |
| 7/2/07 | 1.14 | 8/2/07 | 0.00 | 9/2/07 | 0.52 | 10/2/07 | 0.01 | 11/2/07 | 0.00 | 12/2/07 | 0.00 | 1/2/08 | 0.00 | 2/2/08 | 0.00 | 3/2/08 | 0.00 | 4/2/08 | 0.09 | 5/2/08 | 0.00 | 6/2/08 | 0.00 | 7/2/08 | 0.03 |
| 7/3/07 | 0.42 | 8/3/07 | 0.00 | 9/3/07 | 0.01 | 10/3/07 | 0.00 | 11/3/07 | 0.00 | 12/3/07 | 0.00 | 1/3/08 | 0.00 | 2/3/08 | 0.00 | 3/3/08 | 0.00 | 4/3/08 | 0.00 | 5/3/08 | 0.05 | 6/3/08 | 0.00 | 7/3/08 | 0.01 |
| 7/4/07 | 0.01 | 8/4/07 | 0.00 | 9/4/07 | 0.00 | 10/4/07 | 0.76 | 11/4/07 | 0.00 | 12/4/07 | 0.01 | 1/4/08 | 0.00 | 2/4/08 | 0.00 | 3/4/08 | 0.00 | 4/4/08 | 0.00 | 5/4/08 | 0.00 | 6/4/08 | 0.00 | 7/4/08 | 0.00 |
| 7/5/07 | 0.47 | 8/5/07 | 0.00 | 9/5/07 | 1.06 | 10/5/07 | 0.08 | 11/5/07 | 0.00 | 12/5/07 | 0.00 | 1/5/08 | 0.00 | 2/5/08 | 0.00 | 3/5/08 | 0.00 | 4/5/08 | 0.00 | 5/5/08 | 0.00 | 6/5/08 | 0.00 | 7/5/08 | 1.95 |
| 7/6/07 | 1.26 | 8/6/07 | 0.00 | 9/6/07 | 0.29 | 10/6/07 | 0.01 | 11/6/07 | 0.00 | 12/6/07 | 0.00 | 1/6/08 | 0.00 | 2/6/08 | 0.00 | 3/6/08 | 0.00 | 4/6/08 | 1.42 | 5/6/08 | 0.00 | 6/6/08 | 0.00 | 7/6/08 | 0.02 |
| 7/7/07 | 0.00 | 8/7/07 | 0.00 | 9/7/07 | 0.00 | 10/7/07 | 0.01 | 11/7/07 | 0.00 | 12/7/07 | 0.10 | 1/7/08 | 0.00 | 2/7/08 | 0.00 | 3/7/08 | 0.00 | 4/7/08 | 0.67 | 5/7/08 | 0.00 | 6/7/08 | 0.00 | 7/7/08 | 0.46 |
| 7/8/07 | 0.04 | 8/8/07 | 0.00 | 9/8/07 | 1.73 | 10/8/07 | 0.00 | 11/8/07 | 0.00 | 12/8/07 | 0.00 | 1/8/08 | 0.00 | 2/8/08 | 0.00 | 3/8/08 | 0.41 | 4/8/08 | 0.00 | 5/8/08 | 0.00 | 6/8/08 | 0.00 | 7/8/08 | 0.06 |
| 7/9/07 | 0.17 | 8/9/07 | 0.40 | 9/9/07 | 0.38 | 10/9/07 | 0.00 | 11/9/07 | 0.00 | 12/9/07 | 0.00 | 1/9/08 | 0.00 | 2/9/08 | 0.00 | 3/9/08 | 0.00 | 4/9/08 | 0.00 | 5/9/08 | 0.00 | 6/9/08 | 0.00 | 7/9/08 | 0.19 |
| 7/10/07 | 0.02 | 8/10/07 | 0.51 | 9/10/07 | 0.57 | 10/10/07 | 0.00 | 11/10/07 | 0.00 | 12/10/07 | 0.00 | 1/10/08 | 0.00 | 2/10/08 | 0.00 | 3/10/08 | 0.00 | 4/10/08 | 0.00 | 5/10/08 | 0.00 | 6/10/08 | 0.06 | 7/10/08 | 0.00 |
| 7/11/07 | 0.01 | 8/11/07 | 0.03 | 9/11/07 | 0.19 | 10/11/07 | 0.00 | 11/11/07 | 0.00 | 12/11/07 | 0.00 | 1/11/08 | 0.00 | 2/11/08 | 0.00 | 3/11/08 | 0.00 | 4/11/08 | 0.00 | 5/11/08 | 0.00 | 6/11/08 | 1.42 | 7/11/08 | 0.00 |
| 7/12/07 | 0.00 | 8/12/07 | 0.00 | 9/12/07 | 0.55 | 10/12/07 | 0.00 | 11/12/07 | 0.00 | 12/12/07 | 0.00 | 1/12/08 | 0.00 | 2/12/08 | 3.96 | 3/12/08 | 0.00 | 4/12/08 | 0.00 | 5/12/08 | 0.00 | 6/12/08 | 0.08 | 7/12/08 | 0.00 |
| 7/13/07 | 0.00 | 8/13/07 | 0.05 | 9/13/07 | 0.65 | 10/13/07 | 0.00 | 11/13/07 | 0.00 | 12/13/07 | 0.02 | 1/13/08 | 0.00 | 2/13/08 | 1.11 | 3/13/08 | 0.00 | 4/13/08 | 0.00 | 5/13/08 | 0.00 | 6/13/08 | 0.72 | 7/13/08 | 0.00 |
| 7/14/07 | 0.14 | 8/14/07 | 1.70 | 9/14/07 | 0.63 | 10/14/07 | 0.00 | 11/14/07 | 0.00 | 12/14/07 | 0.60 | 1/14/08 | 0.00 | 2/14/08 | 0.00 | 3/14/08 | 0.00 | 4/14/08 | 0.00 | 5/14/08 | 0.00 | 6/14/08 | 0.20 | 7/14/08 | 0.00 |
| 7/15/07 | 0.21 | 8/15/07 | 0.16 | 9/15/07 | 0.18 | 10/15/07 | 0.00 | 11/15/07 | 0.00 | 12/15/07 | 0.00 | 1/15/08 | 0.00 | 2/15/08 | 0.00 | 3/15/08 | 0.00 | 4/15/08 | 0.00 | 5/15/08 | 0.00 | 6/15/08 | 0.15 | 7/15/08 | 0.00 |
| 7/16/07 | 0.00 | 8/16/07 | 0.00 | 9/16/07 | 0.02 | 10/16/07 | 0.00 | 11/16/07 | 0.00 | 12/16/07 | 0.08 | 1/16/08 | 0.00 | 2/16/08 | 0.00 | 3/16/08 | 0.00 | 4/16/08 | 0.00 | 5/16/08 | 0.00 | 6/16/08 | 0.05 | 7/16/08 | 0.00 |
| 7/17/07 | 0.04 | 8/17/07 | 0.00 | 9/17/07 | 0.98 | 10/17/07 | 0.00 | 11/17/07 | 0.00 | 12/17/07 | 0.00 | 1/17/08 | 0.00 | 2/17/08 | 0.00 | 3/17/08 | 0.00 | 4/17/08 | 0.00 | 5/17/08 | 0.00 | 6/17/08 | 0.01 | 7/17/08 | 0.00 |
| 7/18/07 | 0.48 | 8/18/07 | 0.02 | 9/18/07 | 0.05 | 10/18/07 | 0.00 | 11/18/07 | 0.00 | 12/18/07 | 0.00 | 1/18/08 | 0.00 | 2/18/08 | 0.00 | 3/18/08 | 0.00 | 4/18/08 | 0.00 | 5/18/08 | 0.00 | 6/18/08 | 0.27 | 7/18/08 | 0.00 |
| 7/19/07 | 0.59 | 8/19/07 | 0.01 | 9/19/07 | 0.00 | 10/19/07 | 0.01 | 11/19/07 | 0.00 | 12/19/07 | 0.00 | 1/19/08 | 0.19 | 2/19/08 | 0.04 | 3/19/08 | 0.00 | 4/19/08 | 0.00 | 5/19/08 | 0.00 | 6/19/08 | 0.77 | 7/19/08 | 0.00 |
| 7/20/07 | 0.00 | 8/20/07 | 0.00 | 9/20/07 | 0.23 | 10/20/07 | 0.11 | 11/20/07 | 0.00 | 12/20/07 | 0.00 | 1/20/08 | 0.31 | 2/20/08 | 0.01 | 3/20/08 | 0.00 | 4/20/08 | 0.00 | 5/20/08 | 0.00 | 6/20/08 | 1.56 | 7/20/08 | 0.00 |
| 7/21/07 | 0.70 | 8/21/07 | 0.01 | 9/21/07 | 1.27 | 10/21/07 | 1.88 | 11/21/07 | 0.00 | 12/21/07 | 0.00 | 1/21/08 | 0.00 | 2/21/08 | 0.00 | 3/21/08 | 0.00 | 4/21/08 | 0.00 | 5/21/08 | 0.00 | 6/21/08 | 0.00 | 7/21/08 | 0.00 |
| 7/22/07 | 0.00 | 8/22/07 | 0.00 | 9/22/07 | 0.87 | 10/22/07 | 0.00 | 11/22/07 | 0.00 | 12/22/07 | 0.00 | 1/22/08 | 0.00 | 2/22/08 | 0.00 | 3/22/08 | 1.16 | 4/22/08 | 0.00 | 5/22/08 | 0.00 | 6/22/08 | 0.00 | 7/22/08 | 0.00 |
| 7/23/07 | 0.07 | 8/23/07 | 0.28 | 9/23/07 | 0.12 | 10/23/07 | 0.00 | 11/23/07 | 0.00 | 12/23/07 | 0.00 | 1/23/08 | 0.00 | 2/23/08 | 0.00 | 3/23/08 | 0.01 | 4/23/08 | 0.00 | 5/23/08 | 0.00 | 6/23/08 | 0.00 | 7/23/08 | 0.00 |
| 7/24/07 | 0.47 | 8/24/07 | 0.35 | 9/24/07 | 0.09 | 10/24/07 | 0.04 | 11/24/07 | 0.00 | 12/24/07 | 0.00 | 1/24/08 | 0.00 | 2/24/08 | 0.00 | 3/24/08 | 0.00 | 4/24/08 | 0.00 | 5/24/08 | 0.00 | 6/24/08 | 2.54 | 7/24/08 | 0.00 |
| 7/25/07 | 0.03 | 8/25/07 | 0.56 | 9/25/07 | 0.01 | 10/25/07 | 0.38 | 11/25/07 | 0.00 | 12/25/07 | 0.00 | 1/25/08 | 0.00 | 2/25/08 | 0.00 | 3/25/08 | 0.00 | 4/25/08 | 0.00 | 5/25/08 | 0.00 | 6/25/08 | 0.01 | 7/25/08 | 0.01 |
| 7/26/07 | 0.16 | 8/26/07 | 0.21 | 9/26/07 | 0.00 | 10/26/07 | 0.00 | 11/26/07 | 0.02 | 12/26/07 | 0.00 | 1/26/08 | 0.00 | 2/26/08 | 0.00 | 3/26/08 | 0.00 | 4/26/08 | 0.00 | 5/26/08 | 0.00 | 6/26/08 | 0.00 | 7/26/08 | 0.13 |
| 7/27/07 | 0.04 | 8/27/07 | 0.73 | 9/27/07 | 0.00 | 10/27/07 | 0.00 | 11/27/07 | 0.01 | 12/27/07 | 0.00 | 1/27/08 | 0.00 | 2/27/08 | 0.18 | 3/27/08 | 0.00 | 4/27/08 | 0.00 | 5/27/08 | 0.00 | 6/27/08 | 0.07 | 7/27/08 | 0.02 |
| 7/28/07 | 0.01 | 8/28/07 | 0.00 | 9/28/07 | 0.00 | 10/28/07 | 0.03 | 11/28/07 | 0.03 | 12/28/07 | 0.00 | 1/28/08 | 0.00 | 2/28/08 | 0.00 | 3/28/08 | 0.00 | 4/28/08 | 0.00 | 5/28/08 | 0.00 | 6/28/08 | 0.08 | 7/28/08 | 0.77 |
| 7/29/07 | 0.01 | 8/29/07 | 0.00 | 9/29/07 | 0.02 | 10/29/07 | 0.00 | 11/29/07 | 0.00 | 12/29/07 | 0.00 | 1/29/08 | 0.00 | 2/29/08 | 0.00 | 3/29/08 | 0.00 | 4/29/08 | 0.00 | 5/29/08 | 0.00 | 6/29/08 | 0.00 | 7/29/08 | 0.01 |
| 7/30/07 | 0.00 | 8/30/07 | 0.00 | 9/30/07 | 0.00 | 10/30/07 | 0.00 | 11/30/07 | 0.00 | 12/30/07 | 0.00 | 1/30/08 | 0.00 | | | 3/30/08 | 0.00 | 4/30/08 | 0.00 | 5/30/08 | 0.00 | 6/30/08 | 0.95 | 7/30/08 | 0.00 |
| 7/31/07 | 0.99 | 8/31/07 | 0.00 | | | 10/31/07 | 0.01 | | | 12/31/07 | 0.00 | 1/31/08 | 0.00 | | | 3/31/08 | 0.00 | | | 5/31/08 | 0.00 | | | 7/31/08 | 0.00 |
| Total Rainfall | 7.48 | | 5.47 | | 10.99 | | 3.45 | | 0.10 | | 0.82 | | 0.59 | | 5.30 | | 1.58 | | 4.11 | | 0.05 | | 8.94 | | 3.66 |
| average | 0.24 | | 0.18 | | 0.37 | | 0.11 | | 0.00 | | 0.03 | | 0.02 | | 0.18 | | 0.05 | | 0.14 | | 0.00 | | 0.30 | | 0.12 |
| min | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| max | 1.26 | | 1.70 | | 1.73 | | 1.88 | | 0.04 | | 0.60 | | 0.31 | | 3.96 | | 1.16 | | 1.93 | | 0.05 | | 2.54 | | 1.95 |
| Days with rain | 23 | | 15 | | 23 | | 13 | | 4 | | 6 | | 3 | | 5 | | 3 | | 4 | | 1 | | 16 | | 12 |
| Days with no rain | 8 | | 16 | | 7 | | 18 | | 26 | | 25 | | 28 | | 24 | | 28 | | 26 | | 30 | | 14 | | 19 |
| Days >0.10" rain | 13 | | 10 | | 17 | | 5 | | 0 | | 1 | | 2 | | 3 | | 2 | | 3 | | 0 | | 9 | | 5 |

# Faver Dykes State Park Rainfall

| Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7/1/07 | 0.55 | 8/1/07 | 0.48 | 9/1/07 | 0.34 | 10/1/07 | 0.08 | 11/1/07 | 0.16 | 12/1/07 | 0.00 | 1/1/08 | 0.03 | 2/1/08 | 0.00 | 3/1/08 | 0.00 | 4/1/08 | 0.06 | 5/1/08 | 0.00 | 6/1/08 | 0.00 | 7/1/08 | 0.09 |
| 7/2/07 | 0.05 | 8/2/07 | 0.22 | 9/2/07 | 0.15 | 10/2/07 | 0.11 | 11/2/07 | 0.06 | 12/2/07 | 0.00 | 1/2/08 | 0.00 | 2/2/08 | 0.00 | 3/2/08 | 0.00 | 4/2/08 | 0.00 | 5/2/08 | 0.00 | 6/2/08 | 0.00 | 7/2/08 | 0.00 |
| 7/3/07 | 2.10 | 8/3/07 | 0.33 | 9/3/07 | 1.02 | 10/3/07 | 1.25 | 11/3/07 | 0.00 | 12/3/07 | 0.00 | 1/3/08 | 0.02 | 2/3/08 | 0.00 | 3/3/08 | 0.00 | 4/3/08 | 0.00 | 5/3/08 | 0.00 | 6/3/08 | 0.00 | 7/3/08 | 0.00 |
| 7/4/07 | 0.34 | 8/4/07 | 0.00 | 9/4/07 | 0.00 | 10/4/07 | 0.42 | 11/4/07 | 0.86 | 12/4/07 | 0.00 | 1/4/08 | 0.00 | 2/4/08 | 0.00 | 3/4/08 | 0.01 | 4/4/08 | 0.50 | 5/4/08 | 0.00 | 6/4/08 | 0.00 | 7/4/08 | 0.00 |
| 7/5/07 | 0.42 | 8/5/07 | 0.00 | 9/5/07 | 0.00 | 10/5/07 | 0.31 | 11/5/07 | 0.00 | 12/5/07 | 0.00 | 1/5/08 | 0.00 | 2/5/08 | 0.00 | 3/5/08 | 0.32 | 4/5/08 | 0.10 | 5/5/08 | 0.00 | 6/5/08 | 0.00 | 7/5/08 | 0.00 |
| 7/6/07 | 0.00 | 8/6/07 | 0.00 | 9/6/07 | 0.00 | 10/6/07 | 0.10 | 11/6/07 | 0.00 | 12/6/07 | 0.00 | 1/6/08 | 0.00 | 2/6/08 | 0.00 | 3/6/08 | 0.00 | 4/6/08 | 0.45 | 5/6/08 | 0.00 | 6/6/08 | 0.00 | 7/6/08 | 0.00 |
| 7/7/07 | 0.00 | 8/7/07 | 0.00 | 9/7/07 | 0.00 | 10/7/07 | 0.63 | 11/7/07 | 0.00 | 12/7/07 | 0.00 | 1/7/08 | 0.02 | 2/7/08 | 0.05 | 3/7/08 | 0.52 | 4/7/08 | 1.04 | 5/7/08 | 0.00 | 6/7/08 | 0.07 | 7/7/08 | 0.00 |
| 7/8/07 | 1.66 | 8/8/07 | 0.00 | 9/8/07 | 0.15 | 10/8/07 | 0.00 | 11/8/07 | 0.00 | 12/8/07 | 0.02 | 1/8/08 | 0.04 | 2/8/08 | 0.05 | 3/8/08 | 1.50 | 4/8/08 | 0.01 | 5/8/08 | 0.00 | 6/8/08 | 0.00 | 7/8/08 | 0.00 |
| 7/9/07 | 0.00 | 8/9/07 | 0.00 | 9/9/07 | 0.08 | 10/9/07 | 0.00 | 11/9/07 | 0.00 | 12/9/07 | 0.00 | 1/9/08 | 0.00 | 2/9/08 | 0.00 | 3/9/08 | 0.00 | 4/9/08 | 0.10 | 5/9/08 | 0.00 | 6/9/08 | 0.00 | 7/9/08 | 0.14 |
| 7/10/07 | 0.00 | 8/10/07 | 0.00 | 9/10/07 | 0.00 | 10/10/07 | 0.00 | 11/10/07 | 0.00 | 12/10/07 | 0.00 | 1/10/08 | 0.00 | 2/10/08 | 0.00 | 3/10/08 | 0.43 | 4/10/08 | 0.00 | 5/10/08 | 0.00 | 6/10/08 | 0.00 | 7/10/08 | 0.00 |
| 7/11/07 | 0.04 | 8/11/07 | 0.00 | 9/11/07 | 0.44 | 10/11/07 | 0.00 | 11/11/07 | 0.00 | 12/11/07 | 0.00 | 1/11/08 | 0.04 | 2/11/08 | 0.00 | 3/11/08 | 0.01 | 4/11/08 | 0.00 | 5/11/08 | 0.00 | 6/11/08 | 0.00 | 7/11/08 | 0.00 |
| 7/12/07 | 0.82 | 8/12/07 | 0.00 | 9/12/07 | 0.90 | 10/12/07 | 0.00 | 11/12/07 | 0.00 | 12/12/07 | 0.00 | 1/12/08 | 0.00 | 2/12/08 | 0.00 | 3/12/08 | 0.00 | 4/12/08 | 0.00 | 5/12/08 | 0.00 | 6/12/08 | 0.57 | 7/12/08 | 0.01 |
| 7/13/07 | 0.02 | 8/13/07 | 0.00 | 9/13/07 | 0.43 | 10/13/07 | 0.00 | 11/13/07 | 0.00 | 12/13/07 | 0.00 | 1/13/08 | 0.10 | 2/13/08 | 0.75 | 3/13/08 | 0.00 | 4/13/08 | 0.00 | 5/13/08 | 0.00 | 6/13/08 | 0.00 | 7/13/08 | 0.17 |
| 7/14/07 | 0.13 | 8/14/07 | 0.00 | 9/14/07 | 0.00 | 10/14/07 | 0.00 | 11/14/07 | 0.00 | 12/14/07 | 0.00 | 1/14/08 | 0.12 | 2/14/08 | 0.02 | 3/14/08 | 0.00 | 4/14/08 | 0.72 | 5/14/08 | 0.00 | 6/14/08 | 0.13 | 7/14/08 | 0.00 |
| 7/15/07 | 0.47 | 8/15/07 | 0.00 | 9/15/07 | 0.00 | 10/15/07 | 0.00 | 11/15/07 | 0.00 | 12/15/07 | 0.00 | 1/15/08 | 0.02 | 2/15/08 | 0.00 | 3/15/08 | 0.08 | 4/15/08 | 0.00 | 5/15/08 | 0.00 | 6/15/08 | 0.48 | 7/15/08 | 0.20 |
| 7/16/07 | 1.08 | 8/16/07 | 0.00 | 9/16/07 | 0.00 | 10/16/07 | 0.00 | 11/16/07 | 0.17 | 12/16/07 | 1.65 | 1/16/08 | 0.01 | 2/16/08 | 0.00 | 3/16/08 | 0.00 | 4/16/08 | 0.00 | 5/16/08 | 0.00 | 6/16/08 | 0.00 | 7/16/08 | 0.55 |
| 7/17/07 | 0.00 | 8/17/07 | 0.00 | 9/17/07 | 0.67 | 10/17/07 | 0.00 | 11/17/07 | 0.00 | 12/17/07 | 0.00 | 1/17/08 | 0.26 | 2/17/08 | 0.00 | 3/17/08 | 0.00 | 4/17/08 | 0.00 | 5/17/08 | 0.00 | 6/17/08 | 0.30 | 7/17/08 | |
| 7/18/07 | 0.05 | 8/18/07 | 0.00 | 9/18/07 | 0.50 | 10/18/07 | 0.00 | 11/18/07 | 0.00 | 12/18/07 | 0.00 | 1/18/08 | 0.00 | 2/18/08 | 0.63 | 3/18/08 | 0.00 | 4/18/08 | 0.00 | 5/18/08 | 0.00 | 6/18/08 | 0.86 | 7/18/08 | |
| 7/19/07 | 0.00 | 8/19/07 | 0.00 | 9/19/07 | 0.86 | 10/19/07 | 0.16 | 11/19/07 | 0.00 | 12/19/07 | 0.00 | 1/19/08 | 0.04 | 2/19/08 | 0.20 | 3/19/08 | 0.00 | 4/19/08 | 0.00 | 5/19/08 | 0.16 | 6/19/08 | 0.32 | 7/19/08 | 0.22 |
| 7/20/07 | 0.00 | 8/20/07 | 0.00 | 9/20/07 | 5.80 | 10/20/07 | 0.08 | 11/20/07 | 0.02 | 12/20/07 | 0.00 | 1/20/08 | 0.91 | 2/20/08 | 0.00 | 3/20/08 | 0.33 | 4/20/08 | 0.00 | 5/20/08 | 0.00 | 6/20/08 | 0.00 | 7/20/08 | 0.16 |
| 7/21/07 | 0.44 | 8/21/07 | 0.00 | 9/21/07 | 0.08 | 10/21/07 | 0.02 | 11/21/07 | 0.00 | 12/21/07 | 0.18 | 1/21/08 | 0.02 | 2/21/08 | 0.02 | 3/21/08 | 0.08 | 4/21/08 | 0.00 | 5/21/08 | 0.00 | 6/21/08 | 1.05 | 7/21/08 | 0.07 |
| 7/22/07 | 1.08 | 8/22/07 | 0.00 | 9/22/07 | 0.50 | 10/22/07 | 0.12 | 11/22/07 | 0.04 | 12/22/07 | 0.08 | 1/22/08 | 0.00 | 2/22/08 | 0.30 | 3/22/08 | | 4/22/08 | 0.00 | 5/22/08 | 0.00 | 6/22/08 | 0.00 | 7/22/08 | 0.00 |
| 7/23/07 | 0.02 | 8/23/07 | 0.00 | 9/23/07 | 0.50 | 10/23/07 | 0.04 | 11/23/07 | 0.00 | 12/23/07 | 0.04 | 1/23/08 | 0.18 | 2/23/08 | 0.73 | 3/23/08 | | 4/23/08 | 0.00 | 5/23/08 | 0.00 | 6/23/08 | 0.50 | 7/23/08 | 0.74 |
| 7/24/07 | 0.00 | 8/24/07 | 0.00 | 9/24/07 | 0.08 | 10/24/07 | 0.00 | 11/24/07 | 0.02 | 12/24/07 | 0.00 | 1/24/08 | 0.00 | 2/24/08 | 0.60 | 3/24/08 | 0.00 | 4/24/08 | 0.00 | 5/24/08 | 0.50 | 6/24/08 | 0.00 | 7/24/08 | 0.00 |
| 7/25/07 | 0.20 | 8/25/07 | 0.00 | 9/25/07 | 0.00 | 10/25/07 | 0.00 | 11/25/07 | 0.00 | 12/25/07 | 0.03 | 1/25/08 | 0.00 | 2/25/08 | 0.02 | 3/25/08 | 0.00 | 4/25/08 | 0.16 | 5/25/08 | 0.00 | 6/25/08 | 0.98 | 7/25/08 | 0.43 |
| 7/26/07 | 0.03 | 8/26/07 | 0.35 | 9/26/07 | 0.22 | 10/26/07 | 0.32 | 11/26/07 | 0.00 | 12/26/07 | 0.00 | 1/26/08 | 0.01 | 2/26/08 | 0.00 | 3/26/08 | 0.00 | 4/26/08 | 0.00 | 5/26/08 | 0.40 | 6/26/08 | 0.04 | 7/26/08 | 0.48 |
| 7/27/07 | 0.00 | 8/27/07 | 0.02 | 9/27/07 | 0.10 | 10/27/07 | 0.00 | 11/27/07 | 0.00 | 12/27/07 | 0.00 | 1/27/08 | 0.20 | 2/27/08 | 0.47 | 3/27/08 | 0.00 | 4/27/08 | 0.00 | 5/27/08 | 0.00 | 6/27/08 | 0.00 | 7/27/08 | |
| 7/28/07 | 0.00 | 8/28/07 | 0.00 | 9/28/07 | 0.10 | 10/28/07 | 0.22 | 11/28/07 | 0.03 | 12/28/07 | 0.00 | 1/28/08 | 0.00 | 2/28/08 | 0.00 | 3/28/08 | 0.00 | 4/28/08 | 0.00 | 5/28/08 | 0.00 | 6/28/08 | 0.42 | 7/28/08 | |
| 7/29/07 | 0.11 | 8/29/07 | 0.00 | 9/29/07 | 0.00 | 10/29/07 | 2.44 | 11/29/07 | 0.02 | 12/29/07 | 0.00 | 1/29/08 | 0.00 | 2/29/08 | 0.00 | 3/29/08 | 0.00 | 4/29/08 | 0.00 | 5/29/08 | 0.00 | 6/29/08 | 0.00 | 7/29/08 | 1.10 |
| 7/30/07 | 0.00 | 8/30/07 | 0.00 | 9/30/07 | 0.21 | 10/30/07 | 1.25 | 11/30/07 | 0.25 | 12/30/07 | 0.00 | 1/30/08 | 0.00 | | | 3/30/08 | 0.00 | 4/30/08 | 0.00 | 5/30/08 | 0.00 | 6/30/08 | 0.99 | 7/30/08 | 0.08 |
| 7/31/07 | 0.00 | 8/31/07 | 0.00 | | | 10/31/07 | 0.02 | | | 12/31/07 | 0.13 | 1/31/08 | 0.00 | | | 3/31/08 | 0.15 | | | 5/31/08 | 0.00 | | | 7/31/08 | 0.30 |
| **Total Rainfall** | 9.61 | | 1.40 | | 13.13 | | 7.57 | | 1.63 | | 2.13 | | 2.02 | | 3.84 | | 3.43 | | 3.14 | | 1.06 | | 6.71 | | 4.74 |
| **average** | 0.31 | | 0.05 | | 0.44 | | 0.24 | | 0.05 | | 0.07 | | 0.07 | | 0.13 | | 0.12 | | 0.10 | | 0.03 | | 0.22 | | 0.18 |
| **min** | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **max** | 2.10 | | 0.48 | | 5.80 | | 2.44 | | 0.86 | | 1.65 | | 0.91 | | 0.75 | | 1.50 | | 1.04 | | 0.50 | | 1.05 | | 1.10 |
| **Days with rain** | 19 | | 5 | | 20 | | 17 | | 10 | | 7 | | 16 | | 12 | | 10 | | 9 | | 3 | | 13 | | 15 |
| **Days with no rain** | 12 | | 26 | | 10 | | 14 | | 20 | | 24 | | 15 | | 17 | | 19 | | 21 | | 28 | | 17 | | 12 |
| **Days >0.10" rain** | 13 | | 4 | | 15 | | 11 | | 4 | | 3 | | 5 | | 7 | | 6 | | 5 | | 3 | | 11 | | 11 |

# Jonathon Dickinson State Park Rainfall

| Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/1/07 | 4.45 | 7/1/07 | 0.41 | 8/1/07 | 0.55 | 9/1/07 | 0.00 | 10/1/07 | 1.74 | 11/1/07 | 0.35 | 12/1/07 | 0.00 | 1/1/08 | 0.00 | 2/1/08 | 0.00 | 3/1/08 | 0.00 | 4/1/08 | 0.19 | 5/1/08 | 0.00 | 6/1/08 | 0.00 | 7/1/08 | 0.54 |
| 6/2/07 | 3.79 | 7/2/07 | 0.27 | 8/2/07 | 0.00 | 9/2/07 | 0.00 | 10/2/07 | 0.14 | 11/2/07 | 0.04 | 12/2/07 | 0.00 | 1/2/08 | 0.00 | 2/2/08 | 0.00 | 3/2/08 | 0.00 | 4/2/08 | 0.01 | 5/2/08 | 0.00 | 6/2/08 | 0.16 | 7/2/08 | 0.38 |
| 6/3/07 | 0.00 | 7/3/07 | 0.56 | 8/3/07 | 0.09 | 9/3/07 | 0.00 | 10/3/07 | 0.25 | 11/3/07 | 0.00 | 12/3/07 | 0.00 | 1/3/08 | 0.00 | 2/3/08 | 0.00 | 3/3/08 | 0.00 | 4/3/08 | 0.06 | 5/3/08 | 0.00 | 6/3/08 | 0.00 | 7/3/08 | 1.78 |
| 6/4/07 | 0.00 | 7/4/07 | 1.21 | 8/4/07 | 0.00 | 9/4/07 | 0.00 | 10/4/07 | 0.08 | 11/4/07 | 0.00 | 12/4/07 | 0.00 | 1/4/08 | 0.38 | 2/4/08 | 0.00 | 3/4/08 | 0.02 | 4/4/08 | 0.00 | 5/4/08 | 0.00 | 6/4/08 | 0.00 | 7/4/08 | 0.02 |
| 6/5/07 | 0.00 | 7/5/07 | 1.76 | 8/5/07 | 0.00 | 9/5/07 | 0.00 | 10/5/07 | 0.13 | 11/5/07 | 0.78 | 12/5/07 | 0.00 | 1/5/08 | 0.01 | 2/5/08 | 0.00 | 3/5/08 | 0.74 | 4/5/08 | 0.00 | 5/5/08 | 0.00 | 6/5/08 | 0.44 | 7/5/08 | 0.00 |
| 6/6/07 | 0.83 | 7/6/07 | 0.07 | 8/6/07 | 0.58 | 9/6/07 | 0.00 | 10/6/07 | 0.07 | 11/6/07 | 0.00 | 12/6/07 | 0.00 | 1/6/08 | 0.06 | 2/6/08 | 0.00 | 3/6/08 | 0.73 | 4/6/08 | 0.63 | 5/6/08 | 0.00 | 6/6/08 | 0.01 | 7/6/08 | 0.00 |
| 6/7/07 | 0.05 | 7/7/07 | 0.07 | 8/7/07 | 0.00 | 9/7/07 | 0.23 | 10/7/07 | 0.48 | 11/7/07 | 0.00 | 12/7/07 | 0.00 | 1/7/08 | 0.01 | 2/7/08 | 0.01 | 3/7/08 | 0.01 | 4/7/08 | 1.02 | 5/7/08 | 0.00 | 6/7/08 | 0.00 | 7/7/08 | 0.00 |
| 6/8/07 | 0.14 | 7/8/07 | 0.13 | 8/8/07 | 0.00 | 9/8/07 | 0.22 | 10/8/07 | 0.02 | 11/8/07 | 0.00 | 12/8/07 | 0.00 | 1/8/08 | 0.00 | 2/8/08 | 0.00 | 3/8/08 | 0.55 | 4/8/08 | 0.00 | 5/8/08 | 0.00 | 6/8/08 | 0.00 | 7/8/08 | 0.02 |
| 6/9/07 | 0.00 | 7/9/07 | 0.00 | 8/9/07 | 0.00 | 9/9/07 | 0.00 | 10/9/07 | 0.00 | 11/9/07 | 0.00 | 12/9/07 | 0.00 | 1/9/08 | 0.46 | 2/9/08 | 0.31 | 3/9/08 | 0.00 | 4/9/08 | 0.00 | 5/9/08 | 0.32 | 6/9/08 | 0.00 | 7/9/08 | 0.00 |
| 6/10/07 | 0.00 | 7/10/07 | 0.00 | 8/10/07 | 1.28 | 9/10/07 | 0.19 | 10/10/07 | 0.00 | 11/10/07 | 0.00 | 12/10/07 | 0.00 | 1/10/08 | 0.16 | 2/10/08 | 0.02 | 3/10/08 | 0.00 | 4/10/08 | 0.00 | 5/10/08 | 0.00 | 6/10/08 | 0.03 | 7/10/08 | 0.00 |
| 6/11/07 | 0.00 | 7/11/07 | 0.00 | 8/11/07 | 0.04 | 9/11/07 | 0.15 | 10/11/07 | 0.00 | 11/11/07 | 0.00 | 12/11/07 | 0.00 | 1/11/08 | 0.00 | 2/11/08 | 0.00 | 3/11/08 | 0.09 | 4/11/08 | 0.00 | 5/11/08 | 0.00 | 6/11/08 | 0.17 | 7/11/08 | 0.00 |
| 6/12/07 | 0.08 | 7/12/07 | 0.04 | 8/12/07 | 0.00 | 9/12/07 | 0.00 | 10/12/07 | 0.00 | 11/12/07 | 0.11 | 12/12/07 | 0.50 | 1/12/08 | 0.03 | 2/12/08 | 0.96 | 3/12/08 | 0.00 | 4/12/08 | 0.00 | 5/12/08 | 0.00 | 6/12/08 | 0.39 | 7/12/08 | 0.07 |
| 6/13/07 | 0.06 | 7/13/07 | 0.00 | 8/13/07 | 0.00 | 9/13/07 | 0.00 | 10/13/07 | 0.00 | 11/13/07 | 0.66 | 12/13/07 | 1.07 | 1/13/08 | 0.00 | 2/13/08 | 1.46 | 3/13/08 | 0.00 | 4/13/08 | 0.01 | 5/13/08 | 0.00 | 6/13/08 | 0.08 | 7/13/08 | 0.46 |
| 6/14/07 | 0.00 | 7/14/07 | 0.00 | 8/14/07 | 2.13 | 9/14/07 | 0.00 | 10/14/07 | 0.00 | 11/14/07 | 0.02 | 12/14/07 | 0.39 | 1/14/08 | 0.00 | 2/14/08 | 0.00 | 3/14/08 | 0.00 | 4/14/08 | 0.00 | 5/14/08 | 0.00 | 6/14/08 | 0.01 | 7/14/08 | 0.00 |
| 6/15/07 | 0.01 | 7/15/07 | 0.00 | 8/15/07 | 0.00 | 9/15/07 | 0.00 | 10/15/07 | 0.00 | 11/15/07 | 0.00 | 12/15/07 | 0.00 | 1/15/08 | 0.00 | 2/15/08 | 0.00 | 3/15/08 | 0.00 | 4/15/08 | 0.00 | 5/15/08 | 0.00 | 6/15/08 | 0.01 | 7/15/08 | 0.06 |
| 6/16/07 | 0.00 | 7/16/07 | 0.00 | 8/16/07 | 0.44 | 9/16/07 | 0.00 | 10/16/07 | 0.08 | 11/16/07 | 0.00 | 12/16/07 | 0.08 | 1/16/08 | 0.00 | 2/16/08 | 0.00 | 3/16/08 | 0.00 | 4/16/08 | 0.00 | 5/16/08 | 0.00 | 6/16/08 | 1.11 | 7/16/08 | 0.06 |
| 6/17/07 | 0.09 | 7/17/07 | 0.00 | 8/17/07 | 0.01 | 9/17/07 | 0.01 | 10/17/07 | 0.26 | 11/17/07 | 0.00 | 12/17/07 | 0.00 | 1/17/08 | 0.06 | 2/17/08 | 0.09 | 3/17/08 | 0.00 | 4/17/08 | 0.00 | 5/17/08 | 0.00 | 6/17/08 | 0.00 | 7/17/08 | 0.60 |
| 6/18/07 | 0.01 | 7/18/07 | 0.00 | 8/18/07 | 0.20 | 9/18/07 | 2.05 | 10/18/07 | 0.00 | 11/18/07 | 0.00 | 12/18/07 | 0.00 | 1/18/08 | 0.00 | 2/18/08 | 0.01 | 3/18/08 | 0.00 | 4/18/08 | 0.00 | 5/18/08 | 0.00 | 6/18/08 | 0.50 | 7/18/08 | 0.10 |
| 6/19/07 | 0.00 | 7/19/07 | 0.04 | 8/19/07 | 0.00 | 9/19/07 | 0.01 | 10/19/07 | 1.32 | 11/19/07 | 0.09 | 12/19/07 | 0.03 | 1/19/08 | 0.00 | 2/19/08 | 0.00 | 3/19/08 | 0.00 | 4/19/08 | 0.00 | 5/19/08 | 0.44 | 6/19/08 | 0.10 | 7/19/08 | 0.00 |
| 6/20/07 | 0.00 | 7/20/07 | 0.12 | 8/20/07 | 0.00 | 9/20/07 | 0.21 | 10/20/07 | 3.01 | 11/20/07 | 0.00 | 12/20/07 | 0.08 | 1/20/08 | 0.67 | 2/20/08 | 0.00 | 3/20/08 | 0.00 | 4/20/08 | 0.00 | 5/20/08 | 1.03 | 6/20/08 | 0.04 | 7/20/08 | 0.00 |
| 6/21/07 | 0.06 | 7/21/07 | 1.19 | 8/21/07 | 0.00 | 9/21/07 | 0.89 | 10/21/07 | 0.01 | 11/21/07 | 0.00 | 12/21/07 | 0.03 | 1/21/08 | 0.08 | 2/21/08 | 0.22 | 3/21/08 | 0.00 | 4/21/08 | 0.00 | 5/21/08 | 0.00 | 6/21/08 | 0.40 | 7/21/08 | 0.00 |
| 6/22/07 | 0.00 | 7/22/07 | 1.09 | 8/22/07 | 0.07 | 9/22/07 | 0.51 | 10/22/07 | 0.00 | 11/22/07 | 0.00 | 12/22/07 | 0.00 | 1/22/08 | 0.02 | 2/22/08 | 0.00 | 3/22/08 | 0.43 | 4/22/08 | 0.00 | 5/22/08 | 2.33 | 6/22/08 | 0.22 | 7/22/08 | 0.00 |
| 6/23/07 | 0.00 | 7/23/07 | 3.42 | 8/23/07 | 0.03 | 9/23/07 | 0.38 | 10/23/07 | 0.00 | 11/23/07 | 0.00 | 12/23/07 | 0.00 | 1/23/08 | 0.00 | 2/23/08 | 0.02 | 3/23/08 | 0.90 | 4/23/08 | 0.02 | 5/23/08 | 1.79 | 6/23/08 | 0.26 | 7/23/08 | 0.29 |
| 6/24/07 | 0.00 | 7/24/07 | 0.57 | 8/24/07 | 0.00 | 9/24/07 | 0.62 | 10/24/07 | 0.20 | 11/24/07 | 0.40 | 12/24/07 | 0.01 | 1/24/08 | 0.00 | 2/24/08 | 0.00 | 3/24/08 | 0.00 | 4/24/08 | 0.06 | 5/24/08 | 2.72 | 6/24/08 | 0.01 | 7/24/08 | 0.01 |
| 6/25/07 | 0.00 | 7/25/07 | 0.58 | 8/25/07 | 1.58 | 9/25/07 | 1.22 | 10/25/07 | 0.19 | 11/25/07 | 0.78 | 12/25/07 | 0.51 | 1/25/08 | 0.00 | 2/25/08 | 0.00 | 3/25/08 | 0.00 | 4/25/08 | 0.00 | 5/25/08 | 0.01 | 6/25/08 | 0.00 | 7/25/08 | 0.00 |
| 6/26/07 | 0.00 | 7/26/07 | 0.01 | 8/26/07 | 0.02 | 9/26/07 | 1.41 | 10/26/07 | 1.43 | 11/26/07 | 0.00 | 12/26/07 | 0.00 | 1/26/08 | 0.00 | 2/26/08 | 0.14 | 3/26/08 | 0.00 | 4/26/08 | 0.00 | 5/26/08 | 0.00 | 6/26/08 | 0.83 | 7/26/08 | 0.00 |
| 6/27/07 | 1.25 | 7/27/07 | 0.89 | 8/27/07 | 0.00 | 9/27/07 | 0.01 | 10/27/07 | 0.00 | 11/27/07 | 0.42 | 12/27/07 | 0.00 | 1/27/08 | 0.13 | 2/27/08 | 0.38 | 3/27/08 | 0.00 | 4/27/08 | 0.00 | 5/27/08 | 0.06 | 6/27/08 | 0.01 | 7/27/08 | 0.35 |
| 6/28/07 | 1.25 | 7/28/07 | 0.01 | 8/28/07 | 0.00 | 9/28/07 | 0.00 | 10/28/07 | 0.31 | 11/28/07 | 0.02 | 12/28/07 | 0.40 | 1/28/08 | 0.00 | 2/28/08 | 0.00 | 3/28/08 | 0.00 | 4/28/08 | 0.00 | 5/28/08 | 0.00 | 6/28/08 | 0.00 | 7/28/08 | 0.00 |
| 6/29/07 | 4.43 | 7/29/07 | 0.15 | 8/29/07 | 0.00 | 9/29/07 | 0.46 | 10/29/07 | 0.04 | 11/29/07 | 0.24 | 12/29/07 | 0.00 | 1/29/08 | 0.00 | 2/29/08 | 0.00 | 3/29/08 | 0.00 | 4/29/08 | 0.00 | 5/29/08 | 0.29 | 6/29/08 | 0.00 | 7/29/08 | 0.02 |
| 6/30/07 | 0.13 | 7/30/07 | 0.20 | 8/30/07 | 0.00 | 9/30/07 | 0.11 | 10/30/07 | 0.33 | 11/30/07 | 0.00 | 12/30/07 | 0.00 | 1/30/08 | 0.00 | | | 3/30/08 | 0.16 | 4/30/08 | 0.00 | 5/30/08 | 0.00 | 6/30/08 | 0.12 | 7/30/08 | 0.89 |
| | | 7/31/07 | 0.92 | 8/31/07 | 0.00 | | | 10/31/07 | 1.75 | | | 12/31/07 | 0.00 | 1/31/08 | 0.00 | | | 3/31/08 | 0.23 | | | 5/31/08 | 0.08 | | | 7/31/08 | 0.01 |
| **Total Rainfall** | 16.63 | | 13.71 | | 7.02 | | 8.68 | | 11.84 | | 3.91 | | 3.10 | | 2.07 | | 3.62 | | 3.86 | | 2.00 | | 9.07 | | 4.90 | | 5.66 |
| **average** | 0.55 | | 0.44 | | 0.23 | | 0.29 | | 0.38 | | 0.13 | | 0.10 | | 0.07 | | 0.12 | | 0.12 | | 0.07 | | 0.29 | | 0.16 | | 0.18 |
| **min** | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **max** | 4.45 | | 3.42 | | 2.13 | | 2.05 | | 3.01 | | 0.78 | | 1.07 | | 0.67 | | 1.46 | | 0.90 | | 1.02 | | 2.72 | | 1.11 | | 1.78 |
| **Days with rain** | 15 | | 22 | | 13 | | 17 | | 20 | | 12 | | 10 | | 12 | | 11 | | 10 | | 8 | | 10 | | 20 | | 17 |
| **Days with no rain** | 15 | | 9 | | 17 | | 13 | | 11 | | 18 | | 21 | | 17 | | 18 | | 21 | | 22 | | 21 | | 10 | | |
| **Days >0.10" rain** | 8 | | 16 | | 7 | | 14 | | 14 | | 8 | | 5 | | 5 | | 6 | | 7 | | 3 | | 7 | | 11 | | |

# Lake Louisa State Park Rainfall

| Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7/1/07 | 0.00 | 8/1/07 | 0.00 | 9/1/07 | 0.17 | 10/1/07 | 0.00 | 11/1/07 | 0.01 | 12/1/07 | 0.01 | 1/1/08 | 0.11 | 2/1/08 | 0.00 | 3/1/08 | 0.00 | 4/1/08 | 0.00 | 5/1/08 | 0.00 | 6/1/08 | 0.00 | 7/1/08 | 0.00 | 8/1/08 | 1.52 |
| 7/2/07 | 0.57 | 8/2/07 | 0.44 | 9/2/07 | 0.00 | 10/2/07 | 1.44 | 11/2/07 | 0.00 | 12/2/07 | 0.00 | 1/2/08 | 0.00 | 2/2/08 | 0.00 | 3/2/08 | 0.00 | 4/2/08 | 0.32 | 5/2/08 | 0.00 | 6/2/08 | 0.17 | 7/2/08 | 0.00 | 8/2/08 | 0.07 |
| 7/3/07 | 0.20 | 8/3/07 | 1.02 | 9/3/07 | 0.00 | 10/3/07 | 0.25 | 11/3/07 | 0.00 | 12/3/07 | 0.00 | 1/3/08 | 0.00 | 2/3/08 | 0.00 | 3/3/08 | 0.00 | 4/3/08 | 0.34 | 5/3/08 | 0.00 | 6/3/08 | 0.00 | 7/3/08 | 0.00 | 8/3/08 | 0.02 |
| 7/4/07 | 0.83 | 8/4/07 | 0.00 | 9/4/07 | 0.00 | 10/4/07 | 0.01 | 11/4/07 | 0.00 | 12/4/07 | 0.01 | 1/4/08 | 0.00 | 2/4/08 | 0.00 | 3/4/08 | 0.00 | 4/4/08 | 0.15 | 5/4/08 | 0.00 | 6/4/08 | 0.00 | 7/4/08 | 0.00 | 8/4/08 | 0.00 |
| 7/5/07 | 0.92 | 8/5/07 | 0.00 | 9/5/07 | 0.00 | 10/5/07 | 0.27 | 11/5/07 | 0.00 | 12/5/07 | 0.00 | 1/5/08 | 0.00 | 2/5/08 | 0.00 | 3/5/08 | 0.26 | 4/5/08 | 0.07 | 5/5/08 | 0.00 | 6/5/08 | 0.00 | 7/5/08 | 0.96 | 8/5/08 | 0.16 |
| 7/6/07 | 0.03 | 8/6/07 | 0.00 | 9/6/07 | 0.00 | 10/6/07 | 1.12 | 11/6/07 | 0.00 | 12/6/07 | 0.00 | 1/6/08 | 0.00 | 2/6/08 | 0.00 | 3/6/08 | 0.00 | 4/6/08 | 1.04 | 5/6/08 | 0.00 | 6/6/08 | 0.00 | 7/6/08 | 0.05 | 8/6/08 | 0.12 |
| 7/7/07 | 1.85 | 8/7/07 | 0.00 | 9/7/07 | 0.00 | 10/7/07 | 0.05 | 11/7/07 | 0.00 | 12/7/07 | 0.00 | 1/7/08 | 0.00 | 2/7/08 | 0.00 | 3/7/08 | 0.95 | 4/7/08 | 1.40 | 5/7/08 | 0.00 | 6/7/08 | 0.00 | 7/7/08 | 0.00 | 8/7/08 | 0.00 |
| 7/8/07 | 0.01 | 8/8/07 | 0.00 | 9/8/07 | 0.07 | 10/8/07 | 0.00 | 11/8/07 | 0.00 | 12/8/07 | 0.00 | 1/8/08 | 0.00 | 2/8/08 | 0.05 | 3/8/08 | 1.90 | 4/8/08 | 0.01 | 5/8/08 | 0.00 | 6/8/08 | 0.00 | 7/8/08 | 0.00 | 8/8/08 | 0.00 |
| 7/9/07 | 0.00 | 8/9/07 | 0.00 | 9/9/07 | 0.06 | 10/9/07 | 0.00 | 11/9/07 | 0.00 | 12/9/07 | 0.00 | 1/9/08 | 0.00 | 2/9/08 | 0.00 | 3/9/08 | 0.00 | 4/9/08 | 0.00 | 5/9/08 | 0.00 | 6/9/08 | 0.00 | 7/9/08 | 0.64 | 8/9/08 | 0.05 |
| 7/10/07 | 0.00 | 8/10/07 | 0.00 | 9/10/07 | 0.00 | 10/10/07 | 0.00 | 11/10/07 | 0.00 | 12/10/07 | 0.41 | 1/10/08 | 0.00 | 2/10/08 | 0.00 | 3/10/08 | 0.00 | 4/10/08 | 0.00 | 5/10/08 | 0.00 | 6/10/08 | 0.00 | 7/10/08 | 0.00 | 8/10/08 | 0.02 |
| 7/11/07 | 0.65 | 8/11/07 | 0.00 | 9/11/07 | 0.20 | 10/11/07 | 0.00 | 11/11/07 | 0.00 | 12/11/07 | 0.00 | 1/11/08 | 0.00 | 2/11/08 | 0.00 | 3/11/08 | 0.00 | 4/11/08 | 0.00 | 5/11/08 | 0.00 | 6/11/08 | 0.23 | 7/11/08 | 0.00 | 8/11/08 | 0.00 |
| 7/12/07 | 0.07 | 8/12/07 | 0.67 | 9/12/07 | 1.07 | 10/12/07 | 0.00 | 11/12/07 | 0.00 | 12/12/07 | 0.00 | 1/12/08 | 0.00 | 2/12/08 | 0.00 | 3/12/08 | 0.00 | 4/12/08 | 0.00 | 5/12/08 | 0.00 | 6/12/08 | 0.00 | 7/12/08 | 0.10 | 8/12/08 | 0.00 |
| 7/13/07 | 0.02 | 8/13/07 | 1.72 | 9/13/07 | 0.20 | 10/13/07 | 0.00 | 11/13/07 | 0.00 | 12/13/07 | 0.00 | 1/13/08 | 0.00 | 2/13/08 | 0.38 | 3/13/08 | 0.00 | 4/13/08 | 0.00 | 5/13/08 | 0.00 | 6/13/08 | 0.35 | 7/13/08 | 1.25 | 8/13/08 | 0.00 |
| 7/14/07 | 0.15 | 8/14/07 | 0.00 | 9/14/07 | 0.02 | 10/14/07 | 0.00 | 11/14/07 | 0.00 | 12/14/07 | 0.01 | 1/14/08 | 0.20 | 2/14/08 | 0.01 | 3/14/08 | 0.00 | 4/14/08 | 0.03 | 5/14/08 | 0.00 | 6/14/08 | 0.68 | 7/14/08 | 0.28 | 8/14/08 | 0.16 |
| 7/15/07 | 0.05 | 8/15/07 | 0.00 | 9/15/07 | 0.00 | 10/15/07 | 0.00 | 11/15/07 | 0.00 | 12/15/07 | 0.00 | 1/15/08 | 0.00 | 2/15/08 | 0.00 | 3/15/08 | 0.22 | 4/15/08 | 0.00 | 5/15/08 | 0.00 | 6/15/08 | 0.00 | 7/15/08 | 0.05 | 8/15/08 | 0.16 |
| 7/16/07 | 0.00 | 8/16/07 | 0.47 | 9/16/07 | 1.11 | 10/16/07 | 0.00 | 11/16/07 | 0.00 | 12/16/07 | 1.27 | 1/16/08 | 0.00 | 2/16/08 | 0.00 | 3/16/08 | 0.00 | 4/16/08 | 0.00 | 5/16/08 | 0.00 | 6/16/08 | 0.96 | 7/16/08 | 1.08 | 8/16/08 | 0.00 |
| 7/17/07 | 0.00 | 8/17/07 | 0.00 | 9/17/07 | 0.05 | 10/17/07 | 0.00 | 11/17/07 | 0.00 | 12/17/07 | 0.02 | 1/17/08 | 0.96 | 2/17/08 | 0.00 | 3/17/08 | 0.00 | 4/17/08 | 0.00 | 5/17/08 | 0.00 | 6/17/08 | 0.02 | 7/17/08 | 0.13 | 8/17/08 | 0.97 |
| 7/18/07 | 1.50 | 8/18/07 | 0.00 | 9/18/07 | 0.00 | 10/18/07 | 0.20 | 11/18/07 | 0.00 | 12/18/07 | 0.00 | 1/18/08 | 0.00 | 2/18/08 | 0.00 | 3/18/08 | 0.00 | 4/18/08 | 0.00 | 5/18/08 | 0.00 | 6/18/08 | 0.00 | 7/18/08 | 0.25 | 8/18/08 | 0.00 |
| 7/19/07 | 0.00 | 8/19/07 | 0.00 | 9/19/07 | 0.29 | 10/19/07 | 0.25 | 11/19/07 | 0.00 | 12/19/07 | 0.00 | 1/19/08 | 0.02 | 2/19/08 | 0.15 | 3/19/08 | 0.00 | 4/19/08 | 0.00 | 5/19/08 | 0.03 | 6/19/08 | 0.46 | 7/19/08 | 0.67 | 8/19/08 | 0.26 |
| 7/20/07 | 0.02 | 8/20/07 | 0.00 | 9/20/07 | 0.23 | 10/20/07 | 0.00 | 11/20/07 | 0.00 | 12/20/07 | 0.00 | 1/20/08 | 0.82 | 2/20/08 | 0.00 | 3/20/08 | 0.40 | 4/20/08 | 0.00 | 5/20/08 | 0.32 | 6/20/08 | 0.00 | 7/20/08 | 1.90 | 8/20/08 | 0.65 |
| 7/21/07 | 0.00 | 8/21/07 | 0.00 | 9/21/07 | 1.69 | 10/21/07 | 0.28 | 11/21/07 | 0.00 | 12/21/07 | 0.35 | 1/21/08 | 0.00 | 2/21/08 | 0.00 | 3/21/08 | 0.00 | 4/21/08 | 0.00 | 5/21/08 | 0.27 | 6/21/08 | 0.02 | 7/21/08 | 0.00 | 8/21/08 | 1.10 |
| 7/22/07 | 0.96 | 8/22/07 | 0.00 | 9/22/07 | 0.02 | 10/22/07 | 0.00 | 11/22/07 | 0.00 | 12/22/07 | 0.00 | 1/22/08 | 0.00 | 2/22/08 | 0.07 | 3/22/08 | 0.00 | 4/22/08 | 0.00 | 5/22/08 | 0.00 | 6/22/08 | 0.24 | 7/22/08 | 0.00 | 8/22/08 | 3.26 |
| 7/23/07 | 0.01 | 8/23/07 | 0.00 | 9/23/07 | 0.00 | 10/23/07 | 0.00 | 11/23/07 | 0.01 | 12/23/07 | 0.01 | 1/23/08 | 1.93 | 2/23/08 | 0.00 | 3/23/08 | 0.07 | 4/23/08 | 0.00 | 5/23/08 | 0.01 | 6/23/08 | 0.18 | 7/23/08 | 1.02 | 8/23/08 | 2.27 |
| 7/24/07 | 1.92 | 8/24/07 | 0.00 | 9/24/07 | 0.40 | 10/24/07 | 0.08 | 11/24/07 | 0.00 | 12/24/07 | 0.00 | 1/24/08 | 0.00 | 2/24/08 | 0.12 | 3/24/08 | 0.00 | 4/24/08 | 0.00 | 5/24/08 | 1.00 | 6/24/08 | 0.01 | 7/24/08 | 0.47 | 8/24/08 | 1.07 |
| 7/25/07 | 0.02 | 8/25/07 | 0.00 | 9/25/07 | 0.01 | 10/25/07 | 0.00 | 11/25/07 | 0.00 | 12/25/07 | 0.00 | 1/25/08 | 0.00 | 2/25/08 | 0.01 | 3/25/08 | 0.00 | 4/25/08 | 0.00 | 5/25/08 | 0.21 | 6/25/08 | 0.05 | 7/25/08 | 0.00 | 8/25/08 | 0.01 |
| 7/26/07 | 0.00 | 8/26/07 | 1.25 | 9/26/07 | 0.00 | 10/26/07 | 0.01 | 11/26/07 | 0.00 | 12/26/07 | 0.01 | 1/26/08 | 0.00 | 2/26/08 | 0.00 | 3/26/08 | 0.00 | 4/26/08 | 0.00 | 5/26/08 | 0.00 | 6/26/08 | 0.16 | 7/26/08 | 1.47 | 8/26/08 | 0.14 |
| 7/27/07 | 0.00 | 8/27/07 | 0.34 | 9/27/07 | 0.07 | 10/27/07 | 0.00 | 11/27/07 | 0.00 | 12/27/07 | 0.00 | 1/27/08 | 0.09 | 2/27/08 | 1.12 | 3/27/08 | 0.00 | 4/27/08 | 0.00 | 5/27/08 | 0.00 | 6/27/08 | 1.04 | 7/27/08 | 0.10 | 8/27/08 | 0.19 |
| 7/28/07 | 0.00 | 8/28/07 | 0.00 | 9/28/07 | 0.00 | 10/28/07 | 0.00 | 11/28/07 | 0.00 | 12/28/07 | 0.00 | 1/28/08 | 0.00 | 2/28/08 | 0.00 | 3/28/08 | 0.00 | 4/28/08 | 0.00 | 5/28/08 | 0.00 | 6/28/08 | 0.01 | 7/28/08 | 0.00 | 8/28/08 | 0.00 |
| 7/29/07 | 0.20 | 8/29/07 | 0.00 | 9/29/07 | 0.01 | 10/29/07 | 0.01 | 11/29/07 | 0.01 | 12/29/07 | 0.00 | 1/29/08 | 0.00 | 2/29/08 | 0.00 | 3/29/08 | 0.00 | 4/29/08 | 0.22 | 5/29/08 | 0.00 | 6/29/08 | 0.10 | 7/29/08 | 0.60 | 8/29/08 | 0.00 |
| 7/30/07 | 0.04 | 8/30/07 | 0.00 | 9/30/07 | 0.01 | 10/30/07 | 0.18 | 11/30/07 | 0.05 | 12/30/07 | 0.00 | 1/30/08 | 0.00 | | | 3/30/08 | 0.00 | 4/30/08 | 0.00 | 5/30/08 | 0.00 | 6/30/08 | 0.17 | 7/30/08 | 0.58 | 8/30/08 | 0.00 |
| 7/31/07 | 0.30 | 8/31/07 | 0.00 | | | 10/31/07 | 0.23 | | | 12/31/07 | 0.00 | 1/31/08 | 0.00 | | | 3/31/08 | 0.00 | | | 5/31/08 | 0.00 | | | 7/31/08 | 0.12 | 8/31/08 | 1.31 |
| Total Rainfall | 10.32 | | 5.91 | | 5.68 | | 4.38 | | 0.08 | | 2.10 | | 4.13 | | 1.91 | | 3.80 | | 3.58 | | 1.84 | | 4.85 | | 11.72 | | 13.51 |
| average | 0.33 | | 0.19 | | 0.19 | | 0.14 | | 0.00 | | 0.07 | | 0.13 | | 0.07 | | 0.12 | | 0.12 | | 0.06 | | 0.16 | | 0.38 | | 0.44 |
| min | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| max | 1.92 | | 1.72 | | 1.69 | | 1.44 | | 0.05 | | 1.27 | | 1.93 | | 1.12 | | 1.90 | | 1.40 | | 1.00 | | 1.04 | | 1.90 | | 3.26 |
| Days with rain | 21 | | 7 | | 18 | | 14 | | 4 | | 9 | | 7 | | 8 | | 6 | | 9 | | 6 | | 17 | | 19 | | 20 |
| Days with no rain | 10 | | 24 | | 12 | | 17 | | 26 | | 22 | | 24 | | 21 | | 25 | | 21 | | 25 | | 13 | | 12 | | 11 |
| Days >0.10" rain | 12 | | 7 | | 9 | | 9 | | 0 | | 3 | | 5 | | 4 | | 5 | | 6 | | 4 | | 11 | | 15 | | 15 |

# Myakka River State Park Rainfall

| Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7/1/07 | 1.75 | 8/1/07 | 0.14 | 9/1/07 | 0.00 | 10/1/07 | 0.35 | 11/1/07 | 0.00 | 12/1/07 | 0.00 | 1/1/08 | 0.02 | 2/1/08 | 0.00 | 3/1/08 | 0.00 | 4/1/08 | 1.30 | 5/1/08 | 0.00 | 6/1/08 | 0.04 | 7/1/08 | 0.90 |
| 7/2/07 | 0.07 | 8/2/07 | 1.05 | 9/2/07 | 0.10 | 10/2/07 | 0.35 | 11/2/07 | 0.00 | 12/2/07 | 0.00 | 1/2/08 | 0.00 | 2/2/08 | 0.00 | 3/2/08 | 0.00 | 4/2/08 | 0.20 | 5/2/08 | 0.00 | 6/2/08 | 0.00 | 7/2/08 | 2.20 |
| 7/3/07 | 0.84 | 8/3/07 | 0.00 | 9/3/07 | 0.04 | 10/3/07 | 0.01 | 11/3/07 | 0.00 | 12/3/07 | 0.00 | 1/3/08 | 0.00 | 2/3/08 | 0.00 | 3/3/08 | 0.03 | 4/3/08 | 0.04 | 5/3/08 | 0.00 | 6/3/08 | 0.02 | 7/3/08 | 0.32 |
| 7/4/07 | 0.48 | 8/4/07 | 0.00 | 9/4/07 | 0.00 | 10/4/07 | 0.00 | 11/4/07 | 0.00 | 12/4/07 | 0.00 | 1/4/08 | 0.00 | 2/4/08 | 0.00 | 3/4/08 | 0.03 | 4/4/08 | 0.01 | 5/4/08 | 0.00 | 6/4/08 | 0.00 | 7/4/08 | 0.00 |
| 7/5/07 | 0.00 | 8/5/07 | 0.00 | 9/5/07 | 0.24 | 10/5/07 | 0.02 | 11/5/07 | 0.00 | 12/5/07 | 0.00 | 1/5/08 | 0.00 | 2/5/08 | 0.00 | 3/5/08 | 0.15 | 4/5/08 | 1.00 | 5/5/08 | 0.00 | 6/5/08 | 0.00 | 7/5/08 | 0.04 |
| 7/6/07 | 0.00 | 8/6/07 | 0.00 | 9/6/07 | 0.02 | 10/6/07 | 0.00 | 11/6/07 | 0.00 | 12/6/07 | 0.00 | 1/6/08 | 0.00 | 2/6/08 | 0.00 | 3/6/08 | 0.26 | 4/6/08 | 1.20 | 5/6/08 | 0.00 | 6/6/08 | 0.10 | 7/6/08 | 0.02 |
| 7/7/07 | 0.00 | 8/7/07 | 0.01 | 9/7/07 | 0.02 | 10/7/07 | 0.02 | 11/7/07 | 0.00 | 12/7/07 | 0.00 | 1/7/08 | 0.00 | 2/7/08 | 0.22 | 3/7/08 | 0.32 | 4/7/08 | 0.01 | 5/7/08 | 0.00 | 6/7/08 | 0.00 | 7/7/08 | 0.15 |
| 7/8/07 | 0.00 | 8/8/07 | 0.14 | 9/8/07 | 0.00 | 10/8/07 | 0.00 | 11/8/07 | 0.00 | 12/8/07 | 0.00 | 1/8/08 | 0.00 | 2/8/08 | 0.02 | 3/8/08 | 0.00 | 4/8/08 | 0.00 | 5/8/08 | 0.00 | 6/8/08 | 0.22 | 7/8/08 | 0.44 |
| 7/9/07 | 0.00 | 8/9/07 | 0.00 | 9/9/07 | 0.00 | 10/9/07 | 0.00 | 11/9/07 | 0.00 | 12/9/07 | 0.00 | 1/9/08 | 0.00 | 2/9/08 | 0.13 | 3/9/08 | 0.00 | 4/9/08 | 0.00 | 5/9/08 | 0.00 | 6/9/08 | 0.14 | 7/9/08 | 0.03 |
| 7/10/07 | 0.00 | 8/10/07 | 0.00 | 9/10/07 | 0.04 | 10/10/07 | 0.00 | 11/10/07 | 0.00 | 12/10/07 | 0.00 | 1/10/08 | 0.00 | 2/10/08 | 0.00 | 3/10/08 | 0.00 | 4/10/08 | 0.00 | 5/10/08 | 0.00 | 6/10/08 | 0.02 | 7/10/08 | 0.00 |
| 7/11/07 | 0.00 | 8/11/07 | 0.55 | 9/11/07 | 1.85 | 10/11/07 | 0.00 | 11/11/07 | 0.00 | 12/11/07 | 0.00 | 1/11/08 | 0.00 | 2/11/08 | 0.00 | 3/11/08 | 0.13 | 4/11/08 | 0.00 | 5/11/08 | 0.00 | 6/11/08 | 0.00 | 7/11/08 | 0.00 |
| 7/12/07 | 0.00 | 8/12/07 | 0.66 | 9/12/07 | 0.03 | 10/12/07 | 0.00 | 11/12/07 | 0.00 | 12/12/07 | 0.00 | 1/12/08 | 0.07 | 2/12/08 | 0.40 | 3/12/08 | 0.02 | 4/12/08 | 0.00 | 5/12/08 | 0.00 | 6/12/08 | 0.80 | 7/12/08 | 0.66 |
| 7/13/07 | 0.00 | 8/13/07 | 0.00 | 9/13/07 | 0.30 | 10/13/07 | 0.00 | 11/13/07 | 0.00 | 12/13/07 | 0.00 | 1/13/08 | 0.08 | 2/13/08 | 0.08 | 3/13/08 | 0.00 | 4/13/08 | 0.00 | 5/13/08 | 0.00 | 6/13/08 | 0.02 | 7/13/08 | 0.76 |
| 7/14/07 | 0.00 | 8/14/07 | 0.64 | 9/14/07 | 0.00 | 10/14/07 | 0.00 | 11/14/07 | 0.00 | 12/14/07 | 0.80 | 1/14/08 | 0.00 | 2/14/08 | 0.00 | 3/14/08 | 0.10 | 4/14/08 | 0.00 | 5/14/08 | 0.00 | 6/14/08 | 0.00 | 7/14/08 | 0.02 |
| 7/15/07 | 0.12 | 8/15/07 | 0.58 | 9/15/07 | 0.00 | 10/15/07 | 0.00 | 11/15/07 | 0.00 | 12/15/07 | 0.28 | 1/15/08 | 0.00 | 2/15/08 | 0.00 | 3/15/08 | 0.00 | 4/15/08 | 0.00 | 5/15/08 | 0.00 | 6/15/08 | 0.00 | 7/15/08 | 0.62 |
| 7/16/07 | 0.11 | 8/16/07 | 0.04 | 9/16/07 | 0.86 | 10/16/07 | 0.00 | 11/16/07 | 0.00 | 12/16/07 | 0.04 | 1/16/08 | 0.18 | 2/16/08 | 0.00 | 3/16/08 | 0.01 | 4/16/08 | 0.00 | 5/16/08 | 0.00 | 6/16/08 | 0.55 | 7/16/08 | 0.90 |
| 7/17/07 | 0.11 | 8/17/07 | 0.00 | 9/17/07 | 0.00 | 10/17/07 | 0.00 | 11/17/07 | 0.00 | 12/17/07 | 0.00 | 1/17/08 | 0.08 | 2/17/08 | 0.00 | 3/17/08 | 0.00 | 4/17/08 | 0.00 | 5/17/08 | 0.00 | 6/17/08 | 0.03 | 7/17/08 | 0.20 |
| 7/18/07 | 0.08 | 8/18/07 | 0.00 | 9/18/07 | 0.03 | 10/18/07 | 0.00 | 11/18/07 | 0.00 | 12/18/07 | 0.00 | 1/18/08 | 0.00 | 2/18/08 | 0.25 | 3/18/08 | 0.00 | 4/18/08 | 0.00 | 5/18/08 | 0.82 | 6/18/08 | 0.55 | 7/18/08 | 0.00 |
| 7/19/07 | 0.20 | 8/19/07 | 0.00 | 9/19/07 | 0.02 | 10/19/07 | 0.90 | 11/19/07 | 0.00 | 12/19/07 | 0.00 | 1/19/08 | 1.05 | 2/19/08 | 0.00 | 3/19/08 | 0.22 | 4/19/08 | 0.02 | 5/19/08 | 0.02 | 6/19/08 | 0.03 | 7/19/08 | 0.00 |
| 7/20/07 | 0.00 | 8/20/07 | 0.00 | 9/20/07 | 0.12 | 10/20/07 | 0.64 | 11/20/07 | 0.00 | 12/20/07 | 0.48 | 1/20/08 | 0.00 | 2/20/08 | 0.01 | 3/20/08 | 0.01 | 4/20/08 | 0.16 | 5/20/08 | 1.40 | 6/20/08 | 0.00 | 7/20/08 | 0.00 |
| 7/21/07 | 2.60 | 8/21/07 | 0.00 | 9/21/07 | 0.42 | 10/21/07 | 0.05 | 11/21/07 | 0.00 | 12/21/07 | 0.00 | 1/21/08 | 0.02 | 2/21/08 | 0.00 | 3/21/08 | 0.07 | 4/21/08 | 0.00 | 5/21/08 | 0.00 | 6/21/08 | 3.25 | 7/21/08 | 0.00 |
| 7/22/07 | 0.60 | 8/22/07 | 0.00 | 9/22/07 | 0.70 | 10/22/07 | 0.00 | 11/22/07 | 0.17 | 12/22/07 | 0.00 | 1/22/08 | 1.35 | 2/22/08 | 0.00 | 3/22/08 | 0.70 | 4/22/08 | 0.00 | 5/22/08 | 0.02 | 6/22/08 | 0.26 | 7/22/08 | 0.52 |
| 7/23/07 | 0.30 | 8/23/07 | 0.00 | 9/23/07 | 0.64 | 10/23/07 | 0.00 | 11/23/07 | 0.00 | 12/23/07 | 0.00 | 1/23/08 | 0.05 | 2/23/08 | 0.07 | 3/23/08 | 0.00 | 4/23/08 | 0.00 | 5/23/08 | 0.00 | 6/23/08 | 0.03 | 7/23/08 | 0.12 |
| 7/24/07 | 0.11 | 8/24/07 | 0.26 | 9/24/07 | 0.30 | 10/24/07 | 0.50 | 11/24/07 | 0.00 | 12/24/07 | 0.00 | 1/24/08 | 0.00 | 2/24/08 | 0.01 | 3/24/08 | 0.00 | 4/24/08 | 0.00 | 5/24/08 | 0.00 | 6/24/08 | 0.47 | 7/24/08 | 0.50 |
| 7/25/07 | 0.01 | 8/25/07 | 0.19 | 9/25/07 | 0.00 | 10/25/07 | 0.03 | 11/25/07 | 0.00 | 12/25/07 | 0.00 | 1/25/08 | 0.00 | 2/25/08 | 0.00 | 3/25/08 | 0.00 | 4/25/08 | 0.00 | 5/25/08 | 0.00 | 6/25/08 | 0.02 | 7/25/08 | 0.02 |
| 7/26/07 | 0.00 | 8/26/07 | 2.75 | 9/26/07 | 0.00 | 10/26/07 | 0.46 | 11/26/07 | 0.00 | 12/26/07 | 0.00 | 1/26/08 | 0.05 | 2/26/08 | 0.00 | 3/26/08 | 0.00 | 4/26/08 | 0.00 | 5/26/08 | 0.00 | 6/26/08 | 0.00 | 7/26/08 | 1.10 |
| 7/27/07 | 0.00 | 8/27/07 | 0.05 | 9/27/07 | 0.00 | 10/27/07 | 0.00 | 11/27/07 | 0.00 | 12/27/07 | 0.00 | 1/27/08 | 0.02 | 2/27/08 | 0.00 | 3/27/08 | 0.00 | 4/27/08 | 0.00 | 5/27/08 | 0.00 | 6/27/08 | 0.00 | 7/27/08 | 0.01 |
| 7/28/07 | 0.40 | 8/28/07 | 0.16 | 9/28/07 | 0.00 | 10/28/07 | 0.06 | 11/28/07 | 0.84 | 12/28/07 | 0.00 | 1/28/08 | 0.00 | 2/28/08 | 0.00 | 3/28/08 | 0.00 | 4/28/08 | 0.00 | 5/28/08 | 0.00 | 6/28/08 | 0.01 | 7/28/08 | 0.62 |
| 7/29/07 | 0.03 | 8/29/07 | 0.00 | 9/29/07 | 0.00 | 10/29/07 | 0.00 | 11/29/07 | 0.00 | 12/29/07 | 0.00 | 1/29/08 | 0.00 | 2/29/08 | 0.00 | 3/29/08 | 0.00 | 4/29/08 | 0.00 | 5/29/08 | 0.00 | 6/29/08 | 0.02 | 7/29/08 | 2.15 |
| 7/30/07 | 0.28 | 8/30/07 | 0.30 | 9/30/07 | 0.00 | 10/30/07 | 0.30 | 11/30/07 | 0.00 | 12/30/07 | 0.00 | 1/30/08 | 0.00 | | | 3/30/08 | 0.00 | 4/30/08 | 0.00 | 5/30/08 | 0.00 | 6/30/08 | 0.00 | 7/30/08 | 0.20 |
| 7/31/07 | 0.58 | 8/31/07 | 0.00 | | | 10/31/07 | 0.00 | | | 12/31/07 | 0.11 | 1/31/08 | 0.00 | | | 3/31/08 | 0.00 | | | 5/31/08 | 0.00 | | | 7/31/08 | 0.00 |
| **Total Rainfall** | **8.67** | | **7.52** | | **5.73** | | **3.69** | | **1.01** | | **1.71** | | **2.97** | | **1.19** | | **2.05** | | **3.94** | | **2.26** | | **6.58** | | **12.50** |
| **average** | **0.28** | | **0.24** | | **0.19** | | **0.12** | | **0.03** | | **0.06** | | **0.10** | | **0.04** | | **0.07** | | **0.13** | | **0.07** | | **0.22** | | **0.40** |
| **min** | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** |
| **max** | **2.60** | | **2.75** | | **1.85** | | **0.90** | | **0.84** | | **0.80** | | **1.35** | | **0.40** | | **0.70** | | **1.30** | | **1.40** | | **3.25** | | **2.20** |
| **Days with rain** | **18** | | **15** | | **17** | | **13** | | **2** | | **5** | | **11** | | **9** | | **13** | | **9** | | **4** | | **19** | | **23** |
| **Days with no rain** | **13** | | **16** | | **13** | | **18** | | **28** | | **26** | | **20** | | **20** | | **18** | | **21** | | **27** | | **11** | | **8** |
| **Days >0.10" rain** | **14** | | **12** | | **9** | | **7** | | **2** | | **4** | | **3** | | **4** | | **6** | | **5** | | **2** | | **8** | | **17** |

# Paynes Creek Historic State Park Rainfall

| Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7/1/07 | 0.02 | 8/1/07 | 0.08 | 9/1/07 | 0.08 | 10/1/07 | 0.06 | 11/1/07 | 0.05 | 12/1/07 | 0.00 | 1/1/08 | 0.00 | 2/1/08 | 0.00 | 3/1/08 | 0.00 | 4/1/08 | 0.67 | 5/1/08 | 0.00 | 6/1/08 | 1.57 | 7/1/08 | 0.04 |
| 7/2/07 | 0.04 | 8/2/07 | 0.59 | 9/2/07 | 0.09 | 10/2/07 | 0.08 | 11/2/07 | 0.00 | 12/2/07 | 0.00 | 1/2/08 | 0.00 | 2/2/08 | 0.00 | 3/2/08 | 0.00 | 4/2/08 | 0.00 | 5/2/08 | 0.00 | 6/2/08 | 0.02 | 7/2/08 | 1.77 |
| 7/3/07 | 0.02 | 8/3/07 | 0.00 | 9/3/07 | 0.01 | 10/3/07 | 0.15 | 11/3/07 | 0.00 | 12/3/07 | 0.00 | 1/3/08 | 0.00 | 2/3/08 | 0.00 | 3/3/08 | 0.00 | 4/3/08 | 0.05 | 5/3/08 | 0.00 | 6/3/08 | 0.00 | 7/3/08 | 0.11 |
| 7/4/07 | 0.02 | 8/4/07 | 0.00 | 9/4/07 | 0.00 | 10/4/07 | 0.02 | 11/4/07 | 0.00 | 12/4/07 | 0.00 | 1/4/08 | 0.00 | 2/4/08 | 0.00 | 3/4/08 | 0.00 | 4/4/08 | 0.44 | 5/4/08 | 0.00 | 6/4/08 | 0.00 | 7/4/08 | 0.00 |
| 7/5/07 | 0.03 | 8/5/07 | 0.00 | 9/5/07 | 0.00 | 10/5/07 | 0.09 | 11/5/07 | 0.00 | 12/5/07 | 0.00 | 1/5/08 | 0.00 | 2/5/08 | 0.00 | 3/5/08 | 0.13 | 4/5/08 | 0.12 | 5/5/08 | 0.00 | 6/5/08 | 0.00 | 7/5/08 | 0.11 |
| 7/6/07 | 0.02 | 8/6/07 | 0.00 | 9/6/07 | 0.00 | 10/6/07 | 0.01 | 11/6/07 | 0.00 | 12/6/07 | 0.00 | 1/6/08 | 0.00 | 2/6/08 | 0.00 | 3/6/08 | 0.07 | 4/6/08 | 0.78 | 5/6/08 | 0.00 | 6/6/08 | 0.00 | 7/6/08 | 0.00 |
| 7/7/07 | 0.00 | 8/7/07 | 0.01 | 9/7/07 | 0.05 | 10/7/07 | 0.09 | 11/7/07 | 0.00 | 12/7/07 | 0.00 | 1/7/08 | 0.00 | 2/7/08 | 0.00 | 3/7/08 | 0.56 | 4/7/08 | 0.06 | 5/7/08 | 0.00 | 6/7/08 | 0.00 | 7/7/08 | 0.10 |
| 7/8/07 | 0.00 | 8/8/07 | 0.01 | 9/8/07 | 0.44 | 10/8/07 | 0.03 | 11/8/07 | 0.00 | 12/8/07 | 0.00 | 1/8/08 | 0.00 | 2/8/08 | 0.00 | 3/8/08 | 0.06 | 4/8/08 | 0.00 | 5/8/08 | 0.00 | 6/8/08 | 0.07 | 7/8/08 | 0.38 |
| 7/9/07 | 0.03 | 8/9/07 | 0.01 | 9/9/07 | 0.00 | 10/9/07 | 0.00 | 11/9/07 | 0.00 | 12/9/07 | 0.00 | 1/9/08 | 0.00 | 2/9/08 | 0.00 | 3/9/08 | 0.00 | 4/9/08 | 0.00 | 5/9/08 | 0.00 | 6/9/08 | 0.34 | 7/9/08 | 0.00 |
| 7/10/07 | 0.00 | 8/10/07 | 0.00 | 9/10/07 | 0.00 | 10/10/07 | 0.00 | 11/10/07 | 0.00 | 12/10/07 | 0.00 | 1/10/08 | 0.00 | 2/10/08 | 0.00 | 3/10/08 | 0.00 | 4/10/08 | 0.00 | 5/10/08 | 0.00 | 6/10/08 | 0.00 | 7/10/08 | 0.00 |
| 7/11/07 | 0.00 | 8/11/07 | 0.44 | 9/11/07 | 0.00 | 10/11/07 | 0.00 | 11/11/07 | 0.00 | 12/11/07 | 0.00 | 1/11/08 | 0.00 | 2/11/08 | 0.00 | 3/11/08 | 0.00 | 4/11/08 | 0.00 | 5/11/08 | 0.00 | 6/11/08 | 0.65 | 7/11/08 | 0.00 |
| 7/12/07 | 0.00 | 8/12/07 | 0.01 | 9/12/07 | 0.00 | 10/12/07 | 0.00 | 11/12/07 | 0.00 | 12/12/07 | 0.00 | 1/12/08 | 0.00 | 2/12/08 | 0.15 | 3/12/08 | 0.05 | 4/12/08 | 0.00 | 5/12/08 | 0.00 | 6/12/08 | 0.78 | 7/12/08 | 0.00 |
| 7/13/07 | 0.02 | 8/13/07 | 0.00 | 9/13/07 | 0.02 | 10/13/07 | 0.00 | 11/13/07 | 0.00 | 12/13/07 | 0.00 | 1/13/08 | 0.00 | 2/13/08 | 0.10 | 3/13/08 | 0.00 | 4/13/08 | 0.00 | 5/13/08 | 0.00 | 6/13/08 | 1.45 | 7/13/08 | 1.02 |
| 7/14/07 | 0.00 | 8/14/07 | 0.56 | 9/14/07 | 0.63 | 10/14/07 | 0.00 | 11/14/07 | 0.00 | 12/14/07 | 0.00 | 1/14/08 | 0.00 | 2/14/08 | 0.00 | 3/14/08 | 0.07 | 4/14/08 | 0.00 | 5/14/08 | 0.00 | 6/14/08 | 0.00 | 7/14/08 | 0.26 |
| 7/15/07 | 0.57 | 8/15/07 | 0.03 | 9/15/07 | 0.00 | 10/15/07 | 0.00 | 11/15/07 | 0.00 | 12/15/07 | 0.00 | 1/15/08 | 0.00 | 2/15/08 | 0.00 | 3/15/08 | 0.00 | 4/15/08 | 0.00 | 5/15/08 | 0.00 | 6/15/08 | 0.00 | 7/15/08 | 2.89 |
| 7/16/07 | 0.01 | 8/16/07 | 0.00 | 9/16/07 | 0.04 | 10/16/07 | 0.00 | 11/16/07 | 0.00 | 12/16/07 | 0.00 | 1/16/08 | 0.00 | 2/16/08 | 0.00 | 3/16/08 | 0.00 | 4/16/08 | 0.00 | 5/16/08 | 0.00 | 6/16/08 | 0.07 | 7/16/08 | 0.88 |
| 7/17/07 | 0.00 | 8/17/07 | 0.00 | 9/17/07 | 0.01 | 10/17/07 | 0.00 | 11/17/07 | 0.00 | 12/17/07 | 0.00 | 1/17/08 | 0.00 | 2/17/08 | 0.00 | 3/17/08 | 0.00 | 4/17/08 | 0.00 | 5/17/08 | 0.00 | 6/17/08 | 0.00 | 7/17/08 | 0.13 |
| 7/18/07 | 0.05 | 8/18/07 | 0.00 | 9/18/07 | 0.04 | 10/18/07 | 0.00 | 11/18/07 | 0.00 | 12/18/07 | 0.00 | 1/18/08 | 0.00 | 2/18/08 | 0.06 | 3/18/08 | 0.00 | 4/18/08 | 0.00 | 5/18/08 | 0.00 | 6/18/08 | 0.00 | 7/18/08 | 0.00 |
| 7/19/07 | 0.71 | 8/19/07 | 0.00 | 9/19/07 | 0.26 | 10/19/07 | 0.01 | 11/19/07 | 0.00 | 12/19/07 | 0.00 | 1/19/08 | 0.00 | 2/19/08 | 0.01 | 3/19/08 | 0.00 | 4/19/08 | 0.00 | 5/19/08 | 0.15 | 6/19/08 | 0.73 | 7/19/08 | 0.00 |
| 7/20/07 | 0.00 | 8/20/07 | 0.00 | 9/20/07 | 0.30 | 10/20/07 | 0.15 | 11/20/07 | 0.00 | 12/20/07 | 0.00 | 1/20/08 | 0.00 | 2/20/08 | 0.00 | 3/20/08 | 0.00 | 4/20/08 | 0.00 | 5/20/08 | 0.10 | 6/20/08 | 0.34 | 7/20/08 | 0.00 |
| 7/21/07 | 0.20 | 8/21/07 | 0.00 | 9/21/07 | 0.03 | 10/21/07 | 0.09 | 11/21/07 | 0.00 | 12/21/07 | 0.00 | 1/21/08 | 0.00 | 2/21/08 | 0.09 | 3/21/08 | 0.00 | 4/21/08 | 0.00 | 5/21/08 | 0.01 | 6/21/08 | 1.01 | 7/21/08 | 0.01 |
| 7/22/07 | 0.47 | 8/22/07 | 0.00 | 9/22/07 | 0.29 | 10/22/07 | 0.01 | 11/22/07 | 0.00 | 12/22/07 | 0.00 | 1/22/08 | 0.00 | 2/22/08 | 0.00 | 3/22/08 | 0.33 | 4/22/08 | 0.00 | 5/22/08 | 0.00 | 6/22/08 | 0.05 | 7/22/08 | 0.01 |
| 7/23/07 | 0.11 | 8/23/07 | 0.00 | 9/23/07 | 0.03 | 10/23/07 | 0.00 | 11/23/07 | 0.01 | 12/23/07 | 0.00 | 1/23/08 | 0.00 | 2/23/08 | 0.19 | 3/23/08 | 0.00 | 4/23/08 | 0.00 | 5/23/08 | 0.06 | 6/23/08 | 0.00 | 7/23/08 | 2.09 |
| 7/24/07 | 0.02 | 8/24/07 | 0.80 | 9/24/07 | 0.06 | 10/24/07 | 0.00 | 11/24/07 | 0.00 | 12/24/07 | 0.00 | 1/24/08 | 0.00 | 2/24/08 | 0.00 | 3/24/08 | 0.00 | 4/24/08 | 0.00 | 5/24/08 | 0.00 | 6/24/08 | 0.00 | 7/24/08 | 0.80 |
| 7/25/07 | 0.00 | 8/25/07 | 1.77 | 9/25/07 | 0.00 | 10/25/07 | 0.06 | 11/25/07 | 0.00 | 12/25/07 | 0.00 | 1/25/08 | 0.00 | 2/25/08 | 0.00 | 3/25/08 | 0.00 | 4/25/08 | 0.00 | 5/25/08 | 0.01 | 6/25/08 | 0.09 | 7/25/08 | 0.00 |
| 7/26/07 | 0.00 | 8/26/07 | 0.78 | 9/26/07 | 0.00 | 10/26/07 | 0.00 | 11/26/07 | 0.00 | 12/26/07 | 0.00 | 1/26/08 | 0.00 | 2/26/08 | 0.00 | 3/26/08 | 0.00 | 4/26/08 | 0.00 | 5/26/08 | 0.00 | 6/26/08 | 1.82 | 7/26/08 | 0.02 |
| 7/27/07 | 0.00 | 8/27/07 | 0.00 | 9/27/07 | 0.01 | 10/27/07 | 0.07 | 11/27/07 | 0.00 | 12/27/07 | 0.00 | 1/27/08 | 0.00 | 2/27/08 | 0.01 | 3/27/08 | 0.00 | 4/27/08 | 0.00 | 5/27/08 | 0.00 | 6/27/08 | 0.39 | 7/27/08 | 0.86 |
| 7/28/07 | 0.00 | 8/28/07 | 0.00 | 9/28/07 | 0.00 | 10/28/07 | 0.00 | 11/28/07 | 0.00 | 12/28/07 | 0.00 | 1/28/08 | 0.00 | 2/28/08 | 0.00 | 3/28/08 | 0.00 | 4/28/08 | 0.00 | 5/28/08 | 0.00 | 6/28/08 | 0.88 | 7/28/08 | 0.43 |
| 7/29/07 | 0.04 | 8/29/07 | 0.00 | 9/29/07 | 0.14 | 10/29/07 | 0.03 | 11/29/07 | 0.00 | 12/29/07 | 0.00 | 1/29/08 | 0.00 | 2/29/08 | 0.00 | 3/29/08 | 0.00 | 4/29/08 | 0.00 | 5/29/08 | 0.00 | 6/29/08 | 0.25 | 7/29/08 | 0.17 |
| 7/30/07 | 0.00 | 8/30/07 | 0.00 | 9/30/07 | 0.01 | 10/30/07 | 0.09 | 11/30/07 | 0.00 | 12/30/07 | 0.00 | 1/30/08 | 0.00 | | | 3/30/08 | 0.00 | 4/30/08 | 0.00 | 5/30/08 | 0.00 | 6/30/08 | 0.87 | 7/30/08 | 0.08 |
| 7/31/07 | 0.09 | 8/31/07 | 0.62 | | | 10/31/07 | | | | 12/31/07 | 0.00 | 1/31/08 | 0.00 | | | 3/31/08 | 0.00 | | | 5/31/08 | 0.00 | | | 7/31/08 | 0.07 |
| **Total Rainfall** | **2.47** | | **5.71** | | **2.54** | | **1.04** | | **0.06** | | **0.00** | | **0.00** | | **0.61** | | **1.27** | | **2.12** | | **0.33** | | **11.38** | | **12.23** |
| **average** | **0.08** | | **0.18** | | **0.08** | | **0.03** | | **0.00** | | **0.00** | | **0.00** | | **0.02** | | **0.04** | | **0.07** | | **0.01** | | **0.38** | | **0.39** |
| **min** | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** |
| **max** | **0.71** | | **1.77** | | **0.63** | | **0.15** | | **0.05** | | **0.00** | | **0.00** | | **0.19** | | **0.56** | | **0.78** | | **0.15** | | **1.82** | | **2.89** |
| **Days with rain** | **18** | | **13** | | **19** | | **16** | | **2** | | **0** | | **0** | | **7** | | **7** | | **6** | | **5** | | **18** | | **21** |
| **Days with no rain** | **13** | | **18** | | **11** | | **14** | | **28** | | **31** | | **31** | | **22** | | **24** | | **24** | | **26** | | **12** | | **10** |
| **Days >0.10" rain** | **5** | | **7** | | **6** | | **2** | | **0** | | **0** | | **0** | | **2** | | **3** | | **4** | | **1** | | **13** | | **14** |

## San Felasco State Park Rainfall

| Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|
| 7/1/07 | 0.17 | 8/1/07 | 0.06 | 9/1/07 | 0.00 | 10/1/07 | 0.03 | 11/1/07 | 0.00 |
| 7/2/07 | 0.14 | 8/2/07 | 0.71 | 9/2/07 | 0.00 | 10/2/07 | 0.83 | 11/2/07 | 0.00 |
| 7/3/07 | 0.06 | 8/3/07 | 1.05 | 9/3/07 | 2.41 | 10/3/07 | 0.00 | 11/3/07 | 0.00 |
| 7/4/07 | 0.25 | 8/4/07 | 0.00 | 9/4/07 | 0.00 | 10/4/07 | 0.35 | 11/4/07 | 0.00 |
| 7/5/07 | 0.00 | 8/5/07 | 0.00 | 9/5/07 | 0.00 | 10/5/07 | 1.60 | 11/5/07 | 0.00 |
| 7/6/07 | 0.00 | 8/6/07 | 0.00 | 9/6/07 | 0.00 | 10/6/07 | 0.25 | 11/6/07 | 0.00 |
| 7/7/07 | 0.00 | 8/7/07 | 0.00 | 9/7/07 | 0.00 | 10/7/07 | 0.00 | 11/7/07 | 0.00 |
| 7/8/07 | 0.00 | 8/8/07 | 0.00 | 9/8/07 | 0.00 | 10/8/07 | 0.00 | 11/8/07 | 0.00 |
| 7/9/07 | 0.00 | 8/9/07 | 0.00 | 9/9/07 | 1.13 | 10/9/07 | 0.00 | 11/9/07 | 0.00 |
| 7/10/07 | 0.02 | 8/10/07 | 0.00 | 9/10/07 | 0.04 | 10/10/07 | 0.00 | 11/10/07 | 0.00 |
| 7/11/07 | 0.00 | 8/11/07 | 0.00 | 9/11/07 | 0.00 | 10/11/07 | 0.00 | 11/11/07 | 0.00 |
| 7/12/07 | 0.64 | 8/12/07 | 0.00 | 9/12/07 | 0.00 | 10/12/07 | 0.00 | 11/12/07 | 0.00 |
| 7/13/07 | 0.00 | 8/13/07 | 0.00 | 9/13/07 | 0.18 | 10/13/07 | 0.00 | 11/13/07 | 0.00 |
| 7/14/07 | 0.41 | 8/14/07 | 1.05 | 9/14/07 | 0.00 | 10/14/07 | 0.00 | 11/14/07 | 0.00 |
| 7/15/07 | 0.03 | 8/15/07 | 0.05 | 9/15/07 | 0.38 | 10/15/07 | 0.00 | 11/15/07 | 0.00 |
| 7/16/07 | 0.00 | 8/16/07 | 0.00 | 9/16/07 | 0.01 | 10/16/07 | 0.00 | 11/16/07 | 0.00 |
| 7/17/07 | 0.00 | 8/17/07 | 0.00 | 9/17/07 | 0.05 | 10/17/07 | 0.00 | 11/17/07 | 0.00 |
| 7/18/07 | 0.00 | 8/18/07 | 0.00 | 9/18/07 | 0.05 | 10/18/07 | 0.00 | 11/18/07 | 0.00 |
| 7/19/07 | 0.00 | 8/19/07 | 0.00 | 9/19/07 | 0.58 | 10/19/07 | 0.00 | 11/19/07 | 0.00 |
| 7/20/07 | 0.00 | 8/20/07 | 0.00 | 9/20/07 | 0.94 | 10/20/07 | 0.00 | 11/20/07 | 0.00 |
| 7/21/07 | 0.00 | 8/21/07 | 0.00 | 9/21/07 | 0.19 | 10/21/07 | 0.19 | 11/21/07 | 0.00 |
| 7/22/07 | 0.23 | 8/22/07 | 0.00 | 9/22/07 | 0.00 | 10/22/07 | 0.00 | 11/22/07 | 0.74 |
| 7/23/07 | 0.13 | 8/23/07 | 0.00 | 9/23/07 | 0.49 | 10/23/07 | 0.00 | 11/23/07 | 0.00 |
| 7/24/07 | 0.02 | 8/24/07 | 0.10 | 9/24/07 | 0.00 | 10/24/07 | 0.35 | 11/24/07 | 0.00 |
| 7/25/07 | 0.26 | 8/25/07 | 0.38 | 9/25/07 | 0.08 | 10/25/07 | 0.00 | 11/25/07 | 0.00 |
| 7/26/07 | 0.00 | 8/26/07 | 0.15 | 9/26/07 | 0.00 | 10/26/07 | 0.00 | 11/26/07 | 0.03 |
| 7/27/07 | 0.00 | 8/27/07 | 3.20 | 9/27/07 | 0.00 | 10/27/07 | 0.33 | 11/27/07 | 0.00 |
| 7/28/07 | 1.31 | 8/28/07 | 0.00 | 9/28/07 | 0.00 | 10/28/07 | 0.00 | 11/28/07 | 0.00 |
| 7/29/07 | 0.00 | 8/29/07 | 0.00 | 9/29/07 | 0.00 | 10/29/07 | 0.05 | 11/29/07 | 0.00 |
| 7/30/07 | 0.00 | 8/30/07 | 0.11 | 9/30/07 | 0.77 | 10/30/07 | 0.00 | 11/30/07 | 0.00 |
| 7/31/07 | 0.08 | 8/31/07 | 0.28 | | | 10/31/07 | 0.00 | | |
| **Total Rainfall** | **3.75** | | **7.14** | | **7.28** | | **3.98** | | **0.77** |
| **average** | **0.12** | | **0.23** | | **0.24** | | **0.13** | | **0.03** |
| **min** | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** |
| **max** | **1.31** | | **3.20** | | **2.41** | | **1.60** | | **0.74** |
| **Days with rain** | **14** | | **11** | | **14** | | **9** | | **2** |
| **Days with no rain** | **17** | | **20** | | **16** | | **22** | | **28** |
| **Days >0.10" rain** | **9** | | **8** | | **9** | | **7** | | **1** |

| | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|---|
| | 12/1/07 | 0.00 | 1/1/08 | 0.00 | 2/1/08 | 0.01 | 3/1/08 | 0.00 | 4/1/08 | 0.00 |
| | 12/2/07 | 0.00 | 1/2/08 | 0.00 | 2/2/08 | 0.00 | 3/2/08 | 0.00 | 4/2/08 | 0.00 |
| | 12/3/07 | 0.01 | 1/3/08 | 0.00 | 2/3/08 | 0.00 | 3/3/08 | 0.00 | 4/3/08 | 0.17 |
| | 12/4/07 | 0.00 | 1/4/08 | 0.00 | 2/4/08 | 0.00 | 3/4/08 | 0.32 | 4/4/08 | 0.00 |
| | 12/5/07 | 0.00 | 1/5/08 | 0.00 | 2/5/08 | 0.00 | 3/5/08 | 0.00 | 4/5/08 | 0.00 |
| | 12/6/07 | 0.00 | 1/6/08 | 0.00 | 2/6/08 | 0.02 | 3/6/08 | 0.00 | 4/6/08 | 0.98 |
| | 12/7/07 | 0.00 | 1/7/08 | 0.00 | 2/7/08 | 0.43 | 3/7/08 | 3.47 | 4/7/08 | 0.00 |
| | 12/8/07 | 0.00 | 1/8/08 | 0.00 | 2/8/08 | 0.00 | 3/8/08 | 0.00 | 4/8/08 | 0.00 |
| | 12/9/07 | 0.00 | 1/9/08 | 0.00 | 2/9/08 | 0.00 | 3/9/08 | 0.00 | 4/9/08 | 0.00 |
| | 12/10/07 | 0.00 | 1/10/08 | 0.00 | 2/10/08 | 0.00 | 3/10/08 | 0.00 | 4/10/08 | 0.00 |
| | 12/11/07 | 0.00 | 1/11/08 | 0.21 | 2/11/08 | 0.00 | 3/11/08 | 0.00 | 4/11/08 | 0.00 |
| | 12/12/07 | 0.00 | 1/12/08 | 0.17 | 2/12/08 | 0.78 | 3/12/08 | 0.00 | 4/12/08 | 0.17 |
| | 12/13/07 | 0.00 | 1/13/08 | 0.00 | 2/13/08 | 0.05 | 3/13/08 | 0.00 | 4/13/08 | 0.00 |
| | 12/14/07 | 0.00 | 1/14/08 | 0.00 | 2/14/08 | 0.00 | 3/14/08 | 0.13 | 4/14/08 | 0.00 |
| | 12/15/07 | 1.45 | 1/15/08 | 0.00 | 2/15/08 | 0.00 | 3/15/08 | 0.00 | 4/15/08 | 0.00 |
| | 12/16/07 | 0.00 | 1/16/08 | 0.79 | 2/16/08 | 0.00 | 3/16/08 | 0.00 | 4/16/08 | 0.00 |
| | 12/17/07 | 0.00 | 1/17/08 | 0.05 | 2/17/08 | 0.00 | 3/17/08 | 0.00 | 4/17/08 | 0.00 |
| | 12/18/07 | 0.00 | 1/18/08 | 0.70 | 2/18/08 | 0.45 | 3/18/08 | 0.00 | 4/18/08 | 0.00 |
| | 12/19/07 | 0.00 | 1/19/08 | 0.70 | 2/19/08 | 0.00 | 3/19/08 | 0.25 | 4/19/08 | 0.00 |
| | 12/20/07 | 0.23 | 1/20/08 | 0.00 | 2/20/08 | 0.00 | 3/20/08 | 0.00 | 4/20/08 | 0.00 |
| | 12/21/07 | 0.00 | 1/21/08 | 0.00 | 2/21/08 | 0.50 | 3/21/08 | 0.00 | 4/21/08 | 0.00 |
| | 12/22/07 | 0.00 | 1/22/08 | 0.31 | 2/22/08 | 0.82 | 3/22/08 | 0.00 | 4/22/08 | 0.00 |
| | 12/23/07 | 0.00 | 1/23/08 | 0.00 | 2/23/08 | 0.00 | 3/23/08 | 0.00 | 4/23/08 | 0.00 |
| | 12/24/07 | 0.00 | 1/24/08 | 0.00 | 2/24/08 | 0.00 | 3/24/08 | 0.00 | 4/24/08 | 0.00 |
| | 12/25/07 | 0.00 | 1/25/08 | 0.01 | 2/25/08 | 0.00 | 3/25/08 | 0.00 | 4/25/08 | 0.00 |
| | 12/26/07 | 0.00 | 1/26/08 | 0.14 | 2/26/08 | 0.53 | 3/26/08 | 0.00 | 4/26/08 | 0.00 |
| | 12/27/07 | 0.00 | 1/27/08 | 0.00 | 2/27/08 | 0.00 | 3/27/08 | 0.00 | 4/27/08 | 0.00 |
| | 12/28/07 | 0.00 | 1/28/08 | 0.00 | 2/28/08 | 0.00 | 3/28/08 | 0.00 | 4/28/08 | 0.20 |
| | 12/29/07 | 0.00 | 1/29/08 | 0.00 | 2/29/08 | 0.00 | 3/29/08 | 0.00 | 4/29/08 | 0.00 |
| | 12/30/07 | 0.07 | 1/30/08 | 0.20 | | | 3/30/08 | 0.00 | 4/30/08 | 0.00 |
| | 12/31/07 | 0.03 | 1/31/08 | 0.00 | | | 3/31/08 | 0.01 | | |
| **Total Rainfall** | | **1.79** | | **3.28** | | **3.59** | | **4.18** | | **1.52** |
| **average** | | **0.06** | | **0.11** | | **0.12** | | **0.13** | | **0.05** |
| **min** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** |
| **max** | | **1.45** | | **0.79** | | **0.82** | | **3.47** | | **0.98** |
| **Days with rain** | | **5** | | **10** | | **9** | | **5** | | **4** |
| **Days with no rain** | | **26** | | **21** | | **20** | | **26** | | **26** |
| **Days >0.10" rain** | | **2** | | **8** | | **6** | | **4** | | **4** |

| | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|
| | 5/1/08 | 0.00 | 6/1/08 | 0.76 | 7/1/08 | 0.00 | 8/1/08 | 0.03 |
| | 5/2/08 | 0.00 | 6/2/08 | 0.00 | 7/2/08 | 0.00 | 8/2/08 | 0.00 |
| | 5/3/08 | 0.00 | 6/3/08 | 0.00 | 7/3/08 | 0.61 | 8/3/08 | 0.83 |
| | 5/4/08 | 0.00 | 6/4/08 | 0.00 | 7/4/08 | 0.00 | 8/4/08 | 0.14 |
| | 5/5/08 | 0.00 | 6/5/08 | 0.00 | 7/5/08 | 0.00 | 8/5/08 | |
| | 5/6/08 | 0.00 | 6/6/08 | 0.00 | 7/6/08 | 0.03 | 8/6/08 | |
| | 5/7/08 | 0.00 | 6/7/08 | 0.00 | 7/7/08 | 0.04 | 8/7/08 | |
| | 5/8/08 | 0.00 | 6/8/08 | 0.00 | 7/8/08 | 1.67 | 8/8/08 | |
| | 5/9/08 | 0.00 | 6/9/08 | 0.04 | 7/9/08 | 0.00 | 8/9/08 | |
| | 5/10/08 | 0.00 | 6/10/08 | 0.89 | 7/10/08 | 0.00 | 8/10/08 | |
| | 5/11/08 | 0.15 | 6/11/08 | 0.39 | 7/11/08 | 0.00 | 8/11/08 | |
| | 5/12/08 | 0.00 | 6/12/08 | 0.00 | 7/12/08 | 1.11 | 8/12/08 | |
| | 5/13/08 | 0.00 | 6/13/08 | 0.16 | 7/13/08 | 0.00 | 8/13/08 | |
| | 5/14/08 | 0.00 | 6/14/08 | 0.74 | 7/14/08 | 0.35 | 8/14/08 | |
| | 5/15/08 | 0.00 | 6/15/08 | 0.08 | 7/15/08 | 0.03 | 8/15/08 | |
| | 5/16/08 | 0.00 | 6/16/08 | 0.00 | 7/16/08 | 0.65 | 8/16/08 | |
| | 5/17/08 | 0.00 | 6/17/08 | 0.03 | 7/17/08 | 0.03 | 8/17/08 | |
| | 5/18/08 | 0.12 | 6/18/08 | 0.00 | 7/18/08 | 0.00 | 8/18/08 | |
| | 5/19/08 | 0.00 | 6/19/08 | 0.00 | 7/19/08 | 0.00 | 8/19/08 | |
| | 5/20/08 | 0.00 | 6/20/08 | 0.00 | 7/20/08 | 0.00 | 8/20/08 | |
| | 5/21/08 | 0.00 | 6/21/08 | 0.00 | 7/21/08 | 0.00 | 8/21/08 | |
| | 5/22/08 | 0.00 | 6/22/08 | 0.00 | 7/22/08 | 0.00 | 8/22/08 | |
| | 5/23/08 | 0.06 | 6/23/08 | 0.00 | 7/23/08 | 0.05 | 8/23/08 | |
| | 5/24/08 | 0.00 | 6/24/08 | 0.00 | 7/24/08 | 0.00 | 8/24/08 | |
| | 5/25/08 | 0.00 | 6/25/08 | 0.00 | 7/25/08 | 0.00 | 8/25/08 | |
| | 5/26/08 | 0.00 | 6/26/08 | 0.11 | 7/26/08 | 0.30 | 8/26/08 | |
| | 5/27/08 | 0.00 | 6/27/08 | 1.06 | 7/27/08 | 0.00 | 8/27/08 | |
| | 5/28/08 | 0.00 | 6/28/08 | 0.11 | 7/28/08 | 0.00 | 8/28/08 | |
| | 5/29/08 | 0.00 | 6/29/08 | 0.00 | 7/29/08 | 0.14 | 8/29/08 | |
| | 5/30/08 | 0.00 | 6/30/08 | 0.52 | 7/30/08 | 0.23 | 8/30/08 | |
| | 5/31/08 | 0.00 | | | 7/31/08 | 0.32 | 8/31/08 | |
| **Total Rainfall** | | **0.33** | | **4.89** | | **5.56** | | **1.00** |
| **average** | | **0.01** | | **0.16** | | **0.18** | | **0.25** |
| **min** | | **0.00** | | **0.00** | | **0.00** | | **0.00** |
| **max** | | **0.15** | | **1.06** | | **1.67** | | **0.83** |
| **Days with rain** | | **3** | | **12** | | **14** | | **3** |
| **Days with no rain** | | **28** | | **18** | | **17** | | **1** |
| **Days >0.10" rain** | | **2** | | **9** | | **9** | | **2** |

# Silver River State Park Rainfall

| Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7/1/07 | 0.70 | 8/1/07 | 0.01 | 9/1/07 | 0.13 | 10/1/07 | 0.13 | 11/1/07 | 0.00 | 12/1/07 | 0.00 | 1/1/08 | 0.00 | 2/1/08 | 0.03 | 3/1/08 | 0.00 | 4/1/08 | 0.00 | 5/1/08 | 7.47 | 6/1/08 | 0.00 | 7/1/08 | 0.02 |
| 7/2/07 | 0.00 | 8/2/07 | 0.75 | 9/2/07 | 0.20 | 10/2/07 | 0.68 | 11/2/07 | 0.00 | 12/2/07 | 0.00 | 1/2/08 | 0.00 | 2/2/08 | 0.00 | 3/2/08 | 0.00 | 4/2/08 | 0.03 | 5/2/08 | 0.00 | 6/2/08 | 0.00 | 7/2/08 | 0.10 |
| 7/3/07 | 0.00 | 8/3/07 | 0.04 | 9/3/07 | 0.00 | 10/3/07 | 0.02 | 11/3/07 | 0.25 | 12/3/07 | 0.00 | 1/3/08 | 0.00 | 2/3/08 | 0.00 | 3/3/08 | 0.00 | 4/3/08 | 0.00 | 5/3/08 | 0.00 | 6/3/08 | 0.00 | 7/3/08 | 0.00 |
| 7/4/07 | 0.15 | 8/4/07 | 0.00 | 9/4/07 | 1.03 | 10/4/07 | 0.94 | 11/4/07 | 0.37 | 12/4/07 | 0.00 | 1/4/08 | 0.00 | 2/4/08 | 0.00 | 3/4/08 | 0.17 | 4/4/08 | 0.00 | 5/4/08 | 0.00 | 6/4/08 | 0.03 | 7/4/08 | 0.00 |
| 7/5/07 | 0.00 | 8/5/07 | 0.00 | 9/5/07 | 0.32 | 10/5/07 | 0.00 | 11/5/07 | 0.00 | 12/5/07 | 0.00 | 1/5/08 | 0.00 | 2/5/08 | 0.00 | 3/5/08 | 0.00 | 4/5/08 | 0.38 | 5/5/08 | 0.00 | 6/5/08 | 0.00 | 7/5/08 | 0.36 |
| 7/6/07 | 0.01 | 8/6/07 | 0.00 | 9/6/07 | 0.00 | 10/6/07 | 0.00 | 11/6/07 | 0.00 | 12/6/07 | 0.00 | 1/6/08 | 0.00 | 2/6/08 | 0.00 | 3/6/08 | 0.21 | 4/6/08 | 0.90 | 5/6/08 | 0.00 | 6/6/08 | 0.00 | 7/6/08 | 0.06 |
| 7/7/07 | 0.00 | 8/7/07 | 0.00 | 9/7/07 | 0.00 | 10/7/07 | 0.23 | 11/7/07 | 0.00 | 12/7/07 | 0.00 | 1/7/08 | 0.00 | 2/7/08 | 0.20 | 3/7/08 | 0.64 | 4/7/08 | 0.01 | 5/7/08 | 0.00 | 6/7/08 | 0.00 | 7/7/08 | 0.41 |
| 7/8/07 | 0.00 | 8/8/07 | 0.00 | 9/8/07 | 0.41 | 10/8/07 | 0.00 | 11/8/07 | 0.00 | 12/8/07 | 0.00 | 1/8/08 | 0.00 | 2/8/08 | 0.00 | 3/8/08 | 0.00 | 4/8/08 | 0.00 | 5/8/08 | 0.00 | 6/8/08 | 0.37 | 7/8/08 | 0.00 |
| 7/9/07 | 0.00 | 8/9/07 | 0.01 | 9/9/07 | 0.39 | 10/9/07 | 0.00 | 11/9/07 | 0.00 | 12/9/07 | 0.00 | 1/9/08 | 0.00 | 2/9/08 | 0.00 | 3/9/08 | 0.00 | 4/9/08 | 0.00 | 5/9/08 | 0.00 | 6/9/08 | 0.00 | 7/9/08 | 0.00 |
| 7/10/07 | 0.00 | 8/10/07 | 0.00 | 9/10/07 | 0.00 | 10/10/07 | 0.00 | 11/10/07 | 0.00 | 12/10/07 | 0.00 | 1/10/08 | 0.00 | 2/10/08 | 0.00 | 3/10/08 | 0.00 | 4/10/08 | 0.00 | 5/10/08 | 0.00 | 6/10/08 | 0.15 | 7/10/08 | 0.00 |
| 7/11/07 | 0.00 | 8/11/07 | 0.00 | 9/11/07 | 0.00 | 10/11/07 | 0.00 | 11/11/07 | 0.00 | 12/11/07 | 0.00 | 1/11/08 | 0.00 | 2/11/08 | 0.00 | 3/11/08 | 0.00 | 4/11/08 | 0.00 | 5/11/08 | 0.00 | 6/11/08 | 0.01 | 7/11/08 | 0.04 |
| 7/12/07 | 0.01 | 8/12/07 | 0.45 | 9/12/07 | 0.00 | 10/12/07 | 0.00 | 11/12/07 | 0.00 | 12/12/07 | 0.00 | 1/12/08 | 0.05 | 2/12/08 | 0.76 | 3/12/08 | 0.00 | 4/12/08 | 0.00 | 5/12/08 | 0.00 | 6/12/08 | 1.12 | 7/12/08 | 0.73 |
| 7/13/07 | 0.00 | 8/13/07 | 0.00 | 9/13/07 | 0.00 | 10/13/07 | 0.19 | 11/13/07 | 0.00 | 12/13/07 | 0.00 | 1/13/08 | 0.75 | 2/13/08 | 0.07 | 3/13/08 | 0.18 | 4/13/08 | 0.00 | 5/13/08 | 0.00 | 6/13/08 | 0.26 | 7/13/08 | 0.00 |
| 7/14/07 | 0.44 | 8/14/07 | 0.58 | 9/14/07 | 0.34 | 10/14/07 | 0.22 | 11/14/07 | 0.00 | 12/14/07 | 0.00 | 1/14/08 | 0.00 | 2/14/08 | 0.00 | 3/14/08 | 0.02 | 4/14/08 | 0.00 | 5/14/08 | 0.00 | 6/14/08 | 0.00 | 7/14/08 | 0.00 |
| 7/15/07 | 0.00 | 8/15/07 | 0.21 | 9/15/07 | 0.28 | 10/15/07 | 0.00 | 11/15/07 | 0.00 | 12/15/07 | 0.00 | 1/15/08 | 0.00 | 2/15/08 | 0.00 | 3/15/08 | 0.00 | 4/15/08 | 0.00 | 5/15/08 | 0.00 | 6/15/08 | 0.22 | 7/15/08 | 0.02 |
| 7/16/07 | 0.68 | 8/16/07 | 0.00 | 9/16/07 | 0.00 | 10/16/07 | 0.00 | 11/16/07 | 0.00 | 12/16/07 | 1.65 | 1/16/08 | 0.00 | 2/16/08 | 0.00 | 3/16/08 | 0.54 | 4/16/08 | 0.00 | 5/16/08 | 0.00 | 6/16/08 | 0.08 | 7/16/08 | 0.21 |
| 7/17/07 | 0.21 | 8/17/07 | 0.00 | 9/17/07 | 0.21 | 10/17/07 | 0.00 | 11/17/07 | 0.00 | 12/17/07 | 0.00 | 1/17/08 | 0.18 | 2/17/08 | 0.00 | 3/17/08 | 0.00 | 4/17/08 | 0.00 | 5/17/08 | 0.00 | 6/17/08 | 0.00 | 7/17/08 | 0.41 |
| 7/18/07 | 0.00 | 8/18/07 | 0.00 | 9/18/07 | 0.00 | 10/18/07 | 0.00 | 11/18/07 | 0.00 | 12/18/07 | 0.00 | 1/18/08 | 0.00 | 2/18/08 | 0.08 | 3/18/08 | 0.00 | 4/18/08 | 0.00 | 5/18/08 | 0.00 | 6/18/08 | 0.00 | 7/18/08 | 0.01 |
| 7/19/07 | 0.13 | 8/19/07 | 0.00 | 9/19/07 | 0.00 | 10/19/07 | 0.02 | 11/19/07 | 0.00 | 12/19/07 | 0.00 | 1/19/08 | 1.05 | 2/19/08 | 0.00 | 3/19/08 | 0.20 | 4/19/08 | 0.00 | 5/19/08 | 0.00 | 6/19/08 | 0.00 | 7/19/08 | 0.00 |
| 7/20/07 | 0.17 | 8/20/07 | 0.00 | 9/20/07 | 0.50 | 10/20/07 | 0.28 | 11/20/07 | 0.00 | 12/20/07 | 0.00 | 1/20/08 | 0.00 | 2/20/08 | 0.00 | 3/20/08 | 0.00 | 4/20/08 | 0.00 | 5/20/08 | 0.00 | 6/20/08 | 0.00 | 7/20/08 | 0.00 |
| 7/21/07 | 0.00 | 8/21/07 | 0.00 | 9/21/07 | 0.00 | 10/21/07 | 0.57 | 11/21/07 | 0.00 | 12/21/07 | 0.11 | 1/21/08 | 0.00 | 2/21/08 | 0.23 | 3/21/08 | 0.06 | 4/21/08 | 0.00 | 5/21/08 | 0.00 | 6/21/08 | 0.00 | 7/21/08 | 0.00 |
| 7/22/07 | 0.02 | 8/22/07 | 0.00 | 9/22/07 | 0.01 | 10/22/07 | 0.01 | 11/22/07 | 0.43 | 12/22/07 | 0.00 | 1/22/08 | 0.00 | 2/22/08 | 0.00 | 3/22/08 | 0.00 | 4/22/08 | 0.00 | 5/22/08 | 0.00 | 6/22/08 | 0.78 | 7/22/08 | 0.21 |
| 7/23/07 | 0.10 | 8/23/07 | 0.00 | 9/23/07 | 0.27 | 10/23/07 | 0.16 | 11/23/07 | 0.00 | 12/23/07 | 0.00 | 1/23/08 | 0.82 | 2/23/08 | 1.85 | 3/23/08 | 0.00 | 4/23/08 | 0.00 | 5/23/08 | 0.06 | 6/23/08 | 0.34 | 7/23/08 | 0.64 |
| 7/24/07 | 0.03 | 8/24/07 | 0.06 | 9/24/07 | 0.01 | 10/24/07 | 0.42 | 11/24/07 | 0.00 | 12/24/07 | 0.00 | 1/24/08 | 0.00 | 2/24/08 | 0.00 | 3/24/08 | 0.00 | 4/24/08 | 0.00 | 5/24/08 | 0.00 | 6/24/08 | 0.49 | 7/24/08 | 0.00 |
| 7/25/07 | 0.41 | 8/25/07 | 0.02 | 9/25/07 | 0.38 | 10/25/07 | 0.00 | 11/25/07 | 0.00 | 12/25/07 | 0.00 | 1/25/08 | 0.00 | 2/25/08 | 0.00 | 3/25/08 | 0.00 | 4/25/08 | 0.00 | 5/25/08 | 0.00 | 6/25/08 | 0.55 | 7/25/08 | 0.00 |
| 7/26/07 | 0.00 | 8/26/07 | 0.78 | 9/26/07 | 0.01 | 10/26/07 | 0.23 | 11/26/07 | 0.00 | 12/26/07 | 0.00 | 1/26/08 | 0.04 | 2/26/08 | 0.59 | 3/26/08 | 0.00 | 4/26/08 | 0.00 | 5/26/08 | 0.00 | 6/26/08 | 0.06 | 7/26/08 | 0.65 |
| 7/27/07 | 0.00 | 8/27/07 | 0.00 | 9/27/07 | 0.00 | 10/27/07 | 0.02 | 11/27/07 | 0.00 | 12/27/07 | 0.00 | 1/27/08 | 0.08 | 2/27/08 | 0.01 | 3/27/08 | 0.00 | 4/27/08 | 0.00 | 5/27/08 | 0.00 | 6/27/08 | 0.01 | 7/27/08 | 0.00 |
| 7/28/07 | 0.62 | 8/28/07 | 0.01 | 9/28/07 | 0.00 | 10/28/07 | 0.00 | 11/28/07 | 0.00 | 12/28/07 | 0.00 | 1/28/08 | 0.00 | 2/28/08 | 0.00 | 3/28/08 | 0.00 | 4/28/08 | 0.00 | 5/28/08 | 0.00 | 6/28/08 | 0.04 | 7/28/08 | 0.00 |
| 7/29/07 | 0.10 | 8/29/07 | 0.00 | 9/29/07 | 0.00 | 10/29/07 | 0.13 | 11/29/07 | 0.12 | 12/29/07 | 0.00 | 1/29/08 | 0.00 | 2/29/08 | 0.00 | 3/29/08 | 0.00 | 4/29/08 | 0.00 | 5/29/08 | 0.00 | 6/29/08 | 0.71 | 7/29/08 | 0.06 |
| 7/30/07 | 0.00 | 8/30/07 | 0.00 | 9/30/07 | 0.00 | 10/30/07 | 0.00 | 11/30/07 | 0.00 | 12/30/07 | 0.20 | 1/30/08 | 0.00 | | | 3/30/08 | 0.00 | 4/30/08 | 0.00 | 5/30/08 | 0.00 | 6/30/08 | 0.22 | 7/30/08 | 0.13 |
| 7/31/07 | 0.19 | 8/31/07 | 1.17 | | | 10/31/07 | 0.32 | | | 12/31/07 | 0.02 | 1/31/08 | 0.00 | | | 3/31/08 | | | | 5/31/08 | 0.00 | | | 7/31/08 | 1.04 |
| **Total Rainfall** | **3.97** | | **4.09** | | **4.49** | | **4.57** | | **1.17** | | **1.98** | | **2.97** | | **3.82** | | **2.02** | | **1.32** | | **7.53** | | **5.44** | | **5.10** |
| **average** | **0.13** | | **0.13** | | **0.15** | | **0.15** | | **0.04** | | **0.06** | | **0.10** | | **0.13** | | **0.07** | | **0.04** | | **0.24** | | **0.18** | | **0.16** |
| **min** | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** |
| **max** | **0.70** | | **1.17** | | **1.03** | | **0.94** | | **0.43** | | **1.65** | | **1.05** | | **1.85** | | **0.64** | | **0.90** | | **7.47** | | **1.12** | | **1.04** |
| **Days with rain** | **16** | | **12** | | **15** | | **17** | | **4** | | **4** | | **7** | | **9** | | **8** | | **4** | | **2** | | **17** | | **17** |
| **Days with no rain** | **15** | | **19** | | **15** | | **14** | | **26** | | **27** | | **24** | | **20** | | **22** | | **26** | | **29** | | **13** | | **14** |
| **Days >0.10" rain** | **10** | | **6** | | **12** | | **13** | | **4** | | **3** | | **4** | | **5** | | **6** | | **2** | | **1** | | **11** | | **10** |

# Wekiva River State Park Rainfall

| Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall | Date | Rainfall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/1/08 | 0.01 | 2/1/08 | 0.05 | 3/1/08 | 0.00 | 4/1/08 | 0.00 | 5/1/08 | 0.00 | 6/1/08 | 0.00 | 7/1/08 | 0.00 | 8/1/08 | 0.00 | 9/1/08 | 0.00 |
| 1/2/08 | 0.00 | 2/2/08 | 0.00 | 3/2/08 | 0.00 | 4/2/08 | 1.10 | 5/2/08 | 0.00 | 6/2/08 | 0.00 | 7/2/08 | 0.00 | 8/2/08 | 0.00 | 9/2/08 | 0.19 |
| 1/3/08 | 0.00 | 2/3/08 | 0.00 | 3/3/08 | 0.00 | 4/3/08 | 0.00 | 5/3/08 | 0.00 | 6/3/08 | 0.00 | 7/3/08 | 0.00 | 8/3/08 | 0.00 | 9/3/08 | 0.00 |
| 1/4/08 | 0.00 | 2/4/08 | 0.00 | 3/4/08 | 0.38 | 4/4/08 | 0.00 | 5/4/08 | 0.00 | 6/4/08 | 0.00 | 7/4/08 | 0.00 | 8/4/08 | 0.08 | 9/4/08 | 0.00 |
| 1/5/08 | 0.00 | 2/5/08 | 0.00 | 3/5/08 | 0.00 | 4/5/08 | 0.75 | 5/5/08 | 0.00 | 6/5/08 | 0.00 | 7/5/08 | 0.00 | 8/5/08 | 0.00 | 9/5/08 | 0.00 |
| 1/6/08 | 0.00 | 2/6/08 | 0.00 | 3/6/08 | 0.93 | 4/6/08 | 1.03 | 5/6/08 | 0.00 | 6/6/08 | 0.00 | 7/6/08 | 0.25 | 8/6/08 | 0.00 | 9/6/08 | 0.03 |
| 1/7/08 | 0.13 | 2/7/08 | 0.00 | 3/7/08 | 0.00 | 4/7/08 | 0.00 | 5/7/08 | 0.00 | 6/7/08 | 0.00 | 7/7/08 | 0.00 | 8/7/08 | 0.00 | 9/7/08 | 0.00 |
| 1/8/08 | 0.00 | 2/8/08 | 0.00 | 3/8/08 | 2.37 | 4/8/08 | 0.00 | 5/8/08 | 0.00 | 6/8/08 | 0.00 | 7/8/08 | 0.32 | 8/8/08 | 0.35 | 9/8/08 | 0.00 |
| 1/9/08 | 0.00 | 2/9/08 | 0.00 | 3/9/08 | 0.00 | 4/9/08 | 0.00 | 5/9/08 | 0.00 | 6/9/08 | 0.00 | 7/9/08 | 0.00 | 8/9/08 | 0.01 | 9/9/08 | 0.00 |
| 1/10/08 | 0.00 | 2/10/08 | 0.00 | 3/10/08 | 0.00 | 4/10/08 | 0.00 | 5/10/08 | 0.00 | 6/10/08 | 1.81 | 7/10/08 | 0.00 | 8/10/08 | 0.00 | 9/10/08 | 0.23 |
| 1/11/08 | 0.00 | 2/11/08 | 0.00 | 3/11/08 | 0.00 | 4/11/08 | 0.00 | 5/11/08 | 0.00 | 6/11/08 | 0.50 | 7/11/08 | 0.00 | 8/11/08 | 0.00 | 9/11/08 | 0.52 |
| 1/12/08 | 0.18 | 2/12/08 | 0.00 | 3/12/08 | 0.00 | 4/12/08 | 0.00 | 5/12/08 | 0.00 | 6/12/08 | 0.00 | 7/12/08 | 0.01 | 8/12/08 | 0.10 | 9/12/08 | 0.00 |
| 1/13/08 | 0.20 | 2/13/08 | 0.00 | 3/13/08 | 0.00 | 4/13/08 | 0.00 | 5/13/08 | 0.00 | 6/13/08 | 0.00 | 7/13/08 | 0.00 | 8/13/08 | 0.58 | 9/13/08 | 0.00 |
| 1/14/08 | 0.00 | 2/14/08 | 0.00 | 3/14/08 | 0.00 | 4/14/08 | 0.00 | 5/14/08 | 0.00 | 6/14/08 | 0.00 | 7/14/08 | 0.62 | 8/14/08 | 0.12 | 9/14/08 | 0.00 |
| 1/15/08 | 0.00 | 2/15/08 | 0.00 | 3/15/08 | 0.00 | 4/15/08 | 0.00 | 5/15/08 | 0.00 | 6/15/08 | 0.28 | 7/15/08 | 2.62 | 8/15/08 | 0.00 | 9/15/08 | 1.91 |
| 1/16/08 | 0.82 | 2/16/08 | 0.00 | 3/16/08 | 0.00 | 4/16/08 | 0.00 | 5/16/08 | 0.00 | 6/16/08 | 0.28 | 7/16/08 | 0.53 | 8/16/08 | 0.00 | 9/16/08 | 0.00 |
| 1/17/08 | 0.03 | 2/17/08 | 0.00 | 3/17/08 | 0.00 | 4/17/08 | 0.00 | 5/17/08 | 0.00 | 6/17/08 | 0.08 | 7/17/08 | 0.19 | 8/17/08 | 0.00 | 9/17/08 | 0.00 |
| 1/18/08 | 0.00 | 2/18/08 | 0.00 | 3/18/08 | 0.00 | 4/18/08 | 0.00 | 5/18/08 | 0.00 | 6/18/08 | 1.20 | 7/18/08 | 0.00 | 8/18/08 | 0.43 | 9/18/08 | 0.00 |
| 1/19/08 | 0.63 | 2/19/08 | 0.06 | 3/19/08 | 0.00 | 4/19/08 | 0.00 | 5/19/08 | 0.00 | 6/19/08 | 0.13 | 7/19/08 | 0.00 | 8/19/08 | 0.78 | 9/19/08 | 0.00 |
| 1/20/08 | 0.00 | 2/20/08 | 0.00 | 3/20/08 | 0.00 | 4/20/08 | 0.00 | 5/20/08 | 0.48 | 6/20/08 | 0.00 | 7/20/08 | 0.00 | 8/20/08 | 2.42 | 9/20/08 | 0.00 |
| 1/21/08 | 0.00 | 2/21/08 | 0.19 | 3/21/08 | 0.00 | 4/21/08 | 0.00 | 5/21/08 | 0.00 | 6/21/08 | 0.76 | 7/21/08 | 0.00 | 8/21/08 | 7.40 | 9/21/08 | 0.00 |
| 1/22/08 | 0.00 | 2/22/08 | 0.00 | 3/22/08 | 0.00 | 4/22/08 | 0.00 | 5/22/08 | 0.00 | 6/22/08 | 0.07 | 7/22/08 | 0.74 | 8/22/08 | 3.41 | 9/22/08 | 0.11 |
| 1/23/08 | 1.17 | 2/23/08 | 0.62 | 3/23/08 | 0.00 | 4/23/08 | 0.00 | 5/23/08 | 0.00 | 6/23/08 | 0.00 | 7/23/08 | 0.35 | 8/23/08 | 0.64 | 9/23/08 | 0.10 |
| 1/24/08 | 0.00 | 2/24/08 | 0.00 | 3/24/08 | 0.00 | 4/24/08 | 0.00 | 5/24/08 | 0.00 | 6/24/08 | 0.00 | 7/24/08 | 0.00 | 8/24/08 | 0.00 | 9/24/08 | 0.00 |
| 1/25/08 | 0.00 | 2/25/08 | 0.00 | 3/25/08 | 0.00 | 4/25/08 | 0.00 | 5/25/08 | 0.87 | 6/25/08 | 0.00 | 7/25/08 | 0.00 | 8/25/08 | 0.74 | 9/25/08 | 0.00 |
| 1/26/08 | 0.20 | 2/26/08 | 0.55 | 3/26/08 | 0.00 | 4/26/08 | 0.00 | 5/26/08 | 0.00 | 6/26/08 | 0.33 | 7/26/08 | 0.00 | 8/26/08 | 0.00 | 9/26/08 | 0.00 |
| 1/27/08 | 0.00 | 2/27/08 | 0.00 | 3/27/08 | 0.00 | 4/27/08 | 0.00 | 5/27/08 | 0.00 | 6/27/08 | 0.13 | 7/27/08 | 0.00 | 8/27/08 | 0.00 | 9/27/08 | 0.00 |
| 1/28/08 | 0.00 | 2/28/08 | 0.00 | 3/28/08 | 0.00 | 4/28/08 | 0.13 | 5/28/08 | 0.00 | 6/28/08 | 0.00 | 7/28/08 | 1.12 | 8/28/08 | 0.00 | 9/28/08 | 0.84 |
| 1/29/08 | 0.00 | 2/29/08 | 0.00 | 3/29/08 | 0.00 | 4/29/08 | 0.00 | 5/29/08 | 0.00 | 6/29/08 | 0.00 | 7/29/08 | 0.89 | 8/29/08 | 0.00 | 9/29/08 | 0.00 |
| 1/30/08 | 0.00 | | | 3/30/08 | 0.00 | 4/30/08 | 0.00 | 5/30/08 | 0.00 | 6/30/08 | 0.08 | 7/30/08 | 0.50 | 8/30/08 | 1.28 | 9/30/08 | 0.34 |
| 1/31/08 | 0.00 | | | 3/31/08 | 0.00 | | | 5/31/08 | 0.00 | | | 7/31/08 | 0.09 | 8/31/08 | 0.00 | | |
| **Total Rainfall** | **3.37** | | **1.47** | | **3.68** | | **3.01** | | **1.35** | | **5.65** | | **8.23** | | **18.34** | | **4.27** |
| **average** | **0.11** | | **0.05** | | **0.12** | | **0.10** | | **0.04** | | **0.19** | | **0.27** | | **0.59** | | **0.14** |
| **min** | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** | | **0.00** |
| **max** | **1.17** | | **0.62** | | **2.37** | | **1.10** | | **0.87** | | **1.81** | | **2.62** | | **7.40** | | **1.91** |
| **Days with rain** | **9.00** | | **5.00** | | **3.00** | | **4.00** | | **2.00** | | **12.00** | | **13.00** | | **14.00** | | **9.00** |
| **Days with no rain** | **22.00** | | **24.00** | | **28.00** | | **26.00** | | **29.00** | | **18.00** | | **18.00** | | **17.00** | | **21.00** |
| **Days >0.10" rain** | **7.00** | | **3.00** | | **3.00** | | **4.00** | | **2.00** | | **9.00** | | **11.00** | | **11.00** | | **7.00** |

# APPENDIX D

# RESULTS OF LABORATORY ANALYSES CONDUCTED ON NATURAL AREA SAMPLES

| Sample Location | Date Collected | pH (s.u.) | Cond (µmho/cm) | Alk (mg/l) | NH3 (µg/l) | NOX (µg/l) | Dis Org N (µg/l) | Part N (µg/l) | TN (µg/l) | OP (µg/l) | Dis Org P (µg/l) | Part P (µg/l) | TP (µg/l) | Fecal (cfu/100 ml) | Tur (NTU) | TSS (mg/l) | BOD (mg/l) | Color (PCU) | Cu (µg/l) | Dis Cu (µg/l) | Cd (µg/l) | Dis Cd (µg/l) | Cr (µg/l) | Dis Cr (µg/l) | Fe (µg/l) | Dis Fe (µg/l) | Pb (µg/l) | Dis Pb (µg/l) | Zn (µg/l) | Dis Zn (µg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alfred B McClay 1 | 7/23/07 | 6.94 | 53 | 19.8 | 21 | 52 | 5 | 55 | 133 | 171 | 12 | 9 | 192 | 31 | 2.5 | 4 | 2.1 | 9 | <3 | <3 | <2 | <2 | <5 | <5 | 582 | 77 | <2 | <2 | 7 | 6 |
| Alfred B McClay 1 | 8/2/07 | 6.02 | 37 | 8.2 | 231 | 208 | 3 | 558 | 1000 | 167 | 41 | 994 | 1202 | 1230 | 24.1 | 21.2 | 2.5 | 55 | 3 | <3 | <2 | <2 | <5 | <5 | 4382 | 2753 | <2 | <2 | 15 | 8 |
| Alfred B McClay 1 | 8/12/07 | 6.96 | 49 | 26.8 | 65 | 54 | 22 | 29 | 170 | 189 | 6 | 103 | 298 | 9 | 3.4 | 6.4 | <2.0 | 15 | 4 | <3 | <2 | <2 | <5 | <5 | 847 | 271 | 3 | <2 | 3 | 2 |
| Alfred B McClay 1 | 8/28/07 | 6.92 | 49 | 21.8 | 13 | <5 | 250 | 3 | 269 | 166 | 53 | 1250 | 1469 | 40 | 2 | 4.5 | <2.0 | 12 | <3 | <3 | <2 | <2 | <5 | <5 | 640 | 351 | <2 | <2 | 7 | <2 |
| Alfred B McClay 1 | 9/5/07 | 6.57 | 27 | 16.0 | 49 | 147 | 432 | 540 | 1168 | 202 | 15 | 1097 | 1314 | 4300 | 129 | 130 | <2.0 | 47 | 3 | <3 | <2 | <2 | 8 | <5 | 5280 | 494 | <2 | <2 | 7 | 3 |
| Alfred B McClay 1 | 9/21/07 | 6.99 | 57 | 21.4 | 19 | 43 | 55 | 1 | 118 | 196 | 2 | 94 | 292 | 20 | 2.8 | 4.2 | <2.0 | 54 | 3 | <3 | <2 | <2 | <5 | <5 | 434 | 101 | <2 | <2 | <2 | <2 |
| Alfred B McClay 1 | 10/4/07 | 6.77 | 6 | 15.2 | 15 | 64 | 75 | 402 | 556 | 123 | 9 | 865 | 997 | 2700 | 38.8 | 30 | 5.3 | 27 | 3 | <3 | <2 | <2 | <5 | <5 | 4234 | 240 | <2 | <2 | 3 | <2 |
| Alfred B McClay 1 | 10/19/07 | 6.68 | 40 | 8.2 | 25 | 16 | 5 | 72 | 118 | 182 | 3 | 74 | 259 | 88 | 3.2 | 5.2 | <2.0 | 11 | <3 | <3 | <2 | <2 | <5 | <5 | 688 | 117 | <2 | <2 | 2 | <2 |
| Alfred B McClay 1 | 10/20/07 | 6.19 | 41 | 5.8 | 148 | 62 | 470 | 305 | 985 | 59 | 5 | 630 | 694 | 6100 | 57.1 | 42.8 | <2.0 | 17 | 6 | 3 | <2 | <2 | <5 | <5 | 3503 | 256 | <2 | <2 | 4 | <2 |
| Alfred B McClay 1 | 11/4/07 | 6.62 | 35 | 9.0 | 31 | 32 | 95 | 99 | 257 | 111 | 247 | 132 | 490 | 440 | 4.2 | 6.7 | <2.0 | 16 | <3 | <3 | <2 | <2 | <5 | <5 | 1800 | 866 | <2 | <2 | 2 | <2 |
| Alfred B McClay 1 | 11/16/07 | 6.41 | 36 | 7.8 | 52 | 18 | 5 | 21 | 96 | 94 | 71 | 153 | 318 | 330 | 3.7 | 6.4 | <2.0 | 5 | <3 | <3 | <2 | <2 | <5 | <5 | 314 | 21 | <2 | <2 | <2 | <2 |
| Alfred B McClay 1 | 11/23/07 | 6.97 | 61 | 23.8 | 47 | 5 | 38 | 13 | 103 | 437 | 137 | 319 | 893 | 50 | 3.9 | 5.5 | <2.0 | 8 | 3 | <3 | <2 | <2 | <5 | <5 | 623 | 49 | <2 | <2 | 4 | <2 |
| Alfred B McClay 1 | 12/11/07 | 6.81 | 51 | 20.0 | 9 | <5 | 21 | 61 | 94 | 132 | 102 | 195 | 429 | 60 | 3.6 | 9.3 | <2.0 | 6 | 3 | <3 | <2 | <2 | <5 | <5 | 1242 | 139 | <2 | <2 | 5 | 3 |
| Alfred B McClay 1 | 12/16/07 | 6.50 | 61 | 9.4 | 7 | 24 | 66 | 515 | 612 | 146 | 8 | 68 | 222 | 310 | 2.3 | 2.9 | <2.0 | 10 | 3 | <3 | <2 | <2 | <5 | <5 | 817 | 114 | <2 | <2 | 6 | <2 |
| Alfred B McClay 1 | 12/31/07 | 6.83 | 58 | 20.6 | 84 | 29 | 37 | 181 | 331 | 123 | 4 | 265 | 392 | 143 | 7.8 | 14 | <2.0 | 11 | <3 | <3 | <2 | <2 | <5 | <5 | 1353 | 34 | <2 | <2 | 3 | 2 |
| Alfred B McClay 1 | 1/20/08 | 6.88 | 60 | 17.3 | 7 | 11 | 5 | 179 | 202 | 115 | 2 | 794 | 911 | 218 | 18 | 62.5 | <2.0 | 16 | 4 | 4 | <2 | <2 | <5 | <5 | 5871 | 446 | <2 | <2 | 7 | <2 |
| Alfred B McClay 1 | 2/13/08 | 6.52 | 60 | 17.4 | 93 | 23 | 84 | 356 | 556 | 58 | 5 | 1668 | 1731 | 640 | 44.9 | 166 | 2.5 | 8 | <3 | <3 | 4 | 3 | 5 | <5 | 4895 | 999 | <2 | <2 | 34 | 28 |
| Alfred B McClay 1 | 2/28/08 | 6.72 | 63 | 20.6 | 99 | 32 | 16 | 115 | 262 | 77 | 18 | 485 | 580 | 5600 | 28.7 | 54.9 | <2.0 | 14 | <3 | <3 | <2 | <2 | <5 | <5 | 2801 | 13 | <2 | <2 | <2 | <2 |
| Alfred B McClay 1 | 3/8/08 | 6.64 | 61 | 18.4 | 81 | 59 | 58 | 30 | 228 | 89 | 6 | 149 | 244 | 5 | 5.4 | 14.2 | <2.0 | 9 | <3 | <3 | 7 | 6 | <5 | <5 | 150 | 58 | <2 | <2 | 7 | 3 |
| Alfred B McClay 1 | 4/6/08 | 6.17 | 37 | 15.8 | 97 | 58 | 30 | 50 | 235 | 78 | 34 | 108 | 220 | 60 | 114 | 792 | <2.0 | 10 | <2 | <2 | <2 | <2 | 6 | <5 | 9831 | 397 | <2 | <2 | 14 | 2 |
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| Alfred B McClay 1 | 4/27/08 | 6.49 | 73 | 23.6 | 110 | 58 | 207 | 495 | 870 | 80 | 13 | 762 | 855 | 320 | 40.2 | 718 | 5.6 | 11 | 7 | 5 | <2 | <2 | <5 | <5 | 3476 | 81 | <2 | <2 | 14 | 4 |
| Alfred B McClay 1 | 6/16/08 | 6.87 | 67 | 26.4 | <5 | 183 | 33 | 62 | 281 | 192 | 7 | 180 | 379 | <1 | 13.8 | 27 | <2.0 | 6 | <3 | <3 | <2 | <2 | <5 | <5 | 896 | 167 | <2 | <2 | 4 | 2 |
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| Alfred B McClay 2 | 8/12/07 | 6.18 | 28 | 4.2 | 460 | 175 | 279 | 51 | 965 | 206 | 24 | 414 | 644 | 2364 | 36.2 | 28.7 | 2.8 | 44 | 3 | <3 | <2 | <2 | <5 | <5 | 8925 | 4029 | 9 | <2 | 7 | 4 |
| Alfred B McClay 2 | 8/28/07 | 6.05 | 25 | 7.2 | 235 | 60 | 512 | 1036 | 1843 | 16 | 3 | 189 | 208 | 5300 | 105 | 104 | 4.4 | 56 | <3 | <3 | <2 | <2 | 8 | <5 | 1385 | 673 | <2 | <2 | 19 | 4 |
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| Alfred B McClay 2 | 10/4/07 | 6.51 | 34 | 10.2 | 25 | 46 | 81 | 418 | 570 | 216 | 20 | 1161 | 1397 | 2500 | 60.4 | 84.7 | 5 | 19 | 3 | <3 | <2 | <2 | <5 | <5 | 6795 | 166 | <2 | <2 | 3 | 2 |
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| Fakahatchee 1 | 10/7/07 | 7.69 | 367 | 181.0 | 415 | 7 | 19 | 69 | 510 | 3 | <1 | 1 | 4 | 33 | 0.5 | 5 | 5.6 | 66 | 3 | <3 | <2 | <2 | <5 | <5 | 75 | 63 | <2 | <2 | <2 | <2 |
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| Fakahatchee 3 | 7/31/08 | 7.81 | 469 | 226.0 | 38 | 9 | 837 | 32 | 916 | 5 | 1 | 3 | 9 | 35 | 0.3 | 0.8 | <2.0 | 102 | 4 | <3 | <2 | <2 | <5 | <5 | 50 | 25 | <2 | <2 | 3 | 2 |
| Fakahatchee 4 | 10/7/07 | 7.83 | 442 | 228.0 | 6 | 5 | 465 | 55 | 531 | 1 | 2 | 2 | 5 | 210 | 0.5 | 1.9 | 8.3 | 56 | 3 | <3 | 4 | <2 | <5 | <5 | 308 | 130 | <2 | <2 | 21 | <2 |
| Fakahatchee 4 | 10/23/07 | 7.78 | 455 | 232.0 | 36 | <5 | 397 | 63 | 499 | 6 | 3 | 16 | 25 | 50 | 0.5 | 1.4 | <2.0 | 59 | 4 | <3 | <2 | <2 | <5 | <5 | 150 | 123 | <2 | <2 | 8 | 2 |
| Fakahatchee 4 | 7/31/08 | 7.91 | 479 | 231.0 | 25 | 9 | 758 | 45 | 837 | 5 | 1 | 3 | 9 | 56 | 0.5 | 2 | <2.0 | 90 | 4 | <3 | <2 | <2 | <5 | <5 | 91 | 85 | <2 | <2 | 3 | <2 |
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| Faver Dykes 1 | 2/19/08 | 5.00 | 106 | 5.4 | 99 | 7 | 341 | 192 | 639 | 3 | 6 | 6 | 15 | 460 | 1.8 | 4.1 | 2.3 | 183 | 3 | <3 | <2 | <2 | <5 | <5 | 109 | 95 | <2 | <2 | 20 | 7 |
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| Faver Dykes 1 | 4/8/08 | 3.87 | 161 | 0.0 | 61 | 7 | 653 | 76 | 797 | 12 | 17 | 8 | 37 | 370 | 1.3 | 1.7 | <2.0 | 202 | <2 | <2 | <2 | <2 | <5 | <5 | 165 | 129 | <2 | <2 | 14 | 8 |
| Faver Dykes 2 | 7/11/07 | 5.79 | 161 | 10.0 | 79 | 28 | 704 | 123 | 934 | 3 | 33 | 2 | 38 | 1280 | 4.7 | 6.4 | 2.7 | 291 | <3 | <3 | <2 | <2 | <5 | <5 | 1157 | 702 | <2 | <2 | 46 | 9 |
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| Faver Dykes 2 | 9/21/07 | 4.38 | 87 | 0.0 | 50 | 6 | 989 | 21 | 1066 | 3 | 6 | 4 | 13 | 665 | 1 | 2.2 | 2.6 | 324 | <3 | <3 | <2 | <2 | <5 | <5 | 590 | 394 | 9 | 2 | 5 | 2 |
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| Faver Dykes 2 | 10/31/07 | 4.63 | 154 | 1.6 | 42 | 14 | 1025 | 90 | 1171 | 21 | 1 | 3 | 25 | 172 | 0.3 | 1.2 | <2.0 | 608 | 3 | <3 | <2 | <2 | <5 | <5 | 1765 | 1723 | <2 | <2 | 22 | 11 |
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| Faver Dykes 2 | 2/19/08 | 5.66 | 144 | 8.8 | 66 | 7 | 759 | 93 | 925 | 6 | 12 | 8 | 26 | 42 | 0.8 | 3.9 | <2.0 | 255 | 3 | <3 | <2 | <2 | 5 | <5 | 109 | 103 | <2 | <2 | 20 | 10 |
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| Faver Dykes 2 | 4/8/08 | 4.81 | 142 | 1.8 | 66 | 10 | 810 | 56 | 942 | 1 | 13 | 1 | 15 | 78 | 0.8 | 0.8 | <2.0 | 426 | <2 | <2 | <2 | <2 | <5 | <5 | 762 | 75 | 3 | <2 | 6 | 3 |
| Faver Dykes 2 | 4/15/08 | 5.59 | 147 | 8.8 | 106 | 13 | 732 | 16 | 867 | 3 | 9 | 3 | 15 | 33 | 0.5 | <0.7 | <2.0 | 320 | 3 | <3 | <2 | <2 | <5 | <5 | 755 | 78 | <2 | <2 | 10 | 5 |
| Faver Dykes 2 | 6/26/08 | 6.59 | 234 | 23.0 | 113 | 11 | 678 | 204 | 1006 | 1 | 25 | 31 | 57 | 58 | 2.1 | 3.8 | <2.0 | 191 | <3 | <3 | <2 | <2 | <5 | <5 | 578 | 482 | <2 | <2 | 7 | 5 |

| Sample Location | Date Collected | pH (s.u.) | Cond (µmho/cm) | Alk (mg/l) | NH3 (µg/l) | NOX (µg/l) | Dis Org N (µg/l) | Part N (µg/l) | TN (µg/l) | OP (µg/l) | Dis Org P (µg/l) | Part P (µg/l) | TP (µg/l) | Fecal (cfu/100 ml) | Tur (NTU) | TSS (mg/l) | BOD (mg/l) | Color (PCU) | Cu (µg/l) | Dis Cu (µg/l) | Cd (µg/l) | Dis Cd (µg/l) | Cr (µg/l) | Dis Cr (µg/l) | Fe (µg/l) | Dis Fe (µg/l) | Pb (µg/l) | Dis Pb (µg/l) | Zn (µg/l) | Dis Zn (µg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Faver Dykes 3 | 9/21/07 | 6.88 | n/a | 75.8 | <5 | <5 | 459 | 304 | 768 | 37 | 15 | 33 | 85 | 12400 | 1.3 | 2.2 | 5 | 81 | 3 | <3 | <2 | <2 | <5 | <5 | 447 | 177 | 6 | <2 | 10 | 2 |
| Faver Dykes 3 | 10/8/07 | 7.09 | 275 | 86.0 | 48 | 17 | 1967 | 238 | 2270 | 34 | 2 | 57 | 93 | 310 | 0.6 | 1.8 | 6.5 | 723 | 6 | <3 | <2 | <2 | <5 | <5 | 1355 | 1292 | <2 | <2 | 3 | <2 |
| Faver Dykes 3 | 10/31/07 | 7.25 | 455 | 166.0 | 38 | <5 | 1055 | 14 | 1110 | 26 | 20 | 26 | 72 | 160 | 0.9 | <0.7 | <2.0 | 319 | <3 | <3 | <2 | <2 | <5 | <5 | 1141 | 815 | 4 | <2 | 50 | 11 |
| Faver Dykes 3 | 11/5/07 | 5.58 | 259 | 8.4 | 79 | 11 | 803 | 328 | 1221 | 11 | 14 | 19 | 44 | 255 | 20.8 | 17 | <2.0 | 649 | 4 | <3 | 4 | <2 | 8 | <5 | 8142 | 4761 | <2 | <2 | 61 | 55 |
| Faver Dykes 3 | 3/11/08 | 7.13 | 620 | 226.0 | 57 | <5 | 586 | 103 | 749 | 5 | 1 | 2 | 8 | 490 | 0.8 | 1.6 | <2.0 | 97 | 4 | 3 | 6 | 3 | <5 | <5 | 129 | 29 | <2 | <2 | 5 | 3 |
| Faver Dykes 3 | 4/8/08 | 7.09 | 282 | 113.0 | 61 | 6 | 537 | 69 | 673 | 1 | 6 | 8 | 15 | 1530 | 1.4 | 2.7 | <2.0 | 233 | <2 | <2 | 3 | <2 | <5 | <5 | 234 | 186 | <2 | <2 | 11 | 8 |
| Faver Dykes 4 | 9/21/07 | 5.11 | 76 | 4.6 | 62 | 5 | 1086 | 214 | 1367 | 1 | 8 | 35 | 44 | 4400 | 2.3 | 5.7 | 3.2 | 79 | <3 | <3 | <2 | <2 | <5 | <5 | 169 | 126 | 9 | 2 | 8 | 5 |
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| Faver Dykes 4 | 10/31/07 | 5.55 | 162 | 9.4 | 78 | 15 | 1003 | 283 | 1379 | 16 | 6 | 5 | 27 | 510 | 1.5 | 2.3 | 2.4 | 573 | 4 | <3 | <2 | <2 | <5 | <5 | 1825 | 1800 | <2 | <2 | 6 | 5 |
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| Faver Dykes 5 | 9/21/07 | 5.64 | 113 | 13.0 | 43 | 16 | 1231 | 180 | 1470 | 10 | 4 | 25 | 39 | 3300 | 9.2 | 4.7 | 4.6 | 133 | <3 | <3 | <2 | <2 | <5 | <5 | 235 | 130 | 5 | <2 | 8 | 4 |
| Faver Dykes 5 | 10/31/07 | 4.26 | 104 | 0.0 | 46 | 11 | 985 | 210 | 1252 | 21 | 2 | 6 | 29 | 8 | 1.3 | 2.4 | 4 | 487 | <3 | <3 | <2 | <2 | <5 | <5 | 790 | 695 | <2 | <2 | 8 | 3 |
| Faver Dykes 5 | 4/8/08 | 4.28 | 74 | 0.0 | 87 | <5 | 920 | 351 | 1361 | <1 | 2 | 29 | 32 | 1420 | 19.1 | 19.1 | <2.0 | 268 | <2 | <2 | <2 | <2 | <5 | <5 | 88 | 54 | <2 | <2 | 8 | 5 |
| Faver Dykes 6 | 9/21/07 | 4.63 | 92 | 0.6 | 51 | <5 | 1016 | 162 | 1232 | 4 | 42 | 16 | 62 | 48000 | 3.7 | 4.7 | 4.8 | 77 | 3 | <3 | <2 | <2 | <5 | <5 | 937 | 165 | 5 | <2 | 7 | 3 |
| Faver Dykes 6 | 10/31/07 | 5.53 | 192 | 4.8 | 30 | 5 | 340 | 26 | 401 | 13 | 6 | 4 | 23 | 11 | 0.7 | 3.8 | 2.3 | 226 | <3 | <3 | <2 | <2 | <5 | <5 | 1050 | 90 | <2 | <2 | 24 | 4 |
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| Faver Dykes 6 | 4/8/08 | 6.73 | 196 | 55.4 | 71 | 7 | 675 | 108 | 861 | 1 | 12 | 13 | 26 | 1470 | 1.5 | 1.5 | <2.0 | 321 | <2 | <2 | <2 | <2 | <5 | <5 | 269 | 230 | <2 | <2 | 3 | 2 |
| Faver Dykes 7 | 9/21/07 | 6.77 | 232 | 60.4 | 90 | <5 | 661 | 185 | 939 | 1 | 5 | 42 | 48 | 720 | 5.1 | 5.6 | 2.8 | 163 | 5 | <3 | <2 | <2 | <5 | <5 | 187 | 133 | 3 | <2 | 22 | 8 |
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| Faver Dykes 7 | 4/8/08 | 6.25 | 150 | 27.8 | 59 | 8 | 406 | 146 | 619 | 1 | 5 | 11 | 17 | 240 | 1.9 | 1.9 | <2.0 | 184 | <2 | <2 | <2 | <2 | <5 | <5 | 39 | 28 | <2 | <2 | 11 | 9 |
| Johnathon Dickinson 1 | 7/9/07 | 5.05 | 54 | 3.4 | 142 | 18 | 1024 | 35 | 1219 | <1 | <1 | 9 | 10 | 64 | 2.3 | 6.8 | 2.6 | 371 | 6 | 3 | <2 | <2 | <5 | <5 | 255 | 26 | <2 | <2 | 25 | 12 |
| Johnathon Dickinson 1 | 7/24/07 | 4.57 | 51 | 0.4 | 64 | 91 | 718 | 68 | 941 | 1 | 2 | 3 | 6 | 240 | 2.8 | <0.7 | <2.0 | 345 | <3 | <3 | <2 | <2 | <5 | <5 | 351 | 393 | <2 | <2 | 9 | 5 |
| Johnathon Dickinson 1 | 8/2/07 | 5.97 | 45 | 6.0 | 77 | <5 | 775 | 52 | 907 | <1 | 8 | 1 | 10 | 58 | 1.3 | 0.9 | <2.0 | 255 | <3 | <3 | <2 | <2 | <5 | <5 | 493 | 337 | <2 | <2 | 7 | 5 |
| Johnathon Dickinson 1 | 8/7/07 | 6.10 | 64 | 15.4 | 77 | 7 | 1028 | 53 | 1165 | 2 | 9 | 7 | 18 | 223 | 1.1 | 3.2 | <2.0 | 446 | <3 | <3 | <2 | <2 | <5 | <5 | 445 | 357 | <2 | <2 | 6 | 2 |
| Johnathon Dickinson 1 | 8/17/07 | 6.49 | 51 | 18.0 | 71 | 10 | 1060 | 104 | 1245 | 1 | 17 | 6 | 24 | 60 | 1.6 | <0.7 | 3.2 | 438 | <3 | <3 | <2 | <2 | <5 | <5 | 577 | 515 | <2 | <2 | 18 | 7 |
| Johnathon Dickinson 1 | 9/25/07 | 6.75 | 100 | 28.0 | 73 | 5 | 674 | 783 | 1535 | 1 | 4 | 4 | 9 | 2200 | 2.3 | 2.2 | 3.6 | 265 | 4 | <3 | <2 | <2 | <5 | <5 | 298 | 251 | <2 | <2 | 4 | <2 |
| Johnathon Dickinson 1 | 10/3/07 | 4.52 | 70 | 0.0 | 14 | <5 | 338 | 679 | 1034 | 4 | 9 | 4 | 17 | 17 | 0.7 | 2.2 | <2.0 | 334 | 4 | 3 | <2 | <2 | <5 | <5 | 404 | 82 | <2 | <2 | 7 | <2 |
| Johnathon Dickinson 1 | 10/9/07 | 6.46 | 81 | 14.2 | 55 | 20 | 1148 | 318 | 1541 | <1 | 1 | 2 | 4 | 144 | 1.2 | 3.3 | 6.9 | 313 | <3 | <3 | <2 | <2 | <5 | <5 | 412 | 287 | <2 | <2 | 7 | <2 |
| Johnathon Dickinson 1 | 10/24/07 | 6.13 | 62 | 4.2 | 64 | <5 | 1006 | 72 | 1145 | 8 | 6 | 9 | 23 | 157 | 0.9 | 0.8 | 2.9 | 287 | 3 | <3 | <2 | <2 | <5 | <5 | 314 | 240 | 3 | <2 | 5 | 2 |
| Johnathon Dickinson 1 | 11/7/07 | 5.60 | 80 | 6.8 | 37 | 6 | 495 | 183 | 721 | 8 | 12 | 1 | 21 | 58 | 2.2 | 4.2 | <2.0 | 267 | <3 | <3 | <2 | <2 | <5 | <5 | 794 | 397 | <2 | <2 | 7 | 6 |
| Johnathon Dickinson 1 | 11/15/07 | 5.22 | 69 | 3.4 | 89 | <5 | 830 | 82 | 1004 | <1 | <1 | 11 | 21 | 35 | 1.5 | 1.9 | 2.5 | 239 | 3 | <3 | <2 | <2 | <5 | <5 | 190 | 41 | <2 | <2 | 4 | 3 |
| Johnathon Dickinson 1 | 11/26/07 | 5.61 | 76 | 6.0 | 102 | <5 | 1008 | 17 | 1130 | 3 | <1 | 21 | 28 | 35 | 2.1 | 4 | 2.1 | 239 | <3 | <3 | <2 | <2 | <5 | <5 | 353 | 347 | <2 | <2 | 10 | 8 |
| Johnathon Dickinson 1 | 12/17/07 | 6.53 | 80 | 15.8 | 71 | 7 | 989 | 214 | 1281 | 1 | <1 | 7 | 8 | 106 | 2.9 | 2.5 | 4 | 245 | 3 | <3 | 4 | 2 | <5 | <5 | 563 | 202 | <2 | <2 | 3 | 2 |
| Johnathon Dickinson 1 | 3/12/08 | 6.88 | 129 | 22.2 | 65 | 54 | 662 | 539 | 1320 | 1 | 4 | 0 | 5 | 53 | 2.8 | 6.6 | 2.6 | 226 | 4 | 3 | 4 | 3 | <5 | <5 | 346 | 262 | <2 | <2 | 2 | <2 |
| Johnathon Dickinson 1 | 3/26/08 | 6.16 | 123 | 13.8 | 210 | 32 | 946 | 500 | 1688 | 2 | 3 | 40 | 45 | 752 | 7.4 | 12 | 2.7 | 202 | <3 | <3 | 2 | <2 | <5 | <5 | 343 | 159 | <2 | <2 | 6 | 3 |
| Johnathon Dickinson 1 | 4/7/08 | 6.52 | 110 | 31.8 | 179 | 68 | 1021 | 61 | 1329 | 1 | 3 | 16 | 20 | 273 | 2.5 | 6.6 | <2.0 | 121 | <3 | <3 | <2 | <2 | <5 | <5 | 197 | 153 | <2 | <2 | 14 | 9 |
| Johnathon Dickinson 1 | 6/24/08 | 6.21 | 92 | 12.4 | 156 | 33 | 841 | 11 | 1041 | 7 | 1 | 5 | 13 | 1880 | 2.1 | 4.3 | 3.1 | 257 | 5 | <3 | <2 | <2 | 6 | <5 | 249 | 168 | <2 | <2 | 14 | 11 |
| Johnathon Dickinson 2 | 7/9/07 | 4.32 | 62 | 0.0 | 140 | 9 | 952 | 49 | 1150 | 2 | <1 | 6 | 8 | 37 | 0.7 | 1.5 | 2 | 410 | 3 | <3 | <2 | <2 | <5 | <5 | 301 | 20 | <2 | <2 | 13 | 4 |
| Johnathon Dickinson 2 | 7/24/07 | 4.45 | 66 | 0.0 | 84 | 81 | 1039 | 18 | 1222 | 1 | 1 | 6 | 8 | 68 | 0.9 | 1.9 | <2.0 | 306 | 4 | <3 | 2 | <2 | <5 | <5 | 334 | 303 | 3 | <2 | 14 | 3 |
| Johnathon Dickinson 2 | 8/2/07 | 4.44 | 56 | 0.0 | 59 | 5 | 901 | 158 | 1123 | <1 | 11 | 3 | 15 | 79 | 0.9 | <0.7 | <2.0 | 199 | <3 | <3 | <2 | <2 | <5 | <5 | 311 | 307 | <2 | <2 | 52 | 13 |
| Johnathon Dickinson 2 | 8/7/07 | 4.28 | 66 | 0.0 | 64 | 12 | 1413 | 88 | 1577 | 2 | 10 | 5 | 17 | 79 | 0.9 | 1 | <2.0 | 458 | <3 | <3 | <2 | <2 | <5 | <5 | 585 | 388 | <2 | <2 | 7 | 5 |
| Johnathon Dickinson 2 | 8/17/07 | 4.53 | 50 | 0.2 | 55 | 12 | 1131 | 70 | 1268 | 3 | 22 | 1 | 26 | 220 | 0.9 | 1.6 | 2.1 | 438 | <3 | <3 | <2 | <2 | <5 | <5 | 763 | 408 | <2 | <2 | 12 | 5 |
| Johnathon Dickinson 2 | 9/25/07 | 4.35 | 74 | 0.0 | 13 | 8 | 1256 | 522 | 1799 | 6 | 2 | 3 | 11 | 106 | 1 | 2.6 | 2.6 | 315 | <3 | <3 | <2 | <2 | <5 | <5 | 439 | 340 | 7 | 4 | 11 | 4 |
| Johnathon Dickinson 2 | 10/3/07 | 6.26 | 69 | 10.2 | 25 | 7 | 879 | 293 | 1204 | 2 | 3 | 3 | 8 | 200 | 1.4 | 3.1 | 2.7 | 331 | 5 | 3 | <2 | <2 | <5 | <5 | 227 | 156 | <2 | <2 | 3 | 3 |
| Johnathon Dickinson 2 | 10/9/07 | 4.28 | 80 | 0.0 | 35 | 16 | 1106 | 174 | 1331 | 2 | 1 | 3 | 6 | 13 | 0.8 | 1.3 | 5.3 | 348 | <3 | <3 | <2 | <2 | <5 | <5 | 437 | 167 | <2 | <2 | 11 | <2 |
| Johnathon Dickinson 2 | 10/24/07 | 4.39 | 77 | 0.0 | 28 | <5 | 947 | 68 | 1046 | 3 | 1 | 1 | 5 | 11 | 0.8 | <0.7 | <2.0 | 296 | 3 | <3 | <2 | <2 | <5 | <5 | 387 | 277 | <2 | <2 | <2 | <2 |
| Johnathon Dickinson 2 | 11/7/07 | 4.43 | 77 | 0.0 | 31 | <5 | 429 | 72 | 535 | 16 | 2 | 1 | 19 | 25 | 0.9 | 1.2 | <2.0 | 267 | 3 | <3 | <2 | <2 | <5 | <5 | 518 | 466 | <2 | <2 | 8 | 6 |
| Johnathon Dickinson 2 | 11/15/07 | 4.23 | 84 | 0.0 | 72 | <5 | 768 | 113 | 956 | <1 | <1 | 10 | 20 | 16 | 0.7 | <0.7 | 2.9 | 261 | 3 | <3 | <2 | <2 | <5 | <5 | 219 | 117 | <2 | <2 | 5 | 4 |
| Johnathon Dickinson 2 | 11/26/07 | 3.98 | 89 | 0.0 | 65 | 6 | 747 | 240 | 1058 | 3 | 3 | 6 | 12 | 16 | 1.6 | 4.1 | <2.0 | 269 | <3 | <3 | <2 | <2 | <5 | <5 | 450 | 326 | <2 | <2 | 11 | <2 |
| Johnathon Dickinson 2 | 12/17/07 | 4.41 | 77 | 0.0 | 53 | <5 | 806 | 76 | 938 | 1 | <1 | 2 | 3 | 21 | 1.3 | <0.7 | <2.0 | 230 | <3 | <3 | 4 | 3 | <5 | <5 | 1369 | 237 | 4 | <2 | 7 | <2 |
| Johnathon Dickinson 2 | 3/12/08 | 4.19 | 102 | 0.0 | 135 | 5 | 804 | 109 | 1053 | 3 | 1 | 2 | 6 | 37 | 1.7 | 19 | <2.0 | 211 | 3 | <3 | 5 | 3 | <5 | <5 | 387 | 304 | <2 | <2 | 13 | 6 |
| Johnathon Dickinson 2 | 3/26/08 | 6.64 | 130 | 21.0 | 79 | <5 | 766 | 136 | 984 | 1 | 4 | 27 | 32 | 41 | 2.7 | 4.7 | 3.2 | 194 | <3 | <3 | <2 | <2 | <5 | <5 | 237 | 175 | <2 | <2 | 5 | 4 |
| Johnathon Dickinson 2 | 4/7/08 | 6.80 | 136 | 42.6 | 93 | <5 | 689 | 470 | 1255 | 1 | 4 | 48 | 53 | 66 | 2.3 | 5 | 3.1 | 139 | <3 | <3 | <2 | <2 | <5 | <5 | 228 | 122 | <2 | <2 | 2 | <2 |
| Johnathon Dickinson 2 | 6/24/08 | 6.10 | 88 | 12.8 | 81 | 8 | 834 | 59 | 982 | 3 | 3 | 2 | 8 | 350 | 0.8 | 1.5 | 2.8 | 317 | <3 | <3 | <2 | <2 | <5 | <5 | 232 | 159 | <2 | <2 | 10 | 9 |
| Johnathon Dickinson 3 | 7/9/07 | 6.12 | 130 | 19.6 | 279 | 8 | 1810 | 73 | 2170 | 3 | 27 | 14 | 44 | 190 | 1 | 1.3 | 2.3 | 547 | 6 | 3 | <2 | <2 | <5 | <5 | 363 | 21 | <2 | <2 | 15 | 8 |
| Johnathon Dickinson 3 | 7/24/07 | 6.22 | 120 | 20.6 | 180 | 33 | 1609 | 334 | 2156 | 4 | 11 | 9 | 24 | 28 | 1 | 1.1 | <2.0 | 507 | 4 | <3 | <2 | <2 | <5 | <5 | 466 | 444 | <2 | <2 | 5 | 4 |
| Johnathon Dickinson 3 | 8/2/07 | 7.24 | 355 | 160.0 | 67 | 6 | 1148 | 262 | 1483 | 4 | 9 | 10 | 23 | 380 | 2 | 1.9 | 3.3 | 298 | <3 | <3 | <2 | <2 | <5 | <5 | 371 | 282 | <2 | <2 | 8 | 7 |
| Johnathon Dickinson 3 | 8/7/07 | 6.31 | 130 | 26.8 | 63 | 11 | 1474 | 380 | 1928 | 10 | 16 | 3 | 29 | 34 | 0.7 | 1.7 | <2.0 | 544 | <3 | <3 | <2 | <2 | 5 | <5 | 738 | 506 | <2 | <2 | 7 | 7 |
| Johnathon Dickinson 3 | 8/17/07 | 6.45 | 100 | 26.2 | 55 | 7 | 1226 | 128 | 1416 | 5 | 21 | 4 | 30 | 450 | 0.7 | 1.5 | 2.3 | 484 | <3 | <3 | <2 | <2 | <5 | <5 | 914 | 887 | <2 | <2 | 11 | 5 |
| Johnathon Dickinson 3 | 9/25/07 | 6.35 | 124 | 23.8 | 21 | 18 | 1426 | 125 | 1590 | 4 | 5 | 1 | 10 | 2500 | 1.2 | 2.9 | 2.3 | 397 | <3 | <3 | <2 | <2 | <5 | <5 | 468 | 415 | 2 | <2 | 6 | <2 |
| Johnathon Dickinson 3 | 10/3/07 | 6.97 | 332 | 158.0 | 24 | 9 | 669 | 429 | 1131 | 1 | 5 | 7 | 13 | 410 | 2.5 | 4.9 | 3.4 | 579 | 3 | <3 | <2 | <2 | <5 | <5 | 931 | 589 | <2 | <2 | 40 | 5 |
| Johnathon Dickinson 3 | 10/9/07 | 6.53 | 131 | 23.2 | 38 | 17 | 1384 | 154 | 1593 | 1 | 1 | 2 | 4 | 23 | 0.5 | 1.1 | 7.4 | 421 | <3 | <3 | <2 | <2 | <5 | <5 | 390 | 216 | <2 | <2 | 9 | 4 |
| Johnathon Dickinson 3 | 10/24/07 | 6.59 | 240 | 86.4 | 71 | 27 | 1552 | 218 | 1868 | 3 | 4 | 14 | 21 | 26 | 3.1 | 4.8 | 2.2 | 1034 | 3 | <3 | <2 | <2 | <5 | <5 | 1197 | 974 | <2 | <2 | 7 | <2 |
| Johnathon Dickinson 3 | 11/7/07 | 6.40 | 117 | 22.2 | 33 | <5 | 534 | 241 | 811 | 6 | 5 | 7 | 18 | 94 | 0.4 | 1 | <2.0 | 328 | 3 | <3 | <2 | <2 | <5 | <5 | 772 | 386 | <2 | <2 | 6 | <2 |
| Johnathon Dickinson 3 | 11/15/07 | 6.35 | 133 | 20.2 | 74 | <5 | 838 | 105 | 1020 | <1 | <1 | 6 | 13 | 16 | 0.6 | 1.2 | 2.1 | 284 | <3 | <3 | <2 | <2 | <5 | <5 | 214 | 108 | <2 | <2 | 2 | <2 |
| Johnathon Dickinson 3 | 11/26/07 | 6.48 | 155 | 24.0 | 62 | <5 | 876 | 229 | 1170 | 3 | 3 | 16 | 22 | 4 | 0.8 | 2.4 | <2.0 | 287 | <3 | <3 | <2 | <2 | <5 | <5 | 454 | 334 | <2 | <2 | 5 | 3 |
| Johnathon Dickinson 3 | 12/17/07 | 6.57 | 128 | 25.8 | 40 | 29 | 858 | 471 | 1398 | 2 | <1 | 1 | 3 | 95 | 0.7 | <0.7 | <2.0 | 280 | 3 | <3 | 3 | <2 | <5 | <5 | 297 | 176 | <2 | <2 | 15 | <2 |
| Johnathon Dickinson 3 | 3/12/08 | 6.93 | 178 | 29.8 | 68 | <5 | 796 | 114 | 981 | 1 | 3 | 2 | 6 | 120 | 0.5 | 7.8 | <2.0 | 217 | <3 | <3 | <2 | <2 | <5 | <5 | 469 | 346 | <2 | <2 | 30 | 4 |
| Johnathon Dickinson 3 | 3/26/08 | 7.05 | 151 | 103.0 | 72 | 12 | 794 | 69 | 947 | 7 | 1 | 16 | 24 | 60 | 2.5 | 3.9 | 4.4 | 200 | <3 | <3 | 3 | <2 | <5 | <5 | 182 | 171 | 3 | <2 | 3 | 2 |

| Sample Location | Date Collected | pH (s.u.) | Cond (µmho/cm) | Alk (mg/l) | NH3 (µg/l) | NOX (µg/l) | Dis Org N (µg/l) | Part N (µg/l) | TN (µg/l) | OP (µg/l) | Dis Org P (µg/l) | Part P (µg/l) | TP (µg/l) | Fecal (cfu/100 ml) | Tur (NTU) | TSS (mg/l) | BOD (mg/l) | Color (PCU) | Cu (µg/l) | Dis Cu (µg/l) | Cd (µg/l) | Dis Cd (µg/l) | Cr (µg/l) | Dis Cr (µg/l) | Fe (µg/l) | Dis Fe (µg/l) | Pb (µg/l) | Dis Pb (µg/l) | Zn (µg/l) | Dis Zn (µg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Johnathon Dickinson 4 | 7/9/07 | 6.84 | 213 | 55.2 | 165 | <5 | 1756 | 43 | 1967 | 14 | 61 | 28 | 103 | 59 | 0.8 | 2.9 | 2.7 | 469 | 3 | <3 | <2 | <2 | <5 | <5 | 684 | 483 | <2 | <2 | 7 | 5 |
| Johnathon Dickinson 4 | 7/24/07 | 6.85 | 234 | 58.2 | 46 | 8 | 1420 | 35 | 1509 | 6 | 20 | 18 | 44 | 400 | 1.5 | <0.7 | 2.3 | 328 | <3 | <3 | <2 | <2 | <5 | <5 | 558 | 466 | <2 | <2 | 16 | 3 |
| Johnathon Dickinson 4 | 8/2/07 | 7.01 | 231 | 63.4 | 77 | <5 | 1112 | 39 | 1231 | 12 | 16 | 6 | 34 | 210 | 1.1 | 0.8 | <2.0 | 199 | <3 | <3 | <2 | <2 | <5 | <5 | 761 | 646 | <2 | <2 | 7 | 6 |
| Johnathon Dickinson 4 | 8/7/07 | 6.68 | 250 | 65.2 | 53 | <5 | 1540 | 1468 | 3064 | 17 | 16 | 10 | 43 | 5 | 0.7 | 1.1 | <2.0 | 455 | <3 | <3 | <2 | <2 | <5 | <5 | 771 | 634 | <2 | <2 | 4 | 3 |
| Johnathon Dickinson 4 | 8/17/07 | 6.95 | 186 | 68.4 | 42 | 6 | 1084 | 45 | 1177 | 10 | 18 | 7 | 35 | 11 | 0.6 | 1.3 | 3 | 357 | <3 | <3 | <2 | <2 | 5 | <5 | 1027 | 1001 | <2 | <2 | 13 | 4 |
| Johnathon Dickinson 4 | 9/25/07 | 6.94 | 250 | 74.8 | 11 | <5 | 1193 | 94 | 1301 | 4 | 1 | 11 | 16 | 62 | 0.4 | 1.3 | 2.2 | 229 | <3 | <3 | <2 | <2 | <5 | <5 | 541 | 448 | 3 | <2 | 10 | 7 |
| Johnathon Dickinson 4 | 10/3/07 | 7.14 | n/a | 71.8 | 8 | <5 | 685 | 487 | 1183 | 2 | 7 | 1 | 10 | 50 | 0.5 | 3 | 2.3 | 299 | 3 | <3 | <2 | <2 | <5 | <5 | 530 | 479 | <2 | <2 | <2 | <2 |
| Johnathon Dickinson 4 | 10/9/07 | 7.17 | 271 | 80.4 | 35 | 10 | 1230 | 109 | 1384 | 3 | 1 | 1 | 5 | 22 | 0.5 | 1.5 | 3.6 | 316 | <3 | <3 | <2 | <2 | <5 | <5 | 692 | 265 | <2 | <2 | 27 | <2 |
| Johnathon Dickinson 4 | 10/24/07 | 7.13 | 227 | 63.2 | 33 | <5 | 975 | 59 | 1070 | 2 | 10 | 12 | 24 | 65 | 1.5 | 2.3 | <2.0 | 287 | 3 | <3 | <2 | <2 | <5 | <5 | 460 | 421 | <2 | <2 | 4 | <2 |
| Johnathon Dickinson 4 | 11/7/07 | 6.78 | 243 | 73.0 | 32 | <5 | 474 | 40 | 549 | 6 | 13 | 0 | 19 | 21 | 0.4 | <0.7 | <2.0 | 270 | <3 | <3 | <2 | <2 | <5 | <5 | 610 | 608 | 2 | <2 | 4 | 3 |
| Johnathon Dickinson 4 | 11/15/07 | 7.02 | 266 | 73.6 | 71 | <5 | 727 | 39 | 840 | <1 | 3 | 11 | 15 | 11 | 0.4 | <0.7 | 2 | 201 | <3 | <3 | <2 | <2 | <5 | <5 | 277 | 22 | <2 | <2 | <2 | <2 |
| Johnathon Dickinson 4 | 11/26/07 | 7.28 | 300 | 90.0 | 56 | <5 | 816 | 21 | 896 | 2 | 4 | 12 | 18 | 44 | 0.7 | 1.4 | <2.0 | 210 | <3 | <3 | <2 | <2 | <5 | <5 | 530 | 452 | <2 | <2 | 9 | 2 |
| Johnathon Dickinson 4 | 3/12/08 | 7.20 | 282 | 85.0 | 64 | <5 | 478 | 172 | 717 | 3 | 3 | 3 | 9 | 30 | 0.6 | 1.4 | <2.0 | 145 | <3 | <3 | 4 | 2 | <5 | <5 | 387 | 175 | <2 | <2 | 28 | 7 |
| Johnathon Dickinson 4 | 3/26/08 | 6.66 | 299 | 35.8 | 61 | <5 | 493 | 14 | 571 | 5 | 4 | 3 | 12 | 26 | 0.7 | <0.7 | <2.0 | 120 | <3 | <3 | 2 | <2 | <5 | <5 | 206 | 145 | 2 | <2 | 3 | <2 |
| Johnathon Dickinson 4 | 4/7/08 | 7.06 | 238 | 98.4 | 66 | <5 | 459 | 43 | 571 | 2 | 8 | 6 | 16 | 59 | 0.6 | 1.9 | <2.0 | 118 | <3 | <3 | <2 | <2 | <5 | <5 | 330 | 233 | <2 | <2 | 5 | 3 |
| Johnathon Dickinson 4 | 6/24/08 | 7.01 | 254 | 91.4 | 75 | 5 | 617 | 50 | 747 | 16 | 3 | 2 | 21 | 42 | 0.5 | 0.8 | <2.0 | 186 | <3 | <3 | <2 | <2 | <5 | <5 | 271 | 168 | <2 | <2 | 10 | 4 |
| Johnathon Dickinson 5 | 8/7/07 | 7.21 | 272 | 116.0 | 55 | <5 | 1186 | 475 | 1719 | 4 | 26 | 44 | 74 | 300 | 1.3 | 4.2 | 5.2 | 322 | <3 | <3 | <2 | <2 | <5 | <5 | 225 | 184 | <2 | <2 | 4 | 3 |
| Johnathon Dickinson 5 | 9/25/07 | 7.56 | 236 | 114.0 | <5 | <5 | 709 | 132 | 846 | 2 | 1 | 13 | 16 | 2100 | 1.3 | 3.2 | 3.2 | 455 | <3 | <3 | <2 | <2 | <5 | <5 | 285 | 224 | 5 | <2 | <2 | <2 |
| Johnathon Dickinson 5 | 10/3/07 | 6.20 | 106 | 17.0 | 37 | 14 | 663 | 625 | 1339 | 28 | 1 | 31 | 60 | 760 | 1.6 | 2.1 | 2.9 | 587 | 5 | <3 | <2 | <2 | <5 | <5 | 279 | 214 | <2 | <2 | 5 | 4 |
| Johnathon Dickinson 5 | 10/9/07 | 7.60 | 283 | 130.0 | 36 | 10 | 1278 | 413 | 1737 | 1 | 2 | 26 | 29 | 78 | 0.7 | 1.2 | 5.2 | 216 | <3 | <3 | <2 | <2 | <5 | <5 | 461 | 151 | <2 | <2 | 7 | <2 |
| Johnathon Dickinson 5 | 10/24/07 | 7.15 | 177 | 70.0 | 40 | <5 | 724 | 544 | 1311 | 2 | 7 | 32 | 41 | 3000 | 1.2 | 3.3 | 2.3 | 170 | 3 | <3 | <2 | <2 | <5 | <5 | 89 | 83 | <2 | <2 | 4 | 2 |
| Johnathon Dickinson 5 | 11/7/07 | 7.25 | 223 | 89.2 | 86 | <5 | 541 | 200 | 830 | 1 | 20 | 10 | 31 | 44 | 1.3 | 1.7 | 2 | 241 | <3 | <3 | <2 | <2 | <5 | <5 | 339 | 335 | <2 | <2 | 9 | 7 |
| Johnathon Dickinson 5 | 11/15/07 | 7.22 | 214 | 78.8 | 71 | <5 | 724 | 117 | 915 | <1 | <1 | 18 | 19 | 146 | 1 | 1.6 | 2.9 | 150 | 3 | <3 | <2 | <2 | <5 | <5 | 297 | 77 | <2 | <2 | 3 | 2 |
| Johnathon Dickinson 5 | 6/24/08 | 6.91 | 258 | 100.0 | 70 | 10 | 932 | 166 | 1178 | 5 | <1 | 6 | 11 | 5520 | 1.4 | 1.4 | <2.0 | 444 | <3 | 3 | <2 | <2 | <5 | <5 | 572 | 360 | <2 | <2 | 21 | 10 |
| Johnathon Dickinson 6 | 8/7/07 | 5.59 | 49 | 9.8 | 60 | 7 | 1004 | 325 | 1396 | 2 | 16 | 5 | 23 | 13 | 0.9 | 1.4 | 3 | 377 | <3 | <3 | <2 | <2 | 6 | <5 | 155 | 103 | <2 | <2 | 17 | 4 |
| Johnathon Dickinson 6 | 9/25/07 | 6.34 | 151 | 27.6 | 44 | 13 | 809 | 1240 | 2106 | 8 | 2 | 29 | 39 | 945 | 5.5 | 6.3 | 3.2 | 737 | 3 | <3 | <2 | <2 | <5 | <5 | 450 | 209 | 3 | 2 | 3 | 2 |
| Johnathon Dickinson 6 | 10/3/07 | 6.74 | 158 | 32.6 | 79 | 26 | 881 | 984 | 1970 | 11 | 2 | 27 | 40 | 38 | 1.7 | 1.1 | 2.6 | 976 | 5 | 3 | 3 | <2 | <5 | <5 | 335 | 89 | 3 | <2 | 8 | 8 |
| Johnathon Dickinson 6 | 10/9/07 | 7.07 | 104 | 26.2 | 40 | 18 | 1013 | 194 | 1265 | 1 | 1 | 3 | 5 | 10 | 0.5 | 2.9 | 3.2 | 392 | <3 | <3 | <2 | <2 | <5 | <5 | 398 | 64 | <2 | <2 | 5 | <2 |
| Johnathon Dickinson 6 | 10/24/07 | 7.03 | 115 | 39.6 | 30 | 5 | 656 | 25 | 716 | 3 | 1 | 4 | 8 | 170 | 1.4 | 4.4 | <2.0 | 241 | 3 | <3 | <2 | <2 | <5 | <5 | 203 | 195 | 2 | <2 | 3 | 2 |
| Johnathon Dickinson 6 | 11/7/07 | 6.70 | 101 | 24.2 | 34 | <5 | 438 | 14 | 489 | 5 | 13 | 0 | 18 | 23 | 0.8 | 2.6 | <2.0 | 325 | 3 | <3 | <2 | <2 | <5 | <5 | 392 | 370 | <2 | <2 | 4 | <2 |
| Johnathon Dickinson 6 | 11/15/07 | 6.80 | 120 | 35.8 | 73 | <5 | 588 | 60 | 724 | <1 | 4 | 5 | 10 | 105 | 1.1 | 1.9 | 2.5 | 264 | <3 | <3 | <2 | <2 | <5 | <5 | 754 | 108 | <2 | <2 | 8 | 3 |
| Johnathon Dickinson 6 | 11/26/07 | 7.42 | 219 | 81.6 | 59 | <5 | 678 | 408 | 1148 | 2 | 1 | 7 | 10 | 170 | 1.9 | 10.7 | <2.0 | 227 | <3 | <3 | <2 | <2 | <5 | <5 | 153 | 106 | <2 | <2 | 3 | 2 |
| Johnathon Dickinson 6 | 4/7/08 | 6.34 | 164 | 24.2 | 81 | 7 | 1052 | 154 | 1294 | 4 | 4 | 17 | 25 | 2512 | 3.2 | 3.6 | <2.0 | 400 | <3 | <3 | <2 | <2 | <5 | <5 | 173 | 128 | <2 | <2 | 10 | 4 |
| Johnathon Dickinson 6 | 6/24/08 | 6.84 | 136 | 44.0 | 78 | 6 | 761 | 27 | 872 | 2 | 1 | 5 | 8 | 142 | 1.7 | 4 | 2.8 | 274 | 3 | <3 | <2 | <2 | <5 | <5 | 240 | 186 | <2 | <2 | 4 | 3 |
| Johnathon Dickinson 7 | 9/25/07 | 7.13 | 191 | 68.8 | 10 | <5 | 755 | 122 | 890 | 1 | 2 | 1 | 4 | 480 | 0.8 | 1.8 | 2.3 | 176 | 3 | <3 | <2 | <2 | <5 | <5 | 210 | 101 | <2 | <2 | 16 | 6 |
| Johnathon Dickinson 7 | 10/3/07 | 7.51 | 221 | 98.0 | 15 | <5 | 574 | 406 | 998 | 1 | 1 | 15 | 17 | 350 | 0.8 | 2.7 | 2.9 | 249 | 3 | <3 | <2 | <2 | <5 | <5 | 217 | 160 | 3 | <2 | <2 | <2 |
| Johnathon Dickinson 7 | 10/9/07 | 5.46 | 107 | 8.2 | 58 | 26 | 1332 | 213 | 1629 | 5 | 1 | 4 | 10 | 84 | 0.6 | 1.2 | 4.9 | 791 | <3 | <3 | <2 | <2 | <5 | <5 | 970 | 216 | <2 | <2 | 11 | 3 |
| Johnathon Dickinson 7 | 10/24/07 | 5.97 | 71 | 10.4 | 43 | 9 | 876 | 22 | 950 | 8 | 8 | 11 | 27 | 2100 | 1.2 | 2.9 | <2.0 | 450 | 3 | <3 | <2 | <2 | <5 | <5 | 166 | 154 | <2 | <2 | 4 | 2 |
| Johnathon Dickinson 7 | 11/7/07 | 5.73 | 85 | 7.8 | 48 | 14 | 465 | 143 | 670 | 6 | 13 | 6 | 25 | 84 | 0.9 | <0.7 | <2.0 | 582 | 4 | <3 | <2 | <2 | <5 | <5 | 484 | 340 | 5 | <2 | 8 | 4 |
| Johnathon Dickinson 7 | 11/15/07 | 5.52 | 90 | 7.2 | 103 | 15 | 843 | 191 | 1152 | <1 | 4 | 8 | 13 | 200 | 1.7 | <0.7 | 2.1 | 752 | <3 | <3 | <2 | <2 | <5 | <5 | 92 | 42 | <2 | <2 | 4 | <2 |
| Johnathon Dickinson 7 | 11/26/07 | 5.25 | 94 | 5.0 | 87 | 22 | 965 | 5 | 1079 | 8 | 4 | 10 | 22 | 176 | 1.7 | 2.3 | <2.0 | 755 | <3 | <3 | <2 | <2 | <5 | <5 | 315 | 208 | <2 | <2 | 11 | 7 |
| Johnathon Dickinson 7 | 12/17/07 | 5.40 | 66 | 6.2 | 34 | 10 | 867 | 104 | 1015 | 2 | 1 | 9 | 12 | 800 | 1.6 | 4.2 | <2.0 | 545 | 3 | <3 | 5 | 3 | <5 | <5 | 233 | 122 | <2 | <2 | 4 | 2 |
| Johnathon Dickinson 7 | 6/24/08 | 5.12 | 86 | 3.4 | 84 | 12 | 868 | 133 | 1097 | 4 | 3 | 4 | 11 | 1300 | 1 | 2.2 | 2 | 604 | 3 | <3 | <2 | <2 | <5 | <5 | 258 | 151 | 3 | <2 | 12 | 3 |
| Louisa 1 | 10/3/07 | 7.36 | 225 | 121.0 | 29 | <5 | 103 | 610 | 745 | 188 | 84 | 93 | 365 | 15 | 6.1 | 4.5 | <2.0 | 101 | 5 | 3 | <2 | <2 | <5 | <5 | 1560 | 694 | <2 | <2 | 2 | 2 |
| Louisa 1 | 10/6/07 | 5.53 | 76 | 9.4 | 42 | 20 | 1578 | 691 | 2331 | 24 | 116 | 185 | 325 | 20 | 8.8 | 17.8 | 10.7 | 717 | 10 | 8 | <2 | <2 | <5 | <5 | 7077 | 4600 | <2 | <2 | 5 | 2 |
| Louisa 1 | 8/17/08 | 4.63 | 154 | 1.2 | 153 | 507 | 1485 | 576 | 2721 | 11 | 6 | 75 | 92 | 1547 | 44.9 | 29.6 | 2.8 | 281 | 7 | 5 | <2 | <2 | <5 | <5 | 47 | 35 | <2 | <2 | 29 | 20 |
| Louisa 1 | 8/22/08 | 5.25 | 13 | 1.2 | 33 | <5 | 93 | 157 | 286 | 6 | 2 | 19 | 27 | 1060 | 6 | 8.9 | 2.9 | 11 | 3 | <2 | <2 | <2 | <5 | <5 | 223 | 124 | <2 | <2 | 2 | <2 |
| Louisa 1 | 8/23/08 | 4.52 | 83 | 0.0 | 81 | 59 | 1349 | 473 | 1962 | 10 | 7 | 60 | 77 | 1120 | 39.2 | 21.8 | 3.1 | 413 | 3 | 2 | <2 | <2 | <5 | <5 | 157 | 108 | <2 | <2 | 6 | 4 |
| Myakka River 1 | 10/11/07 | 4.58 | 62 | 1.0 | 47 | 23 | 1997 | 419 | 2486 | 11 | 30 | 59 | 100 | 88 | 3.9 | 4.5 | 3.2 | 457 | 3 | <3 | <2 | <2 | <5 | <5 | 1235 | 753 | <2 | <2 | 5 | 3 |
| Myakka River 1 | 10/23/07 | 5.43 | 124 | 11.8 | 56 | 12 | 1927 | 418 | 2413 | 43 | 3 | 22 | 68 | 2160 | 3.5 | 4.5 | 2.5 | 678 | 5 | 4 | <2 | <2 | <5 | <5 | 3503 | 2401 | <2 | <2 | 5 | 3 |
| Myakka River 1 | 4/9/08 | 5.63 | 109 | 12.2 | 74 | <5 | 1095 | 1063 | 2235 | 495 | 59 | 90 | 644 | 260 | 4.2 | 21.9 | 5.3 | 726 | <2 | <2 | 3 | <2 | <5 | <5 | 2869 | 128 | <2 | <2 | 25 | 20 |
| Myakka River 1 | 6/17/08 | 4.59 | 82 | 0.4 | 92 | 24 | 1103 | 1265 | 2484 | 89 | 17 | 188 | 294 | 433 | 6.2 | 10.9 | 2.4 | 289 | <3 | <3 | <2 | <2 | <5 | <5 | 1173 | 1016 | <2 | <2 | 26 | 6 |
| Myakka River 1 | 7/10/08 | 5.05 | 133 | 7.2 | 46 | 71 | 1657 | 133 | 1907 | 7 | 39 | 237 | 283 | 1367 | 1.9 | 4.2 | 2.2 | 524 | 4 | <3 | <2 | <2 | <5 | <5 | 3445 | 1805 | <2 | <2 | 26 | 11 |
| Myakka River 1 | 7/31/08 | 5.57 | 45 | 9.2 | 38 | 11 | 892 | 37 | 978 | 3 | 2 | 2 | 7 | 60 | 1.1 | 1.8 | 2 | 328 | <3 | <3 | <2 | <2 | <5 | <5 | 132 | 105 | <2 | <2 | 21 | 4 |
| Myakka River 2 | 10/11/07 | 5.38 | 148 | 9.0 | 161 | 78 | 2476 | 88 | 2803 | 95 | 17 | 85 | 197 | 180 | 2 | 3.4 | 4.7 | 615 | 3 | <3 | <2 | <2 | <5 | <5 | 2070 | 863 | <2 | <2 | 7 | 2 |
| Myakka River 2 | 10/23/07 | 4.89 | 71 | 3.2 | 37 | 8 | 1724 | 128 | 1897 | 52 | 34 | 114 | 200 | 30 | 2.6 | 3.6 | 4.1 | 478 | 5 | 4 | <2 | <2 | <5 | <5 | 1471 | 1412 | <2 | <2 | 8 | 2 |
| Myakka River 2 | 4/9/08 | 5.13 | 60 | 4.4 | 72 | <5 | 818 | 686 | 1579 | 24 | 5 | 6 | 35 | 5 | 5 | 5.5 | 3.3 | 609 | <2 | <2 | 3 | <2 | <5 | <5 | 1250 | 83 | 3 | <2 | 9 | 6 |
| Myakka River 2 | 6/17/08 | 4.59 | 83 | 0.4 | 128 | 20 | 1579 | 676 | 2403 | 94 | 21 | 110 | 225 | 235 | 6.4 | 13.7 | 2.5 | 300 | <3 | <3 | <2 | <2 | <5 | <5 | 1016 | 976 | <2 | <2 | 5 | 4 |
| Myakka River 2 | 7/10/08 | 4.64 | 69 | 1.0 | 38 | 12 | 1455 | 461 | 1966 | 24 | 25 | 77 | 126 | 2 | 2.1 | 4.4 | 3.3 | 393 | <3 | <3 | <2 | <2 | <5 | <5 | 1055 | 1029 | <2 | <2 | 6 | 5 |
| Myakka River 2 | 7/31/08 | 4.81 | 43 | 1.8 | 39 | 11 | 1090 | 10 | 1150 | 4 | 4 | 15 | 23 | 1 | 0.7 | 2.1 | 2.4 | 375 | <3 | <3 | <2 | <2 | <5 | <5 | 612 | 492 | <2 | <2 | 21 | 4 |
| Paynes Creek 1 | 7/10/08 | 6.17 | 168 | 34.4 | 91 | 7 | 1083 | 137 | 1318 | 2577 | 74 | 165 | 2816 | 108 | 18 | 1.8 | <2.0 | 382 | 4 | <3 | <2 | <2 | <5 | <5 | 814 | 475 | <2 | <2 | 5 | 4 |
| Paynes Creek 2 | 7/10/08 | 6.86 | 315 | 93.0 | 125 | 15 | 1414 | 136 | 1690 | 1313 | 203 | 44 | 1560 | 260 | 3.4 | 2.7 | 2.7 | 477 | 4 | <3 | <2 | <2 | <5 | <5 | 2230 | 1623 | <2 | <2 | 21 | 3 |

| Sample Location | Date Collected | pH (s.u.) | Cond (µmho/cm) | Alk (mg/l) | NH3 (µg/l) | NOX (µg/l) | Dis Org N (µg/l) | Part N (µg/l) | TN (µg/l) | OP (µg/l) | Dis Org P (µg/l) | Part P (µg/l) | TP (µg/l) | Fecal (cfu/100 ml) | Tur (NTU) | TSS (mg/l) | BOD (mg/l) | Color (PCU) | Cu (µg/l) | Dis Cu (µg/l) | Cd (µg/l) | Dis Cd (µg/l) | Cr (µg/l) | Dis Cr (µg/l) | Fe (µg/l) | Dis Fe (µg/l) | Pb (µg/l) | Dis Pb (µg/l) | Zn (µg/l) | Dis Zn (µg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San Felasco 1 | 8/28/07 | 5.93 | 46 | 4.2 | 73 | 111 | 428 | 2895 | 3507 | 713 | 224 | 4613 | 5550 | 3200 | 275 | 183 | 2.2 | 131 | <3 | <3 | 3 | <2 | <5 | <5 | 11473 | 272 | <2 | <2 | 27 | 3 |
| San Felasco 1 | 9/11/07 | 6.12 | 53 | 6.8 | 207 | 321 | 1013 | 44 | 1585 | 1114 | 326 | 5 | 1445 | 20 | 230 | 104 | 2.5 | 123 | <3 | <3 | 2 | <2 | 5 | <5 | 3380 | 193 | <2 | <2 | 10 | 5 |
| San Felasco 1 | 9/18/07 | 6.08 | 82 | 9.8 | 24 | 39 | 483 | 212 | 758 | 1042 | 334 | 1293 | 2669 | 300 | 40.6 | 33 | 2.3 | 111 | <3 | <3 | <2 | <2 | <5 | <5 | 940 | 51 | <2 | <2 | 3 | 3 |
| San Felasco 1 | 9/24/07 | 5.98 | 83 | 8.6 | <5 | <5 | 500 | 323 | 828 | 1080 | 116 | 2275 | 3471 | 3200 | 89.7 | 65.8 | 2.9 | 122 | 7 | 3 | <2 | <2 | <5 | <5 | 1160 | 159 | 4 | 2 | 5 | 3 |
| San Felasco 1 | 10/1/07 | 6.36 | 84 | 6.2 | 7 | 35 | 241 | 32 | 315 | 903 | 454 | 12 | 1369 | 26000 | 39.6 | 16.3 | 3.9 | 97 | 4 | <3 | <2 | <2 | <5 | <5 | 234 | 191 | <2 | <2 | 8 | 5 |
| San Felasco 1 | 10/8/07 | 6.10 | 85 | 7.4 | 26 | 138 | 380 | 3925 | 4469 | 1493 | 222 | 941 | 2656 | 700 | 41.9 | 7.3 | 5.7 | 112 | 5 | 4 | <2 | <2 | <5 | <5 | 262 | 163 | <2 | <2 | 2 | <2 |
| San Felasco 1 | 1/21/08 | 5.85 | 60 | 6.2 | 33 | 20 | 347 | 29 | 429 | 1722 | 28 | 1303 | 3053 | 20600 | 55.4 | 24.5 | 5 | 101 | <3 | <3 | <2 | <2 | <5 | <5 | 294 | 100 | <2 | <2 | 4 | 3 |
| San Felasco 1 | 2/15/08 | 6.03 | 113 | 6.0 | 84 | 7 | 79 | 352 | 522 | 1205 | 23 | 2206 | 3434 | 240 | 62.2 | 86.4 | 3.1 | 85 | <3 | <3 | 4 | 3 | <5 | <5 | 1713 | 958 | <2 | <2 | 55 | 12 |
| San Felasco 1 | 2/19/08 | 6.05 | 80 | 7.6 | 70 | 45 | 56 | 55 | 226 | 1044 | 79 | 1113 | 2236 | 2400 | 293 | 174 | 4 | 77 | 6 | 3 | <2 | <2 | 7 | 5 | 204 | 25 | 4 | 2 | 24 | 8 |
| San Felasco 1 | 2/26/08 | 5.60 | 70 | 3.6 | 81 | 246 | 75 | 181 | 583 | 1014 | 47 | 1284 | 2345 | 2900 | 66.2 | 21.7 | <2.0 | 100 | 8 | 3 | 4 | 3 | 7 | <5 | 698 | 241 | <2 | <2 | 24 | 12 |
| San Felasco 1 | 2/29/08 | 5.83 | 92 | 8.2 | 97 | 203 | 51 | 32 | 383 | 1149 | 56 | 431 | 1636 | 122 | 21.3 | 6.3 | <2.0 | 78 | 4 | <3 | <2 | <2 | <5 | <5 | 351 | 87 | <2 | <2 | 6 | 3 |
| San Felasco 1 | 3/7/08 | 5.97 | 97 | 4.2 | 110 | <5 | 111 | 33 | 257 | 831 | 199 | 102 | 1132 | 100 | 5.5 | 3.6 | 2.5 | 54 | 3 | <3 | <2 | <2 | <5 | <5 | 27 | 19 | <2 | <2 | 3 | <2 |
| San Felasco 1 | 3/10/08 | 5.85 | 459 | 6.4 | 95 | <5 | 182 | 125 | 405 | 951 | 310 | 231 | 1492 | 16 | 12.5 | 2.1 | <2.0 | 62 | 3 | <3 | <2 | <2 | <5 | <5 | 180 | 19 | <2 | <2 | 3 | 2 |
| San Felasco 1 | 4/8/08 | 6.01 | 89 | 10.2 | 48 | <5 | 335 | 53 | 439 | 1175 | 139 | 383 | 1697 | 204 | 25.6 | 8.1 | 2.3 | 99 | <3 | <3 | <2 | <2 | <5 | <5 | 156 | 101 | <2 | <2 | <2 | <2 |
| San Felasco 1 | 7/14/08 | 5.48 | 92 | 5.0 | 81 | 36 | 546 | 99 | 762 | 1485 | <1 | 1201 | 2686 | 86 | 98.4 | 6.6 | <2.0 | 126 | 3 | <3 | <2 | <2 | <5 | <5 | 65 | 14 | <2 | <2 | 4 | 3 |
| San Felasco 1 | 8/4/08 | 6.02 | 84 | 7.2 | 31 | 71 | 388 | 672 | 1162 | 1640 | 181 | 871 | 2692 | <1 | 52.5 | 3.4 | 2 | 99 | 3 | <3 | <2 | <2 | <5 | <5 | 615 | 589 | <2 | <2 | 4 | 2 |
| Silver River 1 | 7/3/07 | 7.26 | 79 | 35.0 | 224 | 1553 | 59 | 390 | 2226 | 153 | 616 | 245 | 1014 | 34 | 25.7 | 25.2 | 7.6 | 85 | 8 | 6 | <2 | <2 | <5 | <5 | 379 | 72 | <2 | <2 | 8 | 5 |
| Silver River 1 | 7/15/07 | 6.80 | 61 | 27.8 | 77 | 261 | 256 | 271 | 865 | 176 | 134 | 205 | 515 | 2280 | 50 | 66.8 | 2.7 | 39 | 3 | <3 | <2 | <2 | <5 | <5 | 872 | 149 | <2 | <2 | 14 | 7 |
| Silver River 1 | 7/17/08 | 7.06 | 90 | 43.2 | 7 | 12 | 498 | 436 | 953 | 107 | 32 | 201 | 340 | 1040 | 33 | 20.2 | 2.1 | 0 | <3 | <3 | <2 | <2 | <5 | <5 | 1154 | 155 | <2 | <2 | 14 | <2 |
| Silver River 1 | 7/26/07 | 7.14 | 79 | 42.4 | 98 | 154 | 396 | 362 | 1010 | 257 | 12 | 166 | 435 | 2100 | 46 | 49 | 3.5 | 85 | 6 | 3 | <2 | <2 | <5 | <5 | 664 | 156 | 3 | <2 | 45 | 17 |
| Silver River 1 | 7/31/07 | 7.29 | 77 | 33.0 | 58 | 157 | 636 | 106 | 957 | 140 | 13 | 322 | 475 | 10400 | 98 | 127 | 3.4 | 35 | <2 | <2 | <2 | <2 | 7 | <5 | 5984 | 124 | <2 | <2 | 4 | 3 |
| Silver River 1 | 8/3/07 | 7.18 | 83 | 39.0 | 69 | 210 | 238 | 1231 | 1748 | 166 | 18 | 355 | 539 | 9100 | 203 | 130 | 3.2 | 66 | 3 | <3 | <2 | <2 | 5 | <5 | 6717 | 165 | <2 | <2 | 19 | 6 |
| Silver River 1 | 8/16/07 | 7.05 | 66 | 40.4 | 49 | 388 | 337 | 52 | 826 | 101 | 3 | 37 | 141 | 22 | 17.6 | 6.3 | 2.5 | 80 | 3 | <3 | <2 | <2 | <5 | <5 | 1504 | 323 | 5 | 3 | 38 | 26 |
| Silver River 1 | 8/28/07 | 6.96 | 76 | 39.8 | 81 | 322 | 730 | 350 | 1483 | 335 | 97 | 70 | 502 | 2280 | 15.7 | 15.3 | 2.1 | 55 | <3 | <3 | <2 | <2 | 5 | <5 | 1081 | 81 | <2 | <2 | 4 | 3 |
| Silver River 1 | 9/4/07 | 7.28 | 75 | 40.0 | 106 | 288 | 390 | 52 | 836 | 227 | 2 | 47 | 276 | 122 | 8.8 | 6.8 | <2.0 | 42 | 3 | <3 | <2 | <2 | <5 | <5 | 558 | 80 | <2 | <2 | 5 | <2 |
| Silver River 1 | 9/5/07 | 6.32 | 51 | 17.4 | 54 | 24 | 1763 | 5 | 1846 | 149 | 46 | 18 | 213 | 72 | 7 | 4.2 | 4.4 | 37 | 3 | <3 | <2 | <2 | <5 | <5 | 574 | 473 | <2 | <2 | 35 | <2 |
| Silver River 1 | 9/10/07 | 6.49 | 49 | 19.4 | 111 | 29 | 1432 | 328 | 1900 | 133 | 1 | 59 | 193 | 2 | 4.8 | 4.8 | 2.6 | 156 | 8 | 6 | <2 | <2 | <5 | <5 | 790 | 533 | <2 | <2 | 7 | 4 |
| Silver River 1 | 9/18/07 | 6.99 | 64 | 28.6 | 129 | 442 | 314 | 27 | 912 | 238 | 44 | 24 | 306 | 71 | 9 | 13.3 | 2.1 | 144 | 4 | <3 | <2 | <2 | <5 | <5 | 993 | 19 | <2 | <2 | 3 | <2 |
| Silver River 1 | 9/24/07 | 7.10 | 100 | 46.8 | 40 | 234 | 657 | 187 | 1118 | 262 | 1 | 82 | 345 | 580 | 46.3 | 42.2 | 3.2 | 89 | 4 | 3 | <2 | <2 | <5 | <5 | 3894 | 331 | 4 | <2 | 10 | 2 |
| Silver River 1 | 9/26/07 | 6.57 | 64 | 22.0 | 43 | 21 | 1198 | 328 | 1590 | 102 | 15 | 39 | 156 | 66 | 5.4 | 2.8 | 2.1 | 116 | <3 | <3 | <2 | <2 | <5 | <5 | 638 | 390 | <2 | <2 | 3 | 2 |
| Silver River 1 | 10/2/07 | 7.37 | 134 | 52.2 | 665 | 376 | 1074 | 868 | 2983 | 267 | 46 | 229 | 542 | 24800 | 46.4 | 55.8 | 4.7 | 187 | 3 | <3 | <2 | <2 | <5 | <5 | 1331 | 337 | <2 | <2 | 14 | 5 |
| Silver River 1 | 10/8/07 | 7.13 | 142 | 47.4 | 263 | 403 | 121 | 551 | 1338 | 307 | 43 | 137 | 487 | 1100 | 49.2 | 8.8 | 4.5 | 70 | 3 | <3 | <2 | <2 | 5 | <5 | 3359 | 100 | <2 | <2 | 2 | <2 |
| Silver River 1 | 10/16/07 | 6.92 | 95 | 45.0 | 104 | 183 | 184 | 302 | 773 | 227 | 12 | 91 | 330 | 490 | 143 | 9.8 | 4 | 60 | 5 | <3 | 4 | 3 | <5 | <5 | 8399 | 412 | <2 | <2 | 7 | 5 |
| Silver River 1 | 10/24/07 | 7.08 | 71 | 32.2 | 43 | 279 | 394 | 114 | 830 | 230 | 158 | 78 | 466 | 5300 | 20.6 | 15.3 | <2.0 | 44 | 3 | <3 | <2 | <2 | <5 | <5 | 1010 | 434 | <2 | <2 | 4 | <2 |
| Silver River 1 | 11/1/07 | 7.09 | 87 | 40.0 | 113 | 100 | 257 | 155 | 625 | 239 | 45 | 61 | 345 | 50 | 36.9 | 11.2 | 2.1 | 62 | <3 | <3 | <2 | <2 | <5 | <5 | 2488 | 297 | <2 | <2 | 4 | 2 |
| Silver River 1 | 11/6/07 | 7.02 | 148 | 37.0 | 36 | 73 | 468 | 99 | 676 | 60 | 3 | 14 | 77 | 79 | 2.1 | 1.8 | <2.0 | 173 | 3 | <3 | <2 | <2 | <5 | <5 | 356 | 329 | <2 | <2 | 2 | <2 |
| Silver River 1 | 1/14/08 | 7.13 | 119 | 47.6 | 45 | 48 | 489 | 270 | 852 | 48 | 1844 | 32 | 1924 | 2110 | 10.2 | 15.7 | 5.1 | 92 | 3 | <3 | <2 | <2 | <5 | <5 | 463 | 37 | <2 | <2 | 37 | 8 |
| Silver River 1 | 1/23/08 | 7.43 | x | 40.0 | <5 | 28 | 713 | 683 | 1427 | 629 | 21 | 63 | 713 | 561 | 17.8 | 5.9 | 4.2 | 79 | 6 | 4 | 2 | <2 | <5 | <5 | 1268 | 881 | <2 | <2 | 6 | 5 |
| Silver River 1 | 2/13/08 | 6.45 | 46 | 20.4 | 94 | 17 | 13 | 187 | 311 | 42 | 15 | 32 | 89 | 350 | 18 | 9.3 | 3.1 | 47 | <3 | <3 | 5 | <2 | <5 | <5 | 1885 | 346 | <2 | <2 | 66 | 30 |
| Silver River 1 | 2/25/08 | 6.58 | 73 | 21.8 | 100 | <5 | 1078 | 19 | 1200 | 209 | 32 | 106 | 347 | 1764 | 7.4 | 2.9 | <2.0 | 222 | 5 | <3 | <2 | <2 | 5 | <5 | 279 | 53 | <2 | <2 | 55 | 16 |
| Silver River 1 | 2/27/08 | 6.53 | 80 | 27.0 | 74 | <5 | 973 | 89 | 1139 | 270 | 61 | 48 | 379 | 2000 | 9.6 | 4.3 | <2.0 | 22 | 3 | <3 | <2 | <2 | <5 | <5 | 200 | 78 | <2 | <2 | 11 | 9 |
| Silver River 1 | 3/10/08 | 6.30 | 61 | 16.0 | 103 | 23 | 689 | 134 | 949 | 91 | 38 | 8 | 137 | 380 | 8 | 4.3 | <2.0 | 159 | 3 | <3 | <2 | <2 | <5 | <5 | 420 | 64 | <2 | <2 | 94 | 30 |
| Silver River 1 | 3/17/08 | 7.45 | 260 | 137.0 | 56 | 32 | 449 | 116 | 653 | 57 | 25 | 128 | 210 | 25 | 7.1 | 8.7 | <2.0 | 59 | 3 | 3 | <2 | <2 | <5 | <5 | 1312 | 568 | <2 | <2 | <2 | <2 |
| Silver River 1 | 6/22/08 | 7.07 | 111 | 51.4 | 75 | 163 | 248 | 213 | 699 | 299 | 10 | 40 | 349 | 740 | 10.5 | 7.9 | 6.2 | 87 | <3 | <3 | <2 | <2 | <5 | <5 | 695 | 144 | <2 | <2 | 34 | 28 |
| Silver River 1 | 6/23/08 | 6.72 | 54 | 23.4 | 50 | 112 | 273 | 369 | 804 | 164 | 7 | 256 | 427 | 6720 | 64.4 | 121 | 5 | 53 | <3 | <3 | <2 | <2 | <5 | <5 | 2544 | 901 | <2 | <2 | 22 | 11 |
| Silver River 1 | 6/26/08 | 6.94 | 70 | 37.8 | 660 | 103 | 2151 | 343 | 3257 | 234 | 76 | 63 | 373 | 553 | 21.4 | 22.1 | 7 | 70 | <3 | 3 | <2 | 3 | <5 | <5 | 508 | 90 | <2 | <2 | 24 | 7 |
| Silver River 1 | 6/30/08 | 7.02 | 72 | 32.6 | 94 | 266 | 418 | 774 | 1552 | 126 | 101 | 377 | 604 | 96 | 26.3 | x | 4.5 | 68 | 3 | 3 | <2 | <2 | <5 | <5 | 1106 | 963 | <2 | <2 | 14 | 12 |
| Silver River 1 | 7/8/08 | 6.72 | 73 | 26.2 | 29 | 211 | 368 | 59 | 667 | 205 | 4 | 10 | 219 | 366 | 10.2 | 5.4 | 4.4 | 58 | 3 | <3 | <2 | <2 | <5 | <5 | 229 | 60 | <2 | <2 | 3 | <2 |
| Silver River 1 | 7/28/08 | 7.13 | 108 | 55.0 | 97 | 159 | 585 | 406 | 1247 | 284 | 17 | 67 | 368 | 820 | 18.3 | 15.3 | 9.1 | 124 | <3 | <3 | <2 | <2 | <5 | <5 | 600 | 147 | <2 | <2 | 5 | <2 |
| Silver River 2 | 7/17/07 | 7.12 | 96 | 43.0 | 120 | 188 | 427 | 455 | 1190 | 244 | 198 | 280 | 722 | 3360 | 46.1 | 60 | 2.8 | 63 | <3 | <3 | <2 | <2 | 6 | <5 | 586 | 145 | <2 | <2 | 23 | 11 |
| Silver River 2 | 7/31/07 | 6.91 | 101 | 44.2 | 70 | 14 | 381 | 76 | 541 | 185 | 2 | 22 | 209 | 715 | 3.1 | 2.6 | <2.0 | 58 | <2 | <2 | 2 | <2 | <5 | <5 | 267 | 132 | <2 | <2 | 9 | 4 |
| Silver River 2 | 8/3/07 | 6.74 | 78 | 36.8 | 39 | <5 | 318 | 328 | 688 | 7 | 25 | 27 | 59 | 1818 | 5.3 | 3.2 | 3.3 | 69 | <3 | <3 | <2 | <2 | <5 | <5 | 556 | 122 | <2 | <2 | 13 | 4 |
| Silver River 2 | 9/18/07 | 7.00 | 65 | 28.8 | 130 | 432 | 234 | 81 | 877 | 248 | 11 | 29 | 288 | 80 | 9.5 | 12.3 | 2.1 | 92 | <3 | <3 | <2 | <2 | <5 | <5 | 860 | 89 | <2 | <2 | 4 | <2 |
| Silver River 2 | 9/24/07 | 7.16 | 147 | 82.4 | 8 | 6 | 532 | 84 | 630 | 207 | 43 | 58 | 308 | 8 | 7.2 | 1.9 | 2.4 | 101 | <3 | <3 | <2 | <2 | <5 | <5 | 1345 | 947 | <2 | 2 | 12 | <2 |
| Silver River 2 | 9/26/07 | 7.17 | 178 | 94.4 | 10 | <5 | 492 | 242 | 747 | 204 | 6 | 132 | 342 | 82 | 4.2 | 3 | 2.5 | 100 | 4 | <3 | <2 | <2 | <5 | <5 | 1140 | 328 | <2 | <2 | <2 | <2 |
| Silver River 2 | 10/8/07 | 7.47 | 245 | 129.0 | 48 | 5 | 500 | 69 | 622 | 136 | 53 | 332 | 521 | <1 | 5.8 | 2.4 | 4.8 | 77 | <3 | <3 | <2 | <2 | 5 | <5 | 2211 | 649 | <2 | <2 | 2 | <2 |
| Silver River 2 | 10/16/07 | 7.28 | 256 | 141.0 | 50 | 8 | 685 | 35 | 778 | 50 | 84 | 184 | 318 | 4 | 11 | 1.8 | 2.3 | 66 | 3 | <3 | 5 | <2 | <5 | <5 | 3094 | 1160 | <2 | <2 | 12 | <2 |
| Silver River 2 | 10/24/07 | 7.26 | 217 | 116.0 | 35 | <5 | 511 | 31 | 580 | 93 | 17 | 85 | 195 | 575 | 7.3 | 7.3 | <2.0 | 59 | <3 | <3 | 2 | <2 | <5 | <5 | 1038 | 505 | <2 | <2 | 6 | 4 |
| Silver River 2 | 11/1/07 | 6.91 | 123 | 35.4 | 43 | 7 | 1091 | 466 | 1607 | 83 | 10 | 55 | 148 | 560 | 4.5 | 1.6 | 2.2 | 172 | <3 | <3 | <2 | <2 | <5 | <5 | 523 | 367 | <2 | <2 | 3 | 2 |
| Silver River 2 | 11/6/07 | 7.49 | 252 | 138.0 | 32 | 9 | 272 | 84 | 397 | 39 | 38 | 11 | 88 | 1 | 4.6 | 2.5 | <2.0 | 57 | 3 | <3 | <2 | <2 | <5 | <5 | 1245 | 335 | <2 | <2 | 3 | <2 |
| Silver River 2 | 2/5/08 | 7.71 | 272 | 138.0 | 11 | <5 | 216 | 8 | 238 | 46 | 16 | 67 | 129 | 114 | 5.4 | 4.2 | <2.0 | 38 | 3 | <3 | <2 | <2 | <5 | <5 | 228 | 77 | 3 | 2 | 3 | 2 |
| Silver River 2 | 2/13/08 | 7.02 | 81 | 40.8 | 98 | 37 | 7 | 148 | 290 | 512 | 45 | 45 | 602 | 500 | 13.2 | 5.2 | 2.9 | 86 | <3 | <3 | 6 | <2 | 5 | <5 | 1248 | 346 | 2 | <2 | 29 | 4 |
| Silver River 2 | 2/19/08 | 7.41 | 221 | 126.0 | 52 | 6 | 525 | 303 | 886 | 37 | 20 | 44 | 101 | 40 | 6.7 | 4.8 | 2.9 | 40 | 3 | <3 | <2 | <2 | 6 | <5 | 86 | 36 | <2 | <2 | 5 | 4 |
| Silver River 2 | 2/25/08 | 7.54 | 202 | 104.0 | 92 | <5 | 188 | 20 | 303 | 92 | 2 | 71 | 165 | 88 | 10.6 | 6.6 | <2.0 | 60 | 5 | <3 | <2 | <2 | <5 | <5 | 406 | 77 | <2 | <2 | 9 | 7 |
| Silver River 2 | 2/27/08 | 7.27 | 221 | 113.0 | 98 | <5 | 363 | 321 | 785 | 88 | 25 | 182 | 295 | 270 | 11.6 | 13.3 | <2.0 | 59 | 7 | <3 | <2 | <2 | <5 | <5 | 365 | 65 | <2 | <2 | 58 | 18 |
| Silver River 2 | 3/3/08 | 7.38 | 247 | 131.0 | 112 | <5 | 305 | 21 | 441 | 35 | 19 | 37 | 91 | 1 | 4.5 | 4.1 | 2.31 | 48 | 5 | 3 | <2 | <2 | <5 | <5 | 1199 | 574 | <2 | <2 | <2 | <2 |
| Silver River 2 | 3/5/08 | 7.24 | x | 130.0 | 84 | <5 | 201 | 101 | 389 | 57 | <1 | 114 | 171 | 3 | 9.7 | 12.8 | 3.63 | 50 | 5 | 3 | <2 | <2 | <5 | <5 | 1226 | 396 | <2 | <2 | 10 | 8 |
| Silver River 2 | 3/10/08 | 7.15 | 220 | 113.0 | 150 | <5 | 280 | 132 | 565 | 5 | 58 | 96 | 159 | 56 | 5.6 | 7.3 | 2.6 | 65 | 3 | <3 | <2 | <2 | <5 | <5 | 687 | 277 | <2 | <2 | 6 | 5 |
| Silver River 2 | 4/8/08 | 7.21 | 170 | 97.2 | 85 | <5 | 239 | 201 | 528 | 34 | 32 | 88 | 154 | 2182 | 10.9 | 14.1 | <2.0 | 46 | <3 | <3 | <2 | <2 | <5 | <5 | 382 | 42 | <2 | <2 | 7 | 2 |
| Silver River 2 | 4/15/08 | 7.39 | 215 | 132.0 | 100 | <5 | 231 | 94 | 428 | 18 | 19 | 62 | 99 | 140 | 4.5 | 2.5 | <2.0 | 39 | 3 | <3 | <2 | <2 | <5 | <5 | 490 | 99 | <2 | <2 | 9 | 4 |
| Silver River 2 | 7/17/08 | 7.23 | 137 | 66.0 | 52 | <5 | 242 | 230 | 527 | 69 | 27 | 62 | 158 | 94 | 2.9 | 40.2 | <2.0 | 47 | <3 | <3 | <2 | <2 | <5 | <5 | 189 | 26 | <2 | <2 | 12 | <2 |
| Silver River 2 | 7/27/08 | 7.22 | 180 | 107.0 | 141 | 19 | 405 | 160 | 725 | 69 | 15 | 45 | 129 | 7200 | 3.1 | 4.7 | <2.0 | 69 | <3 | <3 | <2 | <2 | <5 | <5 | 382 | 171 | <2 | <2 | 6 | <2 |
| Silver River 2 | 7/28/08 | 7.34 | 213 | 121.0 | 45 | 8 | 560 | 162 | 775 | 53 | 17 | 114 | 184 | 78 | 10.4 | 10.5 | <2.0 | 71 | <3 | <3 | <2 | <2 | <5 | <5 | 923 | 105 | <2 | <2 | 26 | 5 |

| Sample Location | Date Collected | pH (s.u.) | Cond (µmho/cm) | Alk (mg/l) | NH3 (µg/l) | NOX (µg/l) | Dis Org N (µg/l) | Part N (µg/l) | TN (µg/l) | OP (µg/l) | Dis Org P (µg/l) | Part P (µg/l) | TP (µg/l) | Fecal (cfu/100 ml) | Tur (NTU) | TSS (mg/l) | BOD (mg/l) | Color (PCU) | Cu (µg/l) | Dis Cu (µg/l) | Cd (µg/l) | Dis Cd (µg/l) | Cr (µg/l) | Dis Cr (µg/l) | Fe (µg/l) | Dis Fe (µg/l) | Pb (µg/l) | Dis Pb (µg/l) | Zn (µg/l) | Dis Zn (µg/l) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver River 3 | 8/3/07 | 7.41 | 182 | 86.8 | 36 | <5 | 353 | 125 | 517 | 158 | 14 | 23 | 195 | 30 | 2.4 | 0.8 | 2 | 71 | <3 | <3 | <2 | <2 | <5 | <5 | 184 | 119 | <2 | <2 | 7 | 2 |
| Silver River 3 | 9/5/07 | 7.14 | 109 | 70.2 | 82 | 9 | 508 | 41 | 640 | 138 | 3 | 22 | 163 | 35 | 2.2 | 3 | 3.4 | 86 | 3 | <3 | <2 | <2 | <5 | <5 | 261 | 189 | <2 | <2 | 2 | <2 |
| Silver River 3 | 9/24/07 | 6.31 | 48 | 18.2 | 213 | <5 | 829 | 785 | 1830 | 283 | 36 | 132 | 451 | 17 | 4.4 | 9 | 3.6 | 224 | 4 | 3 | <2 | <2 | <5 | <5 | 1645 | 653 | <2 | <2 | 7 | 5 |
| Silver River 3 | 9/26/07 | 6.26 | 50 | 18.4 | 37 | <5 | 869 | 372 | 1281 | 313 | 15 | 98 | 426 | 44 | 3.1 | 10.6 | 4 | 250 | 4 | <3 | <2 | <2 | <5 | <5 | 1047 | 553 | <2 | <2 | 4 | 2 |
| Silver River 3 | 10/2/07 | 6.43 | 56 | 20.2 | 10 | <5 | 984 | 521 | 1518 | 291 | 42 | 121 | 454 | 31 | 3.9 | 8 | 3.5 | 162 | 4 | <3 | <2 | <2 | <5 | <5 | 1409 | 850 | <2 | <2 | 4 | 3 |
| Silver River 3 | 10/8/07 | 6.59 | 69 | 26.6 | 149 | 15 | 711 | 913 | 1788 | 353 | 115 | 160 | 628 | 6 | 4.7 | 8 | 5.2 | 322 | <3 | <3 | <2 | <2 | <5 | <5 | 1755 | 962 | <2 | <2 | 2 | <2 |
| Silver River 3 | 10/24/07 | 6.72 | 71 | 24.4 | 34 | 5 | 1140 | 77 | 1256 | 314 | 156 | 80 | 550 | 60 | 5.7 | 8.6 | 3.5 | 67 | 3 | <3 | <2 | <2 | <5 | <5 | 1069 | 688 | <2 | <2 | 6 | 2 |
| Silver River 3 | 11/1/07 | 6.49 | 63 | 25.0 | 52 | 7 | 597 | 138 | 794 | 184 | 9 | 66 | 259 | 11 | 3.7 | 3.4 | 3.7 | 296 | 3 | <3 | <2 | <2 | <5 | <5 | 1903 | 1362 | <2 | <2 | 4 | 3 |
| Silver River 3 | 11/26/07 | 6.44 | 82 | 33.0 | 87 | 10 | 1023 | 129 | 1249 | 505 | <1 | 477 | 982 | 10 | 2.9 | 2.8 | <2.0 | 335 | <3 | <3 | <2 | <2 | <5 | <5 | 1183 | 883 | <2 | <2 | <2 | <2 |
| Silver River 3 | 2/13/08 | 7.52 | 145 | 82.4 | 103 | 7 | 1020 | 640 | 1770 | 138 | 10 | 43 | 191 | 52 | 3.3 | 2.9 | 3.7 | 58 | <3 | <3 | 5 | <2 | 5 | <5 | 510 | 428 | <2 | <2 | 49 | 36 |
| Silver River 3 | 2/25/08 | 5.90 | 47 | 12.0 | 78 | <5 | 624 | 1264 | 1969 | 88 | 27 | 208 | 323 | 745 | 14.8 | 26.8 | 3.5 | 219 | 3 | <3 | 2 | <2 | <5 | <5 | 873 | 165 | <2 | <2 | 6 | 4 |
| Silver River 3 | 2/27/08 | 5.98 | 50 | 15.2 | 87 | <5 | 669 | 1015 | 1774 | 85 | 15 | 194 | 294 | 290 | 16.1 | 40.5 | 3.6 | 24 | 3 | <3 | <2 | <2 | <5 | <5 | 646 | 143 | <2 | <2 | 71 | 28 |
| Silver River 3 | 3/10/08 | 6.40 | 75 | 29.2 | 92 | 5 | 729 | 682 | 1508 | 181 | 17 | 277 | 475 | 210 | 20.4 | 39.7 | 6.2 | 188 | 3 | <3 | <2 | <2 | <5 | <5 | 1216 | 586 | <2 | <2 | 5 | 4 |
| Silver River 4 | 8/3/07 | 4.11 | 94 | 0.0 | 123 | 21 | 1450 | 111 | 1705 | 28 | 34 | 2 | 64 | 65 | 4.9 | 16.7 | 4.1 | 116 | 3 | <3 | <2 | <2 | <5 | <5 | 443 | 406 | <2 | <2 | 19 | 6 |
| Silver River 4 | 9/24/07 | 6.53 | 61 | 21.8 | 17 | 16 | 1215 | 136 | 1384 | 98 | 43 | 20 | 161 | 821 | 7.2 | 3 | 2.6 | 62 | <3 | <3 | <2 | <2 | <5 | <5 | 750 | 441 | 3 | 2 | 4 | <2 |
| Silver River 4 | 10/8/07 | 7.01 | 163 | 83.0 | 227 | 17 | 848 | 291 | 1383 | 310 | 311 | 277 | 898 | 4 | 5.2 | 14.6 | 8.1 | 442 | 3 | <3 | <2 | <2 | <5 | <5 | 6875 | 4389 | <2 | <2 | <2 | <2 |
| Silver River 4 | 11/1/07 | 6.49 | 224 | 24.0 | 32 | <5 | 317 | 115 | 467 | 108 | 10 | 12 | 130 | 10 | 5.6 | 1.6 | 2.3 | 88 | 3 | <3 | <2 | <2 | <5 | <5 | 1332 | 655 | <2 | <2 | 5 | 2 |
| Silver River 4 | 2/13/08 | 6.72 | 56 | 26.2 | 110 | 10 | 238 | 22 | 380 | 24 | 12 | 43 | 79 | 122 | 5.1 | 5.6 | 5.2 | 59 | <3 | <3 | 5 | <2 | <5 | <5 | 550 | 510 | 2 | <2 | 44 | 29 |
| Silver River 4 | 2/25/08 | 7.40 | 155 | 82.2 | 102 | <5 | 191 | 128 | 424 | 75 | 8 | 19 | 102 | 12 | 1.9 | 2.6 | 2.1 | 65 | 3 | <3 | <2 | <2 | 5 | <5 | 60 | 10 | <2 | <2 | 5 | 4 |
| Silver River 4 | 2/27/08 | 7.38 | 174 | 86.4 | 63 | <5 | 279 | 496 | 841 | 229 | 1 | 218 | 448 | 550 | 7.3 | 12.2 | 2.9 | 70 | 3 | <3 | <2 | <2 | <5 | <5 | 45 | 12 | <2 | <2 | 3 | <2 |
| Silver River 4 | 4/8/08 | 7.70 | 211 | 123.0 | 71 | <5 | 691 | 87 | 852 | 189 | 25 | 23 | 237 | 26 | 1 | 2.7 | <2.0 | 136 | <3 | <3 | <2 | <2 | <5 | <5 | 54 | 34 | <2 | <2 | <2 | <2 |
| Silver River 5 | 9/5/07 | 6.75 | 67 | 34.8 | 112 | 19 | 951 | 137 | 1219 | 232 | 38 | 89 | 359 | 1442 | 4.2 | 11.4 | 3 | 169 | 5 | <3 | <2 | <2 | <5 | <5 | 689 | 231 | <2 | <2 | 10 | <2 |
| Wekiva 1 | 8/22/08 | 4.51 | 27 | 0.0 | 107 | 35 | 595 | 2570 | 3307 | 38 | 23 | 206 | 267 | 350 | 13.3 | 29.9 | 2.4 | 302 | 5 | 3 | <2 | <2 | <5 | <5 | 106 | 32 | 2 | <2 | 8 | 6 |
| Wekiva 2 | 8/22/08 | 4.50 | 29 | 0.0 | 65 | 8 | 542 | 404 | 1019 | 142 | 9 | 32 | 183 | 1360 | 6.7 | 5 | 2.6 | 309 | 4 | 3 | <2 | <2 | <5 | <5 | 59 | 51 | <2 | <2 | 16 | 15 |
| Wekiva 3 | 8/22/08 | 4.93 | 9 | 0.8 | 47 | 52 | 278 | 84 | 461 | 4 | 6 | 8 | 18 | 7570 | 4.7 | 17.3 | <2.0 | 21 | 2 | <2 | <2 | <2 | <5 | <5 | 34 | 29 | 2 | <2 | 8 | 2 |
| Wekiva 3 | 9/15/08 | 6.59 | 105 | 25.8 | 190 | 6 | #VALUE! | x | 431 | 3 | 4 | 3 | 10 | 35 | 0.8 | 1.9 | <2.0 | 75 | <3 | x | <2 | <2 | x | x | x | x | x | x | x | x |

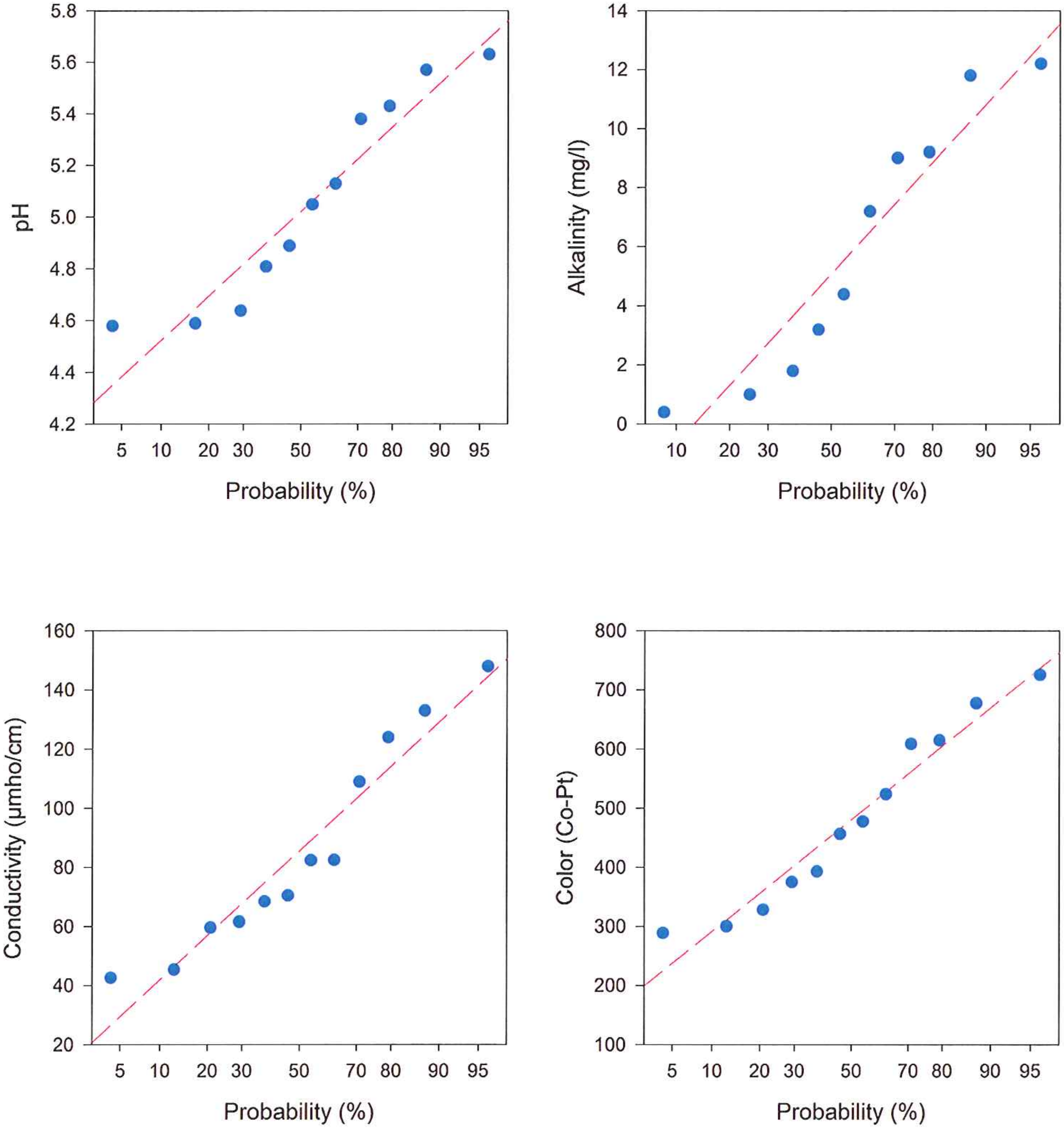
# APPENDIX E

# PROBABILITY DISTRIBUTIONS FOR DATA COLLECTED AT THE NATURAL AREA MONITORING SITES

1. **Dry Prairie**
2. **Marl Prairie**
3. **Mesic Flatwoods**
4. **Mixed Hardwood Forest**
5. **Ruderal / Upland Pine**
6. **Scrubby Flatwoods**
7. **Upland Hardwood Forest**
8. **Upland Mixed Forest**
9. **Wet Flatwood**
10. **Wet Prairie**

## 1. Dry Prairie

## Dry Prairie
## (Normal Probability Plots)



# Dry Prairie
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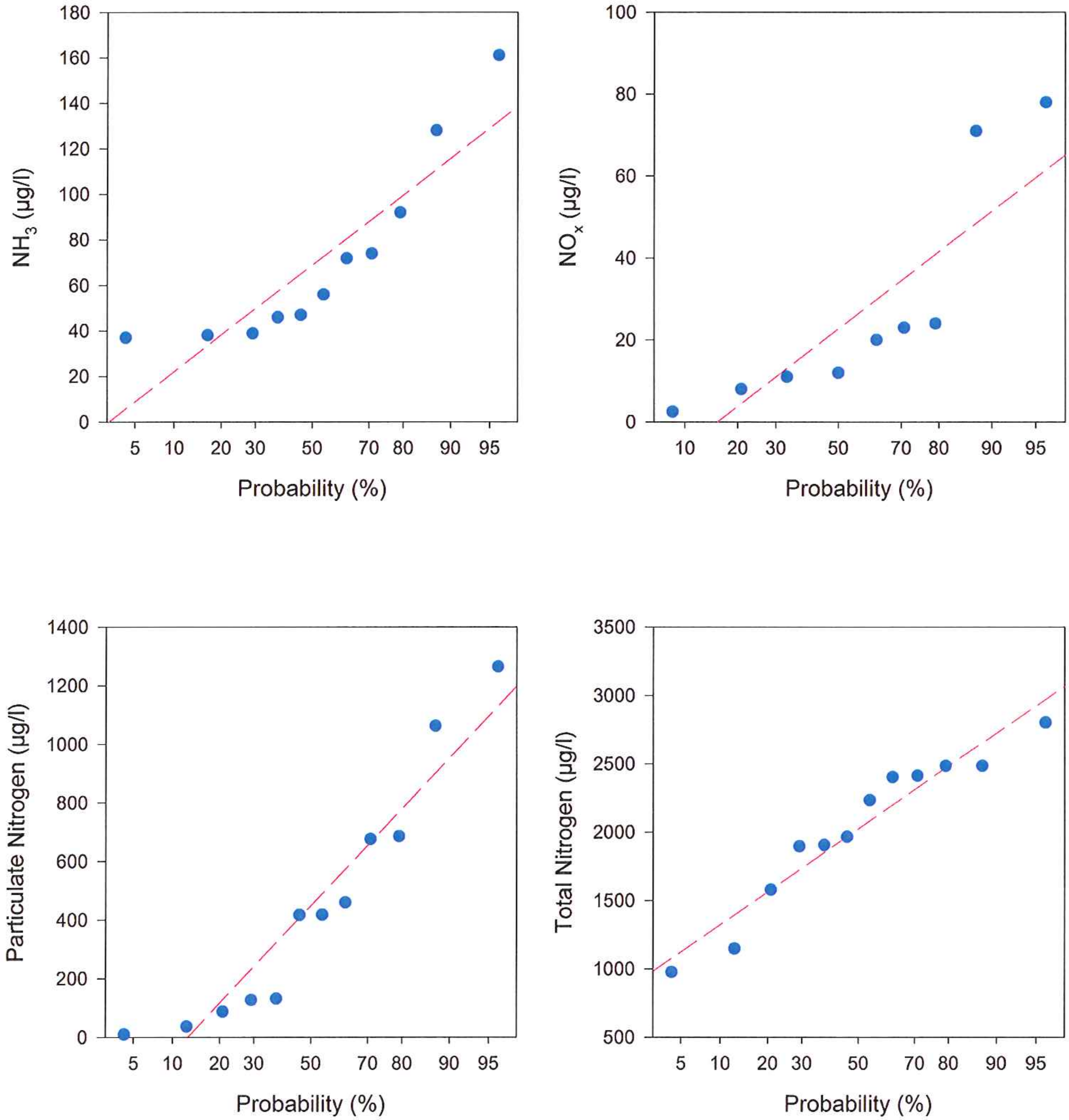

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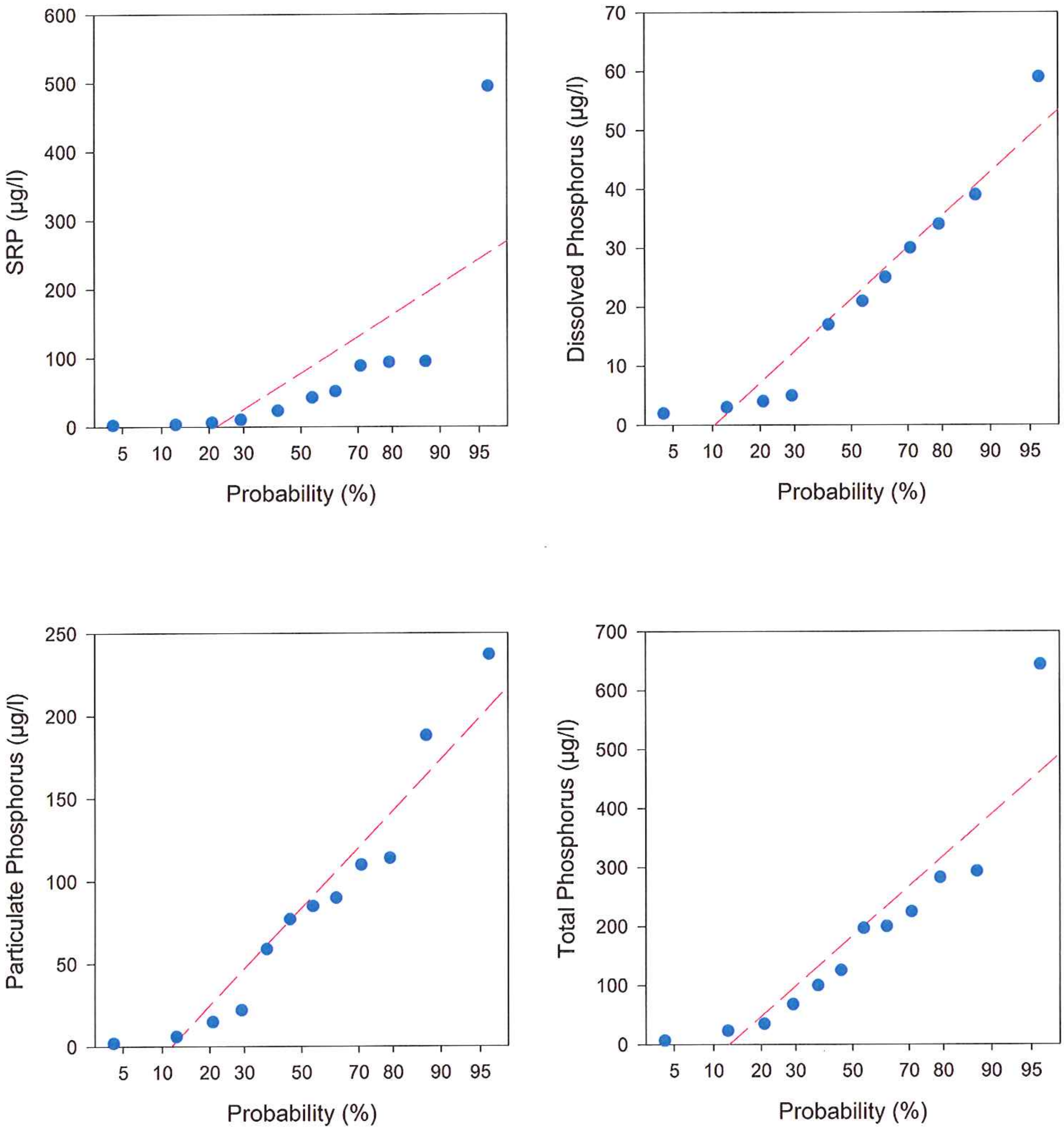
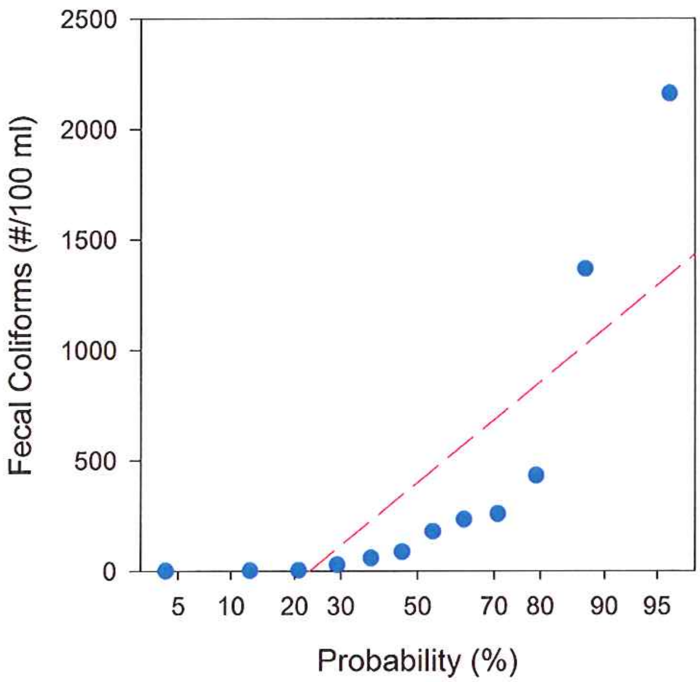
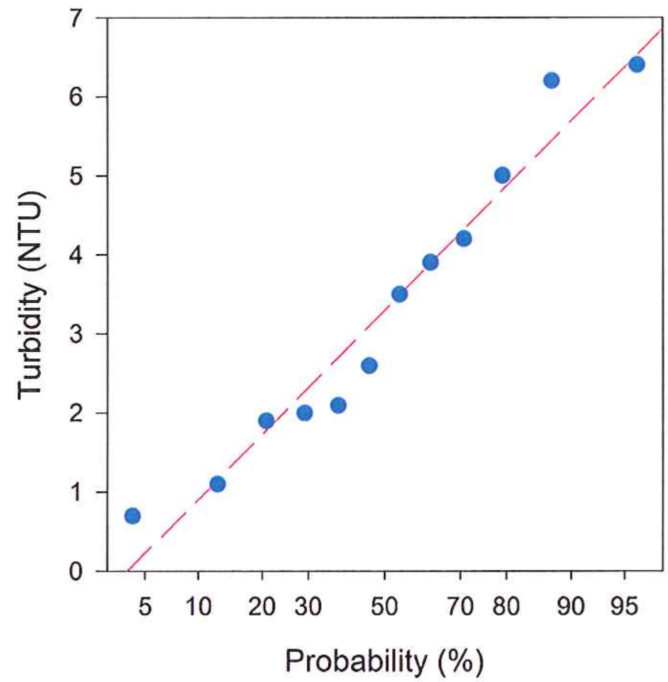
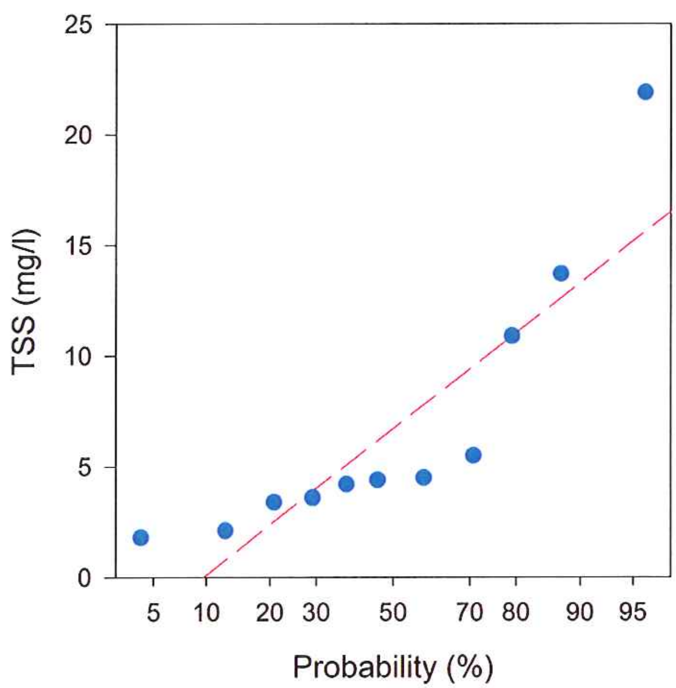
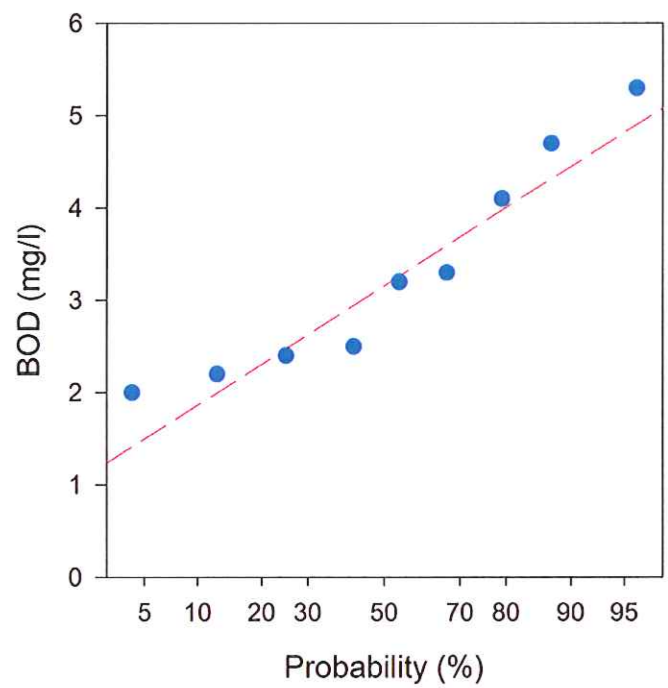


# Dry Prairie
# (Normal Probability Plots)



# Dry Prairie
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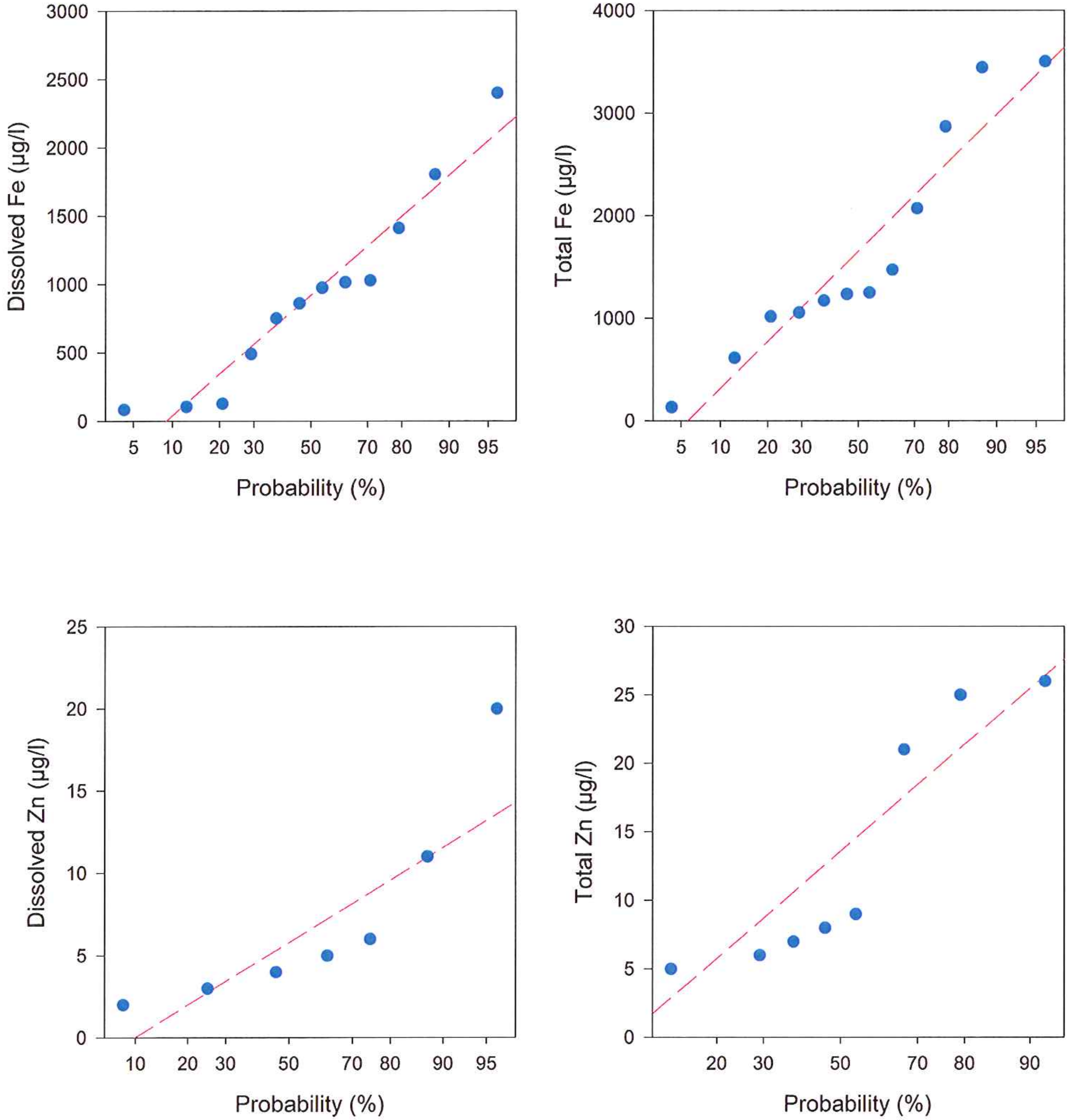

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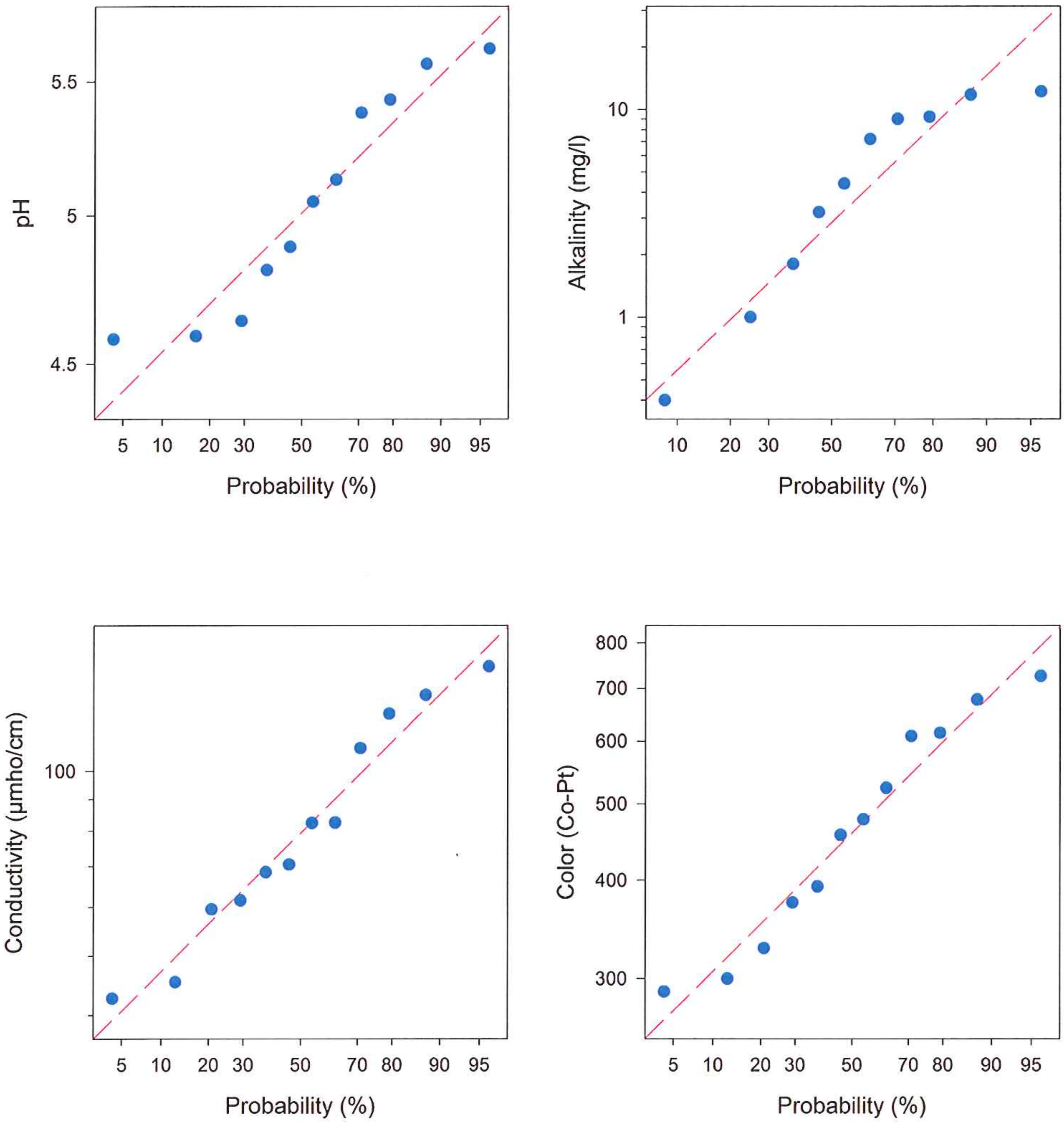

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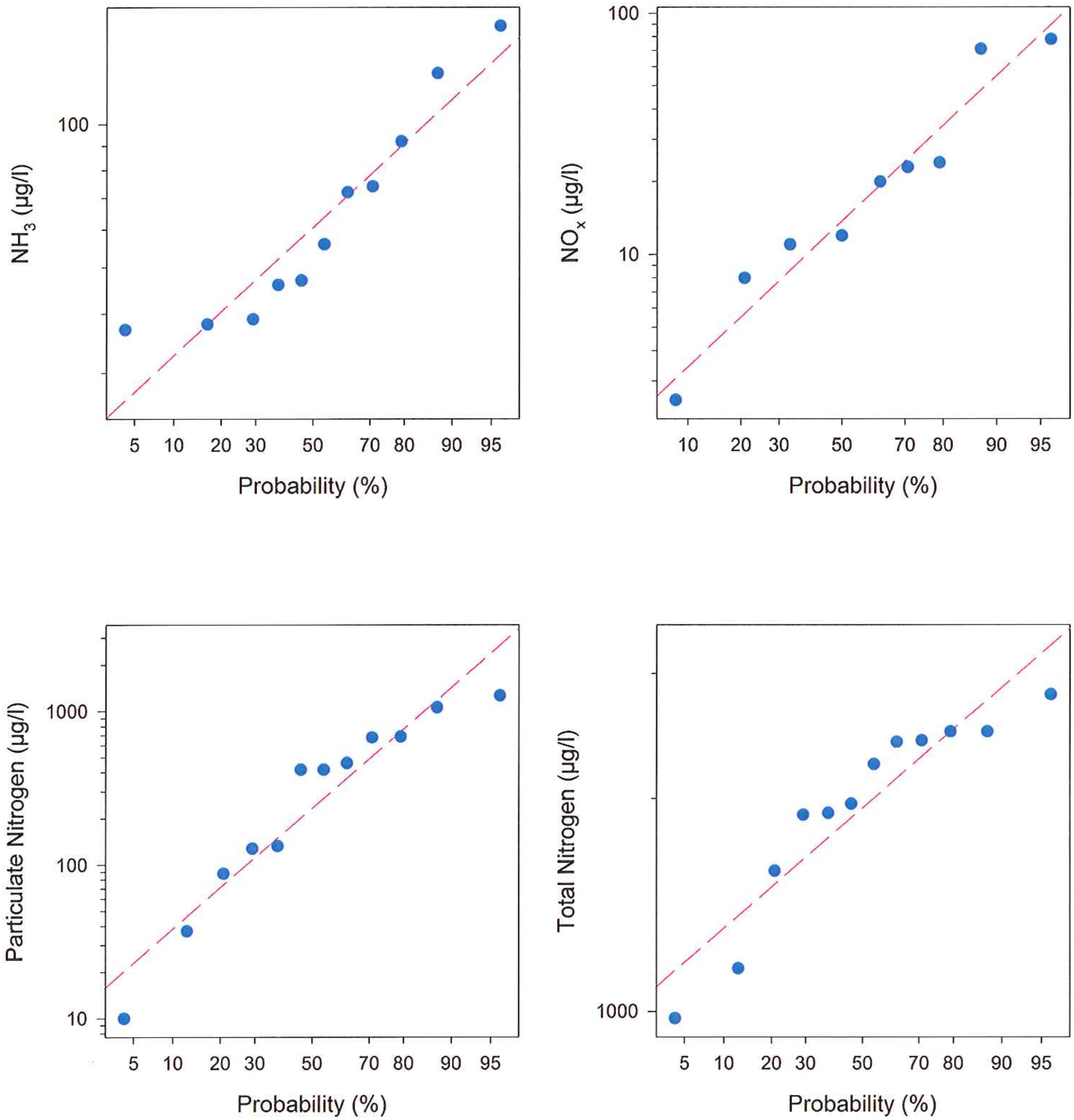

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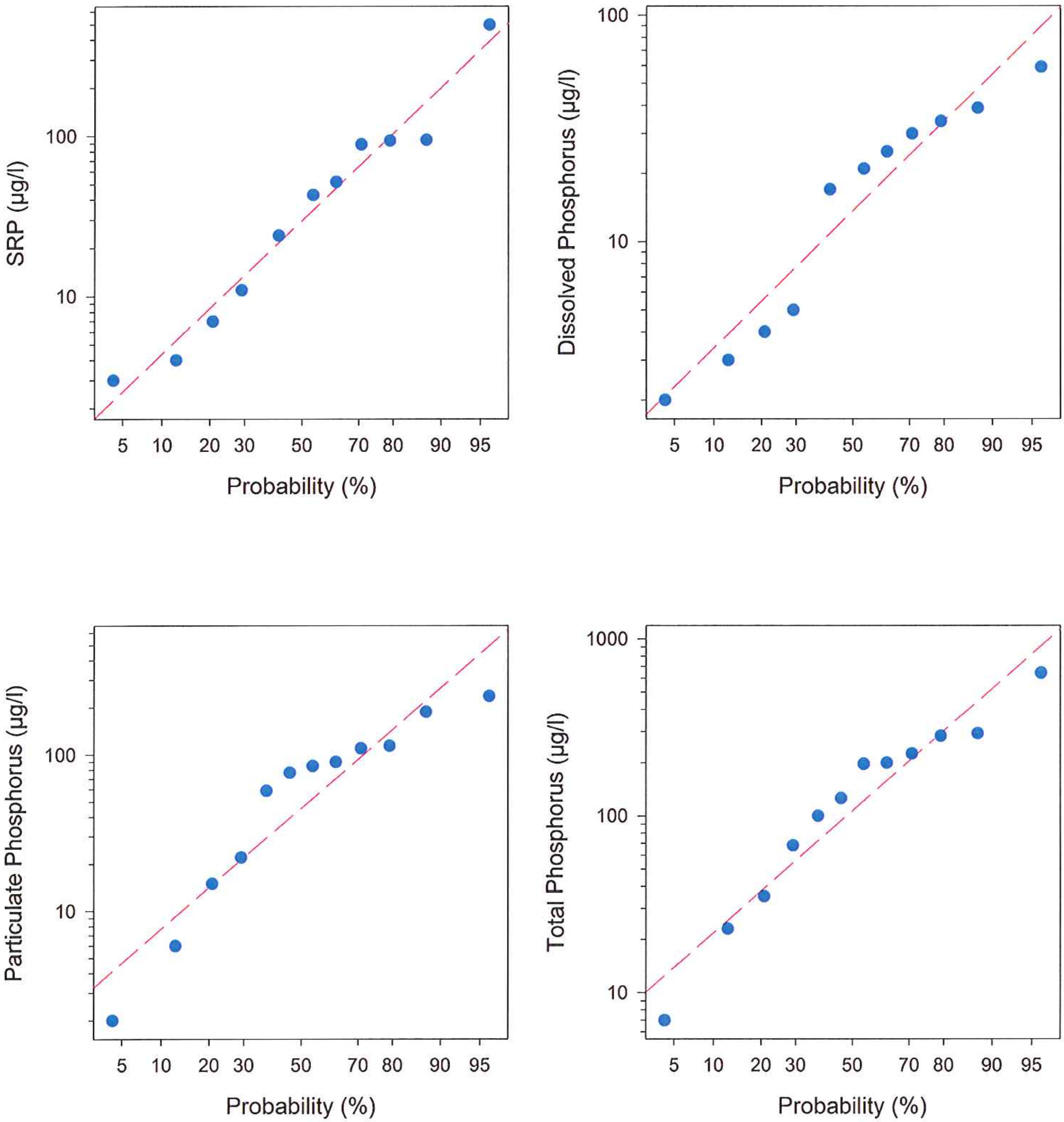

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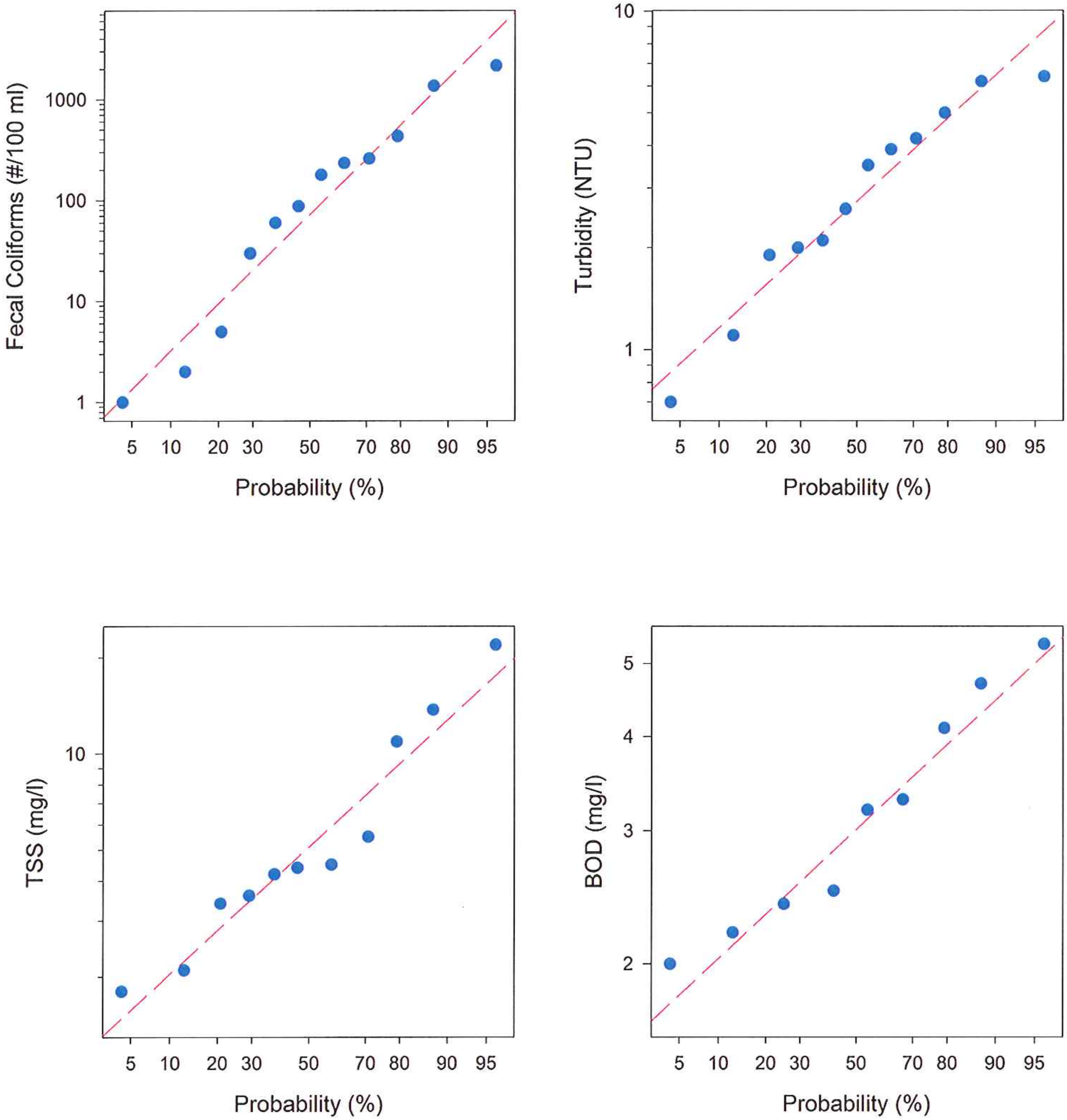
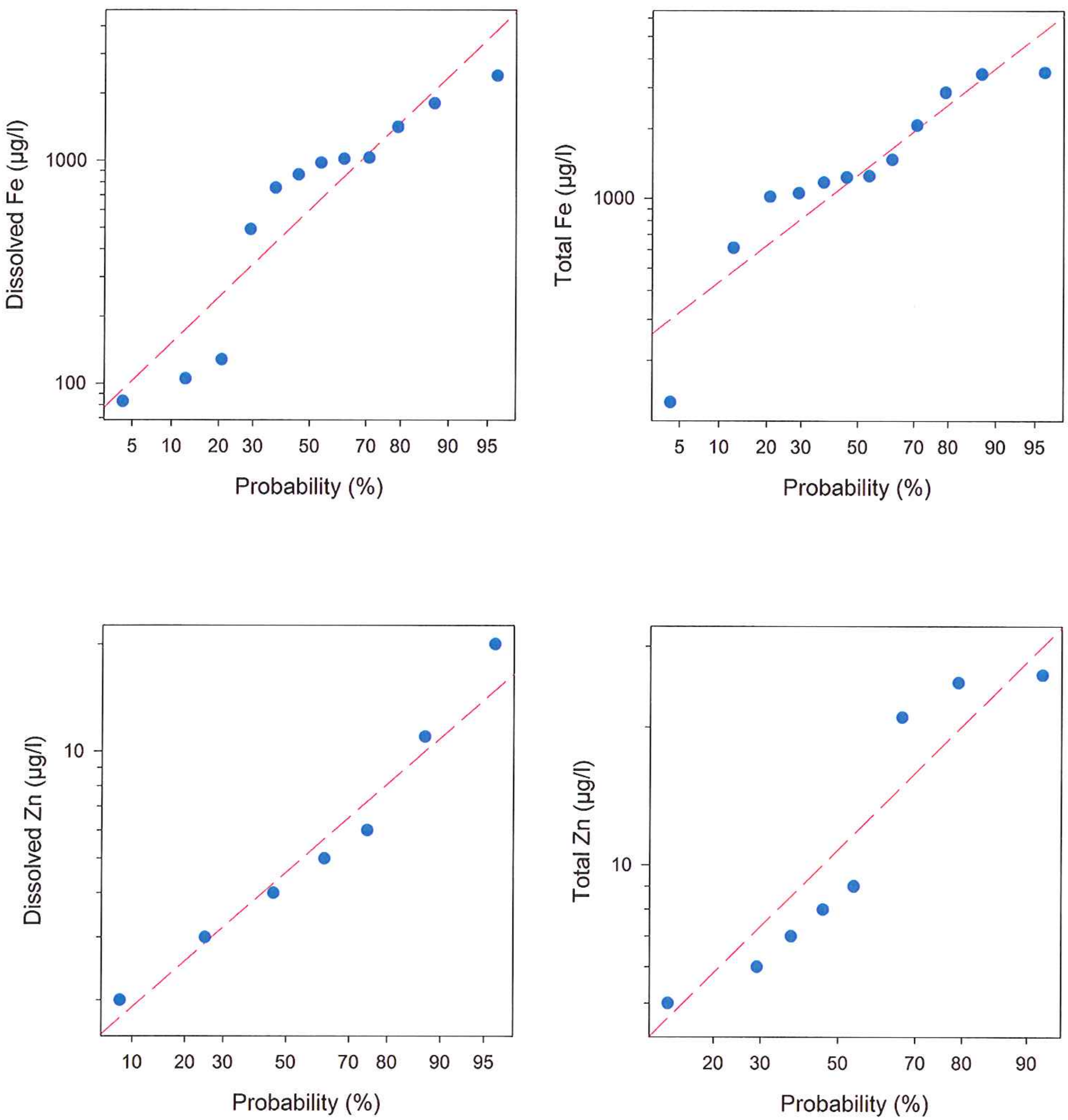


## Dry Prairie
## (Log Normal Probability Plots)



## 2. Marl Prairie

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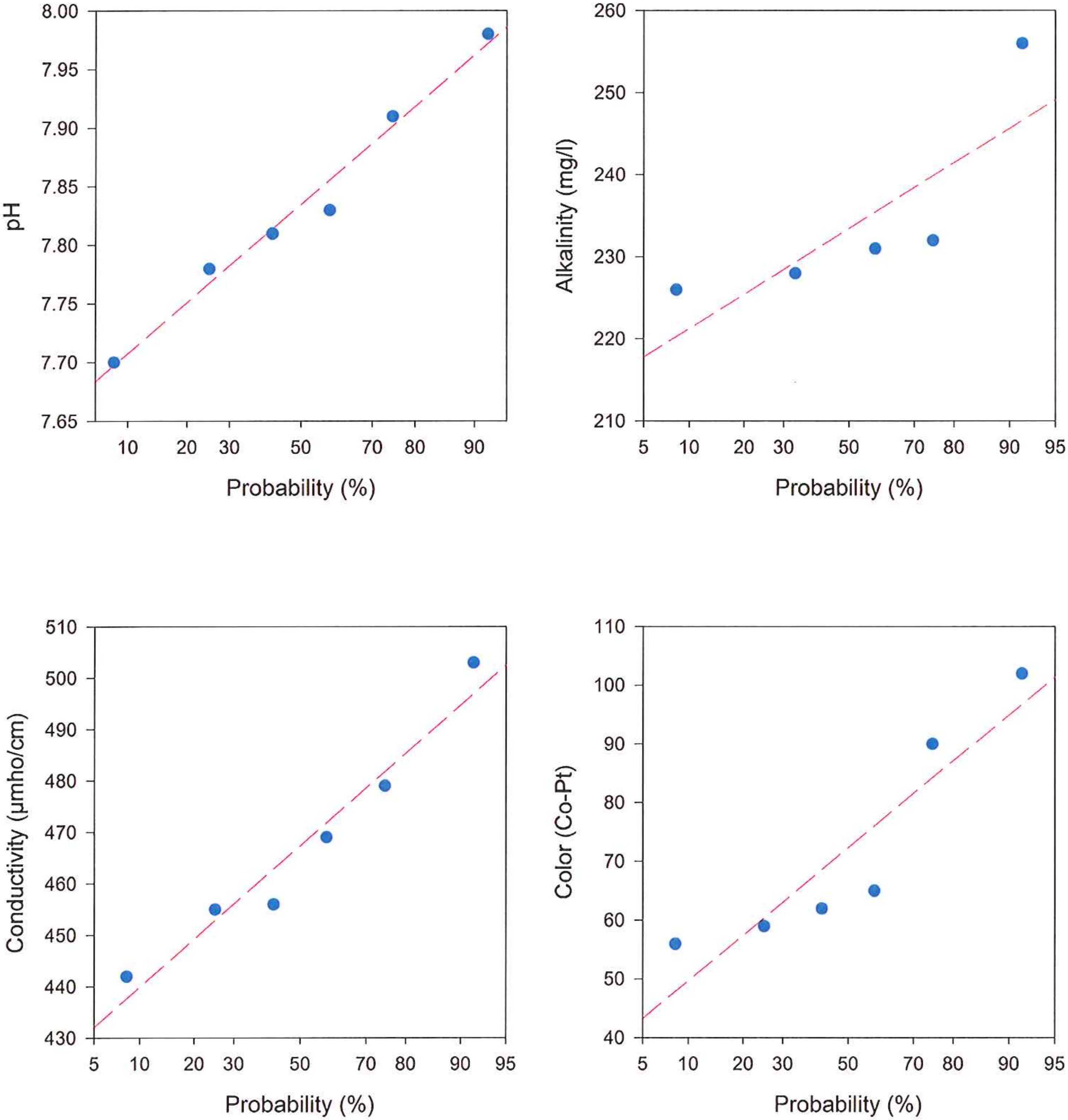
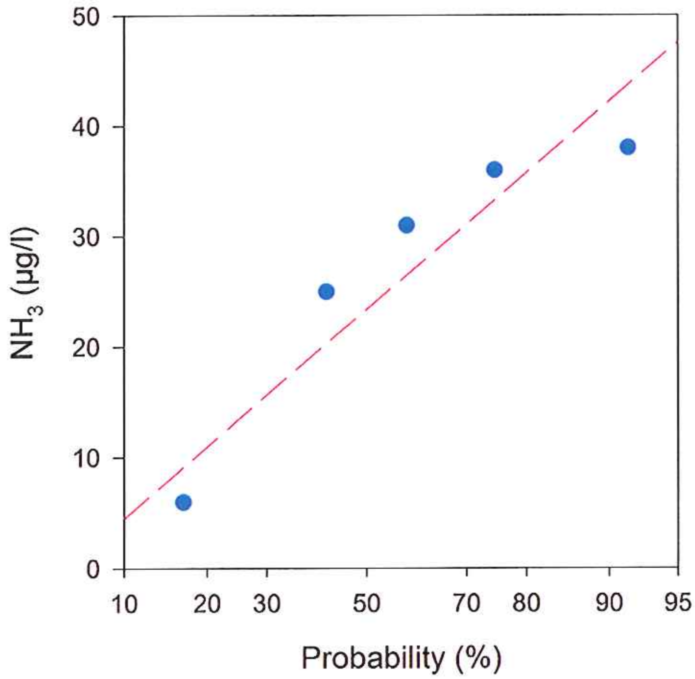
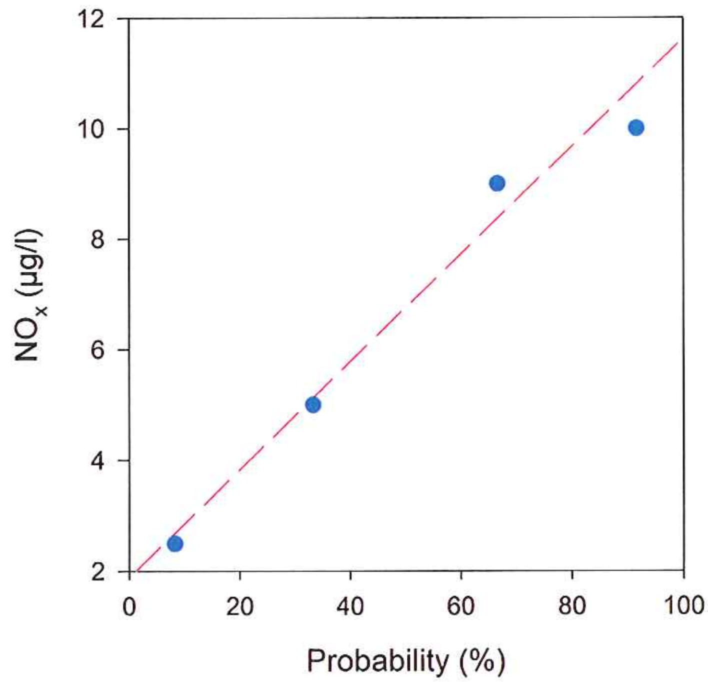
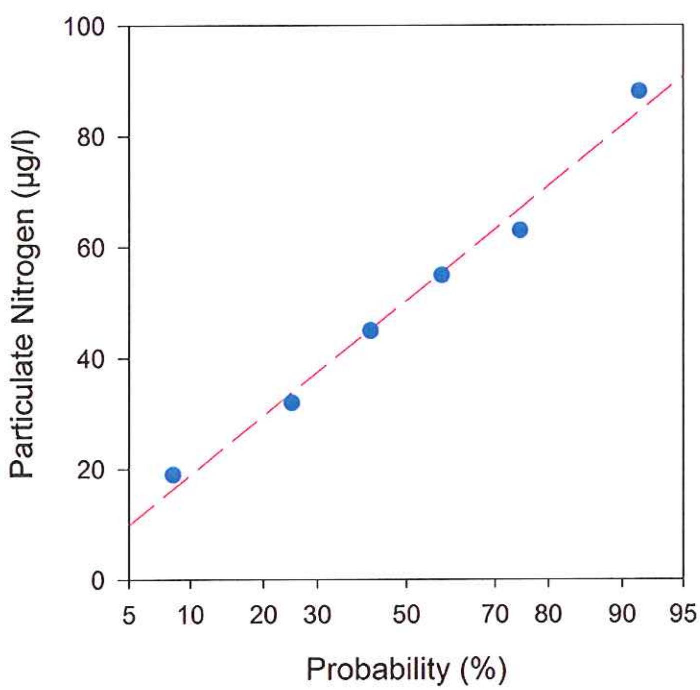
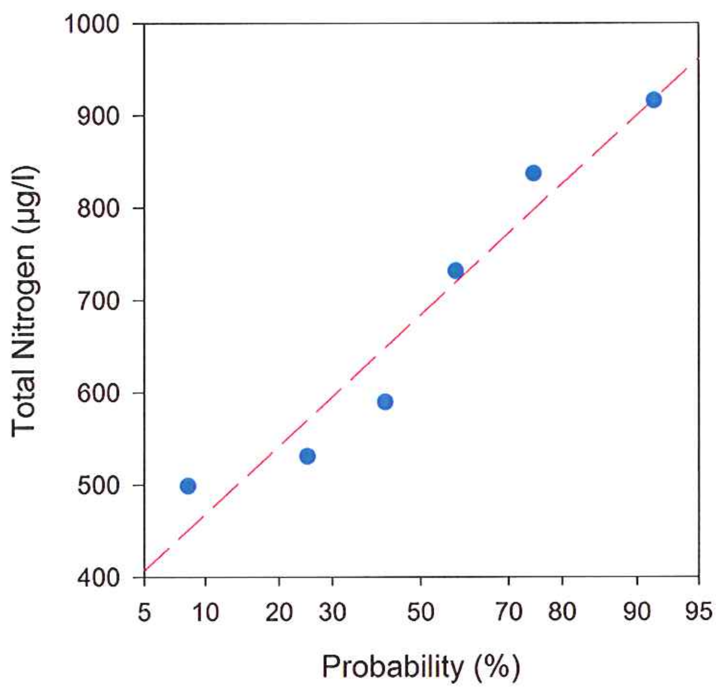


**Marl Prairie**
**(Normal Probability Plots)**

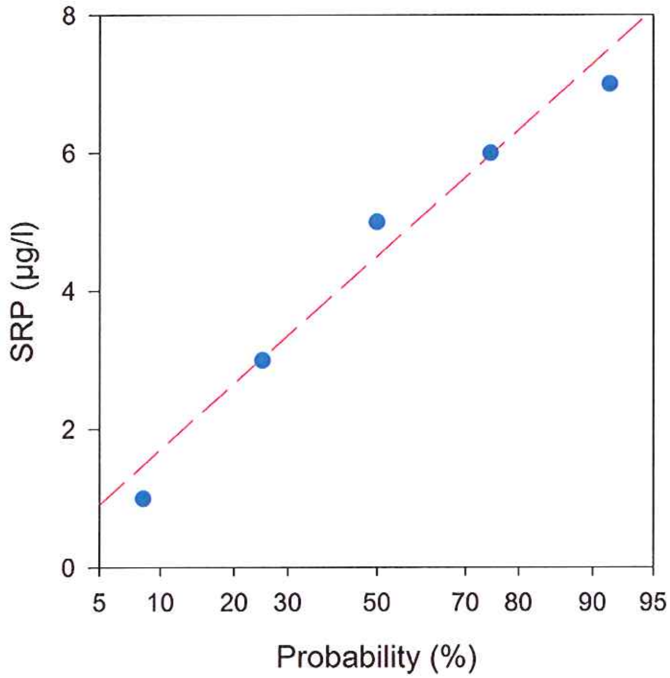


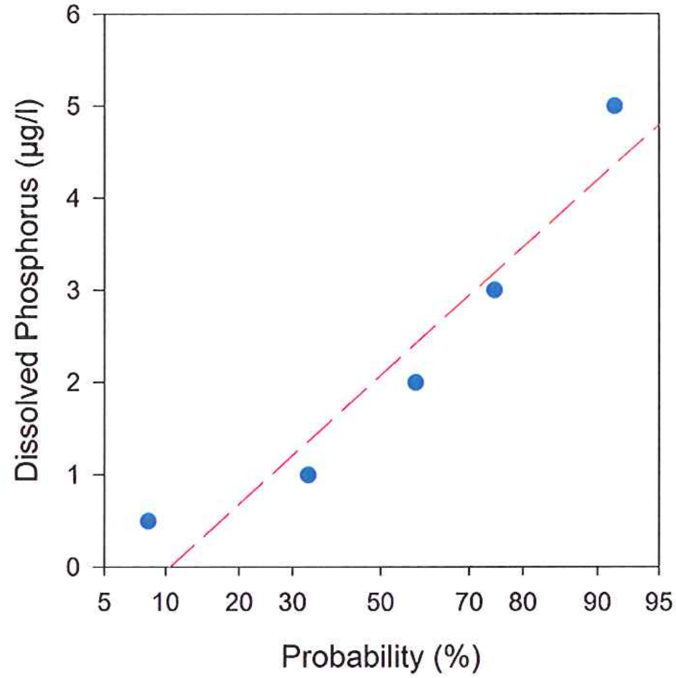



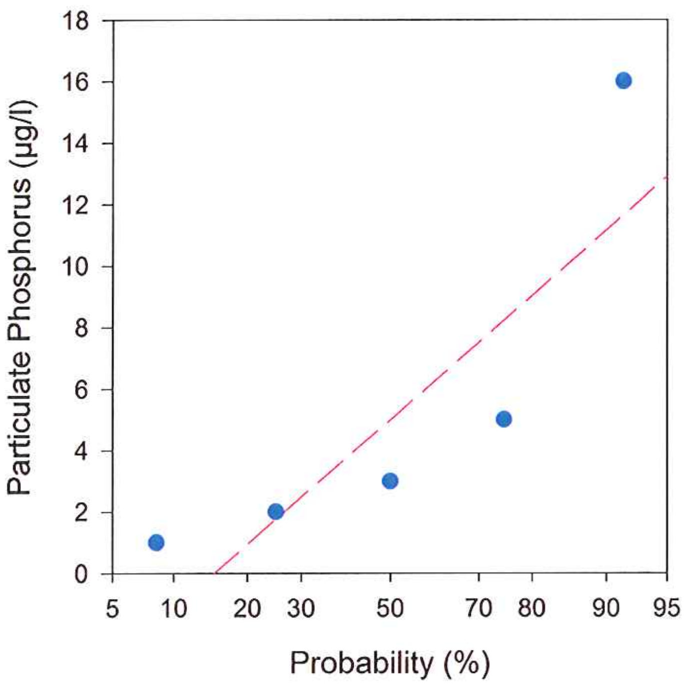



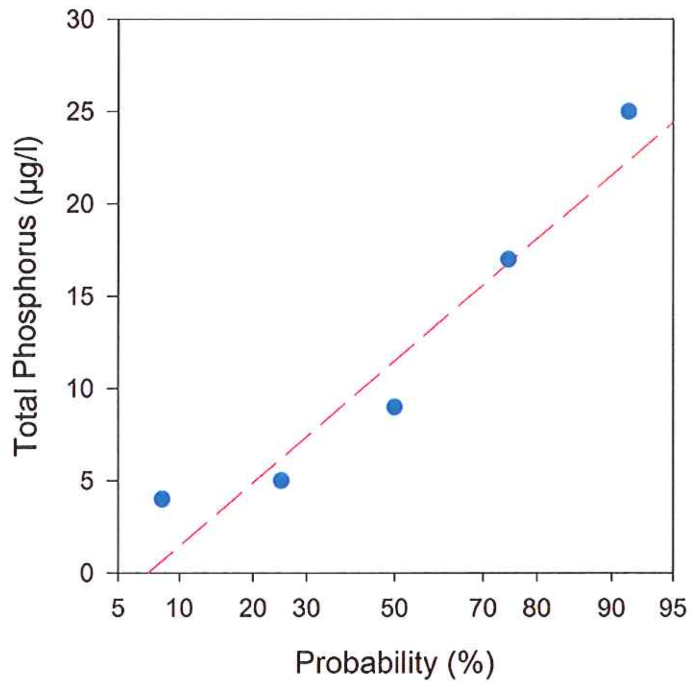



## Marl Prairie
## (Normal Probability Plots)

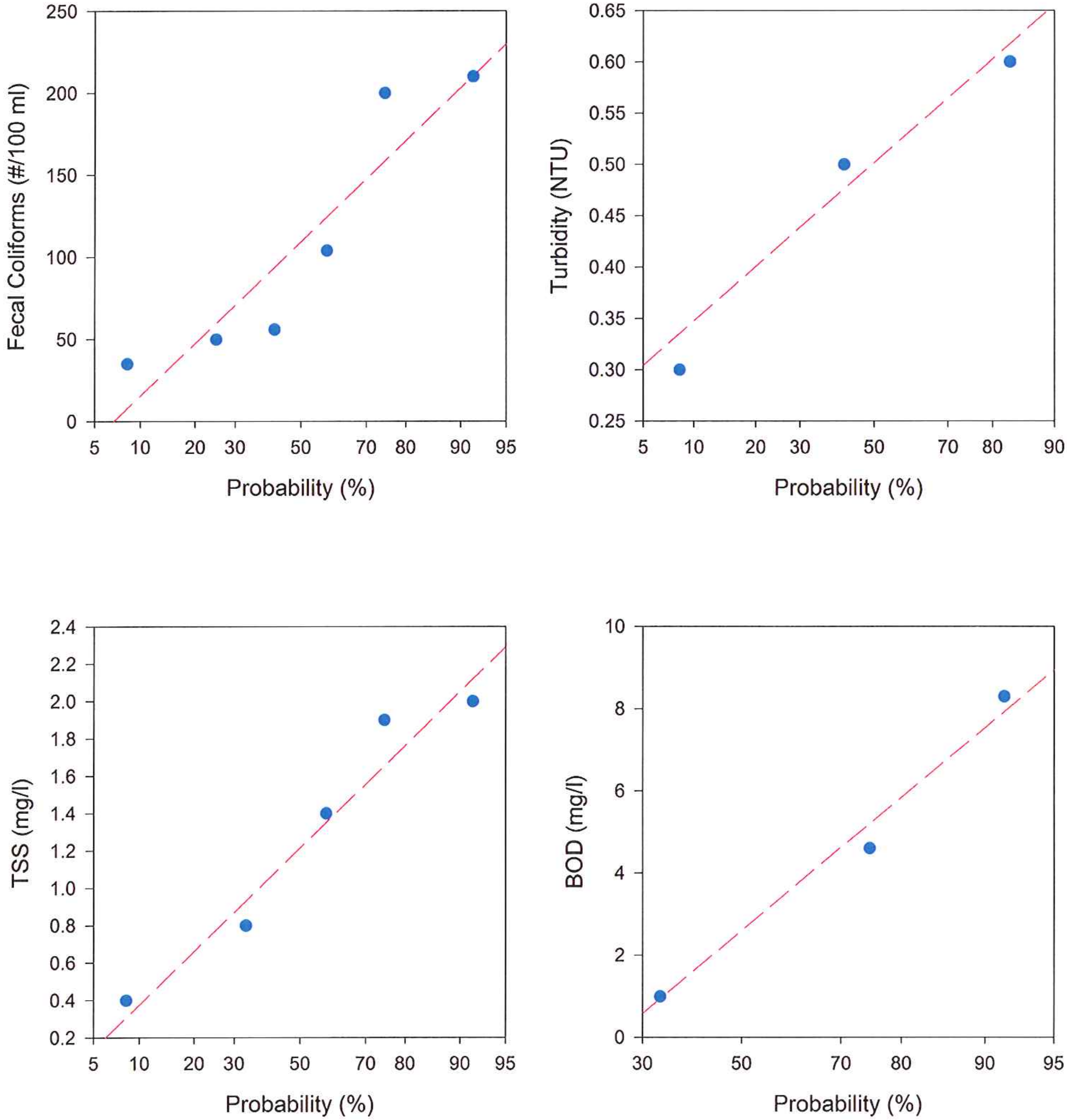


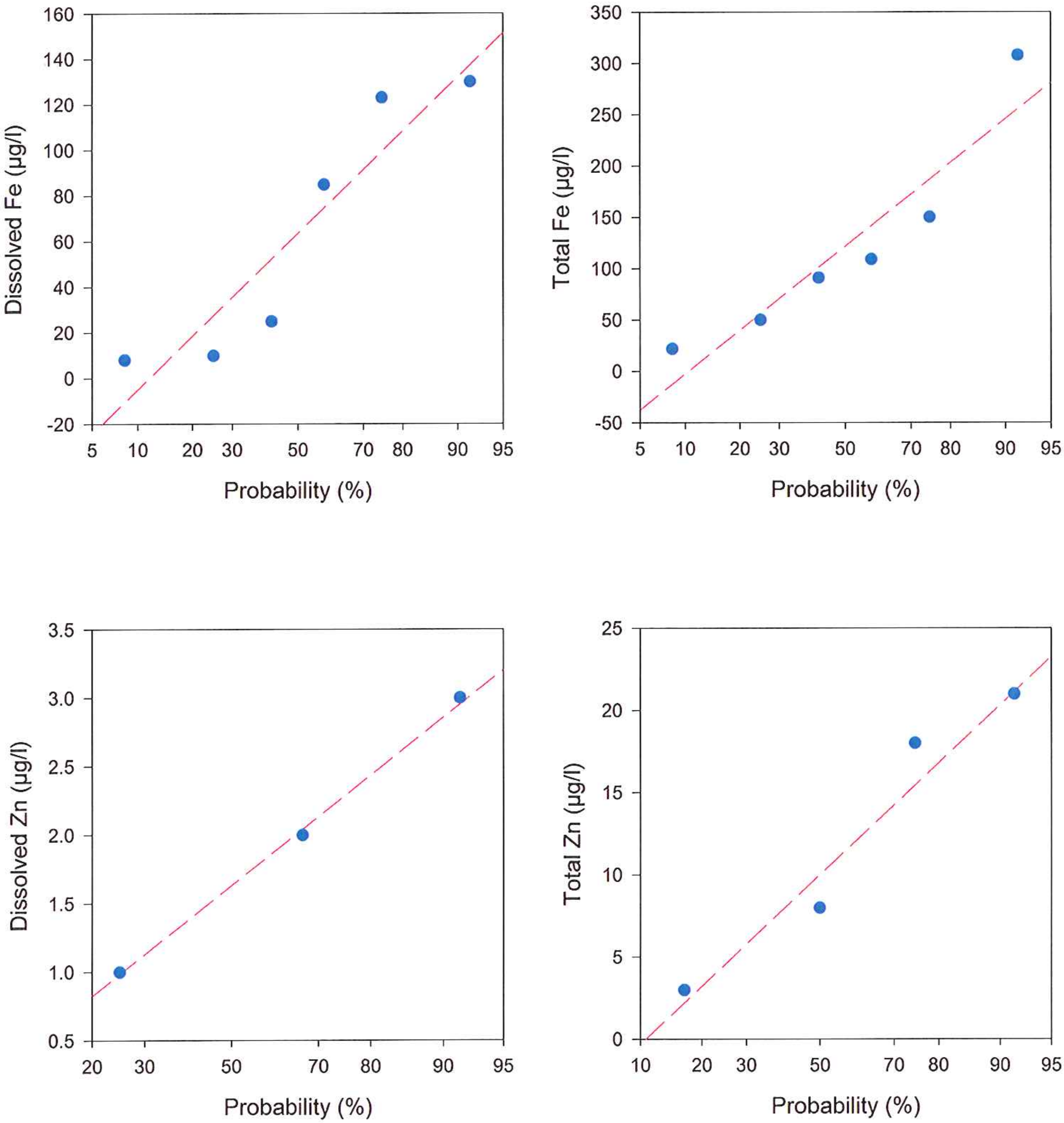



## Marl Prairie
## (Normal Probability Plots)



# Marl Prairie
# (Normal Probability Plots)



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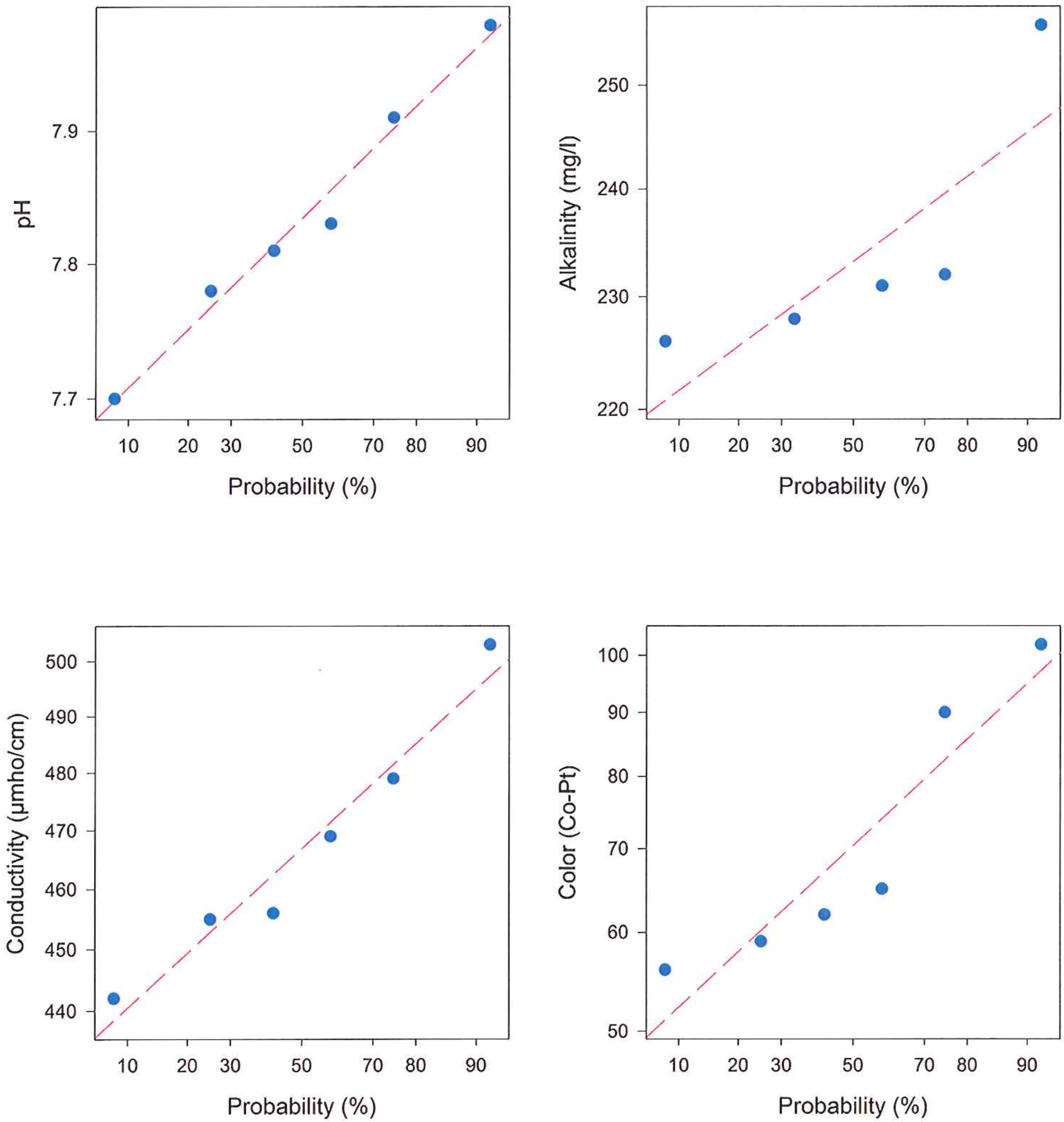

# Marl Prairie
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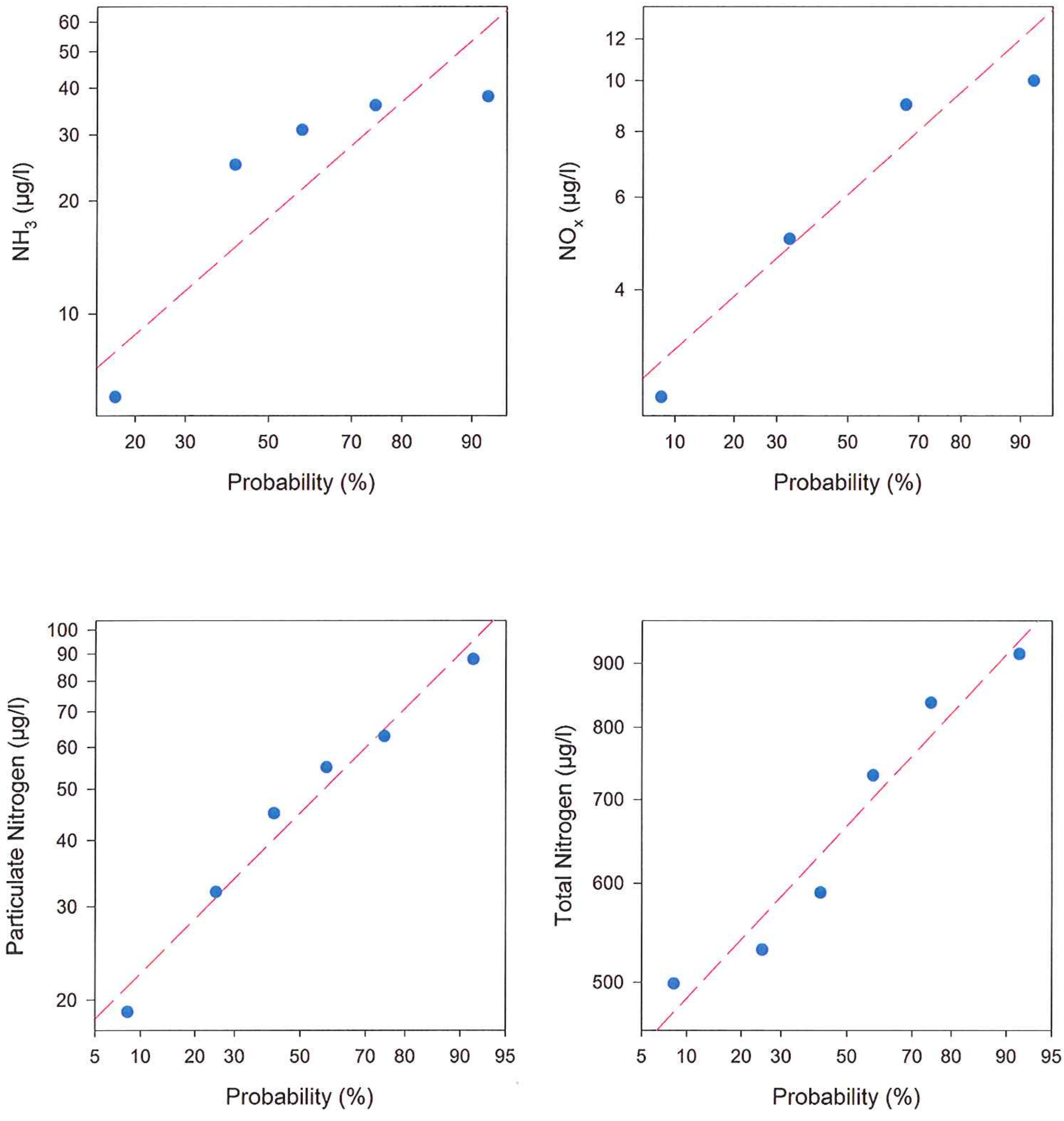

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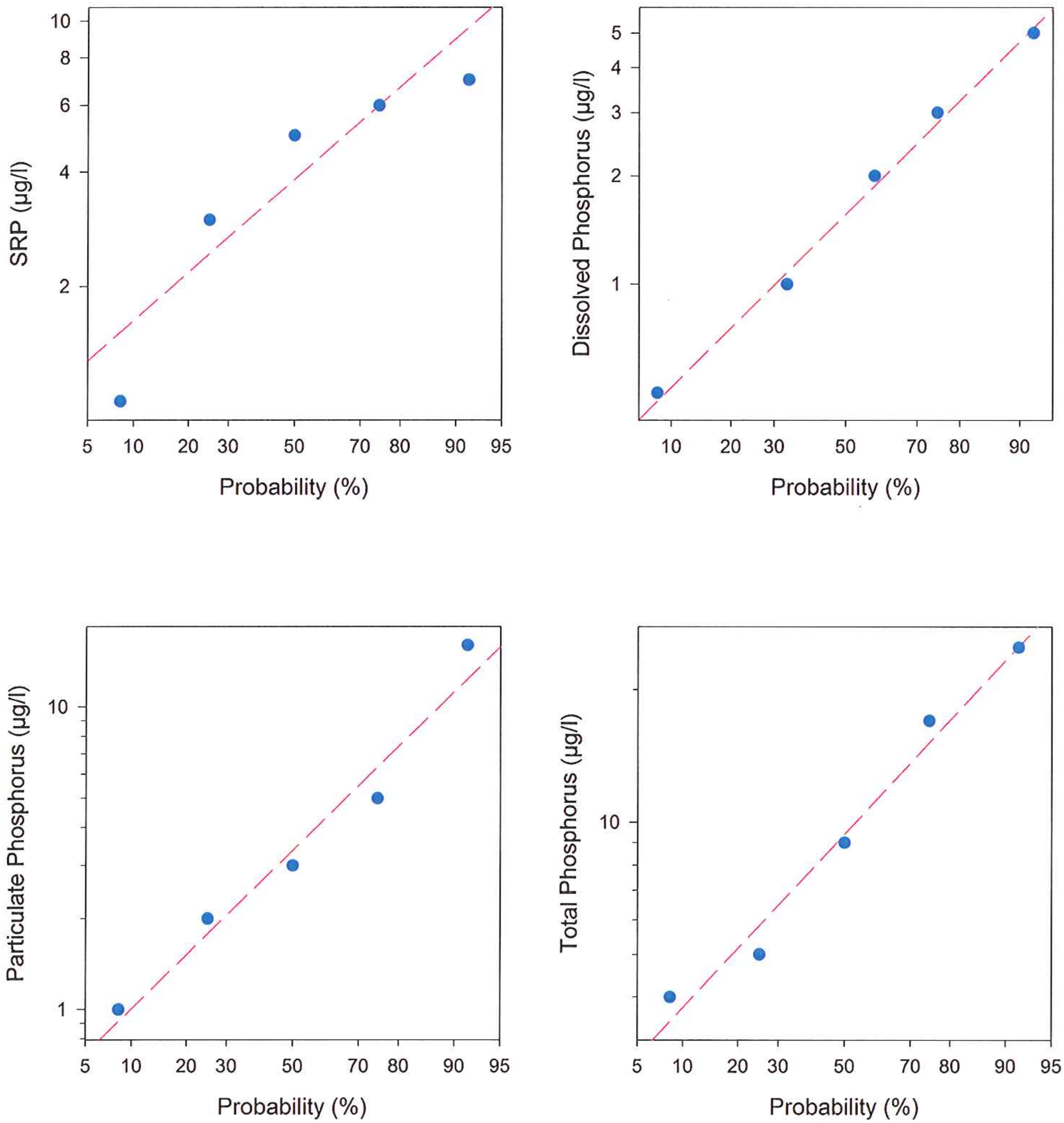
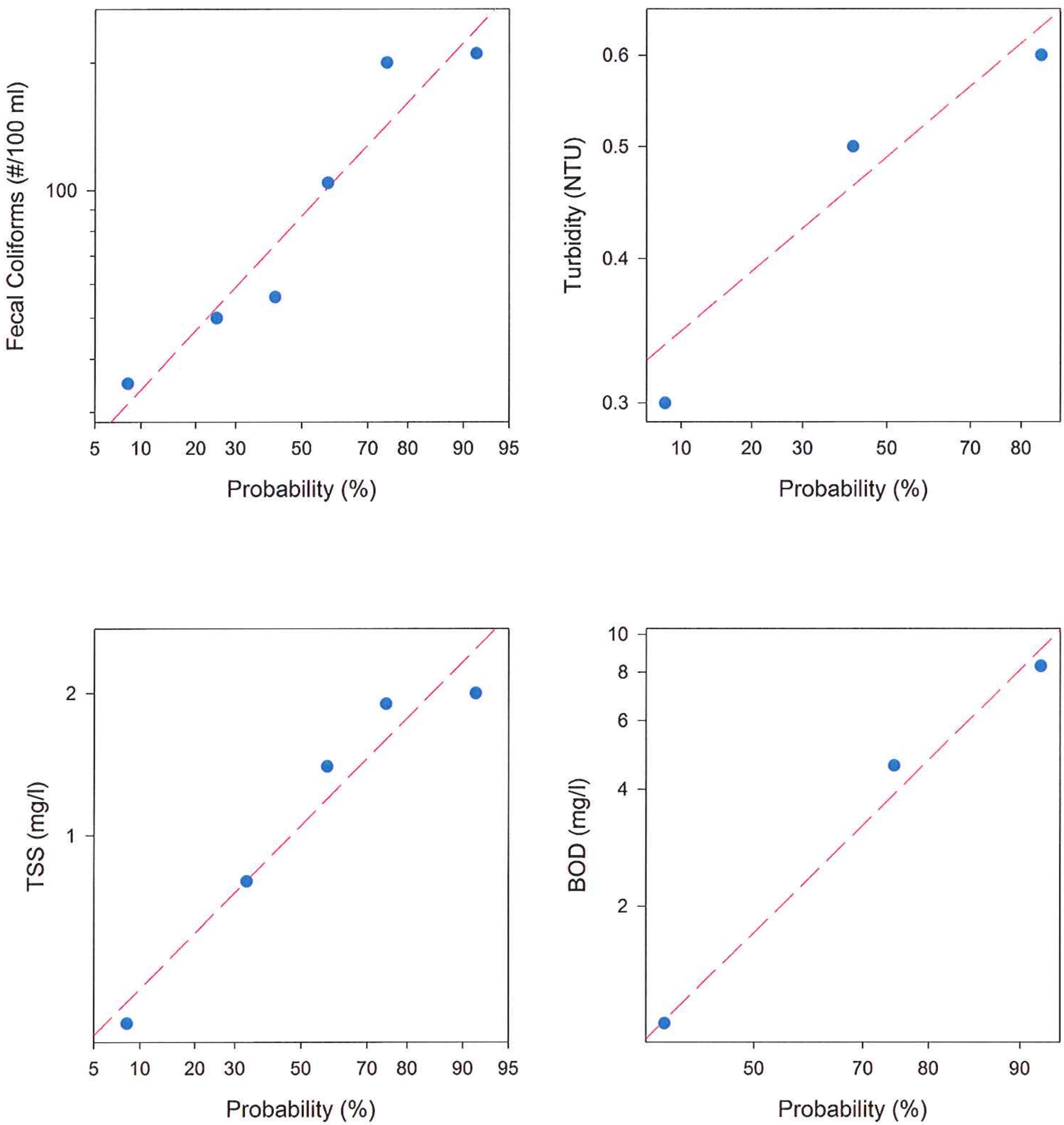
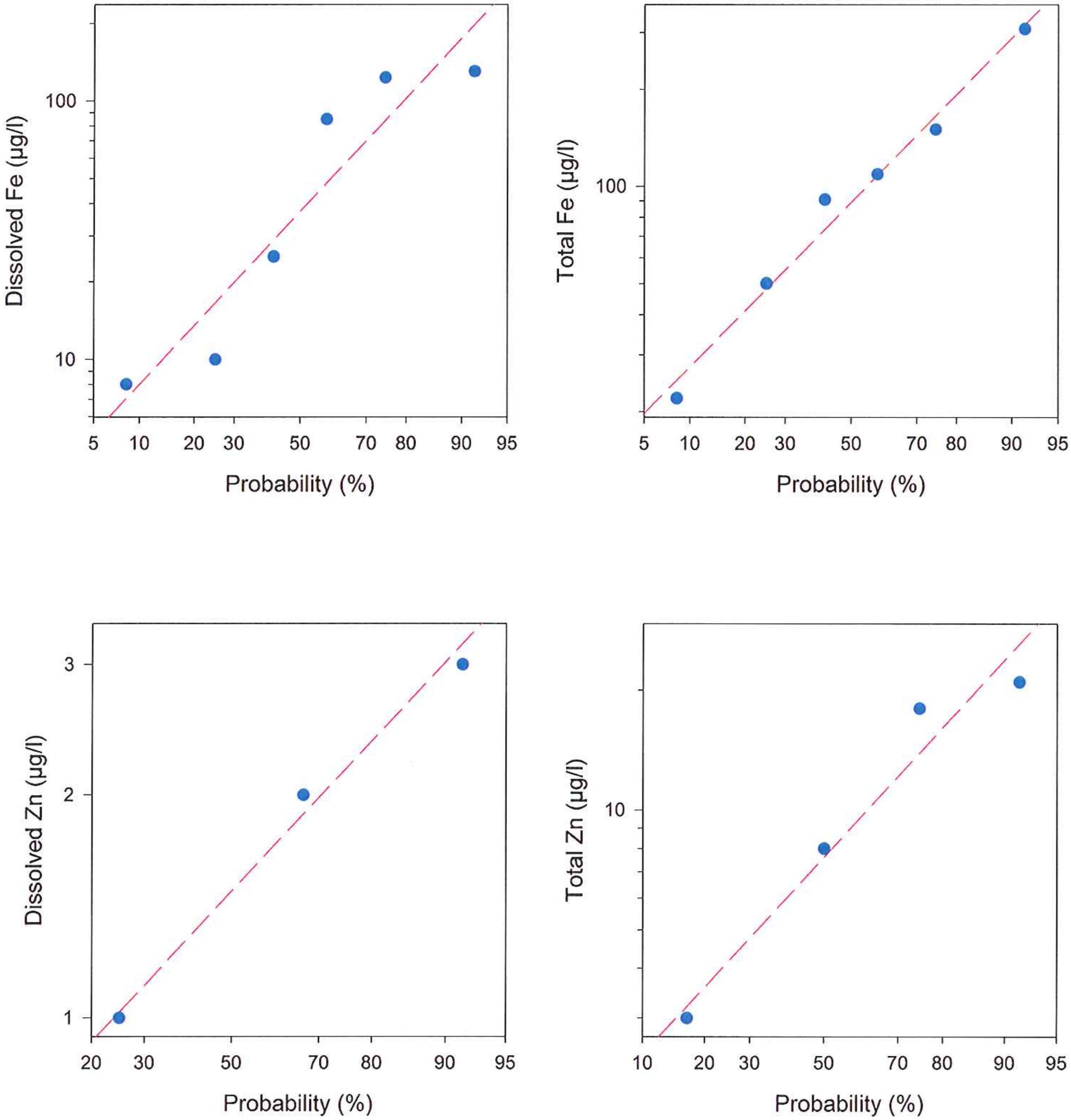


# Marl Prairie
# (Log Normal Probability Plots)

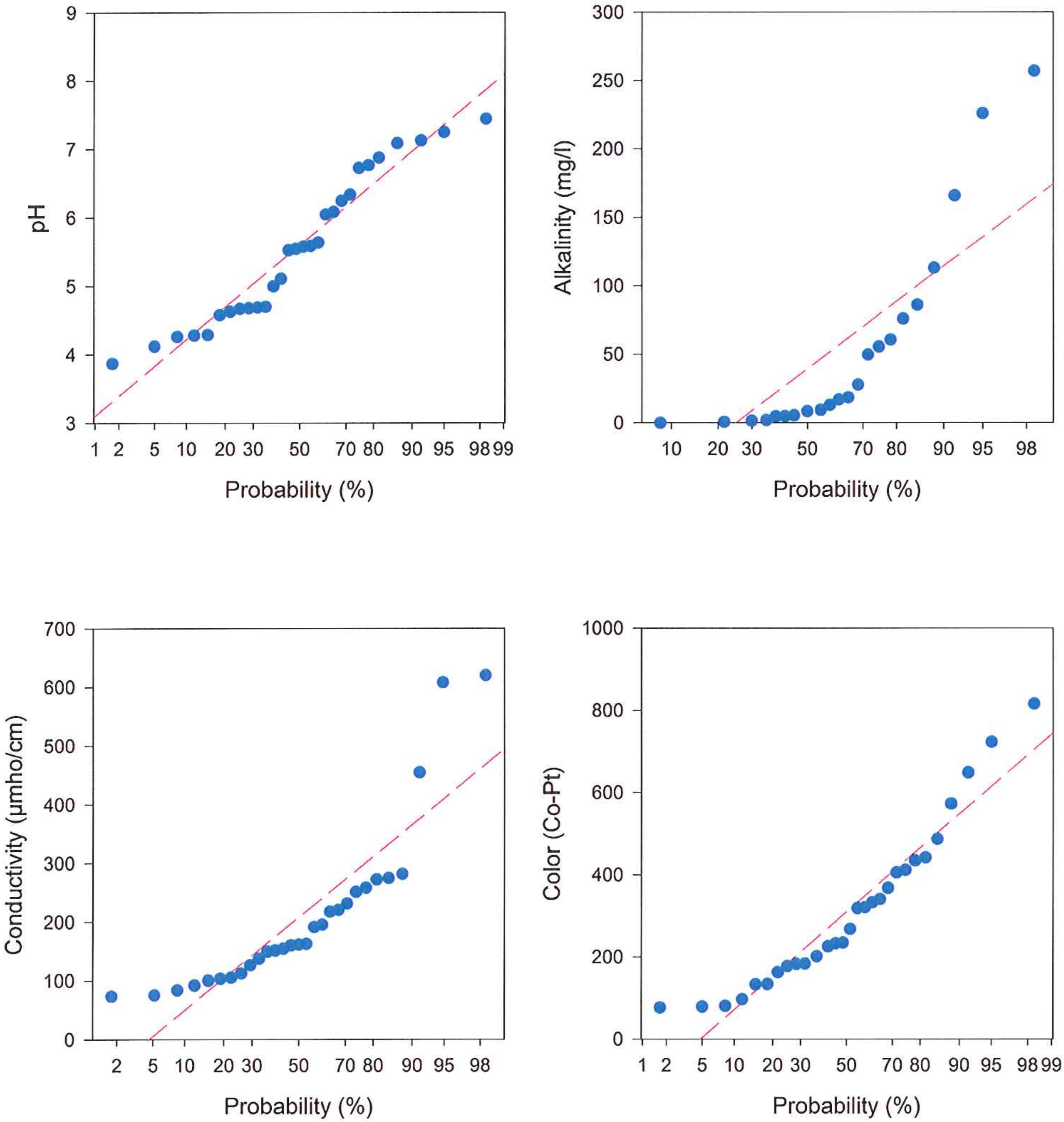


# Marl Prairie
# (Log Normal Probability Plots)

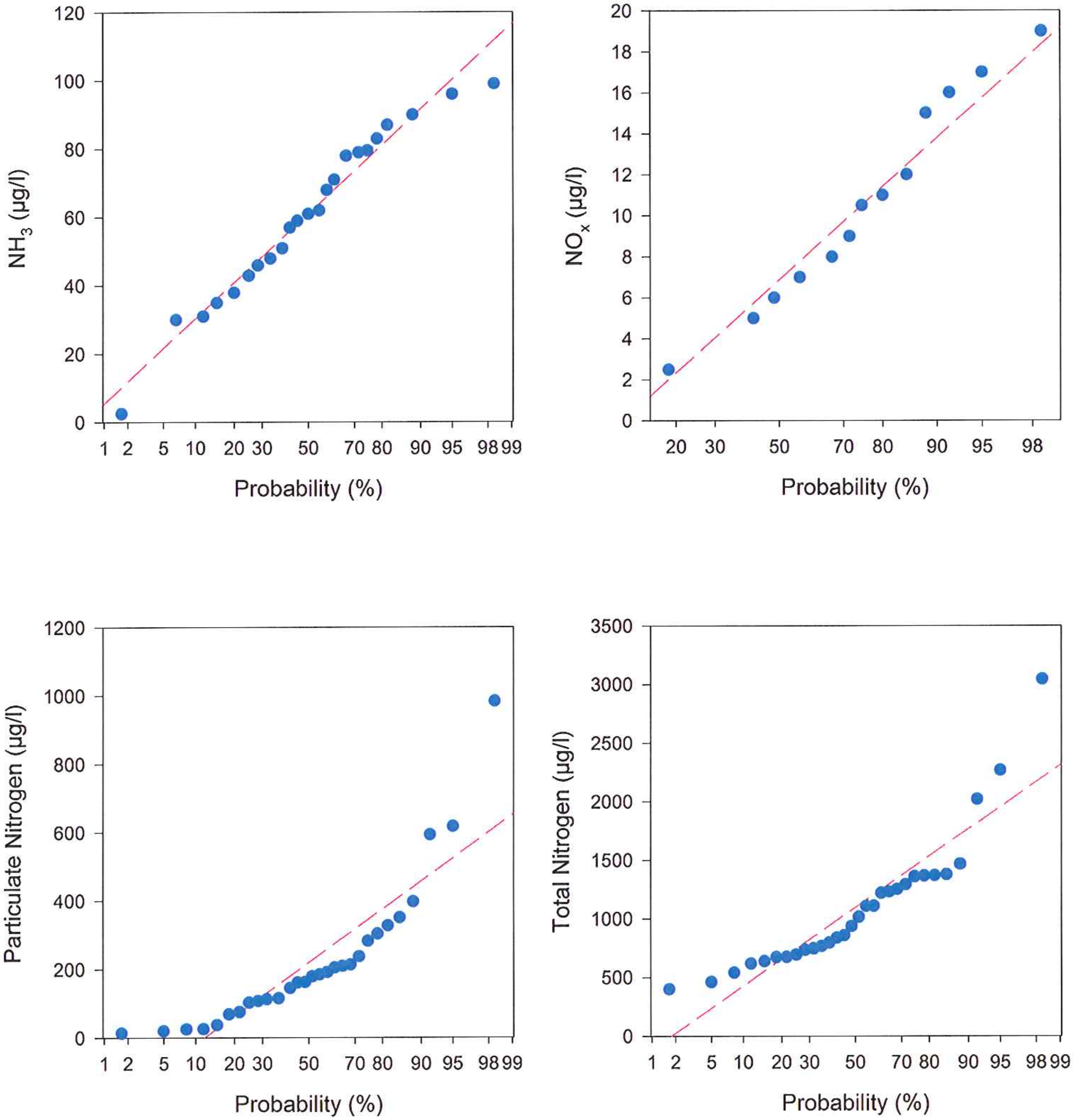


## 3. Mesic Flatwoods

# Mesic Flatwoods
# (Normal Probability Plots)



## Mesic Flatwoods
## (Normal Probability Plots)



# Mesic Flatwoods
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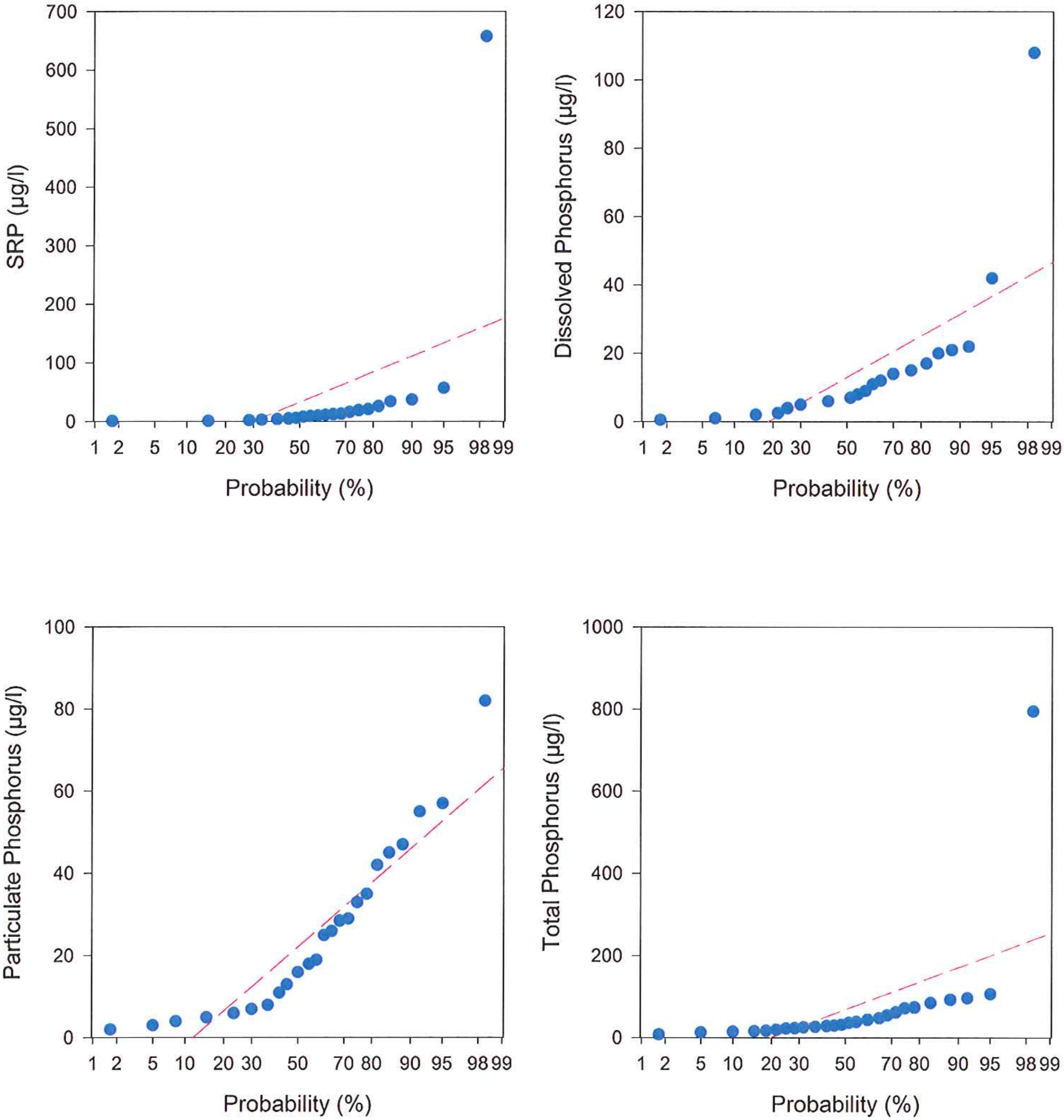

## Mesic Flatwoods
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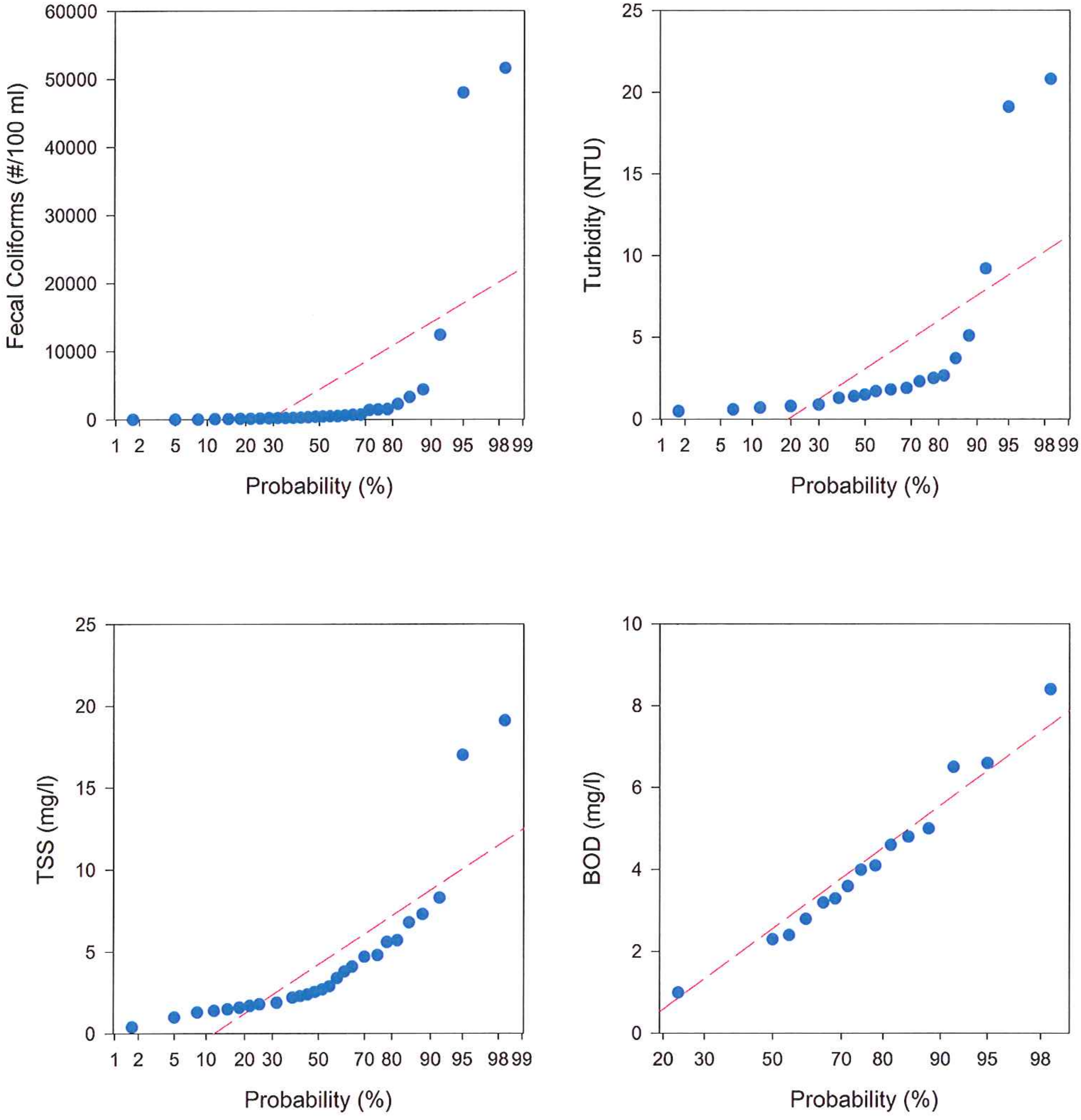

# Mesic Flatwoods
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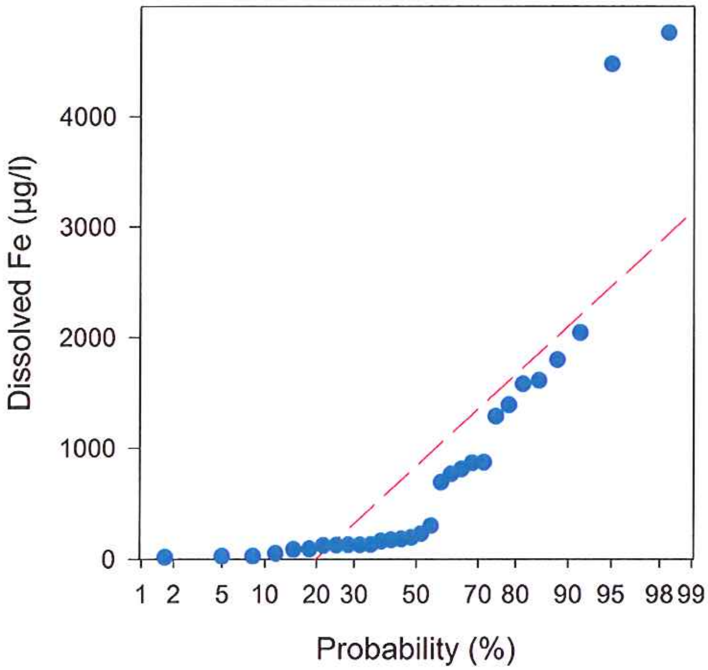
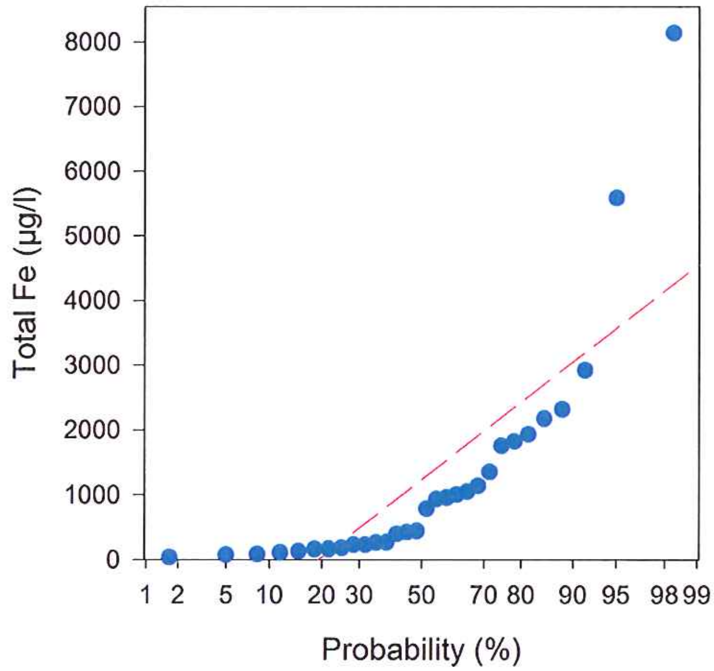
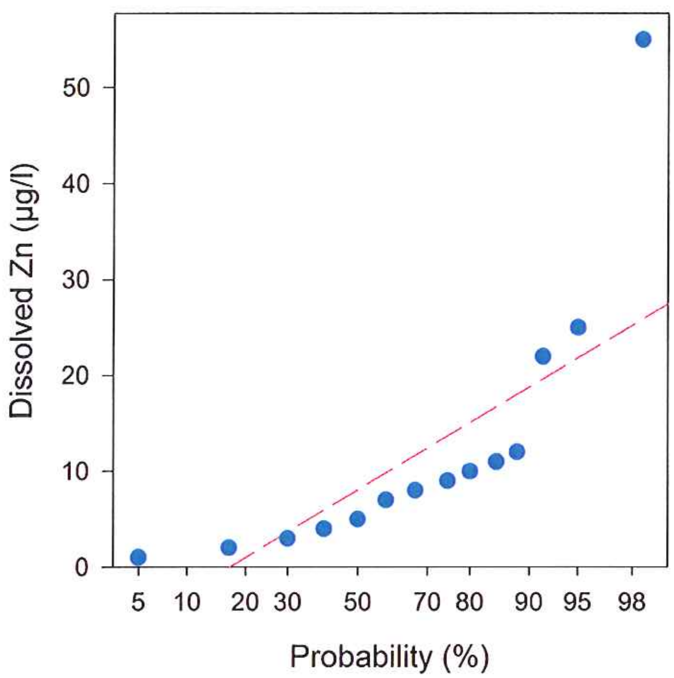
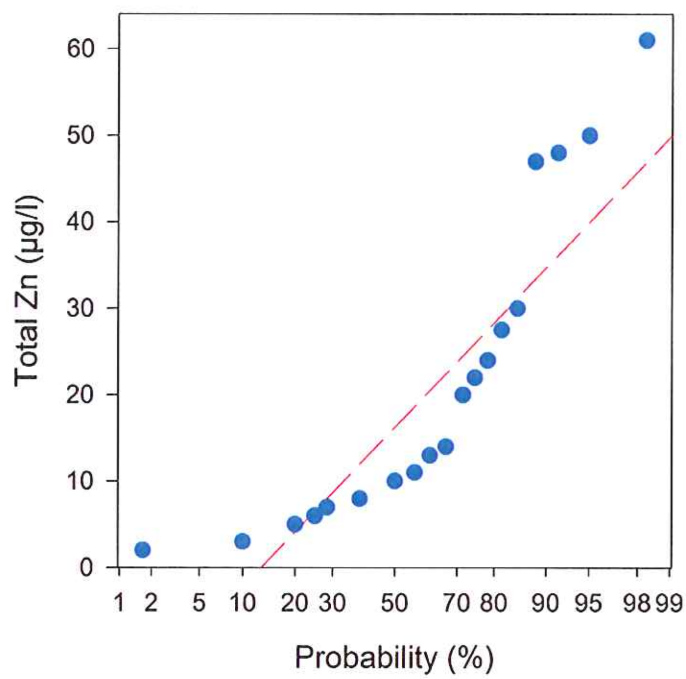
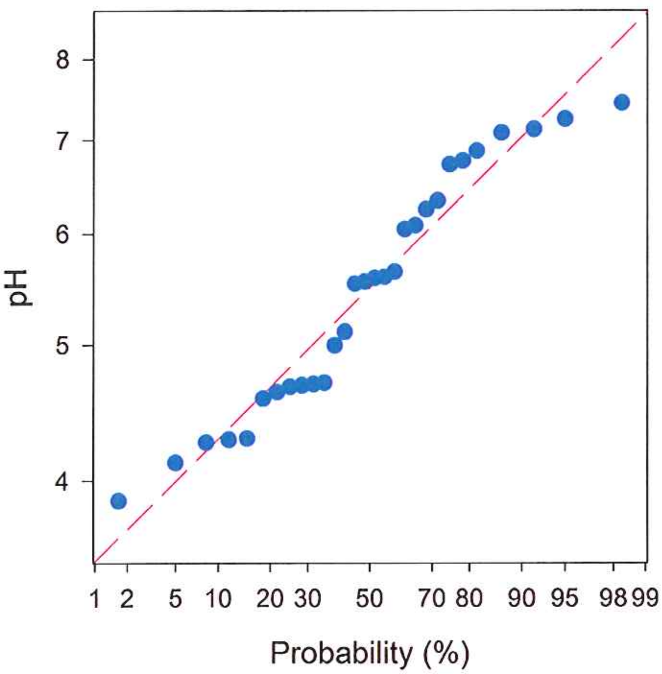


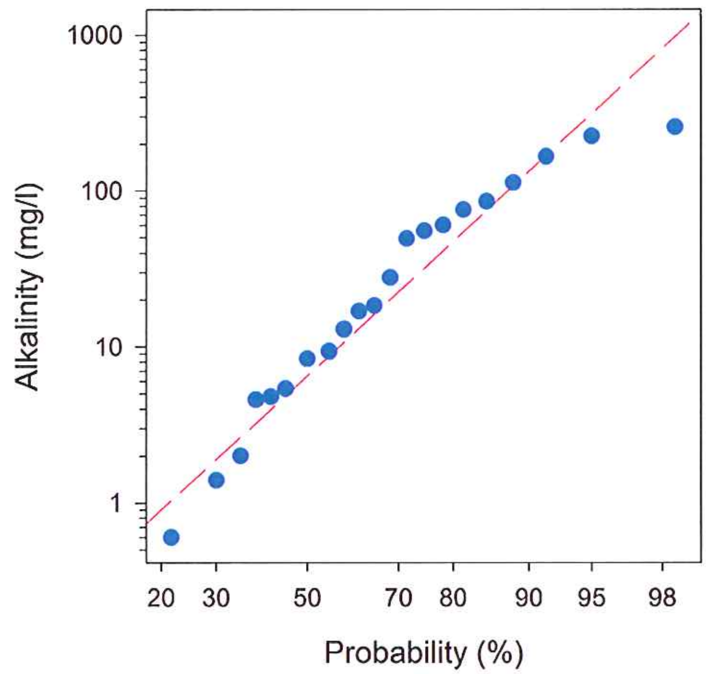



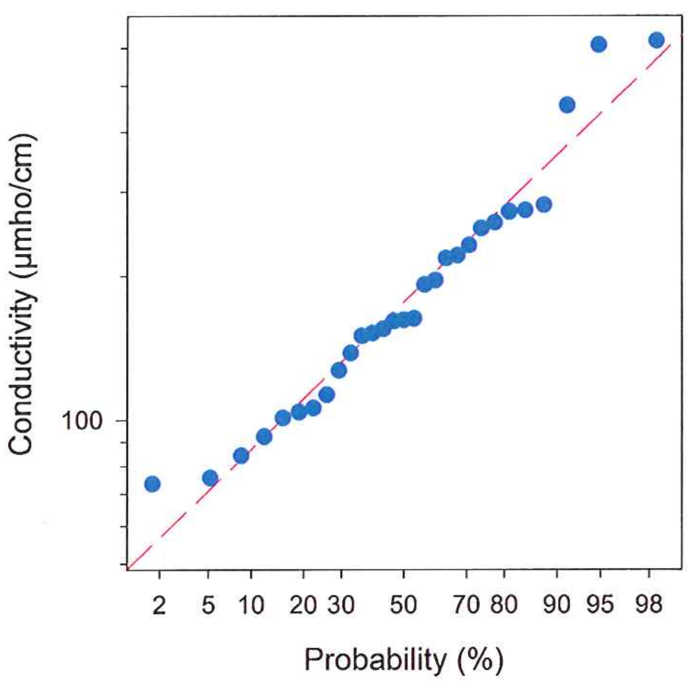



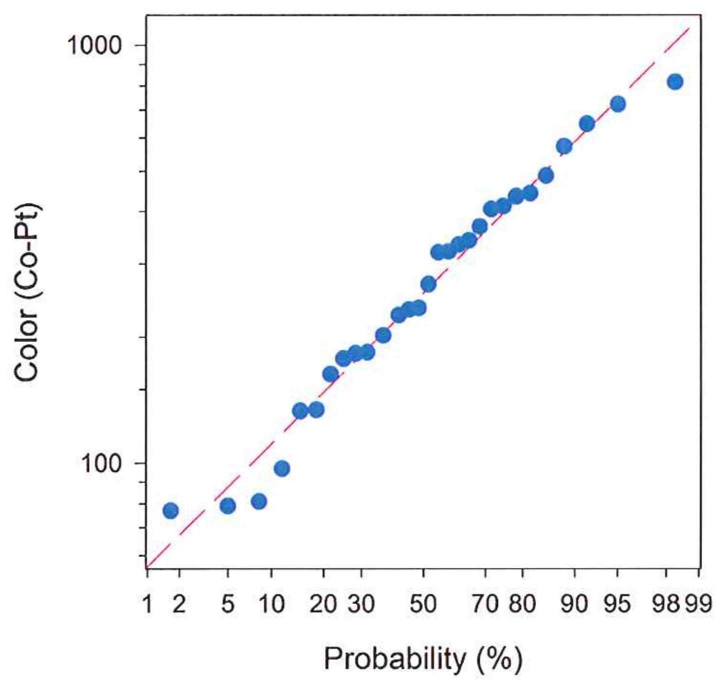



# Mesic Flatwoods
# (Log Normal Probability Plots)

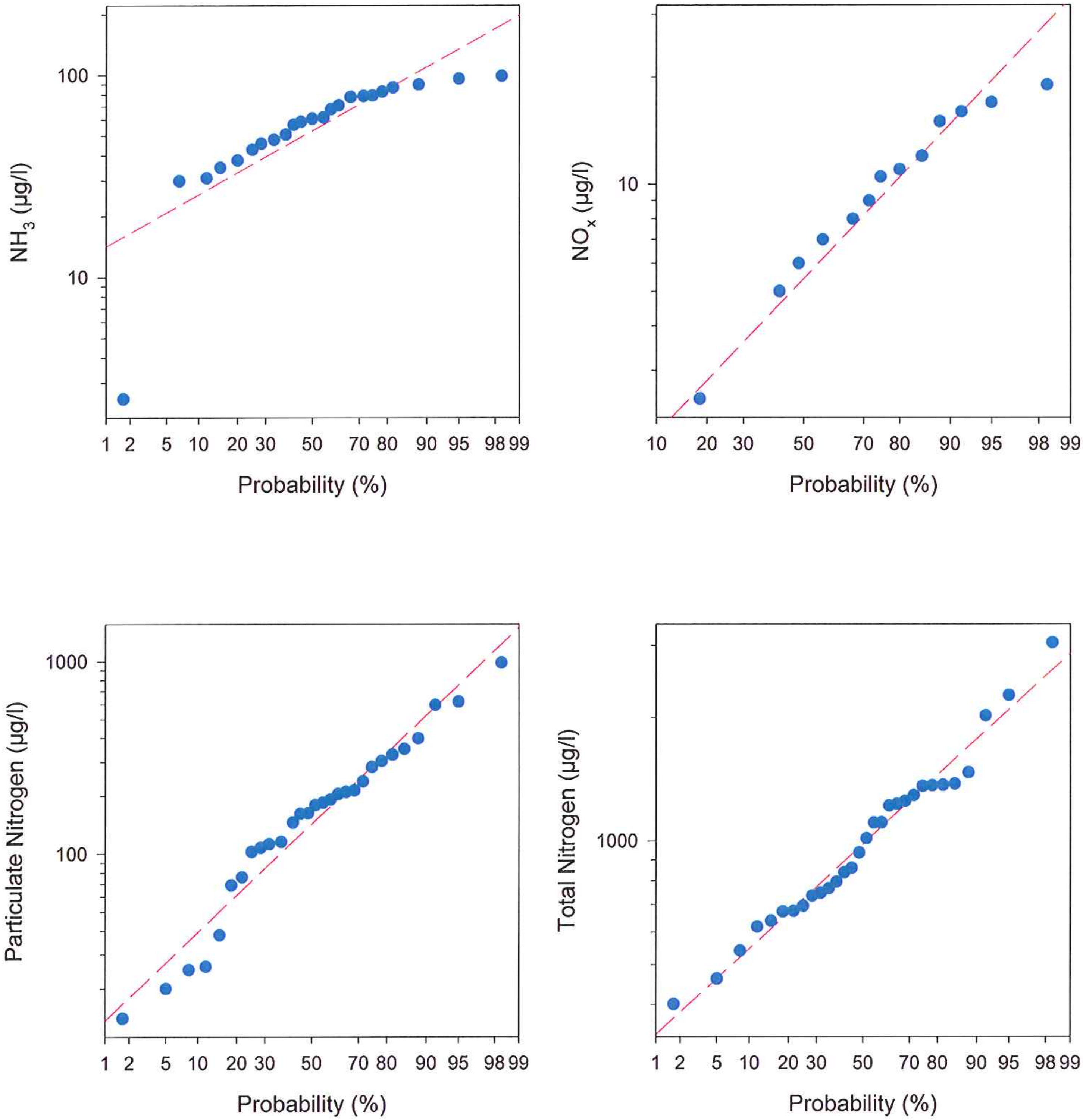


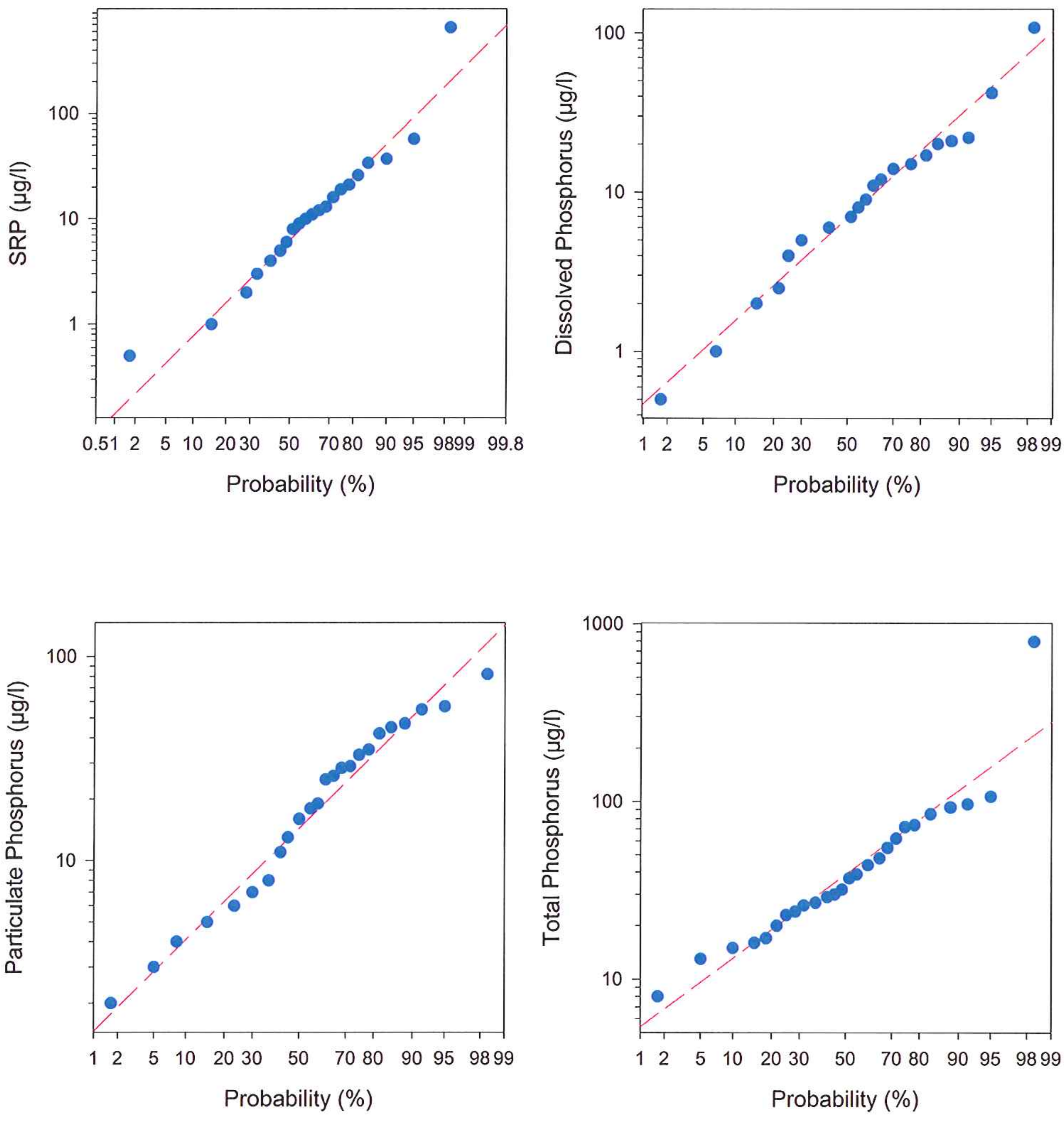



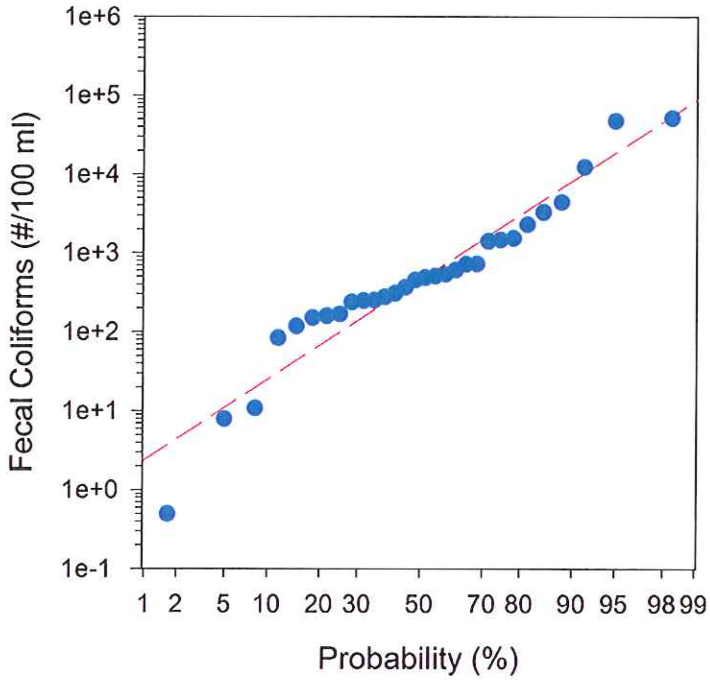
# Mesic Flatwoods
# (Log Normal Probability Plots)

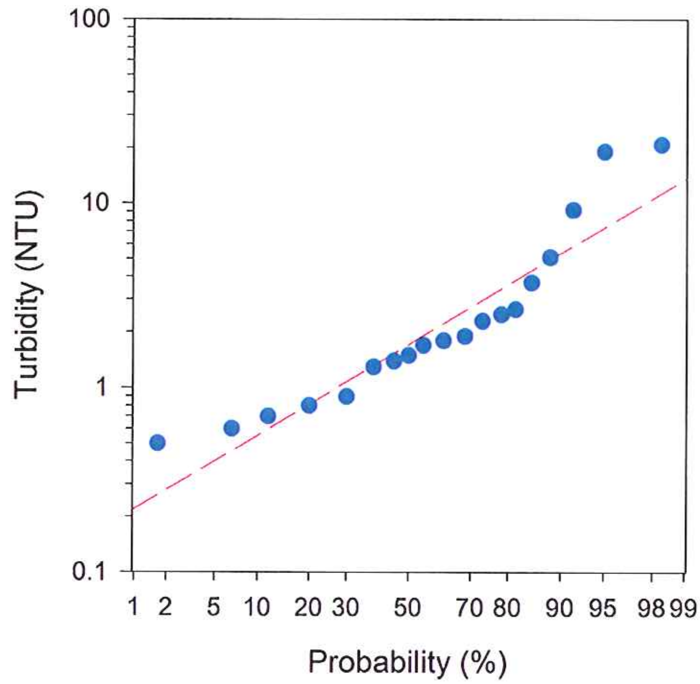


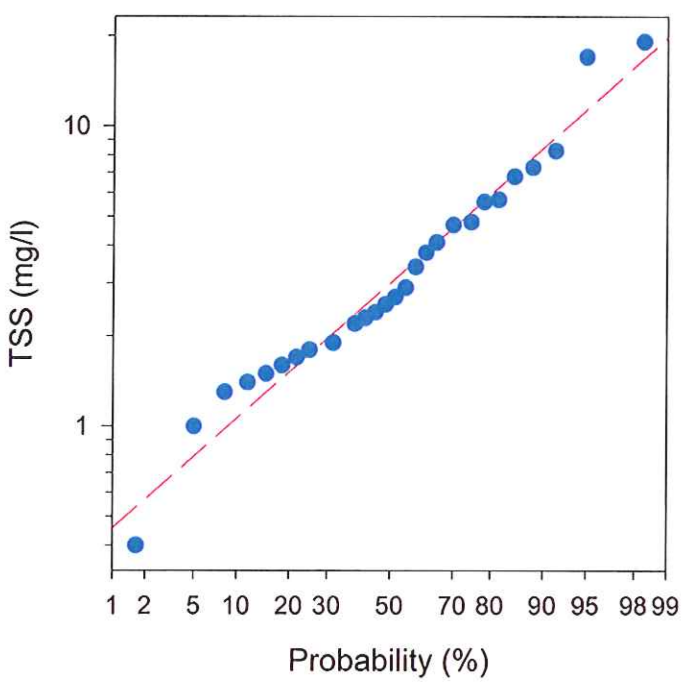
# Mesic Flatwoods
# (Log Normal Probability Plots)

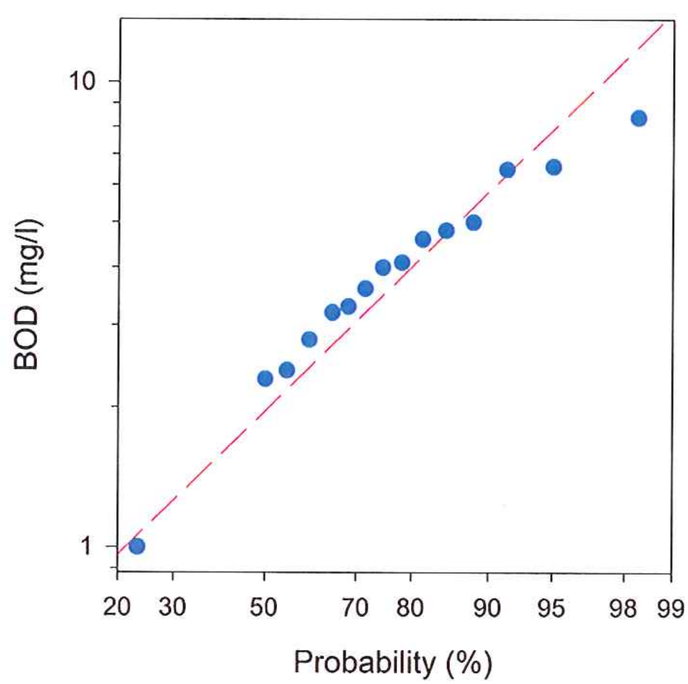


# Mesic Flatwoods
# (Log Normal Probability Plots)

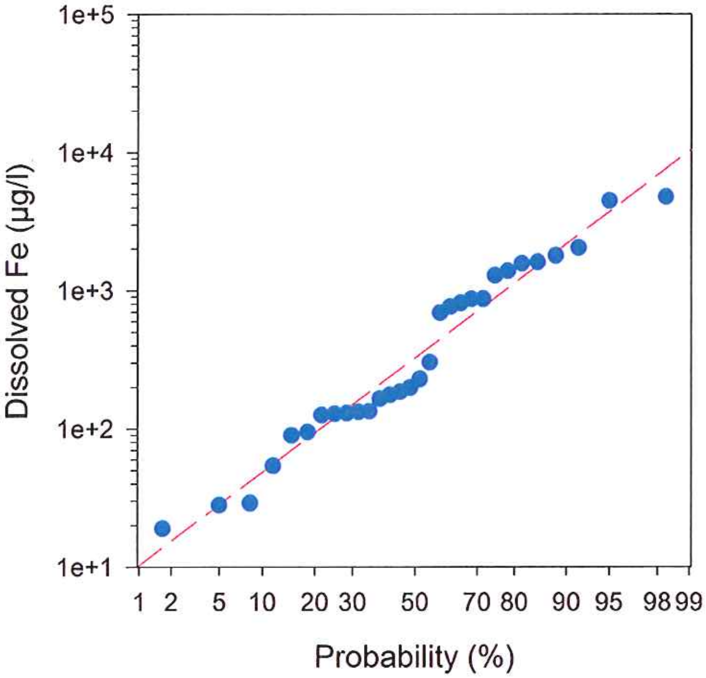


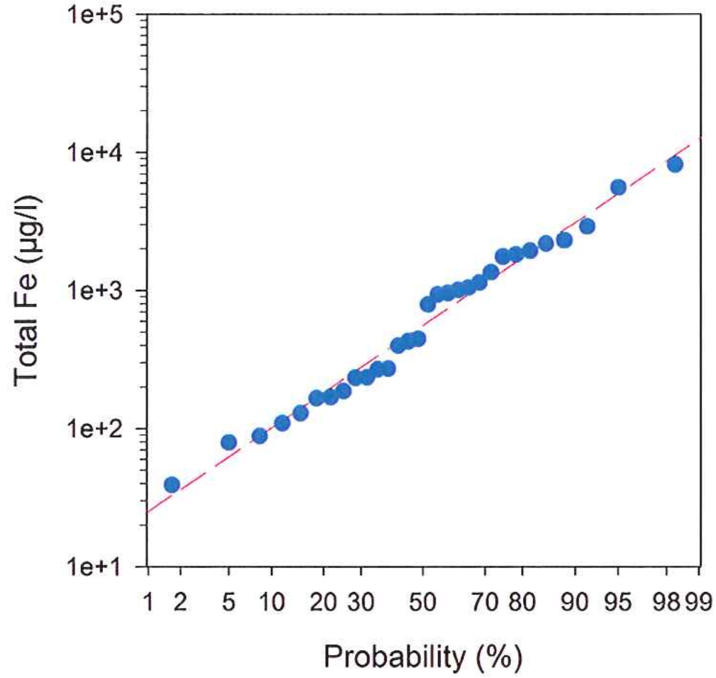



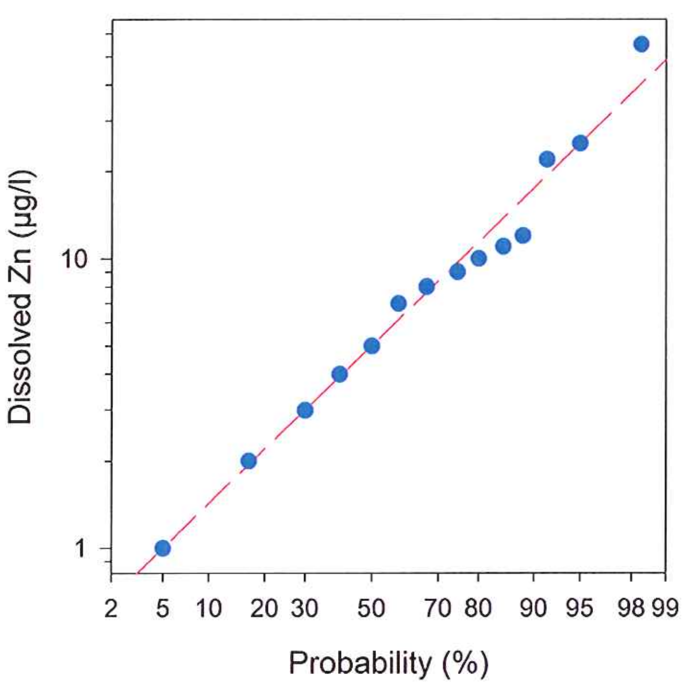



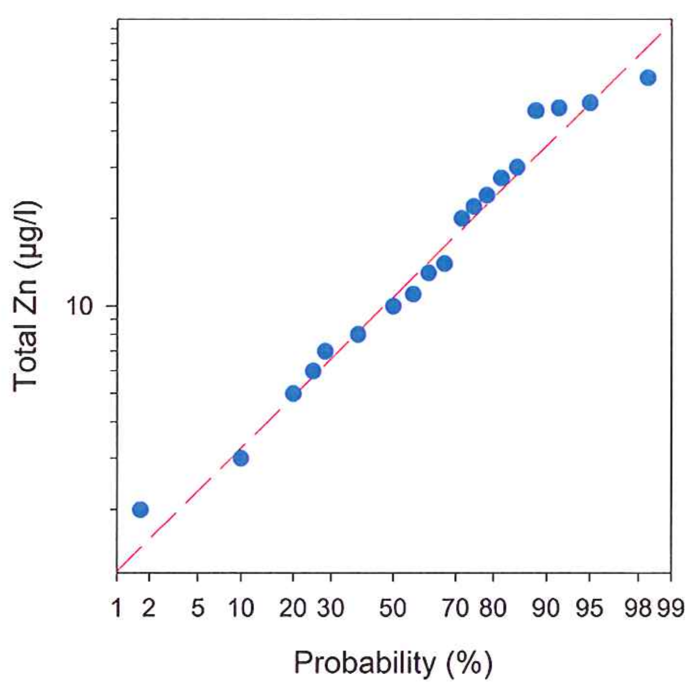



# Mesic Flatwoods
# (Log Normal Probability Plots)



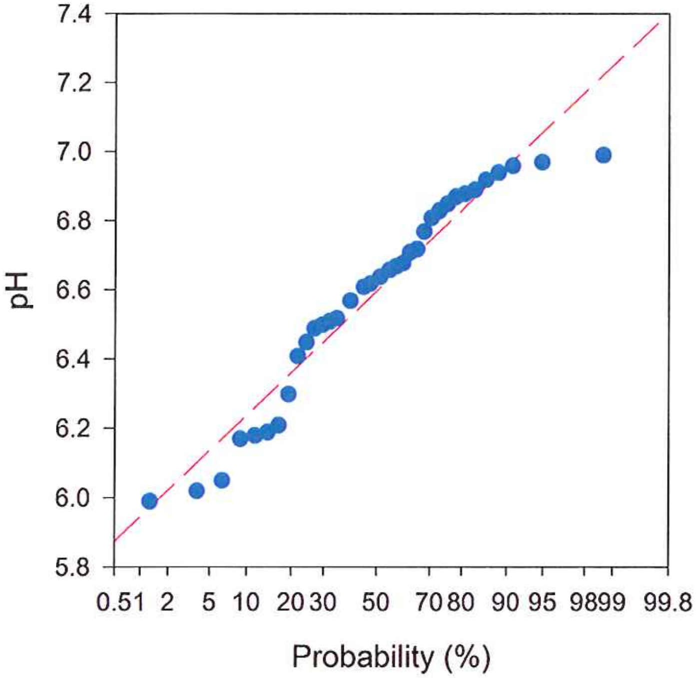



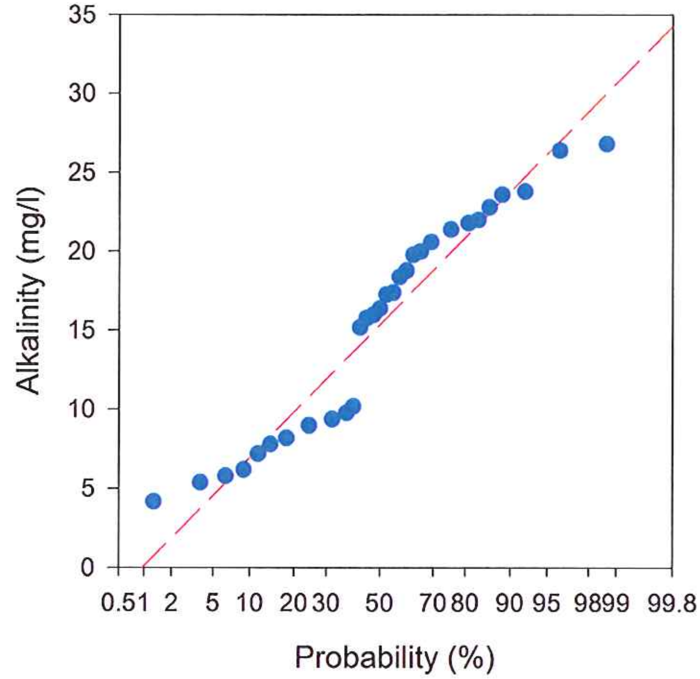



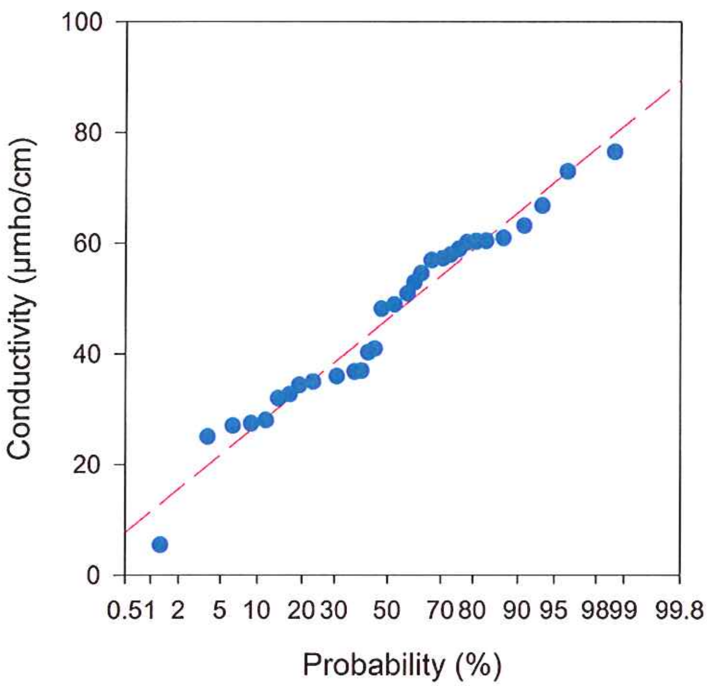



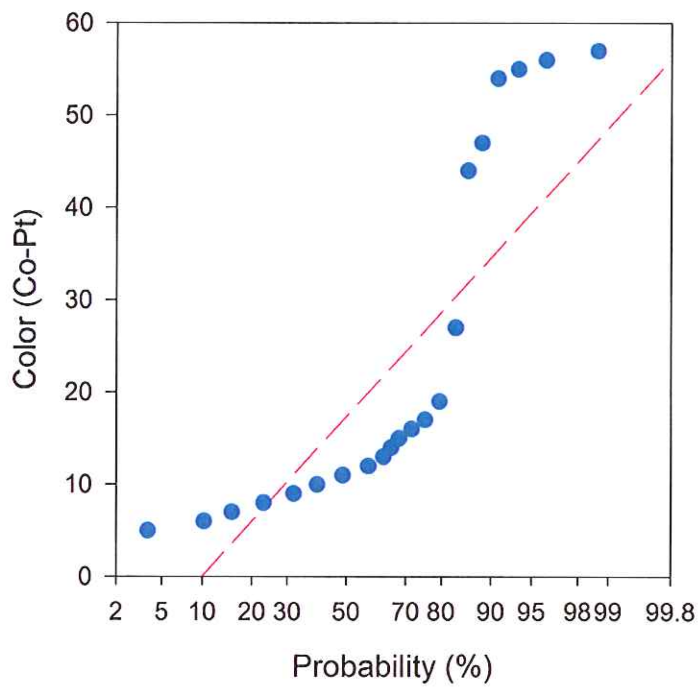
# 4. Mixed Hardwood Forest

# Mixed Hardwoods
# (Normal Probability Plots)

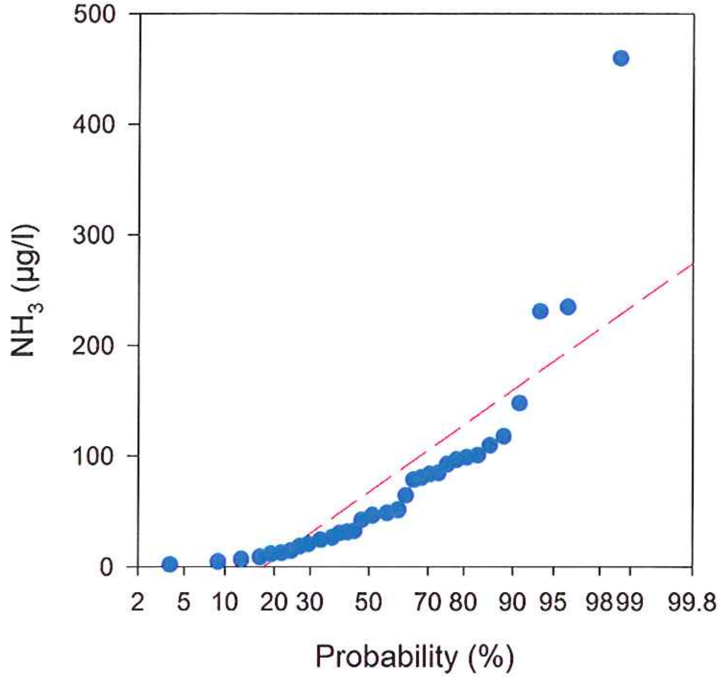


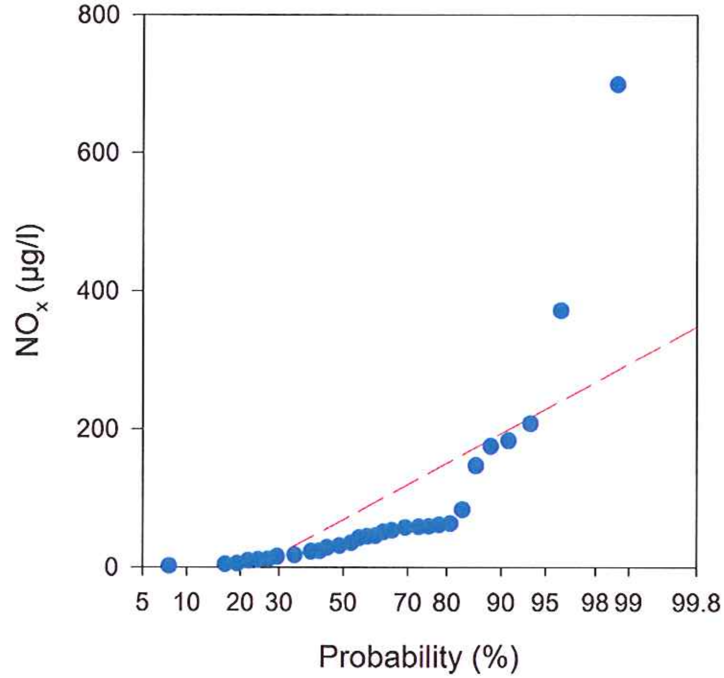



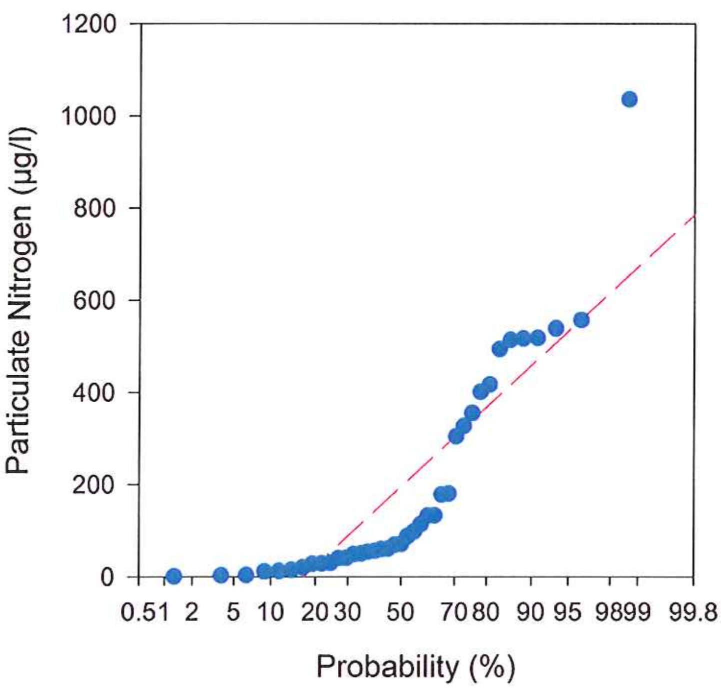



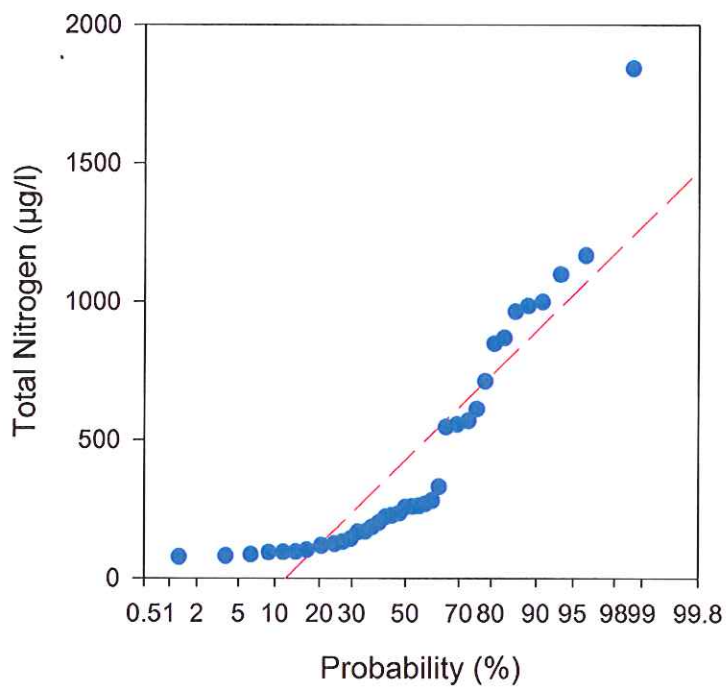



# Mixed Hardwoods
# (Normal Probability Plots)



# Mixed Hardwoods
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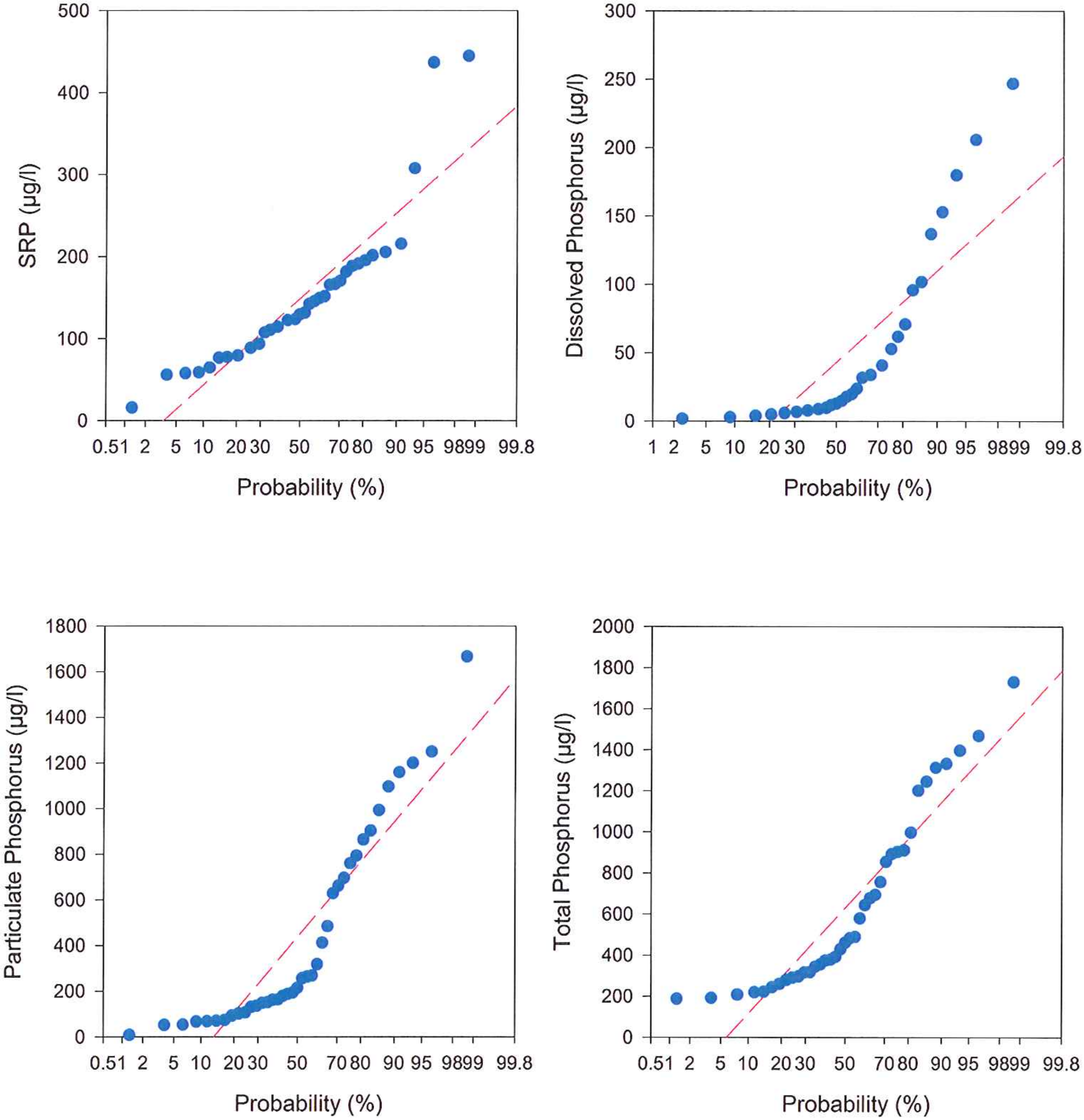
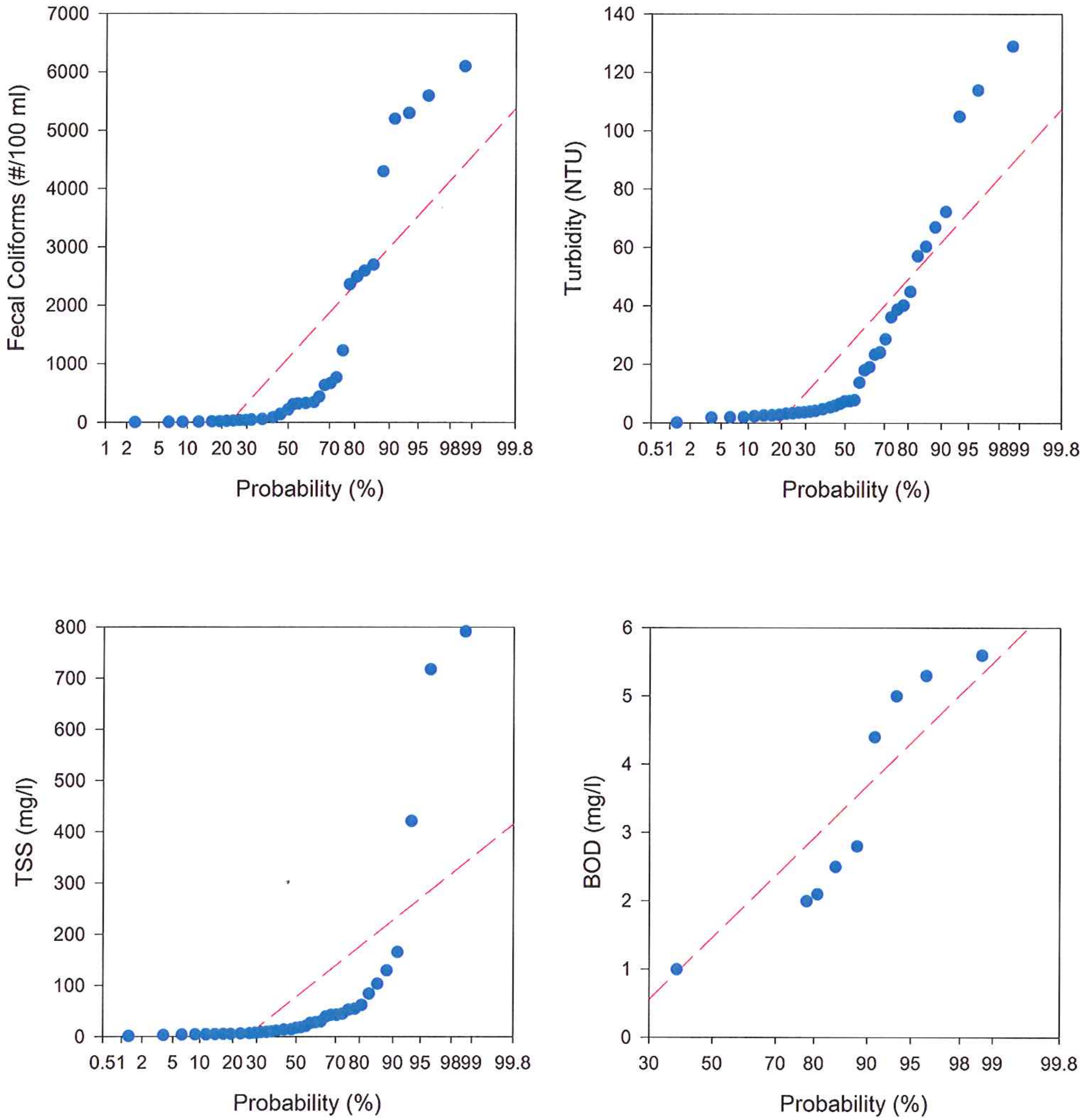
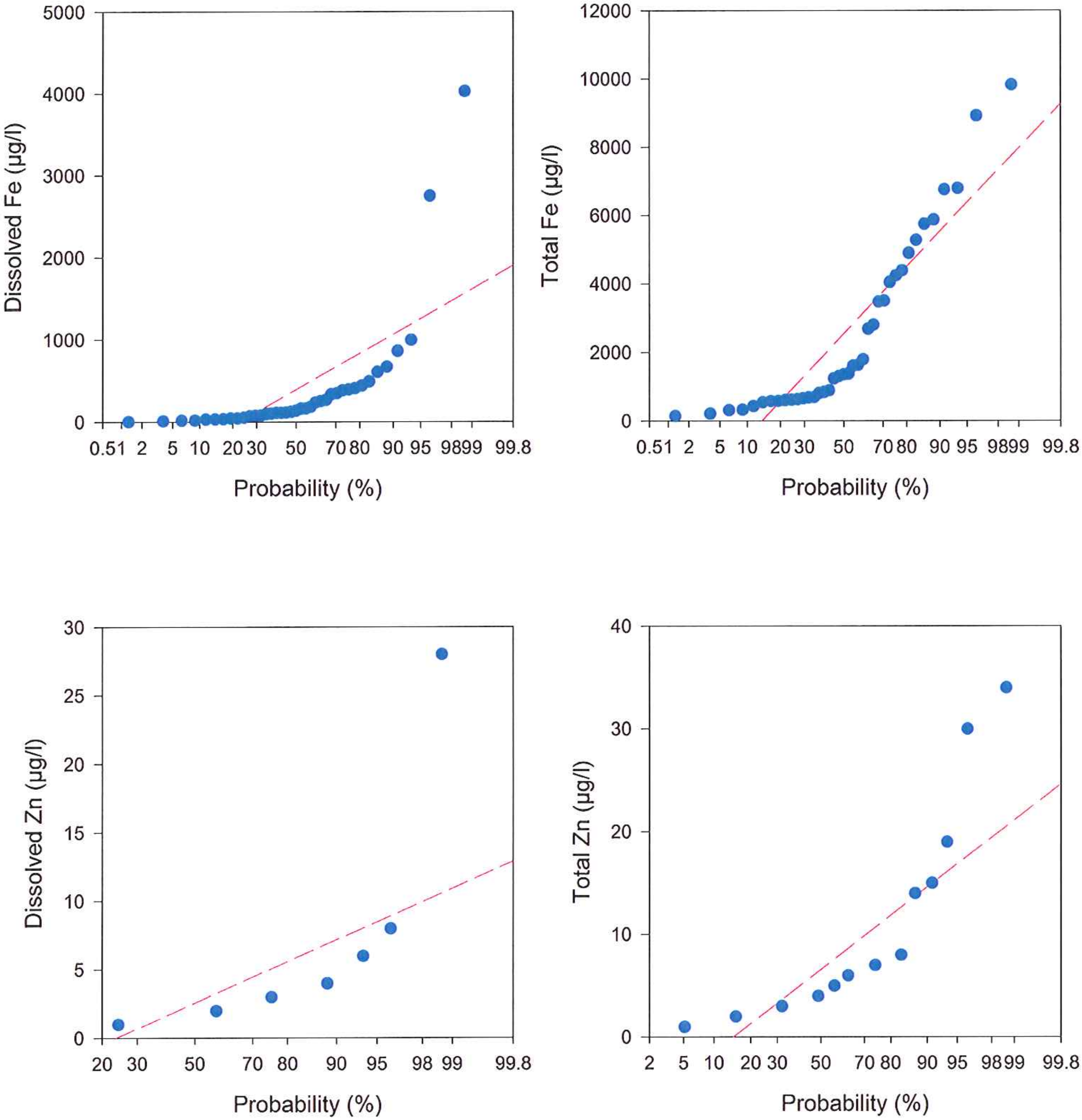


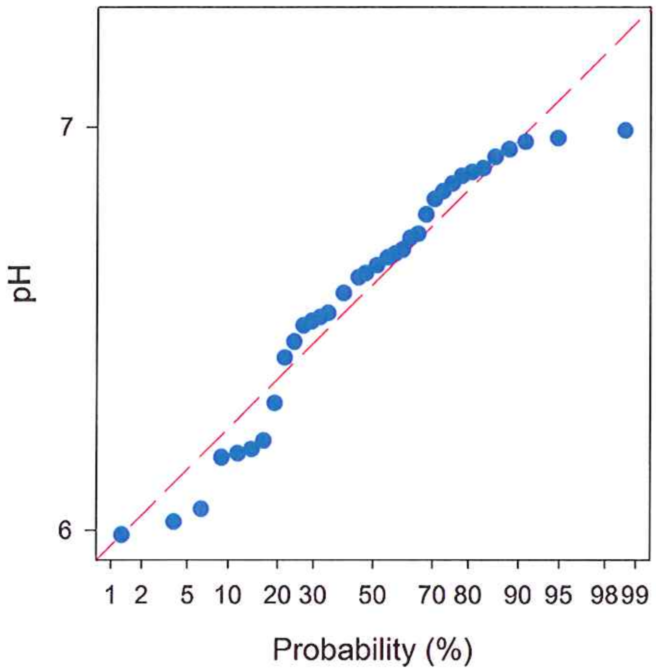
## Mixed Hardwoods
## (Normal Probability Plots)

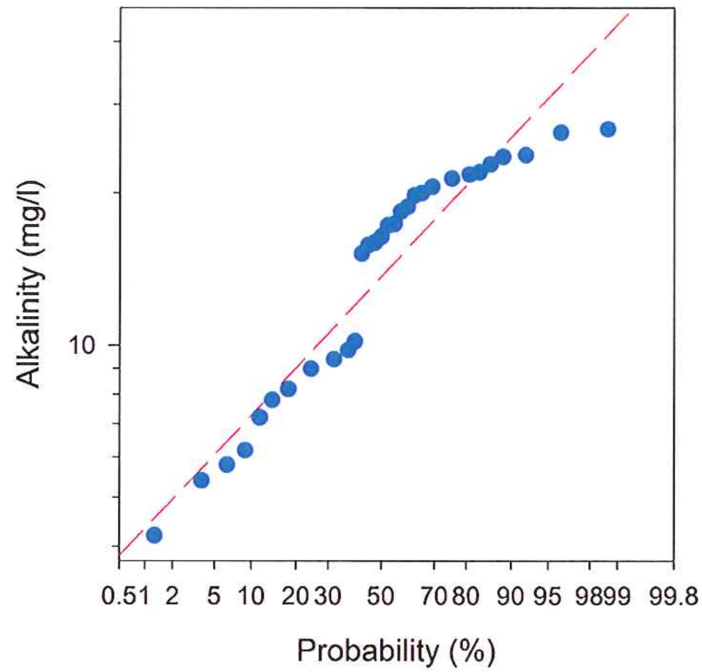


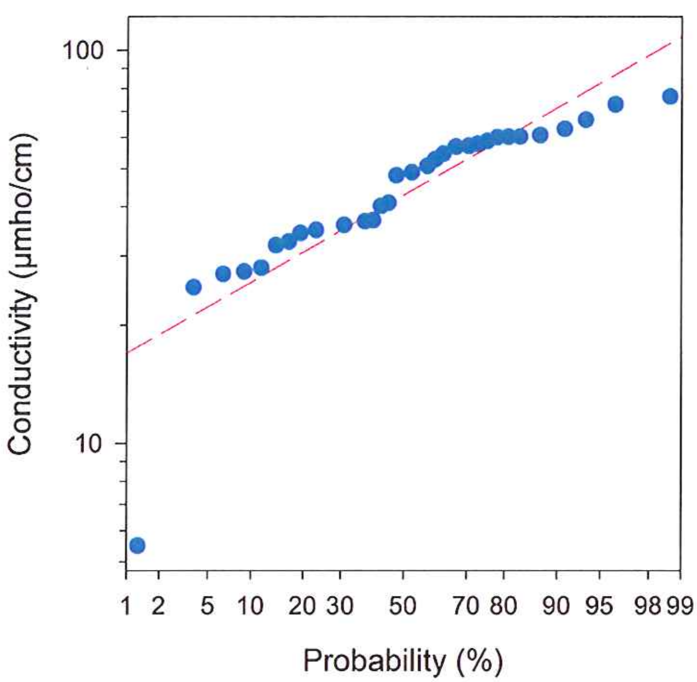
## Mixed Hardwoods
## (Normal Probability Plots)

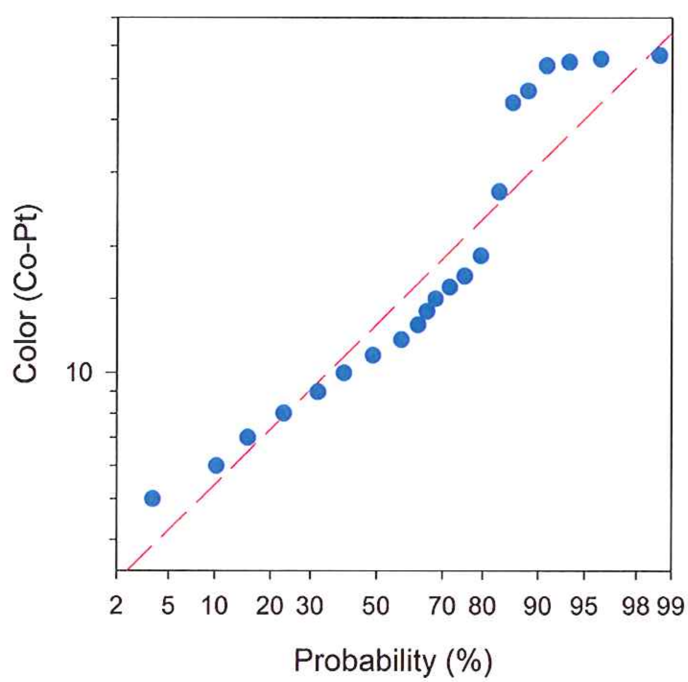


# Mixed Hardwoods
# (Log Normal Probability Plots)

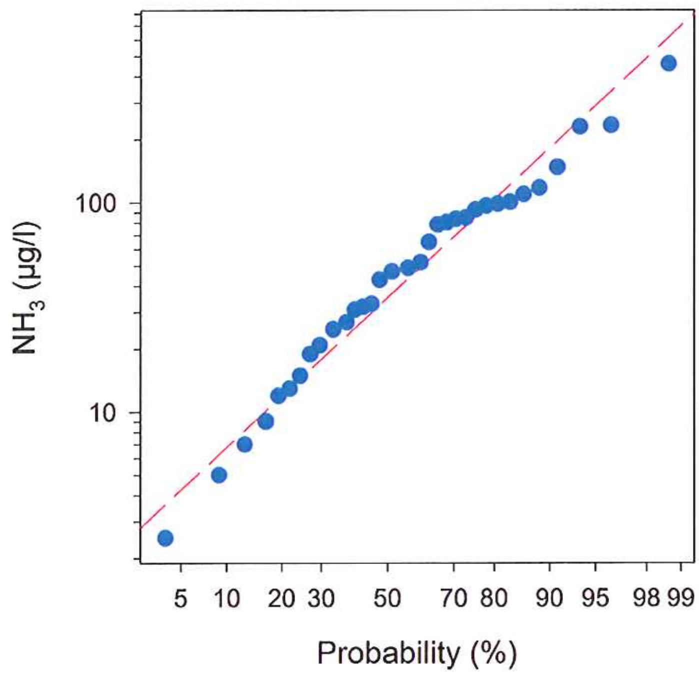


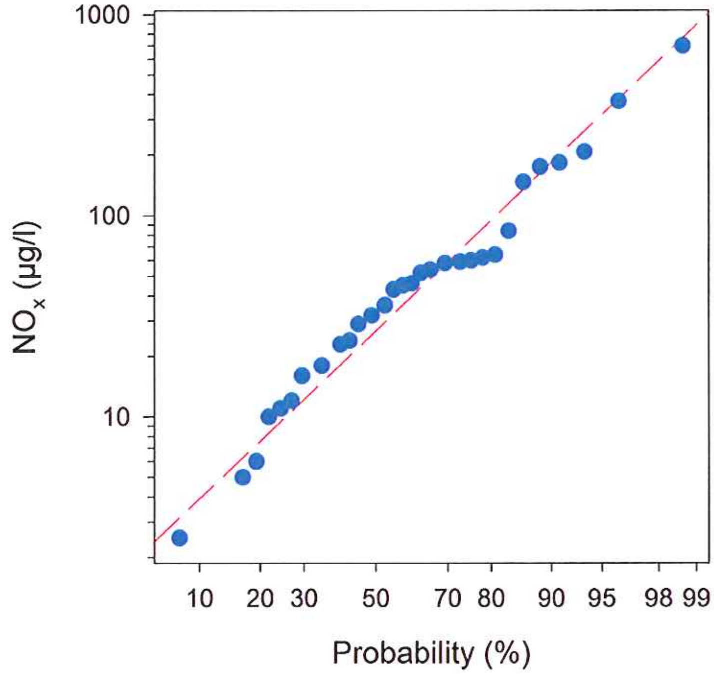



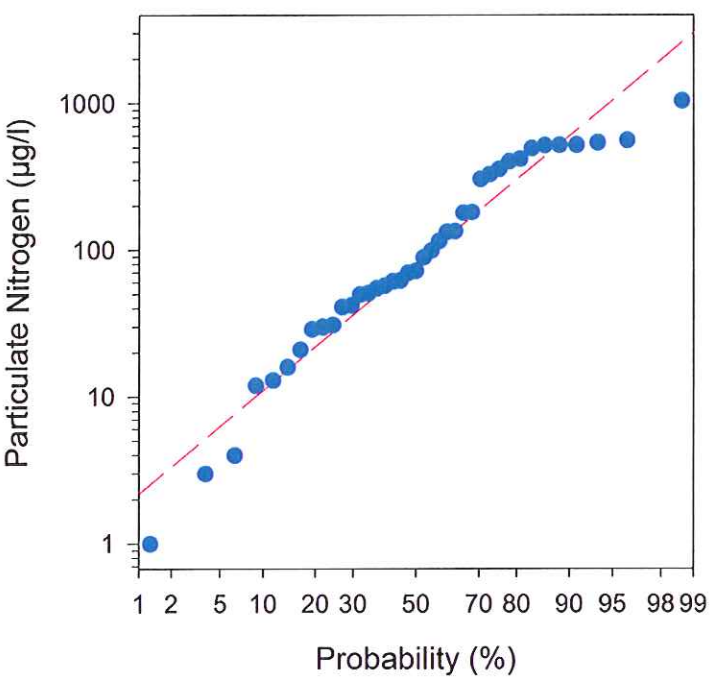



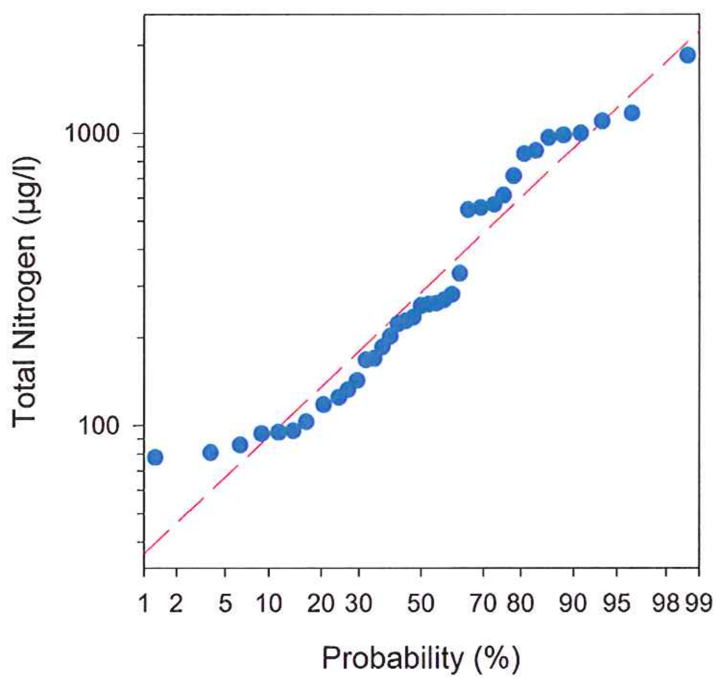



# Mixed Hardwoods
# (Log Normal Probability Plots)

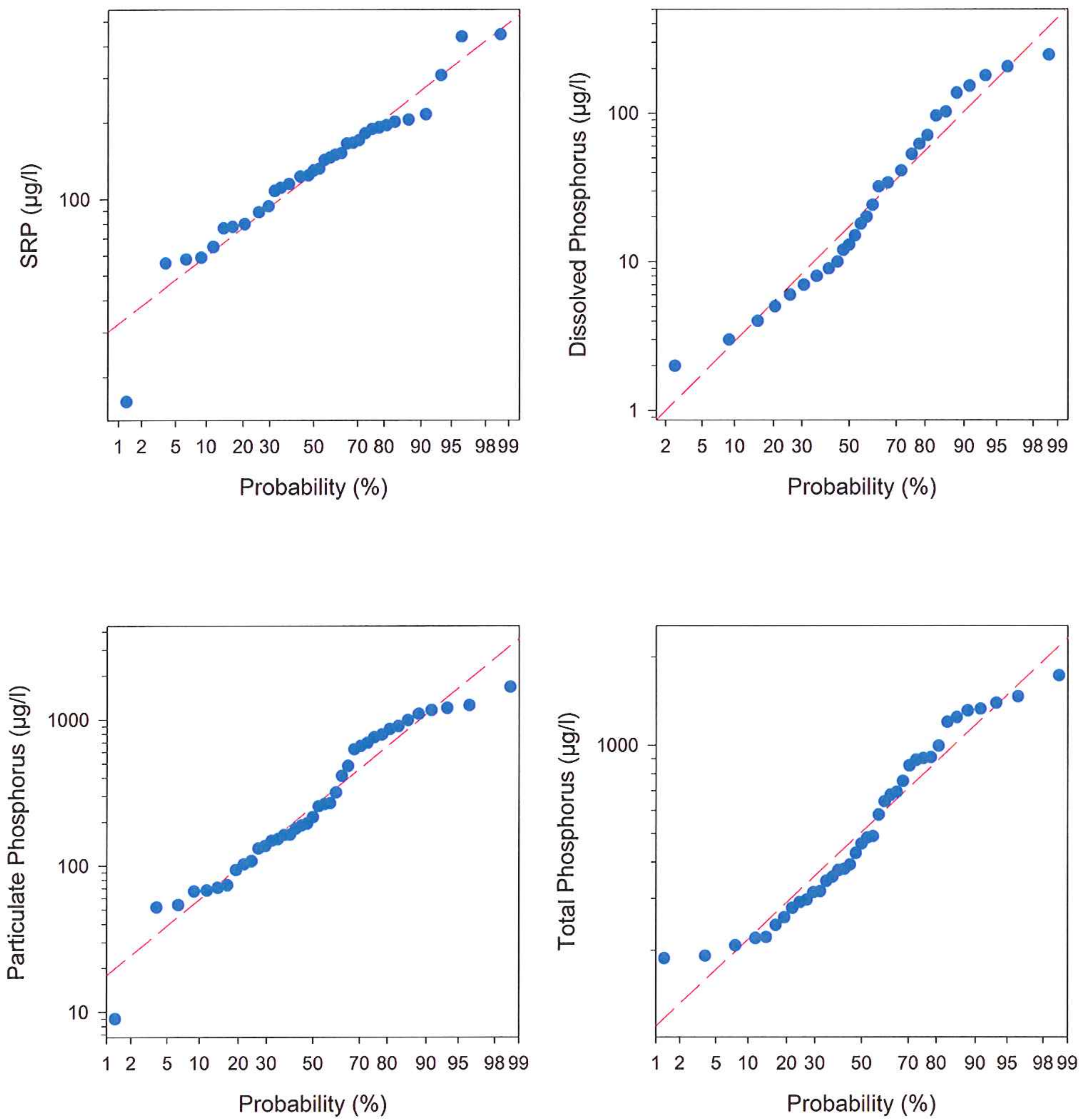


## Mixed Hardwoods
## (Log Normal Probability Plots)



# Mixed Hardwoods
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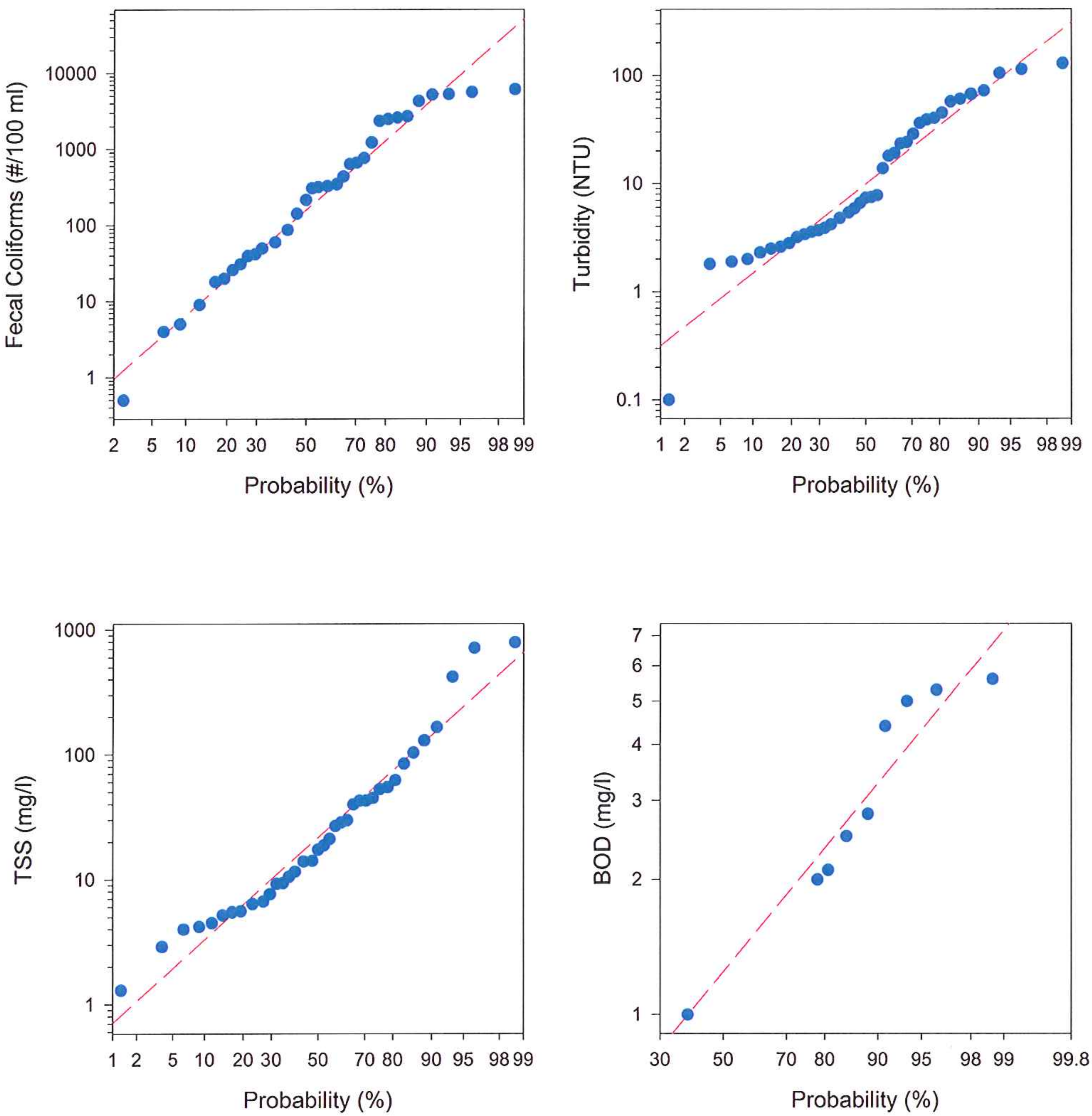
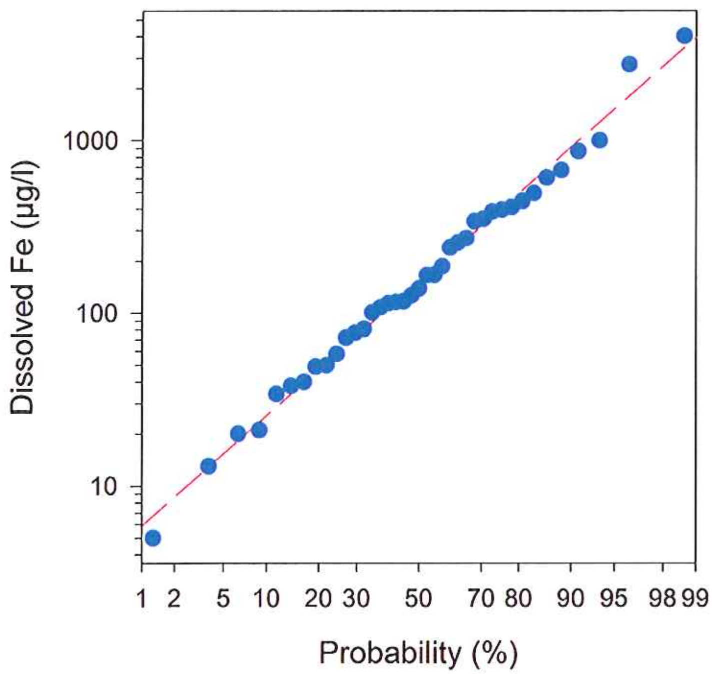
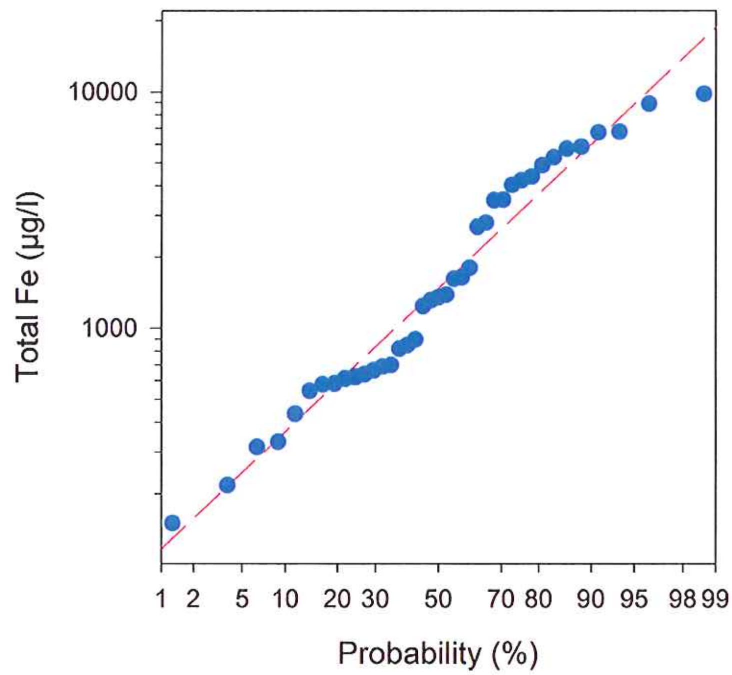
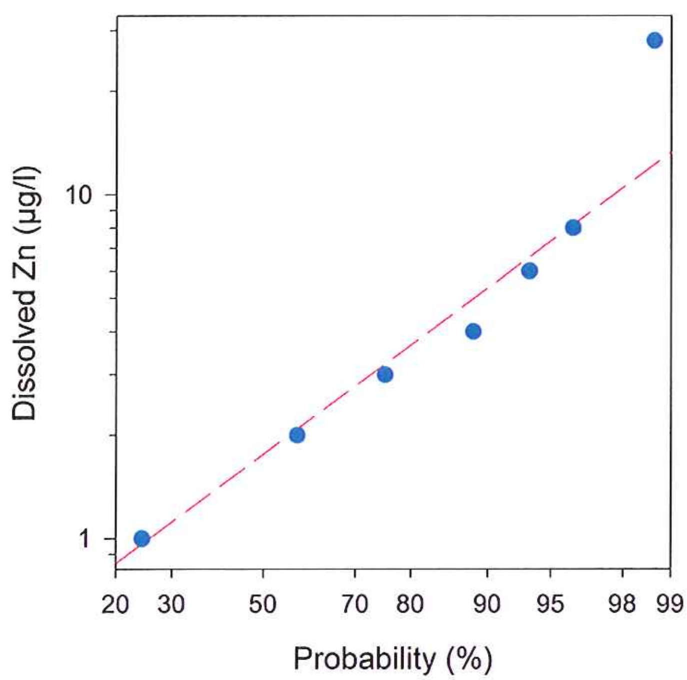
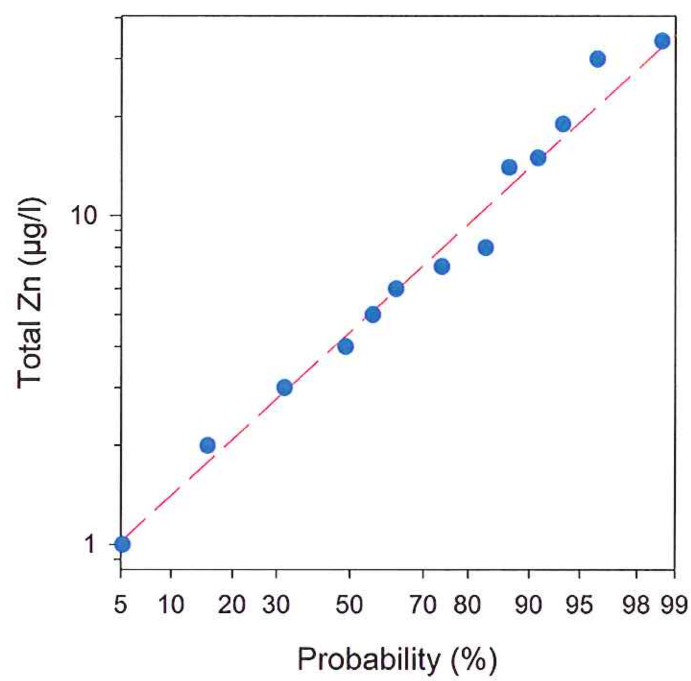


# Mixed Hardwoods
# (Log Normal Probability Plots)



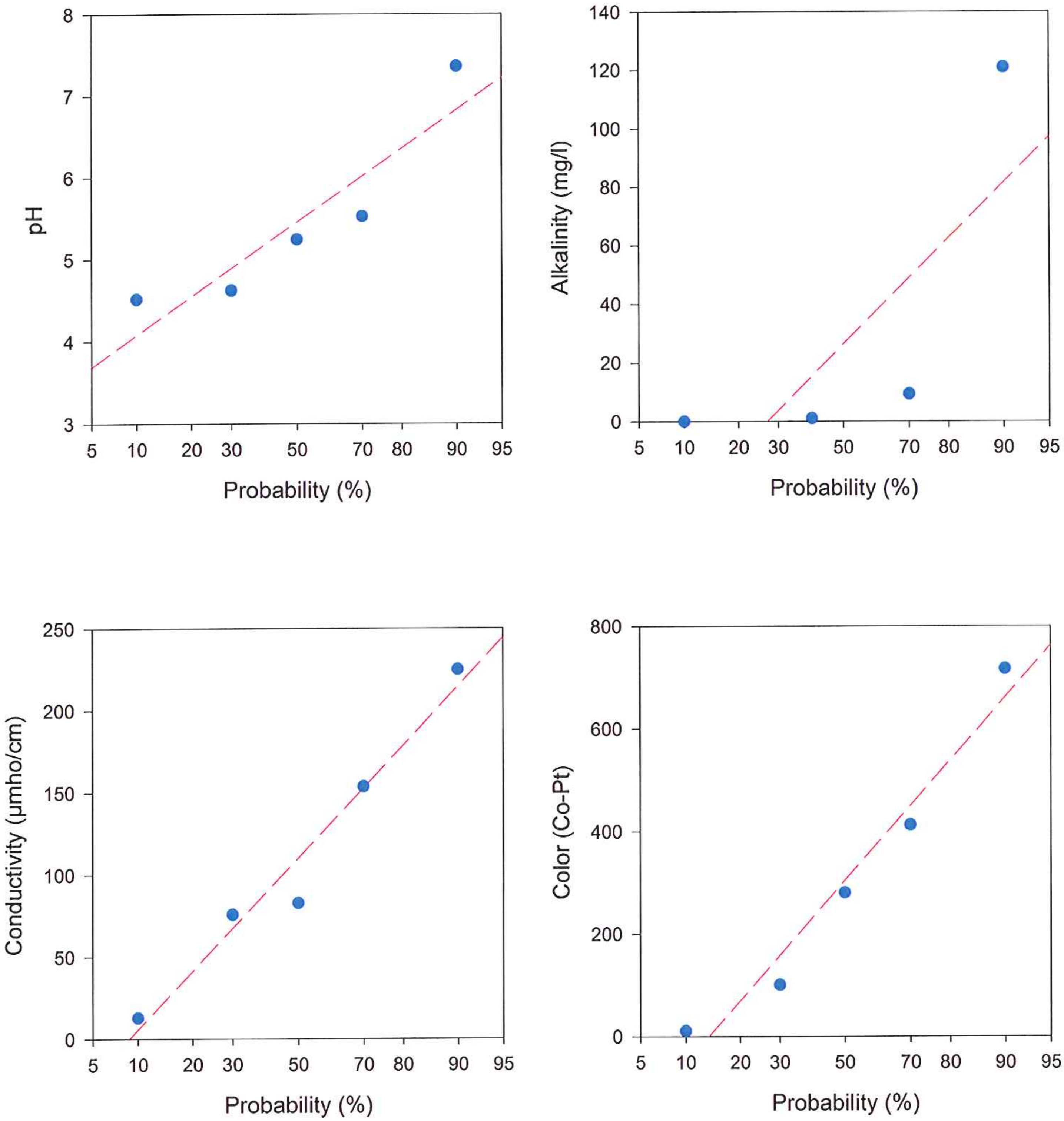



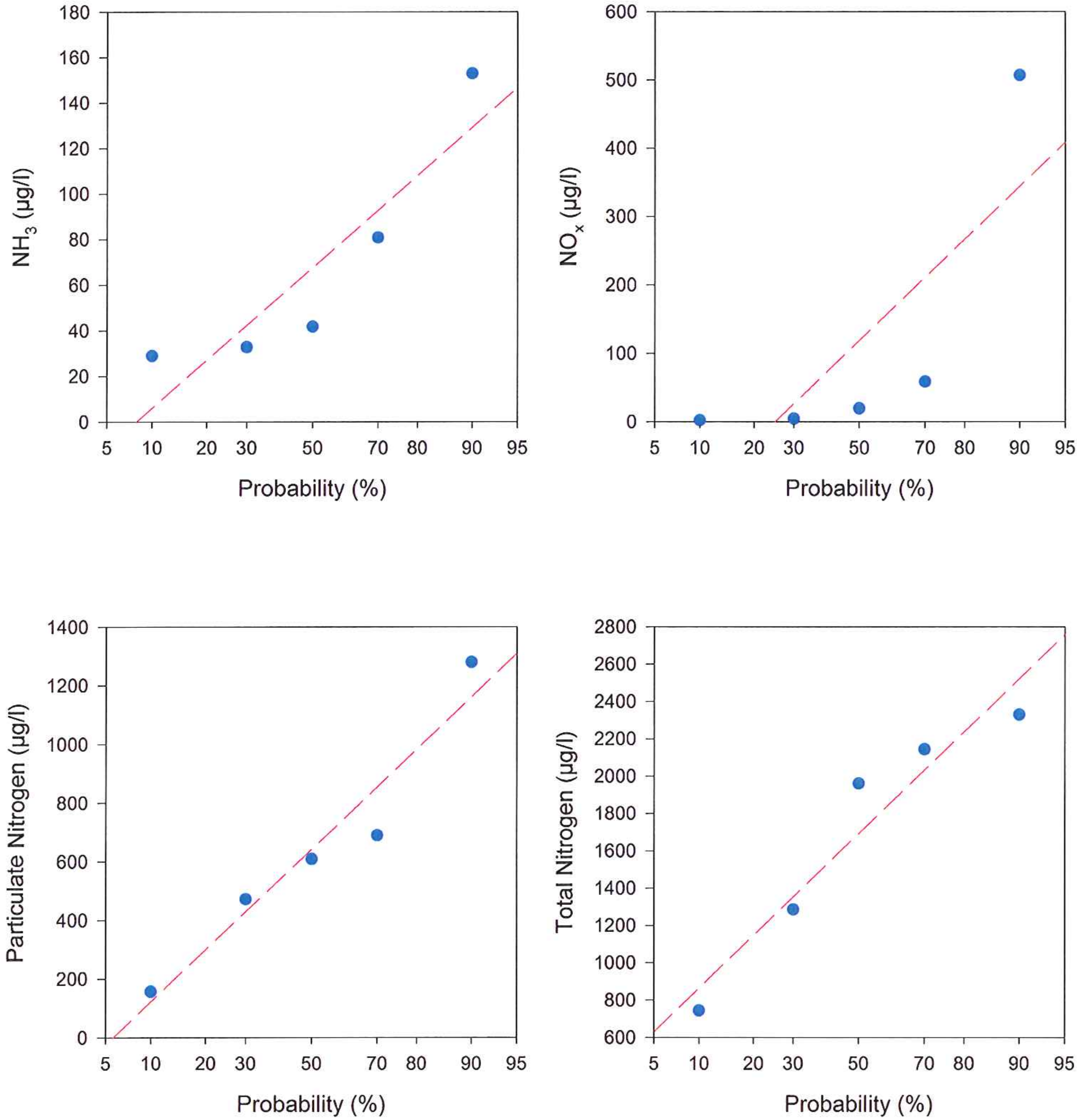



## 5. Ruderal / Upland Pine

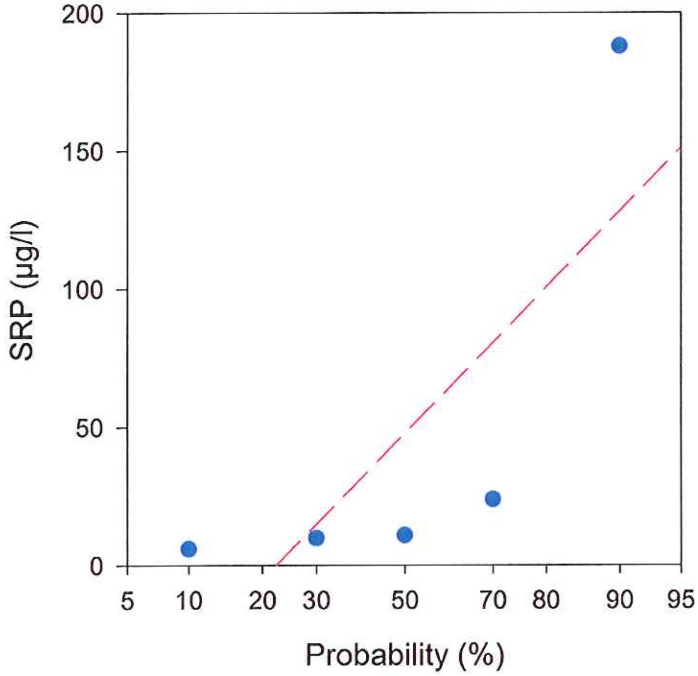
## Ruderal/Upland Pine
## (Normal Probability Plots)

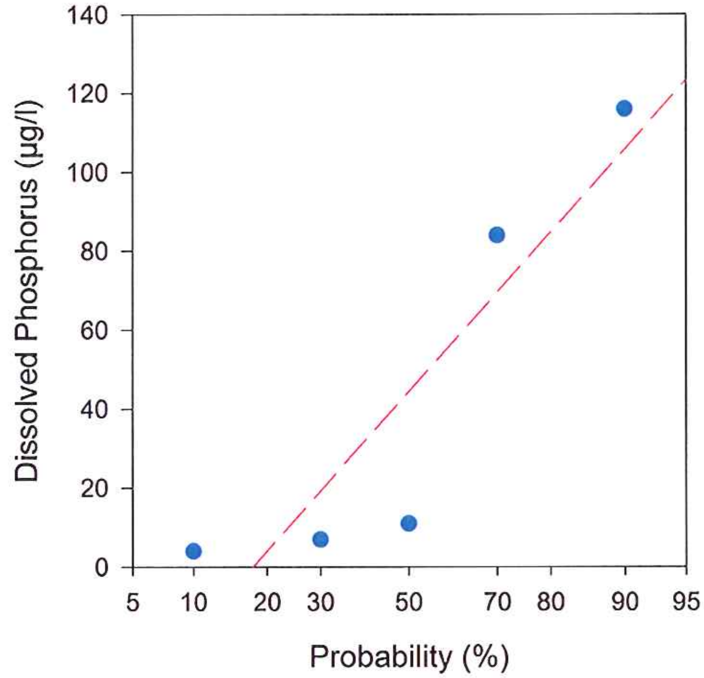


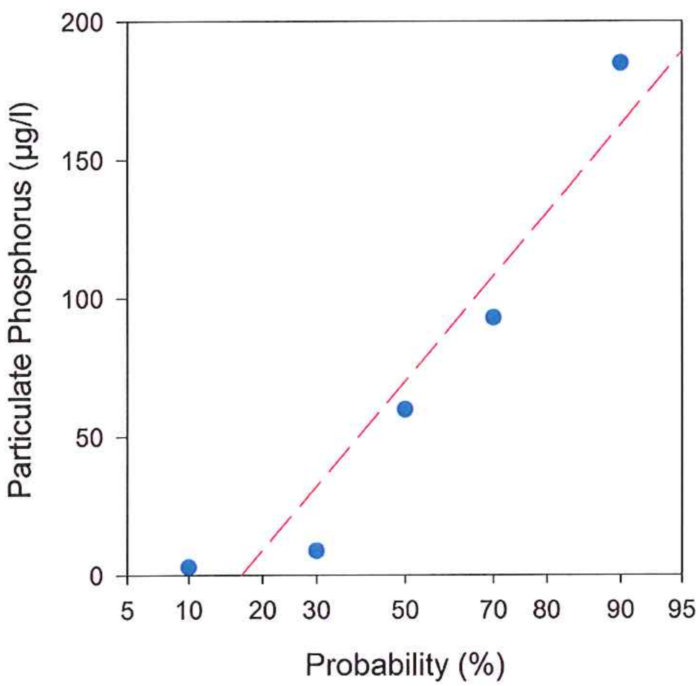
# Ruderal/Upland Pine
# (Normal Probability Plots)

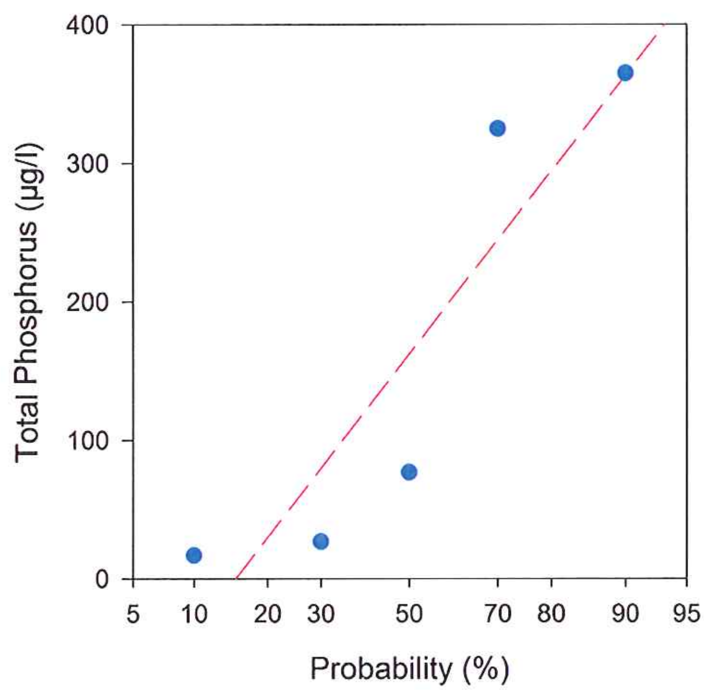


# Ruderal/Upland Pine
# (Normal Probability Plots)

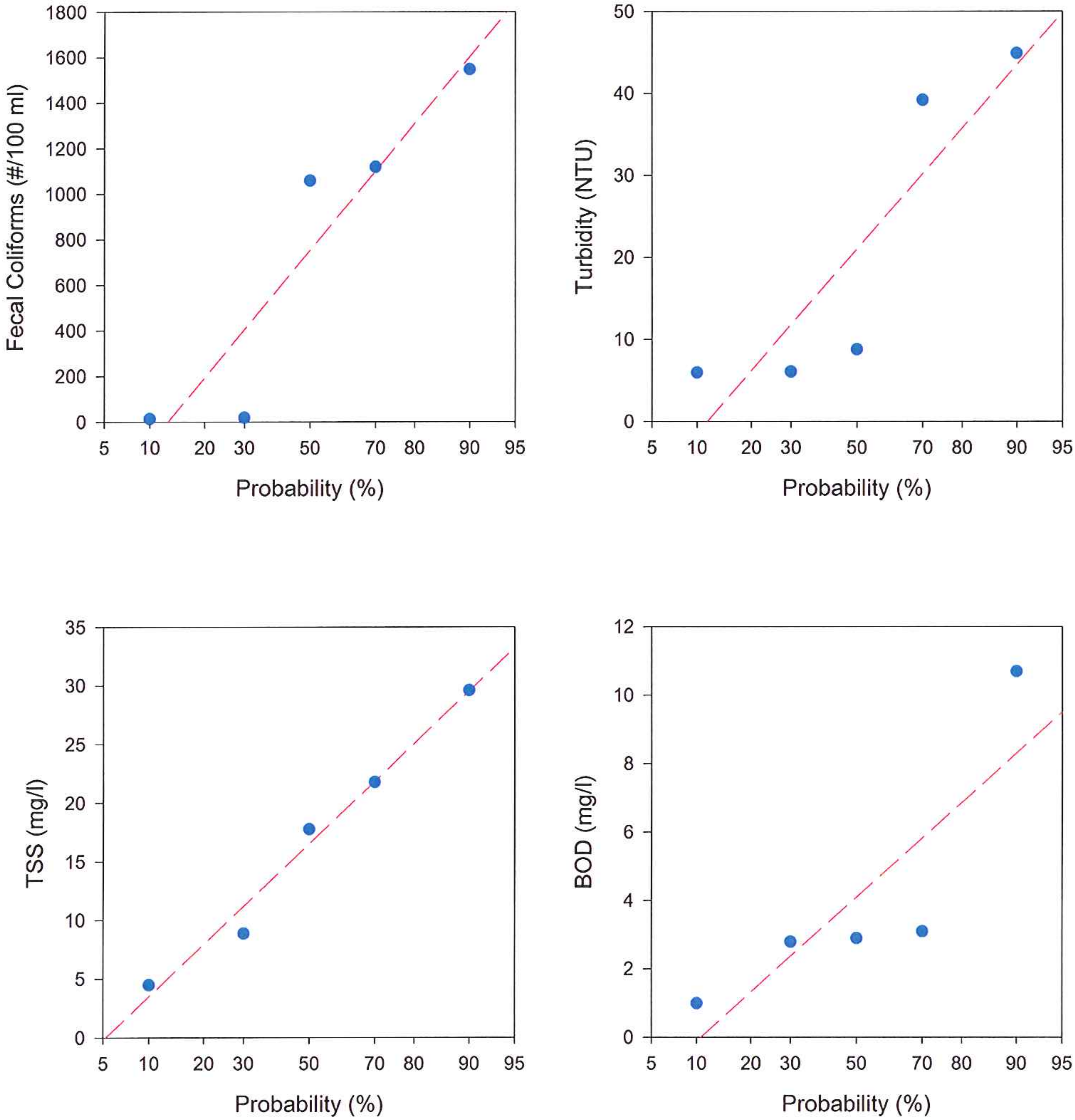


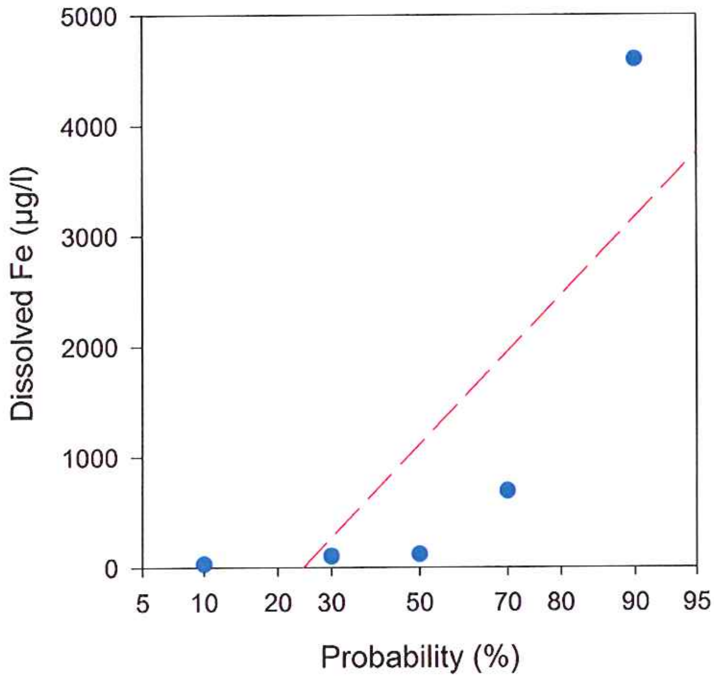



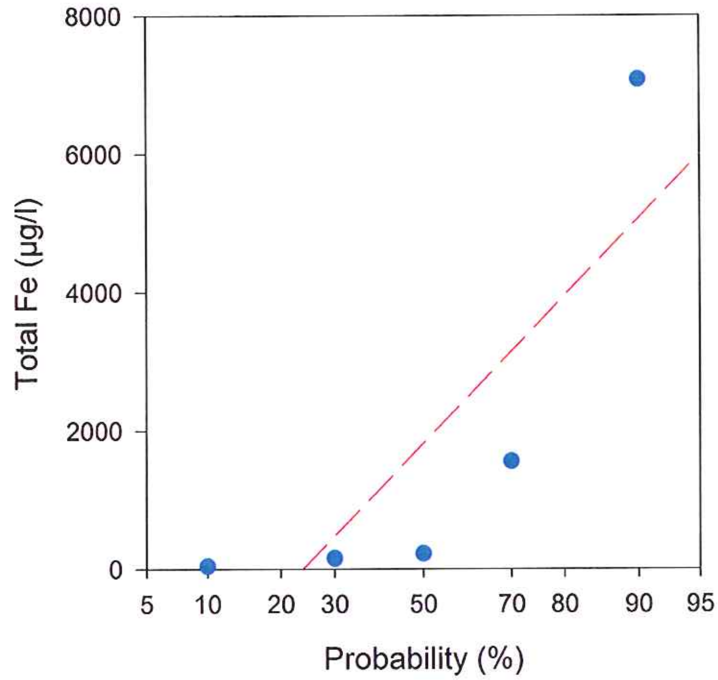



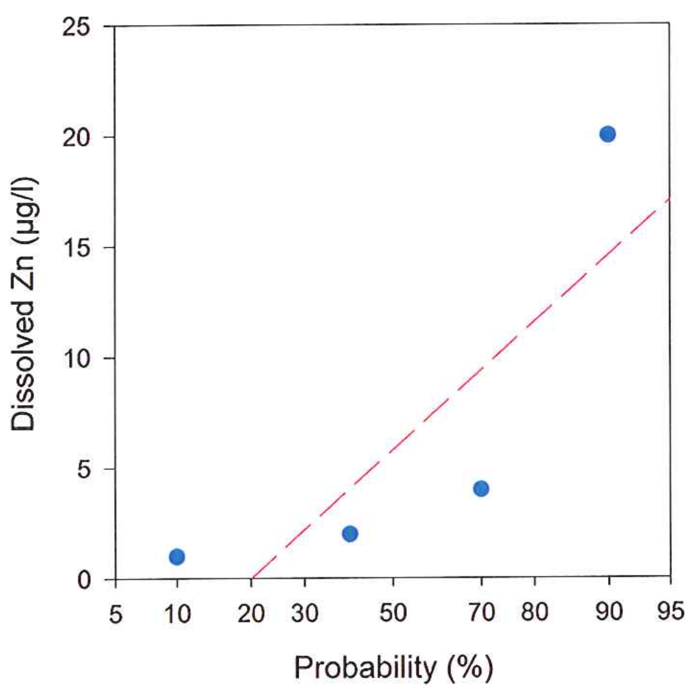
## Ruderal/Upland Pine
## (Normal Probability Plots)

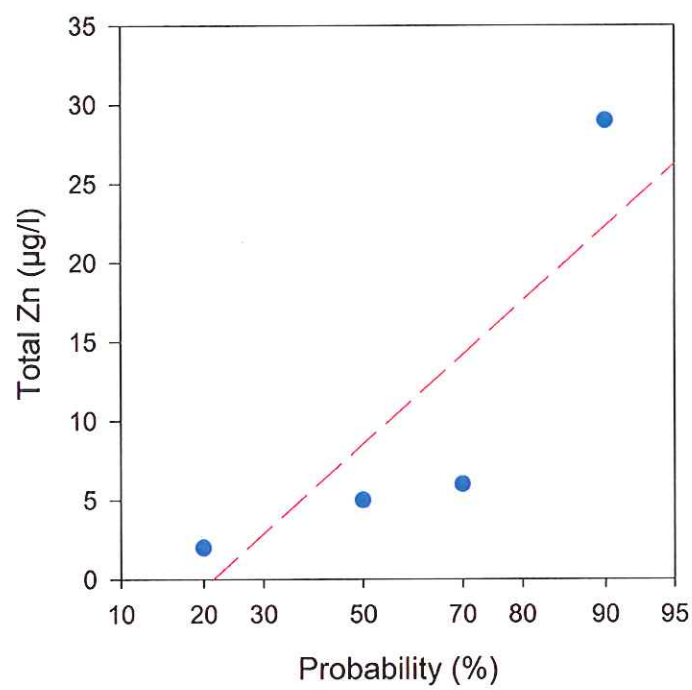


**Ruderal/Upland Pine**
**(Normal Probability Plots)**

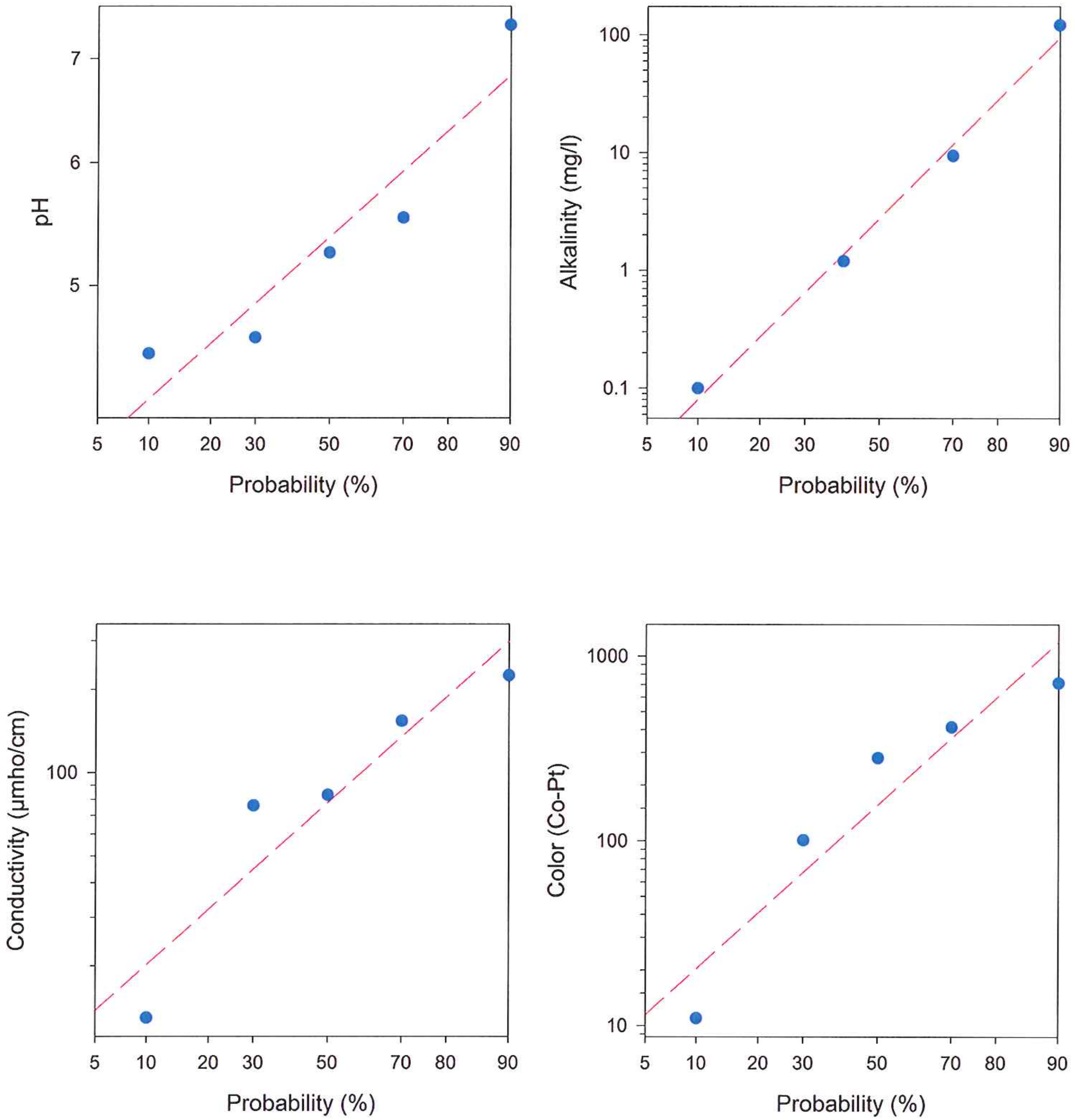


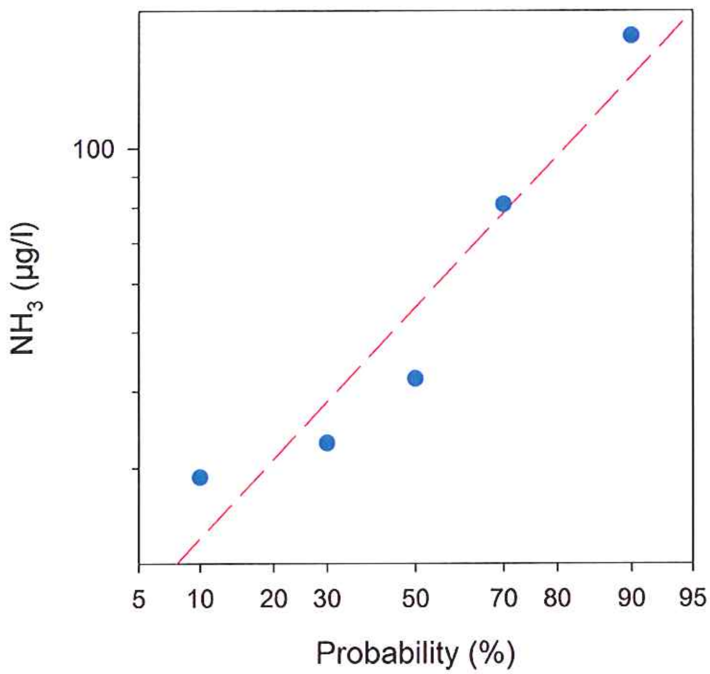



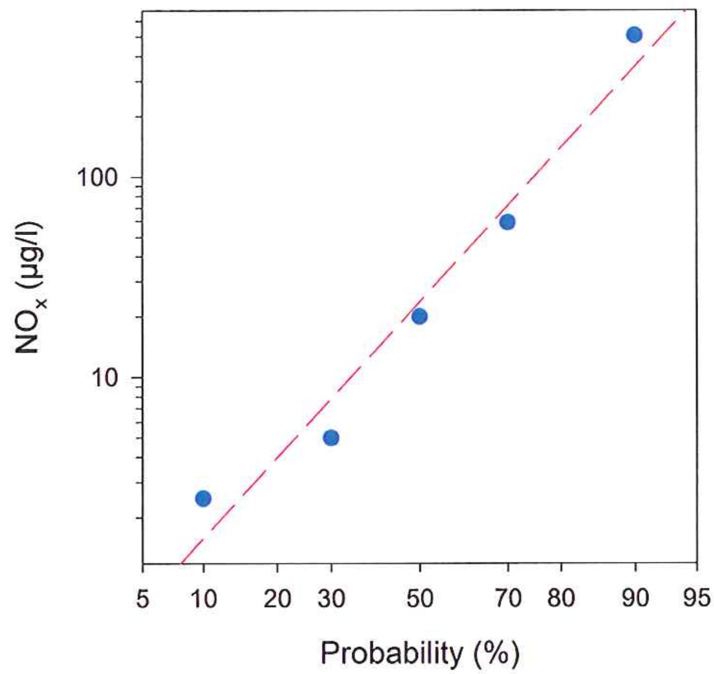



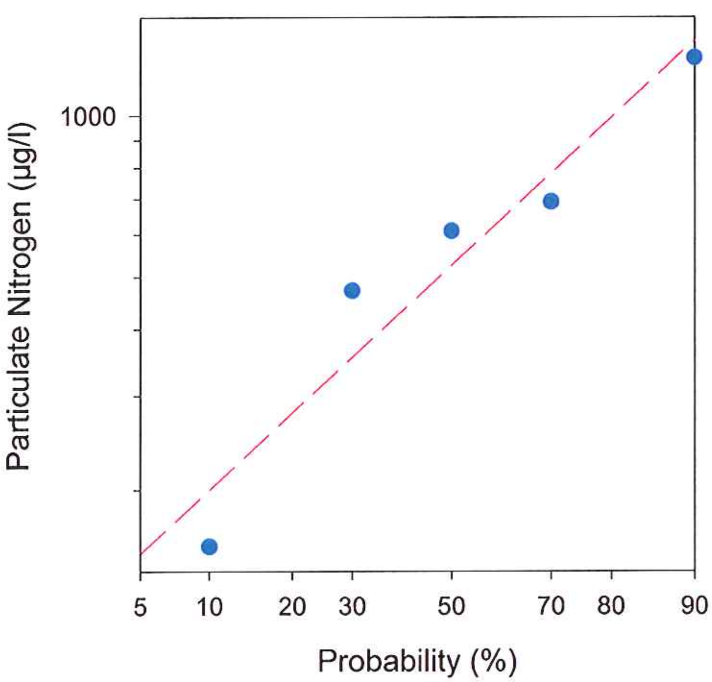
# Ruderal/Upland Pine
# (Log Normal Probability Plots)

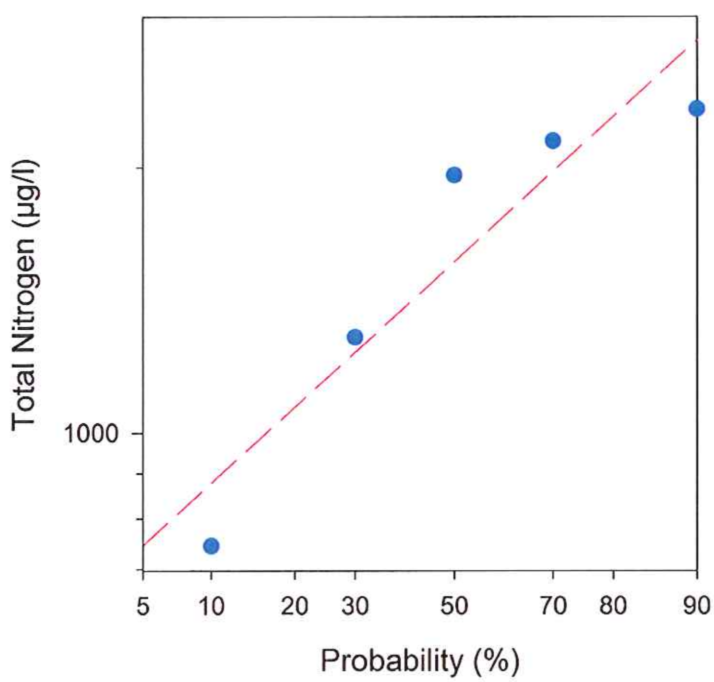


## Ruderal/Upland Pine
## (Log Normal Probability Plots)

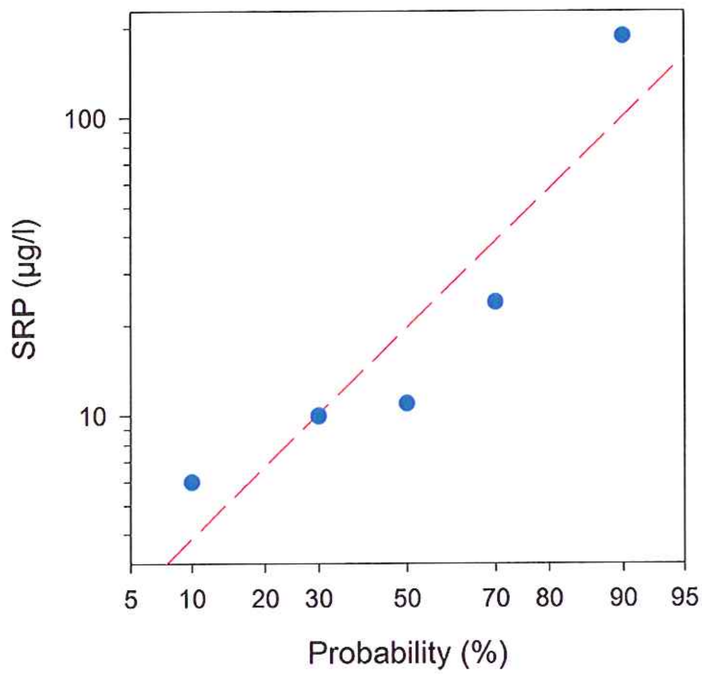


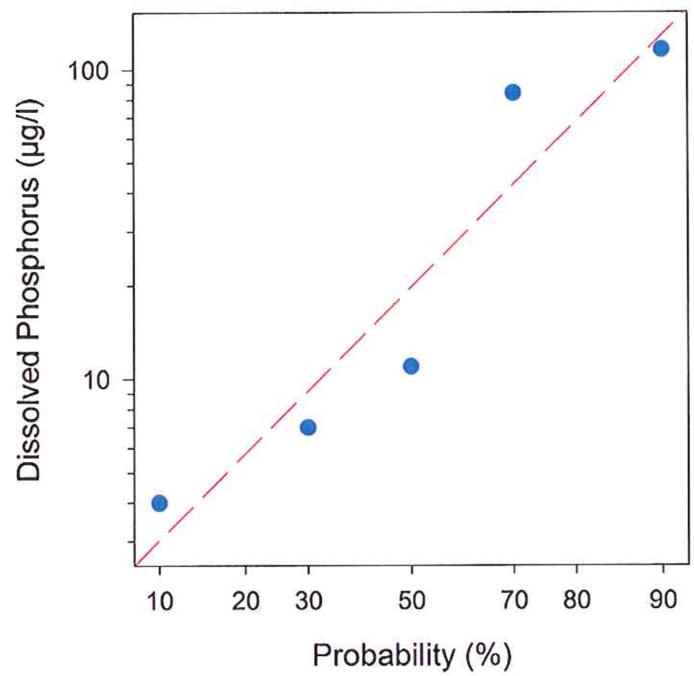



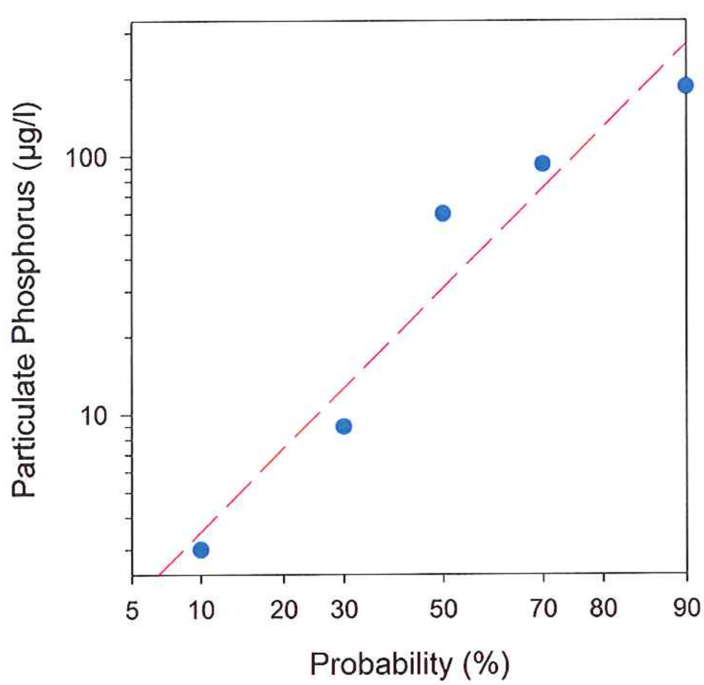



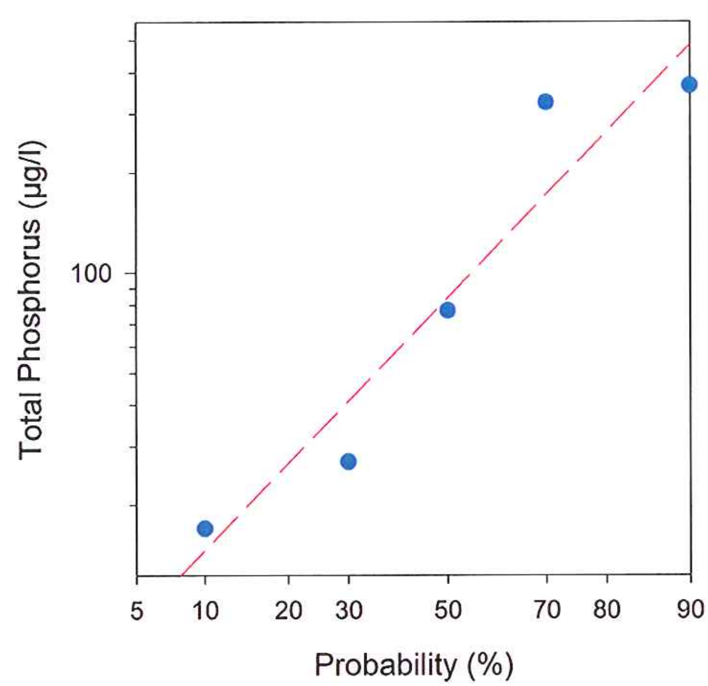



# Ruderal/Upland Pine
# (Log Normal Probability Plots)

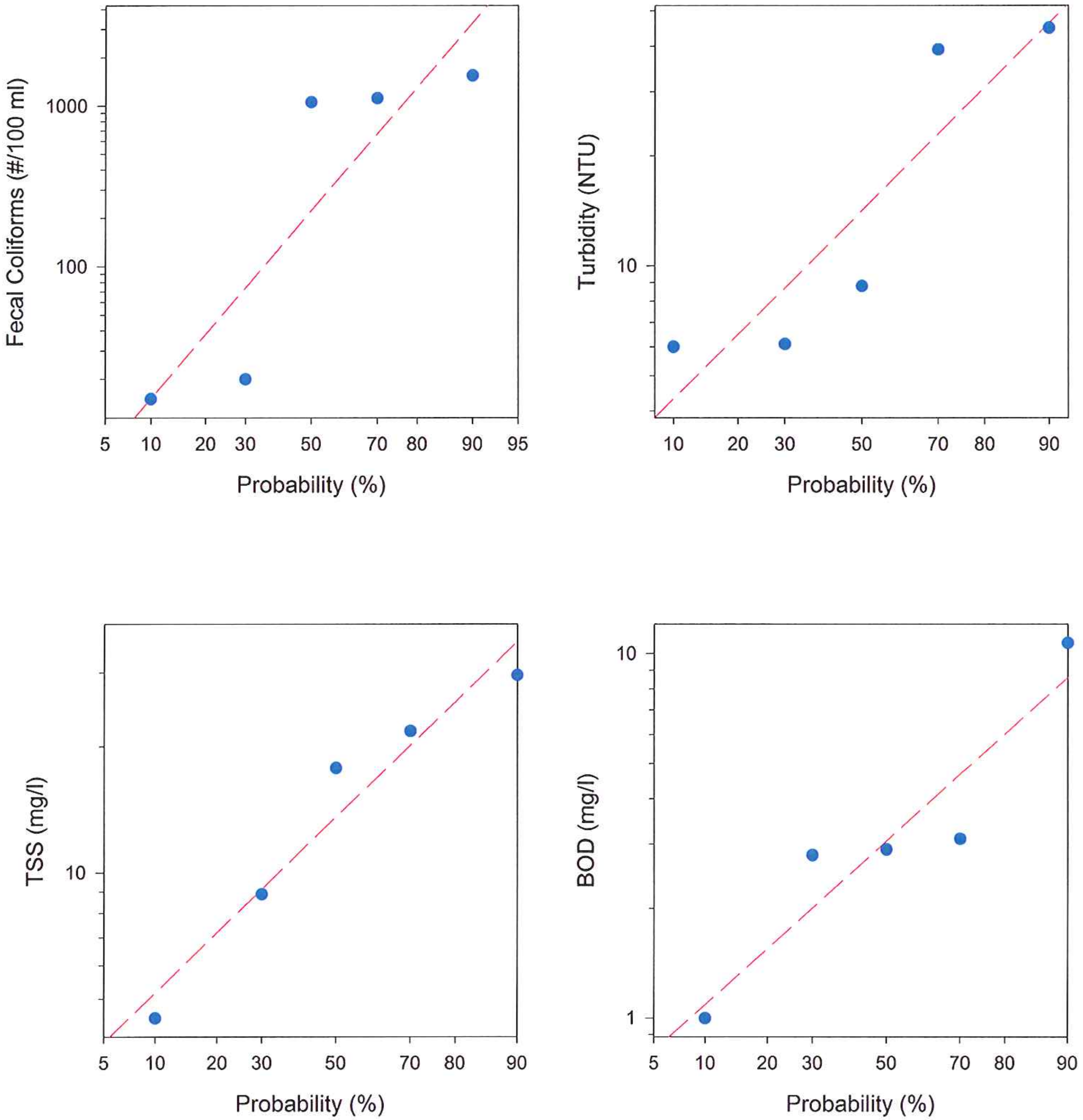


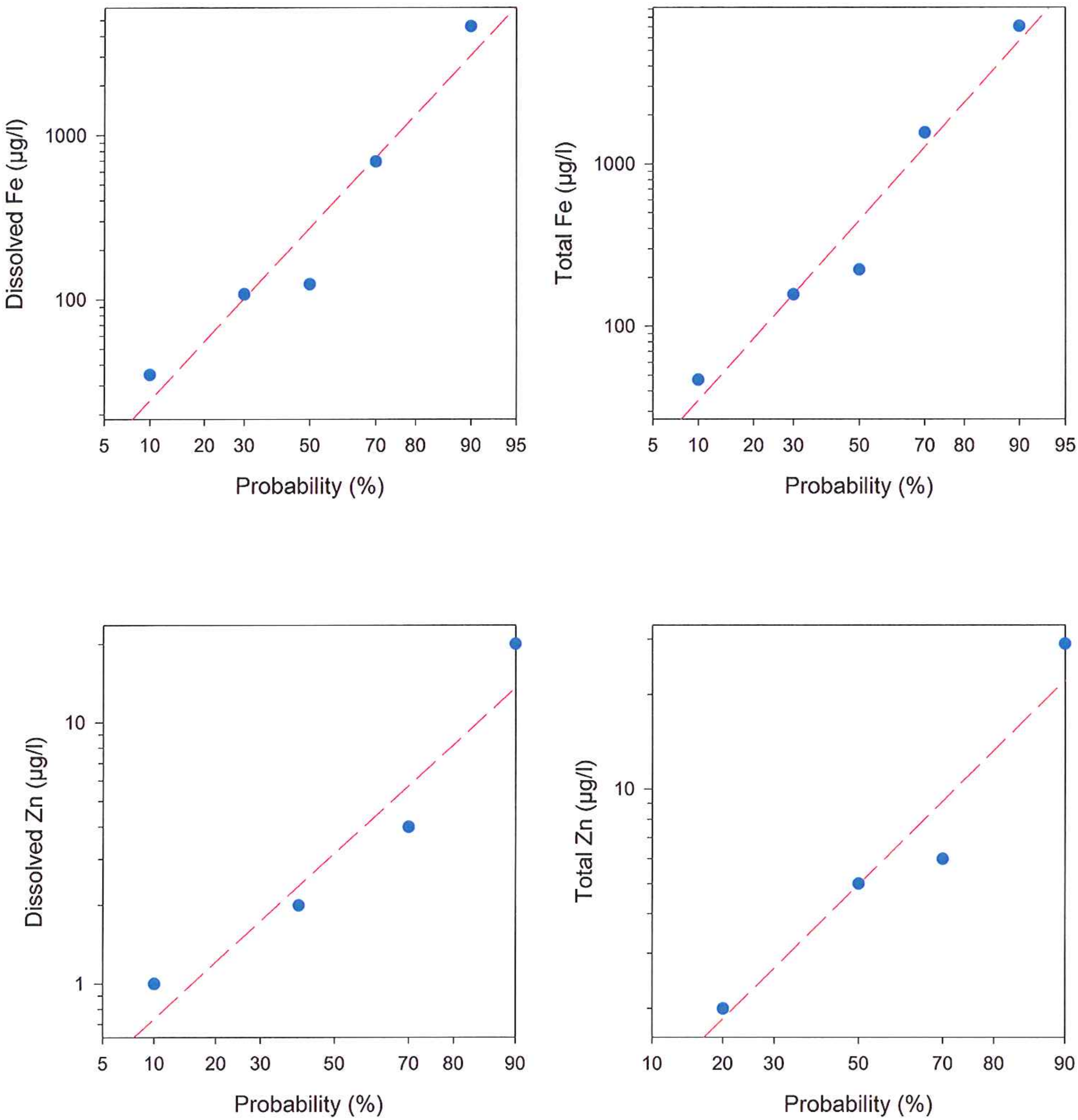



# Ruderal/Upland Pine
# (Log Normal Probability Plots)

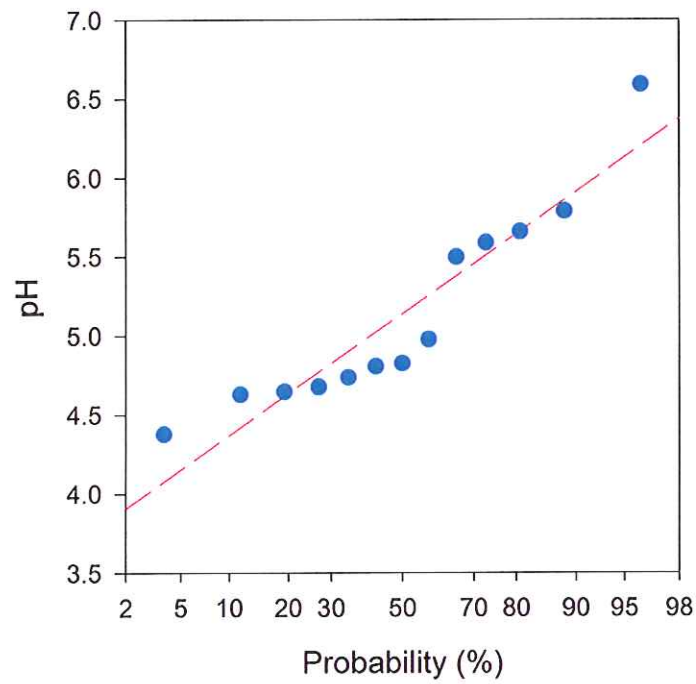


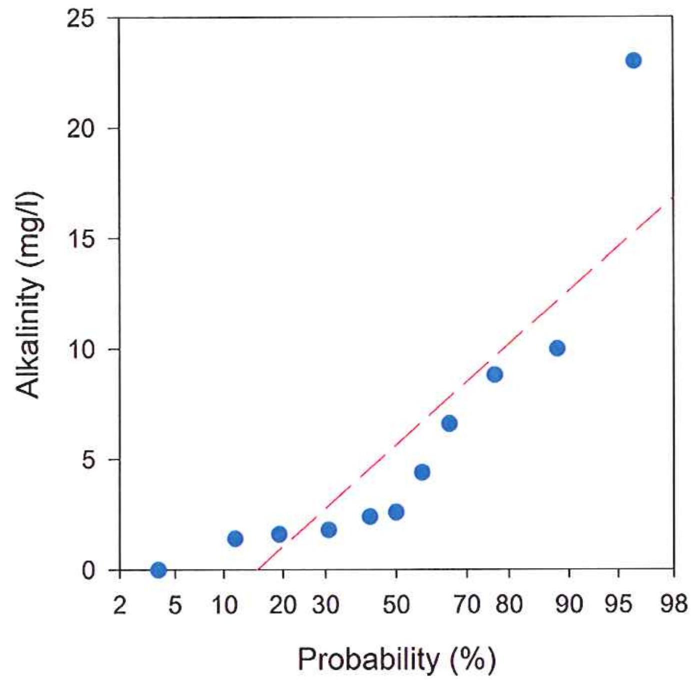
## Ruderal/Upland Pine
## (Log Normal Probability Plots)

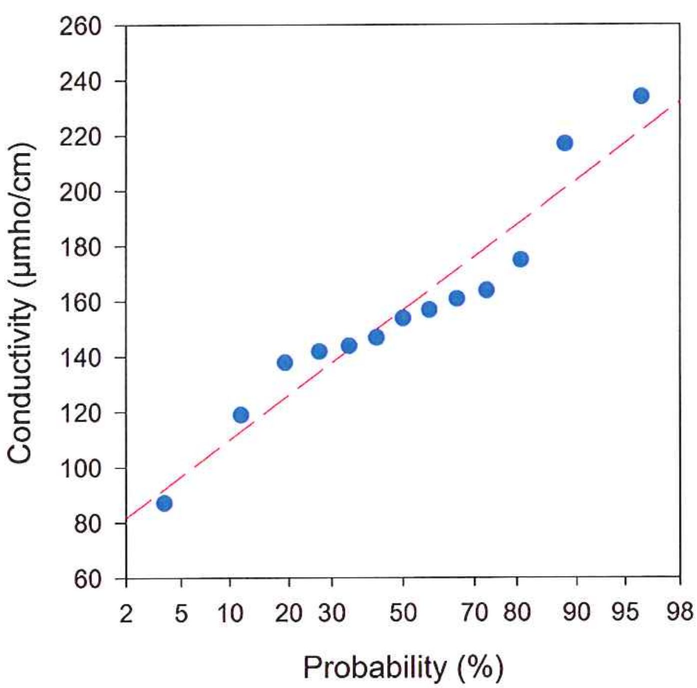


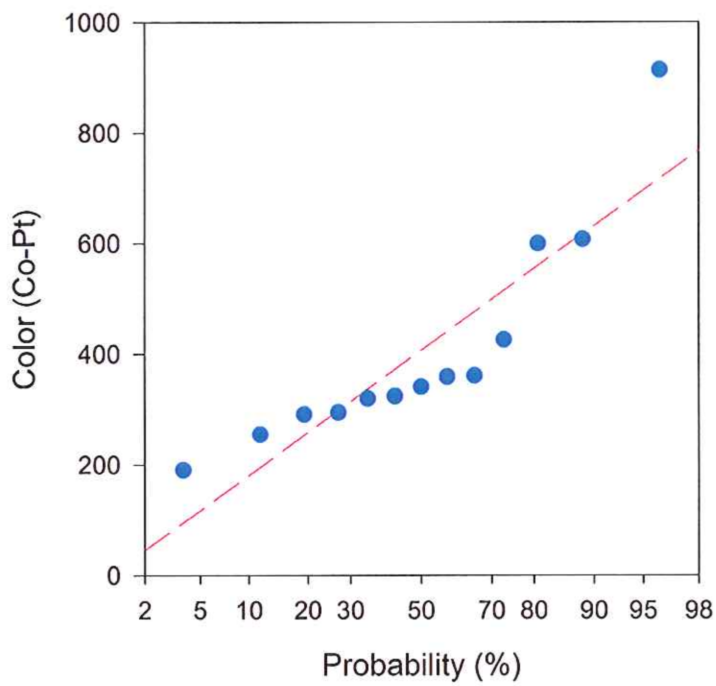
# 6. Scrubby Flatwoods

# Scrubby Flatwoods
# (Normal Probability Plots)

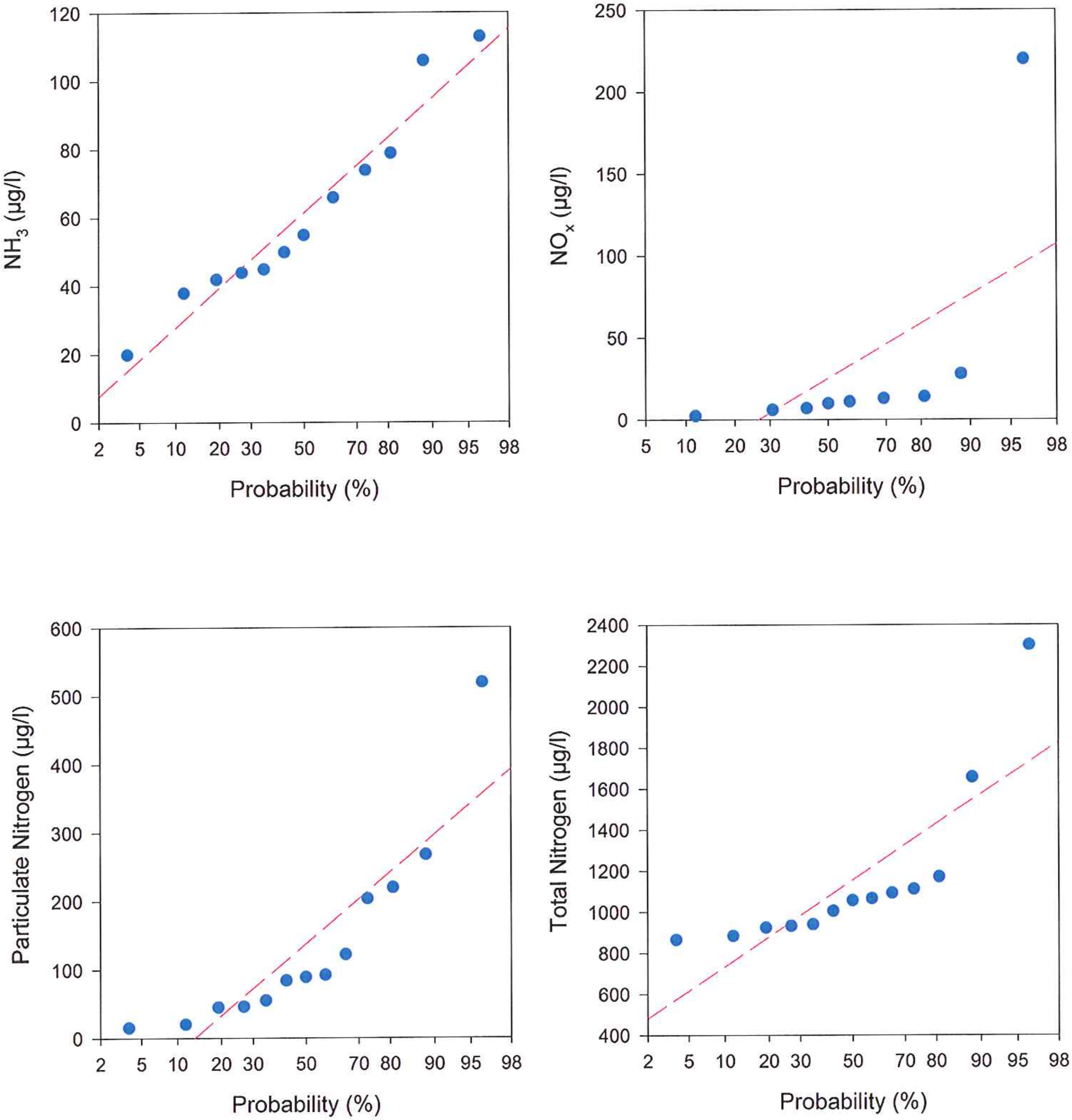


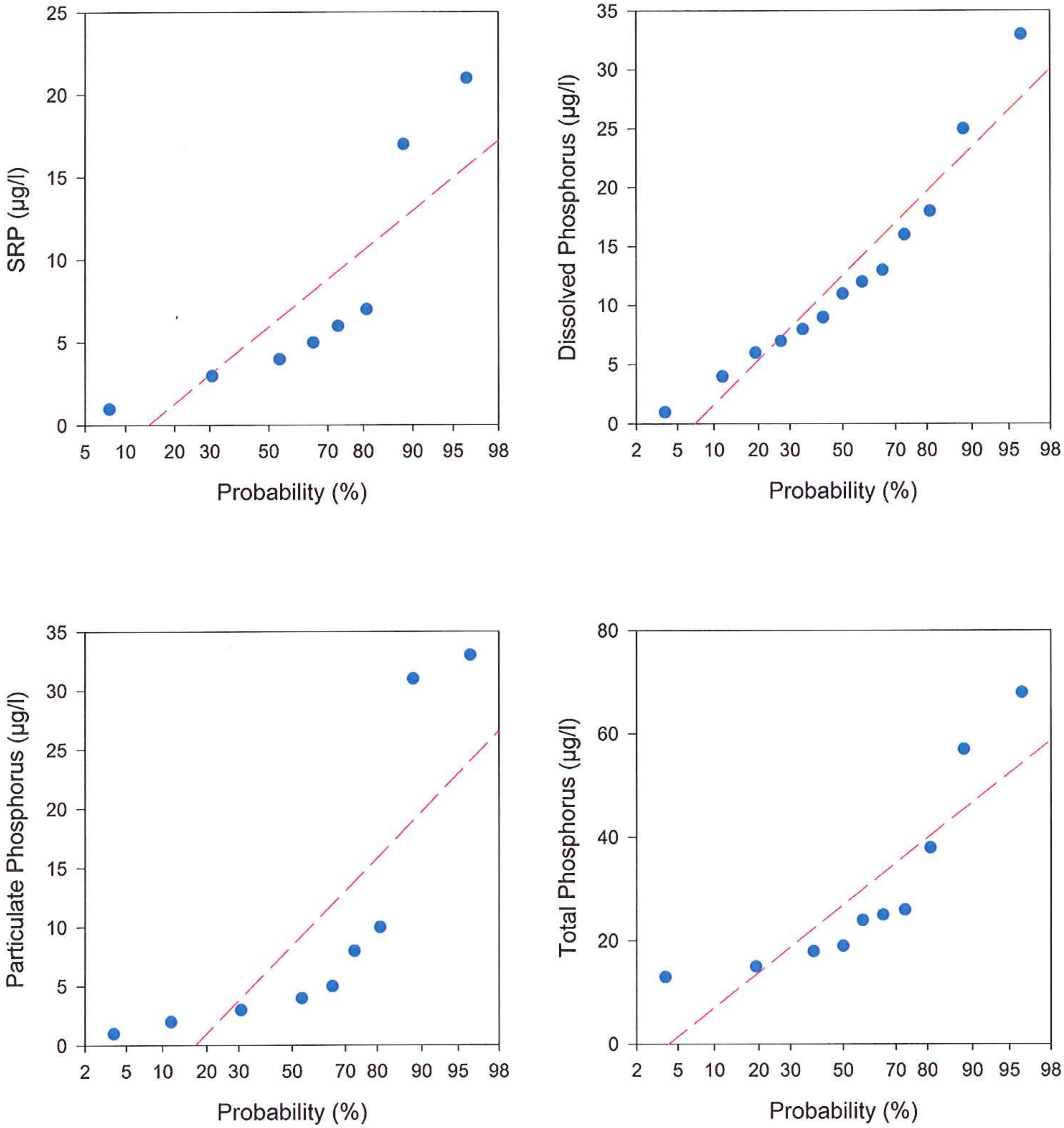



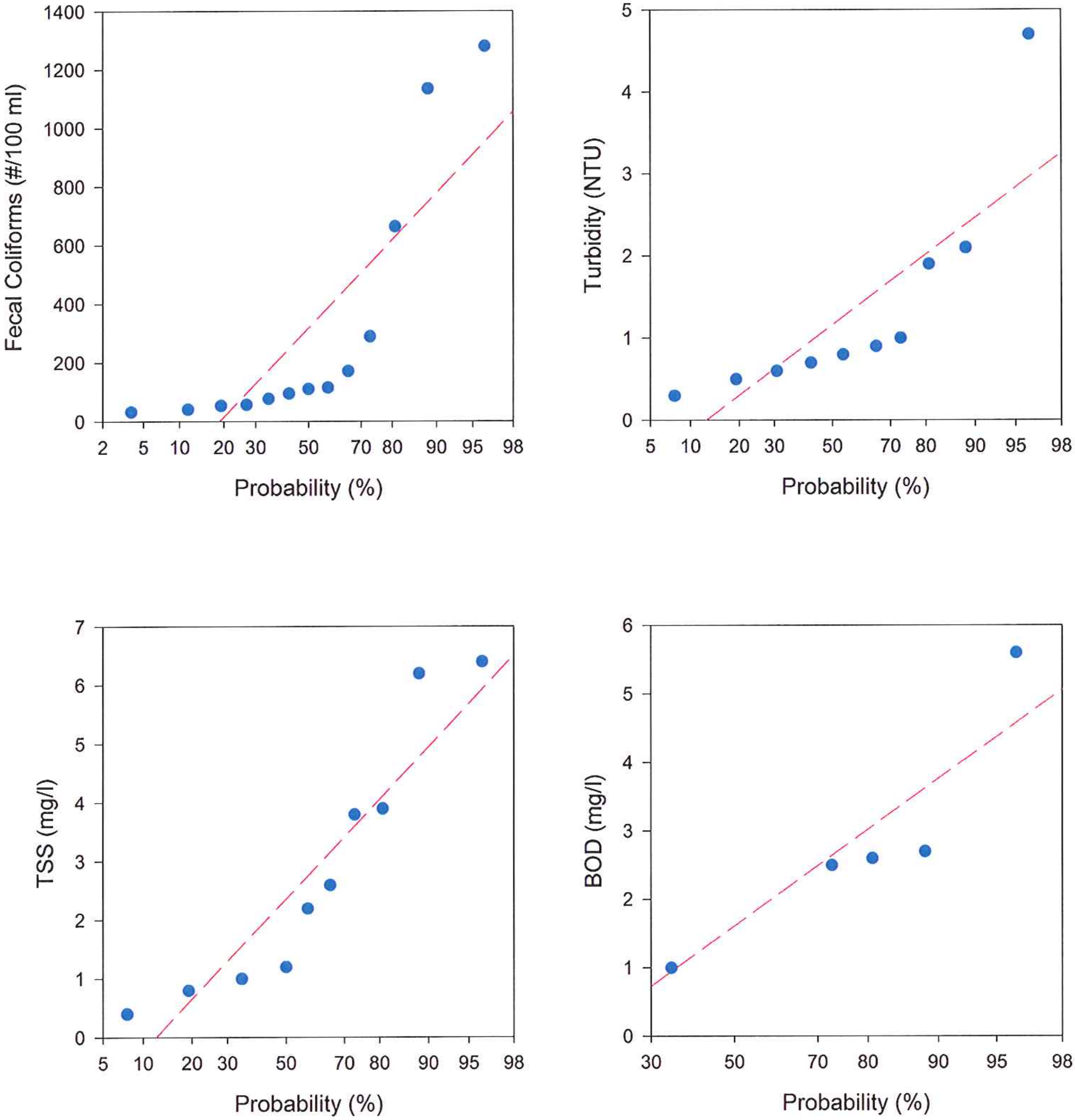
# Scrubby Flatwoods
# (Normal Probability Plots)



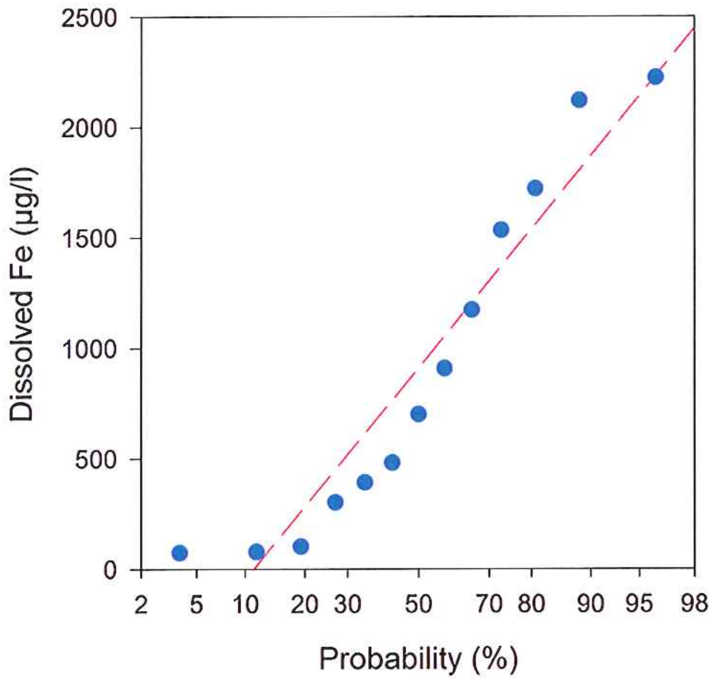
# Scrubby Flatwoods
# (Normal Probability Plots)

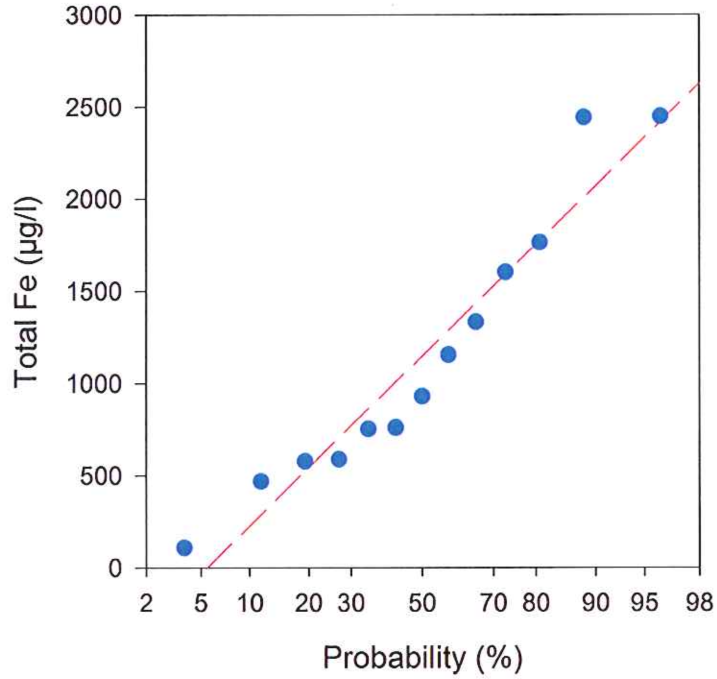


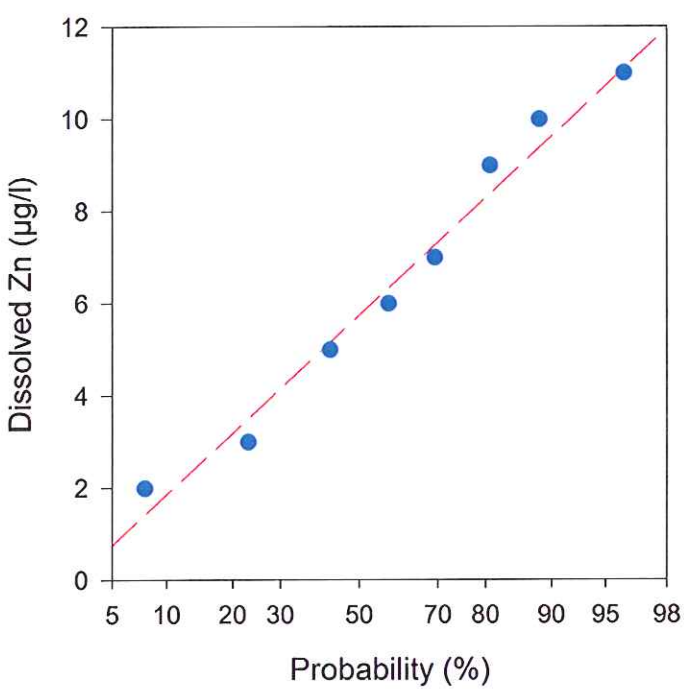
**Scrubby Flatwoods**
**(Normal Probability Plots)**

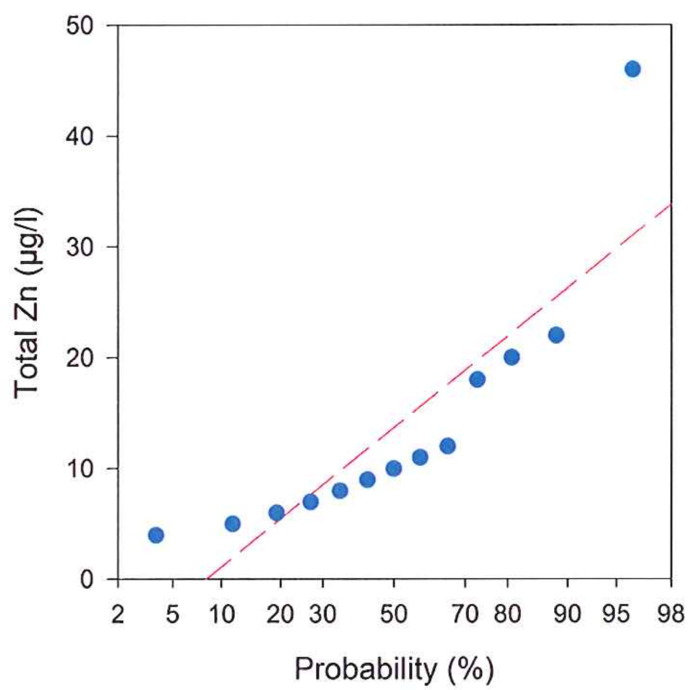


# Scrubby Flatwoods
# (Normal Probability Plots)

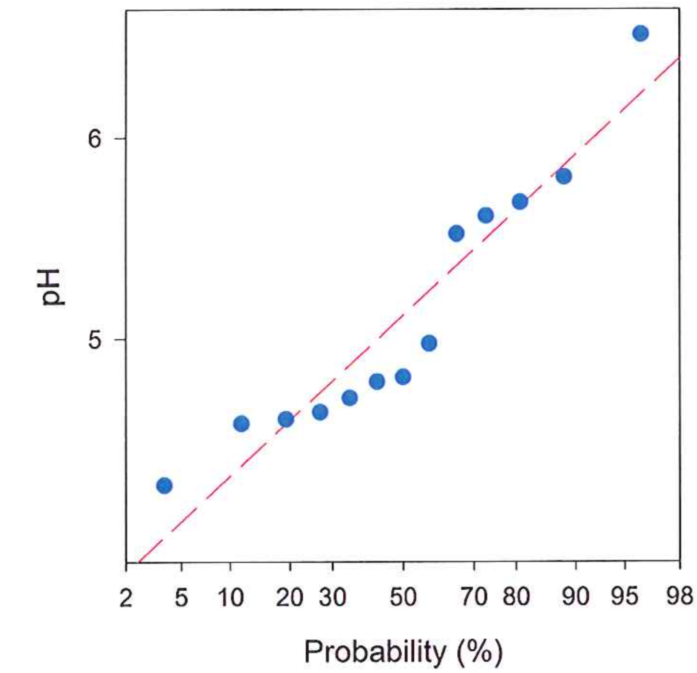


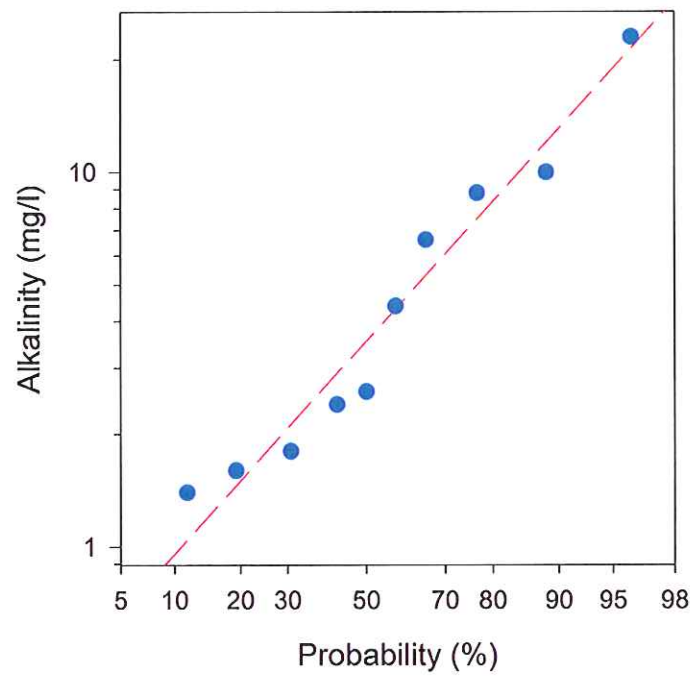



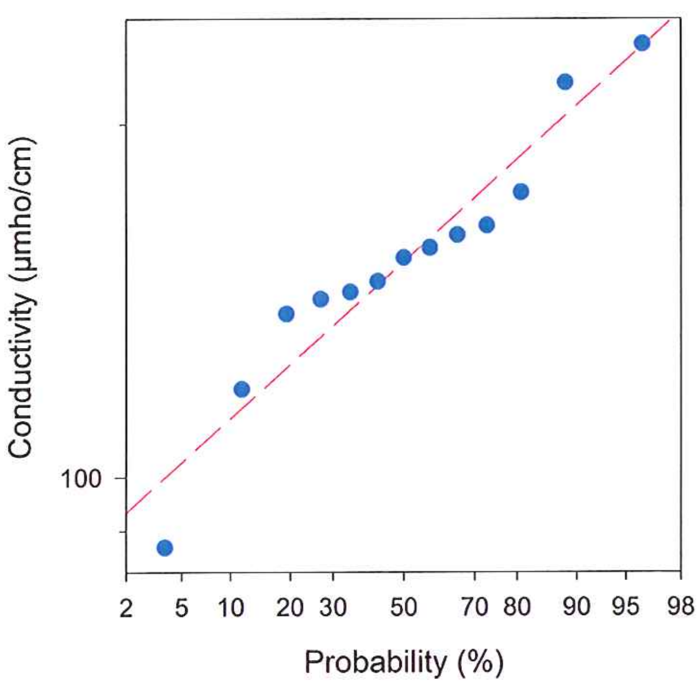



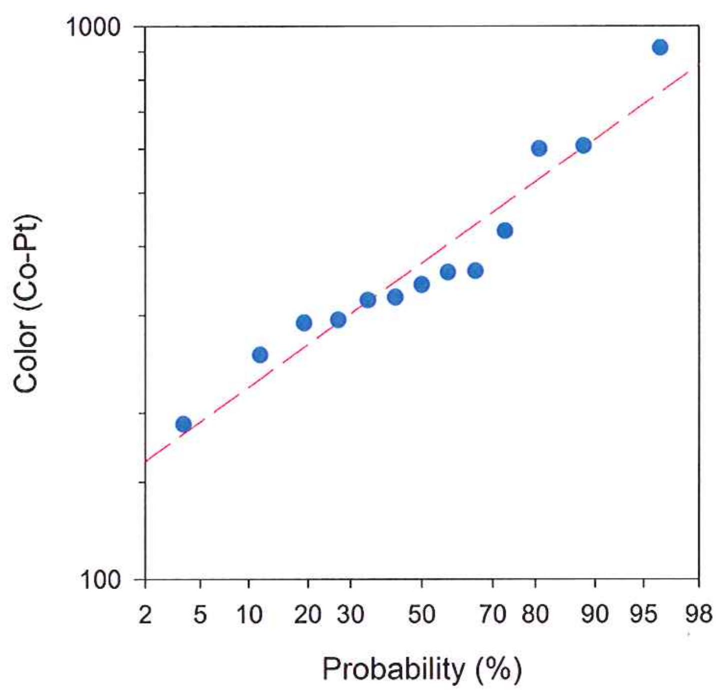



## Scrubby Flatwoods
## (Log Normal Probability Plots)

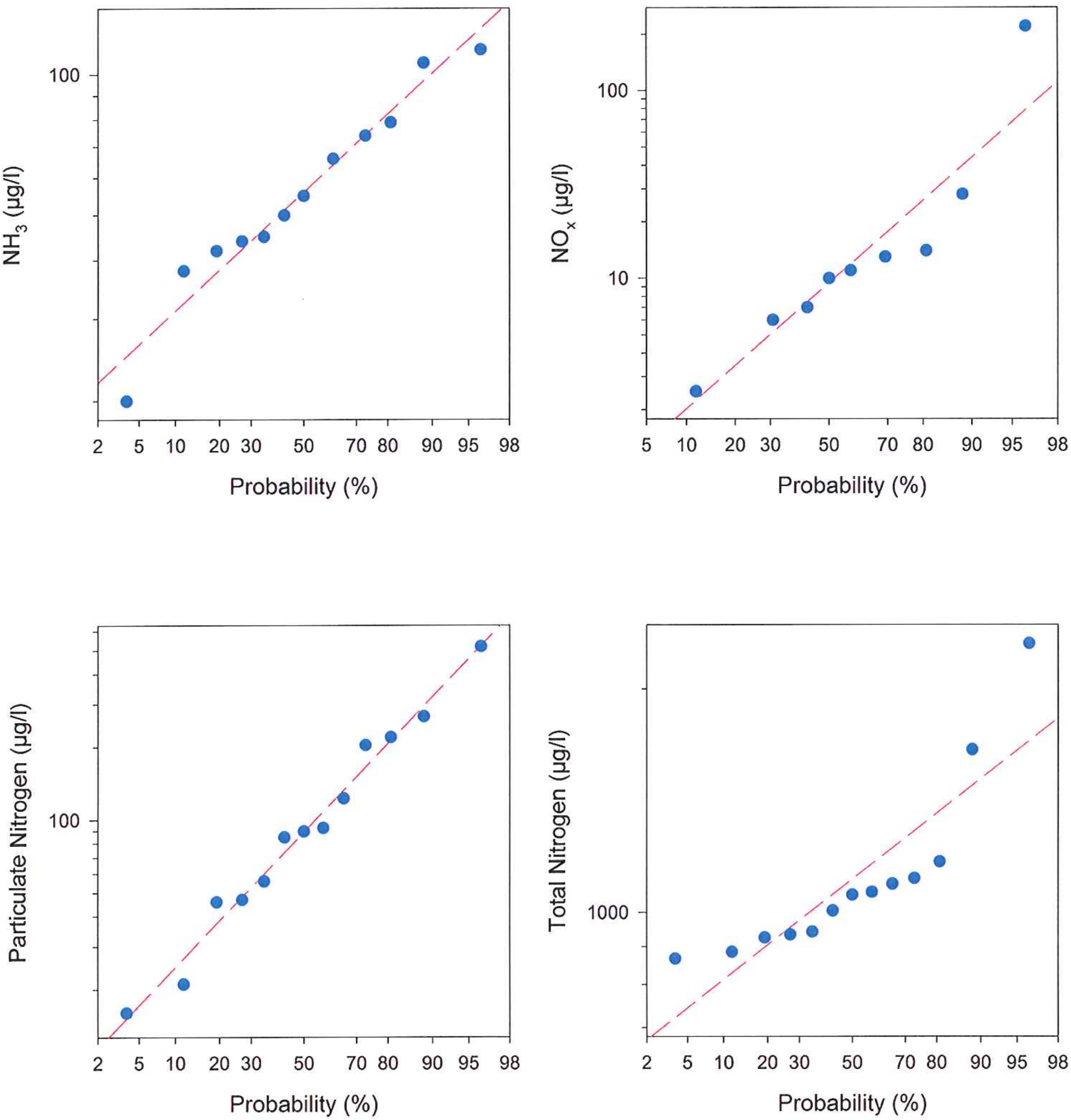


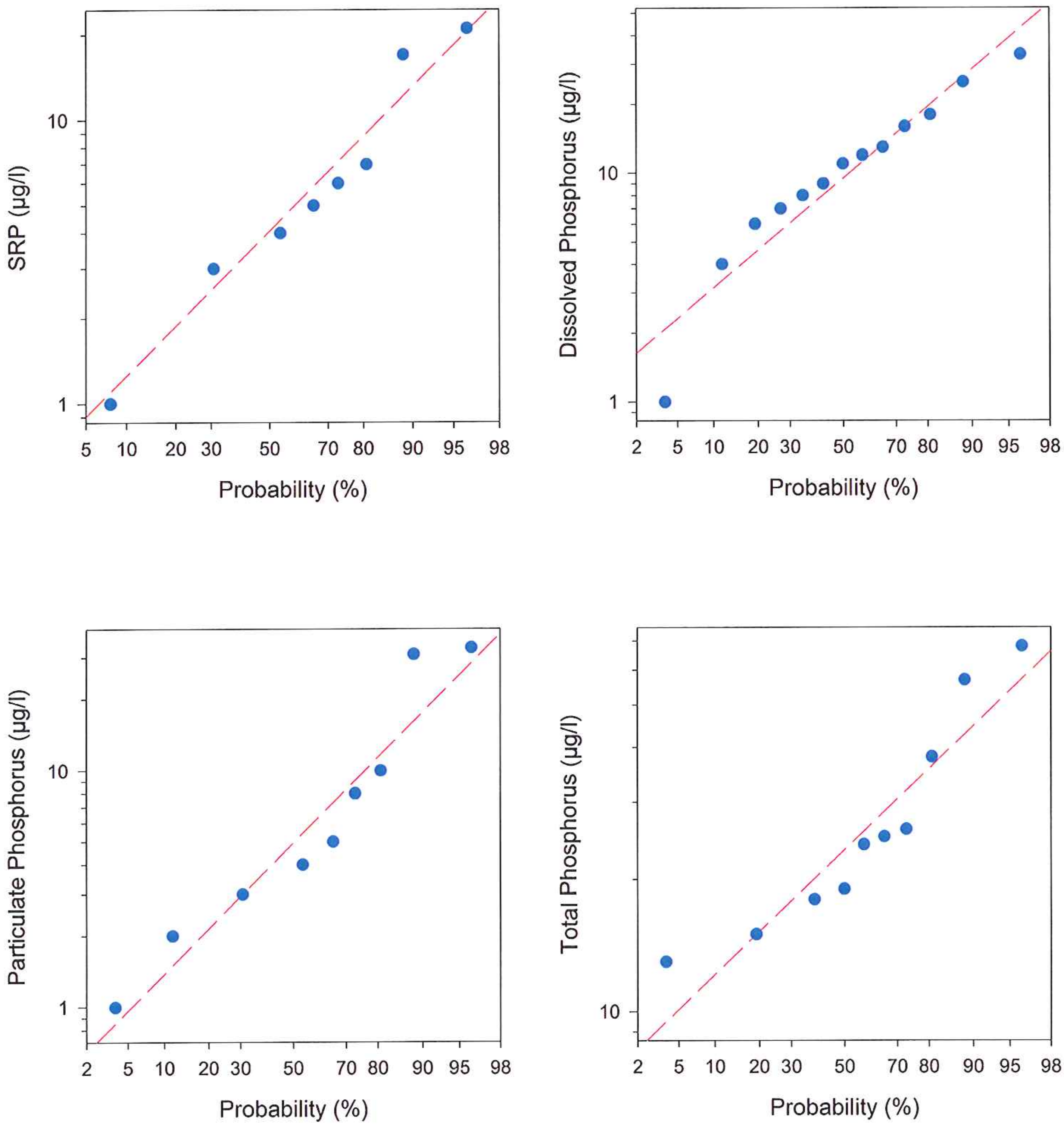



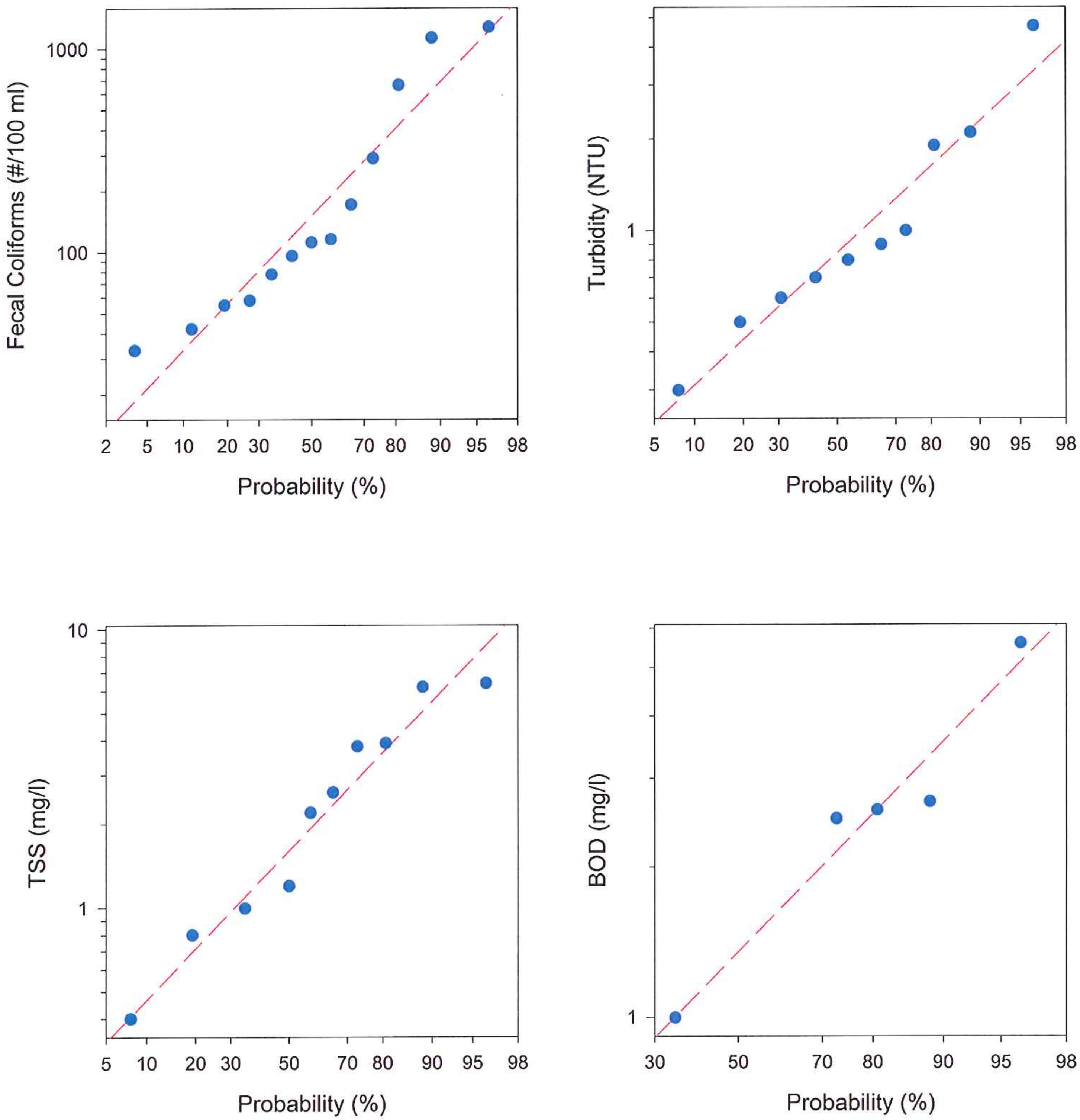
## Scrubby Flatwoods
## (Log Normal Probability Plots)



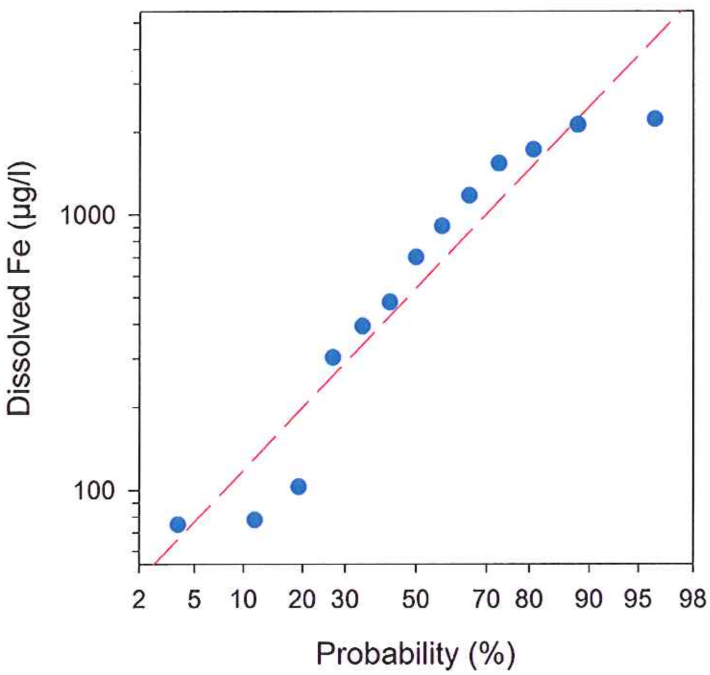
## Scrubby Flatwoods
## (Log Normal Probability Plots)

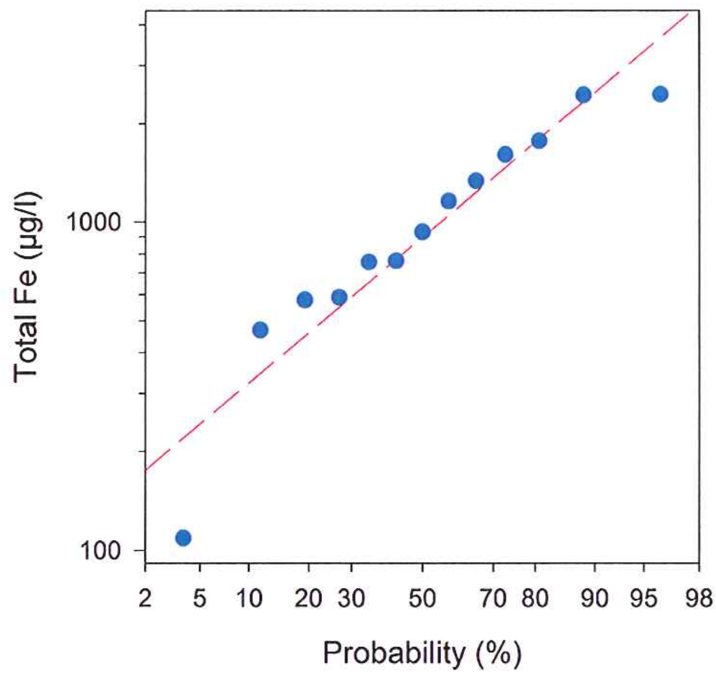


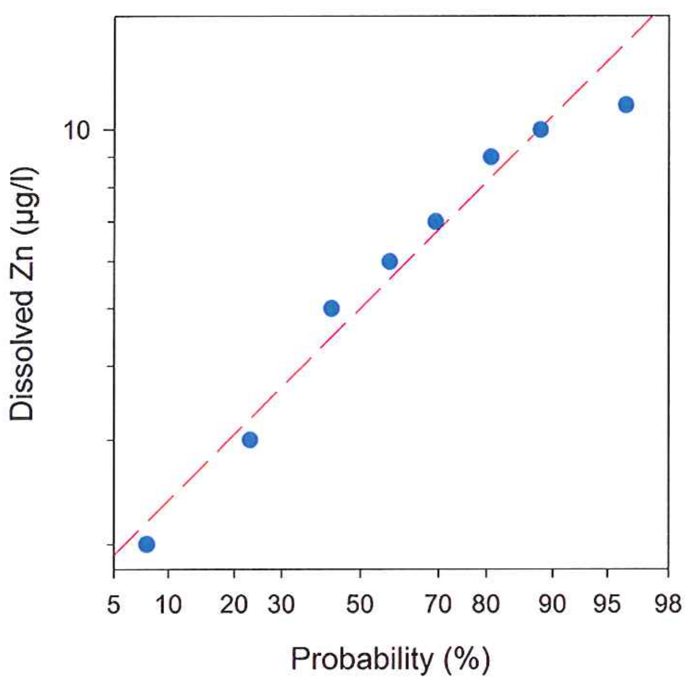
# Scrubby Flatwoods
# (Log Normal Probability Plots)

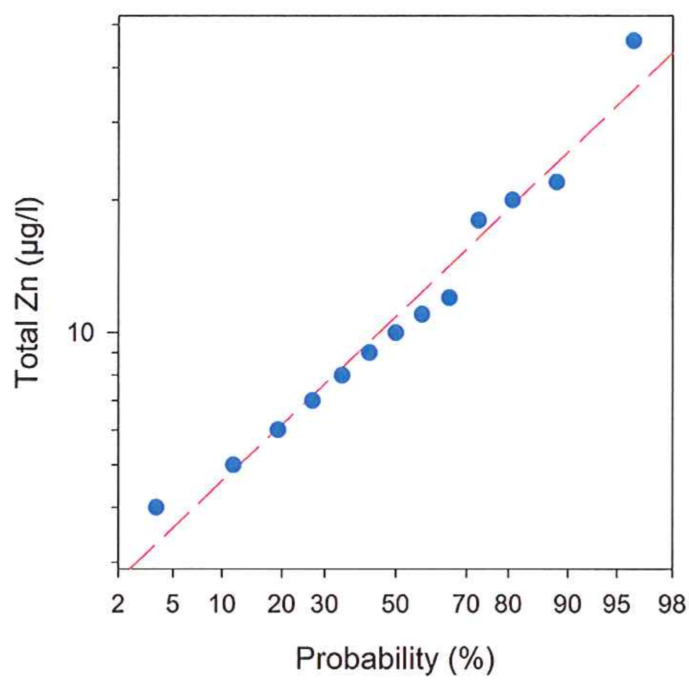


**Scrubby Flatwoods**
**(Log Normal Probability Plots)**



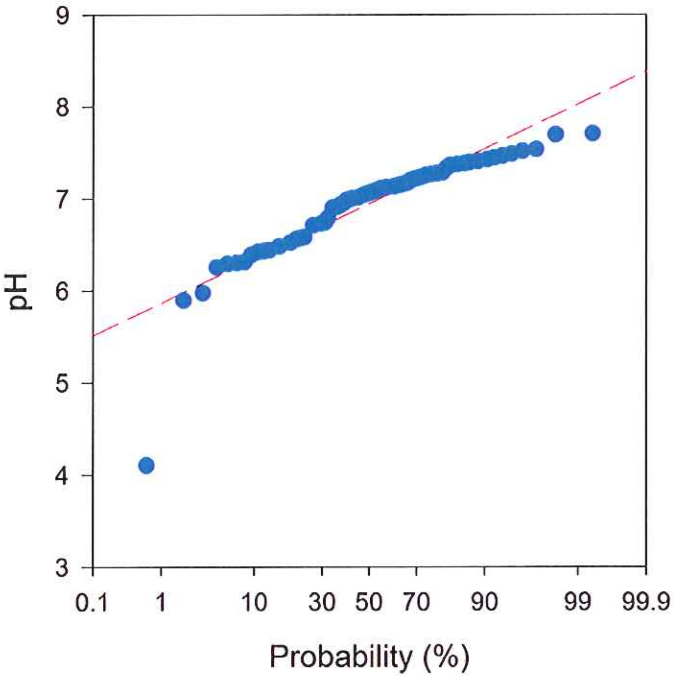



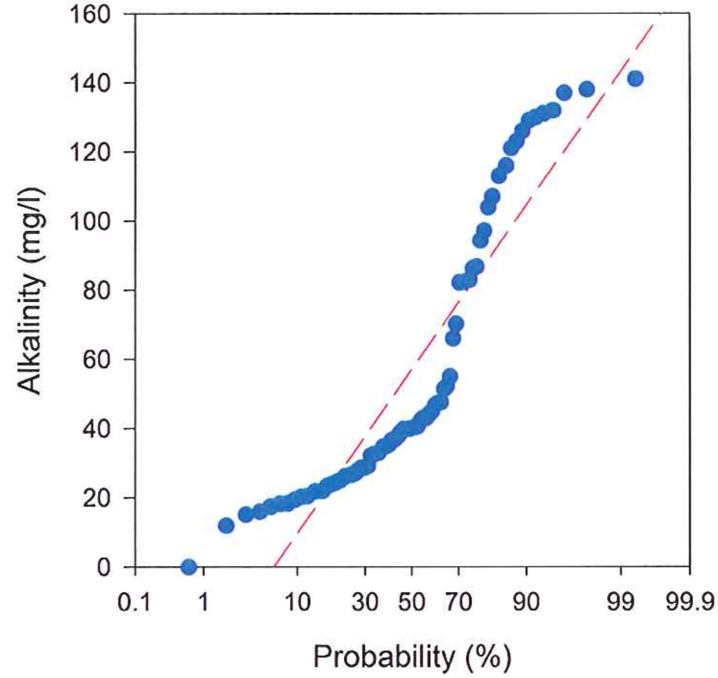



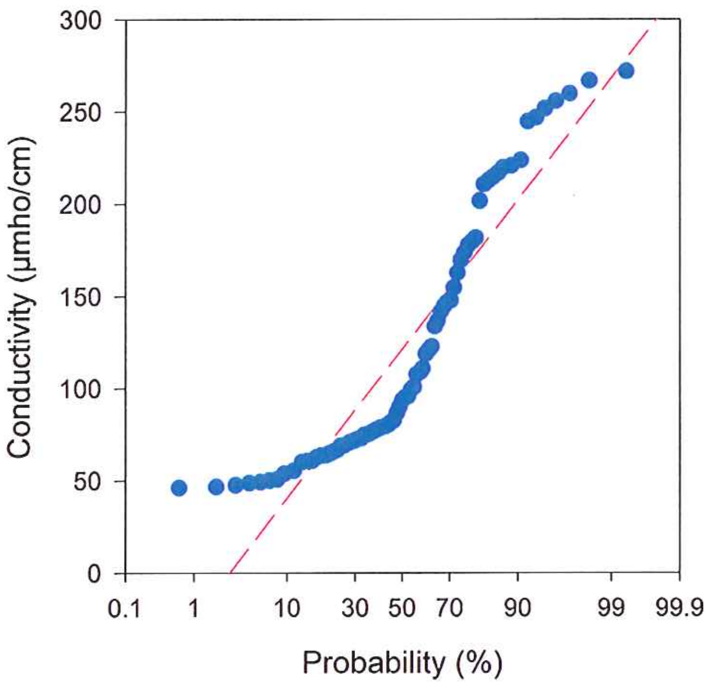



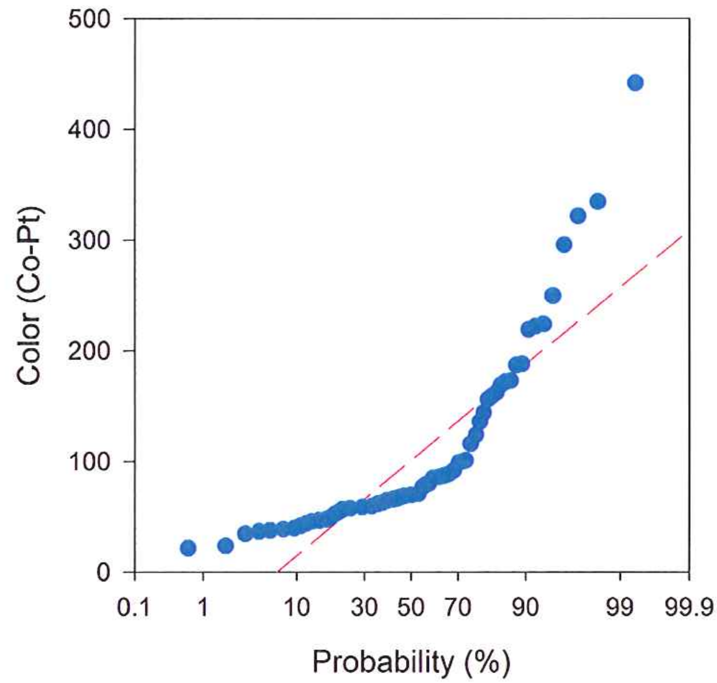
## 7. Upland Hardwood Forest

## Upland Hardwood
## (Normal Probability Plots)

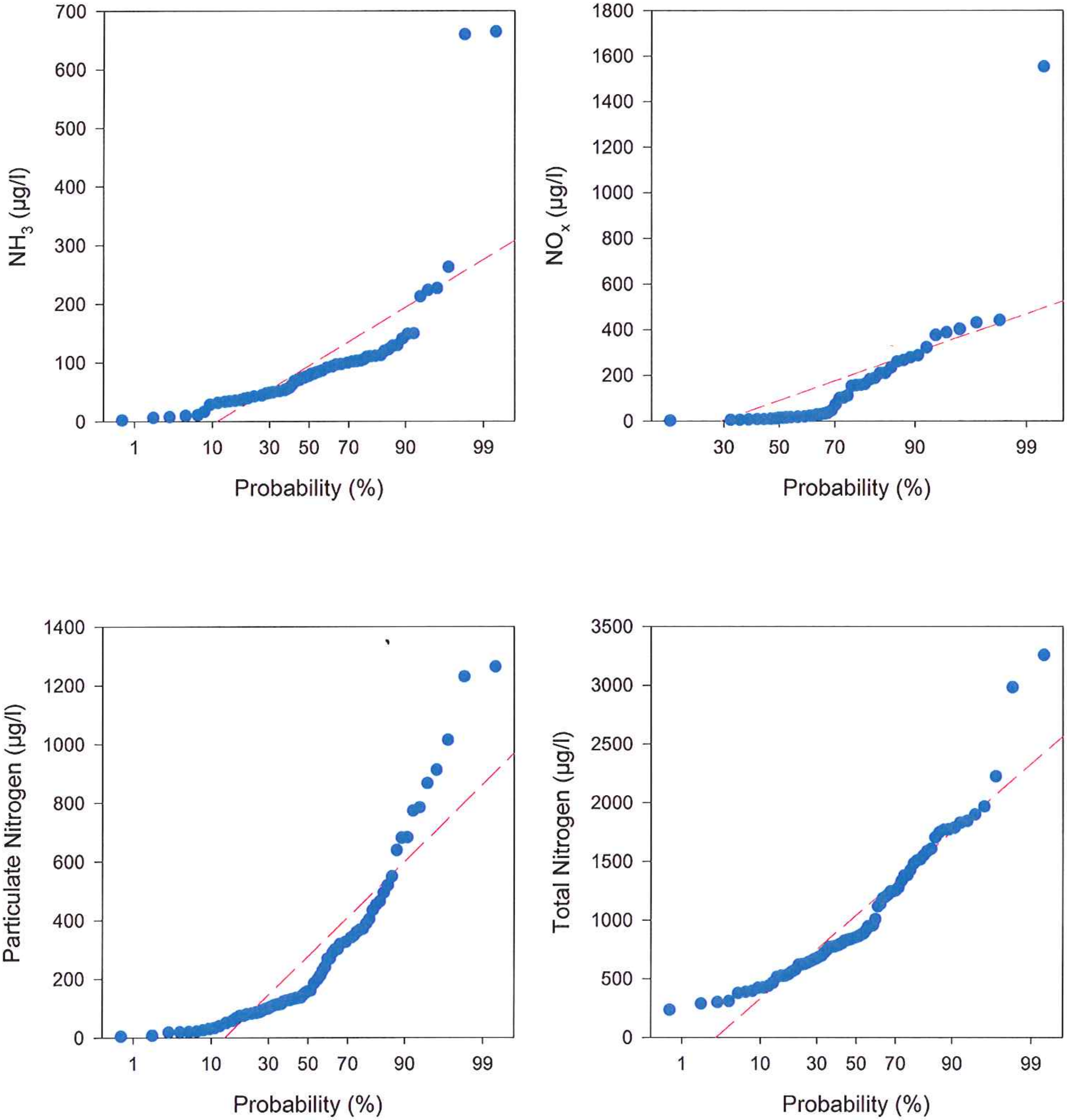


## Upland Hardwood
## (Normal Probability Plots)



# Upland Hardwood
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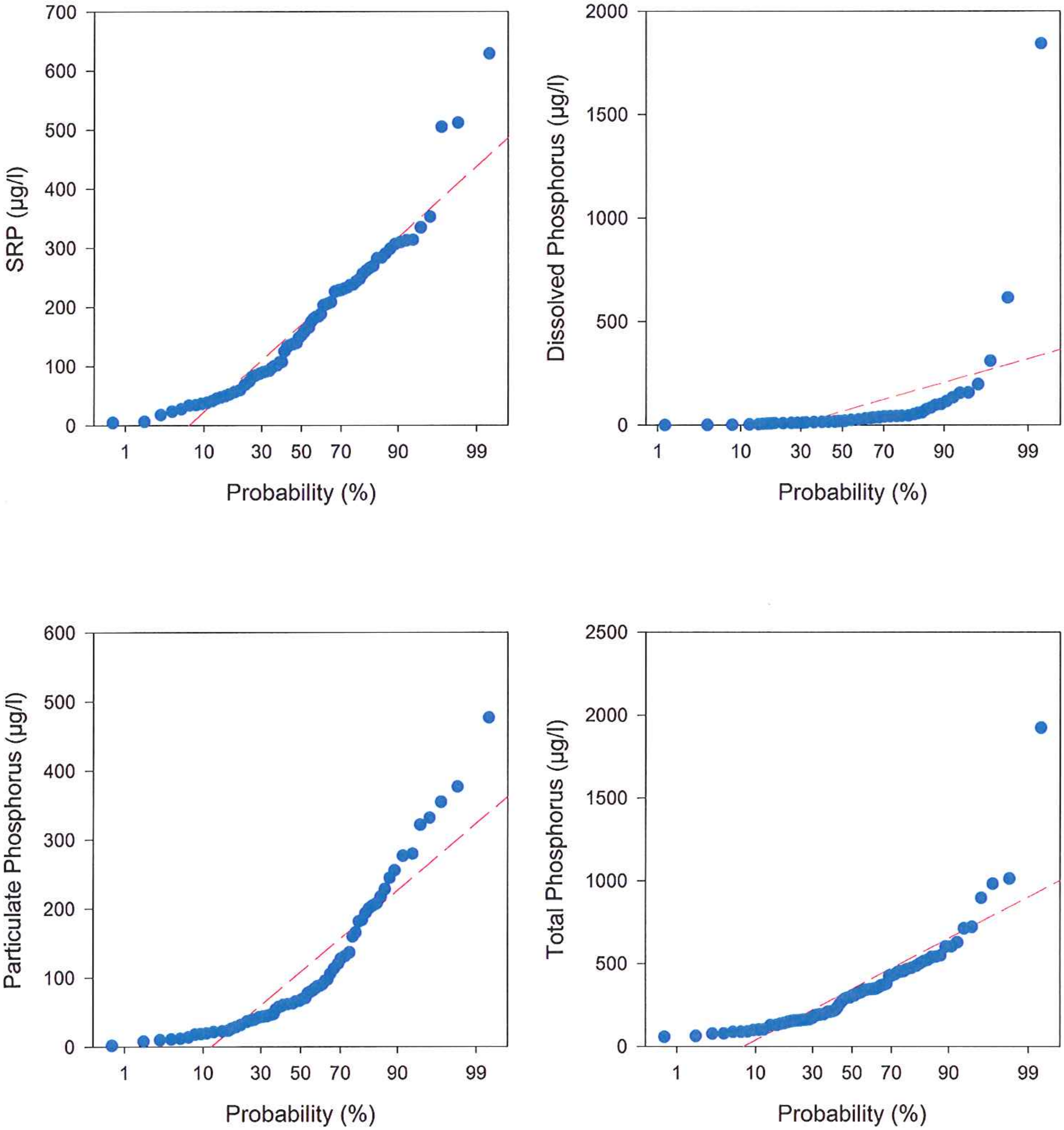
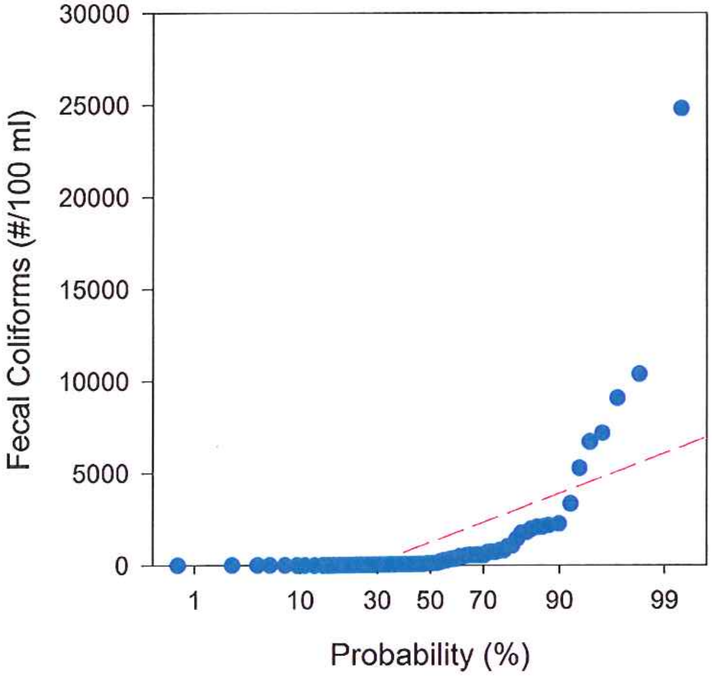
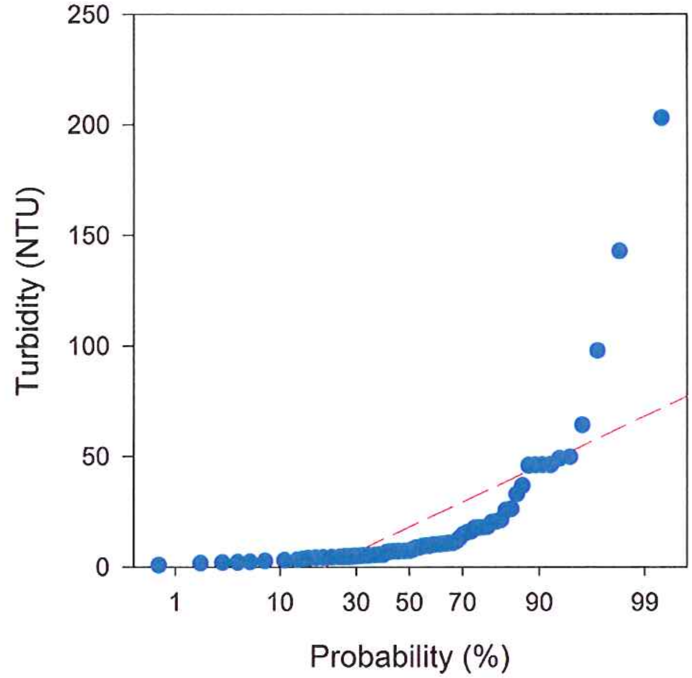
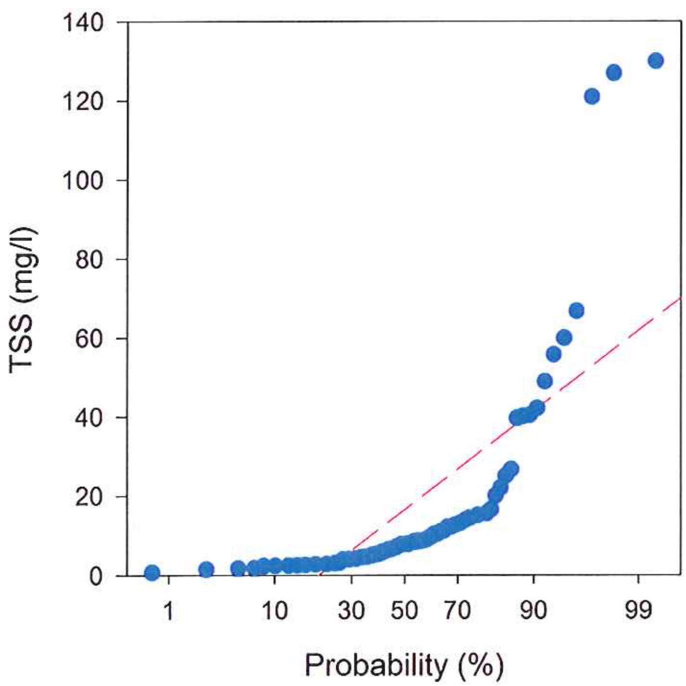
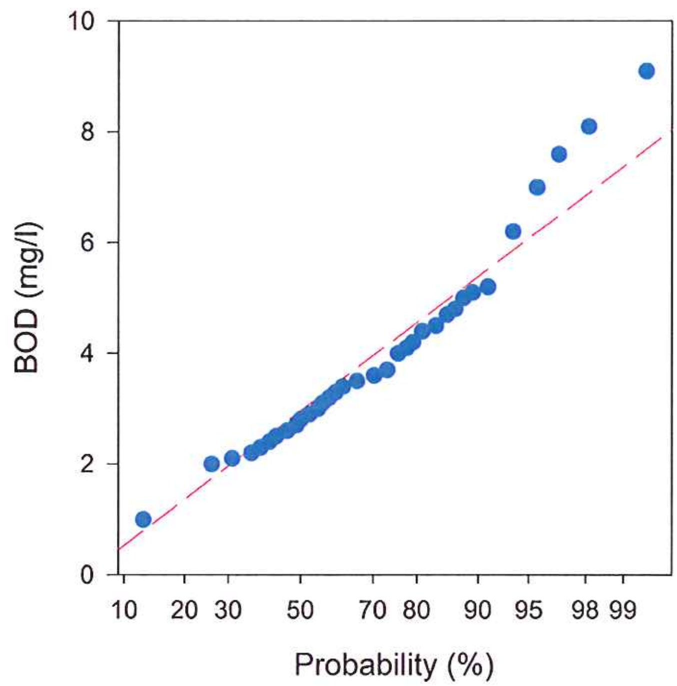


## Upland Hardwood
## (Normal Probability Plots)

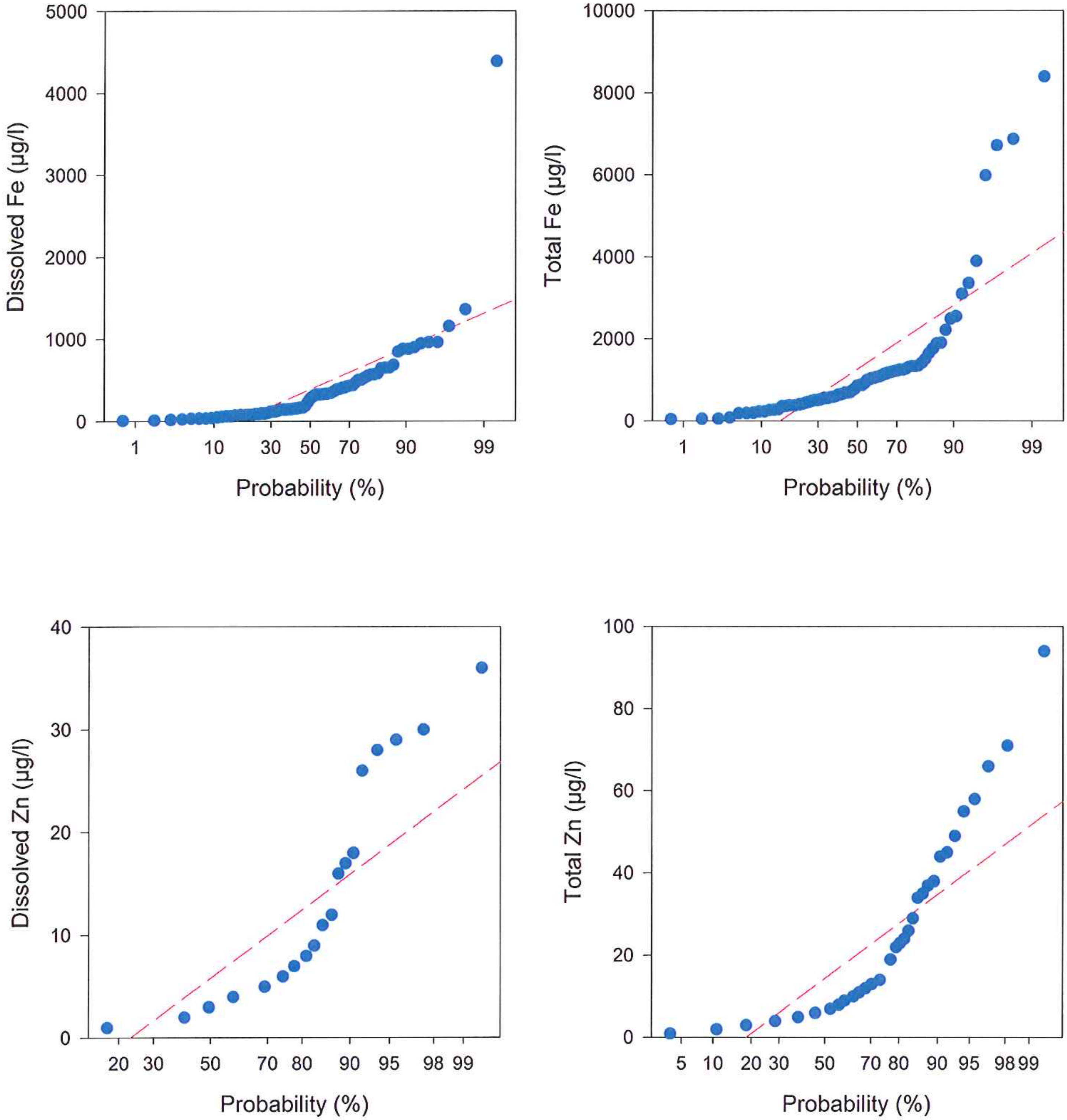


# Upland Hardwood
# (Normal Probability Plots)



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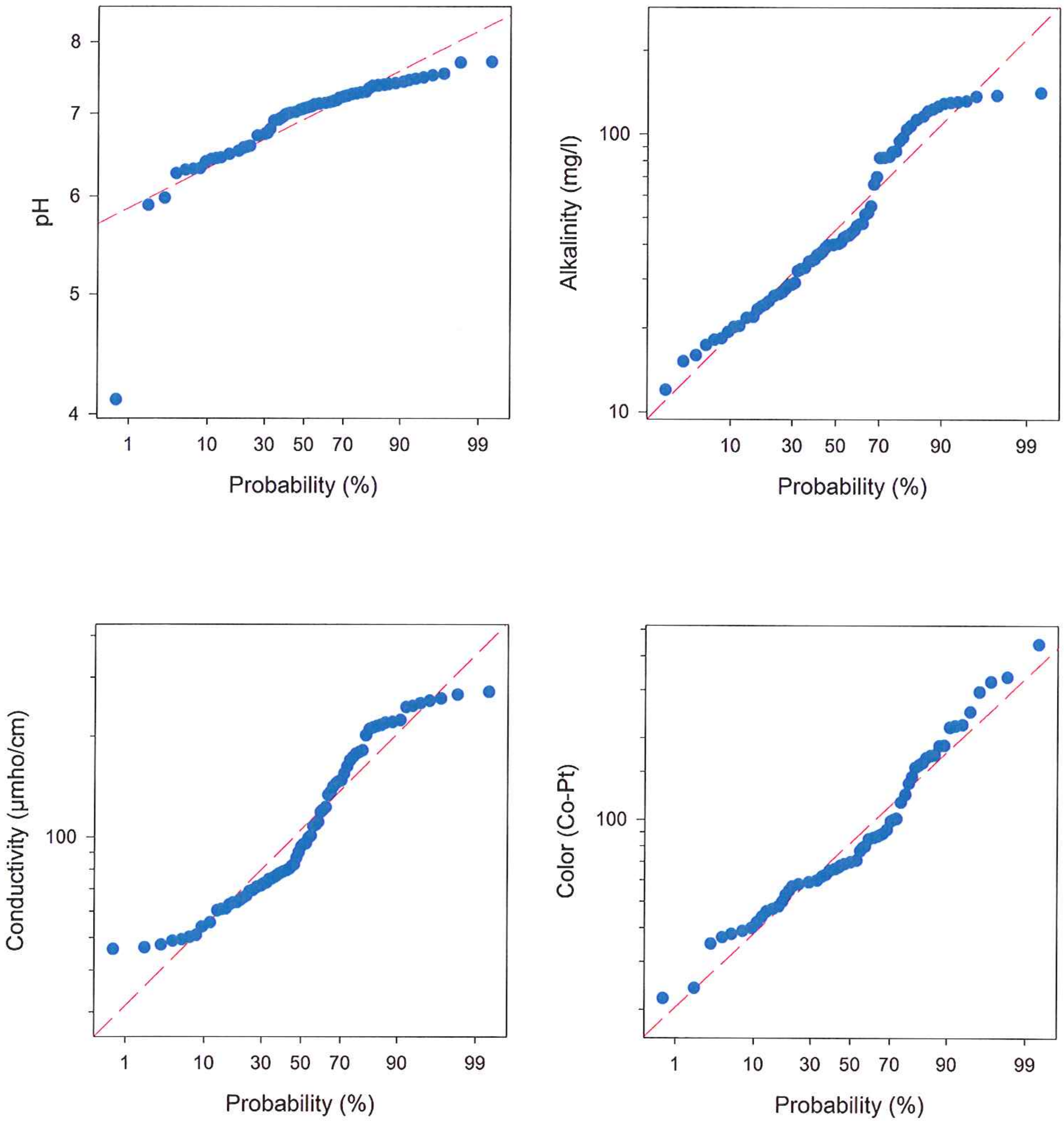
# (Log Normal Probability Plots)



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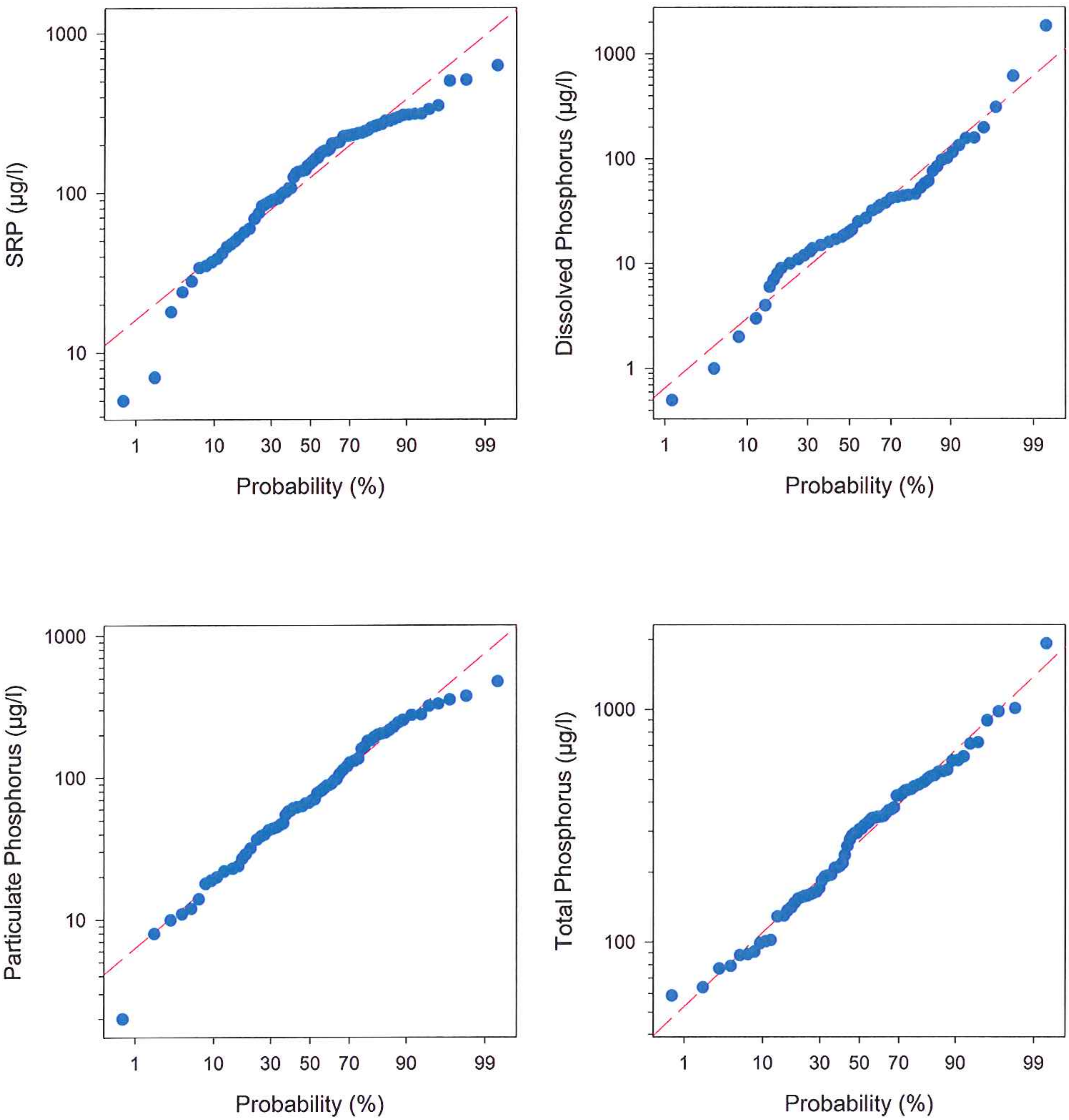
# (Log Normal Probability Plots)



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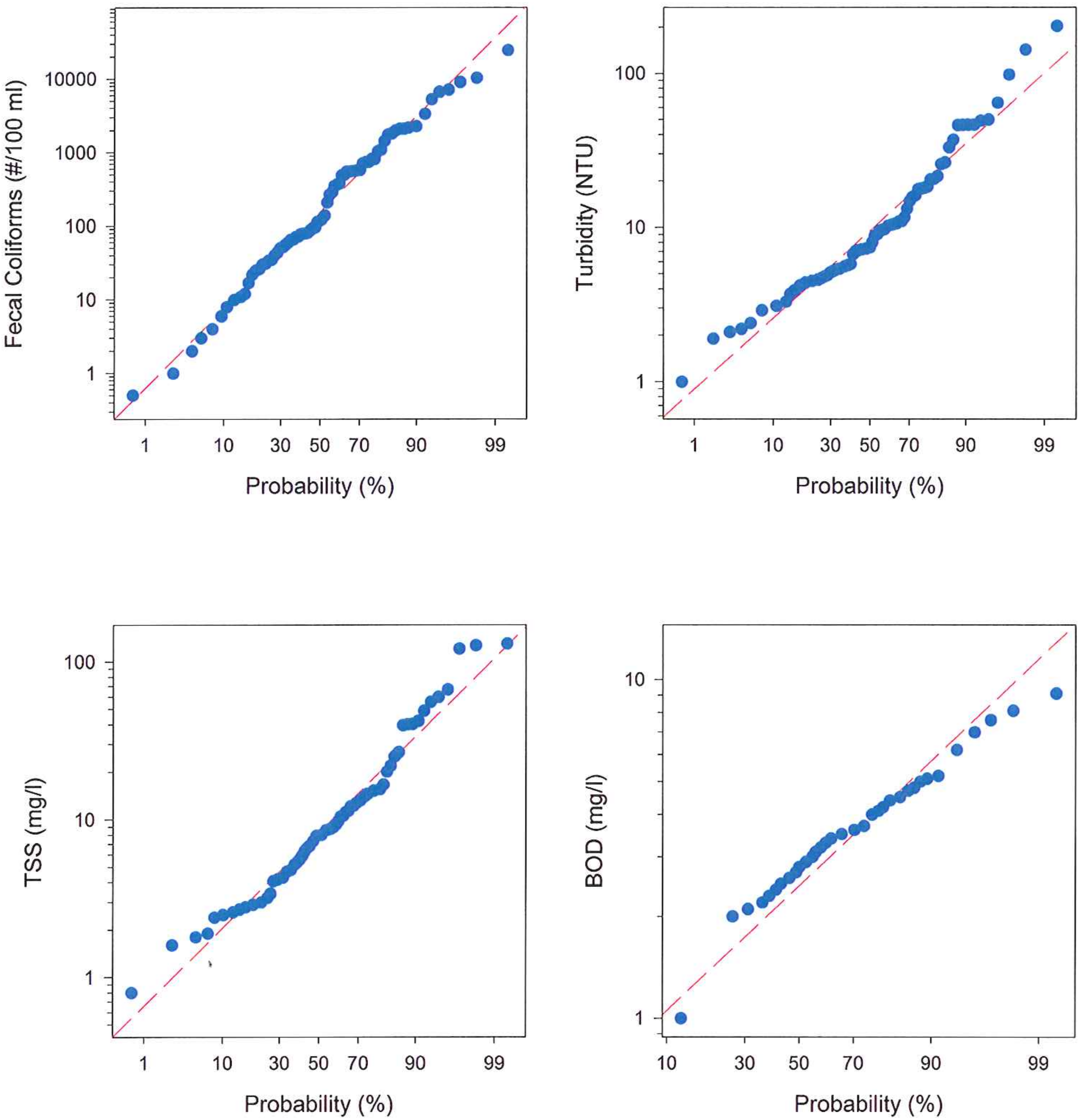
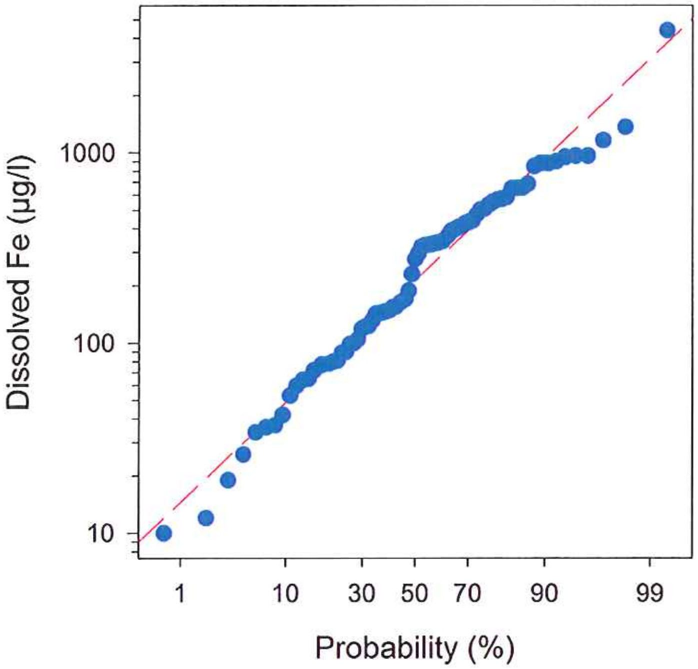
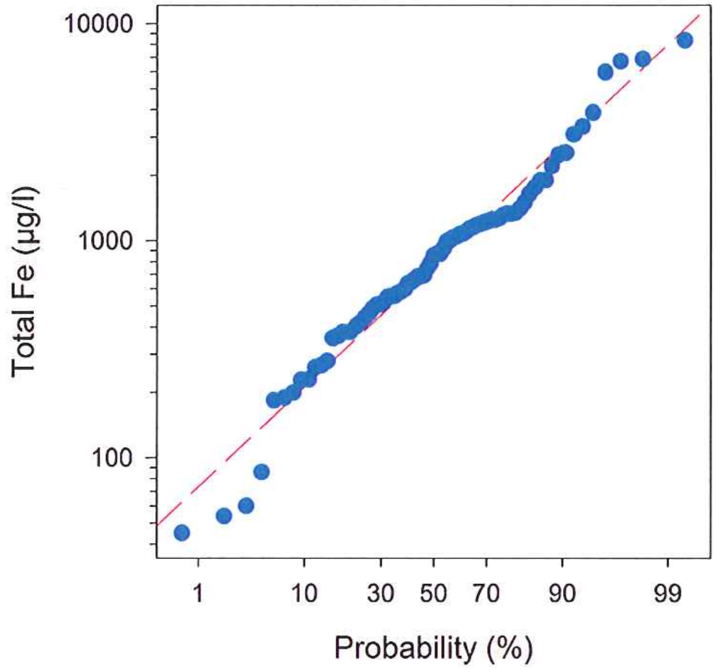
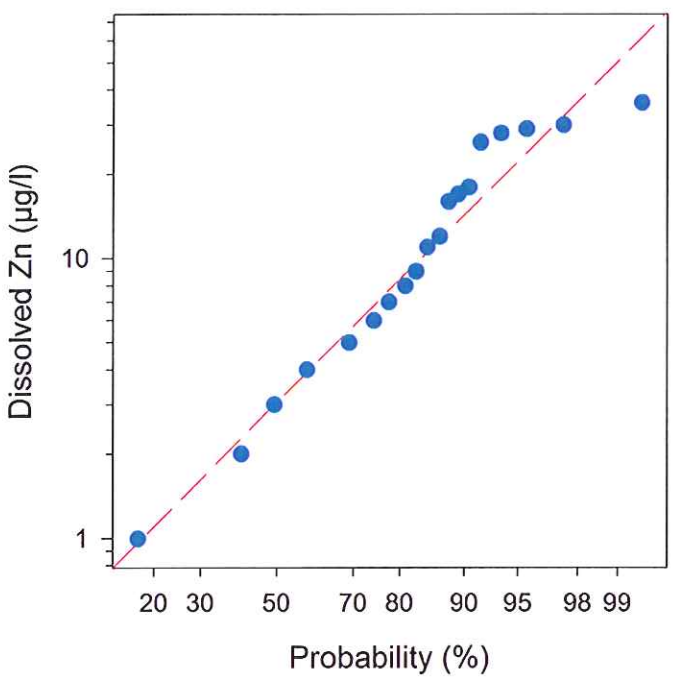
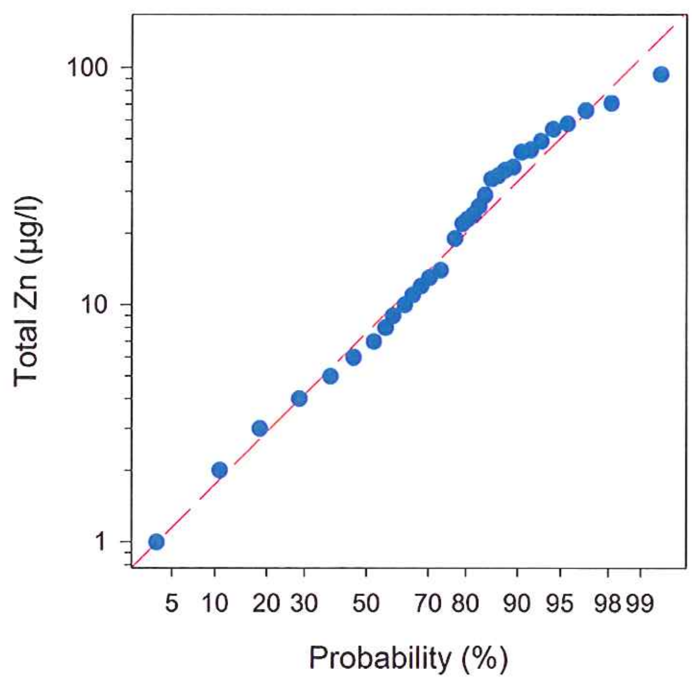


# Upland Hardwood
# (Log Normal Probability Plots)

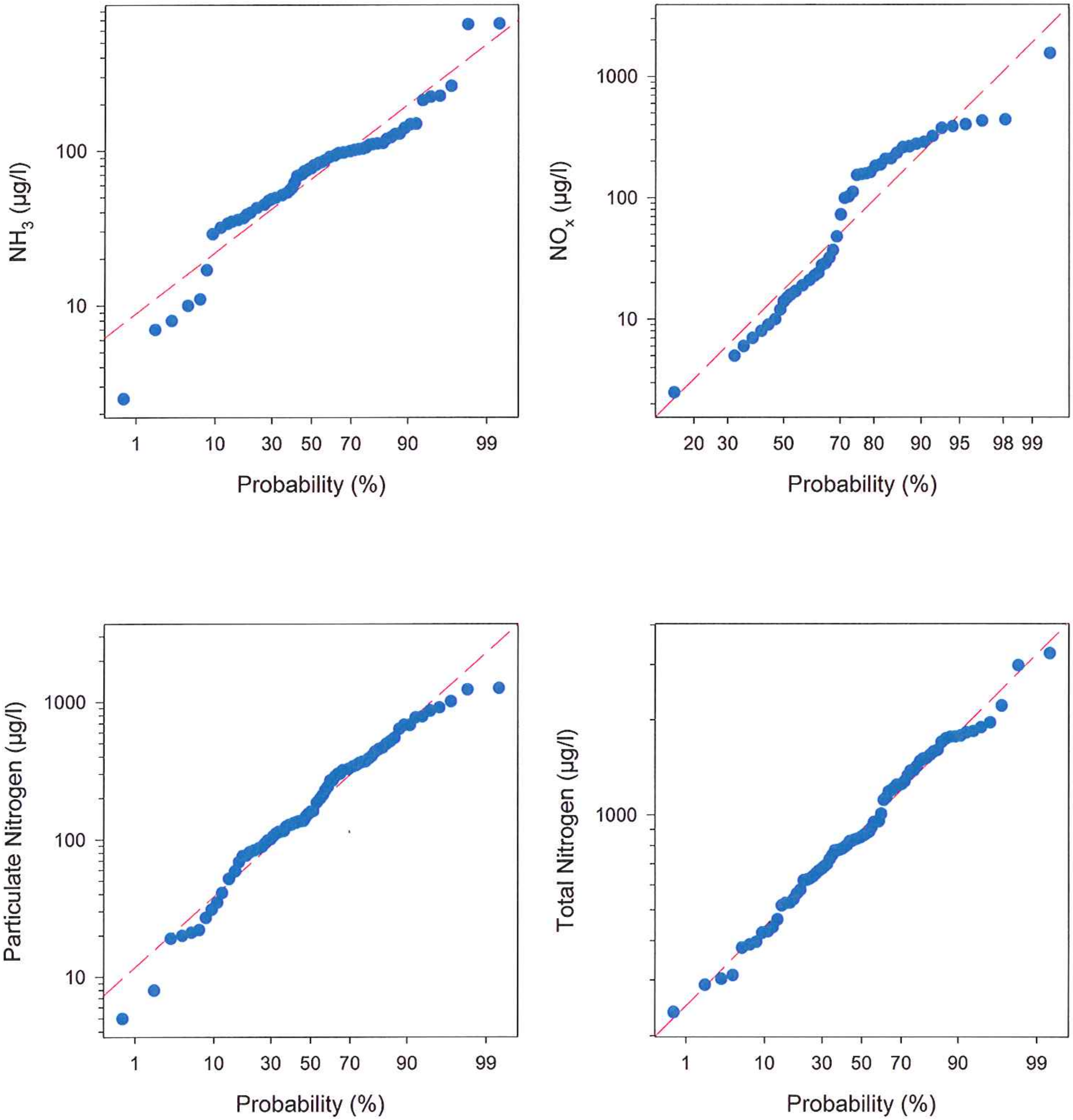


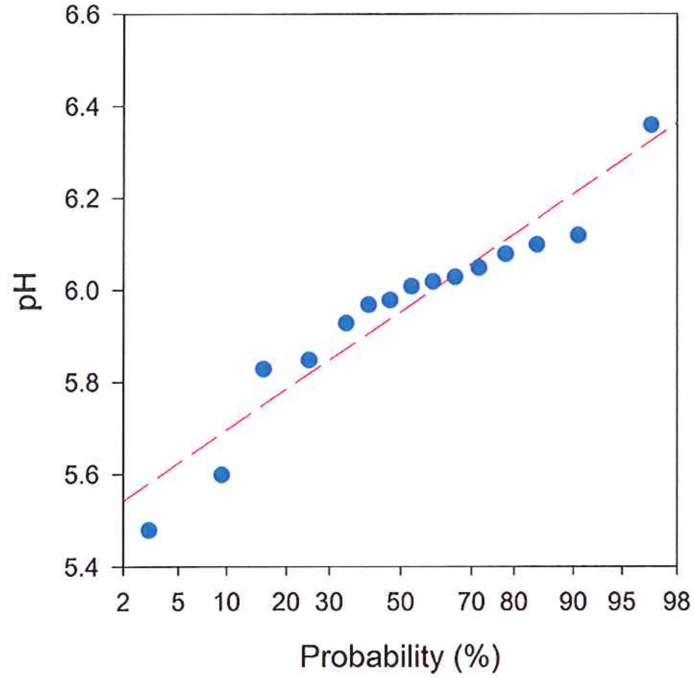



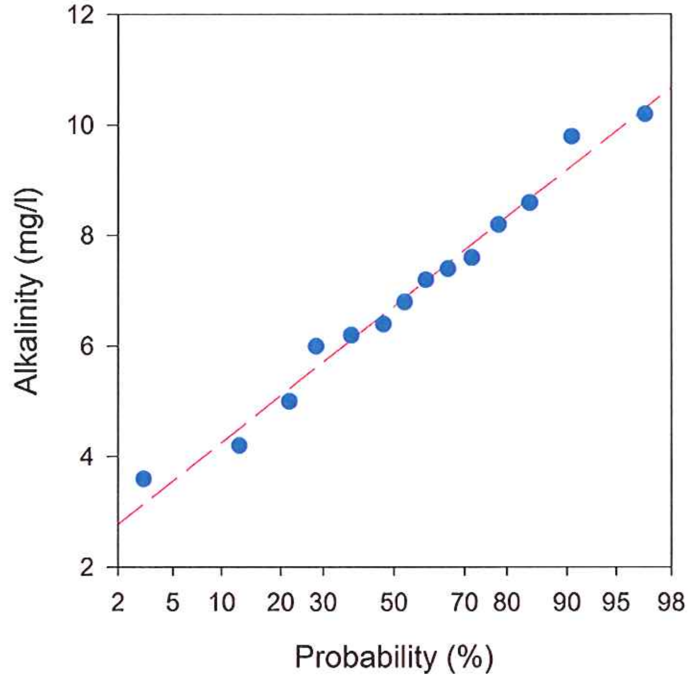
# Upland Hardwood
# (Log Normal Probability Plots)

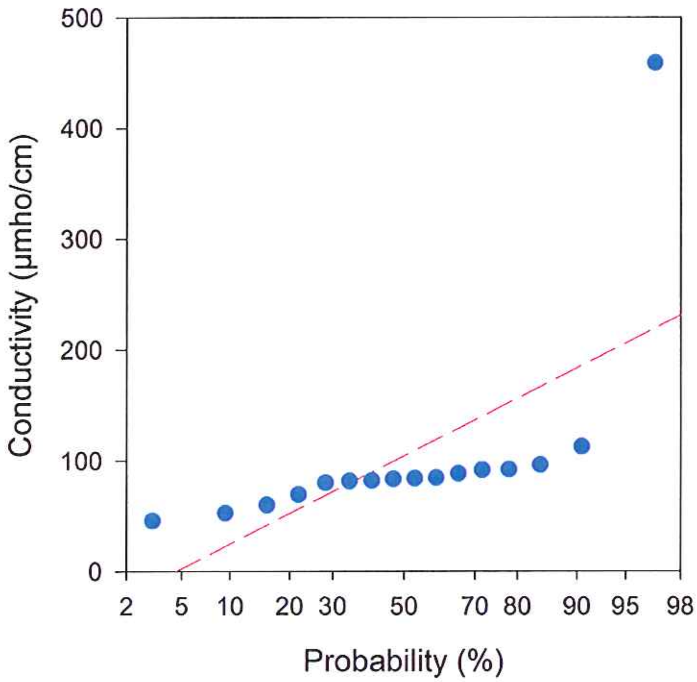


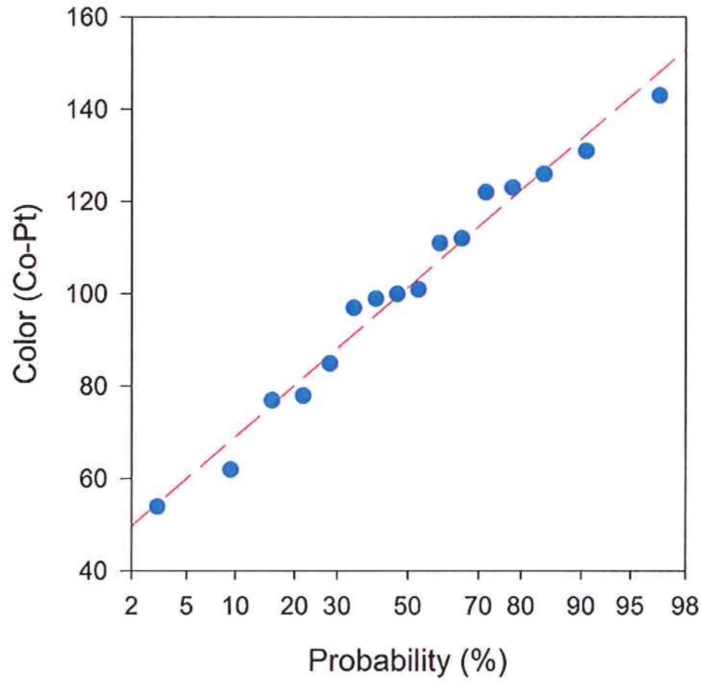
# 8. <u>Upland Mixed Forest</u>

# Upland Mixed Forest
# (Normal Probability Plots)

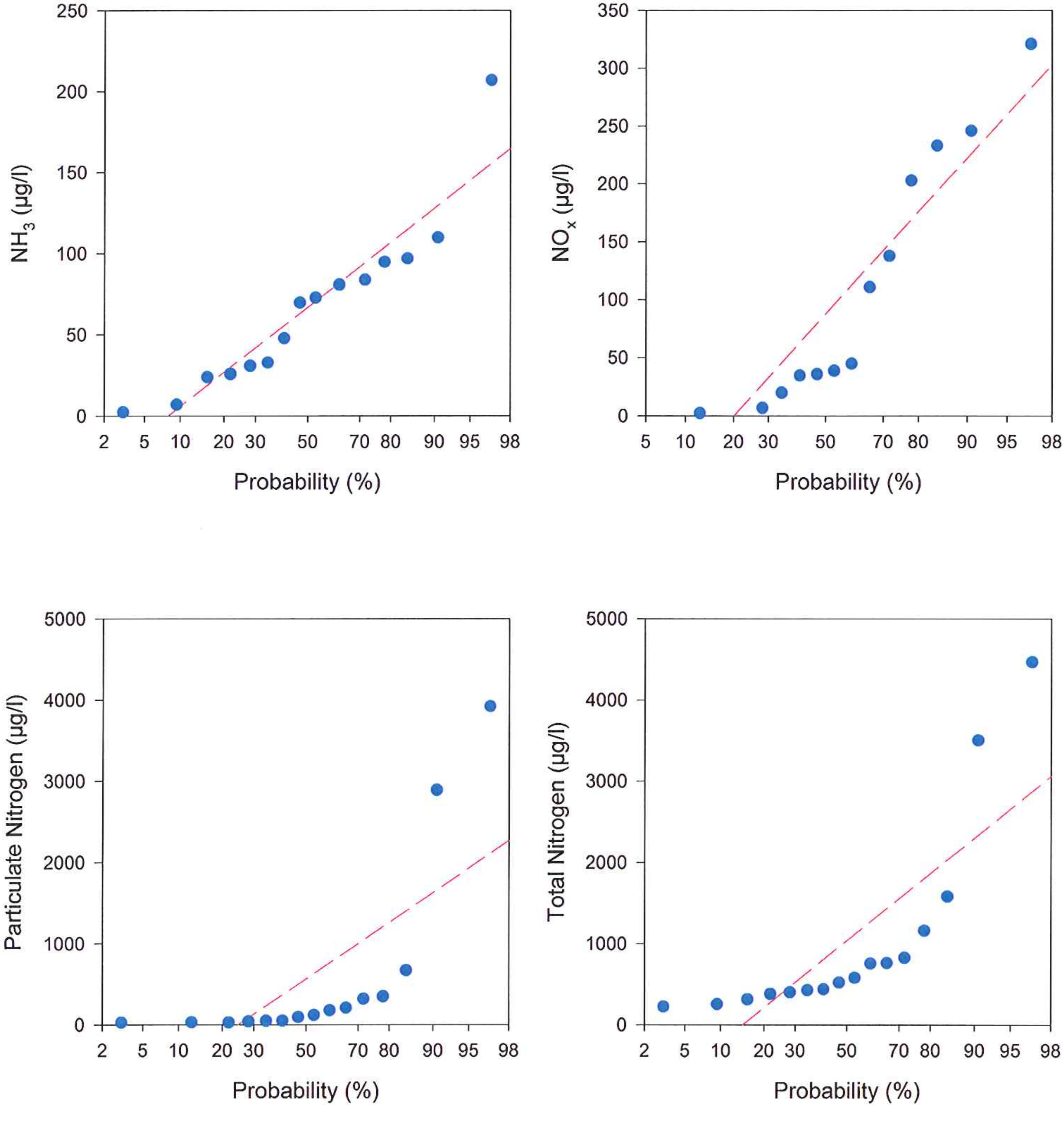


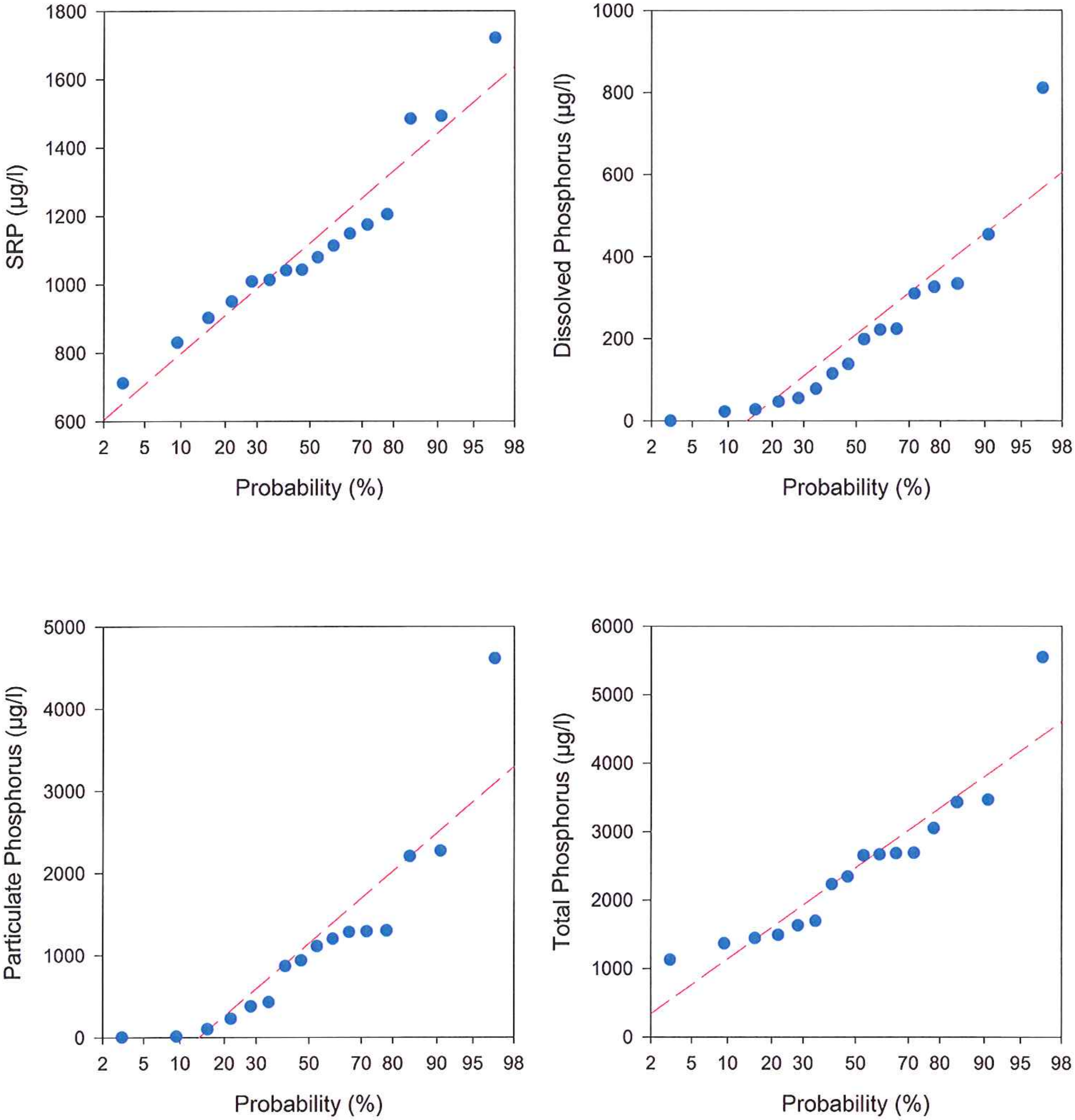



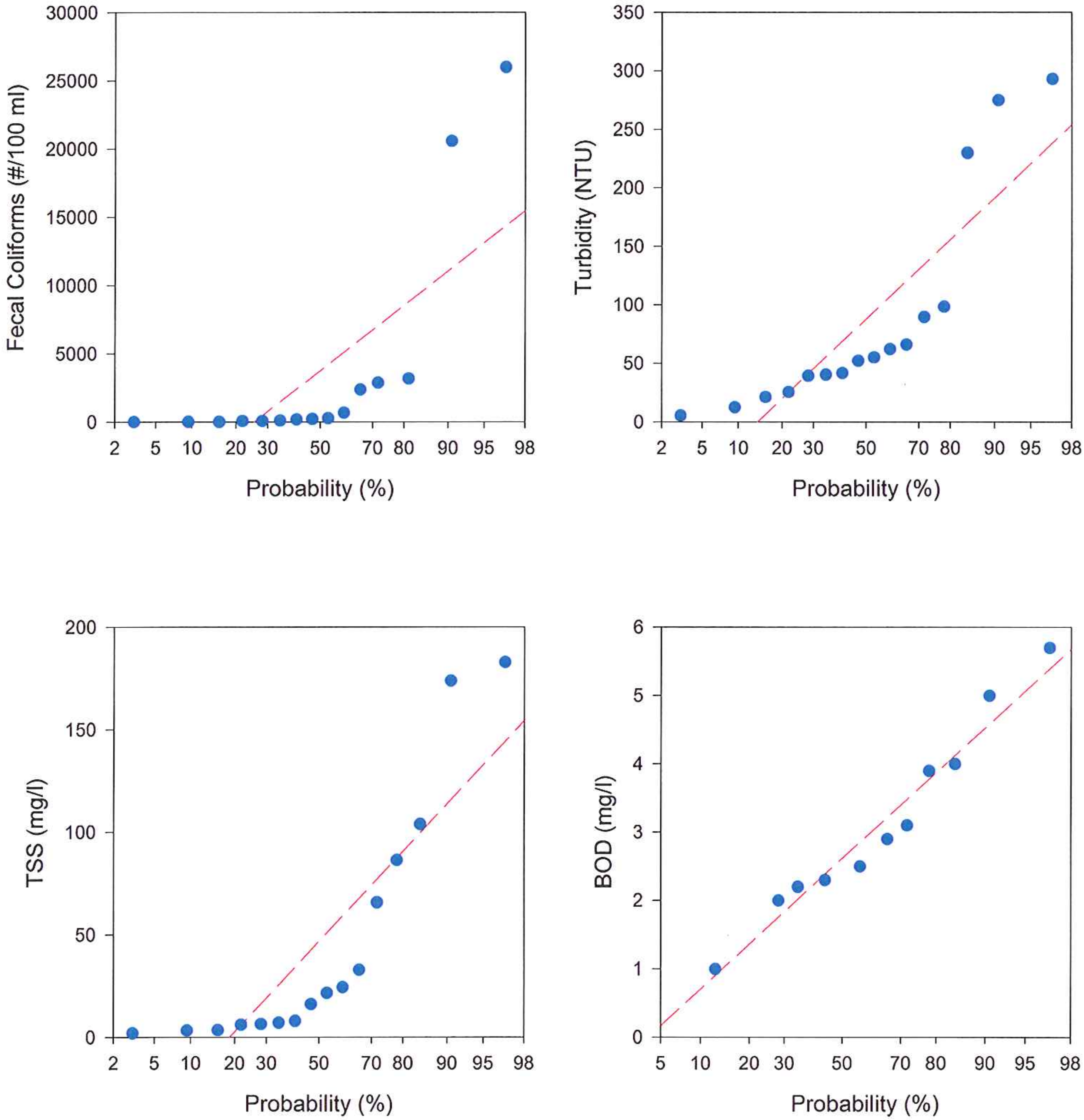
# Upland Mixed Forest
# (Normal Probability Plots)



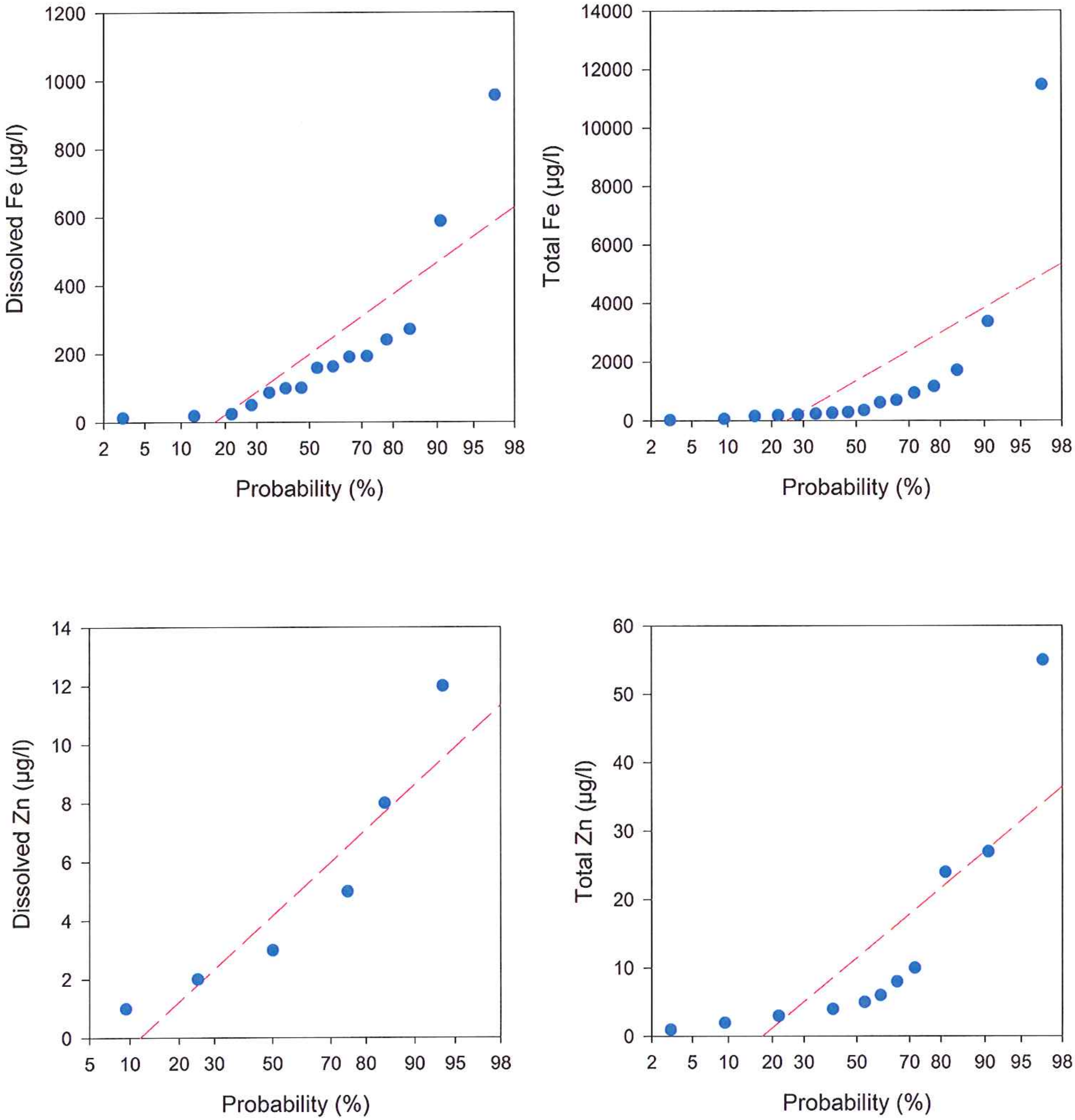
**Upland Mixed Forest**
**(Normal Probability Plots)**



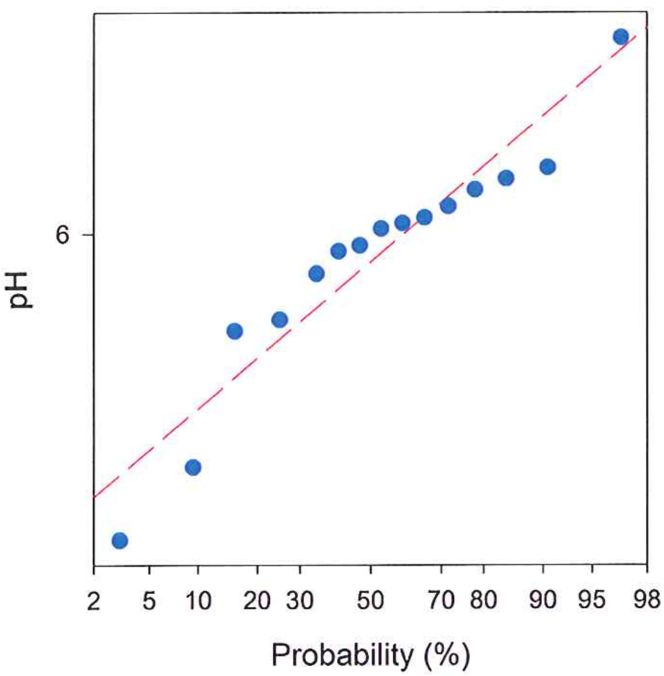
# Upland Mixed Forest
## (Normal Probability Plots)

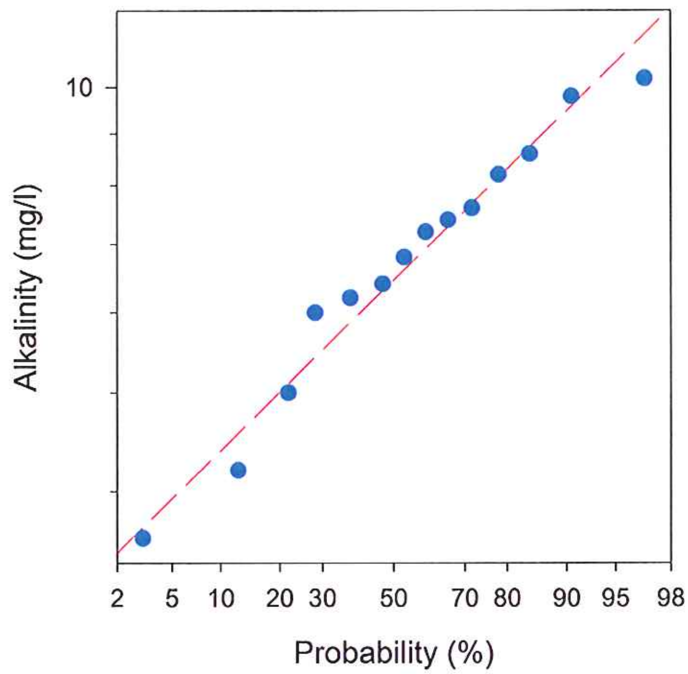


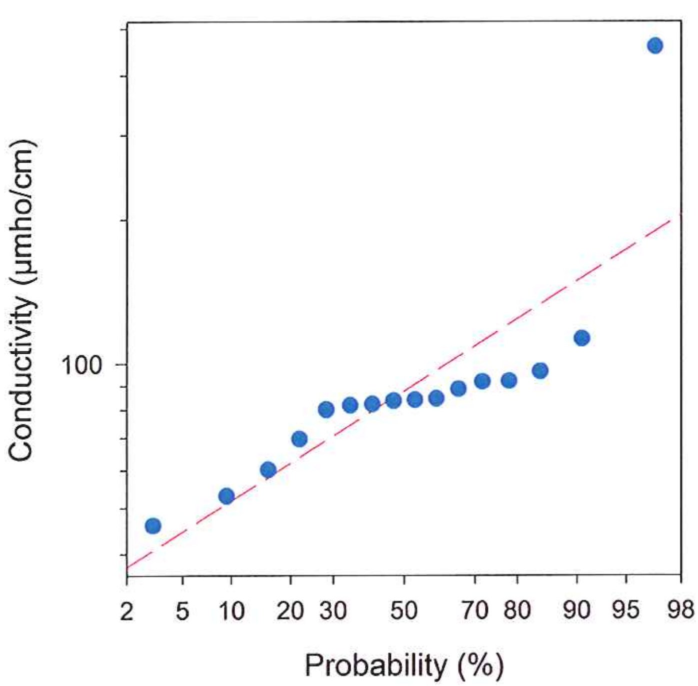
# Upland Mixed Forest
# (Normal Probability Plots)

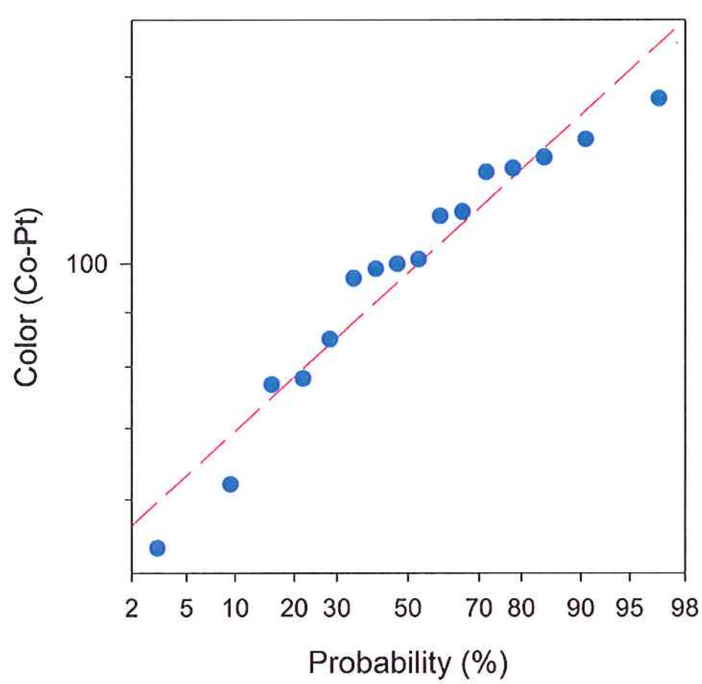


# Upland Mixed Forest
# (Log Normal Probability Plots)

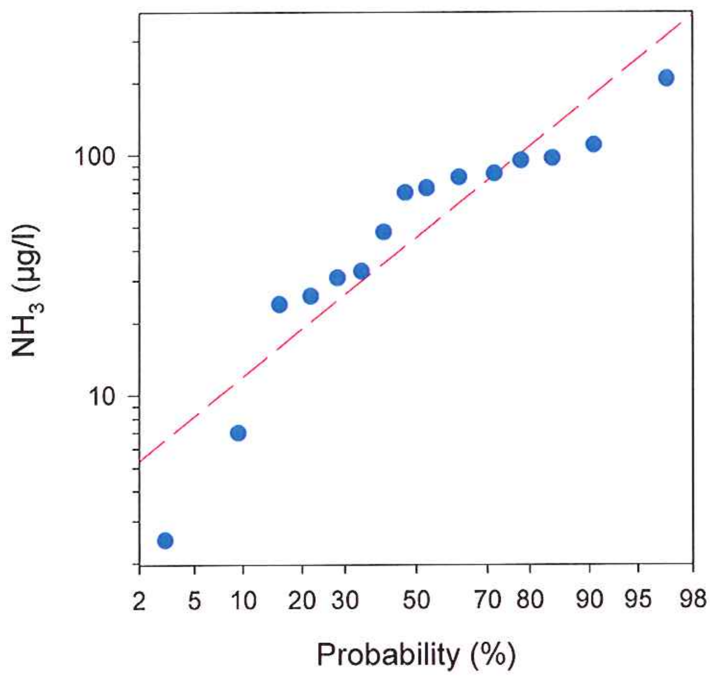


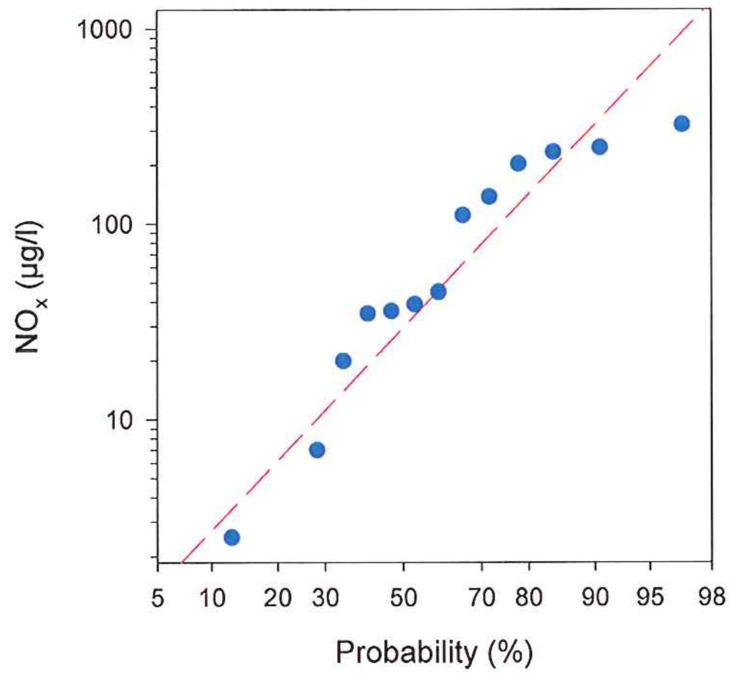



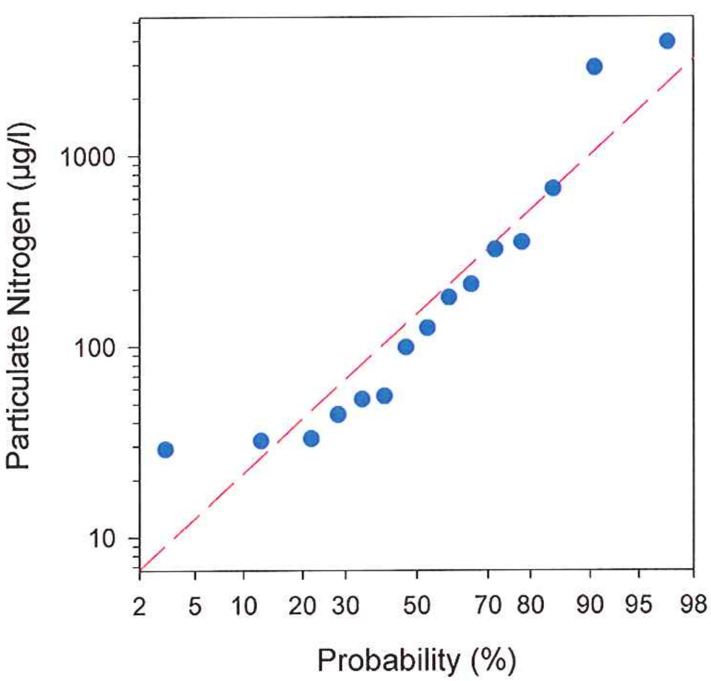



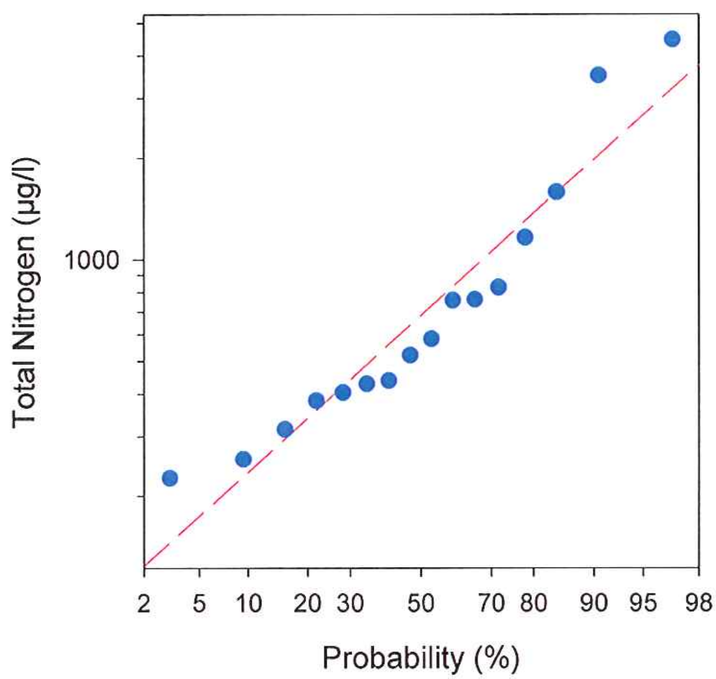



## Upland Mixed Forest
## (Log Normal Probability Plots)

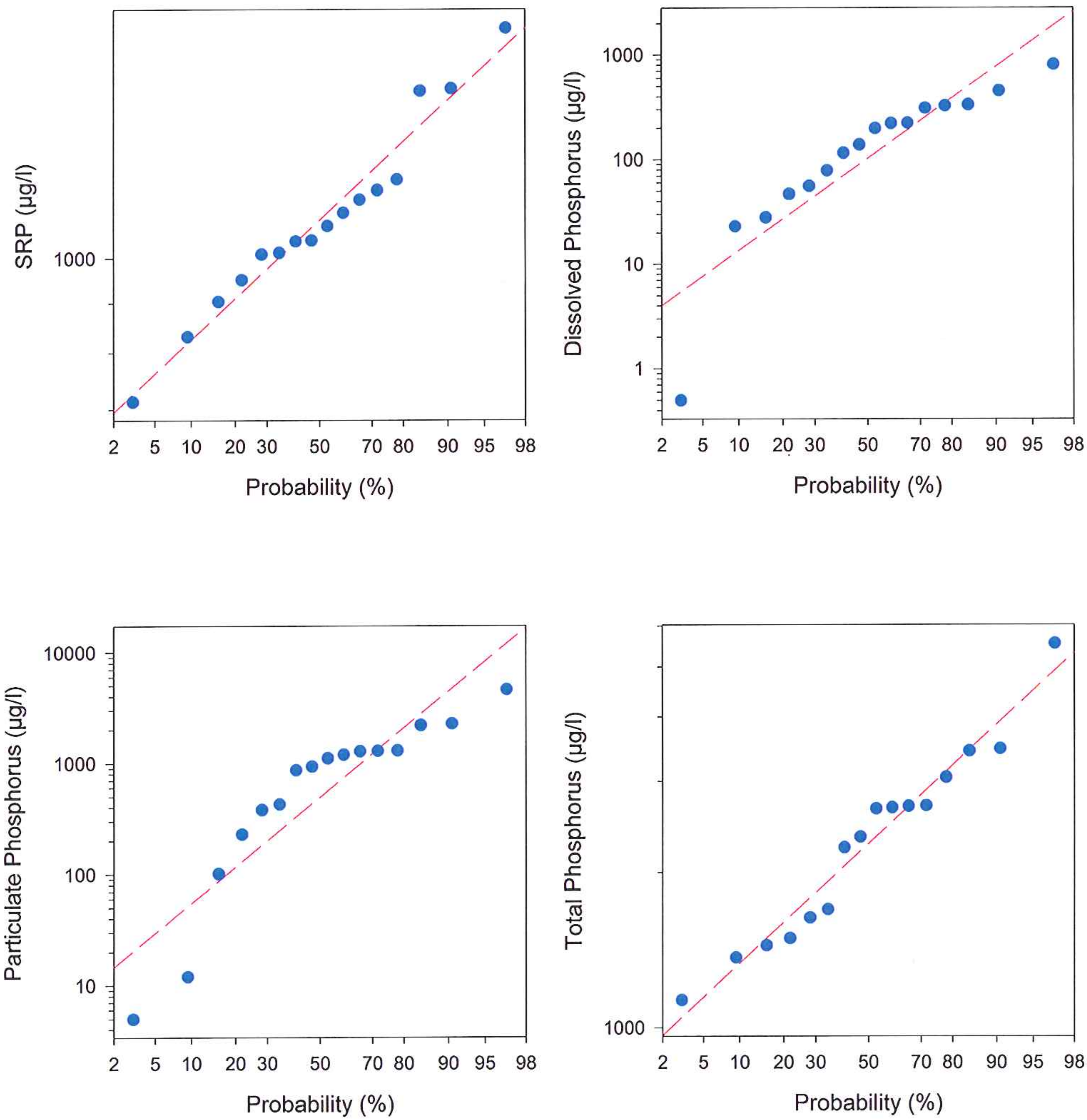


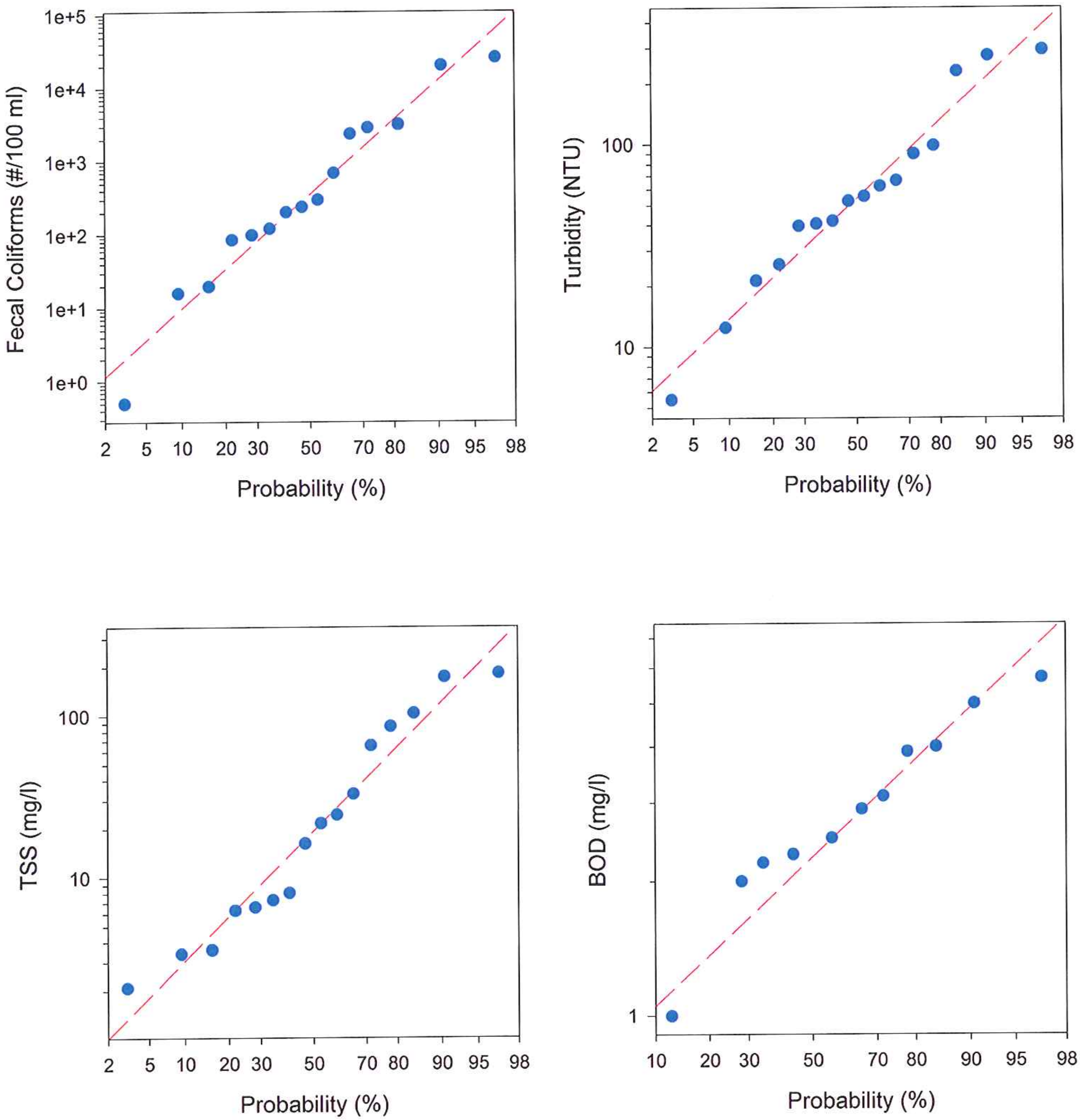



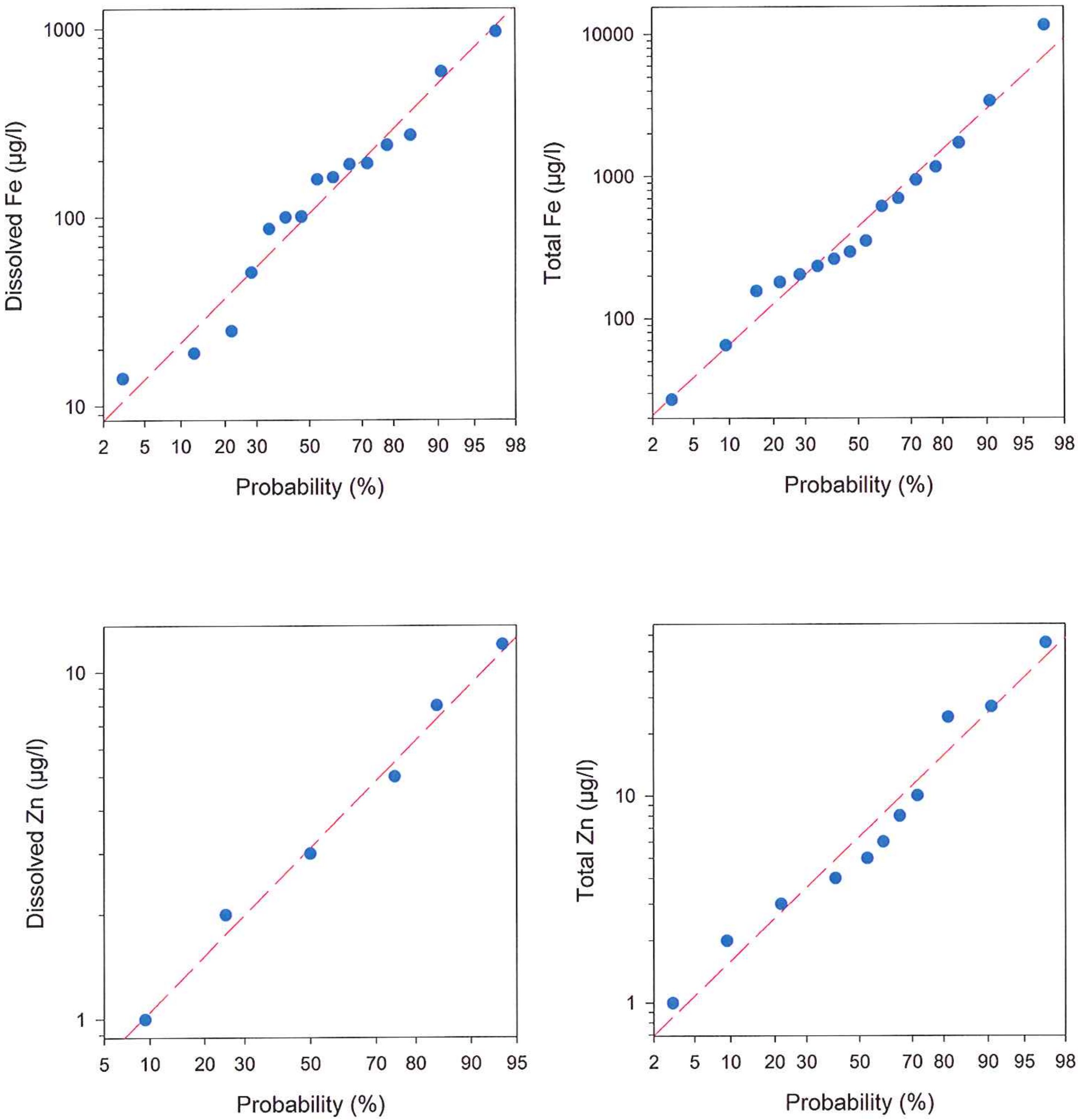
# Upland Mixed Forest
## (Log Normal Probability Plots)



## Upland Mixed Forest
## (Log Normal Probability Plots)

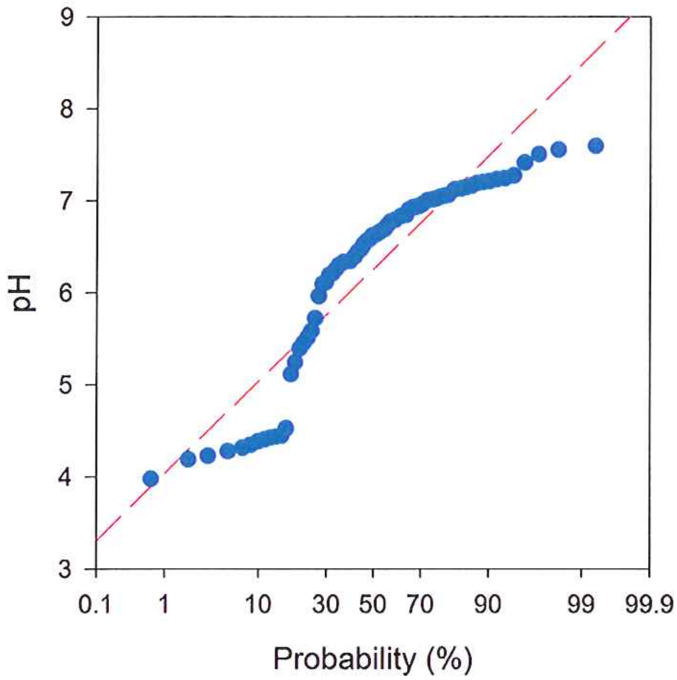


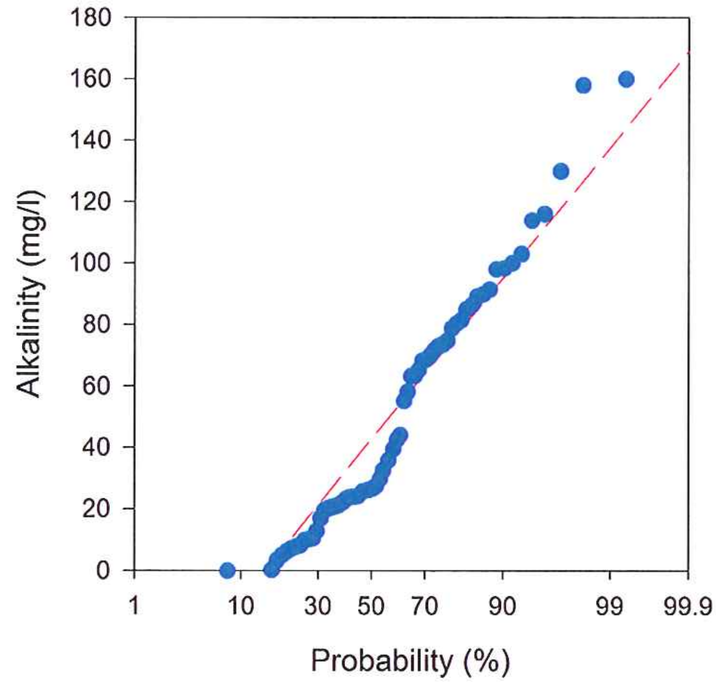
## Upland Mixed Forest
## (Log Normal Probability Plots)

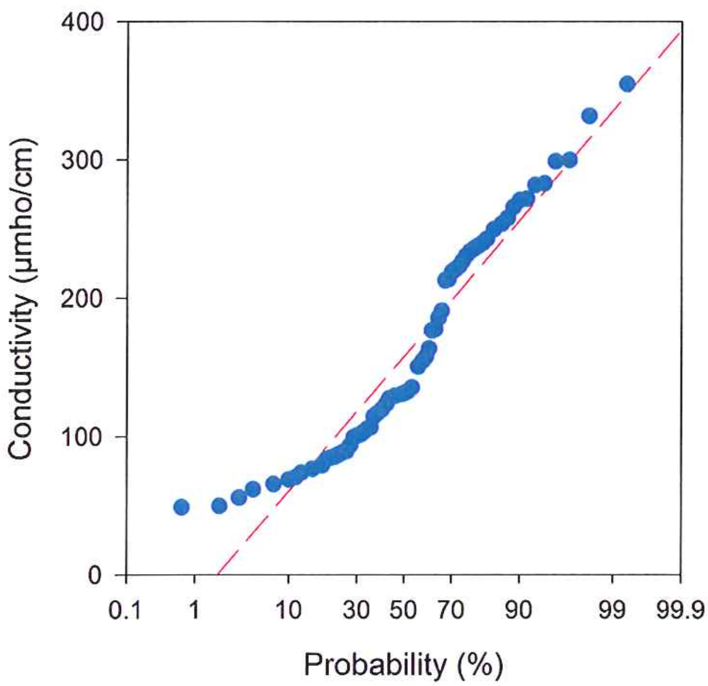


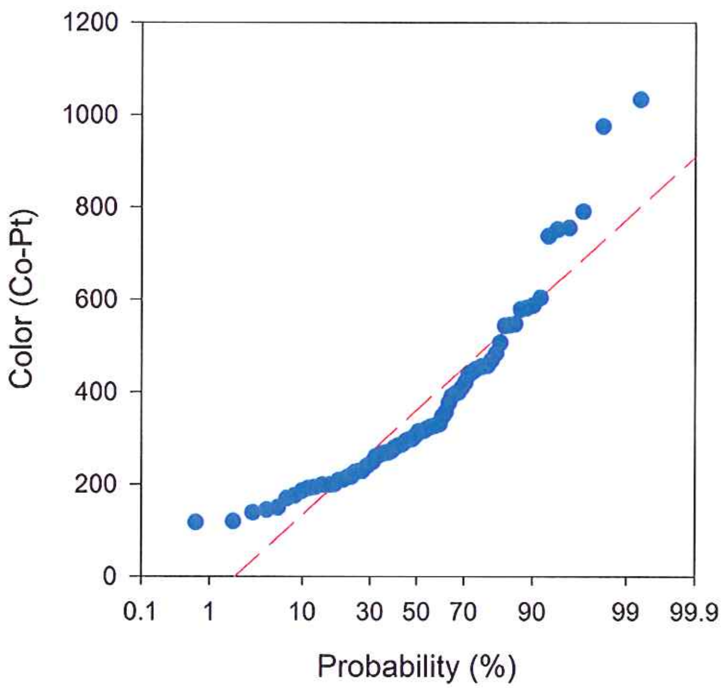
# 9. Wet Flatwood

## Wet Flatwoods
## (Normal Probability Plots)

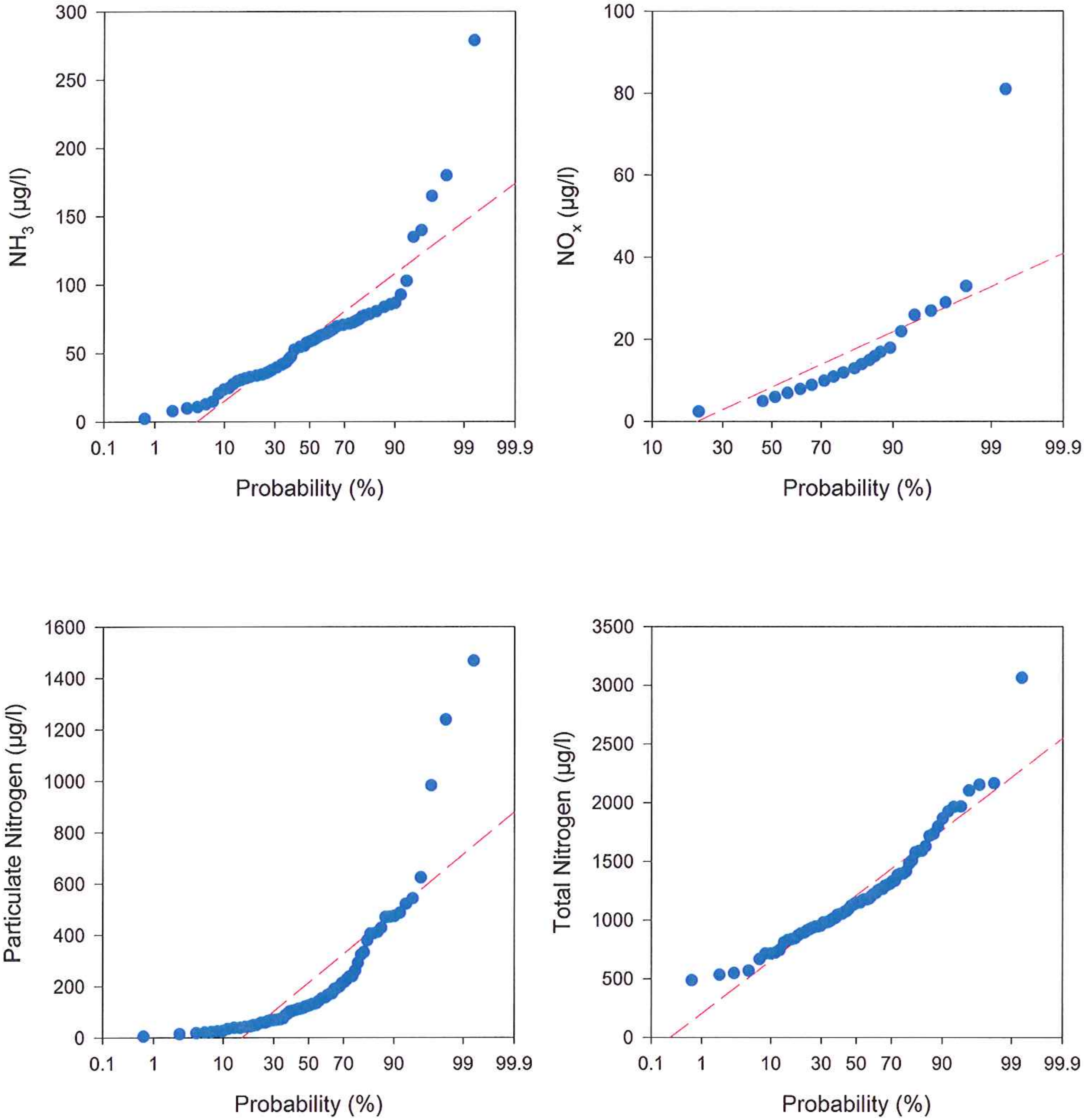


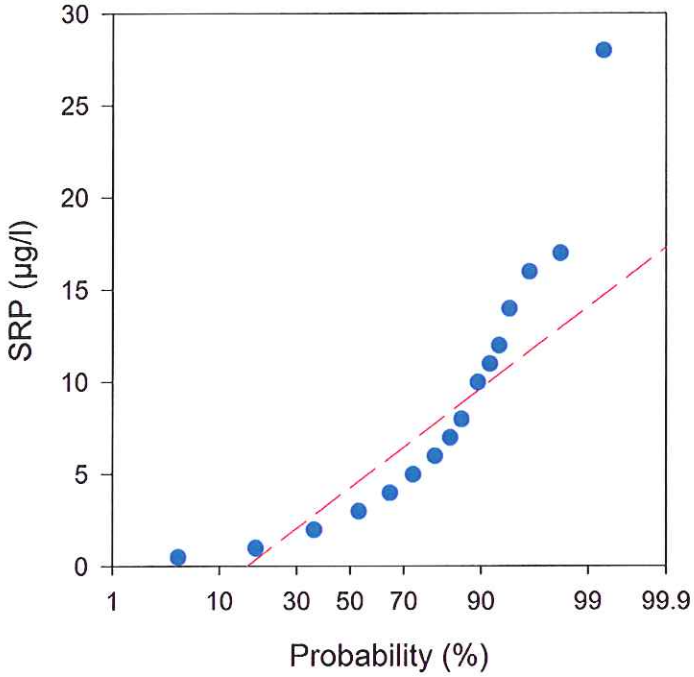



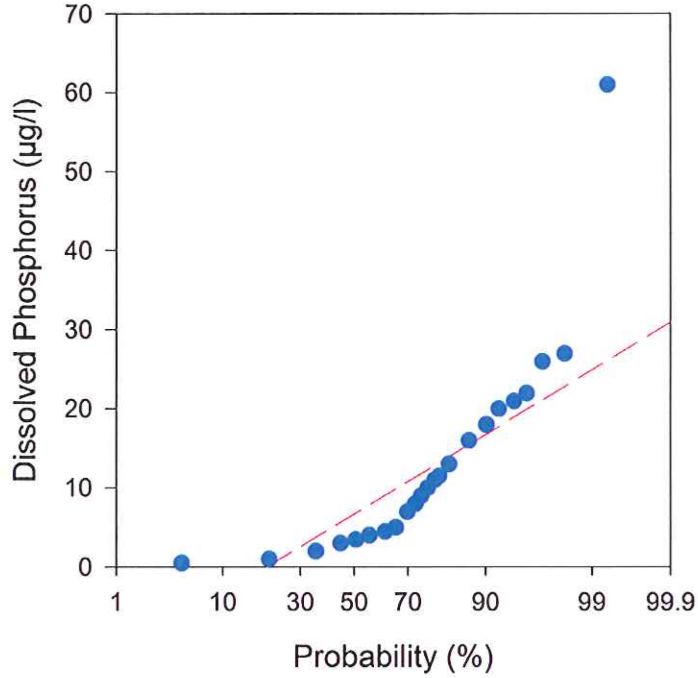



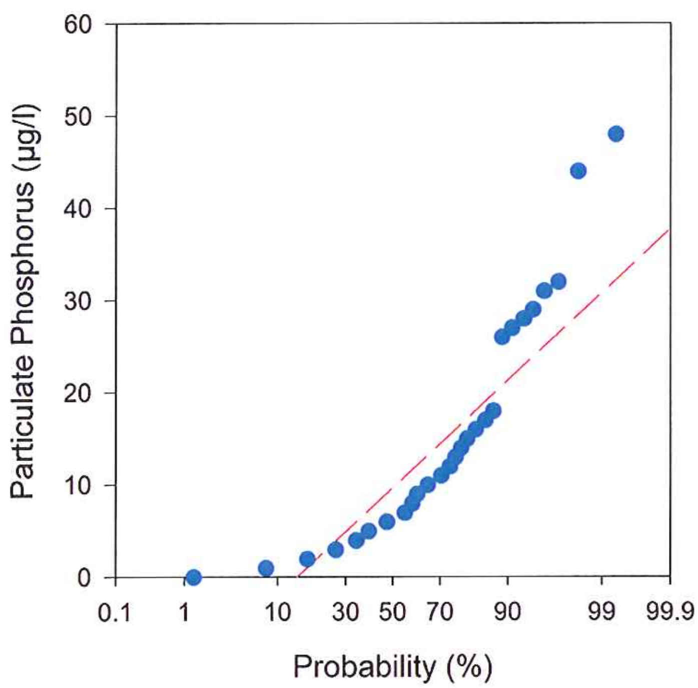
# Wet Flatwoods
# (Normal Probability Plots)

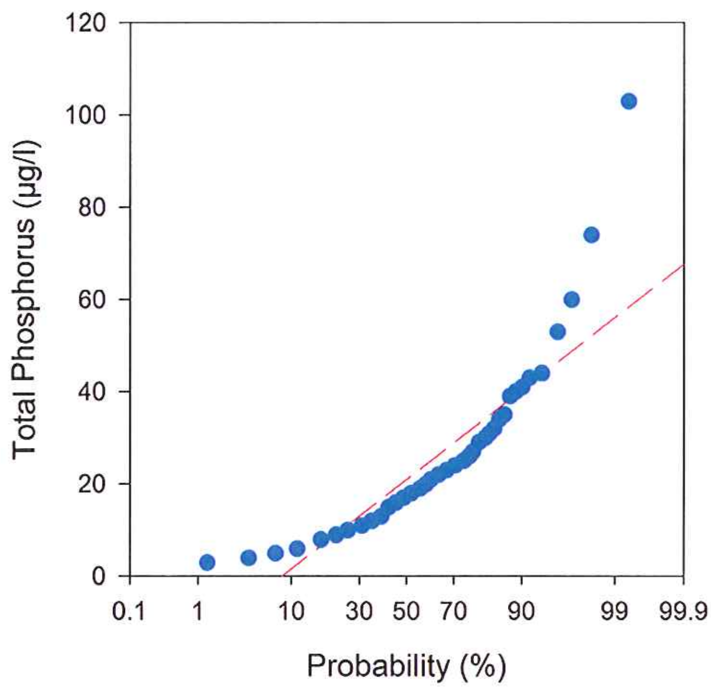


# Wet Flatwoods
# (Normal Probability Plots)

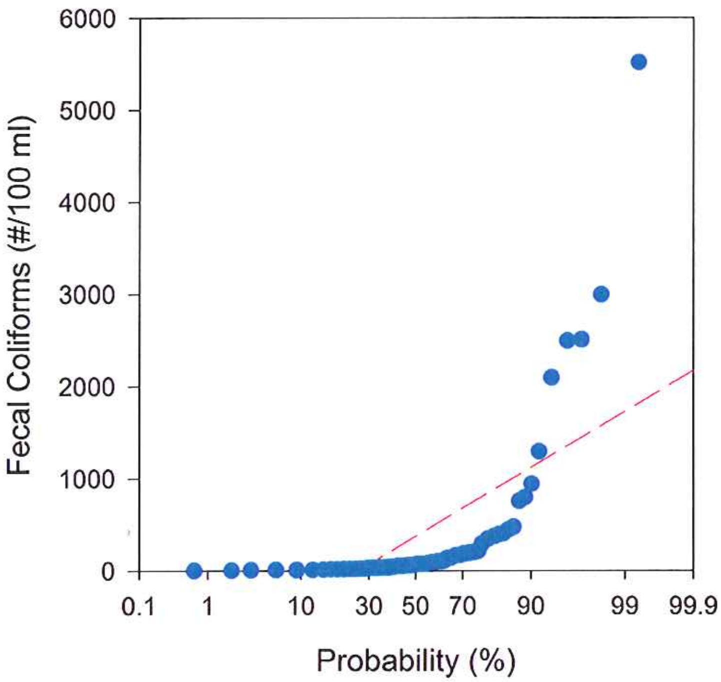


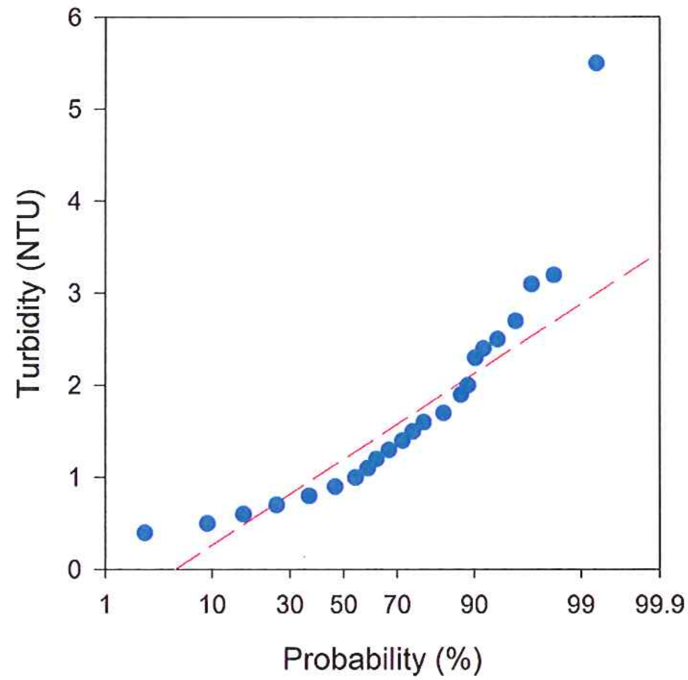



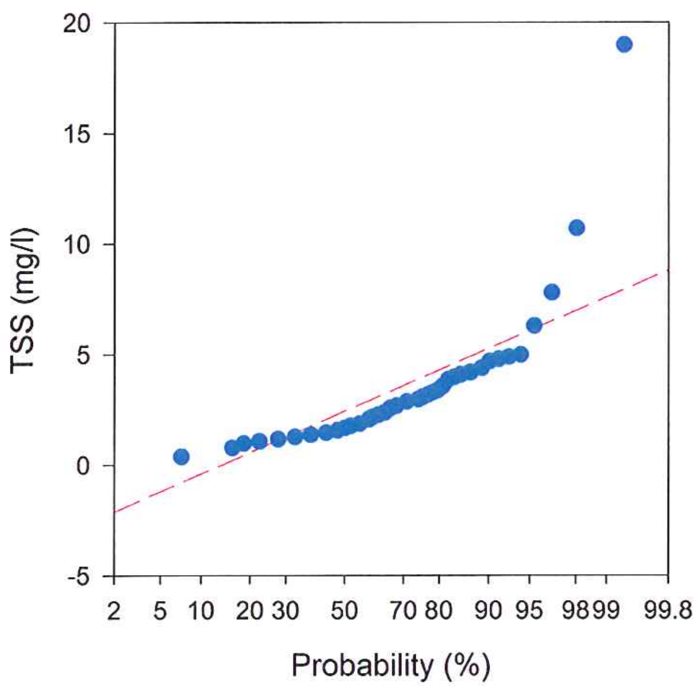



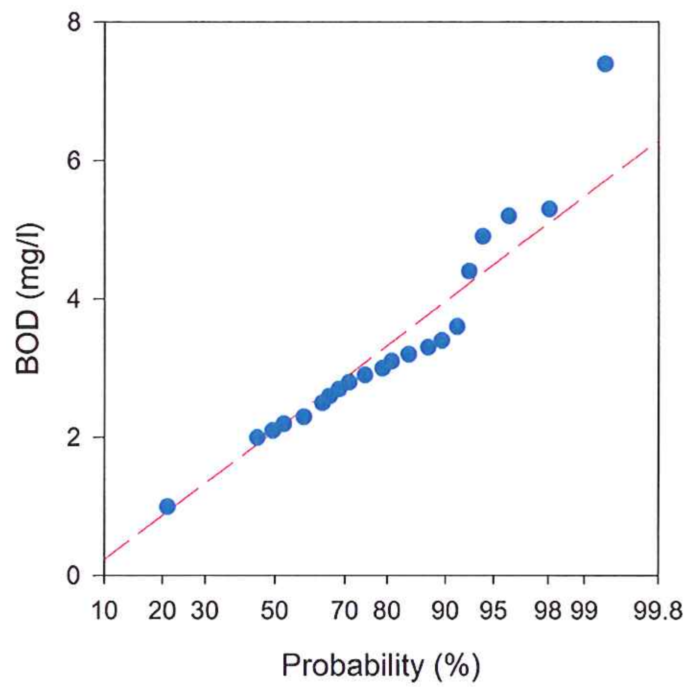



# Wet Flatwoods
# (Normal Probability Plots)

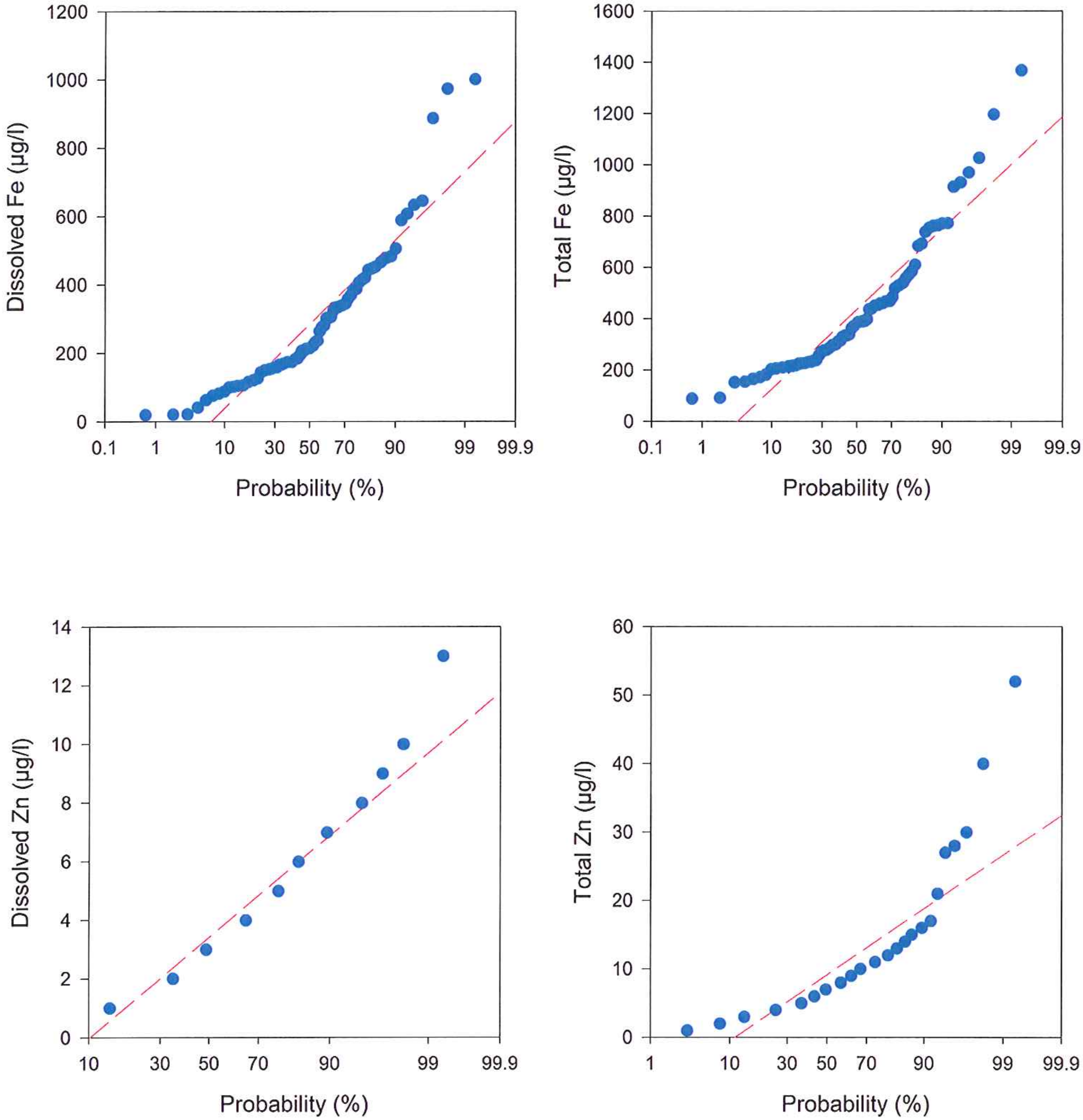


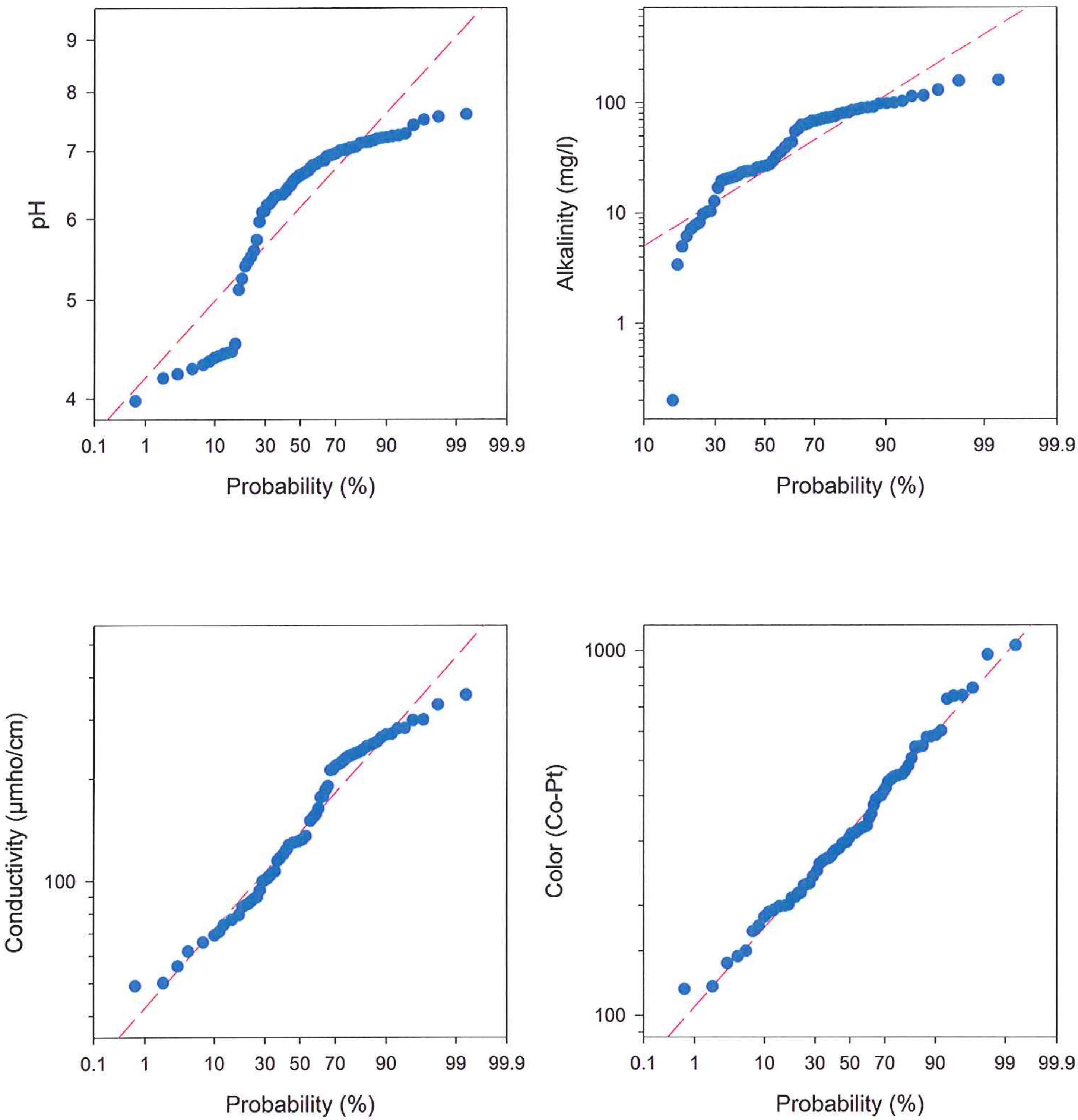



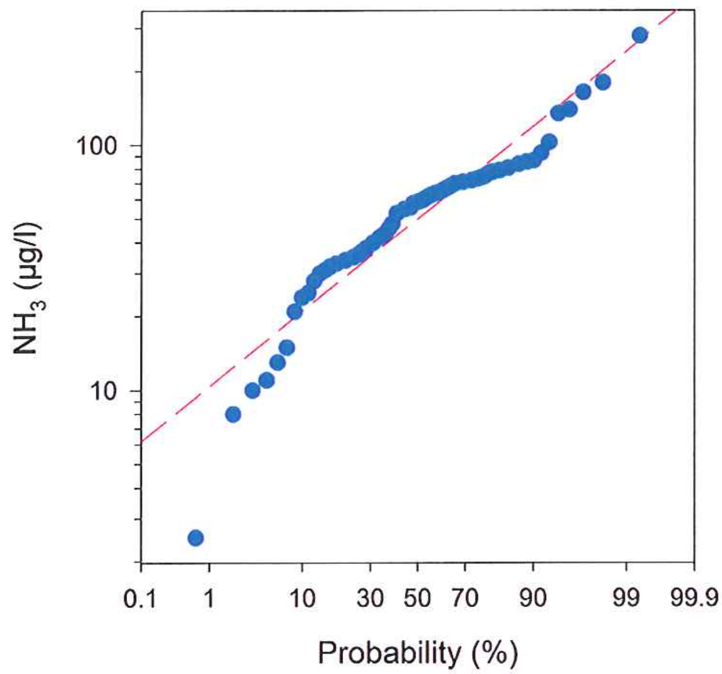
## Wet Flatwoods
## (Normal Probability Plots)

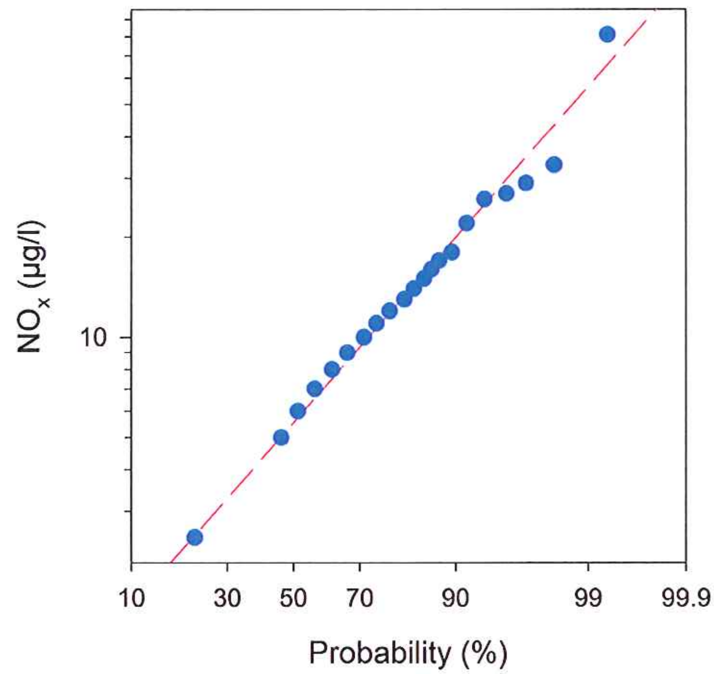


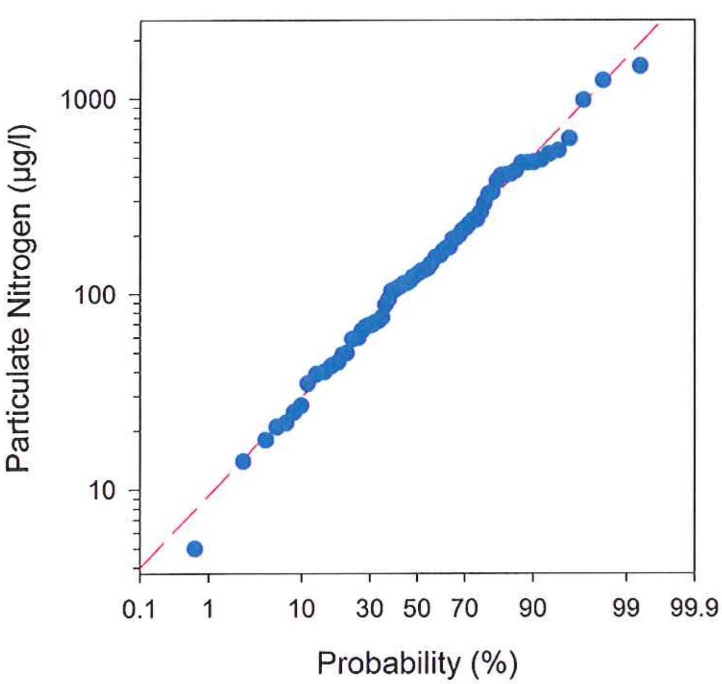
## Wet Flatwoods
## (Log Normal Probability Plots)

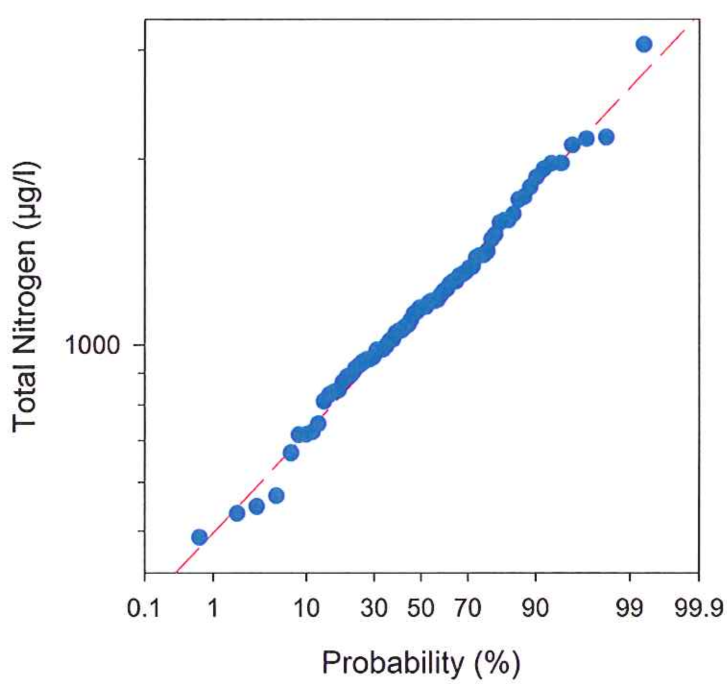


# Wet Flatwoods
# (Log Normal Probability Plots)

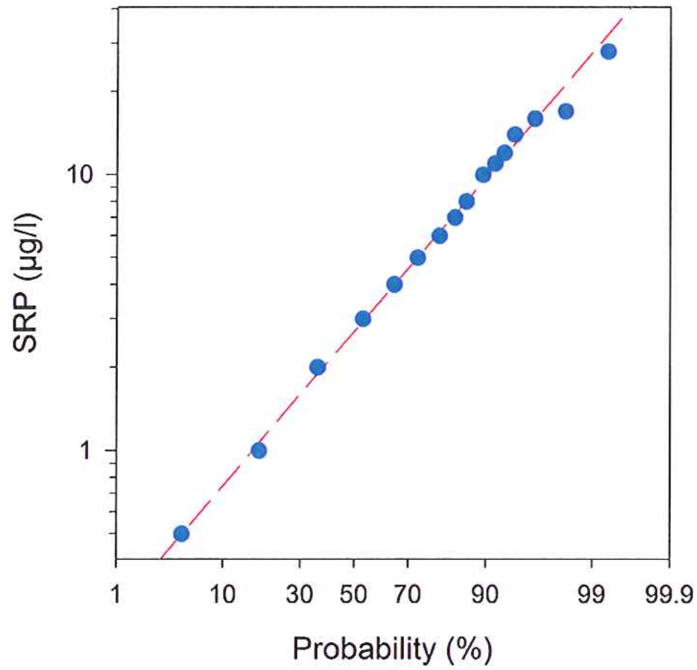


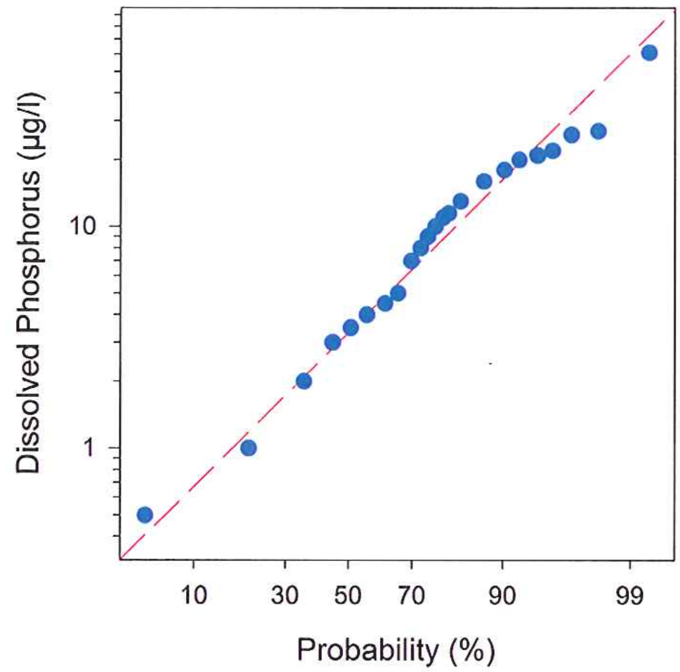



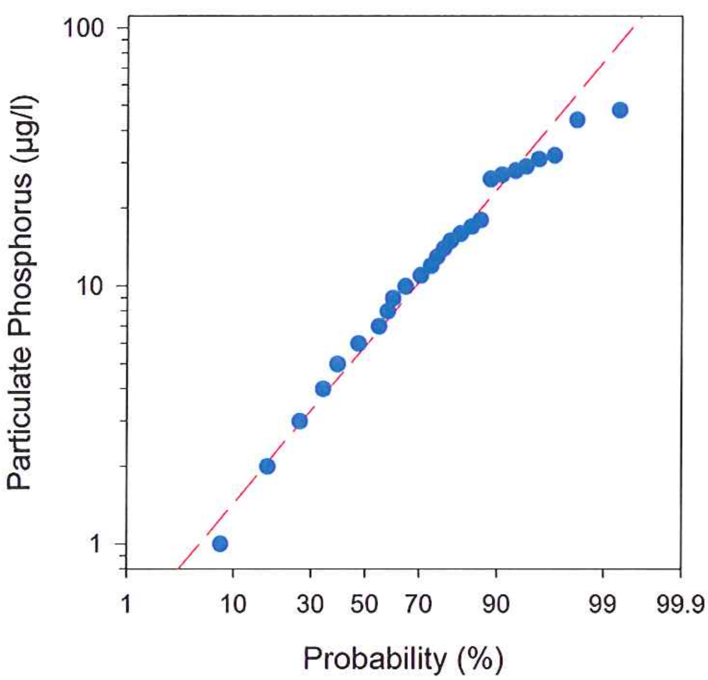



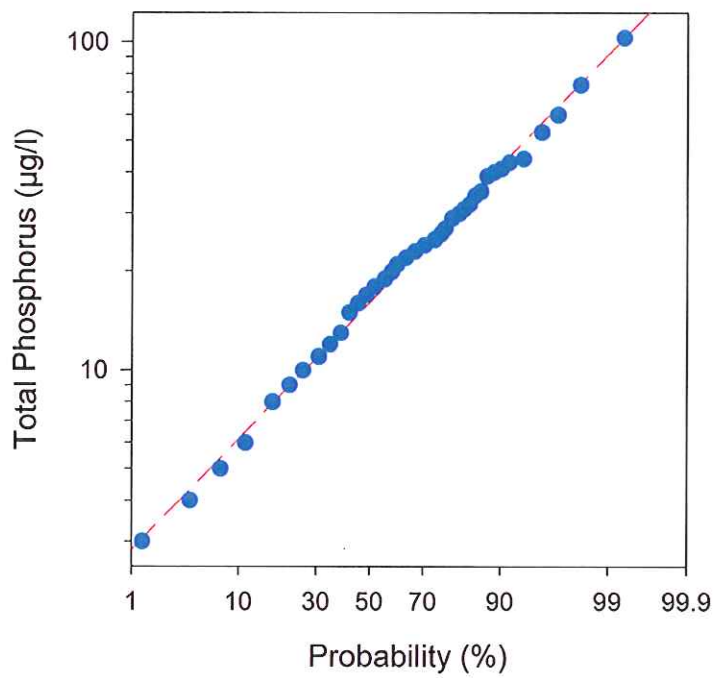



# Wet Flatwoods
# (Log Normal Probability Plots)

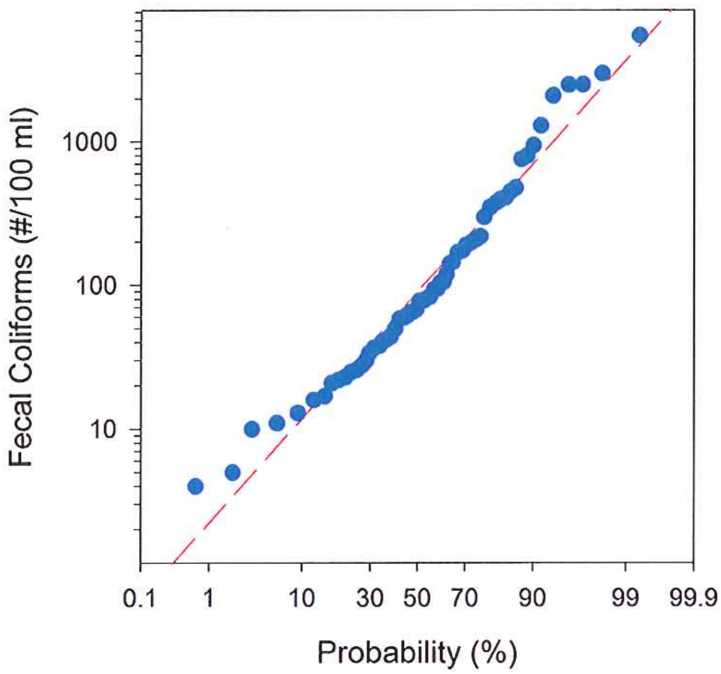


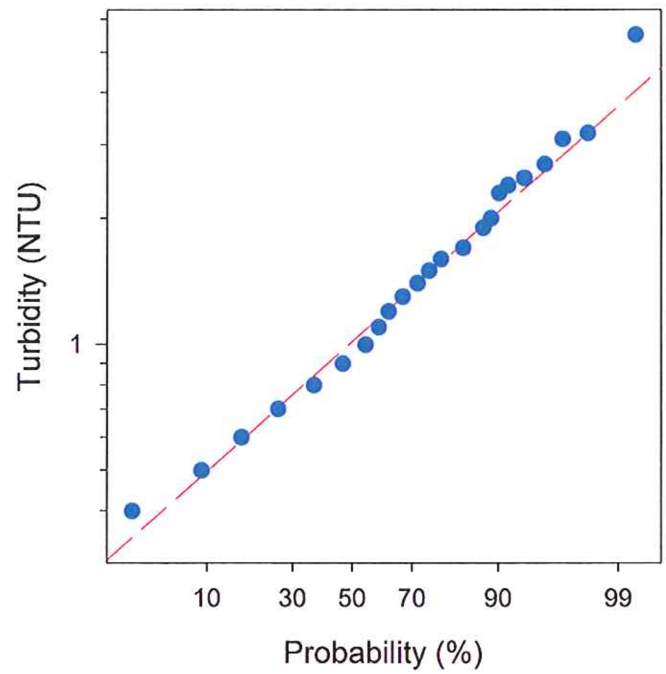



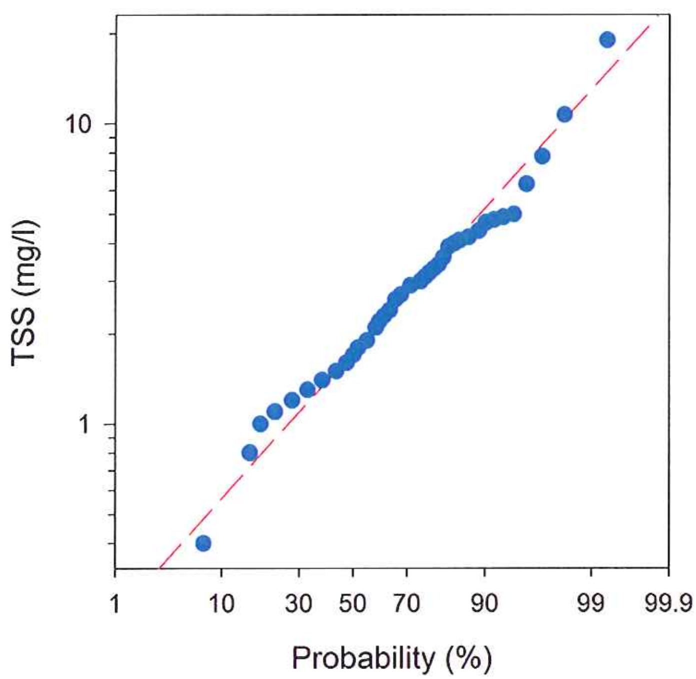



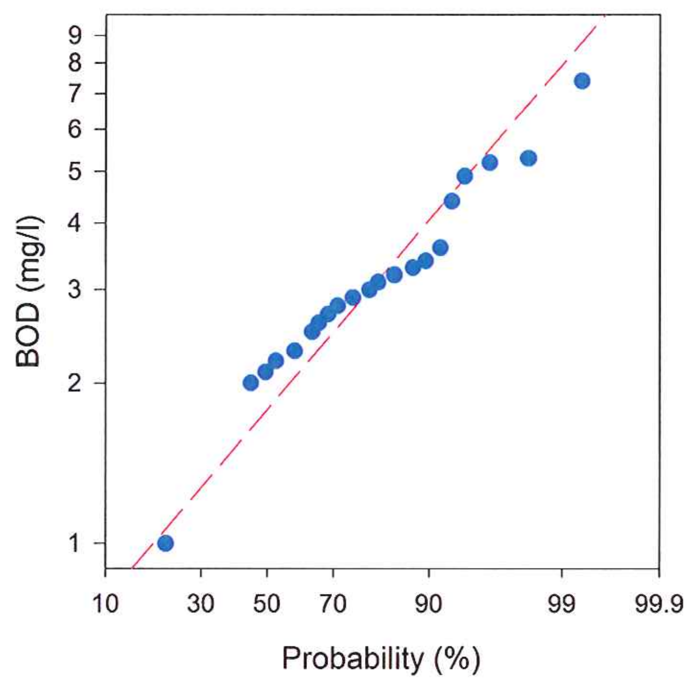



## Wet Flatwoods
## (Log Normal Probability Plots)



# Wet Flatwoods
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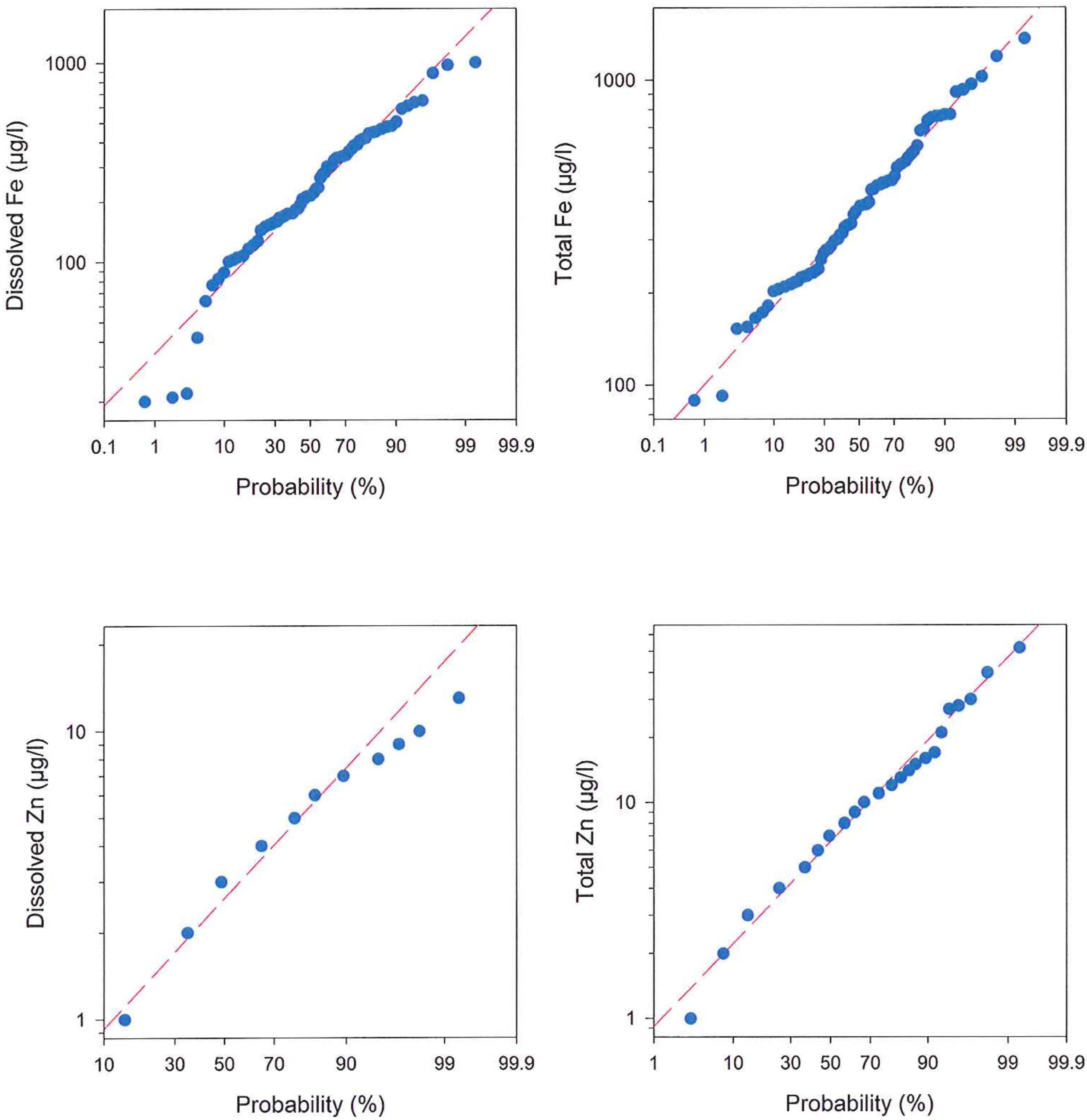
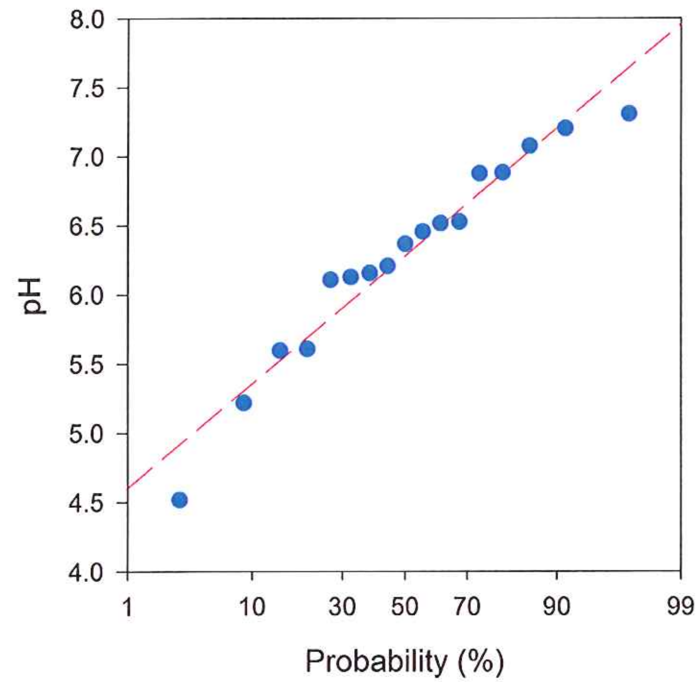
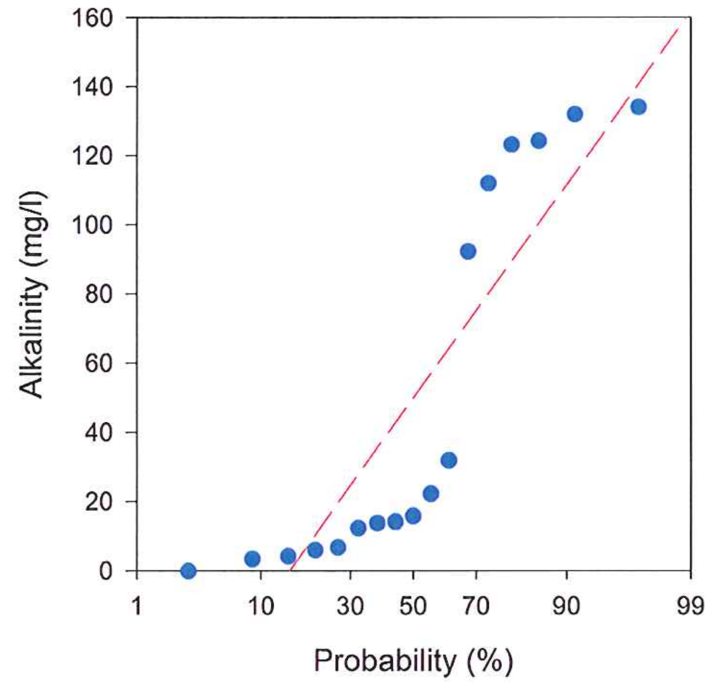
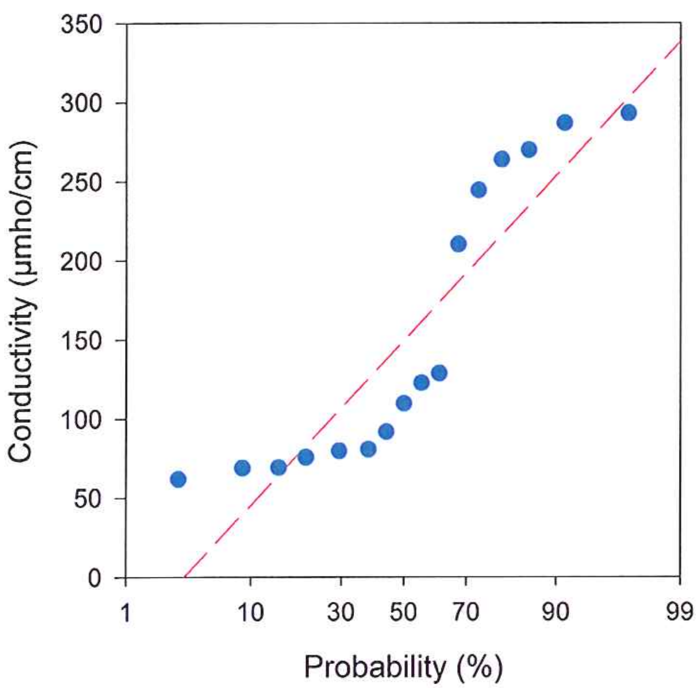


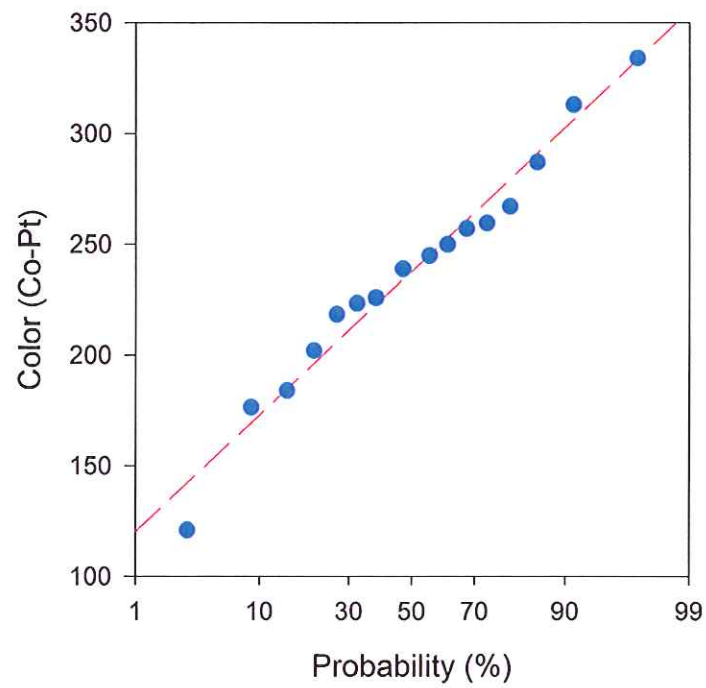
## 10. Wet Prairie

## Wet Prairie
## (Normal Probability Plots)

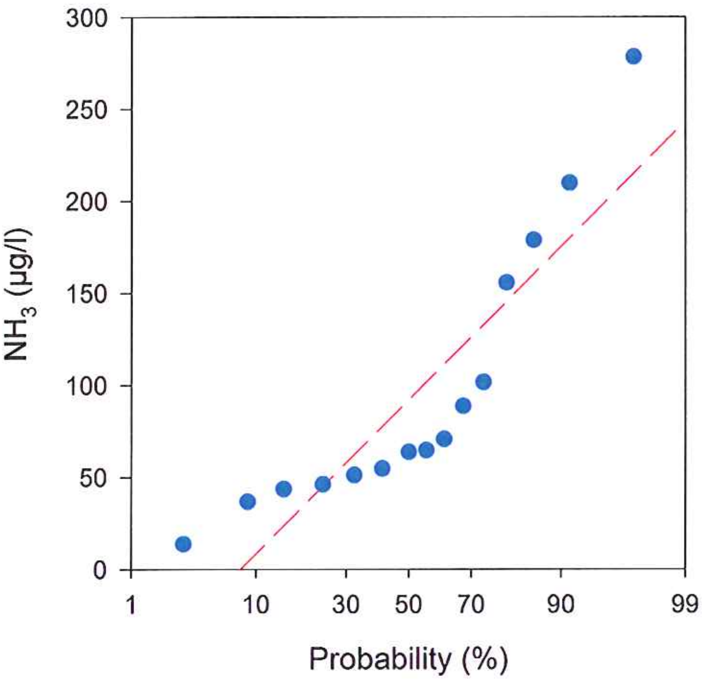


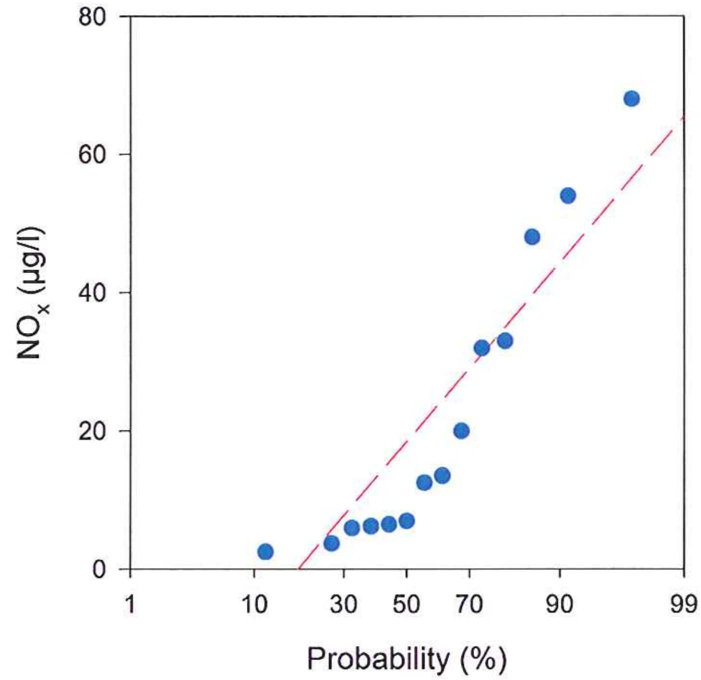



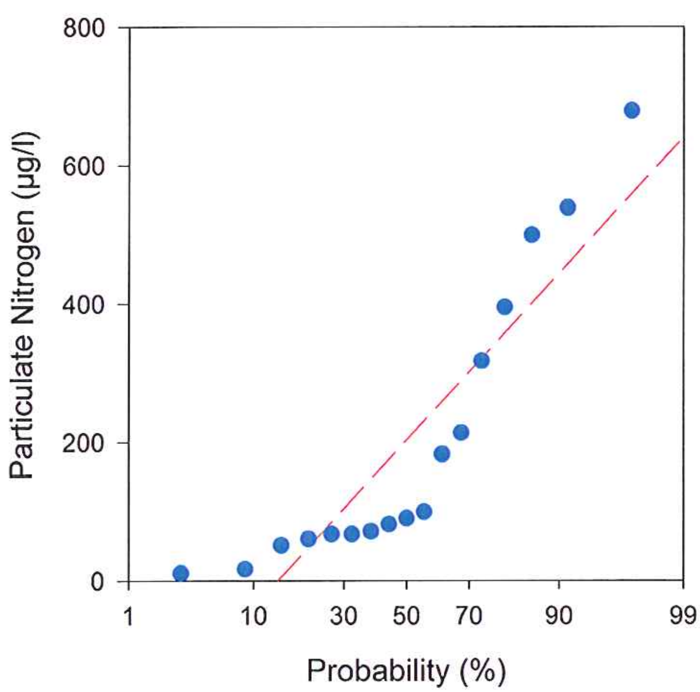



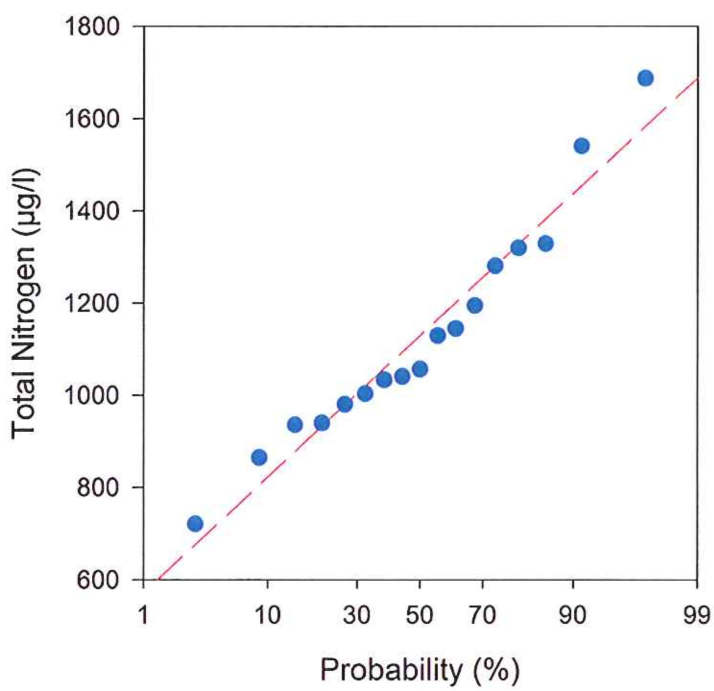



## Wet Prairie
## (Normal Probability Plots)



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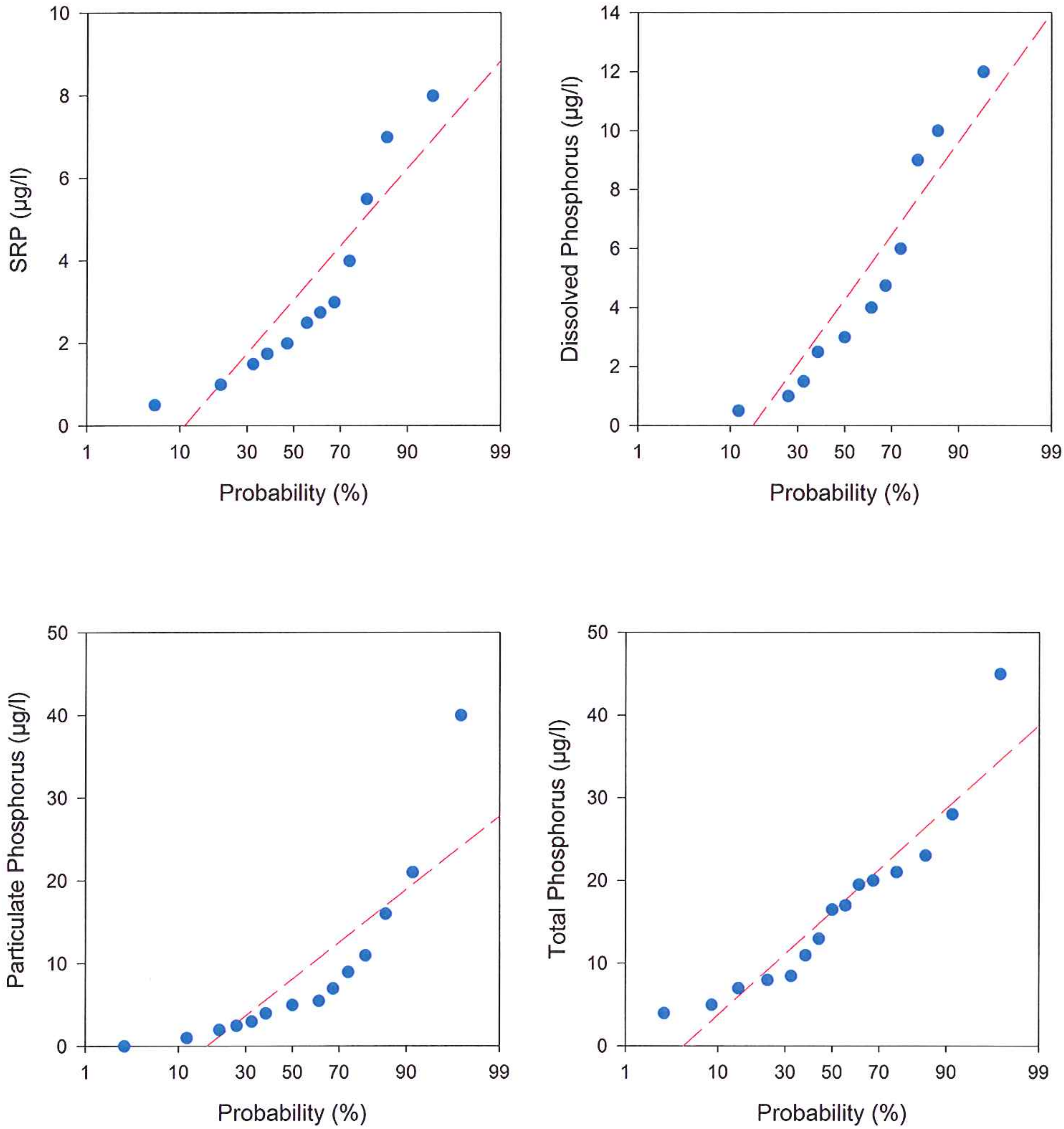

# Wet Prairie
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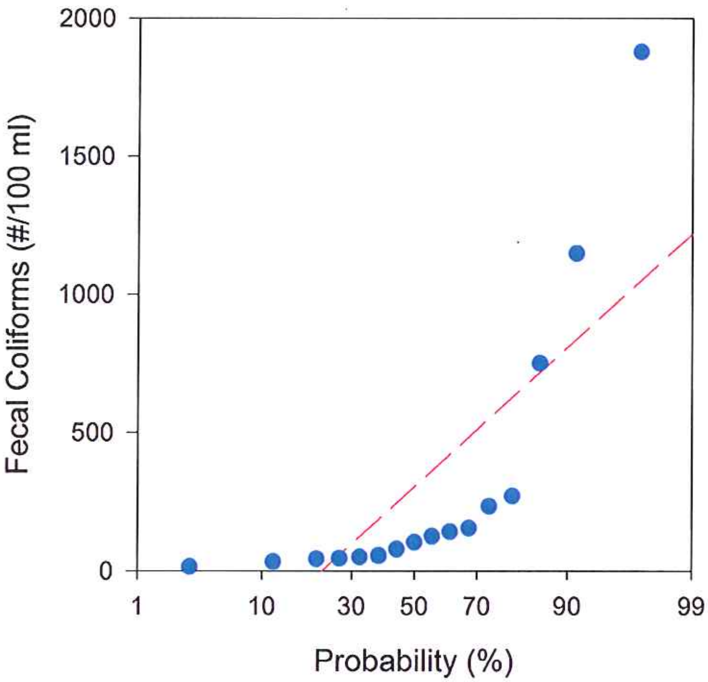
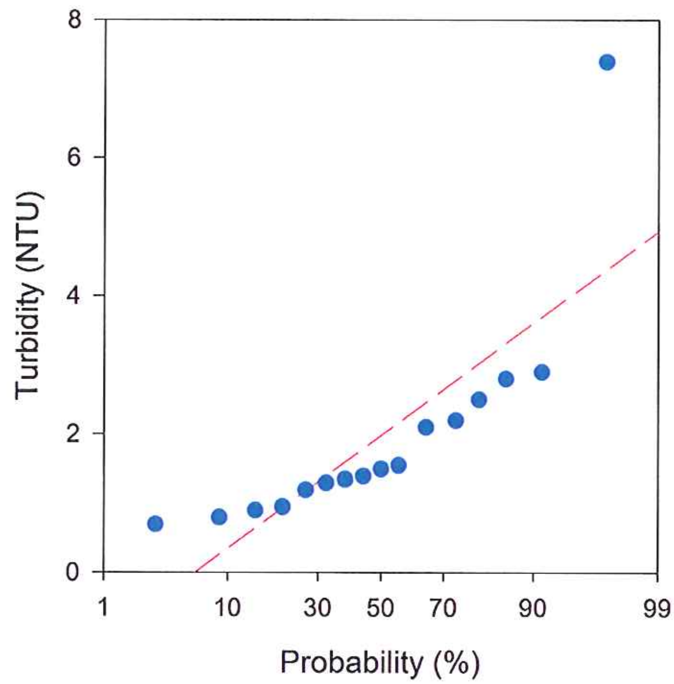
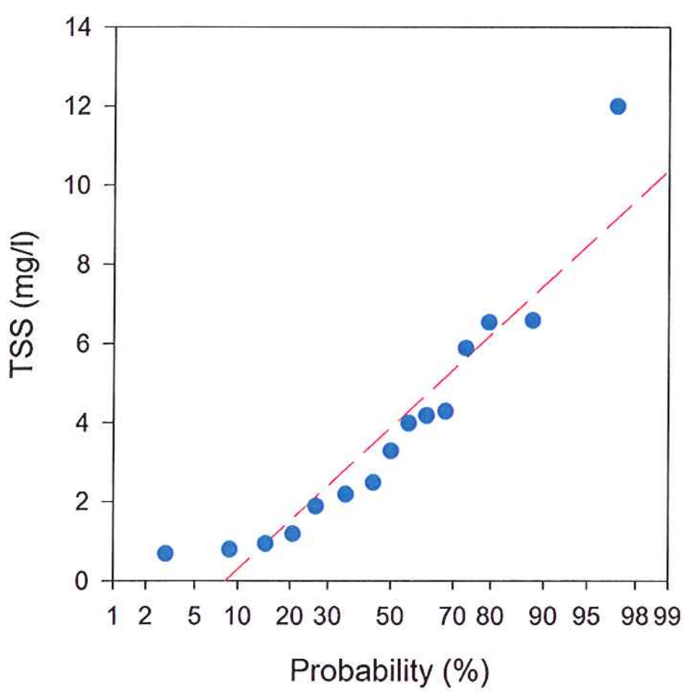
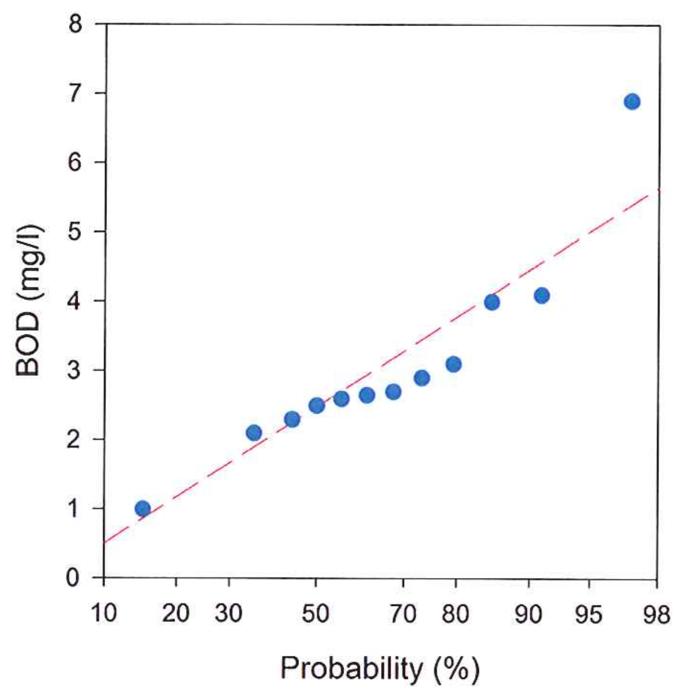
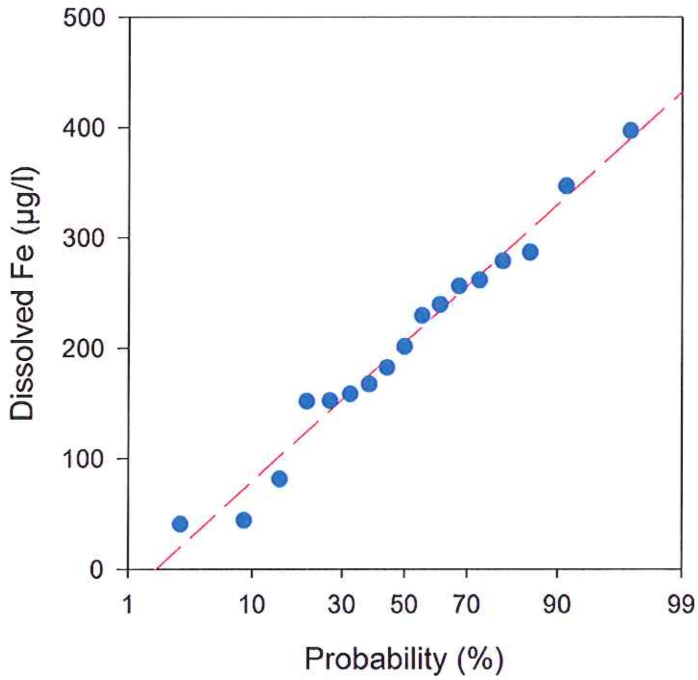


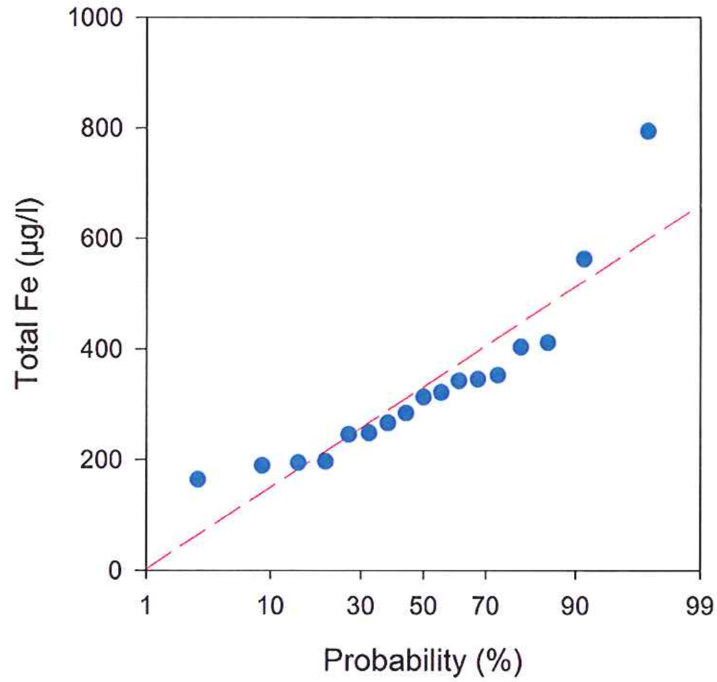



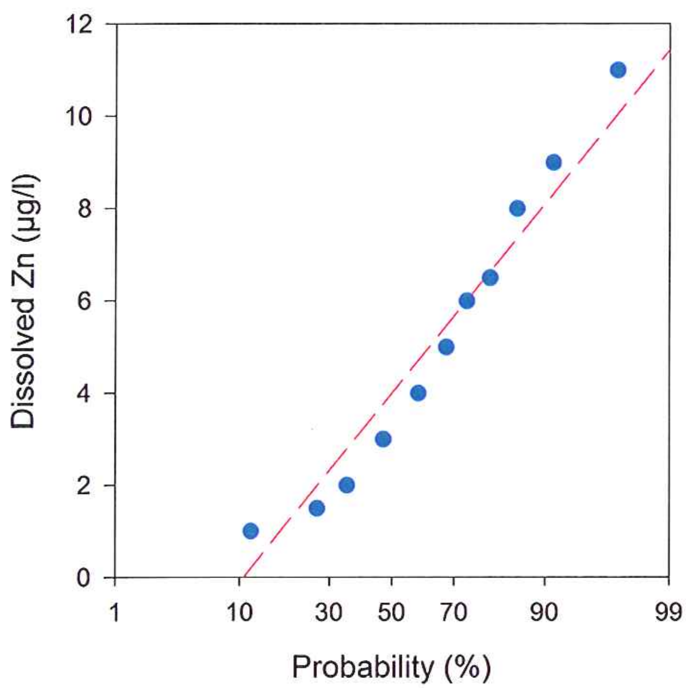



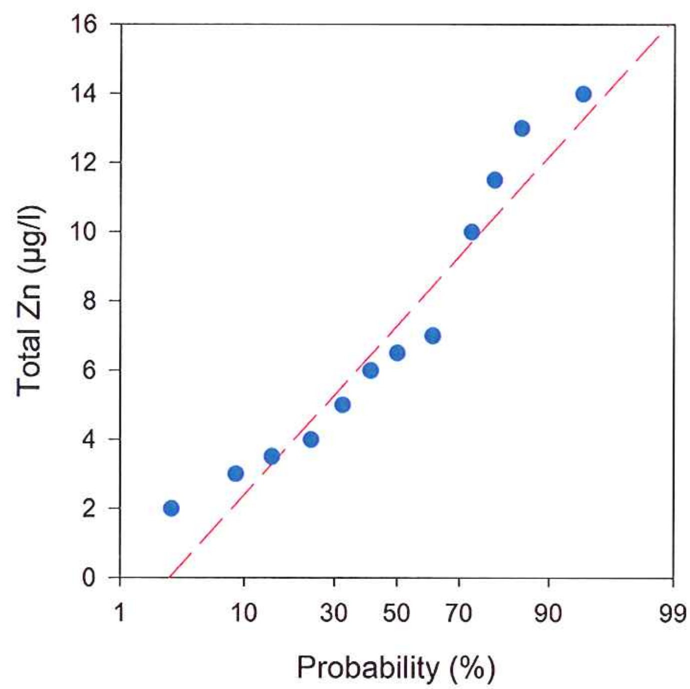



## Wet Prairie
## (Normal Probability Plots)



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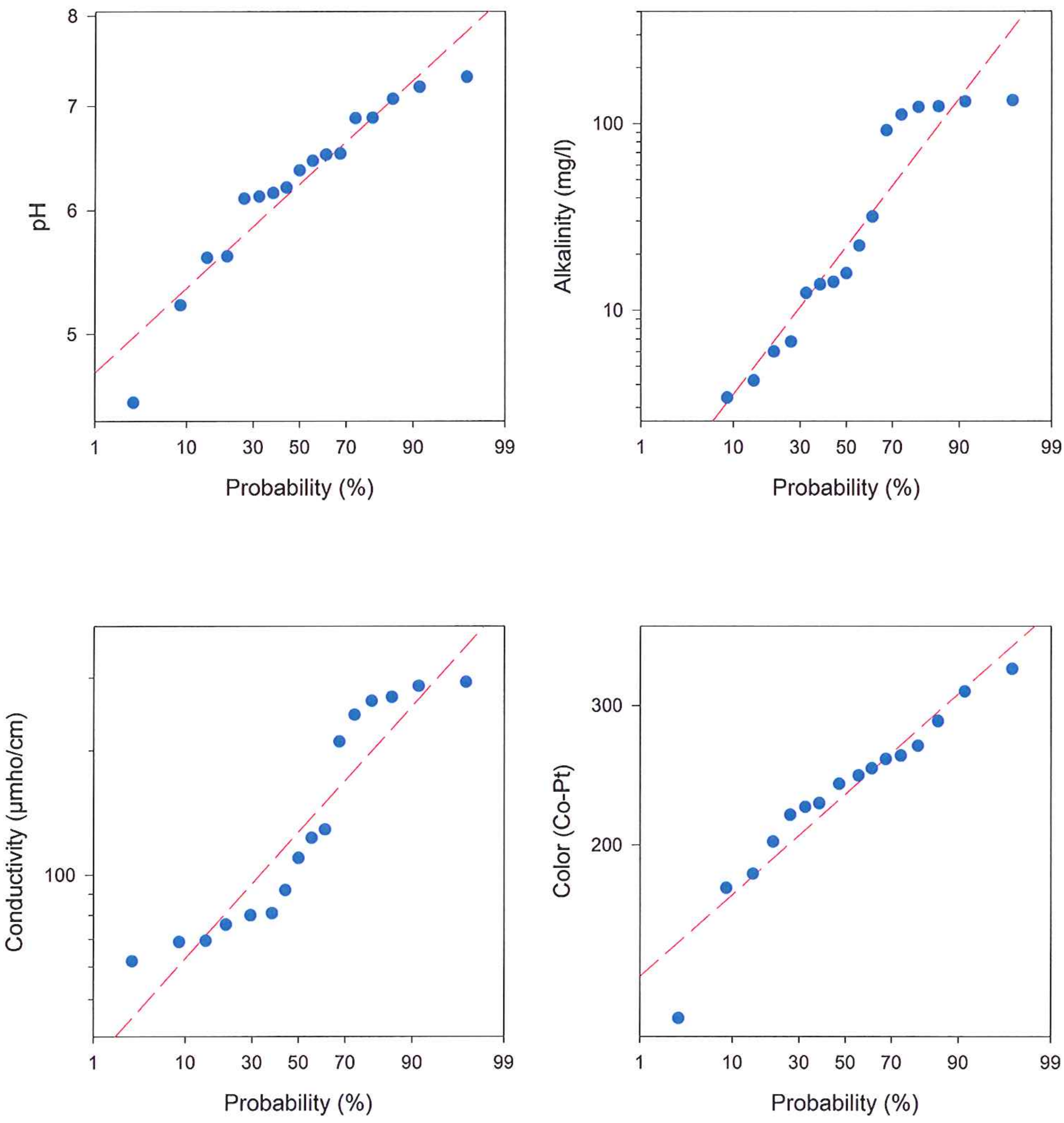

# Wet Prairie
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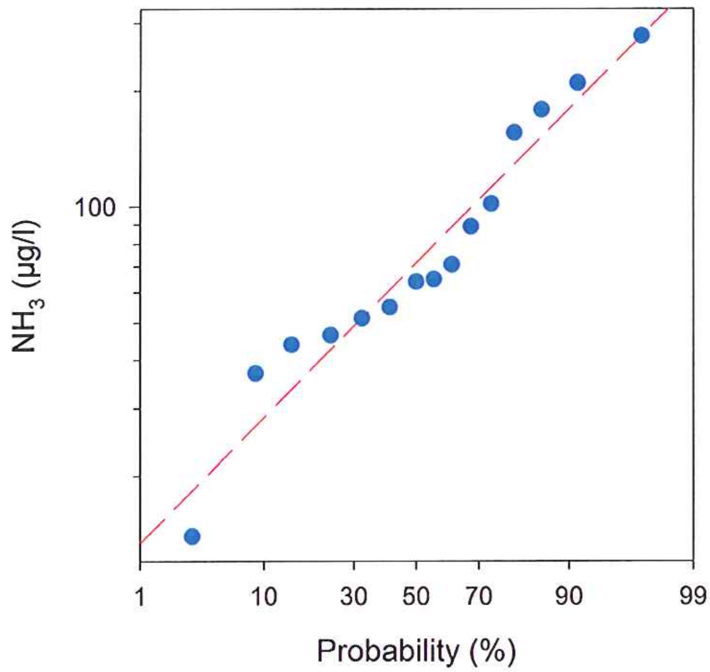


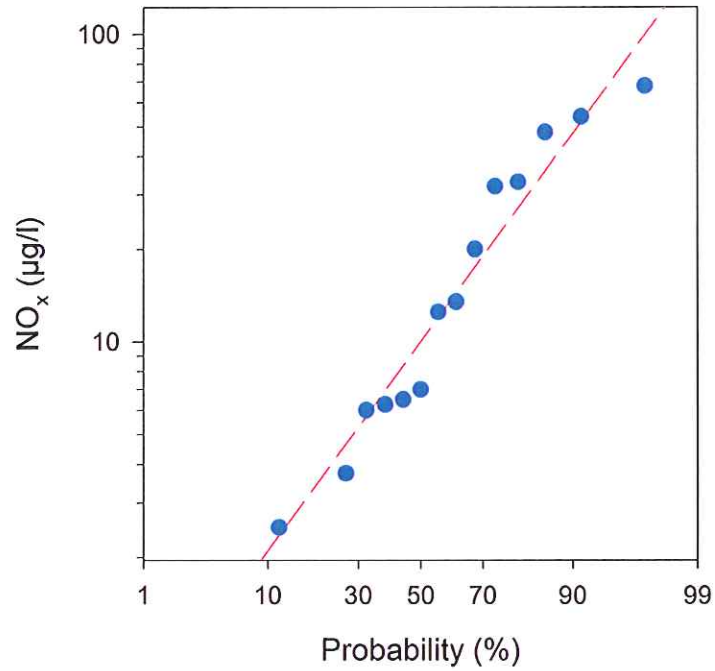


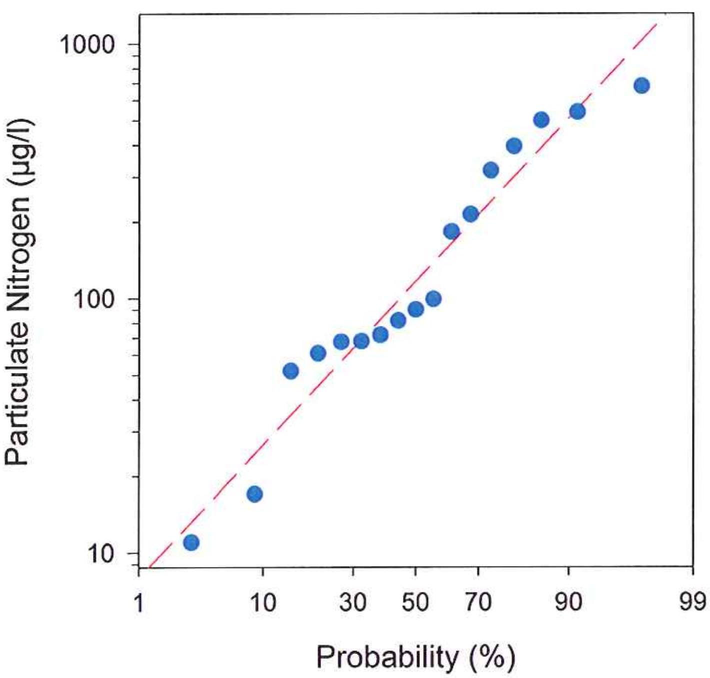


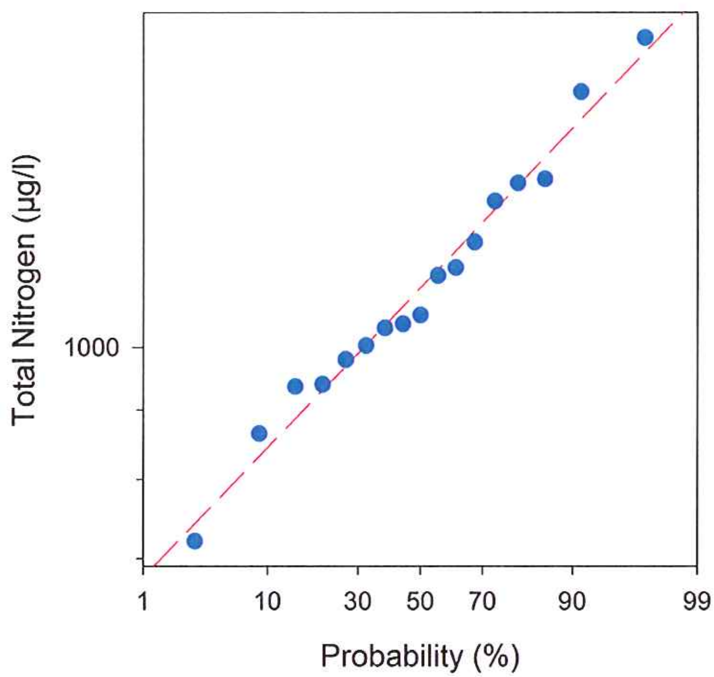

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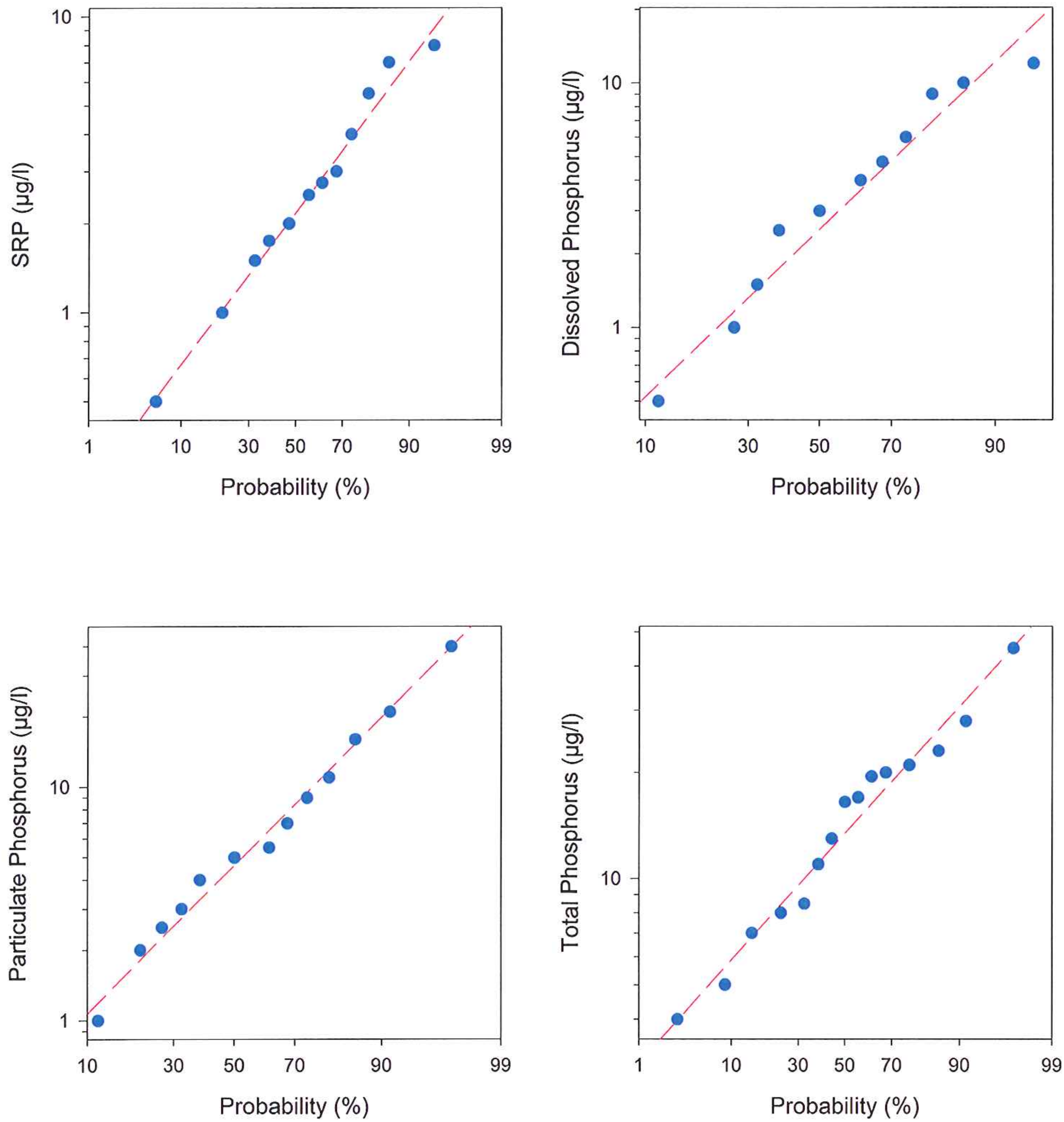

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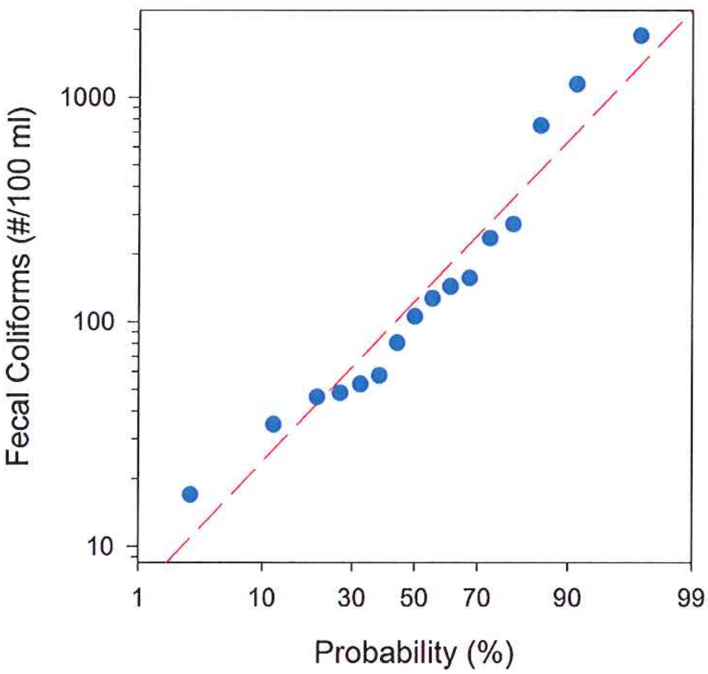
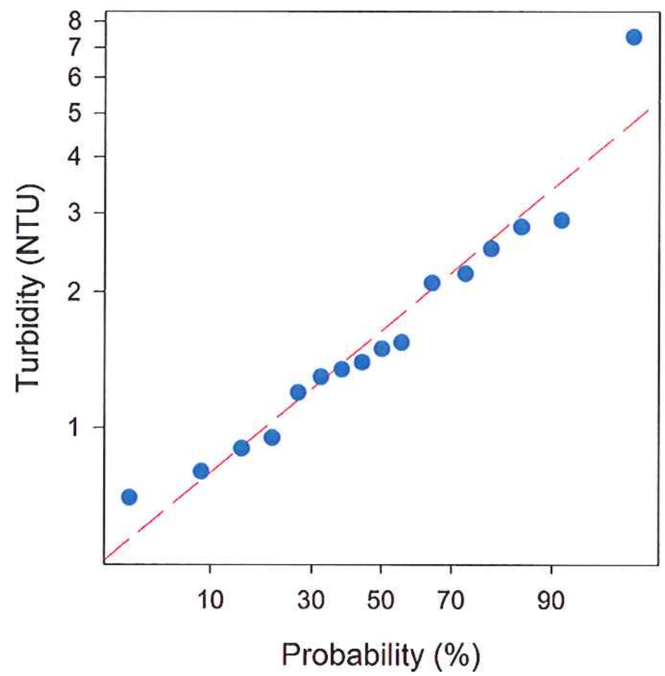
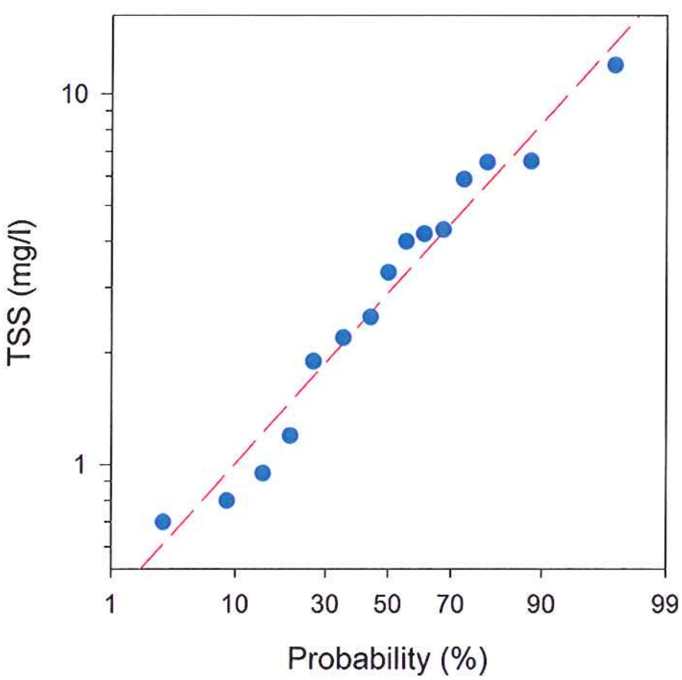
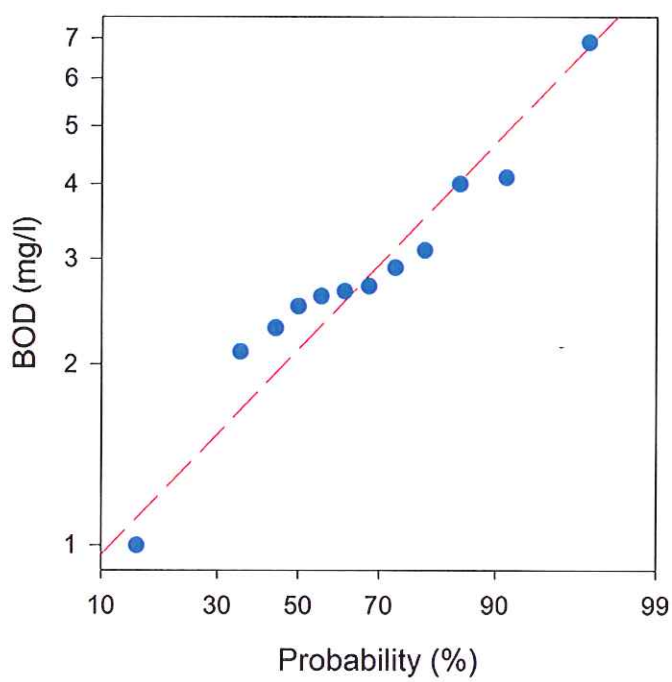
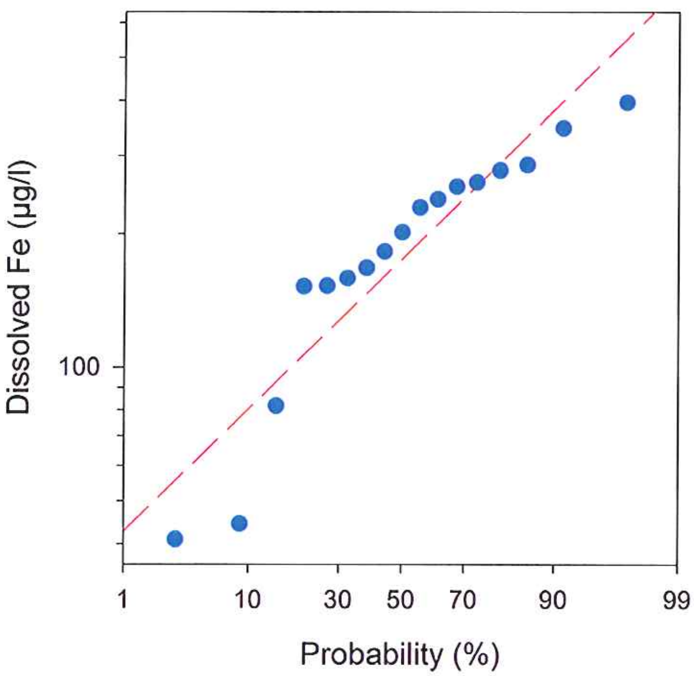


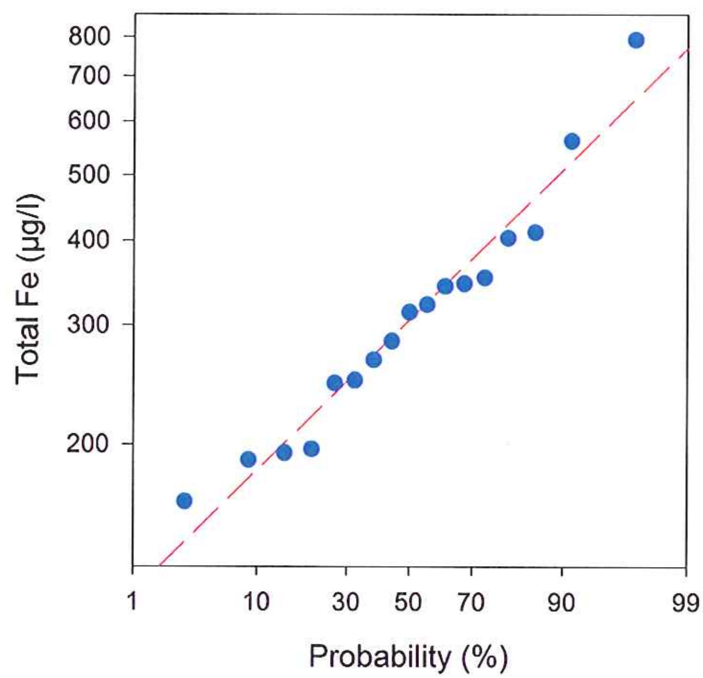



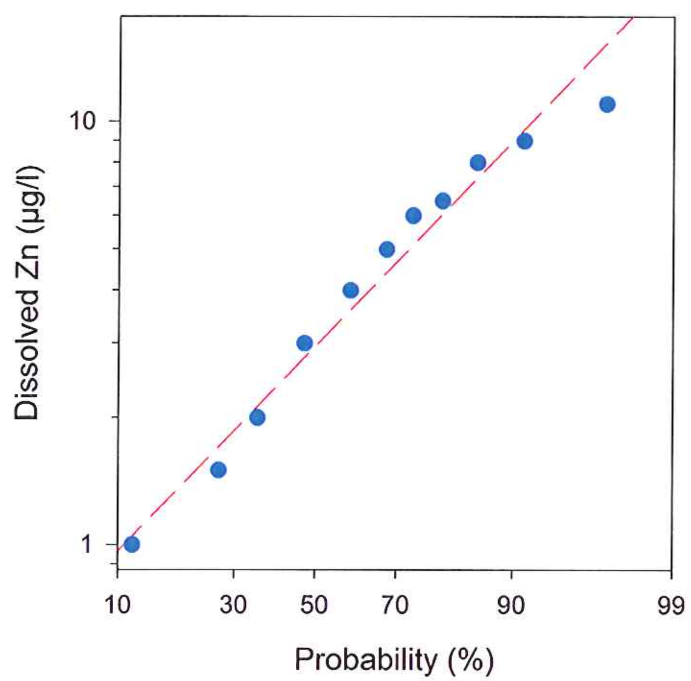



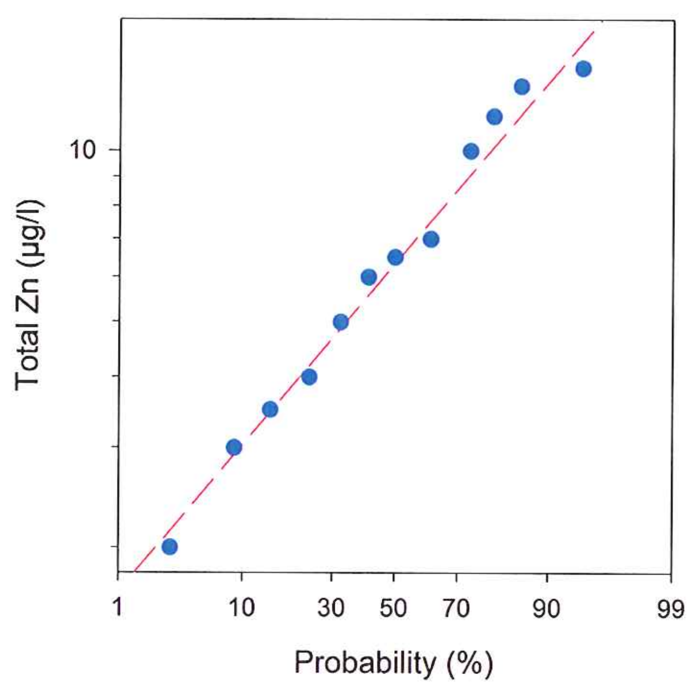



# Wet Prairie
# (Log Normal Probability Plots)



# APPENDIX F

# A SUMMARY OF WATER QUALITY CHARACTERISTICS AT THE NATURAL AREA MONITORING SITES

## Dry Prairie (n=12)

| Variable | Units | Logmean | **Mean** | **Min.** | **Max.** |
|---|---|---|---|---|---|
| pH | s.u. | - | **5.02** | **4.58** | **5.63** |
| Cond | umho/cm | 1.90 | **80** | **43** | **148** |
| Alkalinity | mg/l | 0.46 | **2.9** | **0.4** | **12.2** |
| NH3 | ug/l | 1.78 | **61** | **37** | **161** |
| NOx | ug/l | 1.16 | **14** | **3** | **78** |
| Diss. Org. N | ug/l | 3.15 | **1407** | **818** | **2476** |
| Part. N | ug/l | 2.37 | **235** | **10** | **1265** |
| Total N | ug/l | 3.29 | **1940** | **978** | **2803** |
| SRP | ug/l | 1.47 | **30** | **3** | **495** |
| Diss. Org. P | ug/l | 1.14 | **14** | **2** | **59** |
| Part. P | ug/l | 1.66 | **45** | **2** | **237** |
| Total P | ug/l | 2.03 | **107** | **7** | **644** |
| Fecal | cfu/100 ml | 1.86 | **73** | **1** | **2160** |
| Turbidity | NTU | 0.44 | **2.7** | **0.7** | **6.4** |
| TSS | mg/l | 0.71 | **5.1** | **1.8** | **21.9** |
| BOD | mg/l | 0.48 | **3.0** | **2.0** | **5.3** |
| Color | Pt-Co Units | 2.66 | **459** | **289** | **726** |
| Total Cu | ug/l | 0.28 | **1.9** | **1.0** | **5** |
| Diss. Cu | ug/l | 0.22 | **1.7** | **1.0** | **4** |
| Total Cd | ug/l | 0.08 | **1.2** | **1.0** | **3** |
| Diss. Cd | ug/l | 0.00 | **1.0** | **1.0** | **1** |
| Total Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Diss. Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Total Fe | ug/l | 3.10 | **1263** | **132** | **3503** |
| Diss. Fe | ug/l | 2.78 | **601** | **83** | **2401** |
| Total Pb | ug/l | 0.04 | **1.1** | **1.0** | **3** |
| Diss. Pb | ug/l | 0.00 | **1.0** | **1.0** | **1** |
| Total Zn | ug/l | 1.04 | **10.9** | **5.0** | **26** |
| Diss. Zn | ug/l | 0.66 | **4.6** | **2.0** | **20** |

**Marl Prairie (n=6)**

| Variable | Units | Logmean | Mean | Min. | Max. |
|---|---|---|---|---|---|
| pH | s.u. | - | 7.84 | 7.70 | 7.98 |
| Cond | umho/cm | 2.67 | 467 | 442 | 503 |
| Alkalinity | mg/l | 2.37 | 233 | 226 | 256 |
| NH3 | ug/l | 1.26 | 18 | 6 | 38 |
| NOx | ug/l | 0.80 | 6 | 3 | 10 |
| Diss. Org. N | ug/l | 2.77 | 584 | 397 | 837 |
| Part. N | ug/l | 1.65 | 45 | 19 | 88 |
| Total N | ug/l | 2.82 | 667 | 499 | 916 |
| SRP | ug/l | 0.58 | 4 | 1 | 7 |
| Diss. Org. P | ug/l | 0.25 | 2 | 1 | 5 |
| Part. P | ug/l | 0.53 | 3 | 1 | 16 |
| Total P | ug/l | 0.97 | 9 | 4 | 25 |
| Fecal | cfu/100 ml | 1.94 | 87 | 35 | 210 |
| Turbidity | NTU | -0.31 | 0.5 | 0.3 | 0.6 |
| TSS | mg/l | 0.02 | 1.1 | 0.4 | 2 |
| BOD | mg/l | 0.26 | 1.8 | 1.0 | 8.3 |
| Color | Pt-Co Units | 1.85 | 70 | 56 | 102 |
| Total Cu | ug/l | 0.37 | 2.3 | 1.5 | 4 |
| Diss. Cu | ug/l | 0.18 | 1.5 | 1.5 | 1.5 |
| Total Cd | ug/l | 0.10 | 1.3 | 1.0 | 4 |
| Diss. Cd | ug/l | 0.00 | 1.0 | 1.0 | 1 |
| Total Cr | ug/l | 0.40 | 2.5 | 2.5 | 2.5 |
| Diss. Cr | ug/l | 0.40 | 2.5 | 2.5 | 2.5 |
| Total Fe | ug/l | 1.95 | 89.2 | 22.0 | 308 |
| Diss. Fe | ug/l | 1.57 | 37.4 | 8.0 | 130 |
| Total Pb | ug/l | 0.00 | 1.0 | 1.0 | 1 |
| Diss. Pb | ug/l | 0.00 | 1.0 | 1.0 | 1 |
| Total Zn | ug/l | 0.89 | 7.8 | 3.0 | 21 |
| Diss. Zn | ug/l | 0.18 | 1.5 | 1.0 | 3 |

## Mesic Flatwoods (n=31)

| Variable | Units | Logmean | Mean | Min. | Max. |
|---|---|---|---|---|---|
| pH | s.u. | - | **5.61** | **3.87** | **7.44** |
| Cond | umho/cm | 2.24 | **175** | **74** | **620** |
| Alkalinity | mg/l | 1.08 | **12.1** | **0.0** | **257** |
| NH3 | ug/l | 1.72 | **52** | **3** | **125** |
| NOx | ug/l | 0.77 | **6** | **3** | **19** |
| Diss. Org. N | ug/l | 2.81 | **651** | **20** | **1995** |
| Part. N | ug/l | 2.16 | **145** | **14** | **984** |
| Total N | ug/l | 2.99 | **976** | **401** | **3046** |
| SRP | ug/l | 0.74 | **5** | **1** | **1313** |
| Diss. Org. P | ug/l | 0.82 | **7** | **1** | **203** |
| Part. P | ug/l | 1.15 | **14** | **2** | **82** |
| Total P | ug/l | 1.54 | **35** | **8** | **1560** |
| Fecal | cfu/100 ml | 2.67 | **468** | **1** | **51600** |
| Turbidity | NTU | 0.23 | **1.7** | **0.5** | **20.8** |
| TSS | mg/l | 0.48 | **3.0** | **0.4** | **19.1** |
| BOD | mg/l | 0.32 | **2.1** | **1.0** | **8.4** |
| Color | Pt-Co Units | 2.40 | **254** | **77** | **816** |
| Total Cu | ug/l | 0.39 | **2.4** | **1.0** | **7** |
| Diss. Cu | ug/l | 0.19 | **1.5** | **1.0** | **3** |
| Total Cd | ug/l | 0.11 | **1.3** | **1.0** | **6** |
| Diss. Cd | ug/l | 0.03 | **1.1** | **1.0** | **3** |
| Total Cr | ug/l | 0.45 | **2.8** | **2.5** | **8** |
| Diss. Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Total Fe | ug/l | 2.75 | **558** | **39** | **8142** |
| Diss. Fe | ug/l | 2.51 | **324** | **19** | **4761** |
| Total Pb | ug/l | 0.18 | **1.5** | **1.0** | **9** |
| Diss. Pb | ug/l | 0.01 | **1.0** | **1.0** | **2** |
| Total Zn | ug/l | 1.04 | **10.9** | **2.0** | **61** |
| Diss. Zn | ug/l | 0.71 | **5.1** | **1.0** | **55** |

## Mixed Hardwood Forest (n=39)

| Variable | Units | Logmean | **Mean** | **Min.** | **Max.** |
|---|---|---|---|---|---|
| pH | s.u. | - | **6.60** | **5.99** | **6.99** |
| Cond | umho/cm | 1.63 | **43** | **6** | **77** |
| Alkalinity | mg/l | 1.14 | **13.7** | **4.2** | **26.8** |
| NH3 | ug/l | 1.56 | **36** | **3** | **460** |
| NOx | ug/l | 1.45 | **28** | **3** | **699** |
| Diss. Org. N | ug/l | 1.62 | **42** | **3** | **512** |
| Part. N | ug/l | 1.91 | **81** | **1** | **1036** |
| Total N | ug/l | 2.46 | **286** | **78** | **1843** |
| SRP | ug/l | 2.10 | **126** | **16** | **445** |
| Diss. Org. P | ug/l | 1.24 | **17** | **2** | **247** |
| Part. P | ug/l | 2.40 | **253** | **9** | **1668** |
| Total P | ug/l | 2.70 | **506** | **188** | **1731** |
| Fecal | cfu/100 ml | 2.22 | **166** | **1** | **6100** |
| Turbidity | NTU | 1.00 | **9.9** | **0.1** | **129** |
| TSS | mg/l | 1.34 | **21.7** | **1.3** | **792** |
| BOD | mg/l | 0.12 | **1.3** | **1.0** | **5.6** |
| Color | Pt-Co Units | 1.12 | **13** | **5** | **57** |
| Total Cu | ug/l | 0.37 | **2.3** | **1.0** | **7** |
| Diss. Cu | ug/l | 0.21 | **1.6** | **1.0** | **5** |
| Total Cd | ug/l | 0.04 | **1.1** | **1.0** | **7** |
| Diss. Cd | ug/l | 0.03 | **1.1** | **1.0** | **6** |
| Total Cr | ug/l | 0.47 | **2.9** | **2.5** | **8** |
| Diss. Cr | ug/l | 0.41 | **2.5** | **2.5** | **5** |
| Total Fe | ug/l | 3.17 | **1481** | **150** | **9831** |
| Diss. Fe | ug/l | 2.18 | **153** | **5** | **4029** |
| Total Pb | ug/l | 0.06 | **1.1** | **1.0** | **9** |
| Diss. Pb | ug/l | 0.00 | **1.0** | **1.0** | **1** |
| Total Zn | ug/l | 0.65 | **4.5** | **1.0** | **34** |
| Diss. Zn | ug/l | 0.27 | **1.8** | **1.0** | **28** |

## Ruderal/Upland Pine (n=5)

| Variable | Units | Logmean | Mean | Min. | Max. |
|---|---|---|---|---|---|
| pH | s.u. | - | **5.46** | **4.52** | **7.36** |
| Cond | umho/cm | 1.89 | **78** | **13** | **225** |
| Alkalinity | mg/l | 0.44 | **2.8** | **0.1** | **121** |
| NH3 | ug/l | 1.74 | **55** | **29** | **153** |
| NOx | ug/l | 1.39 | **25** | **3** | **507** |
| Diss. Org. N | ug/l | 2.78 | **604** | **103** | **1578** |
| Part. N | ug/l | 2.72 | **526** | **157** | **1281** |
| Total N | ug/l | 3.19 | **1565** | **745** | **2331** |
| SRP | ug/l | 1.29 | **20** | **6** | **188** |
| Diss. Org. P | ug/l | 1.30 | **20** | **4** | **116** |
| Part. P | ug/l | 1.49 | **31** | **3** | **185** |
| Total P | ug/l | 1.92 | **84** | **17** | **365** |
| Fecal | cfu/100 ml | 2.35 | **223** | **15** | **1547** |
| Turbidity | NTU | 1.15 | **14.1** | **6.0** | **44.9** |
| TSS | mg/l | 1.13 | **13.6** | **4.5** | **29.6** |
| BOD | mg/l | 0.49 | **3.1** | **1.0** | **10.7** |
| Color | Pt-Co Units | 2.19 | **156** | **11** | **717** |
| Total Cu | ug/l | 0.70 | **5.0** | **3.0** | **10** |
| Diss. Cu | ug/l | 0.48 | **3.0** | **1.0** | **8** |
| Total Cd | ug/l | 0.00 | **1.0** | **1.0** | **1** |
| Diss. Cd | ug/l | 0.00 | **1.0** | **1.0** | **1** |
| Total Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Diss. Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Total Fe | ug/l | 2.65 | **449** | **47** | **7077** |
| Diss. Fe | ug/l | 2.44 | **272** | **35** | **4600** |
| Total Pb | ug/l | 0.00 | **1.0** | **1.0** | **1** |
| Diss. Pb | ug/l | 0.00 | **1.0** | **1.0** | **1** |
| Total Zn | ug/l | 0.71 | **5.1** | **2.0** | **29** |
| Diss. Zn | ug/l | 0.50 | **3.2** | **1.0** | **20** |

## Scrubby Flatwoods (n=13)

| Variable | Units | Logmean | **Mean** | **Min.** | **Max.** |
|---|---|---|---|---|---|
| pH | s.u. | - | **5.14** | **4.38** | **6.59** |
| Cond | umho/cm | 2.18 | **153** | **87** | **234** |
| Alkalinity | mg/l | 0.61 | **4.1** | **0.0** | **23** |
| NH3 | ug/l | 1.75 | **56** | **20** | **113** |
| NOx | ug/l | 1.00 | **10** | **3** | **220** |
| Diss. Org. N | ug/l | 2.95 | **898** | **678** | **1808** |
| Part. N | ug/l | 1.95 | **89** | **16** | **520** |
| Total N | ug/l | 3.05 | **1109** | **867** | **2303** |
| SRP | ug/l | 0.61 | **4** | **1** | **21** |
| Diss. Org. P | ug/l | 0.98 | **9** | **1** | **33** |
| Part. P | ug/l | 0.69 | **5** | **1** | **33** |
| Total P | ug/l | 1.37 | **23** | **13** | **68** |
| Fecal | cfu/100 ml | 2.18 | **151** | **33** | **1280** |
| Turbidity | NTU | -0.07 | **0.9** | **0.3** | **4.7** |
| TSS | mg/l | 0.21 | **1.6** | **0.4** | **6.4** |
| BOD | mg/l | 0.15 | **1.4** | **1.0** | **5.6** |
| Color | Pt-Co Units | 2.57 | **373** | **191** | **914** |
| Total Cu | ug/l | 0.34 | **2.2** | **1.0** | **6** |
| Diss. Cu | ug/l | 0.19 | **1.5** | **1.0** | **3** |
| Total Cd | ug/l | 0.08 | **1.2** | **1.0** | **6** |
| Diss. Cd | ug/l | 0.04 | **1.1** | **1.0** | **3** |
| Total Cr | ug/l | 0.44 | **2.8** | **2.5** | **5** |
| Diss. Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Total Fe | ug/l | 2.95 | **897** | **109** | **2450** |
| Diss. Fe | ug/l | 2.73 | **539** | **75** | **2224** |
| Total Pb | ug/l | 0.11 | **1.3** | **1.0** | **9** |
| Diss. Pb | ug/l | 0.02 | **1.1** | **1.0** | **2** |
| Total Zn | ug/l | 1.04 | **10.9** | **4.0** | **46** |
| Diss. Zn | ug/l | 0.70 | **5.0** | **2.0** | **11** |

**Upland Hardwood (n=79)**

| Variable | Units | Logmean | **Mean** | **Min.** | **Max.** |
|---|---|---|---|---|---|
| pH | s.u. | - | **6.95** | **4.11** | **7.71** |
| Cond | umho/cm | 2.02 | **105** | **46** | **272** |
| Alkalinity | mg/l | 1.67 | **46.3** | **0.0** | **141** |
| NH3 | ug/l | 1.82 | **66** | **3** | **665** |
| NOx | ug/l | 1.30 | **20** | **3** | **1553** |
| Diss. Org. N | ug/l | 2.64 | **434** | **7** | **2151** |
| Part. N | ug/l | 2.22 | **164** | **5** | **1264** |
| Total N | ug/l | 2.95 | **900** | **238** | **3257** |
| SRP | ug/l | 2.10 | **125** | **5** | **629** |
| Diss. Org. P | ug/l | 1.31 | **20** | **1** | **1844** |
| Part. P | ug/l | 1.84 | **69** | **2** | **477** |
| Total P | ug/l | 2.43 | **271** | **59** | **1924** |
| Fecal | cfu/100 ml | 2.19 | **154** | **1** | **24800** |
| Turbidity | NTU | 0.98 | **9.5** | **1.0** | **203** |
| TSS | mg/l | 0.92 | **8.3** | **0.8** | **130** |
| BOD | mg/l | 0.40 | **2.5** | **1.0** | **9.1** |
| Color | Pt-Co Units | 1.92 | **82** | **22** | **442** |
| Total Cu | ug/l | 0.40 | **2.5** | **1.0** | **8** |
| Diss. Cu | ug/l | 0.22 | **1.7** | **1.0** | **6** |
| Total Cd | ug/l | 0.07 | **1.2** | **1.0** | **6** |
| Diss. Cd | ug/l | 0.01 | **1.0** | **1.0** | **3** |
| Total Cr | ug/l | 0.44 | **2.8** | **2.5** | **7** |
| Diss. Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Total Fe | ug/l | 2.89 | **770** | **45** | **8399** |
| Diss. Fe | ug/l | 2.33 | **213** | **10** | **4389** |
| Total Pb | ug/l | 0.04 | **1.1** | **1.0** | **5** |
| Diss. Pb | ug/l | 0.02 | **1.0** | **1.0** | **3** |
| Total Zn | ug/l | 0.89 | **7.7** | **1.0** | **94** |
| Diss. Zn | ug/l | 0.50 | **3.2** | **1.0** | **36** |

## Upland Mixed Forest (n=16)

| Variable | Units | Logmean | **Mean** | **Min.** | **Max.** |
|---|---|---|---|---|---|
| pH | s.u. | - | **5.95** | **5.48** | **6.36** |
| Cond | umho/cm | 1.94 | **88** | **46** | **459** |
| Alkalinity | mg/l | 0.81 | **6.5** | **3.6** | **10.2** |
| NH3 | ug/l | 1.66 | **46** | **3** | **207** |
| NOx | ug/l | 1.51 | **32** | **3** | **321** |
| Diss. Org. N | ug/l | 2.35 | **226** | **51** | **1013** |
| Part. N | ug/l | 2.17 | **148** | **29** | **3925** |
| Total N | ug/l | 2.83 | **683** | **226** | **4469** |
| SRP | ug/l | 3.04 | **1094** | **713** | **1722** |
| Diss. Org. P | ug/l | 2.03 | **106** | **1** | **811** |
| Part. P | ug/l | 2.69 | **495** | **5** | **4613** |
| Total P | ug/l | 3.36 | **2272** | **1132** | **5550** |
| Fecal | cfu/100 ml | 2.57 | **372** | **1** | **26000** |
| Turbidity | NTU | 1.73 | **53.8** | **5.5** | **293** |
| TSS | mg/l | 1.28 | **19.2** | **2.1** | **183** |
| BOD | mg/l | 0.36 | **2.3** | **1.0** | **5.7** |
| Color | Pt-Co Units | 1.99 | **98** | **54** | **143** |
| Total Cu | ug/l | 0.42 | **2.7** | **1.5** | **8** |
| Diss. Cu | ug/l | 0.26 | **1.8** | **1.5** | **4** |
| Total Cd | ug/l | 0.12 | **1.3** | **1.0** | **4** |
| Diss. Cd | ug/l | 0.06 | **1.1** | **1.0** | **3** |
| Total Cr | ug/l | 0.47 | **3.0** | **2.5** | **7** |
| Diss. Cr | ug/l | 0.42 | **2.6** | **2.5** | **5** |
| Total Fe | ug/l | 2.64 | **440** | **27** | **11473** |
| Diss. Fe | ug/l | 2.02 | **104** | **14** | **958** |
| Total Pb | ug/l | 0.08 | **1.2** | **1.0** | **4** |
| Diss. Pb | ug/l | 0.04 | **1.1** | **1.0** | **2** |
| Total Zn | ug/l | 0.80 | **6.4** | **1.0** | **55** |
| Diss. Zn | ug/l | 0.50 | **3.1** | **1.0** | **12** |

## Wet Flatwoods (n=76)

| Variable | Units | Logmean | Mean | Min. | Max. |
|---|---|---|---|---|---|
| pH | s.u. | - | 6.26 | 3.98 | 7.6 |
| Cond | umho/cm | 2.14 | 139 | 49 | 355 |
| Alkalinity | mg/l | 1.53 | 34.2 | 0.0 | 160 |
| NH3 | ug/l | 1.70 | 50 | 3 | 279 |
| NOx | ug/l | 0.80 | 6 | 3 | 81 |
| Diss. Org. N | ug/l | 2.94 | 874 | 429 | 1810 |
| Part. N | ug/l | 2.09 | 123 | 5 | 1468 |
| Total N | ug/l | 3.06 | 1139 | 489 | 3064 |
| SRP | ug/l | 0.46 | 3 | 1 | 28 |
| Diss. Org. P | ug/l | 0.56 | 4 | 1 | 61 |
| Part. P | ug/l | 0.80 | 6 | 0 | 48 |
| Total P | ug/l | 1.21 | 16 | 3 | 103 |
| Fecal | cfu/100 ml | 1.96 | 91 | 4 | 5520 |
| Turbidity | NTU | 0.01 | 1.0 | 0.4 | 5.5 |
| TSS | mg/l | 0.24 | 1.7 | 0.4 | 19 |
| BOD | mg/l | 0.27 | 1.8 | 1.0 | 7.4 |
| Color | Pt-Co Units | 2.51 | 322 | 118 | 1034 |
| Total Cu | ug/l | 0.31 | 2.1 | 1.5 | 6 |
| Diss. Cu | ug/l | 0.19 | 1.6 | 1.5 | 3 |
| Total Cd | ug/l | 0.06 | 1.2 | 1.0 | 5 |
| Diss. Cd | ug/l | 0.02 | 1.1 | 1.0 | 3 |
| Total Cr | ug/l | 0.41 | 2.6 | 2.5 | 6 |
| Diss. Cr | ug/l | 0.40 | 2.5 | 2.5 | 2.5 |
| Total Fe | ug/l | 2.57 | 374 | 89 | 1369 |
| Diss. Fe | ug/l | 2.34 | 218 | 20 | 1001 |
| Total Pb | ug/l | 0.10 | 1.3 | 1.0 | 7 |
| Diss. Pb | ug/l | 0.01 | 1.0 | 1.0 | 4 |
| Total Zn | ug/l | 0.82 | 6.6 | 1.0 | 52 |
| Diss. Zn | ug/l | 0.43 | 2.7 | 1.0 | 13 |

**Wet Prairie (n=23)**

| Variable | Units | Logmean | Mean | Min. | Max. |
|---|---|---|---|---|---|
| pH | s.u. | - | **6.42** | **4.52** | **8.06** |
| Cond | umho/cm | 2.08 | **120** | **45** | **523** |
| Alkalinity | mg/l | 1.32 | **21.1** | **0.0** | **250** |
| NH3 | ug/l | 1.81 | **64** | **11** | **415** |
| NOx | ug/l | 0.98 | **10** | **3** | **91** |
| Diss. Org. N | ug/l | 2.84 | **686** | **19** | **1148** |
| Part. N | ug/l | 1.97 | **93** | **8** | **783** |
| Total N | ug/l | 3.02 | **1055** | **510** | **1688** |
| SRP | ug/l | 0.33 | **2** | **1** | **10** |
| Diss. Org. P | ug/l | 0.49 | **3** | **1** | **17** |
| Part. P | ug/l | 0.64 | **4** | **0** | **40** |
| Total P | ug/l | 1.09 | **12** | **4** | **45** |
| Fecal | cfu/100 ml | 2.04 | **108** | **15** | **2200** |
| Turbidity | NTU | 0.13 | **1.3** | **0.3** | **7.4** |
| TSS | mg/l | 0.40 | **2.5** | **0.4** | **12** |
| BOD | mg/l | 0.30 | **2.0** | **1.0** | **6.9** |
| Color | Pt-Co Units | 2.30 | **200** | **62** | **446** |
| Total Cu | ug/l | 0.39 | **2.5** | **1.5** | **6** |
| Diss. Cu | ug/l | 0.25 | **1.8** | **1.5** | **4** |
| Total Cd | ug/l | 0.07 | **1.2** | **1.0** | **4** |
| Diss. Cd | ug/l | 0.03 | **1.1** | **1.0** | **3** |
| Total Cr | ug/l | 0.41 | **2.6** | **2.5** | **6** |
| Diss. Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Total Fe | ug/l | 2.39 | **246** | **41** | **794** |
| Diss. Fe | ug/l | 2.16 | **146** | **26** | **515** |
| Total Pb | ug/l | 0.02 | **1.0** | **1.0** | **3** |
| Diss. Pb | ug/l | 0.00 | **1.0** | **1.0** | **1** |
| Total Zn | ug/l | 0.74 | **5.5** | **1.0** | **25** |
| Diss. Zn | ug/l | 0.45 | **2.8** | **1.0** | **12** |

## Xeric Hammock (n=1)

| Variable | Units | Logmean | **Mean** | **Min.** | **Max.** |
|---|---|---|---|---|---|
| pH | s.u. | - | **6.17** | **6.17** | **6.17** |
| Cond | umho/cm | 2.23 | **168** | **168** | **168** |
| Alkalinity | mg/l | 1.54 | **34.4** | **34.4** | **34.4** |
| NH3 | ug/l | 1.96 | **91** | **91** | **91** |
| NOx | ug/l | 0.85 | **7** | **7** | **7** |
| Diss. Org. N | ug/l | 3.03 | **1083** | **1083** | **1083** |
| Part. N | ug/l | 2.14 | **137** | **137** | **137** |
| Total N | ug/l | 3.12 | **1318** | **1318** | **1318** |
| SRP | ug/l | 3.41 | **2577** | **2577** | **2577** |
| Diss. Org. P | ug/l | 1.87 | **74** | **74** | **74** |
| Part. P | ug/l | 2.22 | **165** | **165** | **165** |
| Total P | ug/l | 3.45 | **2816** | **2816** | **2816** |
| Fecal | cfu/100 ml | 2.03 | **108** | **108** | **108** |
| Turbidity | NTU | 1.26 | **18.0** | **18.0** | **18.0** |
| TSS | mg/l | 0.26 | **1.8** | **1.8** | **1.8** |
| BOD | mg/l | 0.00 | **1.0** | **1.0** | **1.0** |
| Color | Pt-Co Units | 2.58 | **382** | **382** | **382** |
| Total Cu | ug/l | 0.18 | **1.5** | **1.5** | **1.5** |
| Diss. Cu | ug/l | 0.18 | **1.5** | **1.5** | **1.5** |
| Total Cd | ug/l | 0.00 | **1.0** | **1.0** | **1.0** |
| Diss. Cd | ug/l | 0.00 | **1.0** | **1.0** | **1.0** |
| Total Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Diss. Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Total Fe | ug/l | 2.91 | **814** | **814** | **814** |
| Diss. Fe | ug/l | 2.68 | **475** | **475** | **475** |
| Total Pb | ug/l | 0.00 | **1.0** | **1.0** | **1.0** |
| Diss. Pb | ug/l | 0.00 | **1.0** | **1.0** | **1.0** |
| Total Zn | ug/l | 0.70 | **5.0** | **5.0** | **5.0** |
| Diss. Zn | ug/l | 0.60 | **4.0** | **4.0** | **4.0** |

**Xeric Scrub (n=3)**

| Variable | Units | Logmean | **Mean** | **Min.** | **Max.** |
|---|---|---|---|---|---|
| pH | s.u. | - | **4.65** | **4.50** | **4.93** |
| Cond | umho/cm | 1.28 | **19** | **9** | **29** |
| Alkalinity | mg/l | -0.10 | **0.8** | **0.0** | **0.8** |
| NH3 | ug/l | 1.84 | **69** | **47** | **107** |
| NOx | ug/l | 1.39 | **24** | **8** | **52** |
| Diss. Org. N | ug/l | 2.65 | **448** | **278** | **595** |
| Part. N | ug/l | 2.65 | **443** | **84** | **2570** |
| Total N | ug/l | 3.06 | **1158** | **461** | **3307** |
| SRP | ug/l | 1.44 | **28** | **4** | **142** |
| Diss. Org. P | ug/l | 1.03 | **11** | **6** | **23** |
| Part. P | ug/l | 1.57 | **38** | **8** | **206** |
| Total P | ug/l | 1.98 | **96** | **18** | **267** |
| Fecal | cfu/100 ml | 3.19 | **1533** | **350** | **7570** |
| Turbidity | NTU | 0.87 | **7.5** | **4.7** | **13.3** |
| TSS | mg/l | 1.14 | **13.7** | **5.0** | **29.9** |
| BOD | mg/l | 0.27 | **1.8** | **1.0** | **2.6** |
| Color | Pt-Co Units | 2.10 | **125** | **21** | **309** |
| Total Cu | ug/l | 0.53 | **3.4** | **2.0** | **5.0** |
| Diss. Cu | ug/l | 0.32 | **2.1** | **1.0** | **3.0** |
| Total Cd | ug/l | 0.00 | **1.0** | **1.0** | **1.0** |
| Diss. Cd | ug/l | 0.00 | **1.0** | **1.0** | **1.0** |
| Total Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Diss. Cr | ug/l | 0.40 | **2.5** | **2.5** | **2.5** |
| Total Fe | ug/l | 1.78 | **60** | **34** | **106** |
| Diss. Fe | ug/l | 1.56 | **36** | **29** | **51** |
| Total Pb | ug/l | 0.20 | **1.6** | **1.0** | **2.0** |
| Diss. Pb | ug/l | 0.00 | **1.0** | **1.0** | **1.0** |
| Total Zn | ug/l | 1.00 | **10.1** | **8.0** | **16.0** |
| Diss. Zn | ug/l | 0.75 | **5.6** | **2.0** | **15.0** |