RUNOFF CHARACTERISTICS OF NATURAL VEGETATION COMMUNITIES IN FLORIDA

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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 Work Efforts

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.

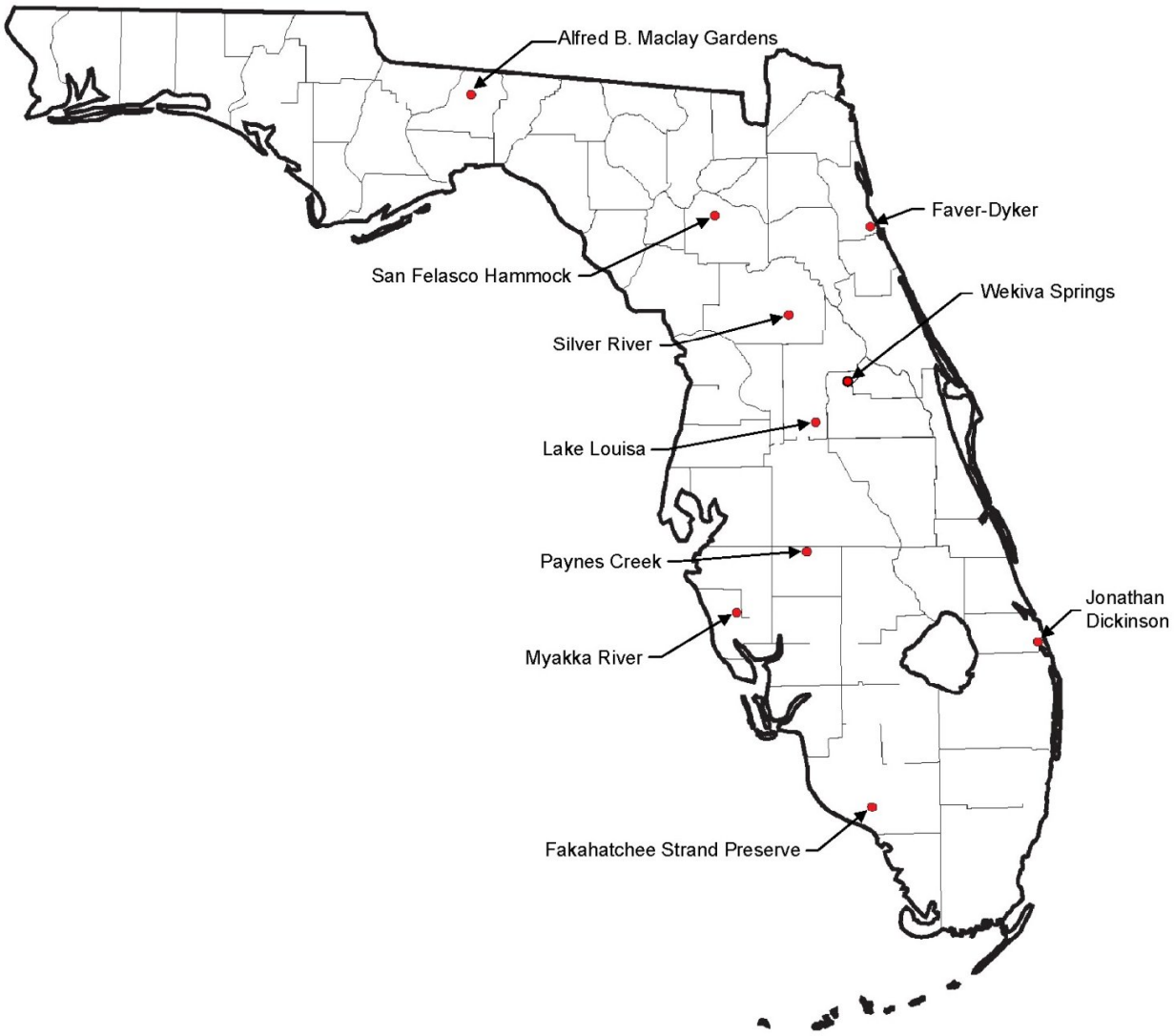


Figure 1-1. Locations of Monitored State Parks.

1.2 Natural Community Indices

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 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 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 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 Longleaf pine-xeric oak Longleaf pine-deciduous oak 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 Florida scrub Sand scrub 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 Sand hammock Live oak forest 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 Pioneer zone 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 Coastal levee 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 Coastal savannah 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 Algal barren 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 Maritime thicket 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 Maritime forest 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 Indian mound 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 Bluff forest Mesic hammock Southern mixed hardwoods Climax hardwoods 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 North Florida chalk glades 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 Climax hardwoods Upland hardwoods 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 Loblolly-shortleaf upland forest Clay hills 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 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 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 Solution pit Grotto Chimney hole 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 Palmetto prairie 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 Pine savannahs 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 Hydric hammock	Clump of tall cabbage palms and live oaks in a prairie or marsh area; slight inundation; rare fires
	Scrubby flatwoods	Xeric flatwoods 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 (flat, poorly drained sand, marl, or limestone substrates)	Hydric hammock	Wetland hardwood hammock Wet hammock	Well developed hardwood and cabbage palm forest; variable understory with palms and ferns; seasonally inundated
	Marl prairie	Scrub cypress Marl flat Dwarf cypress savanna Sedge flat 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 Moist pine barren Hydric flatwoods Pond-pine flatwoods 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 Savannah Coastal savannah/prairie 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 Marl Prairie	2 2	6 6
Faver Dykes	Mesic Flatwoods Scrubby Flatwoods	6 1	30 13
Jonathan Dickinson	Wet Flatwoods Wet Prairie	6 1	76 17
Lake Louisa	Ruderal/Upland Pine	1	5
Myakka River	Dry Prairie	2	12
Paynes Creek	Xeric Hammock Mesic Flatwoods	1 1	1 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.

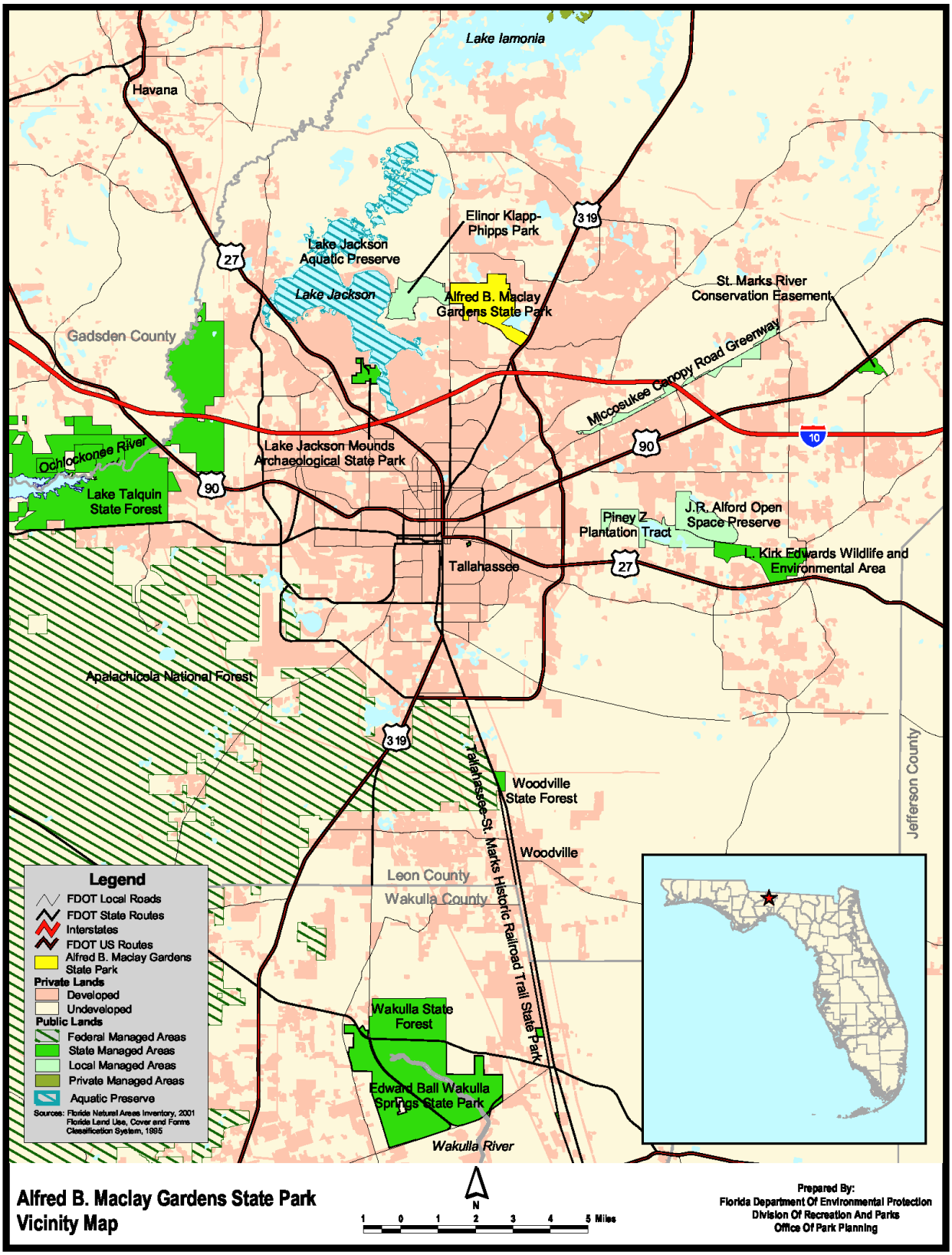


Figure 2-1. Location Map for Alfred B. Maclay Gardens State Park.

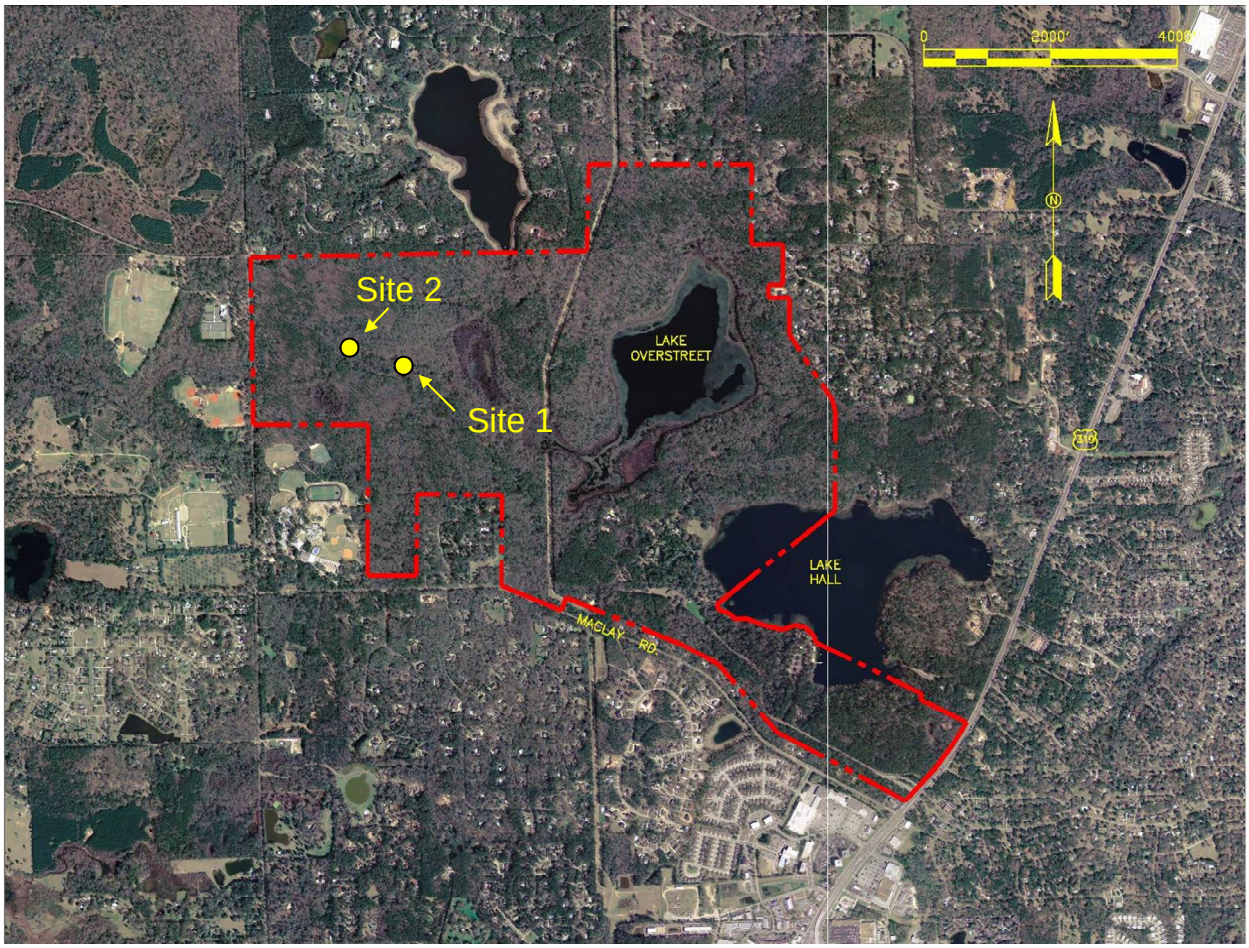


Figure 2-2. Aerial Overview of Alfred B. Maclay Gardens State Park and Vegetation Runoff Monitoring Sites.

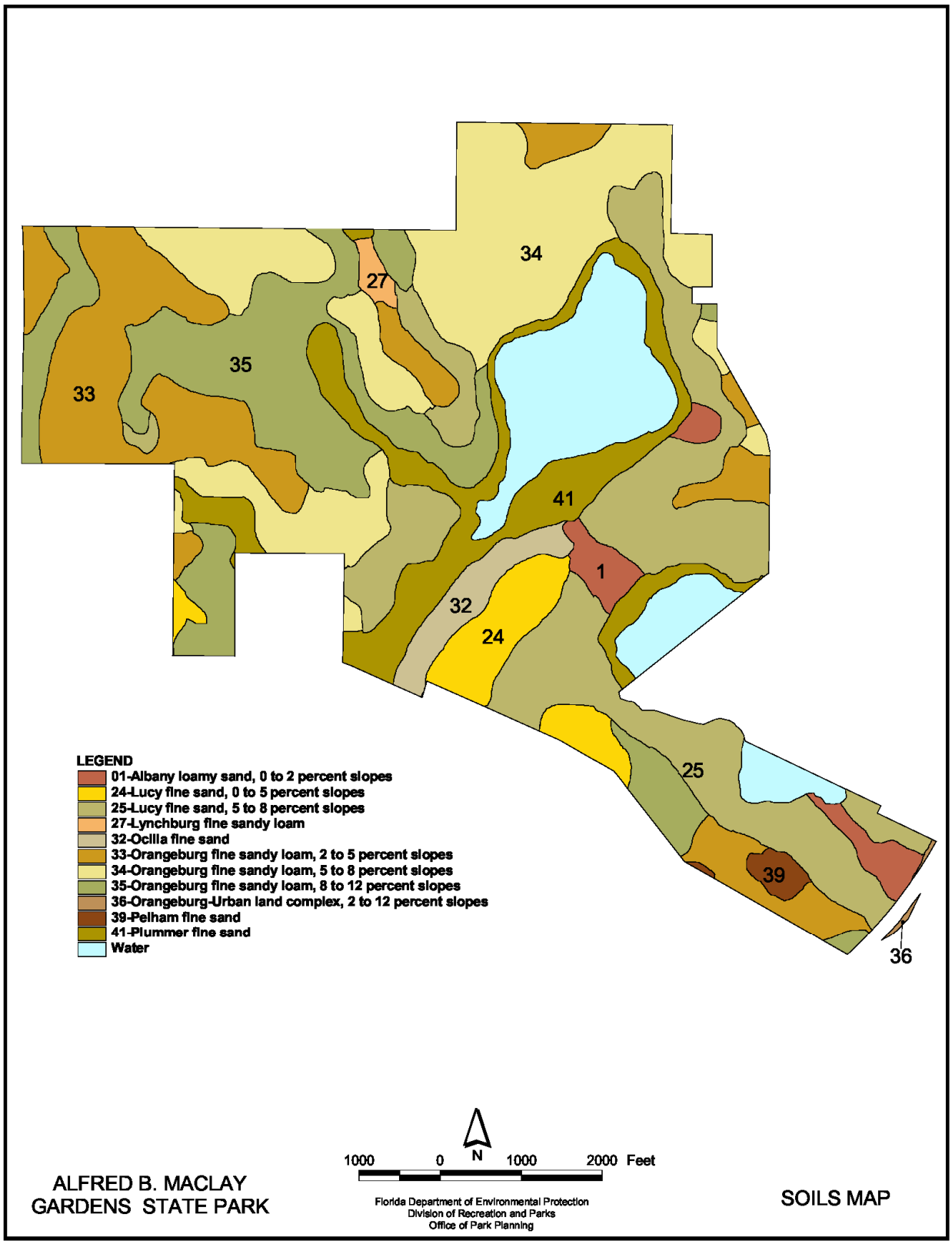


Figure 2-3. Soils Map for Alfred B. Maclay Gardens State Park.

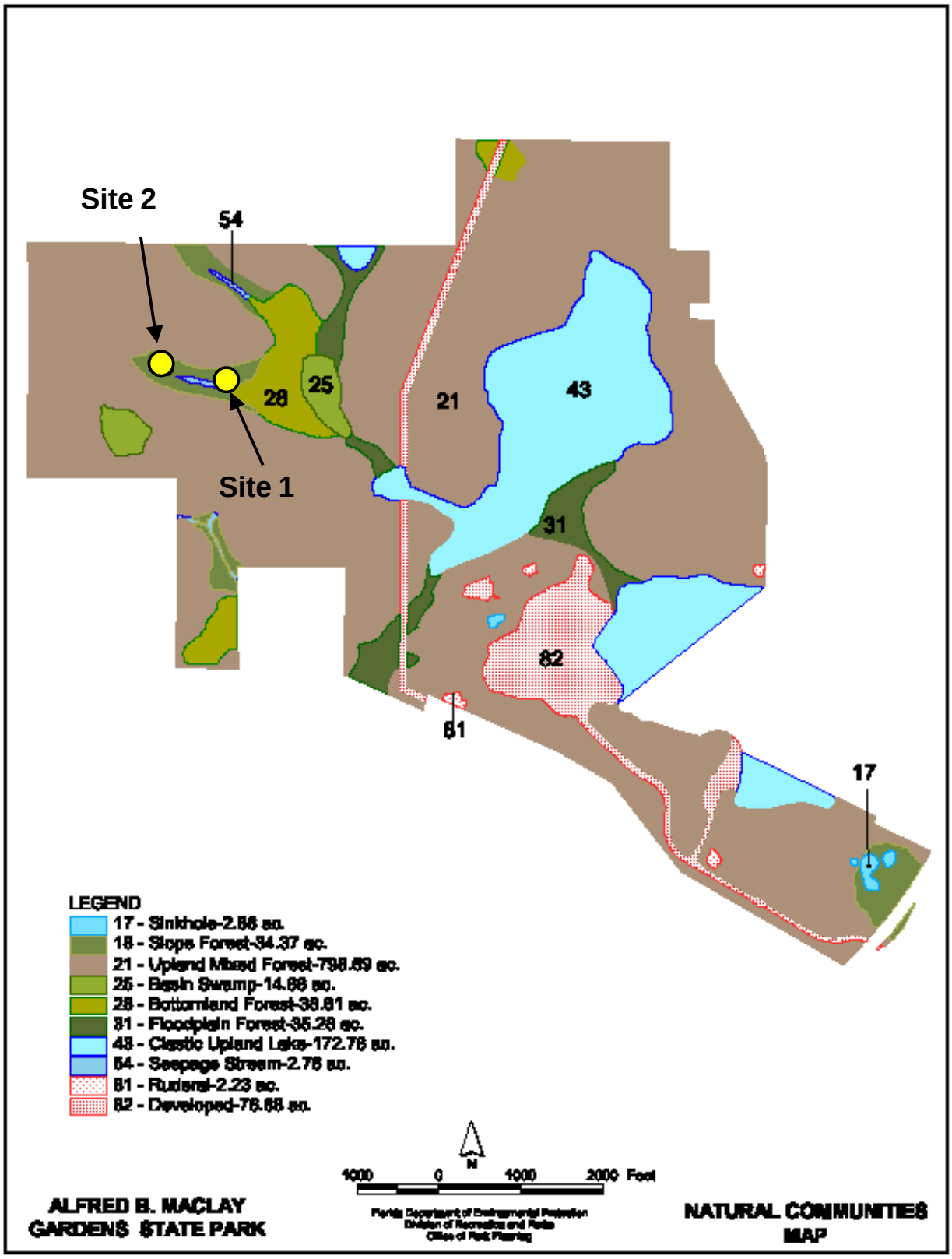


Figure 2-4. Natural Community Inventory in Alfred B. Maclay Gardens State Park.





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).

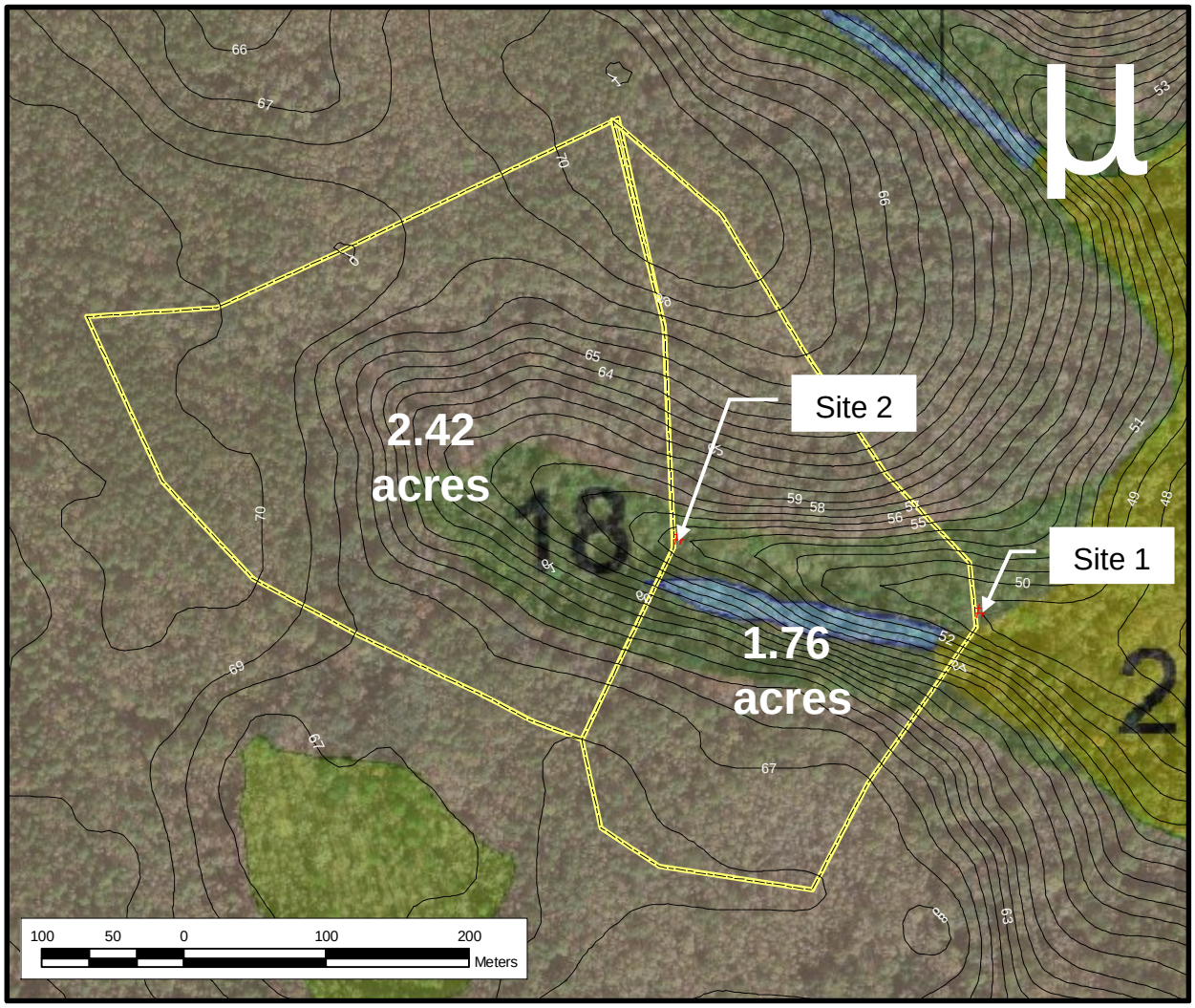


Figure 2-6. Basin Delineations for the Mixed Hardwood Forest Monitoring Sites in Alfred B. Maclay Gardens State Park (contours in meters).

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.

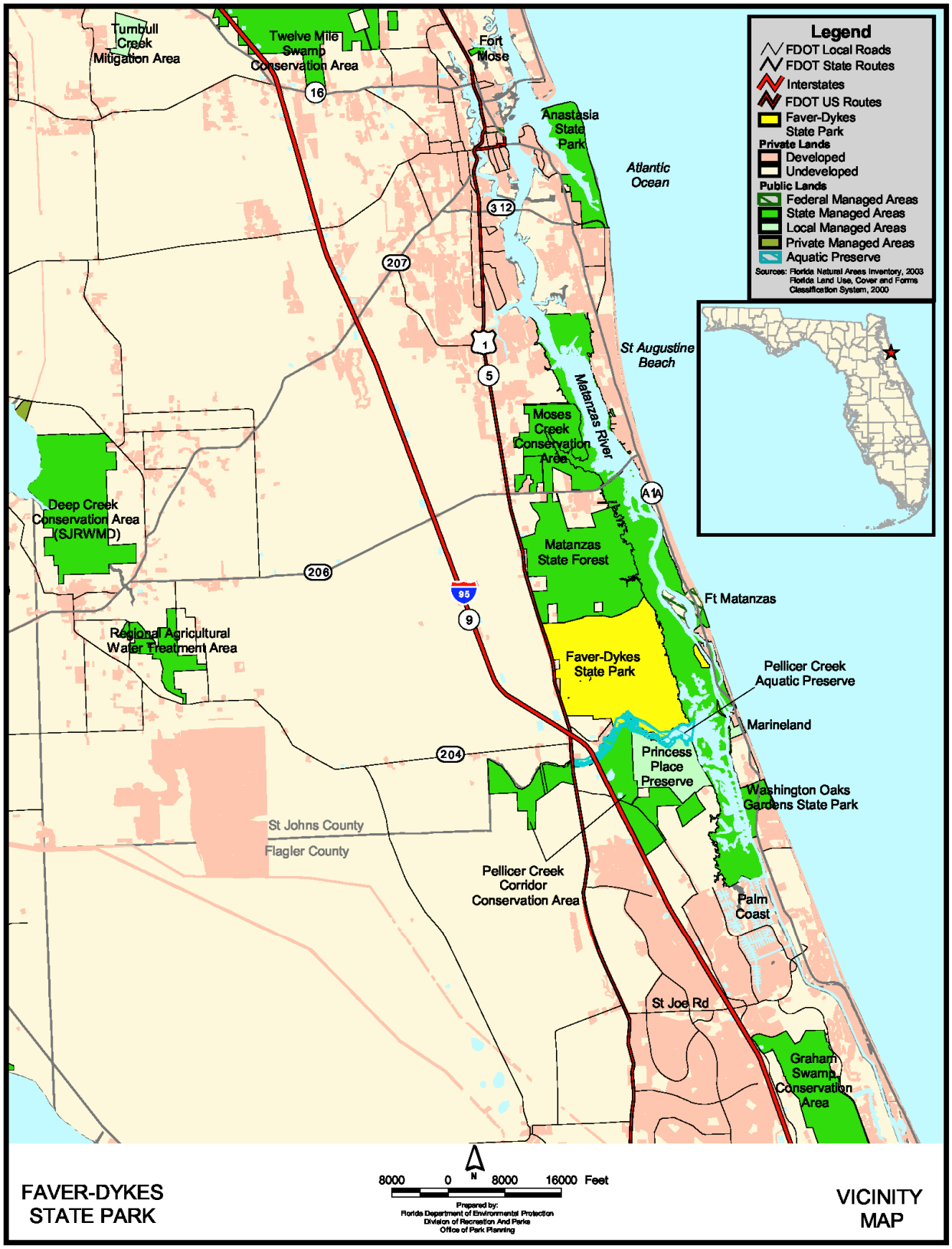


Figure 2-7. Location Map for Faver-Dykes State Park.

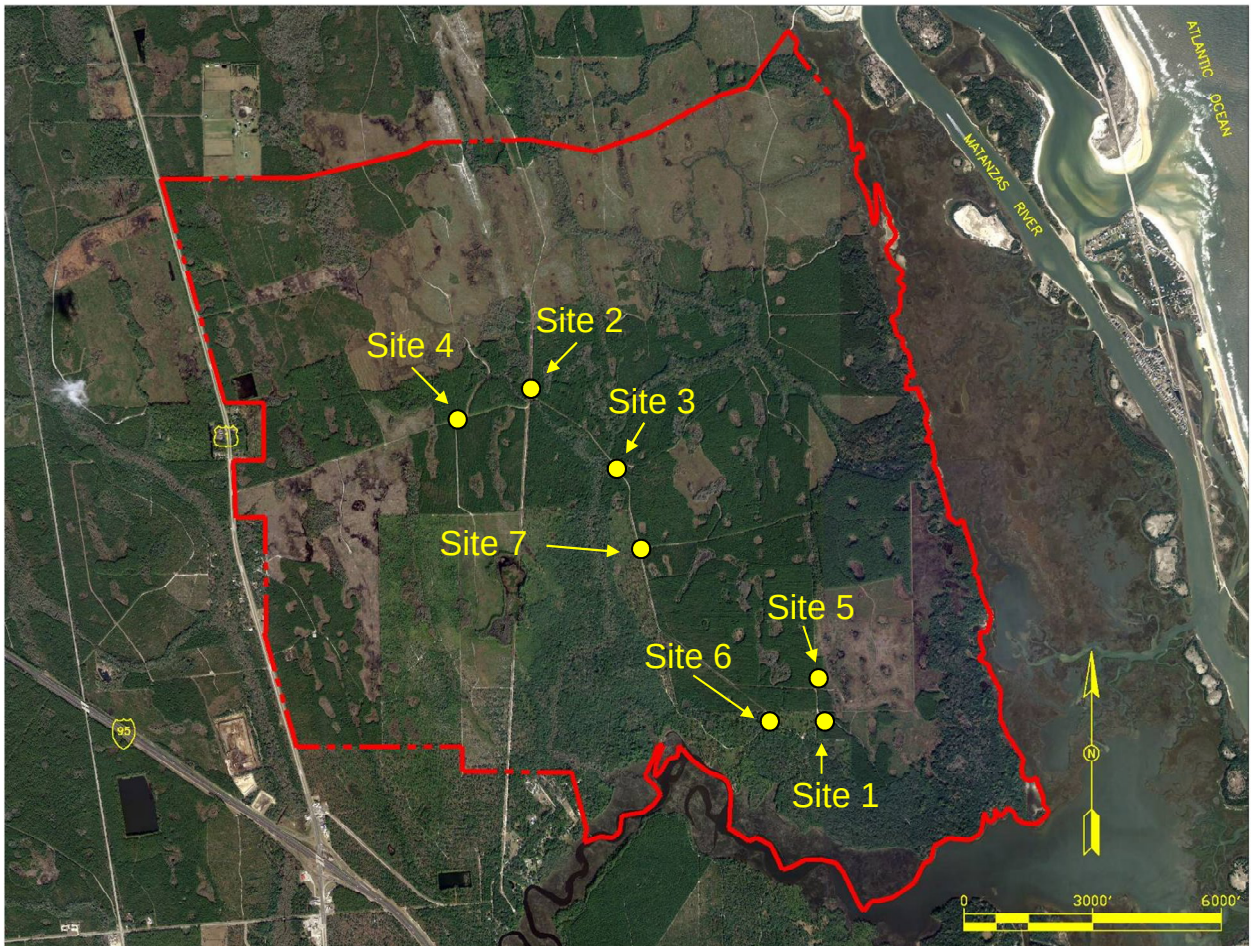


Figure 2-8. Aerial Overview of Faver-Dykes State Park and Vegetation Runoff Monitoring Sites.

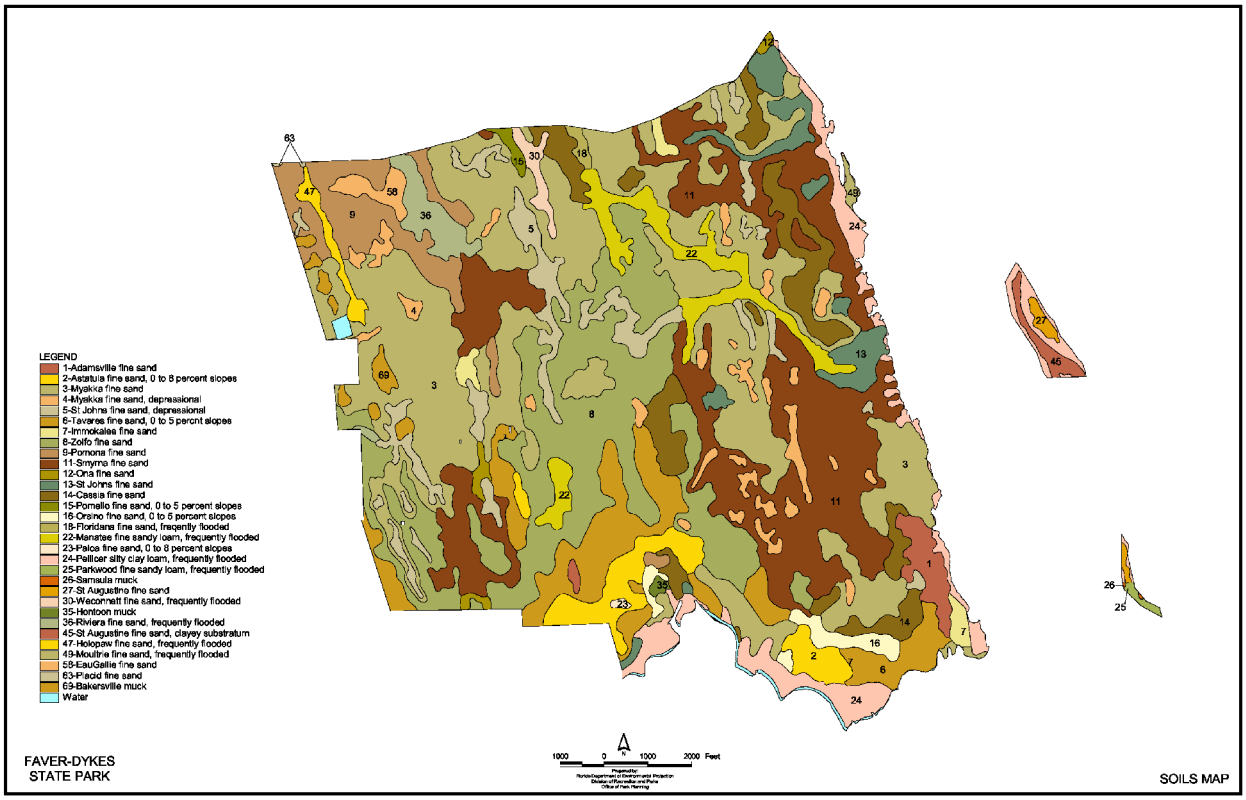


Figure 2-9. Soils Map for Faver-Dykes State Park.

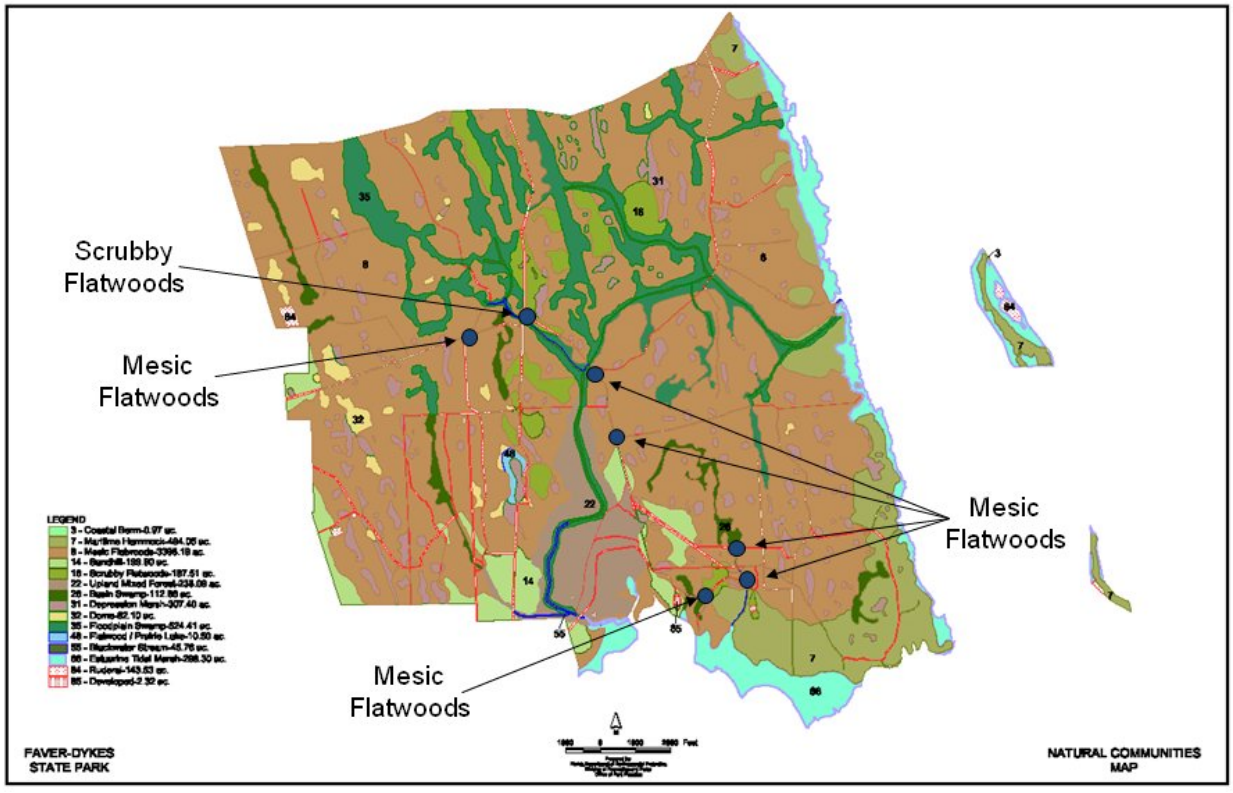


Figure 2-10. Natural Community Inventory in Faver-Dykes State Park.





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).

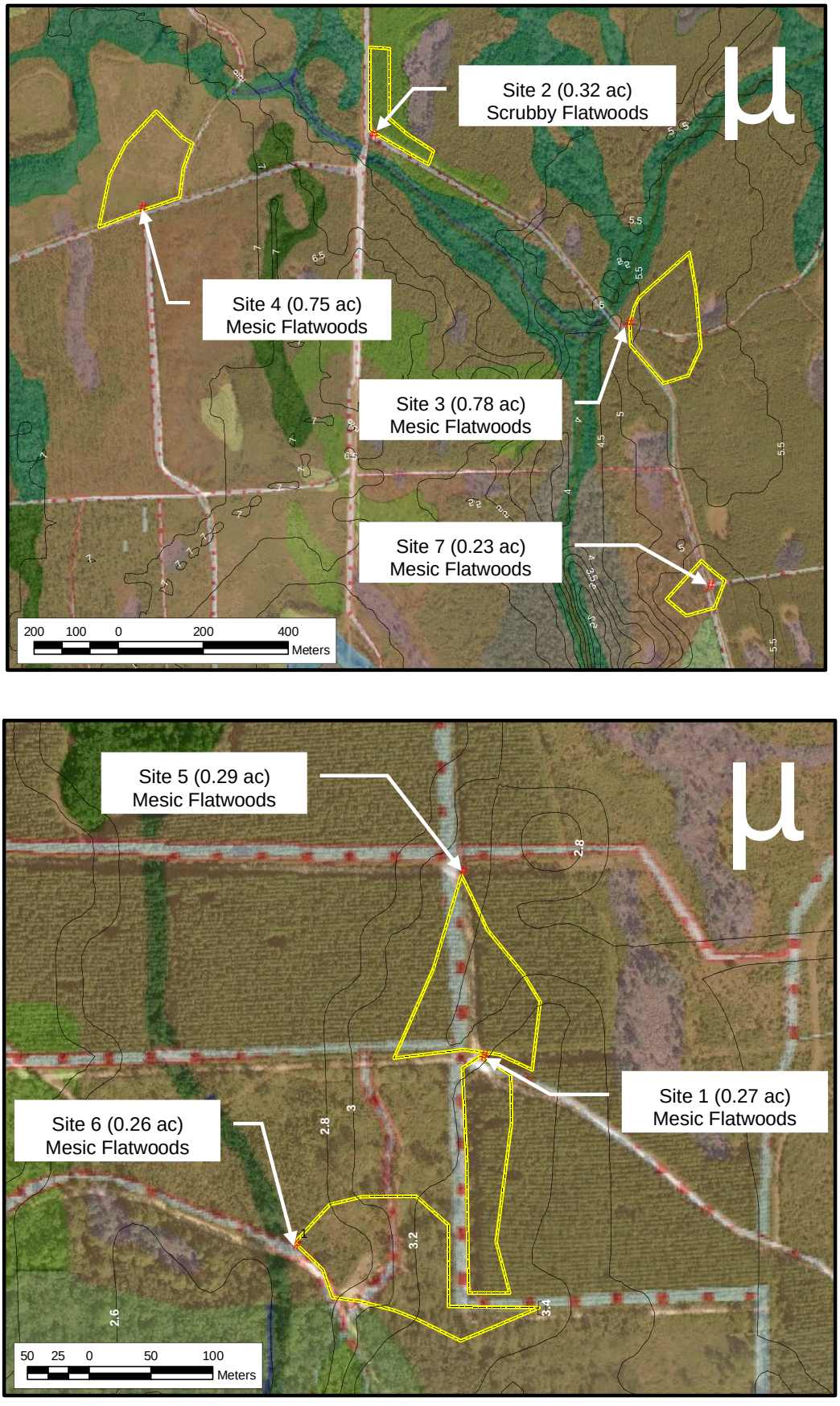


Figure 2-12. Basin Delineations for the Monitoring Sites in the Faver-Dykes State Park.

2.1.3 Fakahatchee Strand Preserve State Park

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.

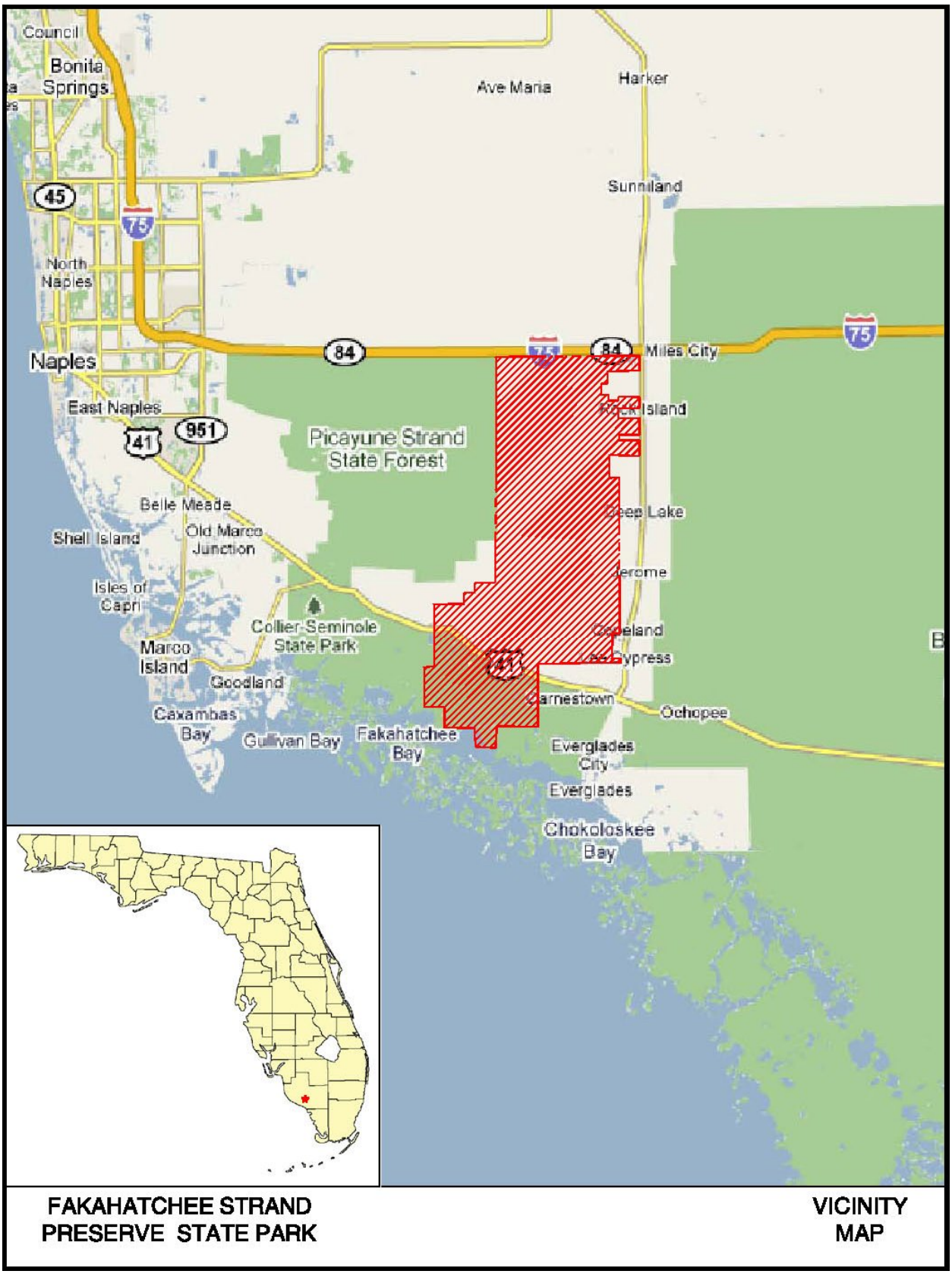


Figure 2-13. Location Map for Fakahatchee Strand Preserve State Park.

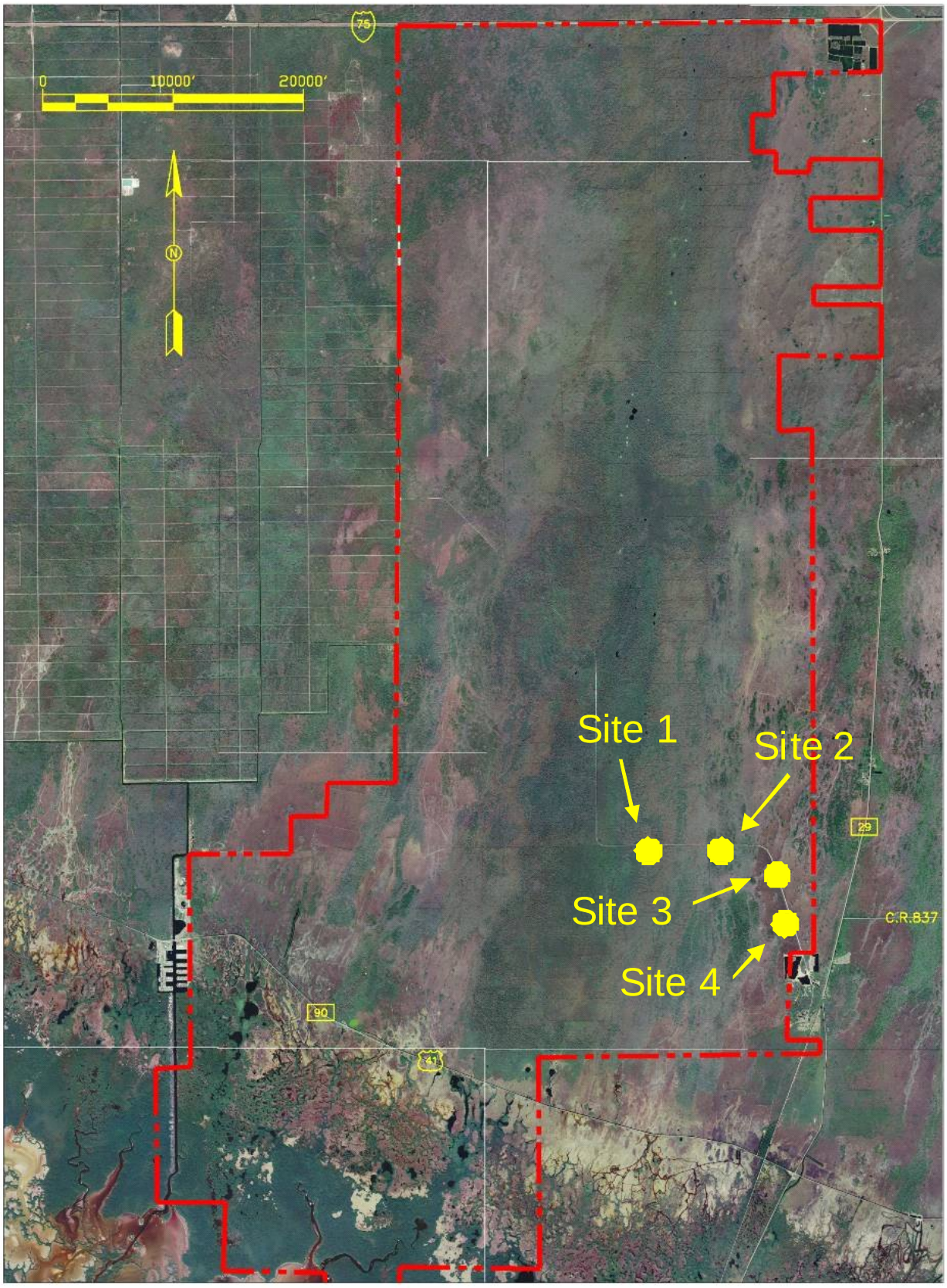


Figure 2-14. Aerial Overview of the Fakahatchee Strand Preserve State Park and Vegetation Runoff Monitoring Sites.

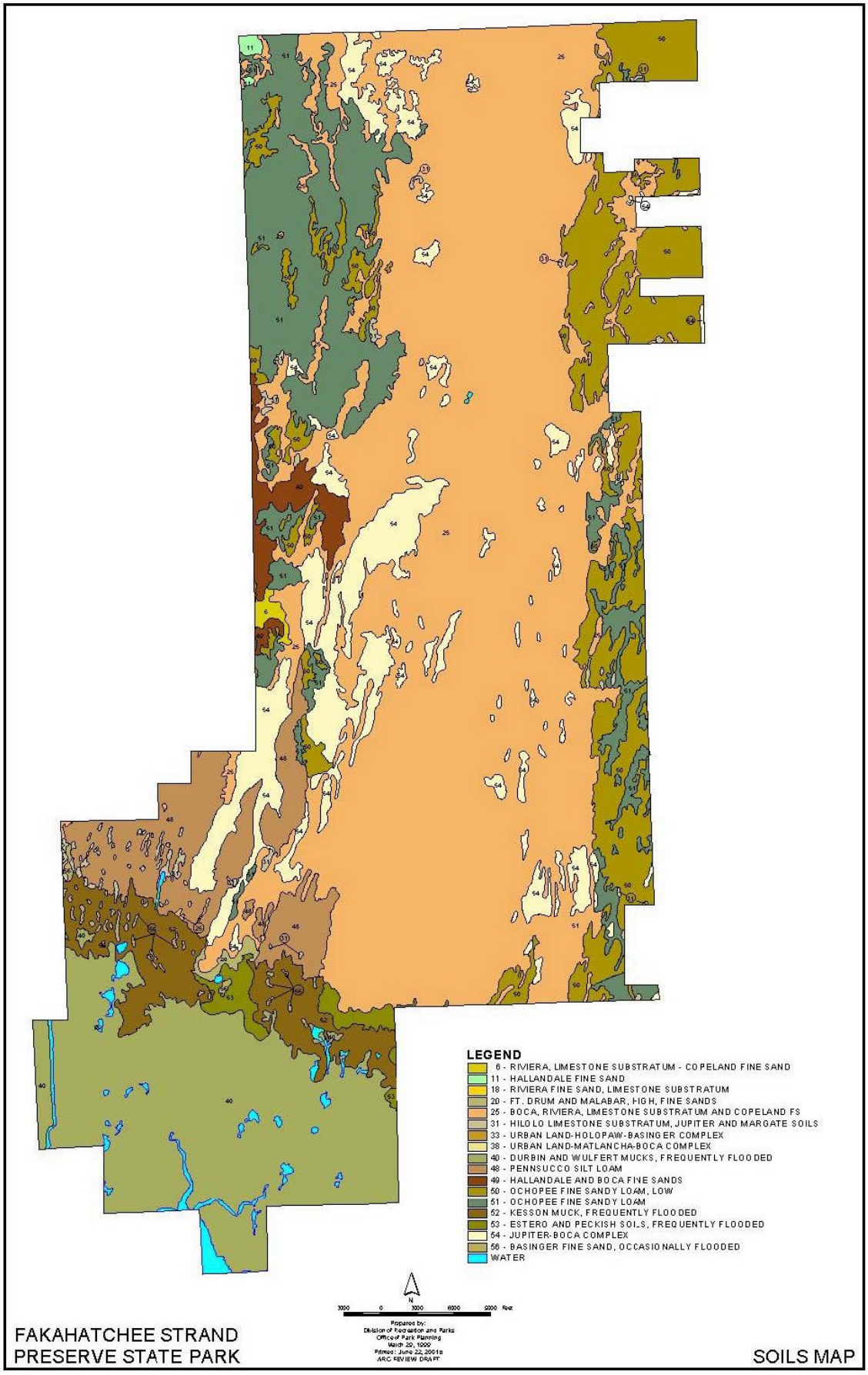


Figure 2-15. Soils Map for the Fakahatchee Strand Preserve State Park.

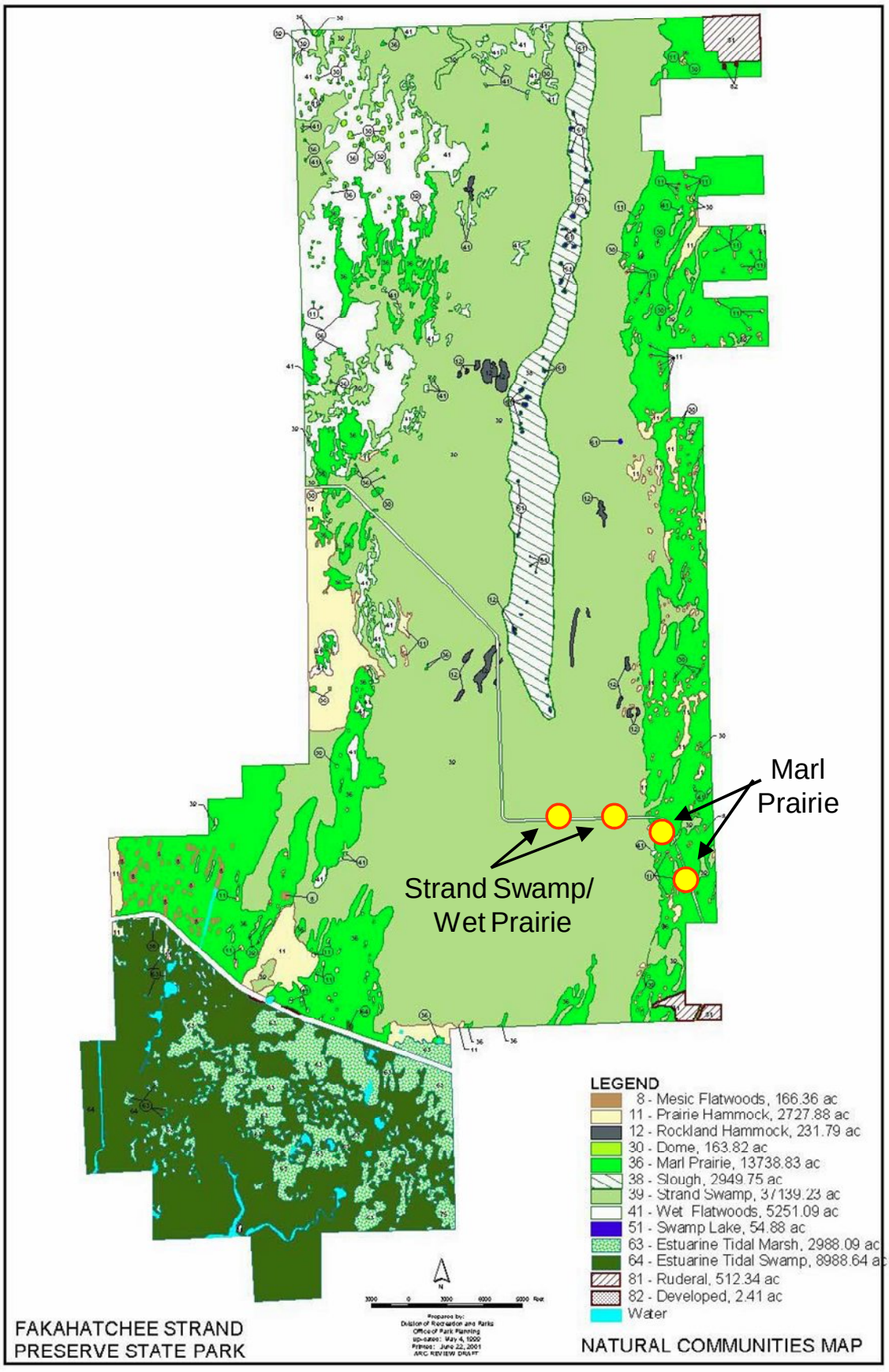


Figure 2-16. Natural Community Inventory in Fakahatchee Strand Preserve State Park.



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).

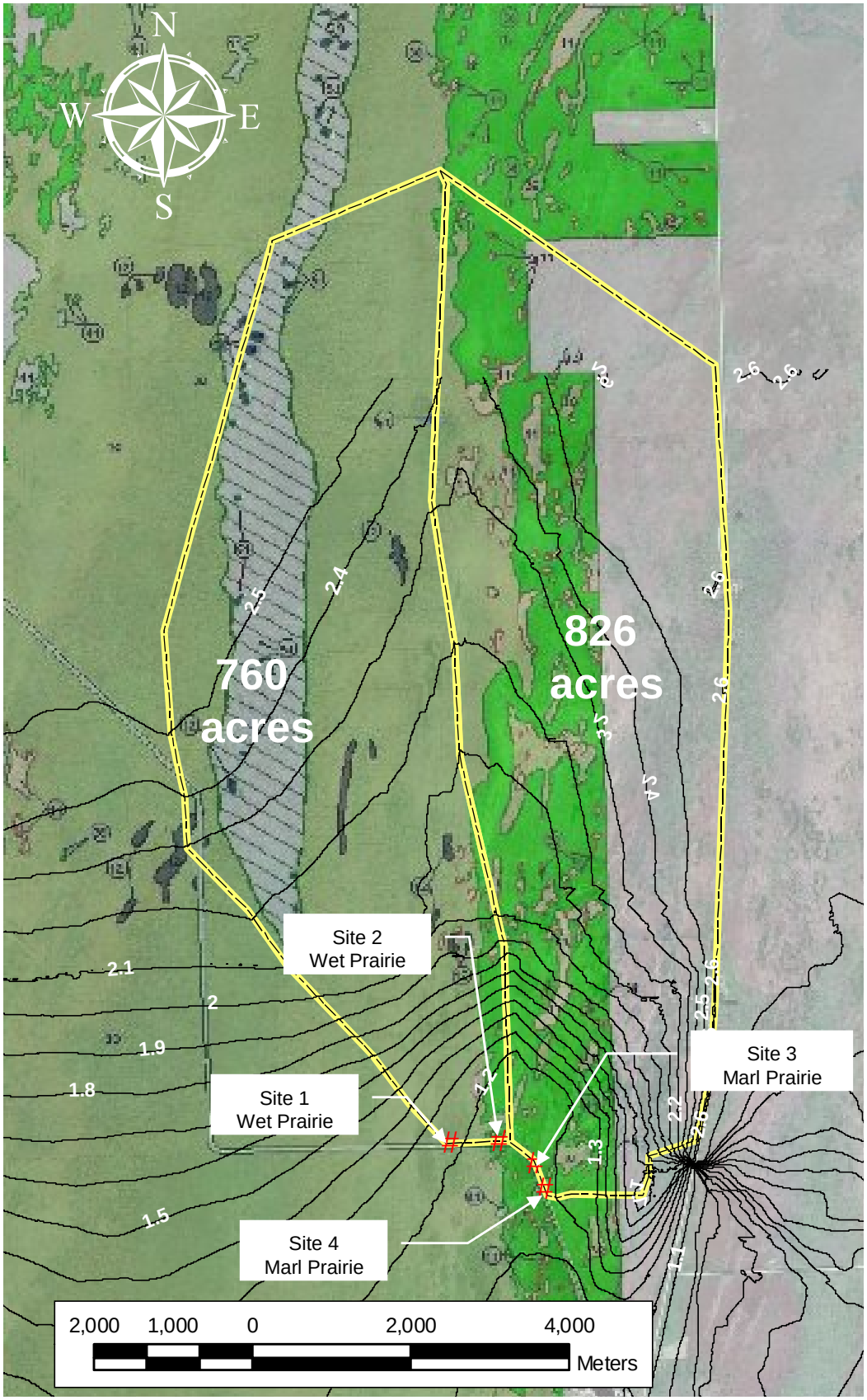


Figure 2-18. Basin Delineations for the Marl Prairie and Wet Prairie Monitoring Sites at the Fakahatchee Strand Preserve State Park.

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.

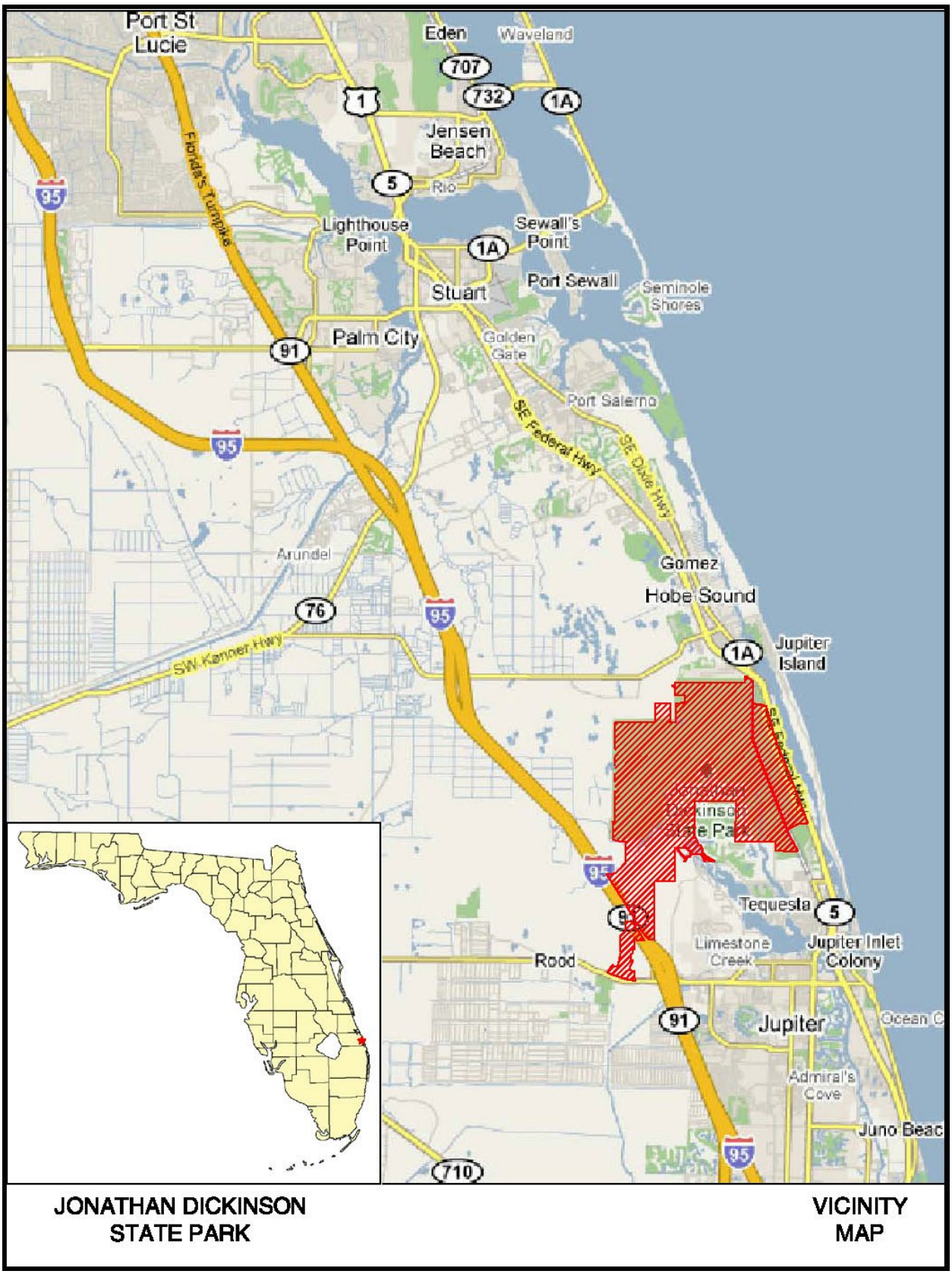


Figure 2-19. Location Map for Jonathan Dickinson State Park.

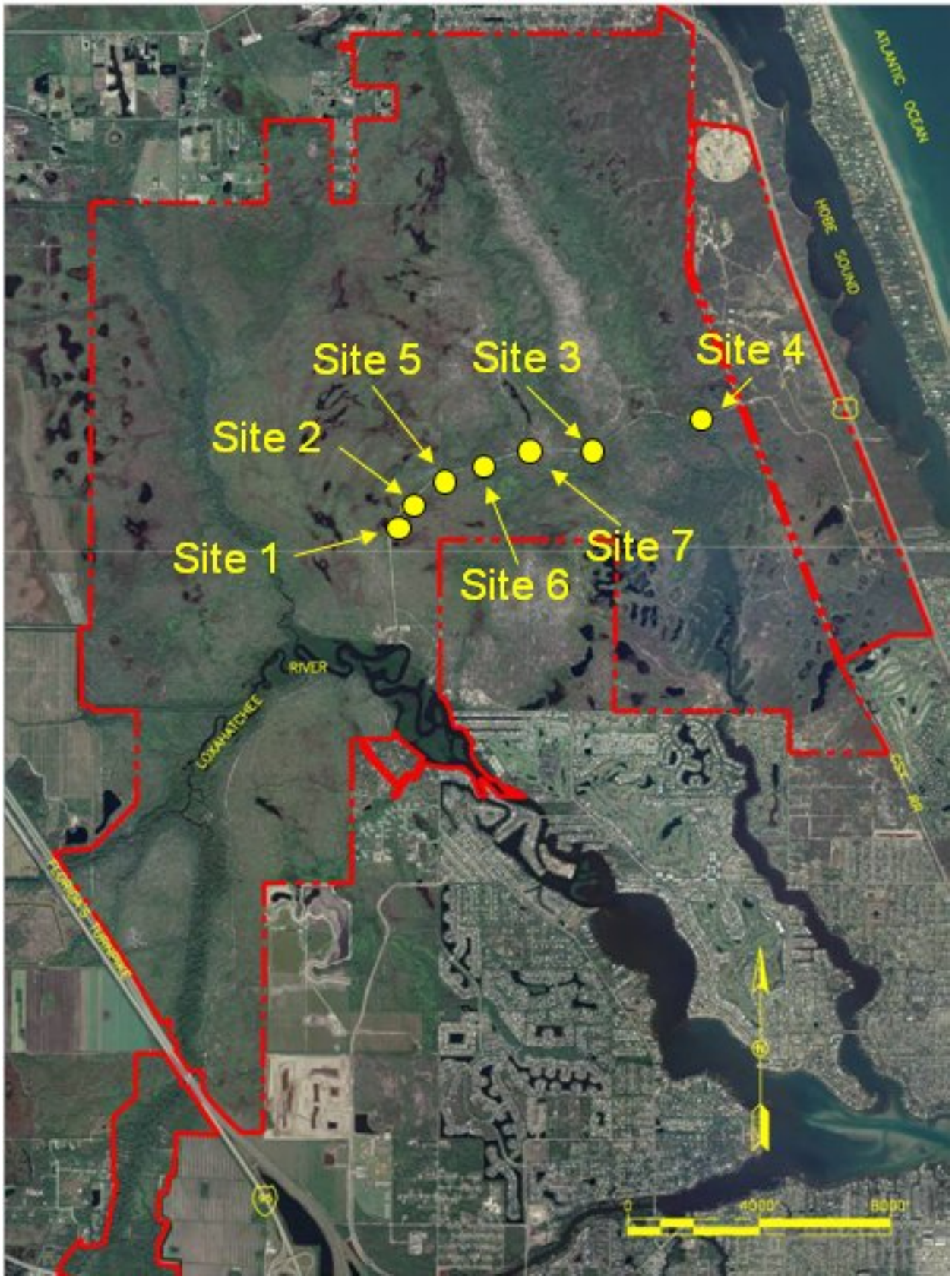


Figure 2-20. Aerial Overview of the Jonathan Dickinson State Park and Vegetation Runoff Monitoring Sites.

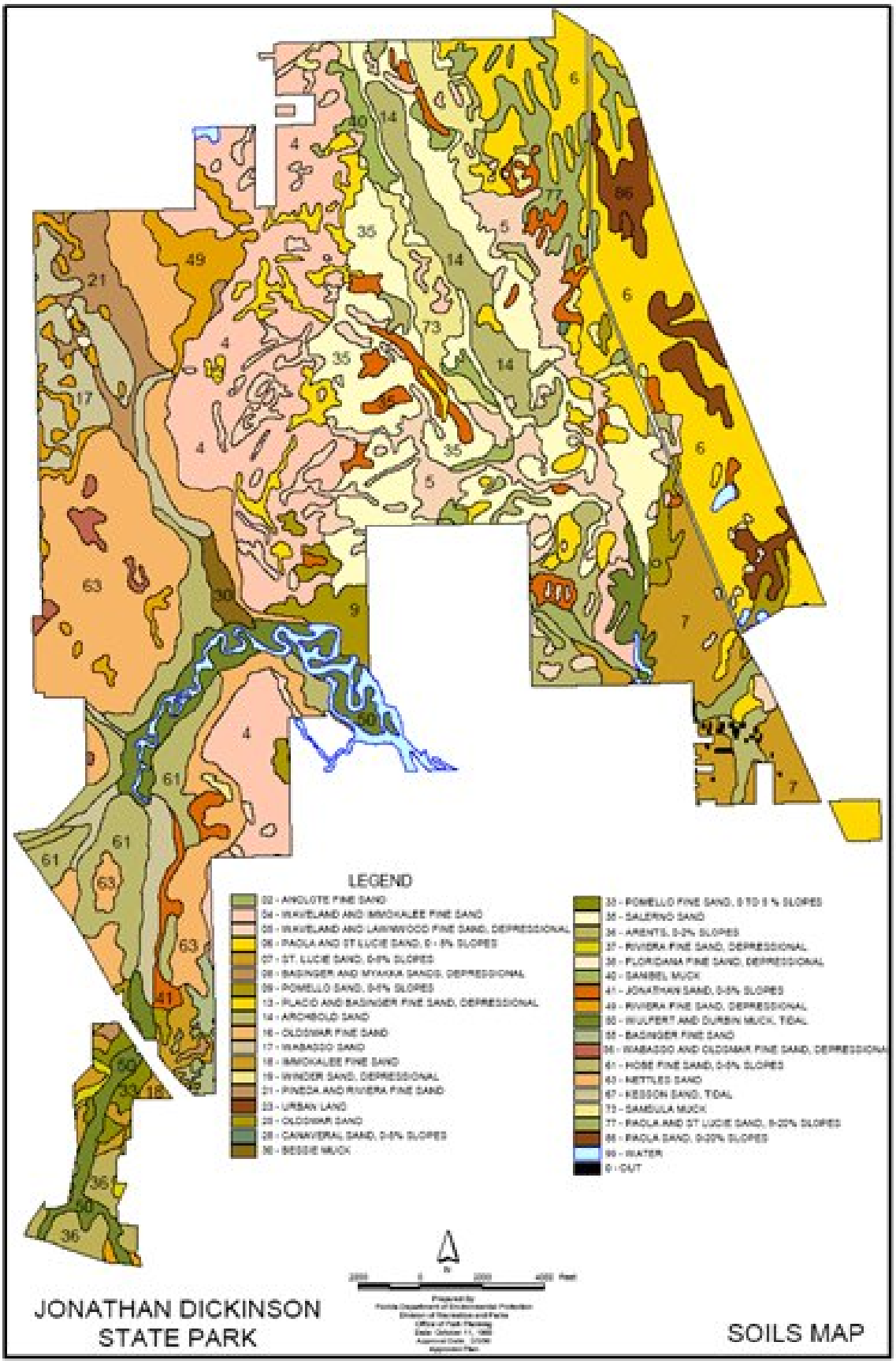


Figure 2-21. Soils Map for the Jonathan Dickinson State Park.

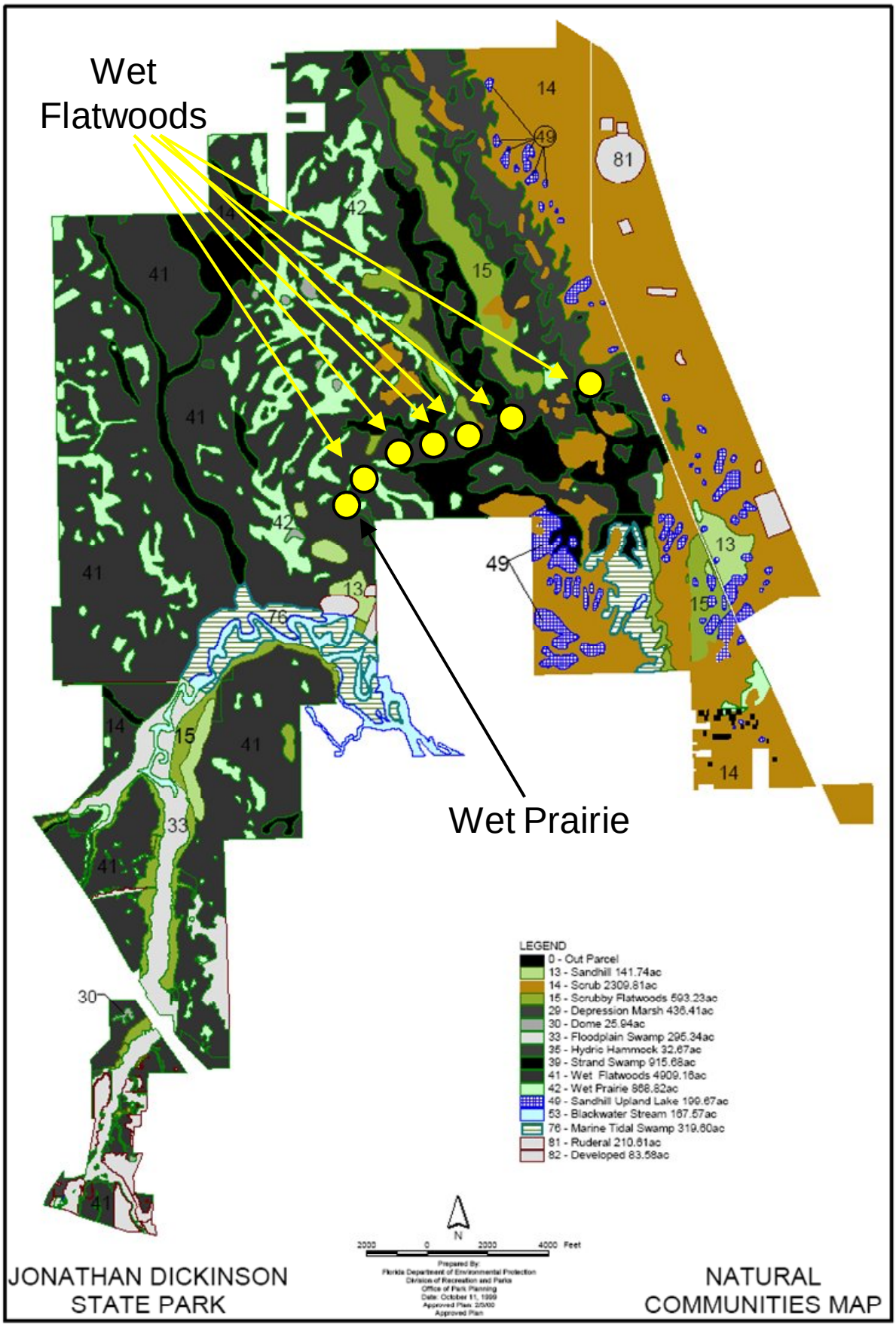


Figure 2-22. Natural Community Inventory in Jonathan Dickinson State Park.





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).

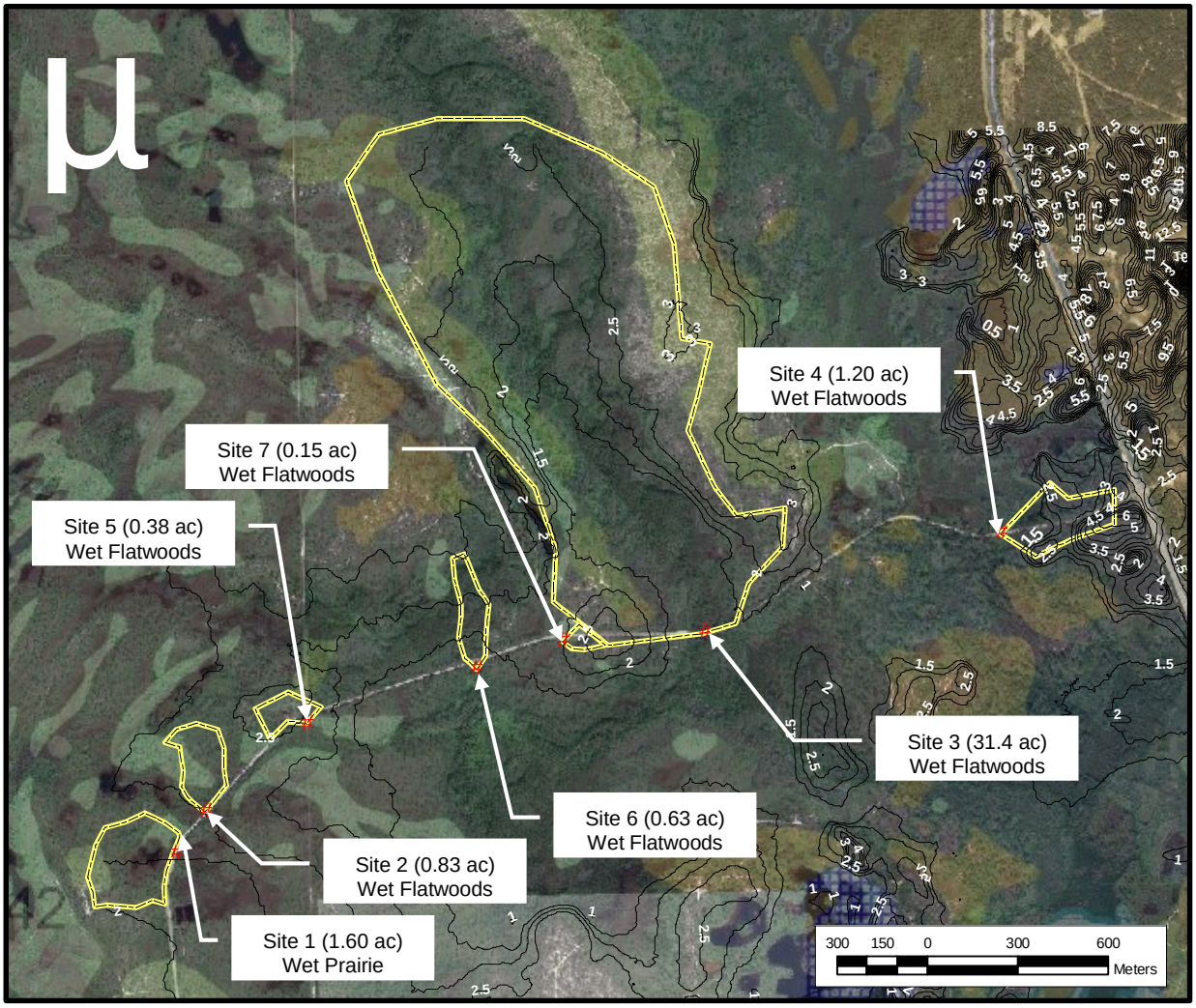


Figure 2-24. Basin Delineations for the Wet Flatwood Monitoring Sites at Jonathan Dickinson State Park.

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.

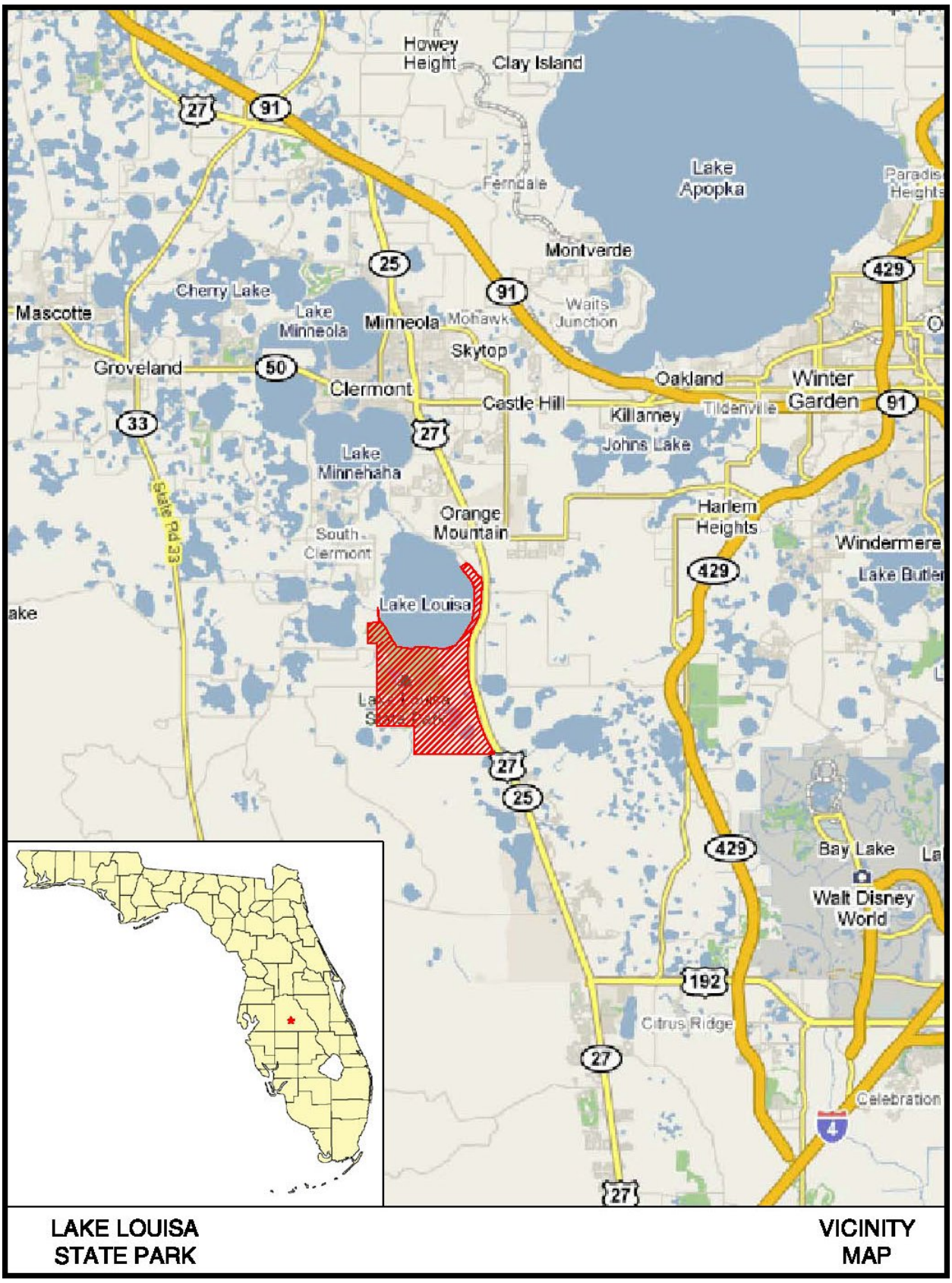


Figure 2-25. Location Map for Lake Louisa State Park.



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

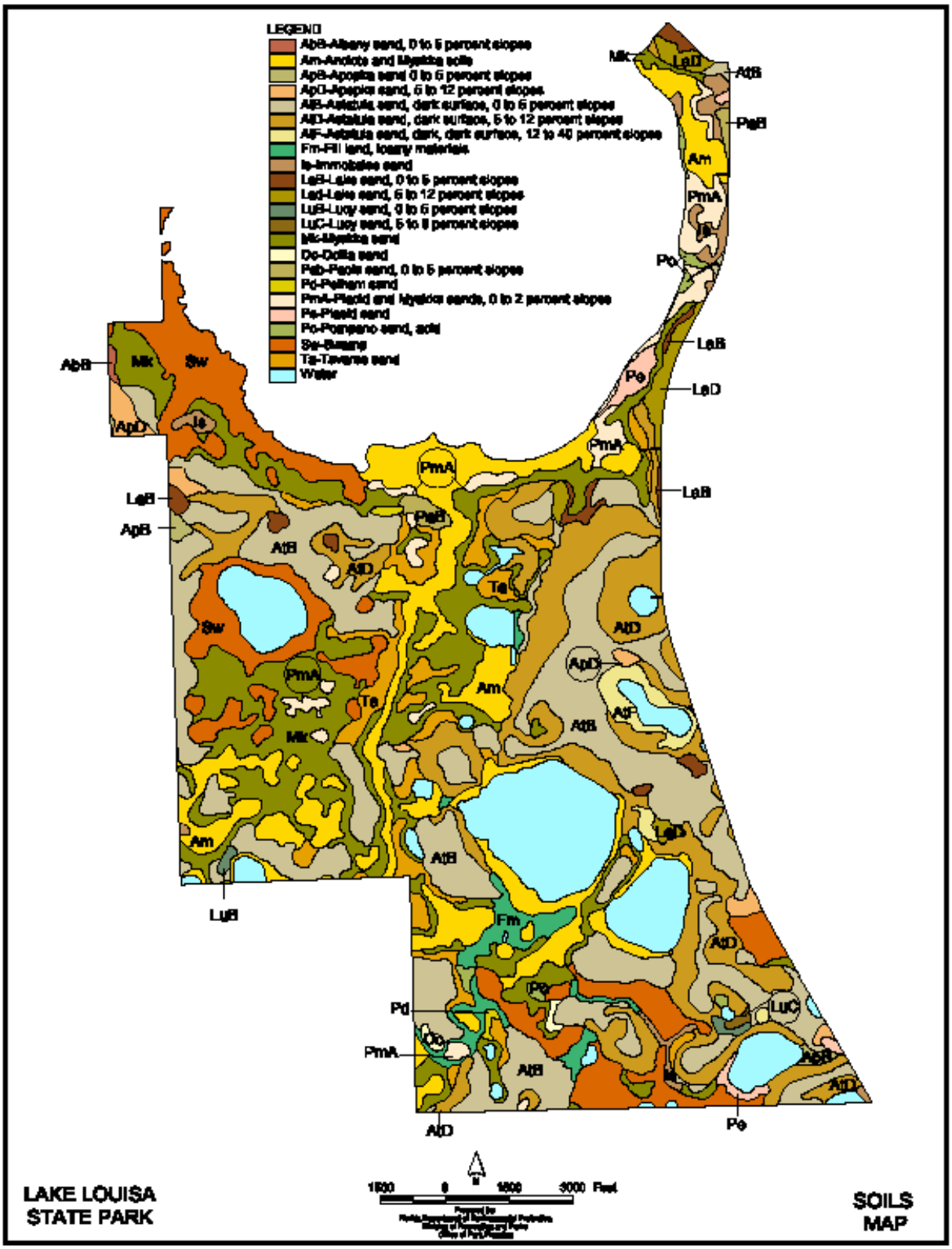


Figure 2-27. Soils Map for Lake Louisa State Park.

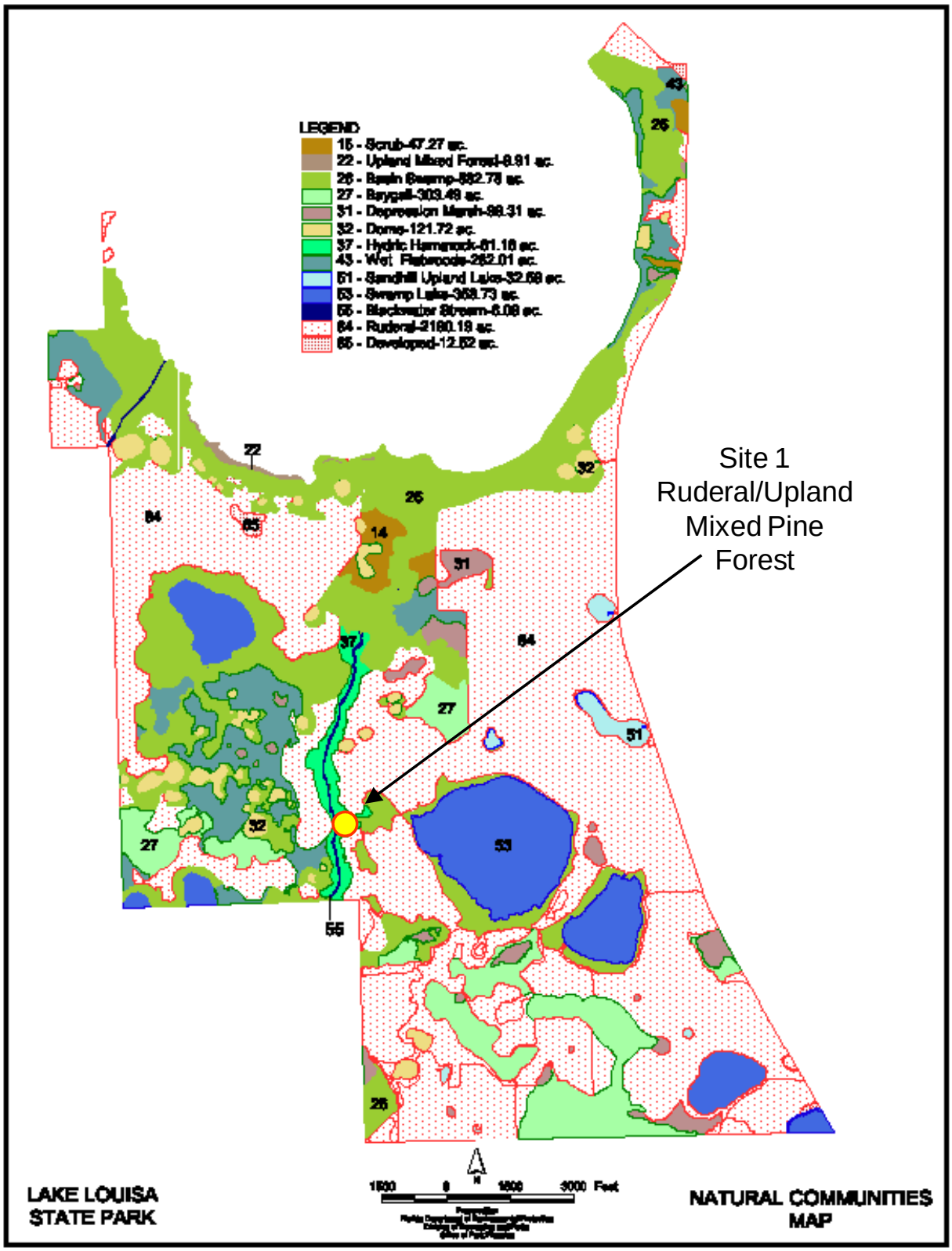


Figure 2-28. Natural Community Inventory in Lake Louisa State Park.





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).

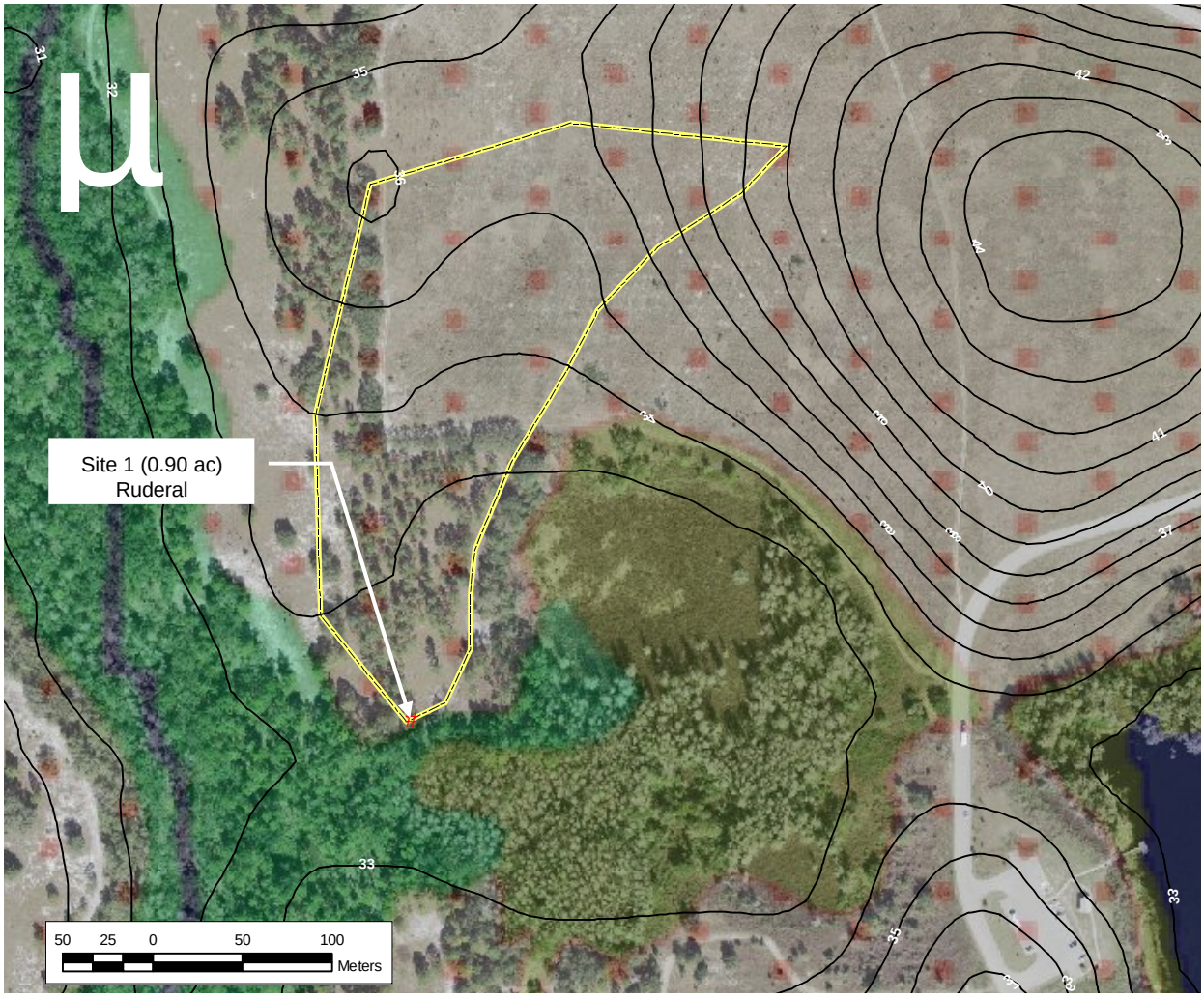


Figure 2-30. Basin Delineations for the Ruderal Monitoring Site at Lake Louisa State Park.

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.

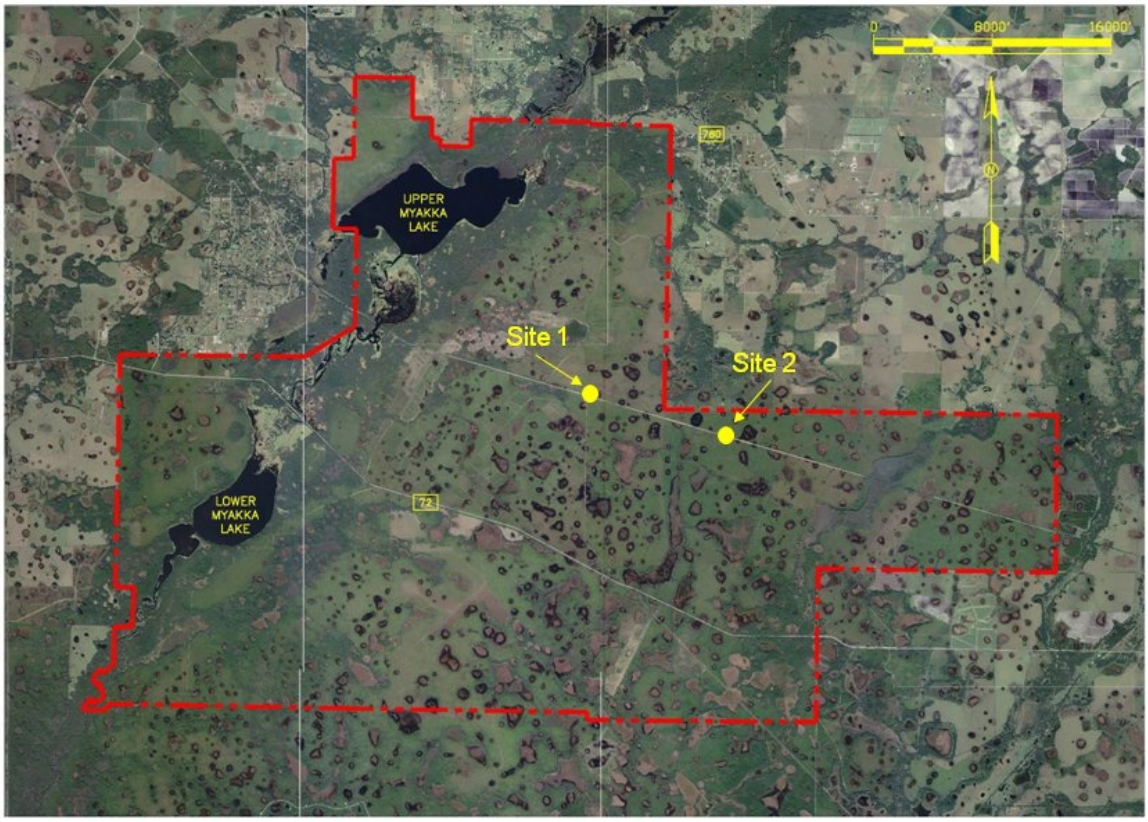


Figure 2-32. Aerial Overview of the Myakka River State Park and Vegetation Runoff Monitoring Sites.

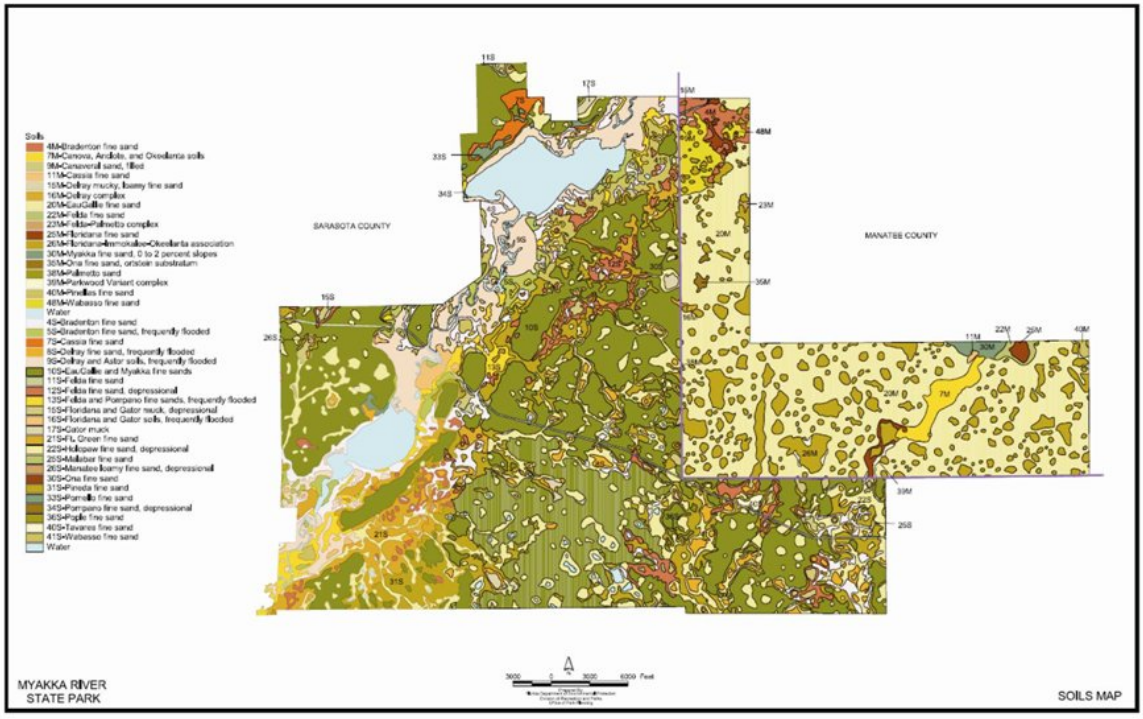


Figure 2-33. Soils Map for Myakka River State Park.

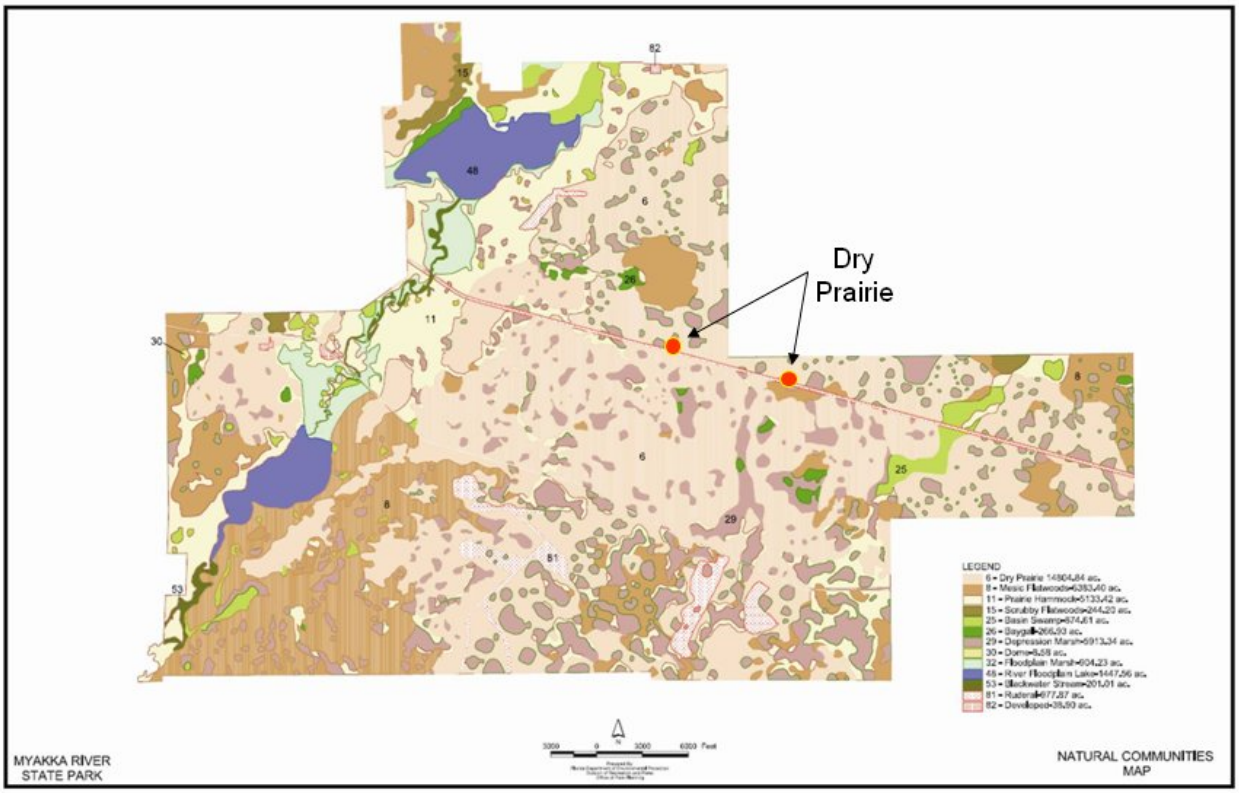


Figure 2-34. Natural Community Inventory in Myakka River State Park.



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).

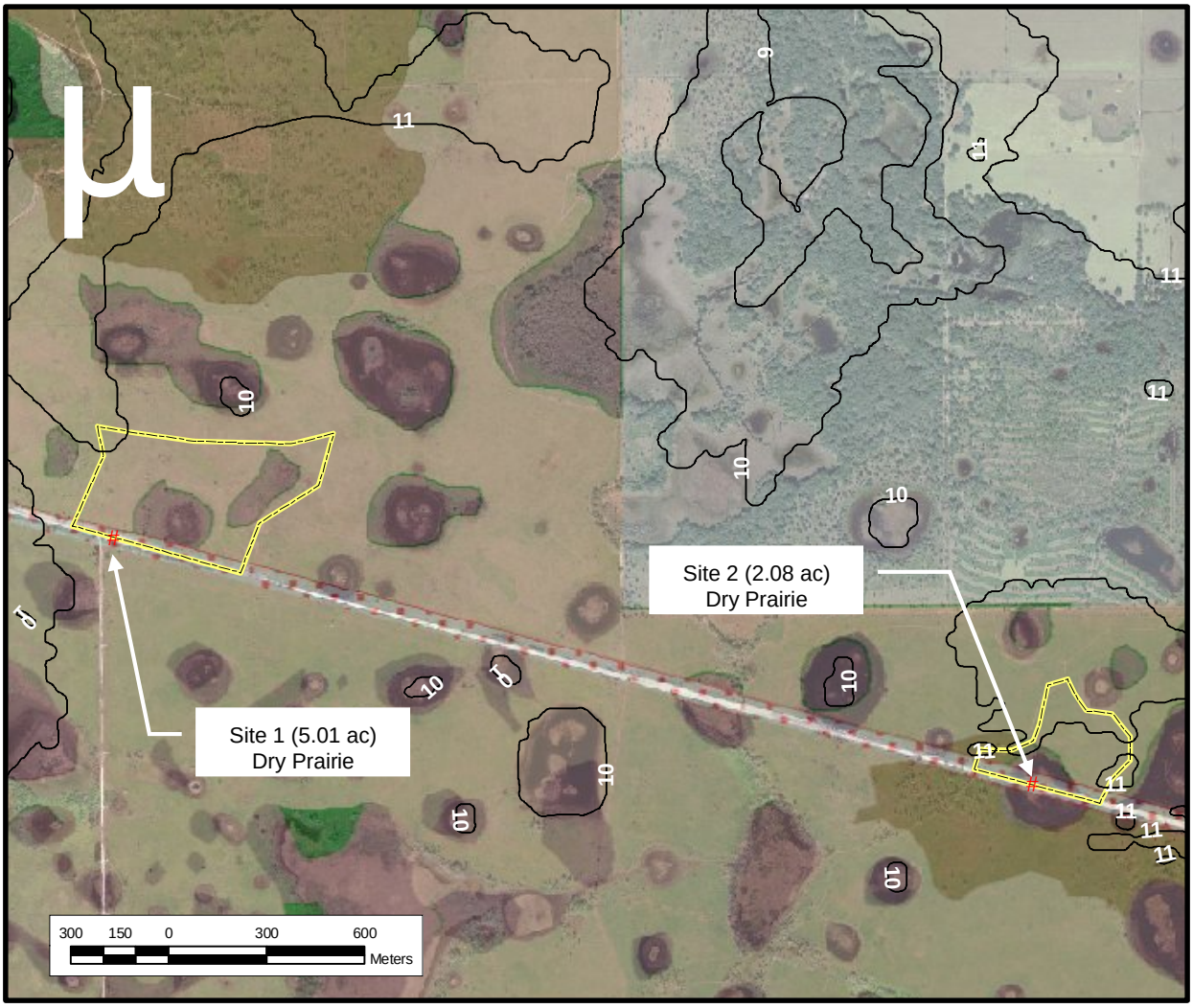


Figure 2-36. Basin Delineations for the Myakka River State Park Monitoring Sites.

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.

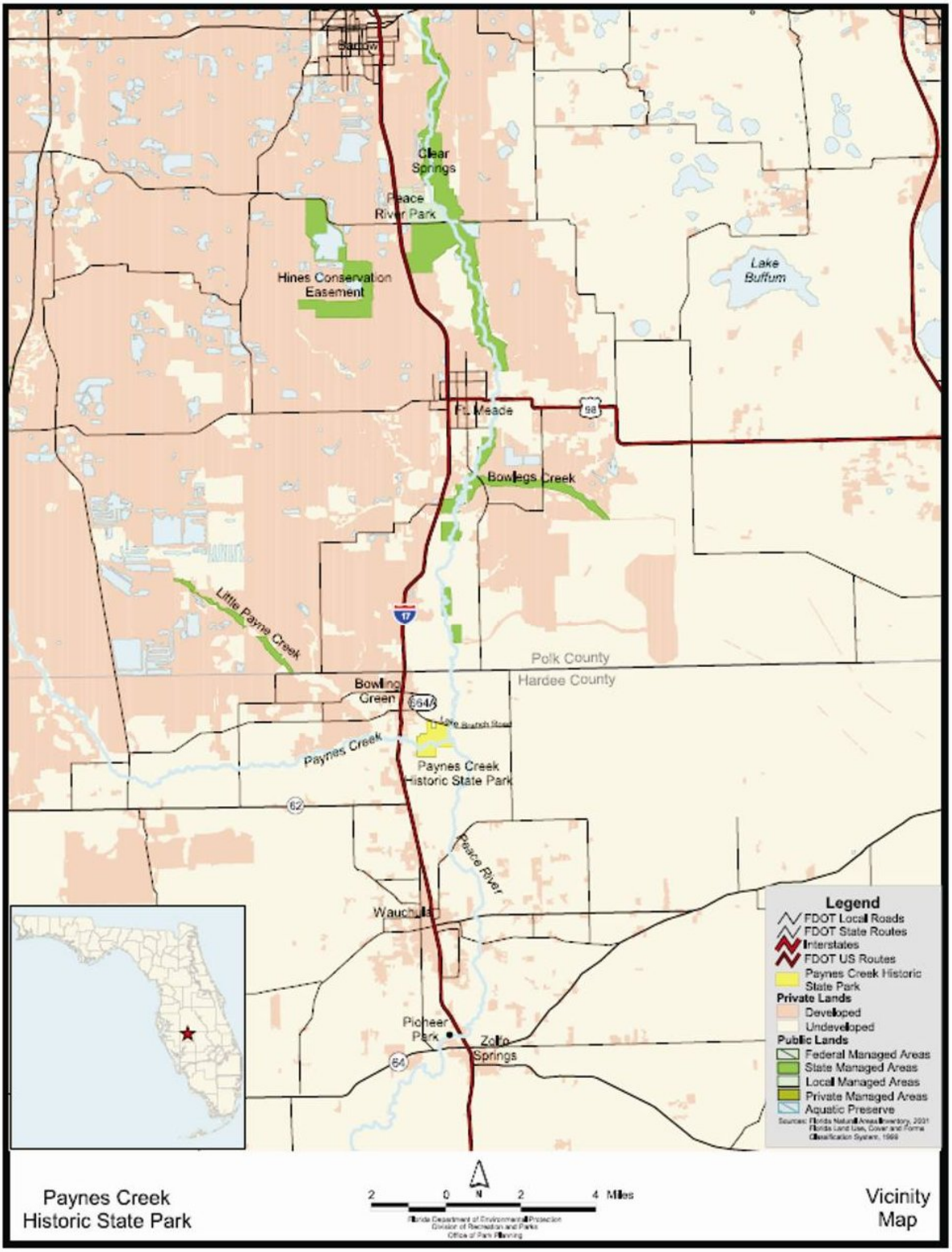


Figure 2-37. Location Map for Paynes Creek Historic State Park.

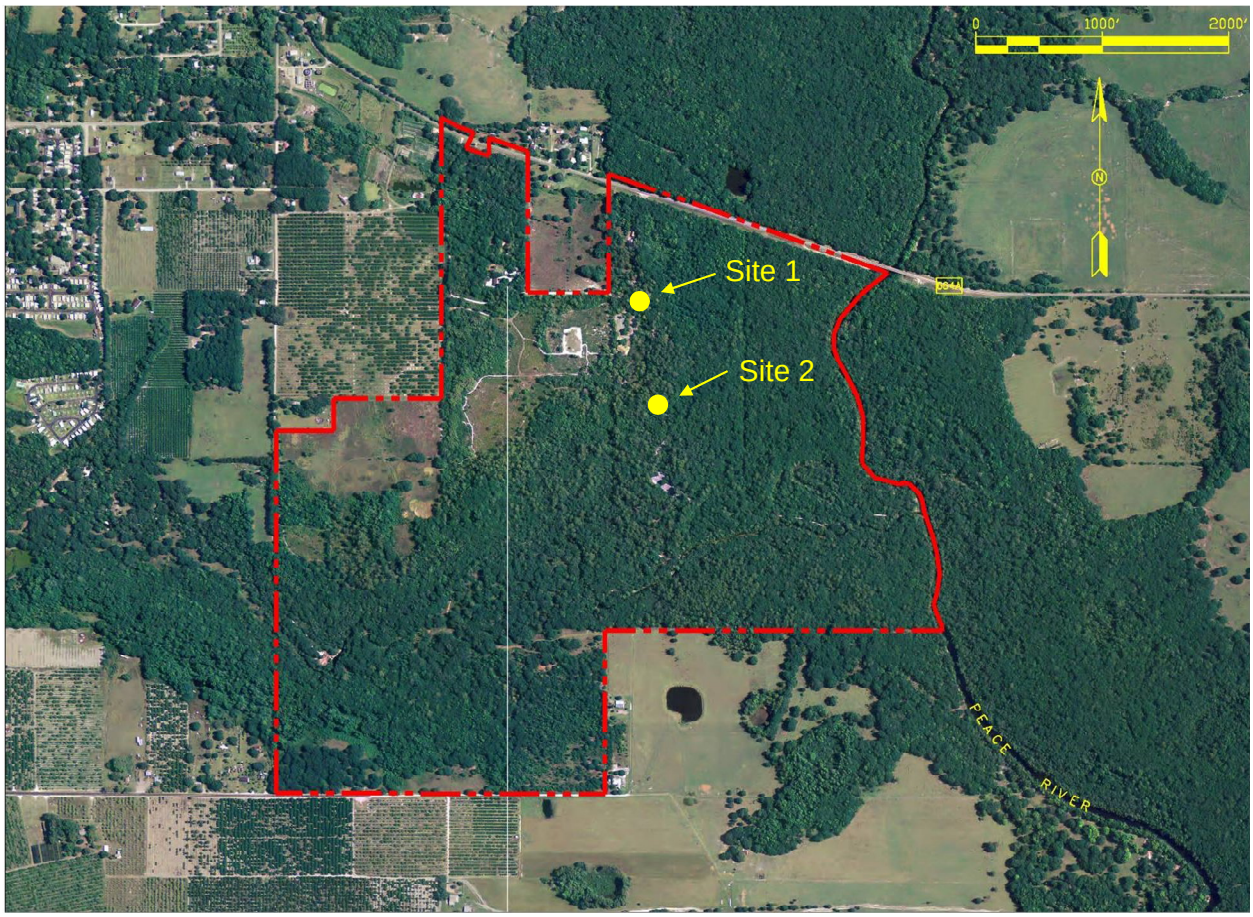


Figure 2-38. Aerial Overview of the Paynes Creek Historic State Park and Vegetation Runoff Monitoring Sites.

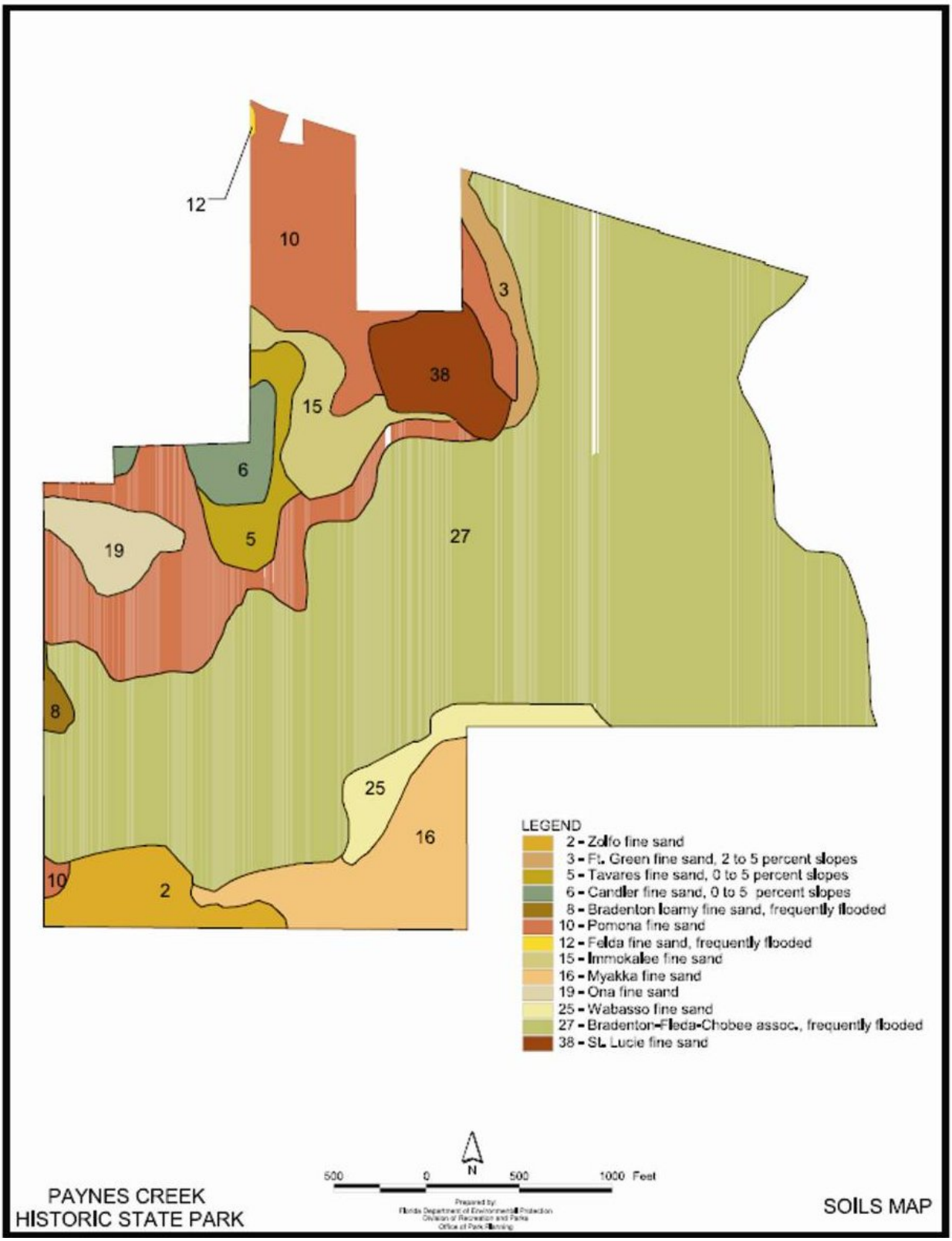


Figure 2-39. Soils Map for Paynes Creek Historic State Park.

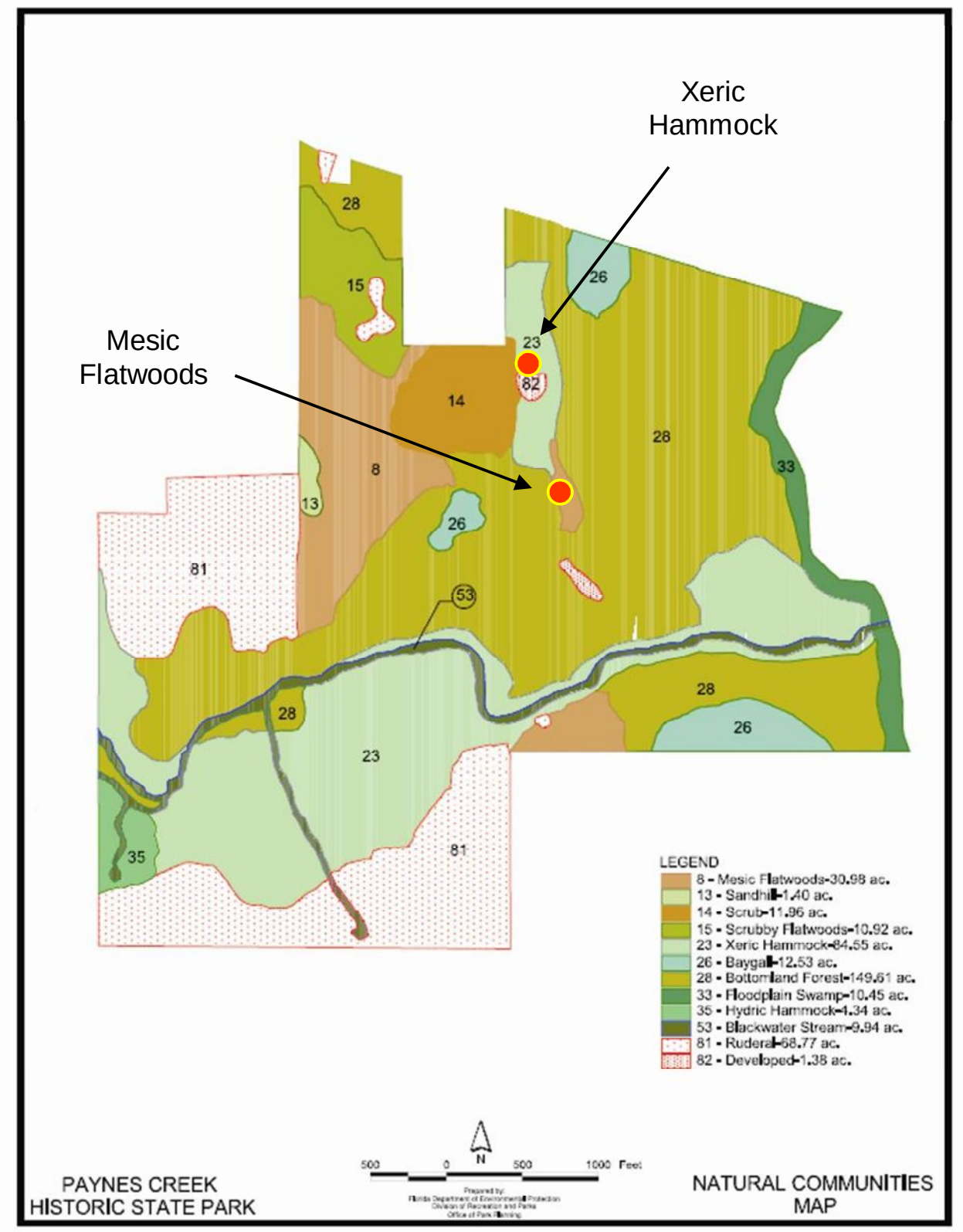


Figure 2-40. Natural Community Inventory in Paynes Creek Historic State Park.





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).

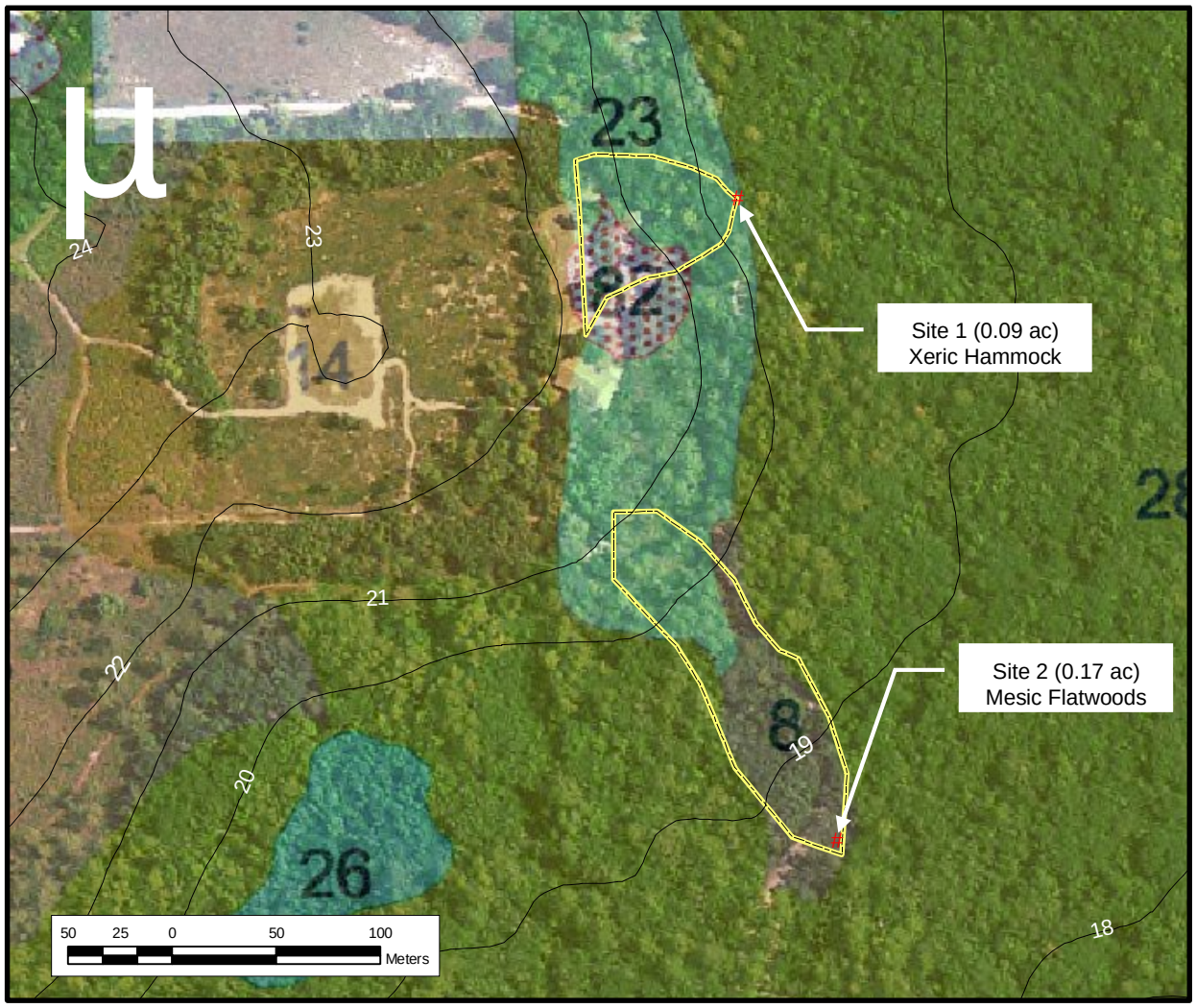


Figure 2-42. Basin Delineations for the Xeric Hammock and Mesic Flatwoods Monitoring Sites at the Paynes Creek Historic State Park.

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.

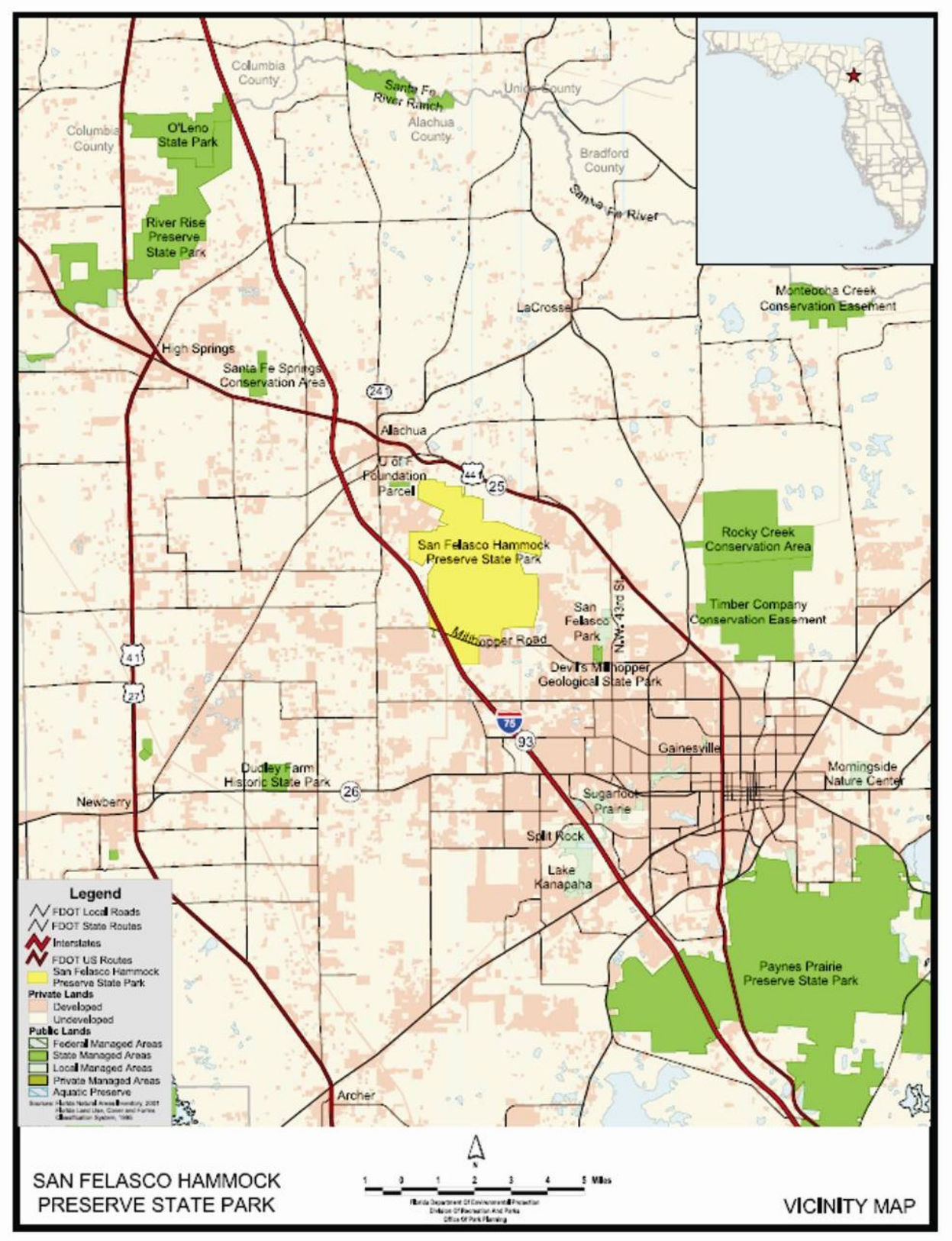


Figure 2-43. Location Map for San Felasco Hammock Preserve State Park.

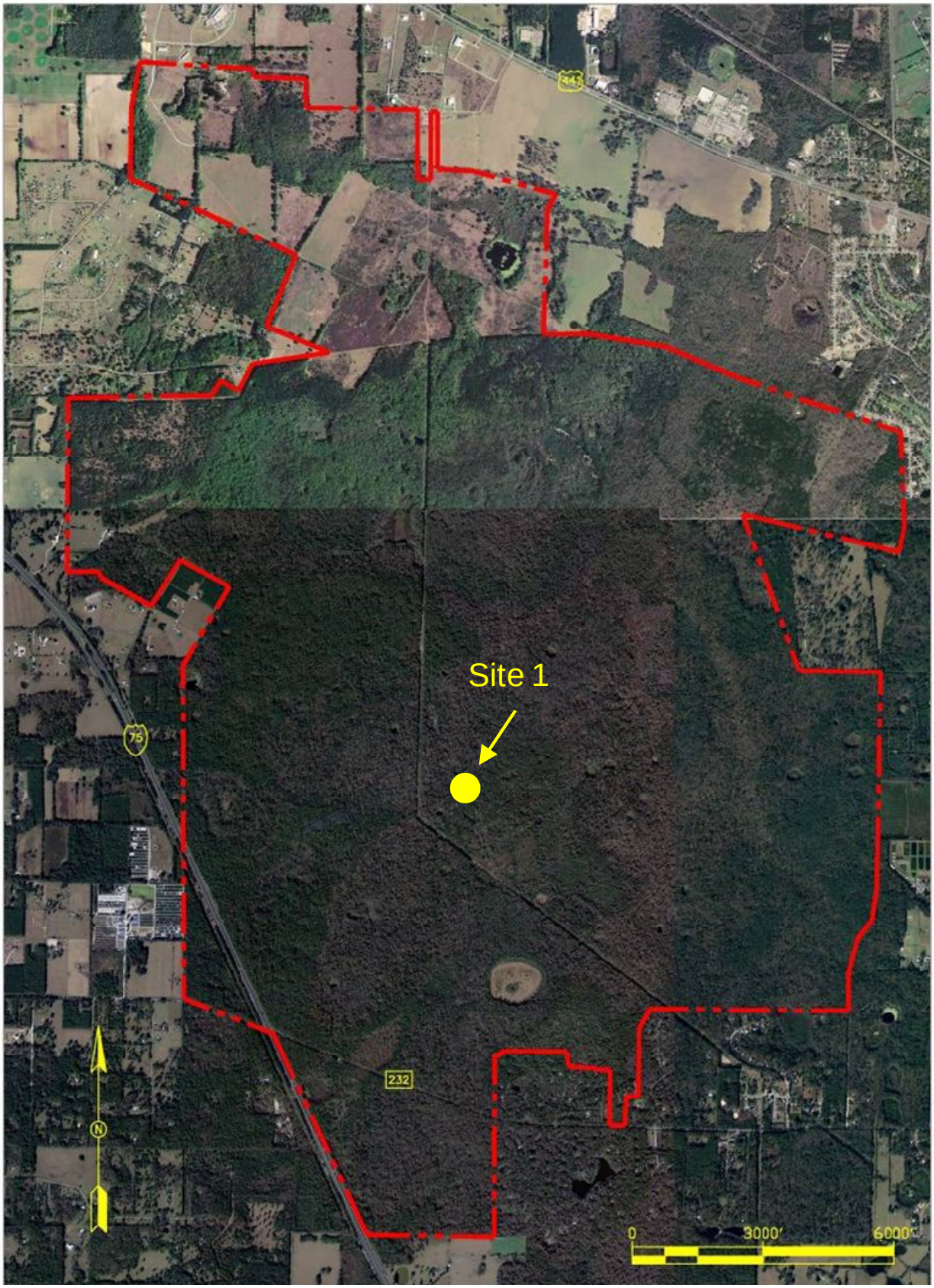


Figure 2-44. Aerial Overview of the San Felasco Hammock Preserve State Park and Vegetation Runoff Monitoring Sites.

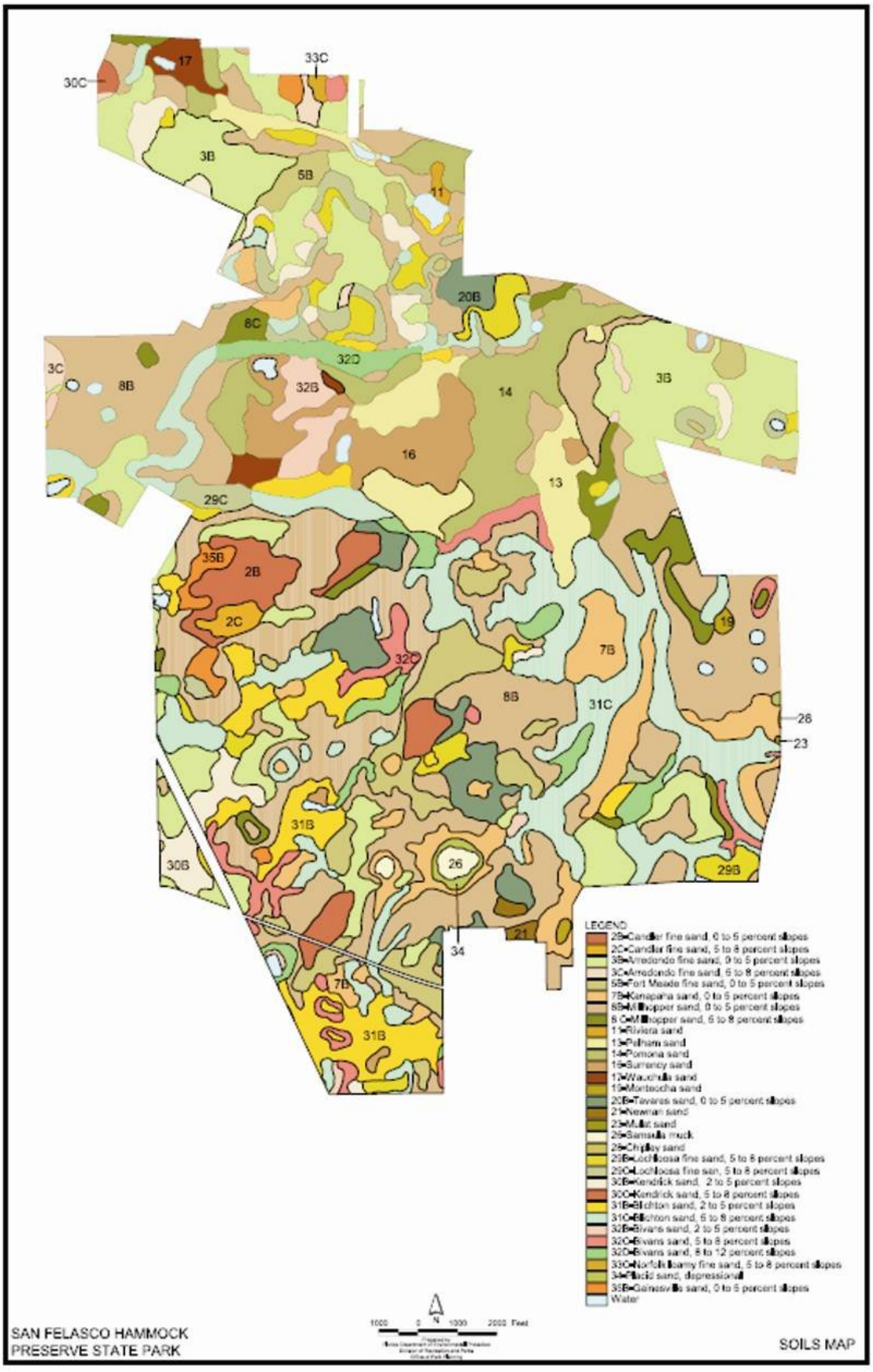


Figure 2-45 Soils Map for San Felasco Hammock Preserve State Park.

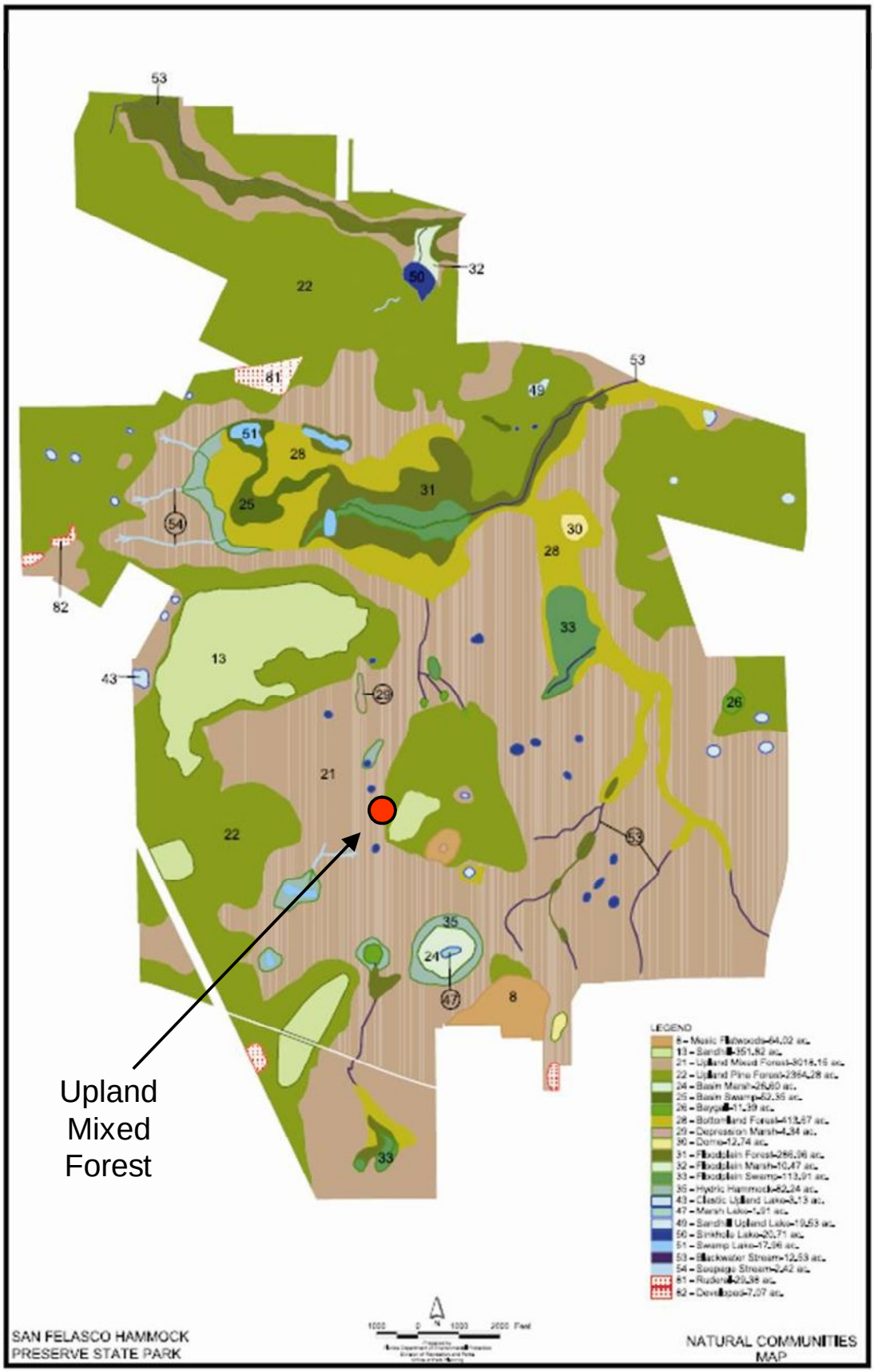


Figure 2-46. Natural Community Inventory in San Felasco Hammock Preserve State Park.





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).

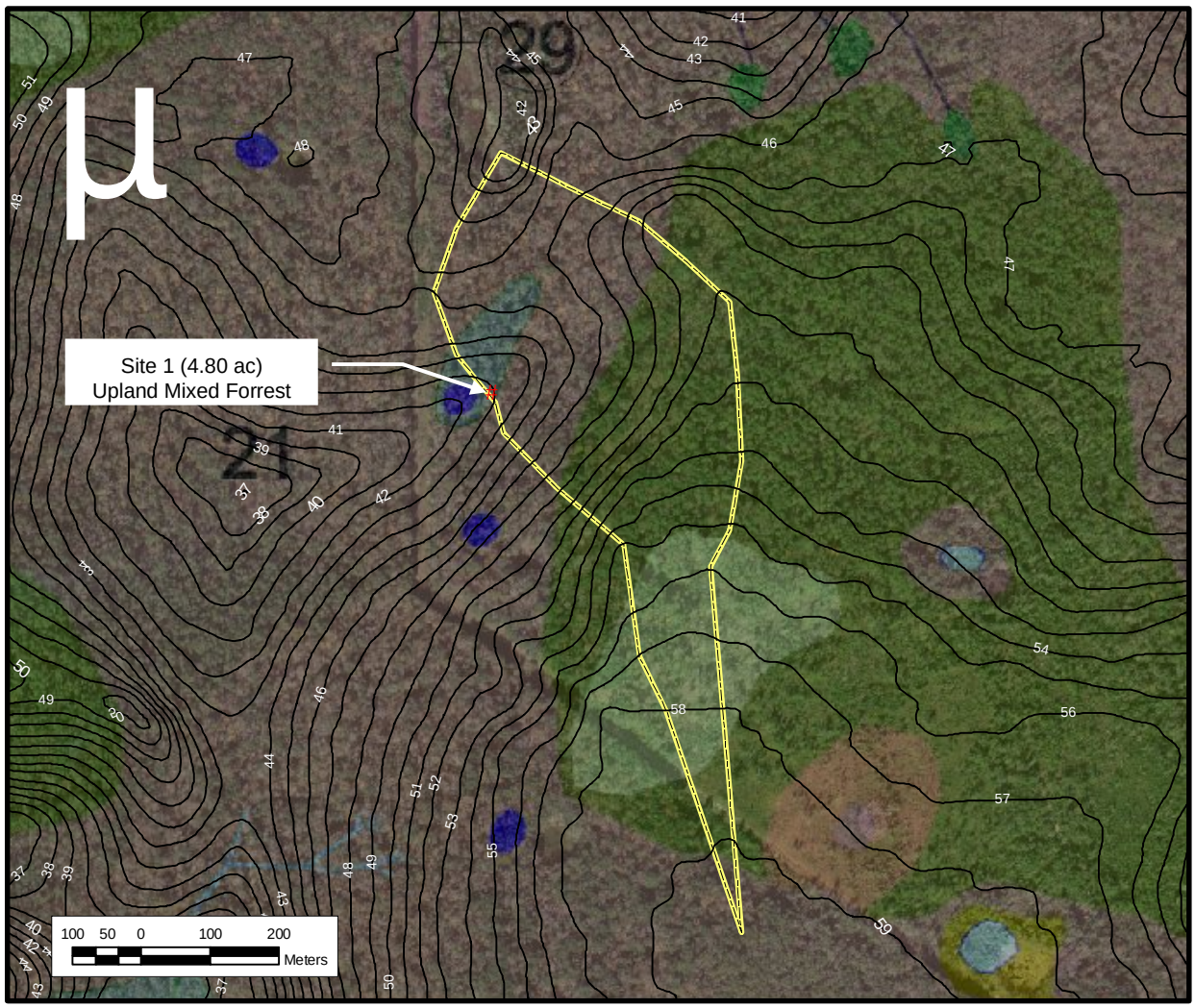


Figure 2-48. Basin Delineations for the Upland Mixed Forest Monitoring Site at San Felasco Hammock Preserve State Park.

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.

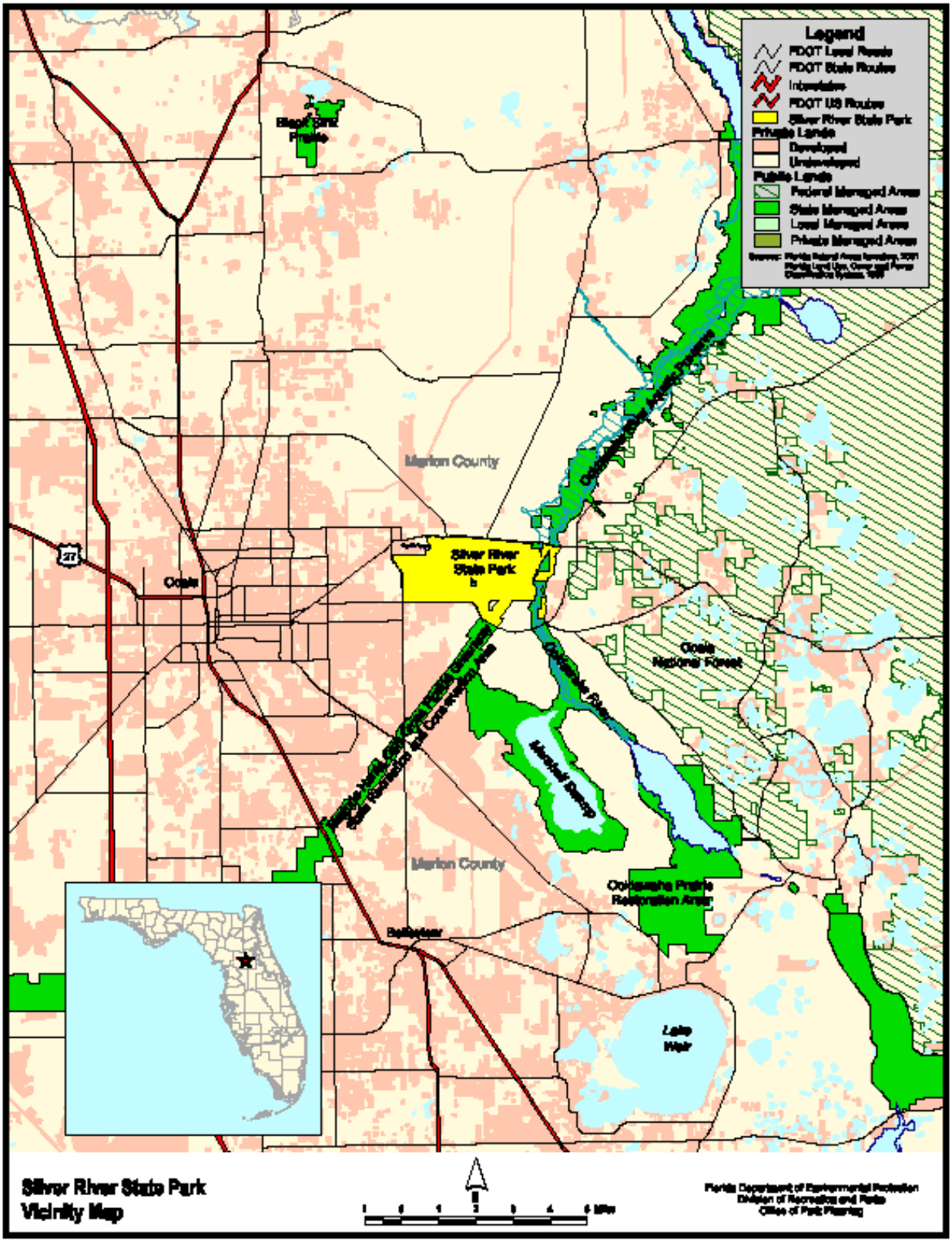


Figure 2-49. Location Map for Silver River State Park.

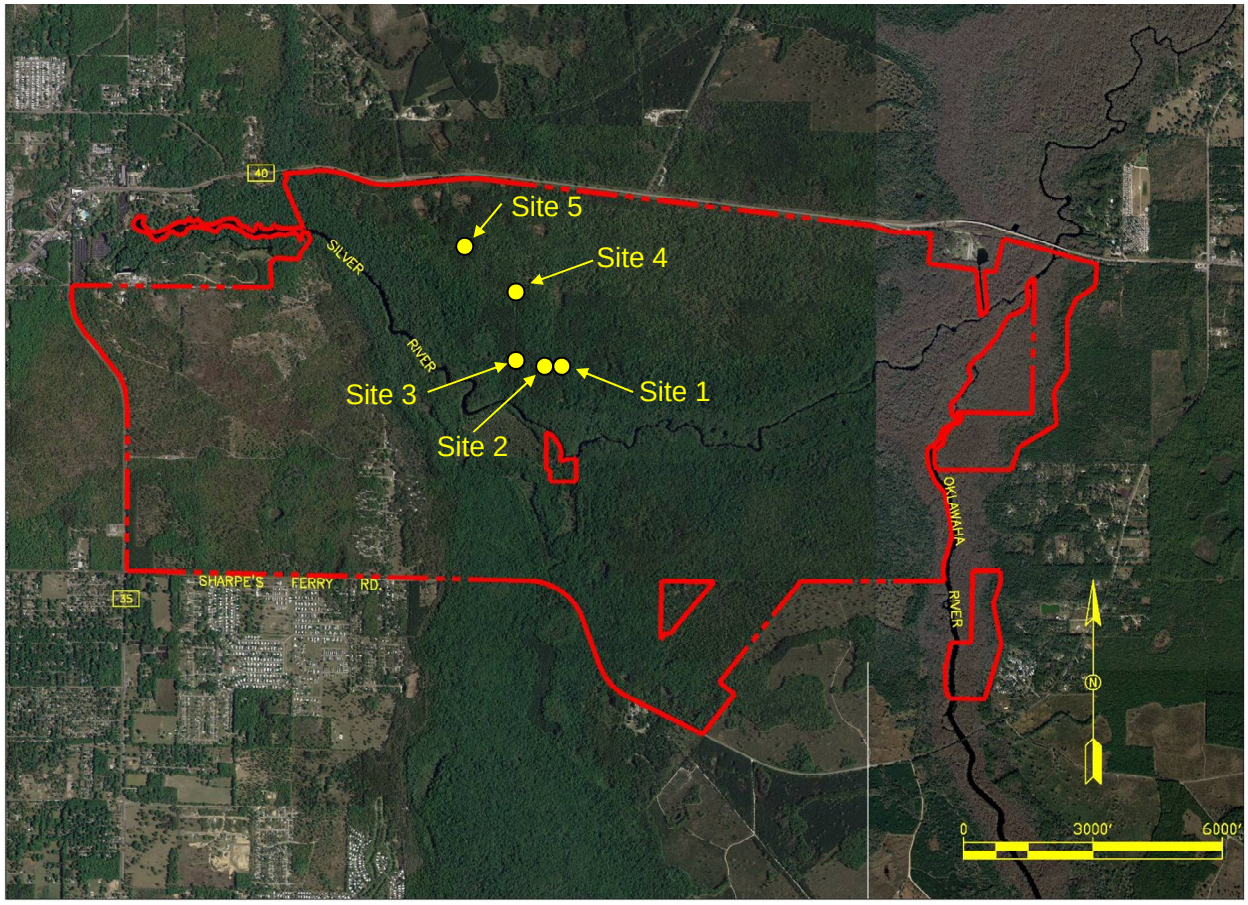
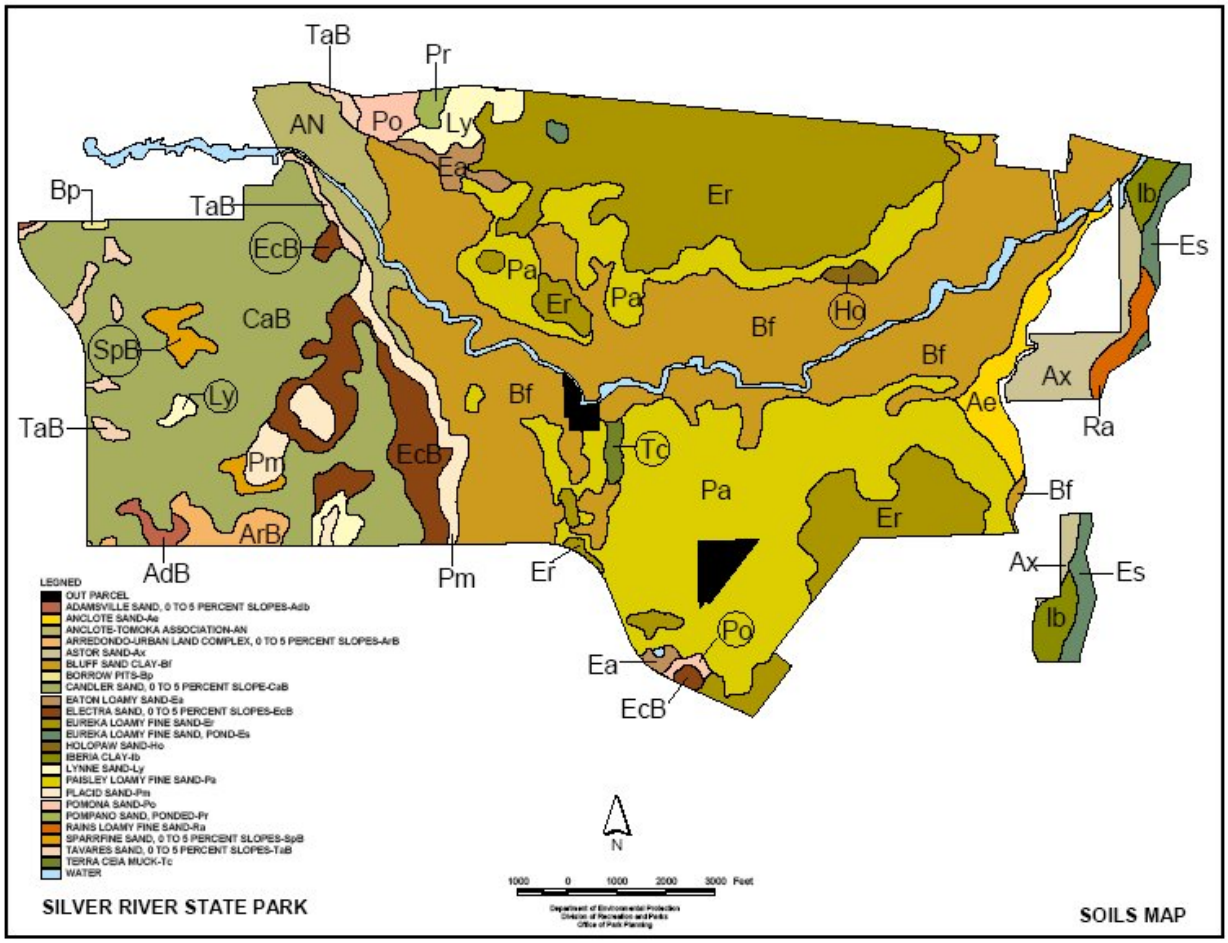


Figure 2-50. Aerial Overview of the Silver River State Park and Vegetation Runoff Monitoring Sites.



HSG Type D Soils – All Sites

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

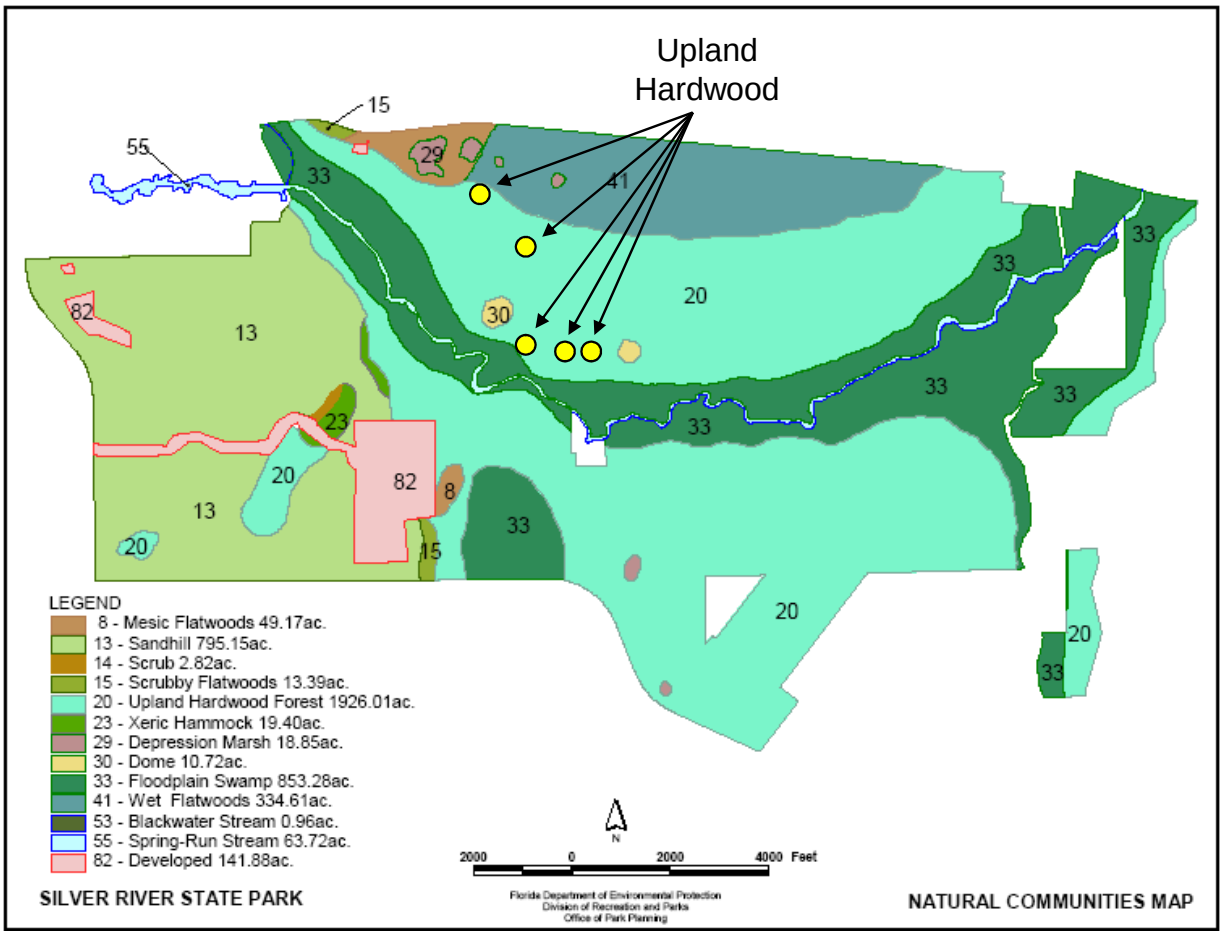


Figure 2-52. Natural Community Inventory in Silver River State Park.





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).

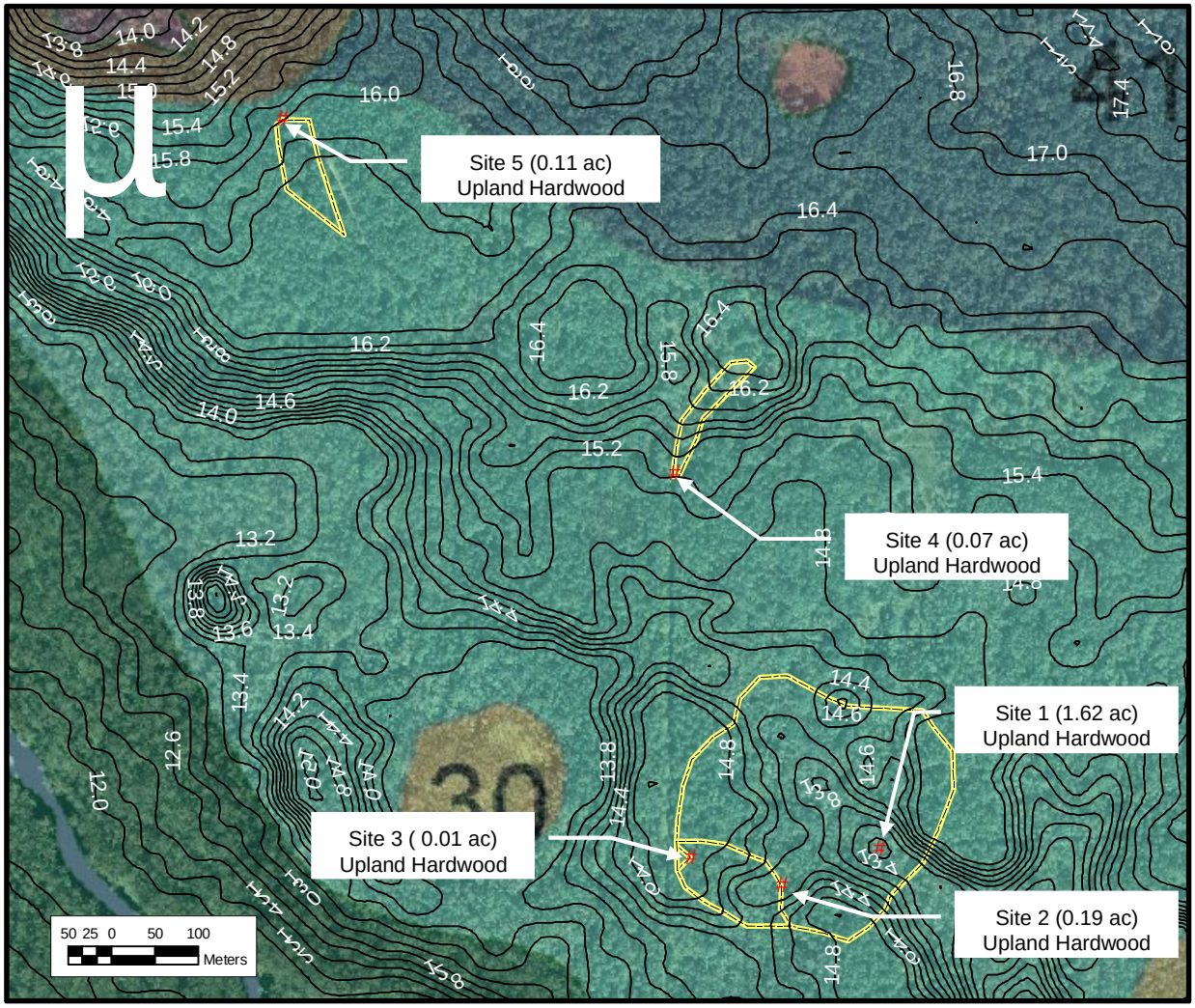


Figure 2-54. Basin Delineations for the Upland Hardwood Monitoring Sites at Silver River State Park.

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.

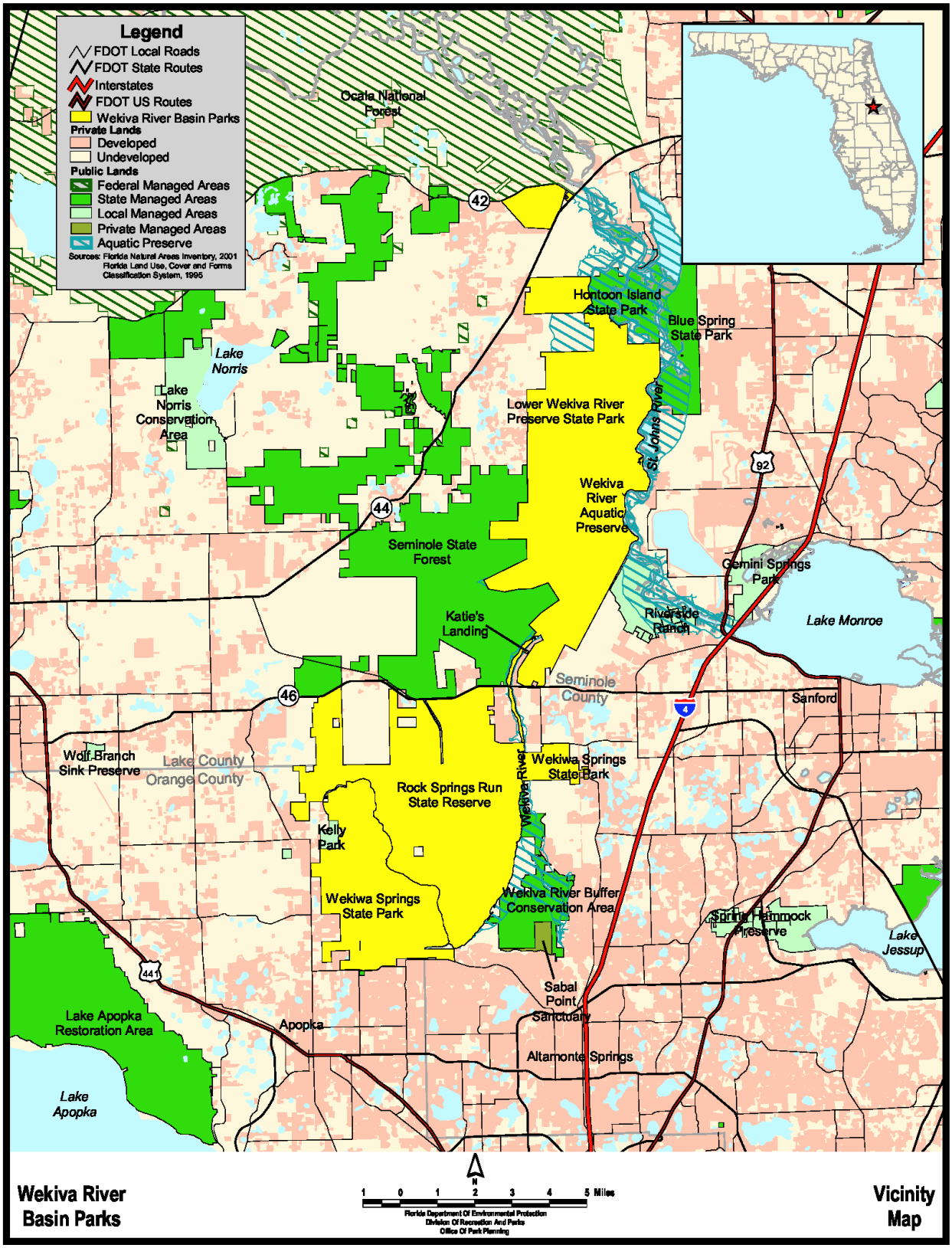


Figure 2-55. Location Map for Wekiwa Springs State Park.

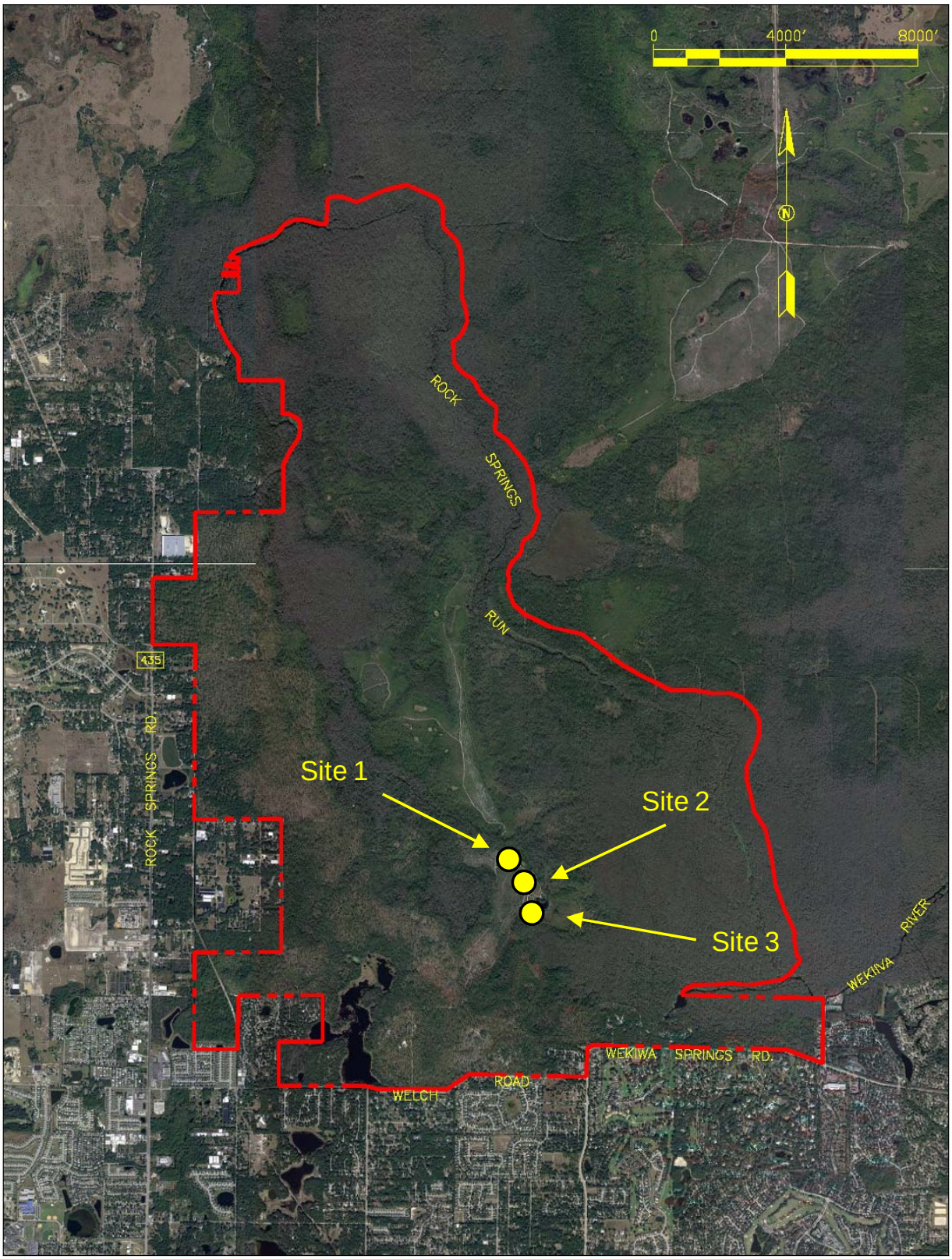


Figure 2-56. Aerial Overview of the Wekiwa Springs State Park and Vegetation Runoff Monitoring Sites.

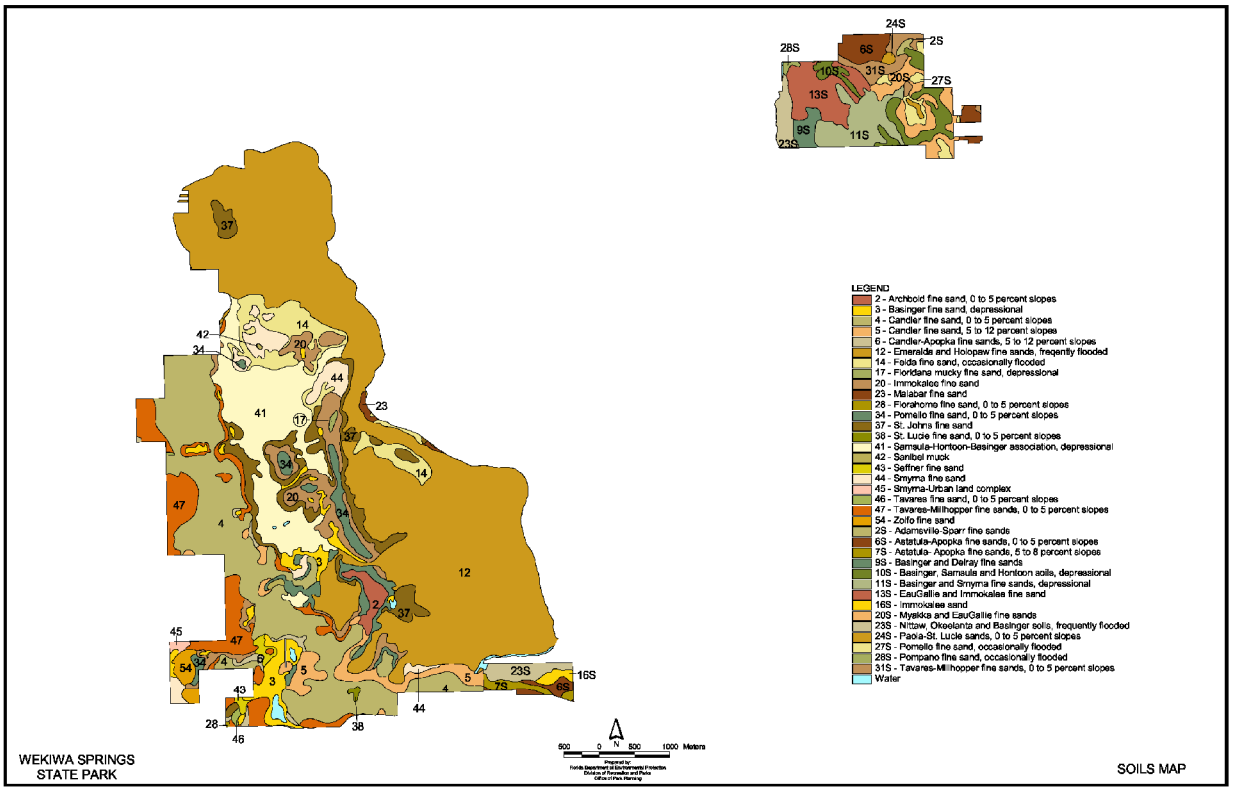


Figure 2-57. Soils Map for Wekiwa Springs State Park.

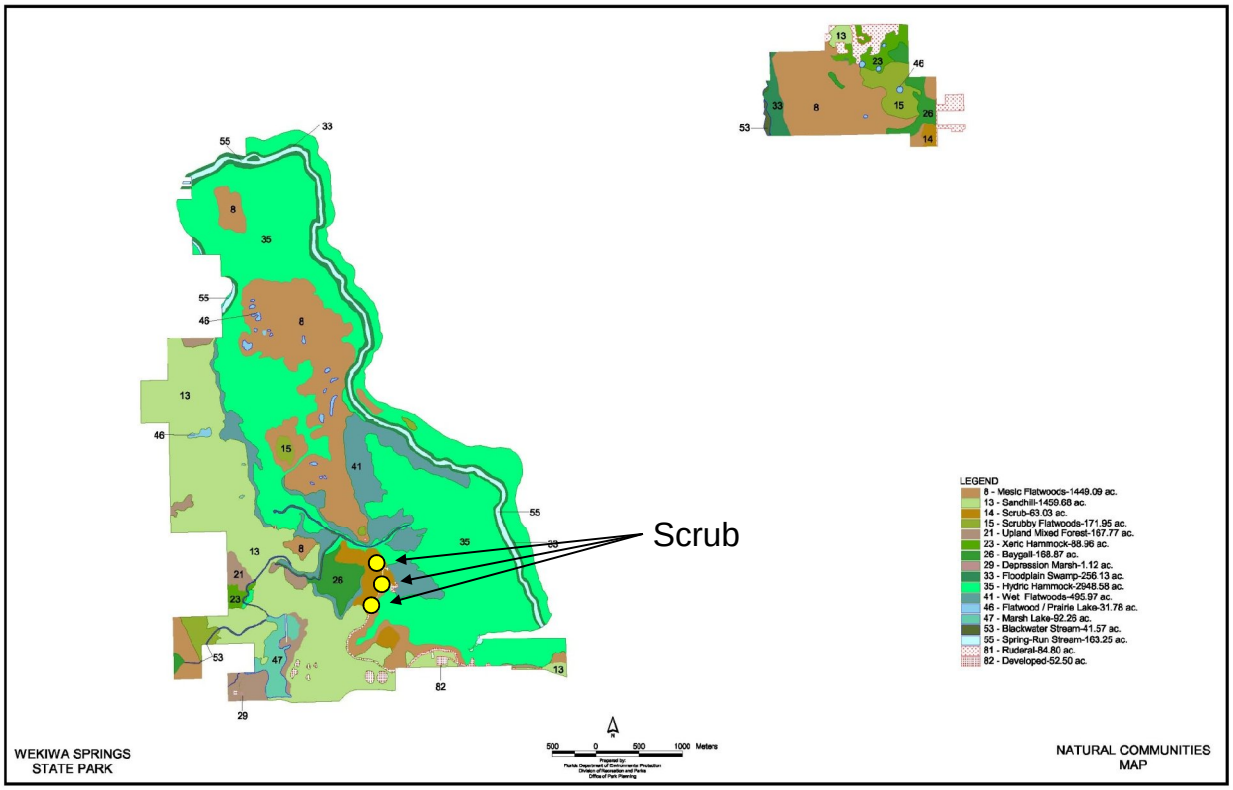


Figure 2-58. Natural Community Inventory in Wekiwa Springs State Park.





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).

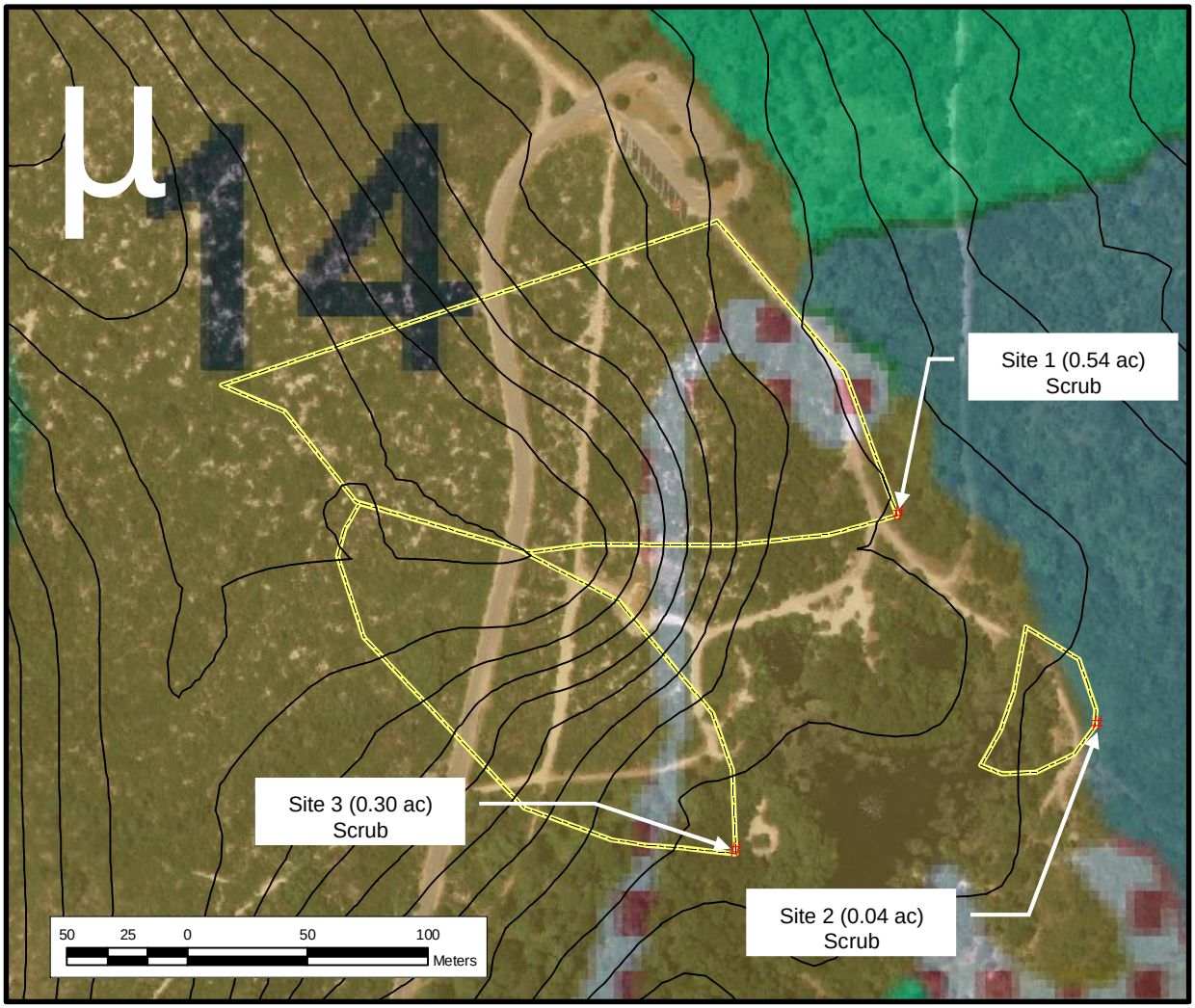


Figure 2-60. Basin Delineations for the Scrub Monitoring Sites at Wekiwa Springs State Park.

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.

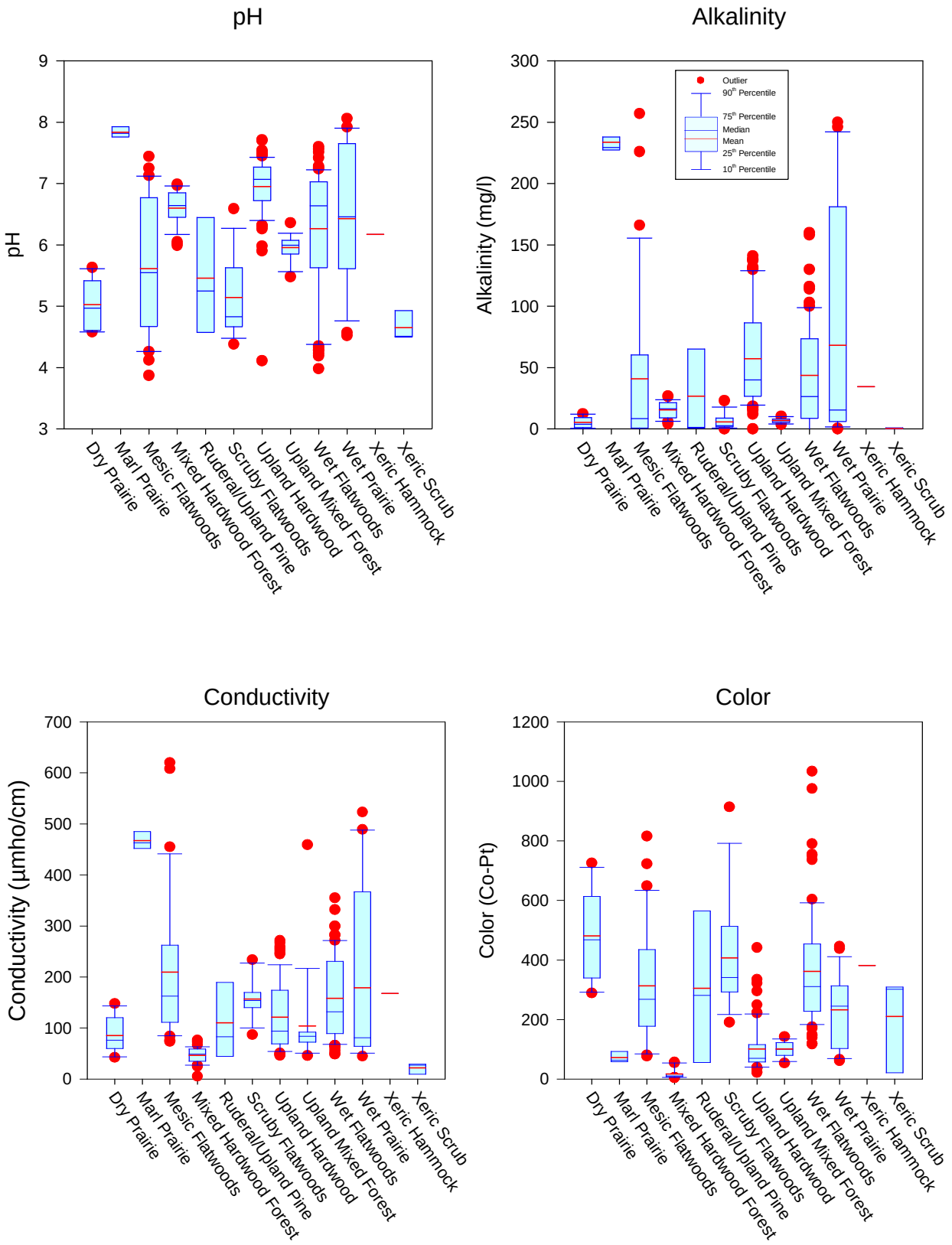


Figure 3-1. Statistical Comparison of pH, Alkalinity, Conductivity, and Color at the Vegetation Monitoring Sites.

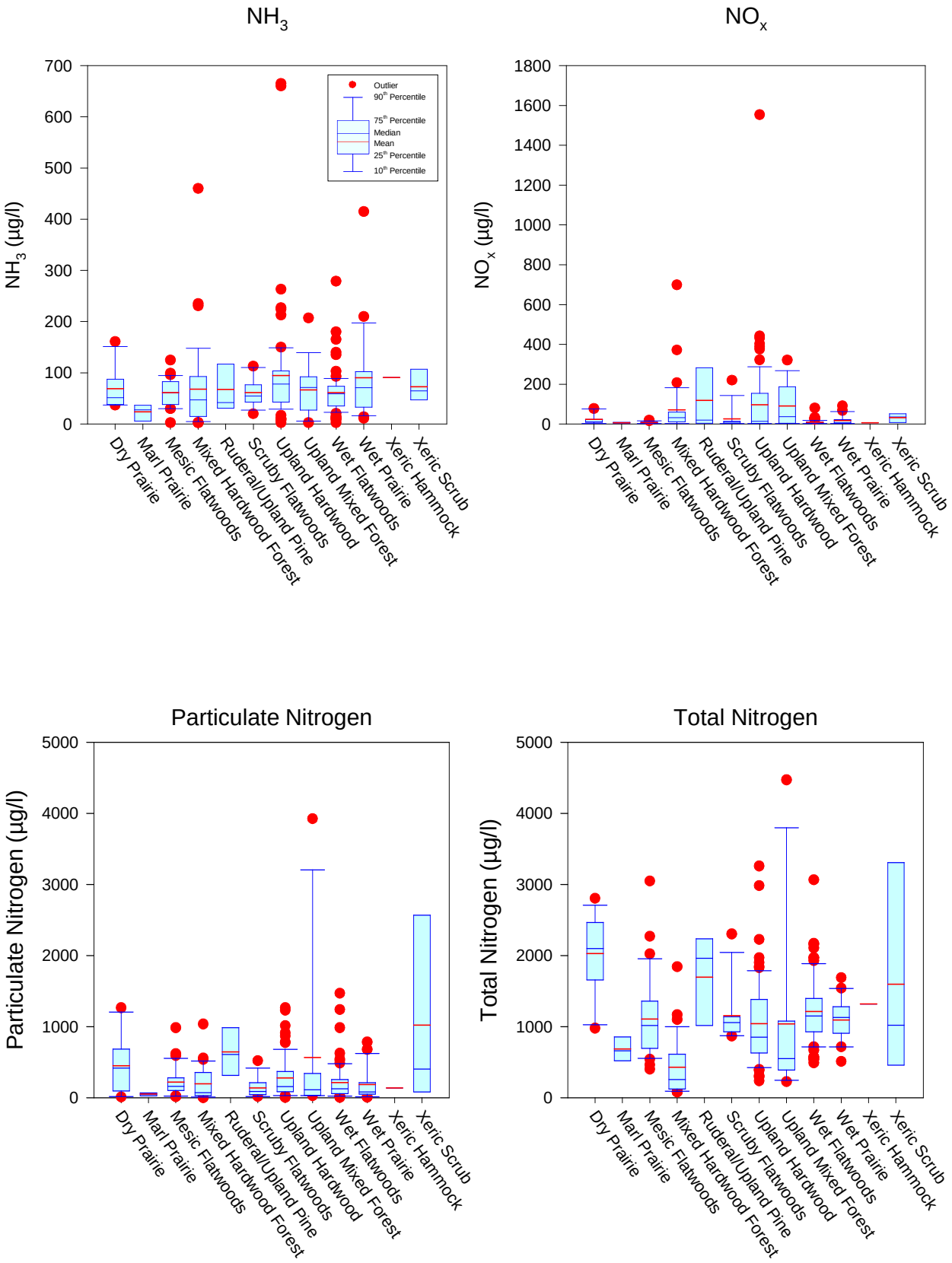


Figure 3-2. Statistical Comparison of Nitrogen Species at the Vegetation Monitoring Sites.

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.

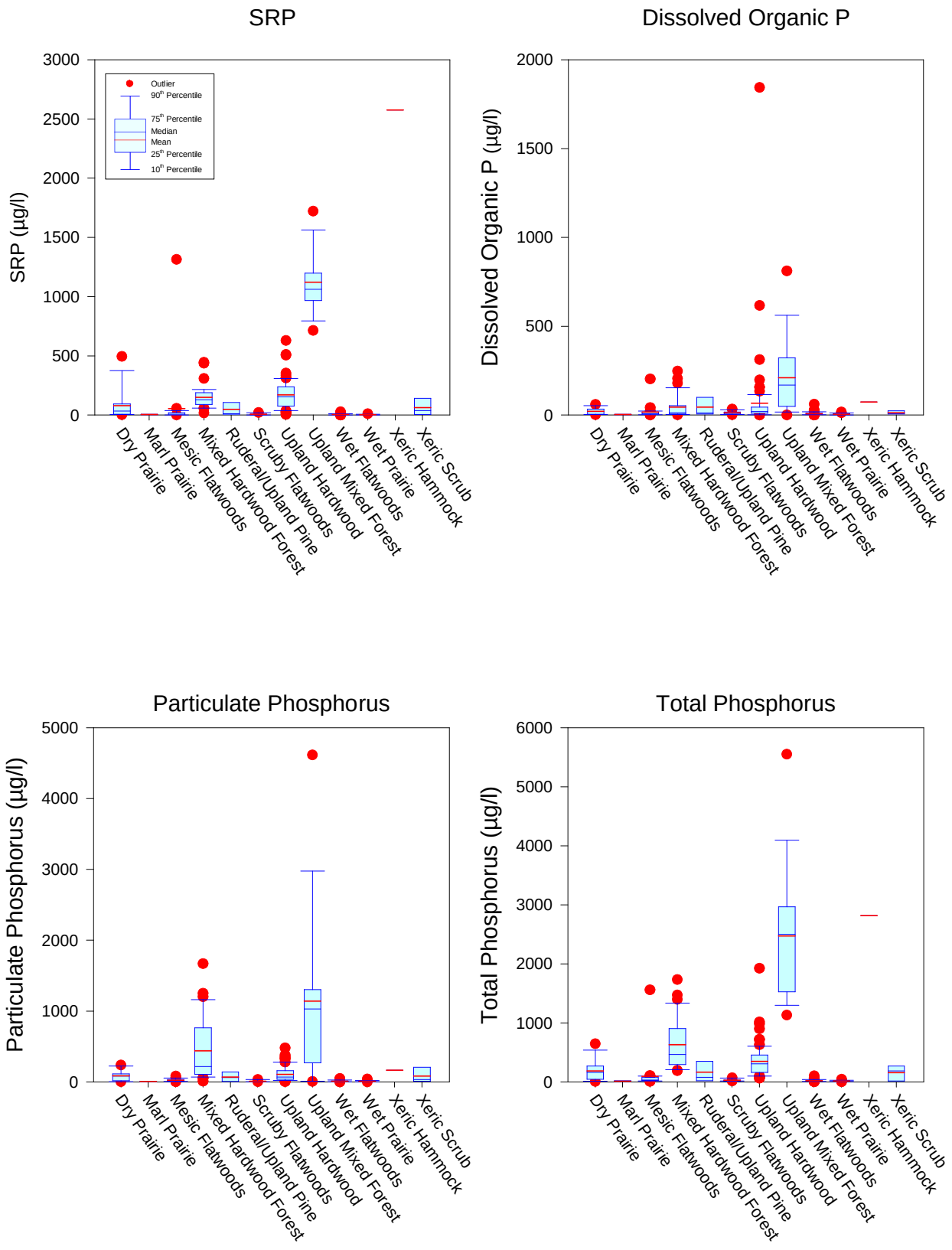


Figure 3-3. Statistical Comparison of Phosphorus Species at the Vegetation Monitoring Sites.

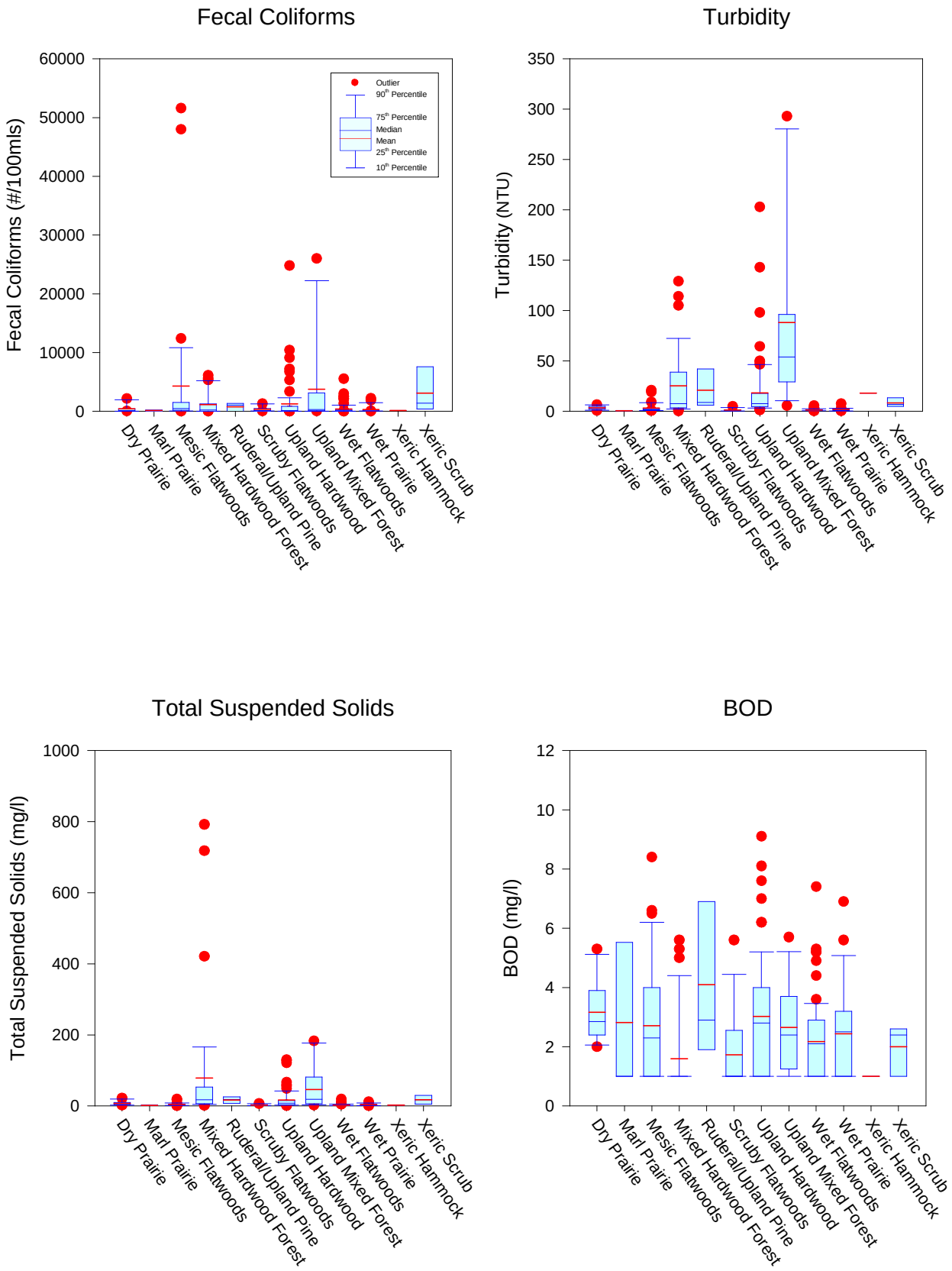


Figure 3-4. Statistical Comparison of Fecal Coliform, Turbidity, TSS, and BOD at the Vegetation Monitoring Sites.

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 Estimates of Central Tendency

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.

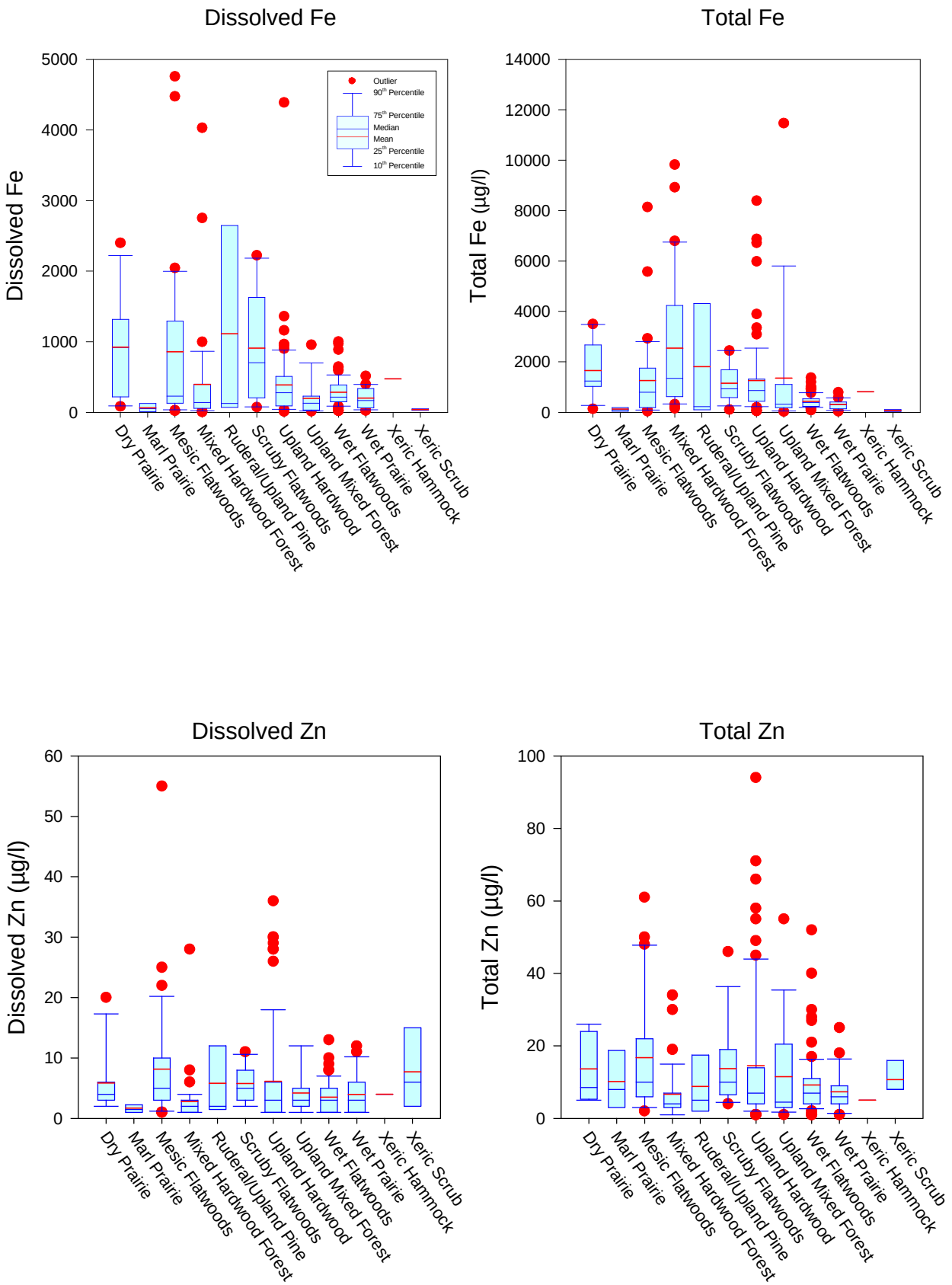


Figure 3-5. Statistical Comparison of Iron and Zinc at the Vegetation Monitoring Sites.

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.

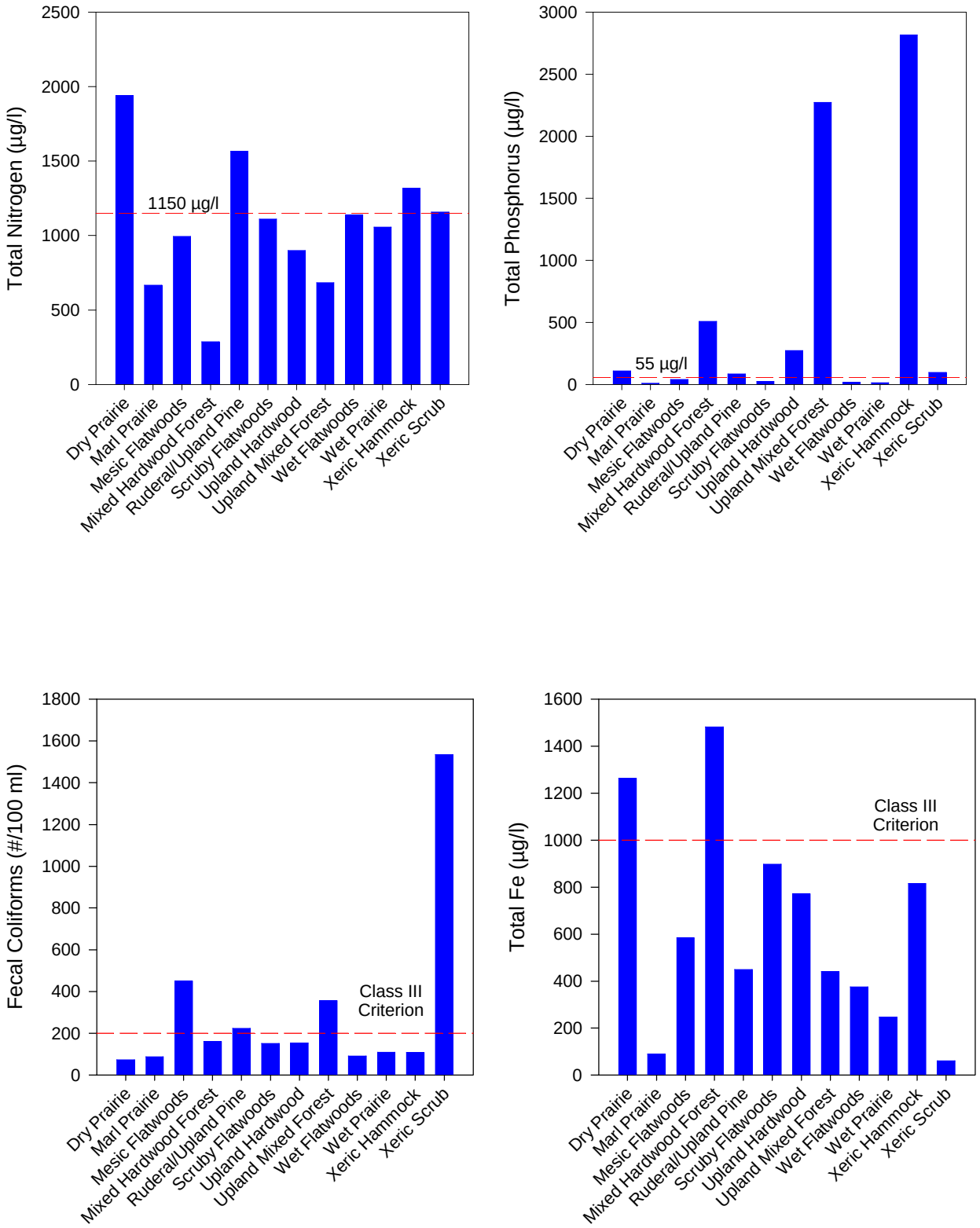


Figure 3-6. Comparison of Mean Concentrations of Nitrogen, Phosphorus, Fecal Coliform, and Total Iron in the Natural Area Samples.

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

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

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 **Representing** Environmental Research and Design, Inc.	Env Researcy & Design 3419 Trentwood Blvd #102 Tallahassee, FL 32301 **Phone:** (407) 855-9465 **Alt.:**	**Issue Date** Monday, June 25, 2007 **Expiration Date** 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	
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	Issuing Office	
Donna Watkins Donna Watkins, Special Projects Coordinator	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

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

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

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 Representing Environmental Research and Design, Inc.	Env Researcy & Design 3419 Trentwood Blvd #102 Tallahassee, FL 32301 (407) 855-9465 charper@erd.org	Wednesday, June 25, 2008 Expiration Date 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	
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 Donna Watkins, Special Projects Coordinator		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*

Attachments: Application for Research/Collecting Permit

cc: Affected Park and District Offices
District LE Captains

APPENDIX B

QA/QC DATA

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	07/13/07	0.0	50	1000	0.6	12.0	12	100.0%	91-105
Alkalinity	mg/l	07/20/07	0.6	50	1000	0.6	12.6	11.8	93.7%	91-105
Alkalinity	mg/l	08/03/07	0.8	50	1000	0.5	10.8	10.6	98.1%	91-105
Alkalinity	mg/l	08/09/07	1.0	50	1000	0.5	11.0	11.6	105%	91-105
Alkalinity	mg/l	08/22/07	1.0	50	1000	0.5	11.0	11.4	104%	91-105
Alkalinity	mg/l	09/05/07	1.0	50	1000	0.5	11.0	11.4	104%	91-105
Alkalinity	mg/l	09/07/07	1.0	50	1000	0.5	11.0	11.6	105%	91-105
Alkalinity	mg/l	09/06/07	1.0	50	1000	0.5	11.0	11.4	104%	91-105
Alkalinity	mg/l	09/28/07	1.0	50	1000	0.5	11.0	11.2	102%	91-105
Alkalinity	mg/l	10/03/07	1.0	50	1000	0.5	11.0	11.6	105%	91-105
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	07/14/07	2.0	50	1410	50	1412	1356	96.0%	96-104
Specific Conductivity	µmho/cm	07/30/07	2.1	50	1410	50	1412	1375	97.4%	96-104
Specific Conductivity	µmho/cm	08/09/07	2.0	50	1410	50	1412	1449	103%	96-104
Specific Conductivity	µmho/cm	08/28/07	2.4	50	1410	50	1412	1408	100%	96-104
Specific Conductivity	µmho/cm	09/18/07	2.1	50	1410	50	1412	1406	100%	96-104
Specific Conductivity	µmho/cm	09/18/07	2.3	50	1410	50	1412	1397	98.9%	96-104
Specific Conductivity	µmho/cm	12/05/07	2.0	50	1410	50	1412	1381	97.8%	96-104
Specific Conductivity	µmho/cm	12/05/07	2.4	50	1410	50	1412	1392	98.6%	96-104
Specific Conductivity	µmho/cm	12/07/07	2.1	50	1410	50	1412	1364	96.6%	96-104
Specific Conductivity	µmho/cm	12/18/07	2.3	50	1410	50	1412	1363	96.5%	96-104
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

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
Turbidity	NTU	07/20/07	0	50	18	50	18.0	18.2	101%	87-104
Turbidity	NTU	07/25/07	0	50	18	50	18.0	18.1	101%	87-104
Turbidity	NTU	07/27/07	0	50	18	50	18.0	18.3	102%	87-104
Turbidity	NTU	08/03/07	0	50	18	50	18.0	18.6	103%	87-104
Turbidity	NTU	08/20/07	0	50	18	50	18.0	17.9	99.4%	87-104
Turbidity	NTU	08/31/07	0	50	18	50	18.0	18.1	101%	87-104
Turbidity	NTU	09/21/07	0	50	18	50	18.0	18.2	101%	87-104
Turbidity	NTU	09/25/07	0	50	18	50	18.0	18.5	103%	87-104
Turbidity	NTU	09/02/07	0	50	18	50	18.0	18.2	101%	87-104
Turbidity	NTU	10/17/07	0	50	18	50	18.0	18.1	101%	87-104
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	07/11/07	0.1	1000	26.0	1000	26.1	25.4	97.3%	91-105
TSS	mg/l	07/20/07	0.1	1000	30.7	1000	30.8	31.0	101%	91-105
TSS	mg/l	07/25/07	0.1	1000	25.4	1000	25.5	26.3	103%	91-105
TSS	mg/l	07/27/07	0.1	1000	30.9	1000	31.0	32.0	103%	91-105
TSS	mg/l	08/03/07	0.1	1000	27.5	1000	27.6	26.1	94.6%	91-105
TSS	mg/l	08/10/07	0.1	1000	27.6	1000	27.7	26.7	96.4%	91-105
TSS	mg/l	08/29/07	0.1	1000	25.4	1000	25.5	25.8	101%	91-105
TSS	mg/l	09/21/07	0.1	1000	28.5	1000	28.6	29.6	103%	91-105
TSS	mg/l	09/25/07	0.1	1000	26.0	1000	26.1	25.4	97.3%	91-105
TSS	mg/l	09/28/07	0.1	1000	24.5	1000	24.6	25.4	103%	91-105
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

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
BOD_5	mg/l	08/03/07	0.1	300	198	6	198	169	85.3%	85-115
BOD_5	mg/l	08/03/07	0.1	300	198	6	198	169	85.3%	85-115
BOD_5	mg/l	09/20/07	0.1	300	198	6	218	235	108%	85-115
BOD_5	mg/l	09/27/07	0.1	300	198	6	198	187	94.4%	85-115
BOD_5	mg/l	10/03/07	0.1	300	198	6	198	183	92.4%	85-115
BOD_5	mg/l	10/11/07	0.1	300	198	6	198	198	99.9%	85-115
BOD_5	mg/l	10/25/07	0.1	300	198	6	198	196	98.9%	85-115
BOD_5	mg/l	11/01/07	0.1	300	198	6	198	186	93.9%	85-115
BOD_5	mg/l	11/09/07	0.1	300	198	6	208	219	105%	85-115
BOD_5	mg/l	11/20/07	0.1	300	198	6	198	189	95.4%	85-115
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
Color	PCU	07/06/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	07/25/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	07/28/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	08/13/07	0	25	500	0.5	10	9	93.0%	87-104
Color	PCU	08/30/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	09/06/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	09/25/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	09/25/07	0	25	500	0.5	10	11	110%	87-104
Color	PCU	09/27/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	10/04/07	0	25	500	5.0	100	101	101%	87-104
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

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
SRP	µg/l	09/29/07	0	10	10000	0.300	300	323	108%	92-111
SRP	µg/l	10/05/07	0	10	10000	0.300	300	321	107%	92-111
SRP	µg/l	10/12/07	0	10	10000	0.125	125	115	92.0%	92-111
SRP	µg/l	10/26/07	0	10	10000	0.200	200	204	102%	92-111
SRP	µg/l	10/31/07	0	10	10000	0.300	300	292	97.3%	92-111
SRP	µg/l	11/02/07	0	10	10000	0.300	300	319	106%	92-111
SRP	µg/l	11/10/07	0	10	10000	0.100	100	105	105%	92-111
SRP	µg/l	11/16/07	0	10	10000	0.100	100	105	105%	92-111
SRP	µg/l	11/28/07	0	10	10000	0.100	100	105	105%	92-111
SRP	µg/l	12/19/07	0	10	10000	0.100	100	101	101%	92-111
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
Ammonia	µg/l	10/24/07	0	10	100000	0.100	1000	1024	102%	88-120
Ammonia	µg/l	10/24/07	0	10	100000	0.100	1000	1032	103%	88-120
Ammonia	µg/l	11/06/09	0	10	100000	0.100	1000	1007	101%	88-120
Ammonia	µg/l	11/06/07	0	10	100000	0.100	1000	1066	107%	88-120
Ammonia	µg/l	11/06/07	0	10	100000	0.110	1100	1118	102%	88-120
Ammonia	µg/l	11/26/07	0	10	100000	0.110	1100	1109	101%	88-120
Ammonia	µg/l	11/26/07	0	10	100000	0.100	1000	1078	108%	88-120
Ammonia	µg/l	12/11/07	0	10	100000	0.100	1000	1038	104%	88-120
Ammonia	µg/l	12/13/07	0	10	100000	0.100	1000	1019	102%	88-120
Ammonia	µg/l	12/13/07	0	10	100000	0.100	1000	1032	103%	88-120
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

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
NOX-N	µg/l	09/29/07	0	10	100000	0.300	3000	2783	92.8%	92-108
NOX-N	µg/l	10/05/07	0	10	100000	0.300	3000	2825	94.2%	92-108
NOX-N	µg/l	10/12/07	0	10	100000	0.300	3000	2832	94.4%	92-108
NOX-N	µg/l	10/26/07	0	10	100000	0.200	2000	2086	104%	92-108
NOX-N	µg/l	10/31/07	0	10	100000	0.300	3000	2820	94.0%	92-108
NOX-N	µg/l	11/02/07	0	10	100000	0.300	3000	2847	94.9%	92-108
NOX-N	µg/l	11/10/07	0	10	100000	0.100	1000	938	93.8%	92-108
NOX-N	µg/l	11/16/07	0	10	100000	0.100	1000	936	93.6%	92-108
NOX-N	µg/l	11/28/07	0	10	100000	0.100	1000	931	93.1%	92-108
NOX-N	µg/l	12/19/07	0	10	100000	0.100	1000	927	92.7%	92-108
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
Total N	µg/l	11/01/07	0	5	50000	0.350	3500	3593	103%	92-110
Total N	µg/l	11/02/07	0	5	50000	0.350	3500	3269	93.4%	92-110
Total N	µg/l	11/05/07	0	5	50000	0.300	3000	2880	96.0%	92-110
Total N	µg/l	12/04/07	0	5	50000	0.300	3000	3211	107%	92-110
Total N	µg/l	12/07/07	0	5	50000	0.300	3000	2954	98.5%	92-110
Total N	µg/l	12/10/07	0	5	50000	0.300	3000	2900	96.7%	92-110
Total N	µg/l	12/10/07	0	5	50000	0.300	3000	3179	106%	92-110
Total N	µg/l	12/10/07	0	5	50000	0.300	3000	3118	104%	92-110
Total N	µg/l	12/18/07	0	5	50000	0.035	350	327	93.4%	92-110
Total N	µg/l	12/20/07	0	5	50000	0.035	350	351	100%	92-110
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

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
Total P	µg/l	11/01/07	0	5	10000	0.150	300	311	104%	93-109
Total P	µg/l	11/02/07	0	5	5000	0.020	20	21	105%	93-109
Total P	µg/l	11/05/07	0	5	5000	0.300	300	298	99.3%	93-109
Total P	µg/l	12/04/07	0	5	5000	0.090	90	90	100%	93-109
Total P	µg/l	12/07/07	0	5	5000	0.090	90	89	98.9%	93-109
Total P	µg/l	12/10/07	0	5	5000	0.100	100	102	102%	93-109
Total P	µg/l	12/10/07	0	5	5000	0.090	90	90	100%	93-109
Total P	µg/l	12/10/07	0	5	5000	0.090	90	85	94.4%	93-109
Total P	µg/l	12/18/07	0	5	5000	0.350	350	370	106%	93-109
Total P	µg/l	12/20/07	0	5	5000	0.350	350	348	99.4%	93-109
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

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
SRP	µg/l	09/29/07	0	10	10000	0.300	300	322	107%	92-111
SRP	µg/l	10/05/07	0	10	10000	0.300	300	310	103%	92-111
SRP	µg/l	10/12/07	0	10	10000	0.125	125	117	93.6%	92-111
SRP	µg/l	10/26/07	0	10	10000	0.200	200	207	104%	92-111
SRP	µg/l	10/31/07	0	10	10000	0.300	300	290	96.7%	92-111
SRP	µg/l	11/02/07	0	10	10000	0.300	300	314	105%	92-111
SRP	µg/l	11/10/07	0	10	10000	0.100	100	106	106%	92-111
SRP	µg/l	11/16/07	0	10	10000	0.100	100	98	98.0%	92-111
SRP	µg/l	11/28/07	0	10	10000	0.100	100	99	99.0%	92-111
SRP	µg/l	12/19/07	0	10	10000	0.100	100	101	101%	92-111
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
Ammonia	µg/l	10/24/07	0	10	100000	0.100	1000	1057	106%	88-120
Ammonia	µg/l	10/24/07	0	10	100000	0.100	1000	1003	100%	88-120
Ammonia	µg/l	11/06/07	0	10	100000	0.100	1000	970	97.0%	88-120
Ammonia	µg/l	11/06/07	0	10	100000	0.100	1000	1020	102%	88-120
Ammonia	µg/l	11/06/07	0	10	100000	0.100	1000	1061	106%	88-120
Ammonia	µg/l	11/26/07	0	10	100000	0.100	1000	1037	104%	88-120
Ammonia	µg/l	11/26/07	0	10	100000	0.100	1000	1056	106%	88-120
Ammonia	µg/l	12/11/07	0	10	100000	0.100	1000	1013	101%	88-120
Ammonia	µg/l	12/13/07	0	10	100000	0.100	1000	982	98.2%	88-120
Ammonia	µg/l	12/13/07	0	10	100000	0.100	1000	999	99.9%	88-120
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

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
NOX-N	µg/l	09/29/07	0	10	100000	0.300	3000	2854	95.1%	92-108
NOX-N	µg/l	10/05/07	0	10	100000	0.300	3000	2862	95.4%	92-108
NOX-N	µg/l	10/12/07	0	10	100000	0.300	3000	2800	93.3%	92-108
NOX-N	µg/l	10/26/07	0	10	100000	0.200	2000	2137	107%	92-108
NOX-N	µg/l	10/31/07	0	10	100000	0.300	3000	2799	93.3%	92-108
NOX-N	µg/l	11/02/07	0	10	100000	0.300	3000	2854	95.1%	92-108
NOX-N	µg/l	11/10/07	0	10	100000	0.100	1000	952	95.2%	92-108
NOX-N	µg/l	11/16/07	0	10	100000	0.100	1000	929	92.9%	92-108
NOX-N	µg/l	11/28/07	0	10	100000	0.100	1000	941	94.1%	92-108
NOX-N	µg/l	12/19/07	0	10	100000	0.100	1000	987	98.7%	92-108
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
Total N	µg/l	11/01/07	0	5	100000	0.175	3500	3650	104%	92-110
Total N	µg/l	11/02/07	0	5	100000	0.200	4000	4233	106%	92-110
Total N	µg/l	11/05/07	0	5	100000	0.150	3000	3004	100%	92-110
Total N	µg/l	12/04/07	0	5	100000	0.150	3000	2975	99.2%	92-110
Total N	µg/l	12/07/07	0	5	100000	0.150	3000	3050	102%	92-110
Total N	µg/l	12/10/07	0	5	100000	0.150	3000	2886	96.2%	92-110
Total N	µg/l	12/10/07	0	5	100000	0.150	3000	3257	109%	92-110
Total N	µg/l	12/10/07	0	5	100000	0.150	3000	3223	107%	92-110
Total N	µg/l	12/18/07	0	5	50000	0.120	1200	1214	101%	92-110
Total N	µg/l	12/20/07	0	5	50000	0.120	1200	1284	107%	92-110
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

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
Total P	µg/l	11/01/07	0	5	10000	0.150	300	314	105%	93-109
Total P	µg/l	11/02/07	0	5	5000	0.020	20	19	95.0%	93-109
Total P	µg/l	11/05/07	0	5	10000	0.150	300	289	96.3%	93-109
Total P	µg/l	12/04/07	0	5	10000	0.040	80	80	100%	93-109
Total P	µg/l	12/07/07	0	5	10000	0.040	80	81	101%	93-109
Total P	mg/l	12/10/07	0	5	10000	0.050	100	105	105%	93-109
Total P	µg/l	12/10/07	0	5	10000	0.040	80	84	105%	93-109
Total P	µg/l	12/10/07	0	5	10000	0.045	90	92	102%	93-109
Total P	µg/l	12/18/07	0	5	50000	0.350	3500	3338	95.4%	93-109
Total P	µg/l	12/20/07	0	5	50000	0.350	3500	3504	100%	93-109
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
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

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.	07-1677	07/13/07	5.79	5.8	5.80	0.007	0.12	0-2
pH	s.u.	07-1755	07/20/07	7.12	7.11	7.12	0.007	0.10	0-2
pH	s.u.	07-1997	08/03/07	7.01	7.02	7.02	0.007	0.10	0-2
pH	s.u.	07-2001	08/03/07	4.11	4.13	4.12	0.014	0.34	0-2
pH	s.u.	07-2063	08/09/07	6.02	6.04	6.03	0.014	0.23	0-2
pH	s.u.	07-2168	08/22/07	6.45	6.44	6.45	0.007	0.11	0-2
pH	s.u.	07-2318	09/05/07	5.93	5.92	5.93	0.007	0.12	0-2
pH	s.u.	07-2413	09/07/07	6.49	6.51	6.50	0.014	0.22	0-2
pH	s.u.	07-2546	09/26/07	6.61	6.6	6.61	0.007	0.11	0-2
pH	s.u.	07-2561	09/26/07	5.98	5.99	5.99	0.007	0.12	0-2
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	07-1677	07/13/07	10	9.8	9.9	0.141	1.43	0-4
Alkalinity	mg/l	07-1755	07/20/07	43	42.8	42.90	0.141	0.33	0-4
Alkalinity	mg/l	07-1997	08/03/07	63.4	63	63.2	0.283	0.45	0-4
Alkalinity	mg/l	07-2001	08/03/07	0.1	0.1	0.10	0.000	0.00	0-4
Alkalinity	mg/l	07-2063	08/09/07	8.2	7.8	8.00	0.283	3.54	0-4
Alkalinity	mg/l	07-2168	08/22/07	1.3	1.3	1.3	0.007	0.55	0-4
Alkalinity	mg/l	07-2318	09/05/07	4.2	4.0	4.10	0.141	3.45	0-4
Alkalinity	mg/l	07-2413	09/07/07	19.4	19.6	19.50	0.141	0.73	0-4
Alkalinity	mg/l	07-2546	09/26/07	9.4	9.2	9.3	0.141	1.52	0-4
Alkalinity	mg/l	07-2561	09/26/07	8.6	9.0	8.80	0.283	3.21	0-4
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	07-1620	07/14/07	129	130	130	0.707	0.55	0-4
Specific Conductivity	µmho/cm	07-1812	07/30/07	216	217	217	0.707	0.33	0-4
Specific Conductivity	µmho/cm	07-1994	08/09/07	44	45	44.5	0.707	1.59	0-4
Specific Conductivity	µmho/cm	07-2106	08/28/07	28.0	28.0	28	0.000	0.00	0-4
Specific Conductivity	µmho/cm	07-2373	09/18/07	67	67	67.00	0.000	0.00	0-4
Specific Conductivity	µmho/cm	07-2383	09/18/07	27	27	27	0.000	0.00	0-4
Specific Conductivity	µmho/cm	07-2557	10/18/07	99.6	99.5	99.6	0.071	0.07	0-4
Specific Conductivity	µmho/cm	07-2587	10/18/07	151	152	151.50	0.707	0.47	0-4
Specific Conductivity	µmho/cm	07-2659	11/01/07	69.5	69.7	69.6	0.141	0.20	0-4
Specific Conductivity	µmho/cm	07-2680	11/01/07	464	464	464.0	0.000	0.00	0-4
Specific Conductivity	µmho/cm	07-2674	11/01/07	273.0	272.0	272.5	0.707	0.26	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

SAMPLE DUPLICATE RECOVERY

PARAMETERS	UNITS	SAMPLE ID	DATE ANALYZED	REPEAT 1	REPEAT 2	MEAN	s	% RELATIVE STD. DEVIATION (RSD)	ACCEPTANCE RANGE (% RSD)
Turbidity	NTU	07-1755	07/20/07	46.1	47.4	46.75	0.919	1.97	0-4
Turbidity	NTU	07-1816	07/25/07	1.5	1.4	1.43	0.035	2.48	0-4
Turbidity	NTU	07-1870	07/27/07	2.5	2.6	2.55	0.071	2.77	0-4
Turbidity	NTU	07-1872	07/27/07	46.7	46.4	46.55	0.212	0.46	0-4
Turbidity	NTU	07-2001	08/03/07	4.9	5.0	4.95	0.071	1.43	0-4
Turbidity	NTU	07-2167	08/20/07	0.9	0.8	0.86	0.021	2.48	0-4
Turbidity	NTU	07-2347	08/31/07	105.0	103.0	104.00	1.414	1.36	0-4
Turbidity	NTU	07-2542	09/21/07	9.2	9.3	9.25	0.071	0.76	0-4
Turbidity	NTU	07-2561	09/24/07	89.7	88.2	88.95	1.061	1.19	0-4
Turbidity	NTU	07-2595	09/28/07	4.2	4.0	4.12	0.113	2.75	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	07-1620	07/11/07	1.3	1.4	1.35	0.014	1.05	0-5
TSS	mg/l	07-1755	07/20/07	60.0	57.7	58.85	1.626	2.76	0-5
TSS	mg/l	07-1815	07/25/07	1.1	1.2	1.13	0.042	3.75	0-5
TSS	mg/l	07-1870	07/27/07	4.0	3.9	3.95	0.071	1.79	0-5
TSS	mg/l	07-1997	08/03/07	0.8	0.9	0.86	0.021	2.48	0-5
TSS	mg/l	07-2063	08/10/07	21.2	20.7	20.95	0.354	1.69	0-5
TSS	mg/l	07-2318	08/29/07	183	192	187.50	6.364	3.39	0-5
TSS	mg/l	07-2546	09/21/07	5.6	5.3	5.45	0.212	3.89	0-5
TSS	mg/l	07-2561	09/25/07	65.8	68.5	67.15	1.909	2.84	0-5
TSS	mg/l	07-2584	09/28/07	2.9	2.7	2.76	0.127	4.61	0-5
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	07-1950	08/03/07	3.4	3.1	3.25	0.212	6.53	0-20
BOD_5	mg/l	07-1995	08/03/07	3.3	3.3	3.30	0.000	0.00	0-20
BOD_5	mg/l	07-2503	09/20/07	1.9	1.9	1.88	0.021	1.13	0-20
BOD_5	mg/l	07-2559	09/27/07	3.6	3.5	3.55	0.071	1.99	0-20
BOD_5	mg/l	07-2665	10/03/07	2.9	2.9	2.90	0.000	0.00	0-20
BOD_5	mg/l	07-2696	10/11/07	5.3	5.1	5.20	0.141	2.72	0-20
BOD_5	mg/l	07-2820	10/25/07	1.3	1.3	1.32	0.000	0.00	0-20
BOD_5	mg/l	07-2875	11/01/07	2.3	2.1	2.20	0.141	6.43	0-20
BOD_5	mg/l	07-2939	11/08/07	1.0	1.1	1.05	0.071	6.73	0-20
BOD_5	mg/l	07-2989	11/20/07	2.1	1.9	2.01	0.127	6.33	0-20
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

SAMPLE DUPLICATE RECOVERY

PARAMETERS	UNITS	SAMPLE ID	DATE ANALYZED	REPEAT 1	REPEAT 2	MEAN	s	% RELATIVE STD. DEVIATION (RSD)	ACCEPTANCE RANGE (% RSD)
Color	CFU	07-1589	07/06/07	85	85	85.00	0.000	0.00	0-5
Color	CFU	07-1755	07/25/07	5	5	5.00	0.000	0.00	0-5
Color	CFU	07-1921	07/28/07	6	6	6.00	0.000	0.00	0-5
Color	CFU	07-2063	08/13/07	50	51	50.50	0.707	1.40	0-5
Color	CFU	07-2317	08/30/07	55	55	55.00	0.000	0.00	0-5
Color	CFU	07-2373	09/06/07	13	13	13.00	0.000	0.00	0-5
Color	CFU	07-2541	09/25/07	79	79	79.00	0.000	0.00	0-5
Color	CFU	07-2561	09/25/07	122	122	122.00	0.000	0.00	0-5
Color	CFU	07-2587	09/27/07	735	735	735.00	0.000	0.00	0-5
Color	CFU	07-2628	10/04/07	162	162	162.00	0.000	0.00	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	07-2595	09/29/07	204	202	203.0	1.414	0.70	0-5
SRP	µg/l	07-2661	10/05/07	6	6	6.0	0.000	0.00	0-5
SRP	µg/l	07-2698	10/12/07	4	3	3.5	0.141	4.04	0-5
SRP	µg/l	07-2726	10/12/07	95	94	94.5	0.707	0.75	0-5
SRP	µg/l	07-2820	10/26/07	20	20	20.0	0.000	0.00	0-5
SRP	µg/l	07-2845	10/26/07	314	300	307.0	9.899	3.22	0-5
SRP	µg/l	07-2862	10/31/07	242	242	242.0	0.000	0.00	0-5
SRP	µg/l	07-2875	11/02/07	13	13	13.0	0.000	0.00	0-5
SRP	µg/l	07-2929	11/10/07	16	15	15.0	0.707	4.71	0-5
SRP	µg/l	07-2939	11/10/07	375	376	375.5	0.707	0.19	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
Ammonia	µg/l	07-2558	10/24/07	8	9	8.4	0.566	6.73	0-10
Ammonia	µg/l	07-2587	10/24/07	44	48	46.00	2.828	6.15	0-10
Ammonia	µg/l	07-2661	10/24/07	24	23	23.50	0.707	3.01	0-10
Ammonia	µg/l	07-2684	10/24/07	48	48	48.00	0.000	0.00	0-10
Ammonia	µg/l	07-2694	11/06/07	48	47	47.50	0.707	1.49	0-10
Ammonia	µg/l	07-2748	11/06/07	50	49	49.50	0.707	1.43	0-10
Ammonia	µg/l	07-2818	11/06/07	28	32	29.95	2.192	7.32	0-10
Ammonia	µg/l	07-2904	11/26/07	48	47	47.50	0.707	1.49	0-10
Ammonia	µg/l	07-2934	11/26/07	48	45	46.50	2.121	4.56	0-10
Ammonia	µg/l	07-2982	12/11/07	72	74	73.0	1.414	1.94	0-10
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

SAMPLE DUPLICATE RECOVERY

PARAMETERS	UNITS	SAMPLE ID	DATE ANALYZED	REPEAT 1	REPEAT 2	MEAN	s	% RELATIVE STD. DEVIATION (RSD)	ACCEPTANCE RANGE (% RSD)
NOX-N	µg/l	07-2595	09/29/07	0	0	0.1	0.000	0.00	0-4
NOX-N	µg/l	07-2661	10/05/07	9	8	8.6	0.212	2.48	0-4
NOX-N	µg/l	07-2698	10/12/07	10	11	10.6	0.283	2.67	0-4
NOX-N	µg/l	07-2726	10/12/07	78	76	77.0	1.414	1.84	0-4
NOX-N	µg/l	07-2820	10/26/07	2	2	2.0	0.000	0.00	0-4
NOX-N	µg/l	07-2845	10/26/07	5	4	4.5	0.141	3.14	0-4
NOX-N	µg/l	07-2862	10/31/07	1299	1263	1281.0	25.456	1.99	0-4
NOX-N	µg/l	07-2875	11/02/07	5	4	4.5	0.141	3.14	0-4
NOX-N	µg/l	07-2929	11/10/07	2	2	2.0	0.000	0.00	0-4
NOX-N	µg/l	07-2939	11/10/07	18	19	18.5	0.707	3.82	0-4
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
Total N	µg/l	07-1995	11/01/07	965	1030	997.5	45.962	4.61	0-6
Total N	µg/l	07-2001	11/01/07	1705	1666	1685.5	27.577	1.64	0-6
Total N	µg/l	07-2011F	11/01/07	1112	1027	1069.5	60.104	5.62	0-6
Total N	µg/l	07-1950	11/02/07	957	1006	981.5	34.648	3.53	0-6
Total N	µg/l	07-2169	11/05/07	1177	1179	1178.0	1.414	0.12	0-6
Total N	µg/l	07-2372	12/04/07	640	633	636.5	4.950	0.78	0-6
Total N	µg/l	07-2510F	12/07/07	877	870	873.5	4.950	0.57	0-6
Total N	µg/l	07-2557F	12/10/07	931	918	924.5	9.192	0.99	0-6
Total N	µg/l	07-2586	12/10/07	846	846	846.0	0.000	0.00	0-6
Total N	µg/l	07-2593	12/10/07	1590	1576	1583.0	9.899	0.63	0-6
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	07-2627	12/10/07	2983	2856	2919.5	89.803	3.08	0-5
Total P	µg/l	07-1995	11/01/07	15	15	15.0	0.000	0.00	0-5
Total P	µg/l	07-2001	11/01/07	62	63	62.5	0.707	1.13	0-5
Total P	µg/l	07-2011F	11/01/07	11	12	11.3	0.354	3.14	0-5
Total P	µg/l	07-1950	11/02/07	475	465	470.0	7.071	1.50	0-5
Total P	µg/l	07-2169	11/05/07	35	35	35.0	0.000	0.00	0-5
Total P	µg/l	07-2372	12/04/07	163	161	162.0	1.414	0.87	0-5
Total P	µg/l	07-2510F	12/07/07	288	296	292.0	5.657	1.94	0-5
Total P	µg/l	07-2557F	12/10/07	263	263	263.0	0.000	0.00	0-5
Total P	µg/l	07-2586	12/10/07	16	16	16.0	0.000	0.00	0-5
Total P	µg/l	07-2593	12/10/07	156	159	157.5	2.121	1.35	0-5
Total P	µg/l	07-2627	12/10/07	542	531	536.5	7.778	1.45	0-5
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

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	07/13/07	0.0	50	1000	0.6	12.0	12	100.0%	91-105
Alkalinity	mg/l	07/20/07	0.6	50	1000	0.6	12.6	11.8	93.7%	91-105
Alkalinity	mg/l	08/03/07	0.8	50	1000	0.5	10.8	10.6	98.1%	91-105
Alkalinity	mg/l	08/09/07	1.0	50	1000	0.5	11.0	11.6	105%	91-105
Alkalinity	mg/l	08/22/07	1.0	50	1000	0.5	11.0	11.4	104%	91-105
Alkalinity	mg/l	09/05/07	1.0	50	1000	0.5	11.0	11.4	104%	91-105
Alkalinity	mg/l	09/07/07	1.0	50	1000	0.5	11.0	11.6	105%	91-105
Alkalinity	mg/l	09/06/07	1.0	50	1000	0.5	11.0	11.4	104%	91-105
Alkalinity	mg/l	09/28/07	1.0	50	1000	0.5	11.0	11.2	102%	91-105
Alkalinity	mg/l	10/03/07	1.0	50	1000	0.5	11.0	11.6	105%	91-105
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	07/14/07	2.0	50	1410	50	1412	1356	96.0%	96-104
Specific Conductivity	µmho/cm	07/30/07	2.1	50	1410	50	1412	1375	97.4%	96-104
Specific Conductivity	µmho/cm	08/09/07	2.0	50	1410	50	1412	1449	103%	96-104
Specific Conductivity	µmho/cm	08/28/07	2.4	50	1410	50	1412	1408	100%	96-104
Specific Conductivity	µmho/cm	09/18/07	2.1	50	1410	50	1412	1406	100%	96-104
Specific Conductivity	µmho/cm	09/18/07	2.3	50	1410	50	1412	1397	98.9%	96-104
Specific Conductivity	µmho/cm	12/05/07	2.0	50	1410	50	1412	1381	97.8%	96-104
Specific Conductivity	µmho/cm	12/05/07	2.4	50	1410	50	1412	1392	98.6%	96-104
Specific Conductivity	µmho/cm	12/07/07	2.1	50	1410	50	1412	1364	96.6%	96-104
Specific Conductivity	µmho/cm	12/18/07	2.3	50	1410	50	1412	1363	96.5%	96-104
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

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
Turbidity	NTU	07/20/07	0	50	18	50	18.0	18.2	101%	87-104
Turbidity	NTU	07/25/07	0	50	18	50	18.0	18.1	101%	87-104
Turbidity	NTU	07/27/07	0	50	18	50	18.0	18.3	102%	87-104
Turbidity	NTU	08/03/07	0	50	18	50	18.0	18.6	103%	87-104
Turbidity	NTU	08/20/07	0	50	18	50	18.0	17.9	99.4%	87-104
Turbidity	NTU	08/31/07	0	50	18	50	18.0	18.1	101%	87-104
Turbidity	NTU	09/21/07	0	50	18	50	18.0	18.2	101%	87-104
Turbidity	NTU	09/25/07	0	50	18	50	18.0	18.5	103%	87-104
Turbidity	NTU	09/02/07	0	50	18	50	18.0	18.2	101%	87-104
Turbidity	NTU	10/17/07	0	50	18	50	18.0	18.1	101%	87-104
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	07/11/07	0.1	1000	26.0	1000	26.1	25.4	97.3%	91-105
TSS	mg/l	07/20/07	0.1	1000	30.7	1000	30.8	31.0	101%	91-105
TSS	mg/l	07/25/07	0.1	1000	25.4	1000	25.5	26.3	103%	91-105
TSS	mg/l	07/27/07	0.1	1000	30.9	1000	31.0	32.0	103%	91-105
TSS	mg/l	08/03/07	0.1	1000	27.5	1000	27.6	26.1	94.6%	91-105
TSS	mg/l	08/10/07	0.1	1000	27.6	1000	27.7	26.7	96.4%	91-105
TSS	mg/l	08/29/07	0.1	1000	25.4	1000	25.5	25.8	101%	91-105
TSS	mg/l	09/21/07	0.1	1000	28.5	1000	28.6	29.6	103%	91-105
TSS	mg/l	09/25/07	0.1	1000	26.0	1000	26.1	25.4	97.3%	91-105
TSS	mg/l	09/28/07	0.1	1000	24.5	1000	24.6	25.4	103%	91-105
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

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
BOD_5	mg/l	08/03/07	0.1	300	198	6	198	169	85.3%	85-115
BOD_5	mg/l	08/03/07	0.1	300	198	6	198	169	85.3%	85-115
BOD_5	mg/l	09/20/07	0.1	300	198	6	218	235	108%	85-115
BOD_5	mg/l	09/27/07	0.1	300	198	6	198	187	94.4%	85-115
BOD_5	mg/l	10/03/07	0.1	300	198	6	198	183	92.4%	85-115
BOD_5	mg/l	10/11/07	0.1	300	198	6	198	198	99.9%	85-115
BOD_5	mg/l	10/25/07	0.1	300	198	6	198	196	98.9%	85-115
BOD_5	mg/l	11/01/07	0.1	300	198	6	198	186	93.9%	85-115
BOD_5	mg/l	11/09/07	0.1	300	198	6	208	219	105%	85-115
BOD_5	mg/l	11/20/07	0.1	300	198	6	198	189	95.4%	85-115
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
Color	PCU	07/06/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	07/25/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	07/28/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	08/13/07	0	25	500	0.5	10	9	93.0%	87-104
Color	PCU	08/30/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	09/06/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	09/25/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	09/25/07	0	25	500	0.5	10	11	110%	87-104
Color	PCU	09/27/07	0	25	500	0.5	10	10	100%	87-104
Color	PCU	10/04/07	0	25	500	5.0	100	101	101%	87-104
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

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
SRP	µg/l	09/29/07	0	10	10000	0.300	300	323	108%	92-111
SRP	µg/l	10/05/07	0	10	10000	0.300	300	321	107%	92-111
SRP	µg/l	10/12/07	0	10	10000	0.125	125	115	92.0%	92-111
SRP	µg/l	10/26/07	0	10	10000	0.200	200	204	102%	92-111
SRP	µg/l	10/31/07	0	10	10000	0.300	300	292	97.3%	92-111
SRP	µg/l	11/02/07	0	10	10000	0.300	300	319	106%	92-111
SRP	µg/l	11/10/07	0	10	10000	0.100	100	105	105%	92-111
SRP	µg/l	11/16/07	0	10	10000	0.100	100	105	105%	92-111
SRP	µg/l	11/28/07	0	10	10000	0.100	100	105	105%	92-111
SRP	µg/l	12/19/07	0	10	10000	0.100	100	101	101%	92-111
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
Ammonia	µg/l	10/24/07	0	10	100000	0.100	1000	1024	102%	88-120
Ammonia	µg/l	10/24/07	0	10	100000	0.100	1000	1032	103%	88-120
Ammonia	µg/l	11/06/09	0	10	100000	0.100	1000	1007	101%	88-120
Ammonia	µg/l	11/06/07	0	10	100000	0.100	1000	1066	107%	88-120
Ammonia	µg/l	11/06/07	0	10	100000	0.110	1100	1118	102%	88-120
Ammonia	µg/l	11/26/07	0	10	100000	0.110	1100	1109	101%	88-120
Ammonia	µg/l	11/26/07	0	10	100000	0.100	1000	1078	108%	88-120
Ammonia	µg/l	12/11/07	0	10	100000	0.100	1000	1038	104%	88-120
Ammonia	µg/l	12/13/07	0	10	100000	0.100	1000	1019	102%	88-120
Ammonia	µg/l	12/13/07	0	10	100000	0.100	1000	1032	103%	88-120
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

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
NOX-N	µg/l	09/29/07	0	10	100000	0.300	3000	2783	92.8%	92-108
NOX-N	µg/l	10/05/07	0	10	100000	0.300	3000	2825	94.2%	92-108
NOX-N	µg/l	10/12/07	0	10	100000	0.300	3000	2832	94.4%	92-108
NOX-N	µg/l	10/26/07	0	10	100000	0.200	2000	2086	104%	92-108
NOX-N	µg/l	10/31/07	0	10	100000	0.300	3000	2820	94.0%	92-108
NOX-N	µg/l	11/02/07	0	10	100000	0.300	3000	2847	94.9%	92-108
NOX-N	µg/l	11/10/07	0	10	100000	0.100	1000	938	93.8%	92-108
NOX-N	µg/l	11/16/07	0	10	100000	0.100	1000	936	93.6%	92-108
NOX-N	µg/l	11/28/07	0	10	100000	0.100	1000	931	93.1%	92-108
NOX-N	µg/l	12/19/07	0	10	100000	0.100	1000	927	92.7%	92-108
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
Total N	µg/l	11/01/07	0	5	50000	0.350	3500	3593	103%	92-110
Total N	µg/l	11/02/07	0	5	50000	0.350	3500	3269	93.4%	92-110
Total N	µg/l	11/05/07	0	5	50000	0.300	3000	2880	96.0%	92-110
Total N	µg/l	12/04/07	0	5	50000	0.300	3000	3211	107%	92-110
Total N	µg/l	12/07/07	0	5	50000	0.300	3000	2954	98.5%	92-110
Total N	µg/l	12/10/07	0	5	50000	0.300	3000	2900	96.7%	92-110
Total N	µg/l	12/10/07	0	5	50000	0.300	3000	3179	106%	92-110
Total N	µg/l	12/10/07	0	5	50000	0.300	3000	3118	104%	92-110
Total N	µg/l	12/18/07	0	5	50000	0.035	350	327	93.4%	92-110
Total N	µg/l	12/20/07	0	5	50000	0.035	350	351	100%	92-110
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

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
Total P	µg/l	11/01/07	0	5	10000	0.150	300	311	104%	93-109
Total P	µg/l	11/02/07	0	5	5000	0.020	20	21	105%	93-109
Total P	µg/l	11/05/07	0	5	5000	0.300	300	298	99.3%	93-109
Total P	µg/l	12/04/07	0	5	5000	0.090	90	90	100%	93-109
Total P	µg/l	12/07/07	0	5	5000	0.090	90	89	98.9%	93-109
Total P	µg/l	12/10/07	0	5	5000	0.100	100	102	102%	93-109
Total P	µg/l	12/10/07	0	5	5000	0.090	90	90	100%	93-109
Total P	µg/l	12/10/07	0	5	5000	0.090	90	85	94.4%	93-109
Total P	µg/l	12/18/07	0	5	5000	0.350	350	370	106%	93-109
Total P	µg/l	12/20/07	0	5	5000	0.350	350	348	99.4%	93-109
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

METHOD BLANK RECOVERY STUDY

PARAMETERS	UNITS	DATE ANALYZED	MEASURED CONC.	MDL
pH	s.u.	07/13/07	5.87	NA
pH	s.u.	07/20/07	5.31	NA
pH	s.u.	08/03/07	5.82	NA
pH	s.u.	08/09/07	6.03	NA
pH	s.u.	08/22/07	5.92	NA
pH	s.u.	09/05/07	5.78	NA
pH	s.u.	09/07/07	5.72	NA
pH	s.u.	09/26/07	5.84	NA
pH	s.u.	10/03/07	5.79	NA
pH	s.u.	10/08/07	5.32	NA
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	07/13/07	1.0	0.5
Alkalinity	mg/l	07/20/07	0.8	0.5
Alkalinity	mg/l	08/03/07	0.8	0.5
Alkalinity	mg/l	08/09/07	0.8	0.5
Alkalinity	mg/l	08/22/07	0.8	0.5
Alkalinity	mg/l	09/05/07	0.6	0.5
Alkalinity	mg/l	09/07/07	0.6	0.5
Alkalinity	mg/l	09/26/07	0.8	0.5
Alkalinity	mg/l	10/03/07	0.6	0.5
Alkalinity	mg/l	10/08/07	0.4	0.5
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	07/14/07	2.0	0.2
Specific Conductivity	µmho/cm	07/30/07	2.0	0.2
Specific Conductivity	µmho/cm	08/09/07	2.0	0.2
Specific Conductivity	µmho/cm	08/28/07	2.0	0.2
Specific Conductivity	µmho/cm	09/18/07	2.0	0.2
Specific Conductivity	µmho/cm	12/05/07	2.2	0.2
Specific Conductivity	µmho/cm	12/07/07	2.0	0.2
Specific Conductivity	µmho/cm	12/18/07	2.0	0.2
Specific Conductivity	µmho/cm	10/04/07	2.0	0.2
Specific Conductivity	µmho/cm	12/18/07	2.0	0.2
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

METHOD BLANK RECOVERY STUDY

PARAMETERS	UNITS	DATE ANALYZED	MEASURED CONC.	MDL
Turbidity	NTU	07/20/07	0.0	0.1
Turbidity	NTU	07/25/07	0.0	0.1
Turbidity	NTU	07/27/07	0.0	0.1
Turbidity	NTU	08/03/07	0.0	0.1
Turbidity	NTU	08/20/07	0.0	0.1
Turbidity	NTU	08/31/07	0.0	0.1
Turbidity	NTU	09/21/07	0.0	0.1
Turbidity	NTU	09/25/07	0.0	0.1
Turbidity	NTU	09/28/07	0.0	0.1
Turbidity	NTU	10/17/07	0.0	0.1
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
TSS	mg/l	08/29/07	0.2	0.7
TSS	mg/l	09/25/07	0.1	0.7
TSS	mg/l	07/11/07	0.1	0.7
TSS	mg/l	07/20/07	0.1	0.7
TSS	mg/l	07/25/07	0.1	0.7
TSS	mg/l	07/27/07	0.2	0.7
TSS	mg/l	08/03/07	0.1	0.7
TSS	mg/l	08/10/07	0.2	0.7
TSS	mg/l	09/28/07	0.1	0.7
TSS	mg/l	09/21/07	0.1	0.7
BOD_5	mg/l	08/03/07	0.1	2.0
BOD_5	mg/l	08/03/07	0.1	2.0
BOD_5	mg/l	09/20/07	0.1	2.0
BOD_5	mg/l	09/27/07	0.1	2.0
BOD_5	mg/l	10/03/07	0.1	2.0
BOD_5	mg/l	10/11/07	0.1	2.0
BOD_5	mg/l	10/25/07	0.1	2.0
BOD_5	mg/l	11/01/07	0.1	2.0
BOD_5	mg/l	11/09/07	0.1	2.0
BOD_5	mg/l	11/20/07	0.1	2.0
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

METHOD BLANK RECOVERY STUDY

PARAMETERS	UNITS	DATE ANALYZED	MEASURED CONC.	MDL
Fecal Coliform	cfu	07/10/07	0	1
Fecal Coliform	cfu	07/24/07	0	1
Fecal Coliform	cfu	07/31/07	0	1
Fecal Coliform	cfu	08/03/07	0	1
Fecal Coliform	cfu	08/07/07	0	1
Fecal Coliform	cfu	08/16/07	0	1
Fecal Coliform	cfu	08/17/07	0	1
Fecal Coliform	cfu	08/30/07	0	1
Fecal Coliform	cfu	09/05/07	0	1
Fecal Coliform	cfu	09/18/07	0	1
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
Color	PCU	07/06/07	0	1
Color	PCU	07/25/07	0	1
Color	PCU	07/28/07	0	1
Color	PCU	08/13/07	0	1
Color	PCU	08/30/07	0	1
Color	PCU	09/06/07	0	1
Color	PCU	09/25/07	0	1
Color	PCU	09/25/07	0	1
Color	PCU	09/27/07	0	1
Color	PCU	10/04/07	0	1
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	09/29/07	0	1
SRP	µg/l	10/05/07	0	1
SRP	µg/l	10/12/07	0	1
SRP	µg/l	10/26/07	0	1
SRP	µg/l	10/31/07	0	1
SRP	µg/l	11/02/07	0	1
SRP	µg/l	11/10/07	0	1
SRP	µg/l	11/16/07	0	1
SRP	µg/l	11/28/07	0	1
SRP	µg/l	12/19/07	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

METHOD BLANK RECOVERY STUDY

PARAMETERS	UNITS	DATE ANALYZED	MEASURED CONC.	MDL
NOX-N	µg/l	09/29/07	0	5
NOX-N	µg/l	10/05/07	0	5
NOX-N	µg/l	10/12/07	0	5
NOX-N	µg/l	10/26/07	0	5
NOX-N	µg/l	10/31/07	0	5
NOX-N	µg/l	11/02/07	0	5
NOX-N	µg/l	11/10/07	0	5
NOX-N	µg/l	11/16/07	0	5
NOX-N	µg/l	11/28/07	0	5
NOX-N	µg/l	12/19/07	0	5
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	10/24/07	0	5
Ammonia	µg/l	10/24/07	0	5
Ammonia	µg/l	11/06/07	0	5
Ammonia	µg/l	11/06/07	0	5
Ammonia	µg/l	11/06/07	0	5
Ammonia	µg/l	11/26/07	0	5
Ammonia	µg/l	11/26/07	0	5
Ammonia	µg/l	11/26/07	0	5
Ammonia	µg/l	12/11/07	0	5
Ammonia	µg/l	12/13/07	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	11/01/07	1	10
Total N	µg/l	11/02/07	0	10
Total N	µg/l	11/05/07	0	10
Total N	µg/l	12/04/07	0	10
Total N	µg/l	12/07/07	0	10
Total N	µg/l	12/10/07	0	10
Total N	µg/l	12/10/07	0	10
Total N	µg/l	12/10/07	0	10
Total N	µg/l	12/18/07	0	10
Total N	µg/l	12/20/07	0	10
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

METHOD BLANK RECOVERY STUDY

PARAMETERS	UNITS	DATE ANALYZED	MEASURED CONC.	MDL
Total P	µg/l	11/01/07	0	1
Total P	µg/l	11/02/07	0	1
Total P	µg/l	11/05/07	0	1
Total P	µg/l	12/04/07	0	1
Total P	µg/l	12/07/07	0	1
Total P	µg/l	12/10/07	0	1
Total P	µg/l	12/10/07	0	1
Total P	µg/l	12/10/07	0	1
Total P	µg/l	12/18/07	0	1
Total P	µg/l	12/20/07	0	1
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

MICROBIOLOGY SAMPLE DUPLICATE RECOVERY

PARAMETERS	UNITS	SAMPLE ID	DATE ANALYZED	REPEAT 1	REPEAT 2	Logarithm of Counts		Range of Logarithms	ACCEPTANCE RANGE (% RSD)
						L_1	L_2		
Fecal Coliform	cfu	07-1621	07/10/07	58	54	1.76	1.73	0.03	0.33
Fecal Coliform	cfu	07-1816	07/24/07	440	360	2.64	2.56	0.09	0.33
Fecal Coliform	cfu	07-1951	07/31/07	1100	1000	3.04	3.00	0.04	0.33
Fecal Coliform	cfu	07-2001	08/03/07	70	60	1.85	1.78	0.07	0.33
Fecal Coliform	cfu	07-2016	08/07/07	20	20	1.30	1.30	0.00	0.33
Fecal Coliform	cfu	07-2165	08/16/07	24	16	1.38	1.20	0.18	0.33
Fecal Coliform	cfu	07-2169	08/17/07	10	6	1.00	0.78	0.22	0.33
Fecal Coliform	cfu	07-2347	08/30/07	6000	5300	3.78	3.72	0.05	0.33
Fecal Coliform	cfu	07-2373	09/05/07	1300	800	3.11	2.90	0.21	0.33
Fecal Coliform	cfu	07-2510	09/18/07	80	76	1.90	1.88	0.02	0.33
Fecal Coliform	cfu	08-095	01/14/08	2280	1940	3.36	3.29	0.07	0.33
Fecal Coliform	cfu	08-0192	01/24/08	310	228	2.49	2.36	0.13	0.33
Fecal Coliform	cfu	08-0366	02/26/08	2660	2420	3.42	3.38	0.04	0.33
Fecal Coliform	cfu	08-0404	02/29/08	120	100	2.08	2.00	0.08	0.33
Fecal Coliform	cfu	08-1112	06/17/08	260	210	2.41	2.32	0.09	0.33
Fecal Coliform	cfu	08-1684	08/22/08	1180	1060	3.07	3.03	0.05	0.33
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

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	ACCEPTANCE RANGE
Alkalinity	mg/l	08-0233	02/06/08	138.0	139	138.5	0.707	0.51	1.639	0-4	91-105
Alkalinity	mg/l	08-0470	03/12/08	17	17.2	17.10	0.141	0.83	0.490	0-4	91-105
Alkalinity	mg/l	08-0565	03/27/08	35.8	36	35.90	0.141	0.39	1.639	0-4	91-105
Alkalinity	mg/l	08-1148	06/25/08	23.8	23.6	23.7	0.141	0.60	0.490	0-4	91-105
Alkalinity	mg/l	08-1392	07/18/08	23.8	23.4	23.60	0.283	1.20	1.639	0-4	91-105
Alkalinity	mg/l	08-1687	08/25/08	0.8	0.8	0.8	0.000	0.00	0.490	0-4	91-105
Specific Conductivity	µmho/cm	08-0095	01/22/08	119	119	119	0.000	0.00	0.148	0-4	91-105
Specific Conductivity	µmho/cm	08-0677	04/22/08	282	283	283	0.707	0.25	0.787	0-4	91-105
Specific Conductivity	µmho/cm	08-1172	07/07/08	85.9	85.7	85.8	0.141	0.16	0.00	0-4	91-105
Specific Conductivity	µmho/cm	08-1392	07/28/08	76.5	75.3	75.9	0.849	1.12	0.00	0-4	91-105
Specific Conductivity	µmho/cm	08-1497	08/04/08	479	477	478.0	1.414	0.30	0.148	0-4	91-105
Specific Conductivity	µmho/cm	08-1687	08/26/08	9.4	9.2	9.3	0.141	1.52	0.787	0-4	91-105
Turbidity	NTU	08-0095	01/15/08	10.2	10.4	10.30	0.141	1.37	0.00	0-4	91-105
Turbidity	NTU	08-0233	02/06/08	5.4	5.3	5.35	0.071	1.32	0.00	0-4	91-105
Turbidity	NTU	08-0455	03/07/08	5.5	5.4	5.45	0.071	1.30	0.00	0-4	91-105
Turbidity	NTU	08-0670	04/09/08	3.2	3.3	3.25	0.071	2.18	0.00	0-4	91-105
Turbidity	NTU	08-0884	05/09/08	7.5	7.8	7.65	0.212	2.77	0.00	0-4	91-105
Turbidity	NTU	08-2038	09/16/08	0.8	0.8	0.80	0.000	0.00	0.00	0-4	91-105
TSS	mg/l	07-1816	07/25/07	0.57	350	24.7	350	71.1	69.0	97.0%	91-105
TSS	mg/l	07-2596	09/02/07	10.6	350	26.6	350	86.6	88.8	103%	91-105
TSS	mg/l	07-2670	10/05/07	84.7	150	23.6	150	242	232	95.9%	91-105
TSS	mg/l	07-2702	10/10/07	2.9	350	31.3	350	92.3	94.2	102%	91-105
TSS	mg/l	07-2726	10/15/07	3.4	300	30.6	300	105	109	103%	91-105
TSS	mg/l	07-2557	09/25/07	42.2	350	24.7	350	113	105	92.8%	91-105
TSS	mg/l	07-2661	10/05/07	4.9	350	28.4	350	86.0	84.4	98.1%	91-105
TSS	mg/l	07-2561	09/25/07	65.8	200	29.8	200	215	201	93.6%	91-105
TSS	mg/l	07-2700	10/10/07	2.6	350	29.5	350	87	89.2	103%	91-105
TSS	mg/l	07-3024	11/21/07	11.6	350	25.4	350	84	82.2	97.7%	91-105
TSS	mg/l	08-0192	1/25/2008	62.5	62.3	62.40	0.141	0.23	0.00	0-5	91-105
TSS	mg/l	08-0481	3/13/2008	1.4	1.5	1.45	0.071	4.88	0.00	0-5	91-105
TSS	mg/l	08-0670	4/8/2008	3.6	3.9	3.75	0.212	5.66	0.00	0-5	91-105
TSS	mg/l	08-0884	5/7/2008	14.0	14.3	14.15	0.212	1.50	0.00	0-5	91-105
TSS	mg/l	08-1439	7/30/2008	10.5	10.6	10.55	0.071	0.67	0.00	0-5	91-105
TSS	mg/l	08-1538	8/5/2008	3.4	3.3	3.35	0.071	2.11	0.00	0-5	91-105

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	ACCEPTANCE RANGE
BOD_5	mg/l	07-2503	09/20/07	1.9	300	198	6	220	235	107%	88-115
BOD_5	mg/l	07-2559	09/27/07	3.6	300	198	6	232	247	107%	88-115
BOD_5	mg/l	07-2665	10/03/07	2.9	300	198	6	231	251	109%	88-115
BOD_5	mg/l	07-2696	10/11/07	5.3	300	198	6	203	212	104%	88-115
BOD_5	mg/l	07-2820	10/25/07	1.3	300	198	6	219	235	107%	88-115
BOD_5	mg/l	07-2875	11/01/07	2.3	300	198	6	230	246	107%	88-115
BOD_5	mg/l	07-2939	11/09/07	1.0	300	198	6	229	246	107%	88-115
BOD_5	mg/l	07-2989	11/20/07	2.1	300	198	6	230	239	104%	88-115
BOD_5	mg/l	07-3025	11/26/07	1.6	300	198	6	230	236	103%	88-115
BOD_5	mg/l	07-3032	12/01/07	1.5	300	198	6	230	242	105%	88-115
BOD_5	mg/l	08-309	02/21/08	2.9	3.0	2.95	0.071	2.40	0.00	0-20	88-115
BOD_5	mg/l	08-455	03/07/08	2.5	2.4	2.45	0.071	2.89	0.00	0-20	88-115
BOD_5	mg/l	08-730	04/17/08	2.0	2.0	2.00	0.000	0.00	0.00	0-20	88-115
BOD_5	mg/l	08-884	05/09/08	2.0	2.0	2.00	0.000	0.00	0.00	0-20	88-115
BOD_5	mg/l	08-1328	07/11/08	2.7	2.7	2.70	0.000	0.00	0.00	0-20	88-115
BOD_5	mg/l	08-1497	08/01/08	2.0	2.0	2.00	0.000	0.00	0.00	0-20	88-115
BOD_5	mg/l	08-1684	08/22/08	3.1	2.9	3.00	0.141	4.71	0.00	0-20	88-115
Color	PCU	07-1589	07/06/07	85	25	500	0.5	185	172	93.0%	87-104
Color	PCU	07-1755	07/20/07	80	25	500	0.5	130	121	93.1%	87-104
Color	PCU	07-1813	07/25/07	5	25	500	0.5	15	14	93.3%	87-104
Color	PCU	07-1994	08/06/07	255	25	500	0.5	405	395	97.5%	87-104
Color	PCU	07-2063	08/13/07	59	25	500	0.5	159	161	101%	87-104
Color	PCU	07-2346	09/06/07	13	25	500	0.5	23	21	91.3%	87-104
Color	PCU	07-2628	10/04/07	162	25	500	5.0	1162	1222	105%	87-104
Color	PCU	07-2694	10/11/07	816	25	500	5.0	5816	5650	97.1%	87-104
Color	PCU	07-2895	11/01/07	90	25	500	0.5	190	177	93.2%	87-104
Color	PCU	07-2939	11/09/07	7	25	500	0.5	17	18	106%	87-104
Color	PCU	08-341	02/20/08	6	6	6.00	0.000	0.00	0.00	0-5	87-104
Color	PCU	08-470	03/12/08	412	412	412.00	0.000	0.00	0.00	0-5	87-104
Color	PCU	08-680	04/10/08	184	184	184.00	0.000	0.00	0.00	0-5	87-104
Color	PCU	08-1101	06/17/08	6	6	6.00	0.000	0.00	0.00	0-5	87-104
Color	PCU	08-1328	07/11/08	477	474	475.50	2.121	0.45	0.00	0-5	87-104
Color	PCU	08-1538	08/06/08	99	100	99.50	0.707	0.71	0.00	0-5	87-104
Color	PCU	08-2038	09/16/08	75	75	75.00	0.000	0.00	6.00	0-5	87-104

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	ACCEPTANCE RANGE
SRP	µg/l	07-2595	09/29/07	204	10	10000	0.300	504	504	100%	92-111
SRP	µg/l	07-2661	10/05/07	6	10	10000	0.300	306	299	97.7%	92-111
SRP	µg/l	07-2698	10/12/07	4	10	10000	0.125	129	133	103%	92-111
SRP	µg/l	07-2726	10/12/07	95	10	10000	0.125	220	221	100%	92-111
SRP	µg/l	07-2820	10/26/07	20	10	10000	0.170	190	190	100%	92-111
SRP	µg/l	07-2845	10/26/07	1314	10	10000	0.200	1514	1581	104%	92-111
SRP	µg/l	07-2862	10/31/07	242	10	10000	0.300	542	528	97.4%	92-111
SRP	µg/l	07-2875	11/02/07	13	10	10000	0.600	613	659	108%	92-111
SRP	µg/l	07-2929	11/10/07	16	10	10000	0.100	116	119	103%	92-111
SRP	µg/l	07-2939	11/10/07	375	10	10000	0.200	575	537	93.4%	92-111
SRP	µg/l	08-0192	01/25/08	115	115	115.00	0.000	0.00	0.00	0-5	92-111
SRP	µg/l	08-0370	02/27/08	229	231	230.00	1.414	0.61	0.00	0-5	92-111
SRP	µg/l	08-0455	03/07/08	831	827	829.00	2.828	0.34	0.00	0-5	92-111
SRP	µg/l	08-0470	03/11/08	2	2	2.00	0.000	0.00	6.00	0-5	92-111
SRP	µg/l	08-0884	05/09/08	150	158	154.00	5.657	3.67	0.00	0-5	92-111
SRP	µg/l	08-1168	06/25/08	16	16	16.00	0.000	0.00	6.00	0-5	92-111
Ammonia	µg/l	07-2558	10/24/07	8	10	100000	0.100	1008	1043	103%	88-120
Ammonia	µg/l	07-2587	10/24/07	44	10	100000	0.100	1044	1095	105%	88-120
Ammonia	µg/l	07-2661	10/24/07	24	10	100000	0.100	1024	1003	97.9%	88-120
Ammonia	µg/l	07-2684	10/24/07	48	10	100000	0.100	1048	1065	102%	88-120
Ammonia	µg/l	07-2694	11/06/07	48	10	100000	0.100	1010	955	94.6%	88-120
Ammonia	µg/l	07-2748	11/06/07	50	10	100000	0.100	1050	1049	99.9%	88-120
Ammonia	µg/l	07-2818	11/06/07	28	10	100000	0.110	1128	1118	99.1%	88-120
Ammonia	µg/l	07-2904	11/26/07	48	10	100000	0.100	1048	1073	102%	88-120
Ammonia	µg/l	07-2934	11/26/07	48	10	100000	0.100	1048	1074	102%	88-120
Ammonia	µg/l	07-2982	12/11/07	72	10	100000	0.110	1172	1172	100%	88-120
Ammonia	µg/l	09-0233	02/10/08	11	10	10.5	0.707	6.73	12.77	0-10	88-120
Ammonia	µg/l	09-0310	03/10/08	70	71	70.50	0.707	1.00	5.52	0-10	88-120
Ammonia	µg/l	08-0710	04/22/08	72	75	73.50	2.121	2.89	0.00	0-10	88-120
Ammonia	µg/l	08-0730	05/14/08	56	53	54.50	2.121	3.89	12.77	0-10	88-120
Ammonia	µg/l	08-1216	07/15/08	113	116	114.50	2.121	1.85	5.52	0-10	88-120
Ammonia	µg/l	08-1493	08/06/08	33	33	33.00	0.000	0.00	0.00	0-10	88-120

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	ACCEPTANCE RANGE
NOX-N	µg/l	07-2595	09/29/07	0	10	100000	0.300	3000	2816	93.9%	92-108
NOX-N	µg/l	07-2661	10/05/07	9	10	100000	0.300	3009	2808	93.3%	92-108
NOX-N	µg/l	07-2698	10/12/07	10	10	100000	0.300	3010	2800	93.0%	92-108
NOX-N	µg/l	07-2726	10/12/07	78	10	100000	0.300	3078	2831	92.0%	92-108
NOX-N	µg/l	07-2820	10/26/07	2	10	100000	0.170	1702	1770	104%	92-108
NOX-N	µg/l	07-2845	10/26/07	5	10	100000	0.170	1705	1718	101%	92-108
NOX-N	µg/l	07-2862	10/31/07	1299	10	100000	0.300	4299	4013	93.3%	92-108
NOX-N	µg/l	07-2875	11/02/07	5	10	100000	0.080	805	790	98.1%	92-108
NOX-N	µg/l	07-2929	11/10/07	2	10	100000	0.080	802	835	104%	92-108
NOX-N	µg/l	07-2939	11/10/07	18	10	100000	0.090	918	913	99.5%	92-108
NOX-N	µg/l	08-0192	01/25/08	11	12	11.5	0.141	1.23	0.00	0-4	92-108
NOX-N	µg/l	08-0370	02/27/08	0	0	0.10	0.000	0.00	0.00	0-4	92-108
NOX-N	µg/l	08-0455	03/07/08	3	3	3.00	0.000	0.00	0.00	0-4	92-108
NOX-N	µg/l	08-0470	03/11/08	0	0	0.10	0.000	0.00	0.00	0-4	92-108
NOX-N	µg/l	08-0884	05/09/08	8	8	8.00	0.000	0.00	0.00	0-4	92-108
NOX-N	µg/l	08-1168	06/25/08	5	5	5.0	0.000	0.00	0.00	0-4	92-108
Total N	µg/l	07-1995	11/01/07	965	5	50000	0.150	2465	2395	97.2%	92-110
Total N	µg/l	07-2001	11/01/07	1705	5	50000	0.100	2705	2842	105%	92-110
Total N	µg/l	07-2011F	11/01/07	1112	5	50000	0.150	2612	2496	95.6%	92-110
Total N	µg/l	07-1950	11/02/07	957	5	50000	0.150	2457	2509	102%	92-110
Total N	µg/l	07-2169	11/05/07	1177	5	50000	0.100	2177	2010	92.3%	92-110
Total N	µg/l	07-2372	12/04/07	640	5	50000	0.075	1390	1328	95.5%	92-110
Total N	µg/l	07-2510F	12/07/07	877	5	50000	0.070	1577	1479	93.8%	92-110
Total N	µg/l	07-2557F	12/10/07	931	5	50000	0.050	1431	1418	99.1%	92-110
Total N	µg/l	07-2586	12/10/07	846	5	50000	0.050	1346	1380	103%	92-110
Total N	µg/l	07-2593	12/10/07	1590	5	50000	0.050	2090	2203	105%	92-110
Total N	µg/l	07-2627	12/10/07	2983	5	50000	0.050	3483	3486	100%	92-110
Total N	µg/l	08-0095f	01/24/08	582	585	583.5	2.121	0.36	4.986	0-6	92-110
Total N	µg/l	08-0253f	02/18/08	177	177	177.0	0.000	0.00	1.507	0-6	92-110
Total N	µg/l	08-0362f	03/10/08	283	275	279.0	5.657	2.03	4.986	0-6	92-110
Total N	µg/l	08-0461	03/25/08	565	555	560.0	7.071	1.26	1.507	0-6	92-110
Total N	µg/l	08-0765f	04/29/08	132	134	133.0	1.414	1.06	1.507	0-6	92-110
Total N	µg/l	08-1392f	07/28/08	342	332	337.0	7.071	2.10	1.507	0-6	92-110

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	ACCEPTANCE RANGE
Total P	µg/l	07-1995	11/01/07	15	5	10000	0.250	515	488	94.8%	93-109
Total P	µg/l	07-2001	11/01/07	62	5	10000	0.250	562	526	93.6%	93-109
Total P	µg/l	07-2011F	11/01/07	11	5	10000	0.200	411	415	101%	93-109
Total P	µg/l	07-1950	11/02/07	475	5	10000	0.250	975	980	101%	93-109
Total P	µg/l	07-2169	11/05/07	35	5	10000	0.175	385	390	101%	93-109
Total P	µg/l	07-2372	12/04/07	163	5	5000	0.100	263	282	107%	93-109
Total P	µg/l	07-2510F	12/07/07	288	5	10000	0.050	388	395	102%	93-109
Total P	µg/l	07-2557F	12/10/07	263	5	10000	0.050	363	349	96.1%	93-109
Total P	µg/l	07-2586	12/10/07	16	5	10000	0.050	116	108	93.1%	93-109
Total P	µg/l	07-2593	12/10/07	156	5	10000	0.050	256	255	99.6%	93-109
Total P	µg/l	07-2627	12/10/07	542	5	10000	0.050	642	638	99.4%	93-109
Total P	µg/l	08-0095f	01/24/08	1892	1841	1866.5	36.062	1.93	0.000	0-5	93-109
Total P	µg/l	08-0253f	02/18/08	94	100	97.0	4.243	4.37	3.704	0-5	93-109
Total P	µg/l	08-0362f	03/10/08	159	154	156.5	3.536	2.26	0.000	0-5	93-109
Total P	µg/l	08-0461	03/25/08	194	194	194.0	0.000	0.00	3.704	0-5	93-109
Total P	µg/l	08-0765f	04/29/08	582	550	566.0	22.627	4.00	0.000	0-5	93-109
Total P	µg/l	08-1392f	07/28/08	6	6	6.0	0.000	0.00	3.704	0-5	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	0.05	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
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	0.86
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	0.05	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	Date	Rainfall	Date	Rainfall	Date	Rainfall	Date	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	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	5/1/08	0.00	6/1/08	0.76	7/1/08	0.00	8/1/08	0.03
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	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	8/2/08	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	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	5/3/08	0.00	6/3/08	0.00	7/3/08	0.61	8/3/08	0.83
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	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	5/4/08	0.00	6/4/08	0.00	7/4/08	0.00	8/4/08	0.14
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	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	0.00	8/5/08	
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	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	5/6/08	0.00	6/6/08	0.00	7/6/08	0.03	8/6/08	
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	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	5/7/08	0.00	6/7/08	0.00	7/7/08	0.04	8/7/08	
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	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	0.00	7/8/08	1.67	8/8/08	
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	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	0.04	7/9/08	0.00	8/9/08	
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	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	0.89	7/10/08	0.00	8/10/08	
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	0.21	2/11/08	0.00	3/11/08	0.00	4/11/08	0.00	5/11/08	0.15	6/11/08	0.39	7/11/08	0.00	8/11/08	
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	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	5/12/08	0.00	6/12/08	0.00	7/12/08	1.11	8/12/08	
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	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	5/13/08	0.00	6/13/08	0.16	7/13/08	0.00	8/13/08	
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	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	5/14/08	0.00	6/14/08	0.74	7/14/08	0.35	8/14/08	
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	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	5/15/08	0.00	6/15/08	0.08	7/15/08	0.03	8/15/08	
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	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	5/16/08	0.00	6/16/08	0.00	7/16/08	0.65	8/16/08	
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	0.00	1/17/08	0.05	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	0.03	8/17/08	
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	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	5/18/08	0.12	6/18/08	0.00	7/18/08	0.00	8/18/08	
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	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	5/19/08	0.00	6/19/08	0.00	7/19/08	0.00	8/19/08	
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	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	5/20/08	0.00	6/20/08	0.00	7/20/08	0.00	8/20/08	
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	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	5/21/08	0.00	6/21/08	0.00	7/21/08	0.00	8/21/08	
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	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	5/22/08	0.00	6/22/08	0.00	7/22/08	0.00	8/22/08	
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	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	5/23/08	0.06	6/23/08	0.00	7/23/08	0.05	8/23/08	
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	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	0.00	8/24/08	
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	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	5/25/08	0.00	6/25/08	0.00	7/25/08	0.00	8/25/08	
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	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	5/26/08	0.00	6/26/08	0.11	7/26/08	0.30	8/26/08	
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	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	5/27/08	0.00	6/27/08	1.06	7/27/08	0.00	8/27/08	
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	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	5/28/08	0.00	6/28/08	0.11	7/28/08	0.00	8/28/08	
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	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	0.14	8/29/08	
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	12/30/07	0.07	1/30/08	0.20			3/30/08	0.00	4/30/08	0.00	5/30/08	0.00	6/30/08	0.52	7/30/08	0.23	8/30/08	
7/31/07	0.08	8/31/07	0.28			10/31/07	0.00			12/31/07	0.03	1/31/08	0.00			3/31/08	0.01			5/31/08	0.00			7/31/08	0.32	8/31/08	
Total Rainfall	**3.75**		**7.14**		**7.28**		**3.98**		**0.77**		**1.79**		**3.28**		**3.59**		**4.18**		**1.52**		**0.33**		**4.89**		**5.56**		**1.00**
average	**0.12**		**0.23**		**0.24**		**0.13**		**0.03**		**0.06**		**0.11**		**0.12**		**0.13**		**0.05**		**0.01**		**0.16**		**0.18**		**0.25**
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	**1.31**		**3.20**		**2.41**		**1.60**		**0.74**		**1.45**		**0.79**		**0.82**		**3.47**		**0.98**		**0.15**		**1.06**		**1.67**		**0.83**
Days with rain	**14**		**11**		**14**		**9**		**2**		**5**		**10**		**9**		**5**		**4**		**3**		**12**		**14**		**3**
Days with no rain	**17**		**20**		**16**		**22**		**28**		**26**		**21**		**20**		**26**		**26**		**28**		**18**		**17**		**1**
Days >0.10" rain	**9**		**8**		**9**		**7**		**1**		**2**		**8**		**6**		**4**		**4**		**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
Alfred B McClay 1	4/19/08	6.64	49	16.4	101	18	75	519	713	124	8	1201	1333	60	67	421	<2.0	11	3	<3	<2	<2	5	<5	6757	72	<2	<2	6	3
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
Alfred B McClay 1	7/13/08	6.89	77	23.8	<5	372	207	518	1100	308	34	904	1246	42	23.4	43	<2.0	19	<3	<3	<2	<2	<5	<5	1619	108	<2	<2	3	2
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
Alfred B McClay 2	9/21/07	6.61	33	9.4	33	<5	55	4	95	152	4	52	208	<1	1.9	5.6	<2.0	12	5	<3	<2	<2	<5	<5	543	127	<2	<2	2	<2
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
Alfred B McClay 2	10/19/07	6.97	55	21.4	27	36	10	70	143	206	9	269	484	350	6.6	10.6	<2.0	13	<3	<3	<2	<2	<5	<5	2686	412	<2	<2	3	2
Alfred B McClay 2	10/20/07	6.21	36	5.4	79	699	41	31	850	89	153	662	904	2600	72.3	45	<2.0	57	6	3	<2	<2	7	5	4045	187	<2	<2	3	<2
Alfred B McClay 2	11/4/07	6.85	59	22.8	43	18	28	134	223	115	206	54	375	670	7.4	17.4	<2.0	7	<3	<3	<2	<2	<5	<5	1637	611	3	<2	5	<2
Alfred B McClay 2	11/16/07	6.67	57	21.4	49	10	9	57	125	65	180	71	316	770	4.8	11.6	<2.0	5	<3	<3	<2	<2	<5	<5	611	20	<2	<2	<2	<2
Alfred B McClay 2	11/23/07	6.57	35	9.4	47	<5	16	12	78	445	96	137	678	143	<0.1	1.3	<2.0	8	3	<3	<2	<2	<5	<5	217	5	<2	<2	3	<2
Alfred B McClay 2	12/11/07	6.45	32	9.8	5	6	34	41	86	143	62	257	462	26	1.8	7.7	<2.0	7	3	<3	<2	<2	5	<5	663	340	<2	<2	4	3
Alfred B McClay 2	12/16/07	6.57	57	22.0	12	<5	64	89	168	130	10	216	356	5200	5.9	18.8	<2.0	10	3	<3	<2	<2	<5	<5	1312	116	<2	<2	2	<2
Alfred B McClay 2	2/13/08	6.66	48	18.8	85	12	47	42	186	56	3	697	756	330	19.1	53	2	9	<3	<3	<2	<2	<5	<5	5748	387	2	<2	30	3
Alfred B McClay 2	4/6/08	5.99	27	6.2	118	84	17	328	547	108	7	164	279	18	4.8	40	<2.0	5	<2	<2	<2	<2	<5	<5	576	40	<2	<2	3	3
Alfred B McClay 2	4/19/08	6.71	36	9.0	32	<5	30	16	81	80	41	67	188	4	2.6	9.4	<2.0	8	3	<3	<2	<2	<5	<5	331	38	<2	<2	6	<2
Alfred B McClay 2	4/27/08	6.30	36	9.0	<5	45	79	133	260	150	32	163	345	9	7.5	14	<2.0	12	3	<3	<2	<2	<5	<5	698	50	<2	<2	8	<2
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
Fakahatchee 1	10/23/07	7.65	523	246.0	29	5	1026	113	1173	10	4	2	16	15	0.3	1	<2.0	102	5	4	<2	<2	<5	<5	142	120	<2	<2	3	3
Fakahatchee 1	7/31/08	7.80	444	218.0	33	5	843	84	965	5	1	1	7	104	0.3	1.5	<2.0	98	<3	<3	<2	<2	<5	<5	41	29	<2	<2	6	3
Fakahatchee 2	10/7/07	8.06	464	233.0	11	6	552	146	715	1	11	3	15	250	0.8	9.9	4.3	73	3	<3	<2	<2	<5	<5	124	103	<2	<2	<2	<2
Fakahatchee 2	10/23/07	7.92	489	250.0	32	<5	650	31	716	3	7	5	15	33	1	1.5	<2.0	62	5	4	<2	<2	<5	<5	67	43	<2	<2	5	3
Fakahatchee 2	7/31/08	7.87	486	236.0	20	22	805	8	855	4	1	2	7	98	0.4	2.2	<2.0	103	4	<3	<2	<2	<5	<5	91	54	<2	<2	4	<2
Fakahatchee 3	10/7/07	7.98	456	228.0	6	10	555	19	590	3	<1	1	4	200	0.6	<0.7	4.6	62	<3	<3	<2	<2	<5	<5	22	8	<2	<2	18	<2
Fakahatchee 3	10/23/07	7.70	503	256.0	31	5	608	88	732	7	5	5	17	104	0.6	0.8	<2.0	65	4	<3	<2	<2	<5	<5	109	10	<2	<2	8	3
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
Faver Dykes 1	7/11/07	6.34	163	18.4	96	<5	20	618	737	1	7	47	55	730	2.3	8.3	4.1	333	<3	<3	<2	<2	<5	<5	1759	1584	<2	<2	48	22
Faver Dykes 1	7/23/07	5.31	189	6.2	34	6	737	274	1051	3	13	13	29	300	1.9	2.4	3.9	334	3	<3	<2	<2	<5	<5	1640	1164	<2	<2	34	13
Faver Dykes 1	9/17/07	5.50	119	6.6	20	6	813	46	885	3	11	5	19	96	1.9	6.2	2.5	361	<3	<3	<2	<2	<5	<5	2450	2224	<2	<2	12	7
Faver Dykes 1	9/21/07	4.29	138	0.0	90	8	1158	38	1294	3	9	18	30	120	1.8	1	3.6	341	3	<3	<2	<2	<5	<5	399	134	6	<2	30	12
Faver Dykes 1	10/8/07	4.58	221	0.6	31	12	1386	594	2023	8	22	55	85	170	0.8	3.4	6.6	442	4	3	<2	<2	<5	<5	2178	770	<2	<2	3	<2
Faver Dykes 1	10/31/07	4.12	218	0.0	38	9	664	398	1109	19	2	3	24	2300	0.8	1.4	<2.0	368	3	<3	<2	<2	<5	<5	2323	2045	<2	<2	47	25
Faver Dykes 1	11/5/07	4.67	155	1.4	30	<5	313	116	462	9	11	7	27	84	0.9	7.3	<2.0	235	<3	<3	<2	<2	7	<5	2927	1616	3	<2	3	2
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
Faver Dykes 1	3/11/08	4.68	152	1.4	68	7	458	163	696	6	<1	7	16	250	0.6	6.8	<2.0	202	7	3	3	<2	<5	<5	958	876	<2	<2	14	10
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
Faver Dykes 2	7/23/07	4.83	217	2.6	38	<5	1097	520	1658	5	7	3	15	290	0.6	<0.7	<2.0	359	3	<3	<2	<2	<5	<5	932	910	<2	<2	11	5
Faver Dykes 2	9/17/07	4.98	175	4.4	44	<5	778	268	1093	7	8	3	18	1135	0.6	1	<2.0	295	<3	<3	<2	<2	<5	<5	1334	1175	<2	<2	8	6
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
Faver Dykes 2	10/8/07	4.68	138	1.8	55	220	1808	220	2303	17	18	33	68	55	0.7	1	5.6	914	5	<3	<2	<2	<5	<5	2444	2121	<2	<2	4	2
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
Faver Dykes 2	11/5/07	4.65	157	1.4	45	13	969	85	1112	4	16	4	24	112	0.3	1	<2.0	600	<3	<3	2	<2	5	<5	1605	1535	<2	<2	9	3
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
Faver Dykes 2	3/11/08	4.74	164	2.4	74	<5	933	47	1057	4	4	10	18	116	0.9	2.6	<2.0	341	6	3	6	3	<5	<5	469	304	<2	<2	18	7
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
Faver Dykes 4	10/8/07	5.59	273	8.4	48	19	1995	984	3046	4	21	82	107	610	2.5	1.3	8.4	816	6	<3	<2	<2	<5	<5	5586	4476	<2	<2	8	3
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
Faver Dykes 4	11/5/07	7.44	608	257.0	35	<5	613	25	676	37	15	45	97	152	0.8	2.9	<2.0	178	4	<3	3	<2	7	<5	1009	871	<2	<2	2	<2
Faver Dykes 4	4/15/08	4.69	101	0.6	90	<5	428	20	541	1	14	5	20	<1	0.5	1.9	<2.0	134	3	<3	<2	<2	5	<5	272	199	<2	<2	10	5
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
Faver Dykes 6	3/11/08	4.70	84	2.0	83	5	813	116	1017	57	1	16	74	51600	1.8	4.8	2.8	435	3	3	3	2	<5	<5	79	19	<2	<2	13	10
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
Faver Dykes 7	3/11/08	6.05	127	17.0	78	<5	646	113	840	2	6	5	13	540	1.7	1.9	<2.0	412	3	<3	<2	<2	<5	<5	428	304	<2	<2	5	2
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

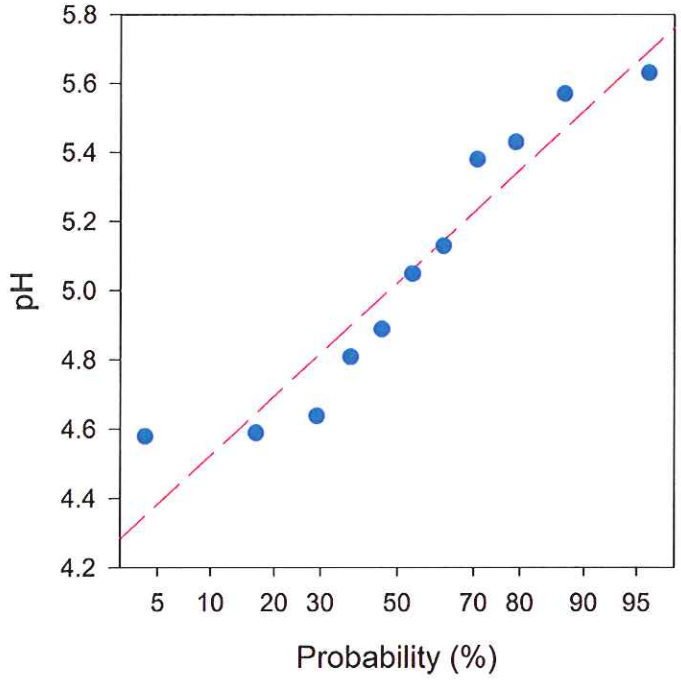
APPENDIX E

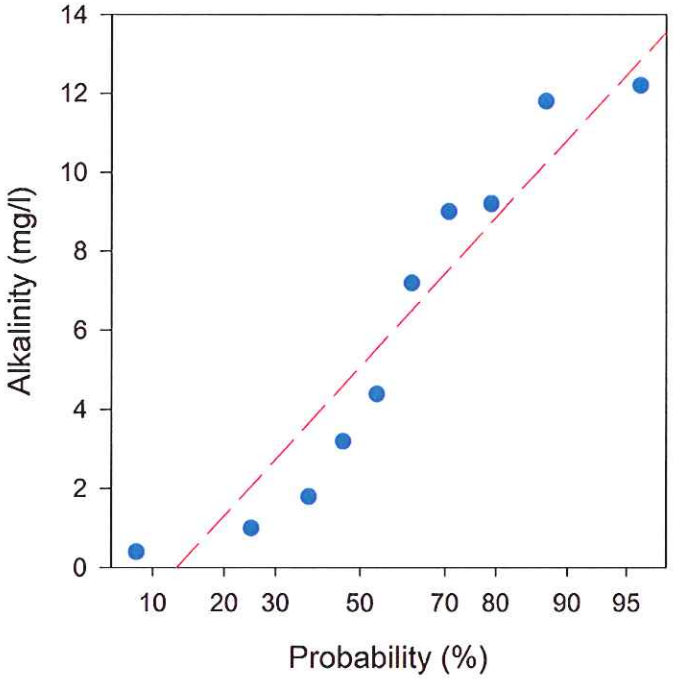
PROBABILITY DISTRIBUTIONS FOR DATA COLLECTED AT THE NATURAL AREA MONITORING SITES

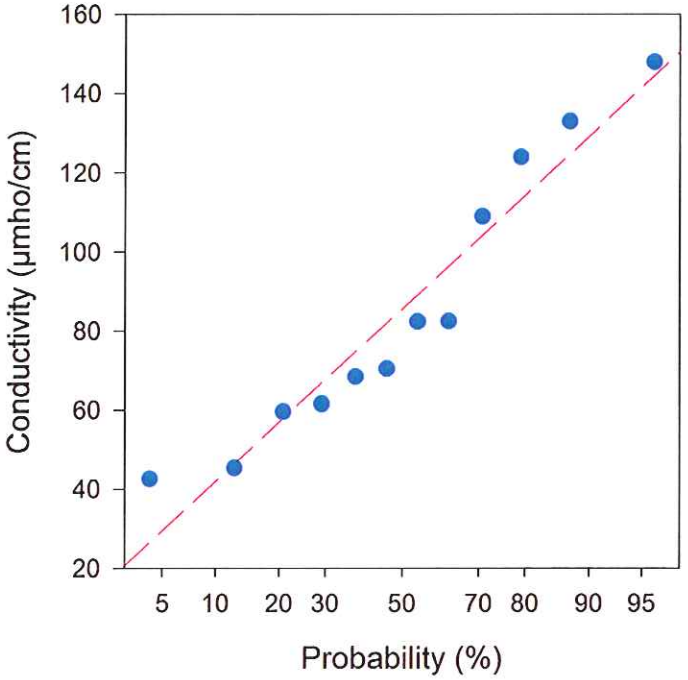
1. **Dry Prairie**
2. **Marl Prairie**
3. **Mesic Flatwoods**
4. **Mixed Hardwood Forest**
5. **Ruderal / Upland Pine**
6. **Scrubby Flatwoods**
7. **Upland Hardwood Forest**
8. **Upland Mixed Forest**
9. **Wet Flatwood**
10. **Wet Prairie**

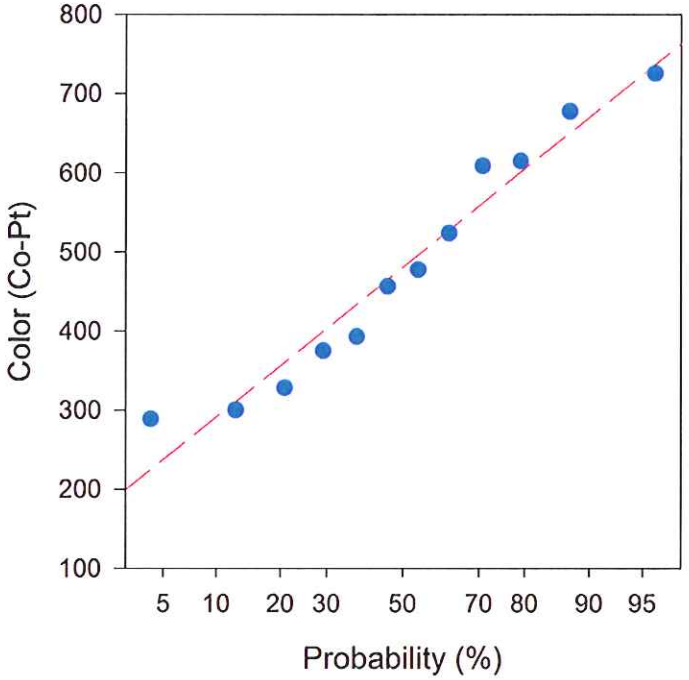
1. Dry Prairie

Dry Prairie
(Normal Probability Plots)

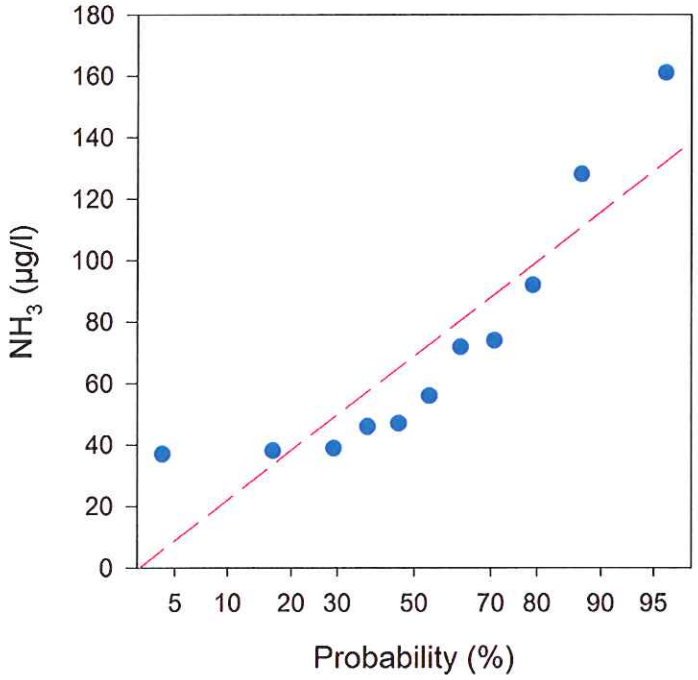


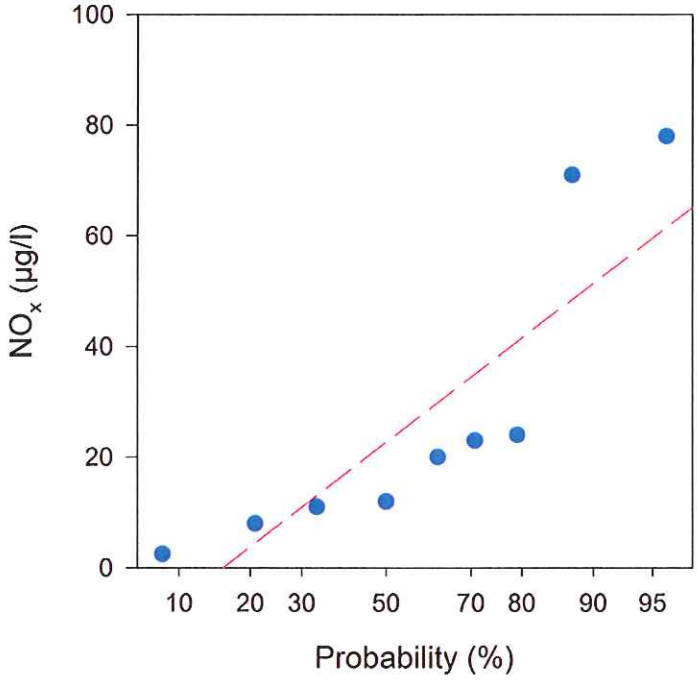


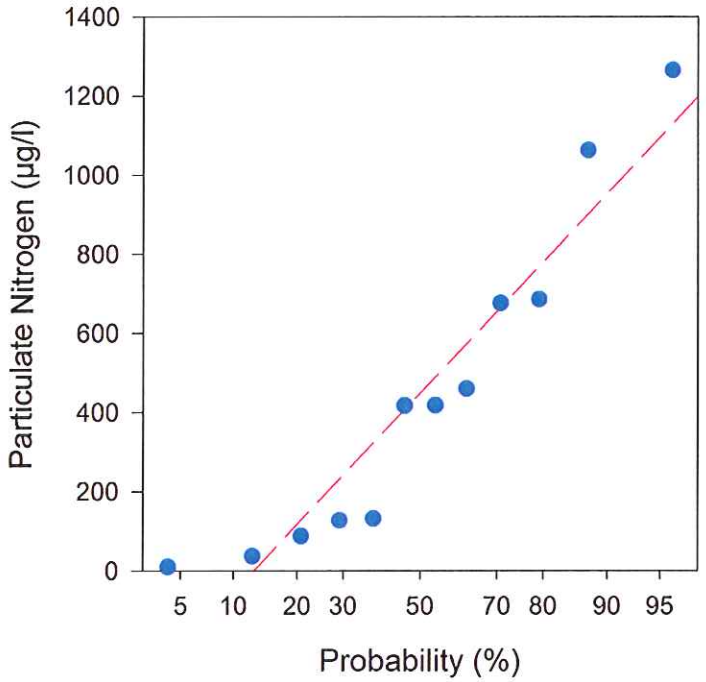


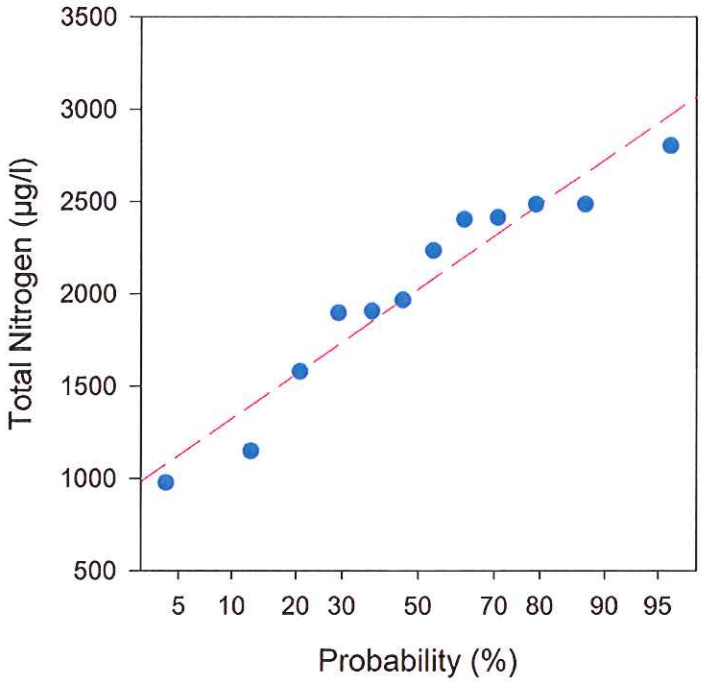


Dry Prairie
(Normal Probability Plots)

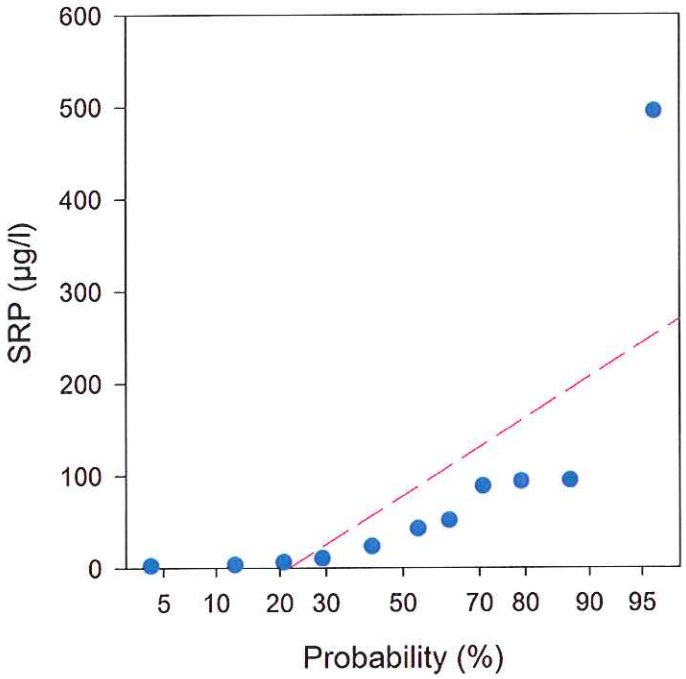


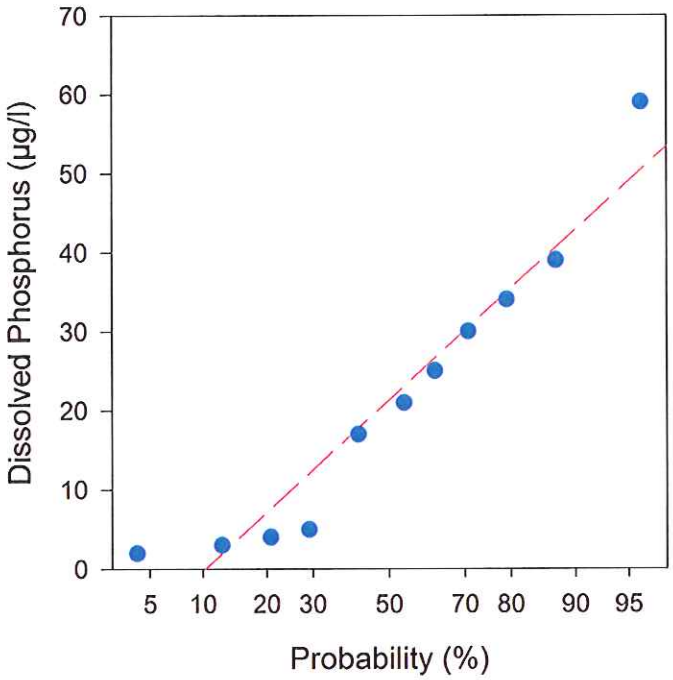


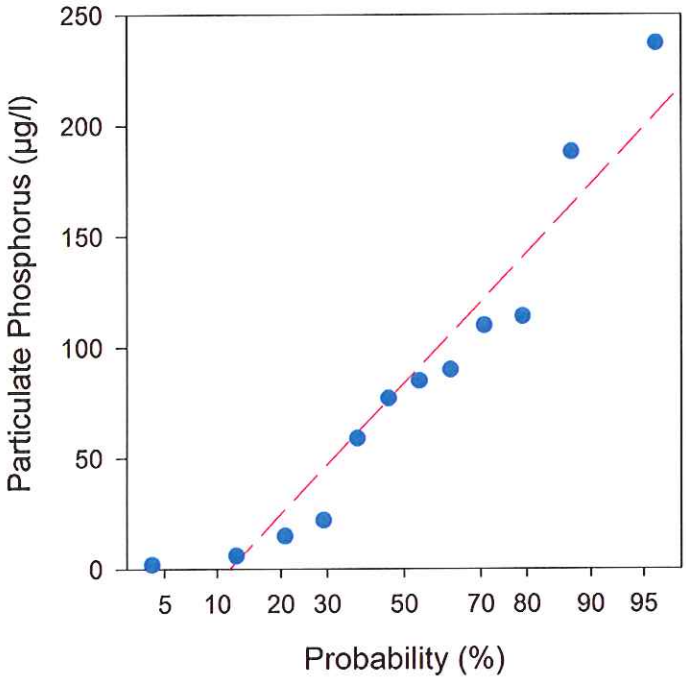


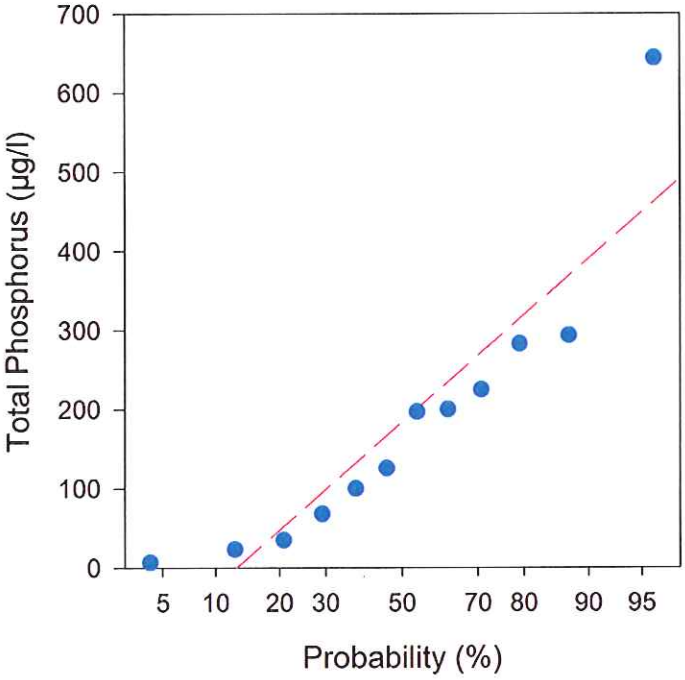


Dry Prairie
(Normal Probability Plots)

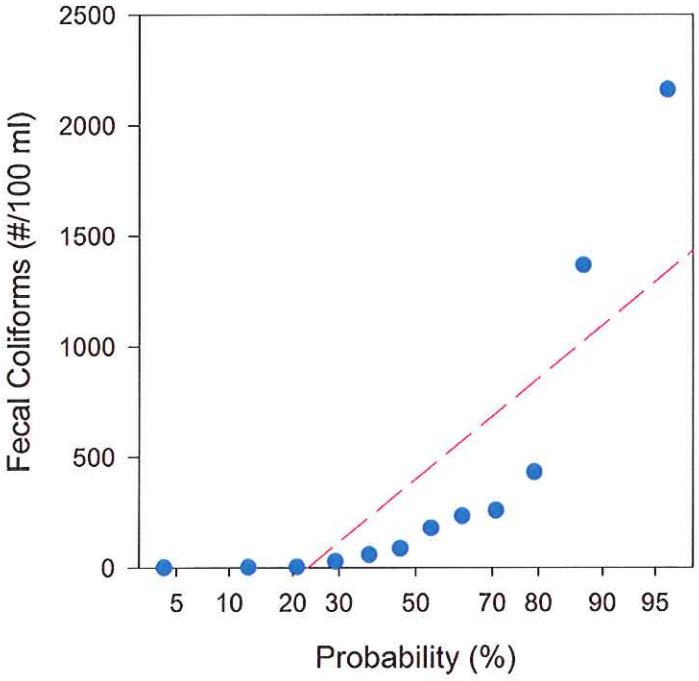


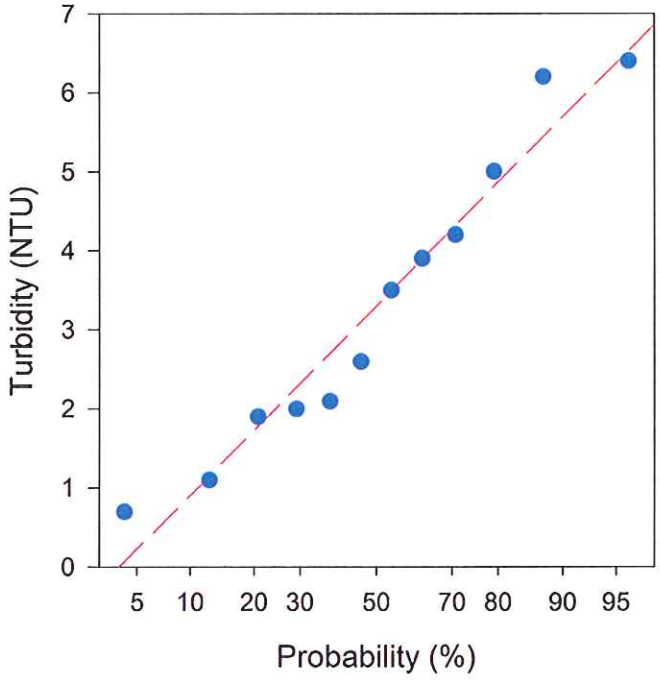


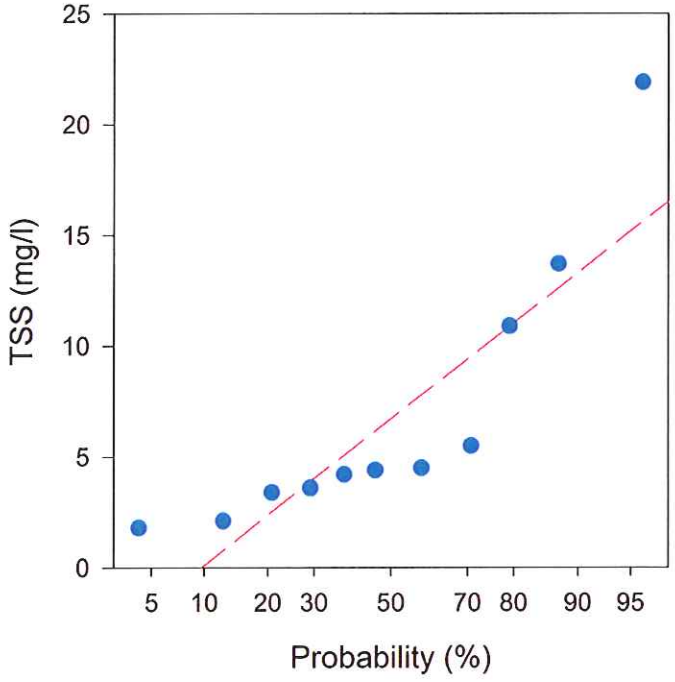


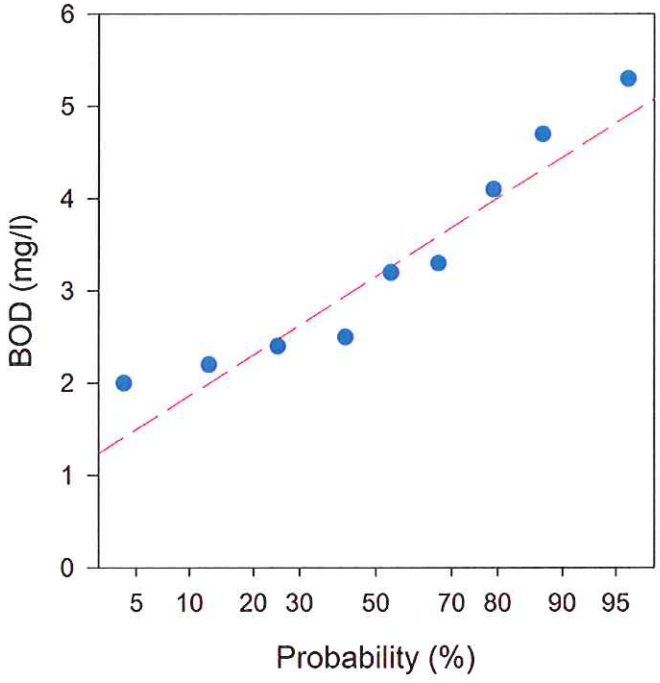


Dry Prairie
(Normal Probability Plots)

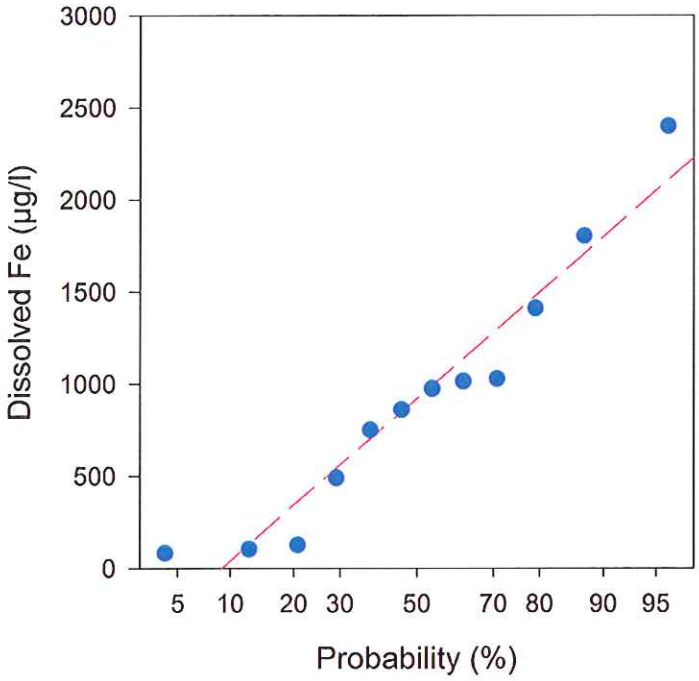


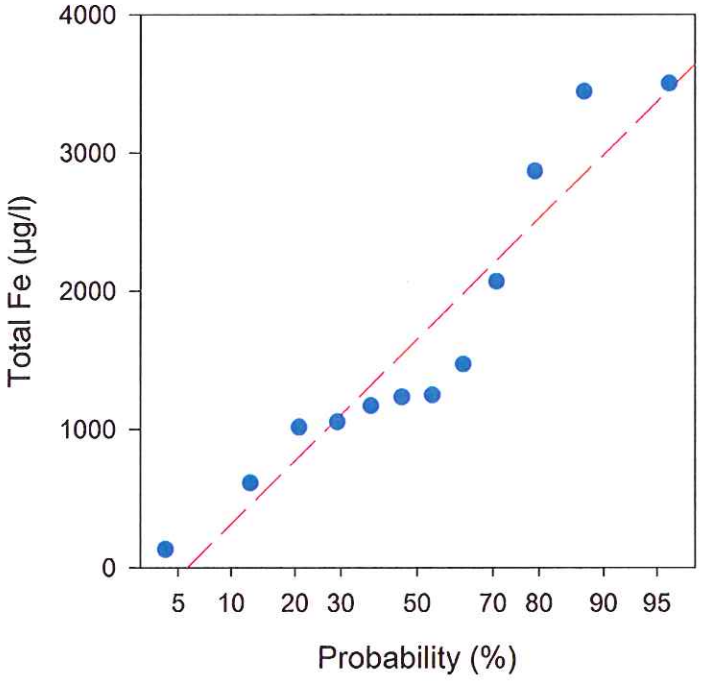


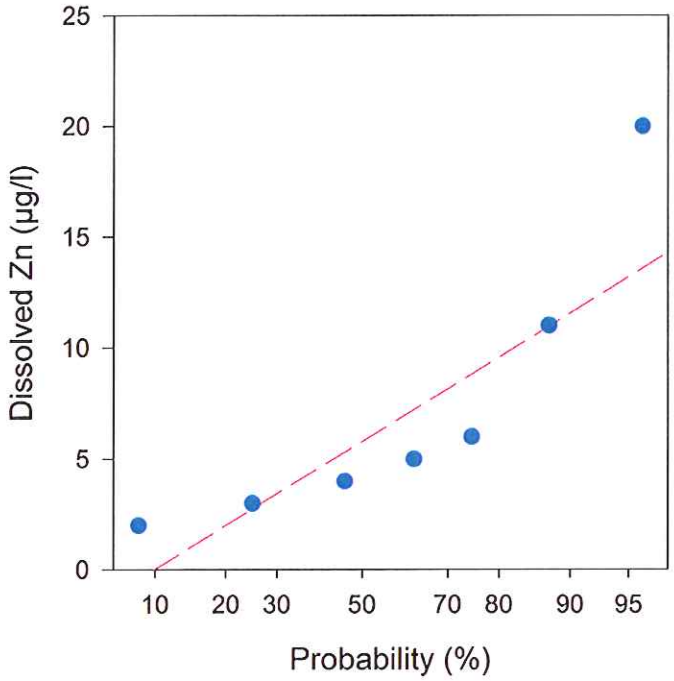


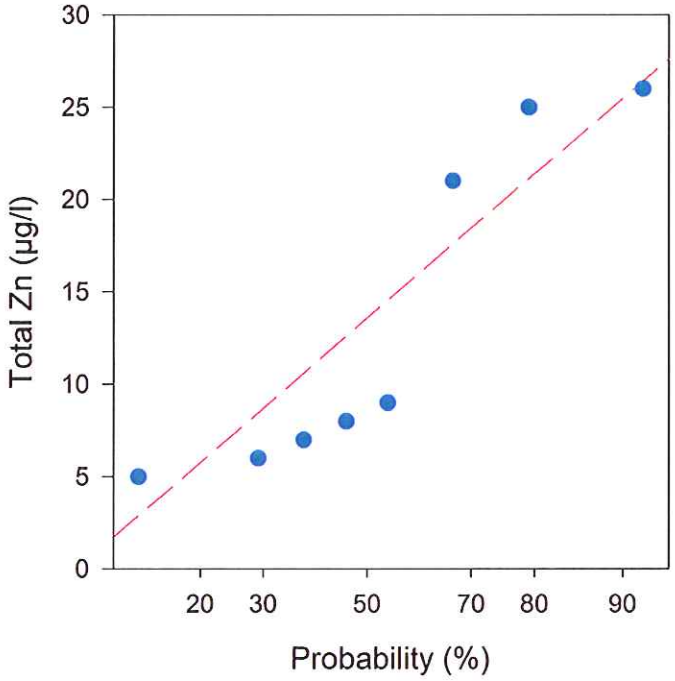


Dry Prairie
(Normal Probability Plots)

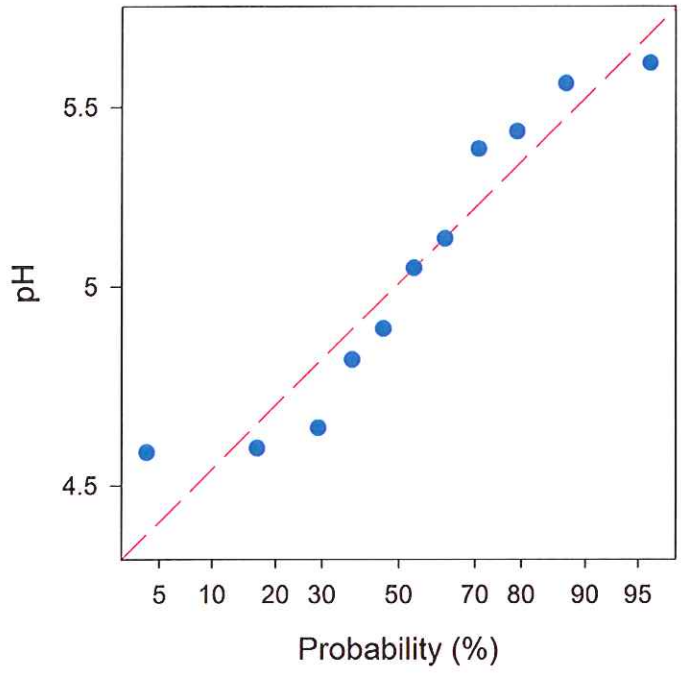


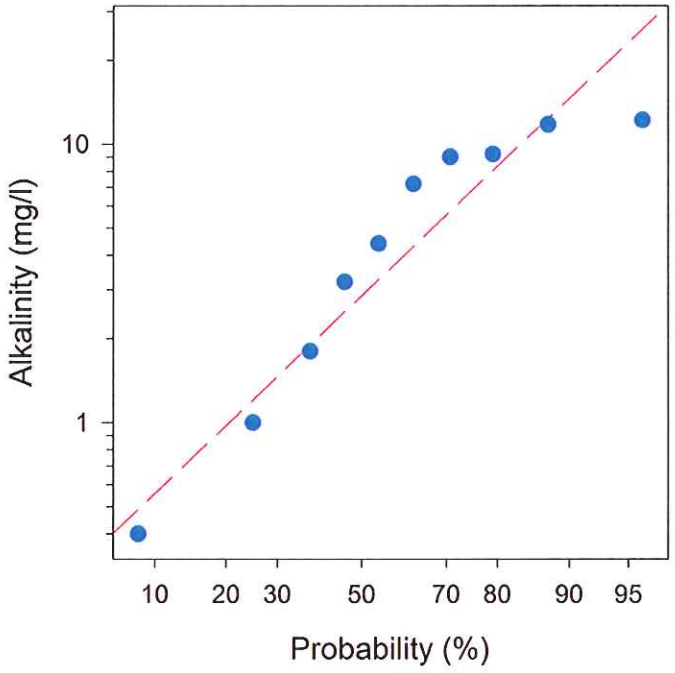


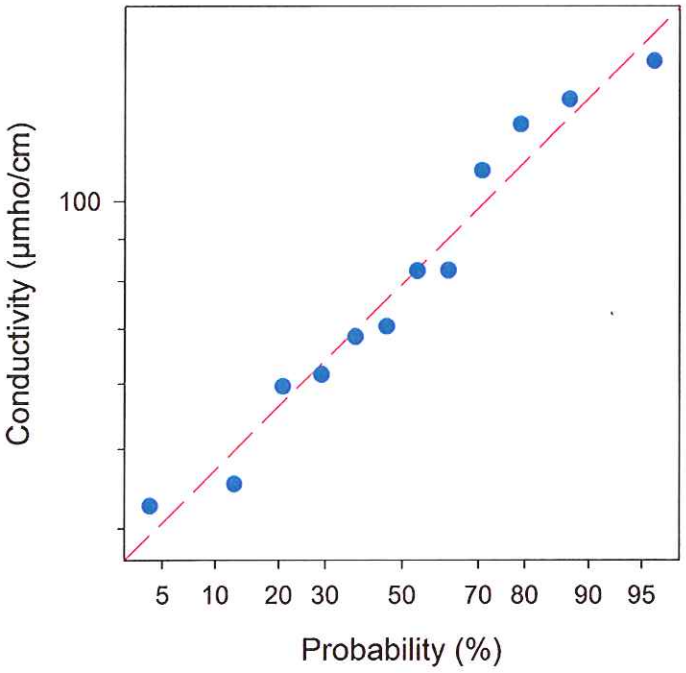


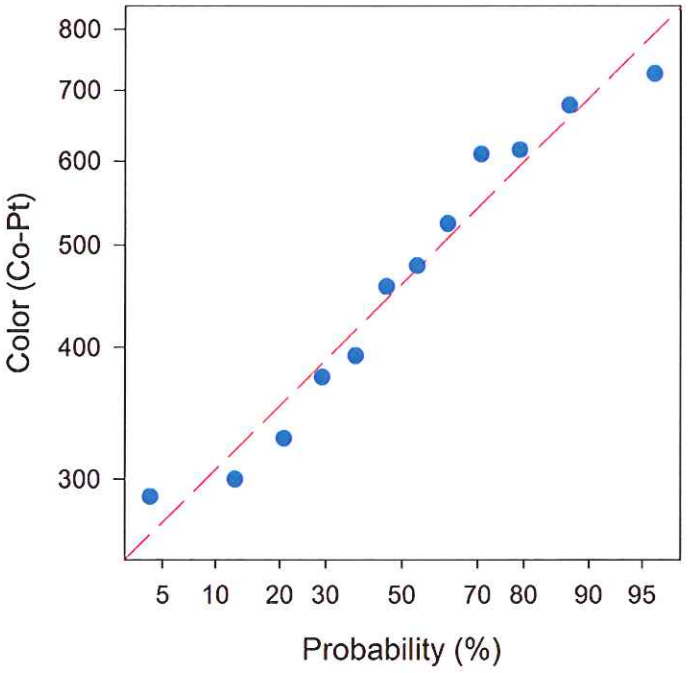


Dry Prairie
(Log Normal Probability Plots)

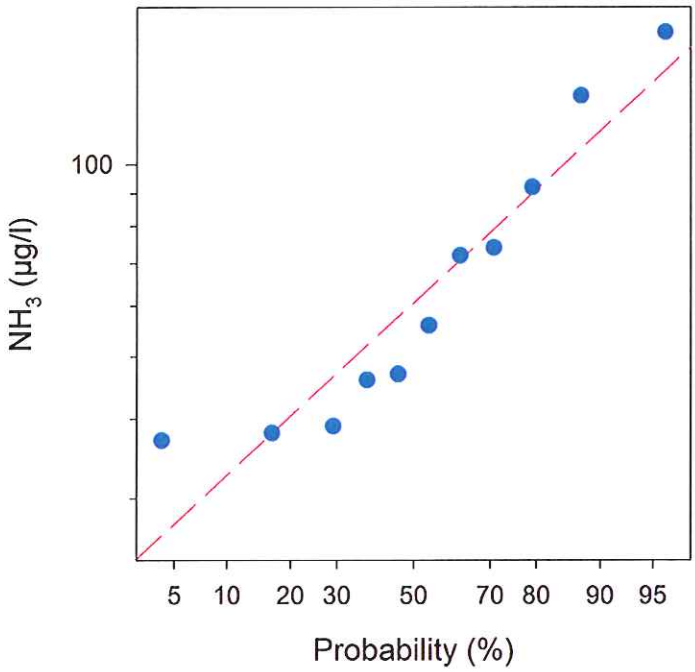


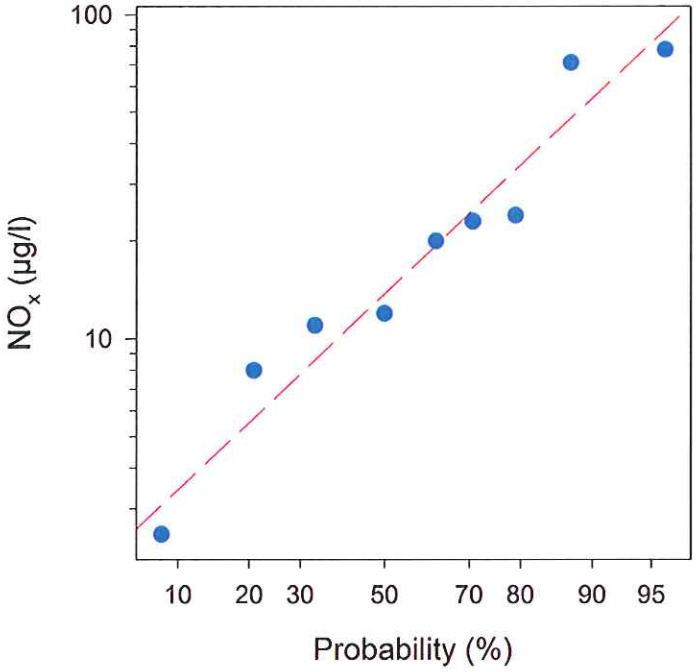


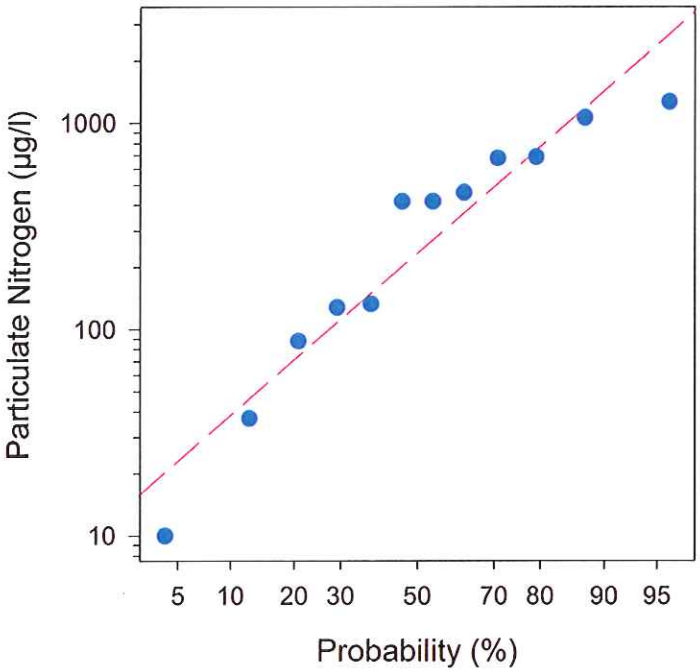


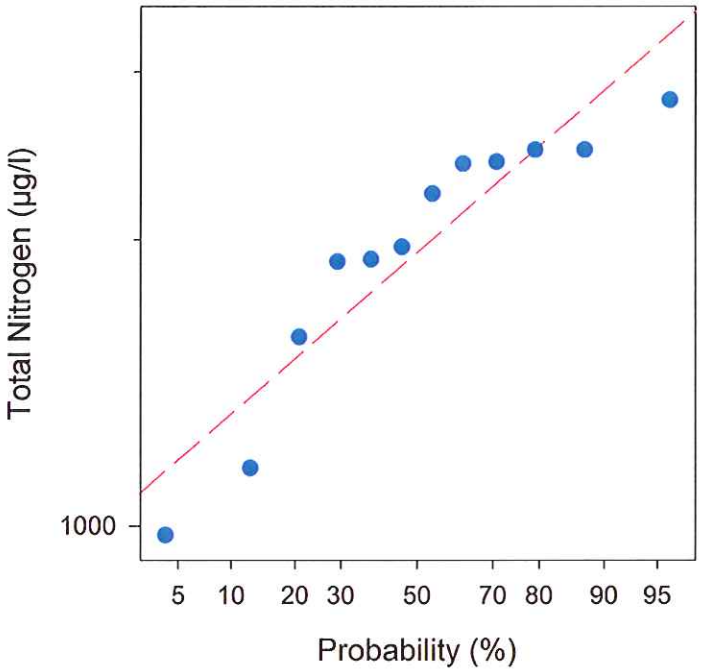


Dry Prairie
(Log Normal Probability Plots)

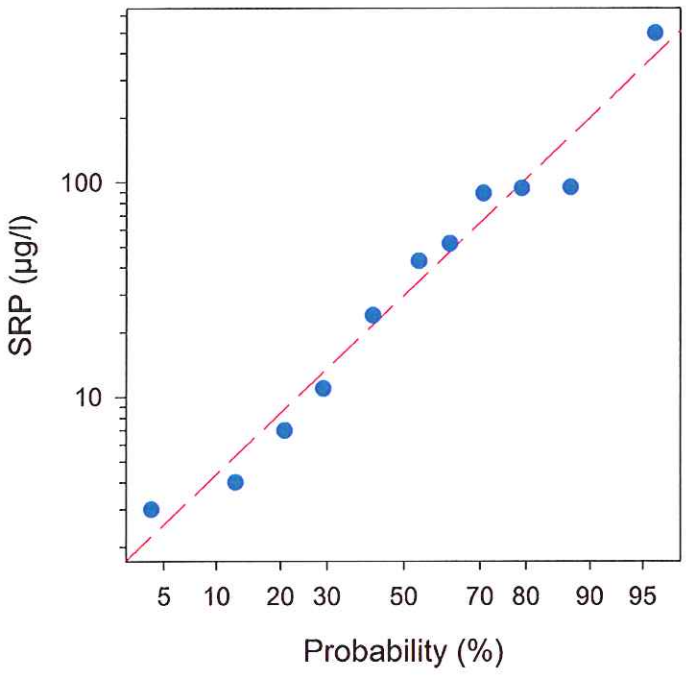


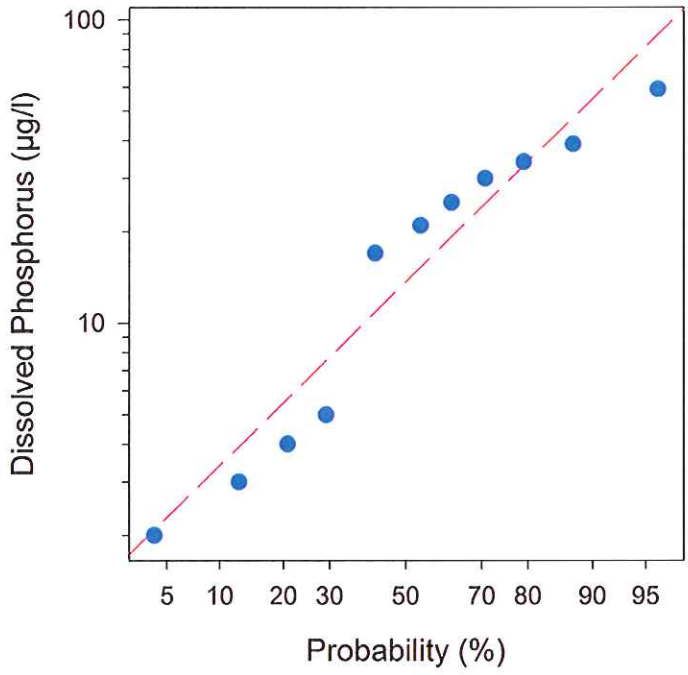


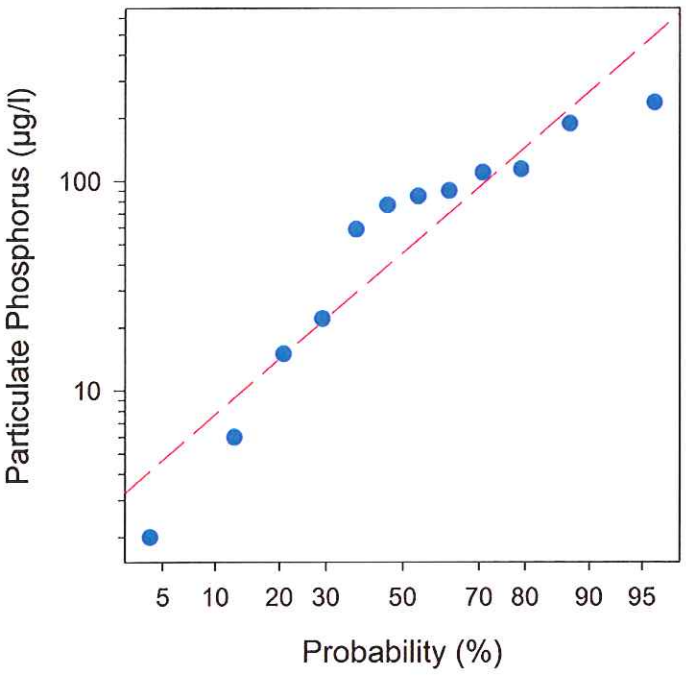


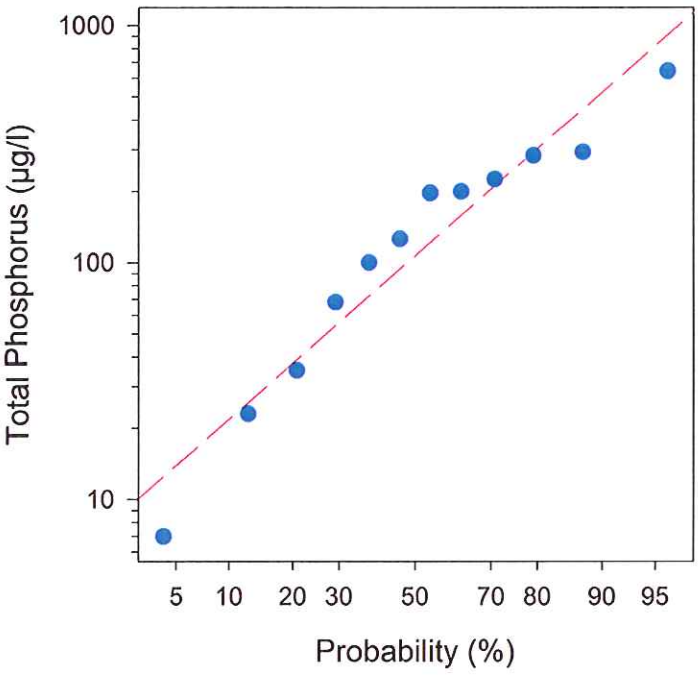


Dry Prairie
(Log Normal Probability Plots)

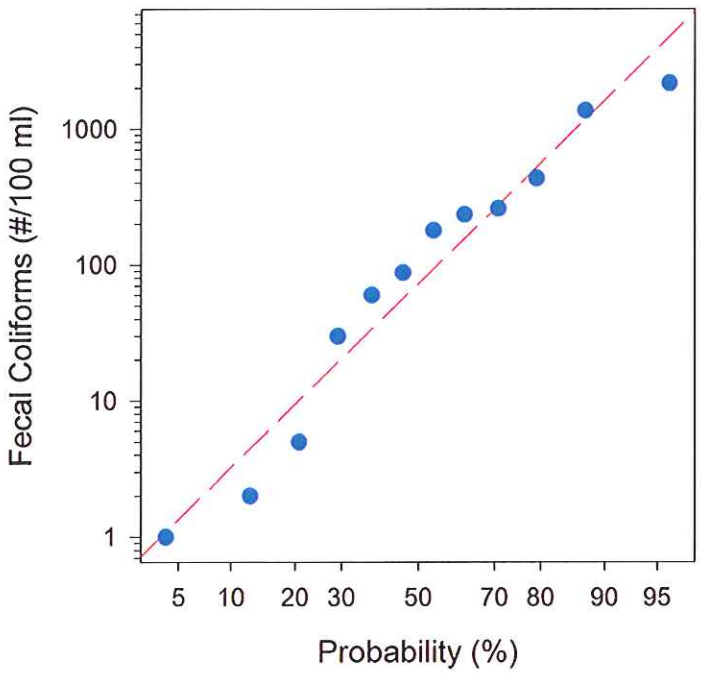


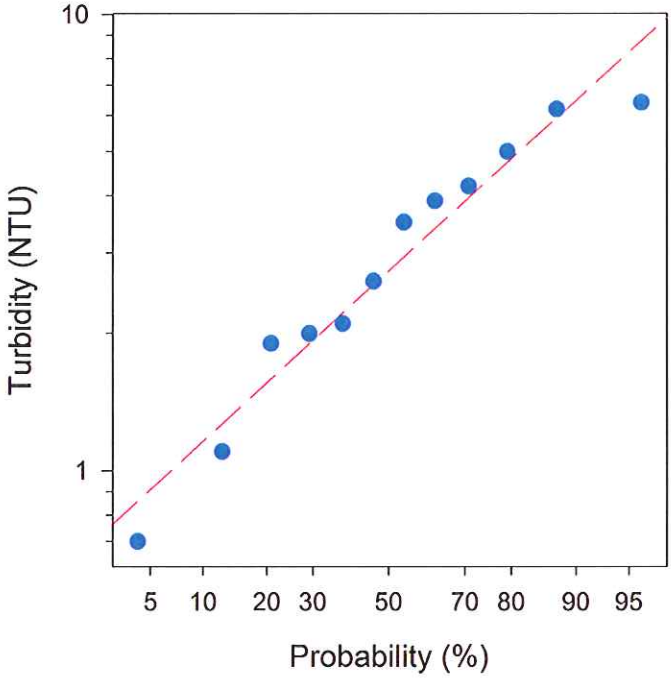


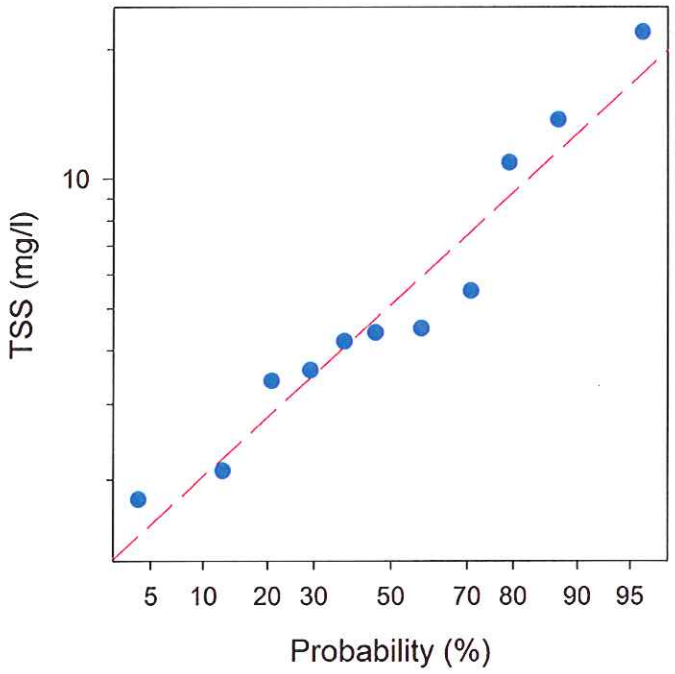


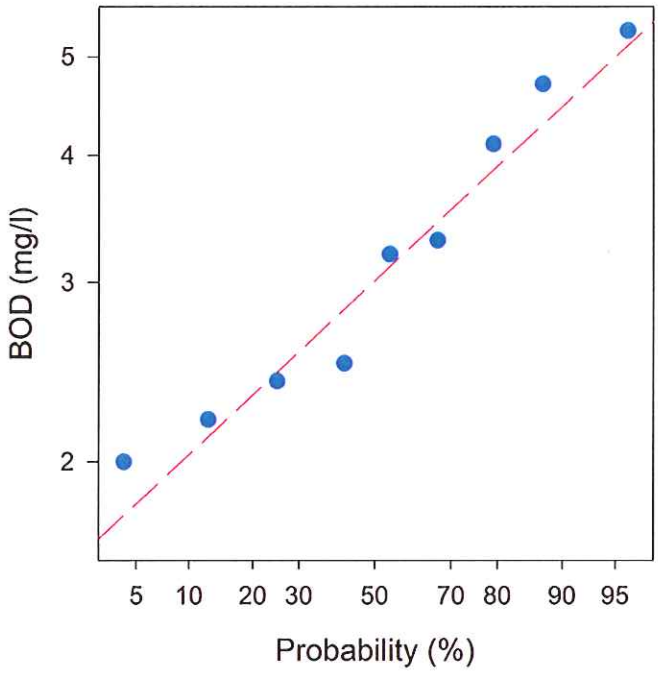


Dry Prairie
(Log Normal Probability Plots)

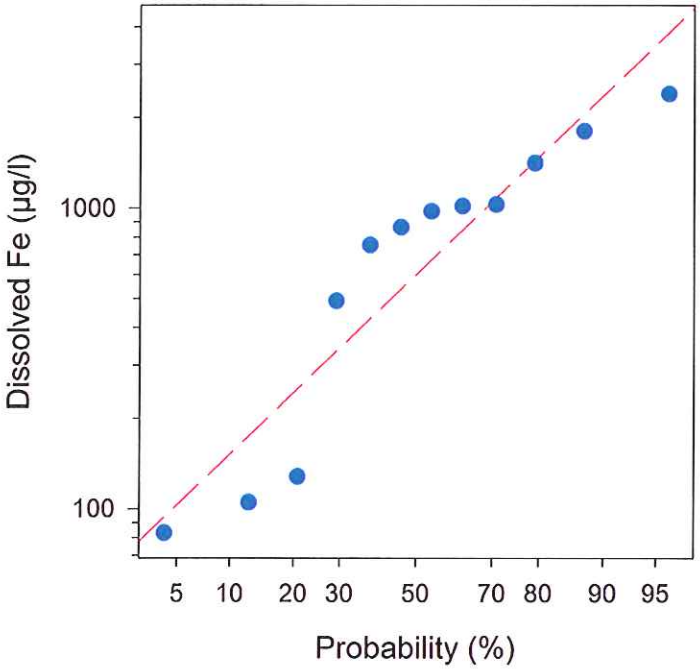


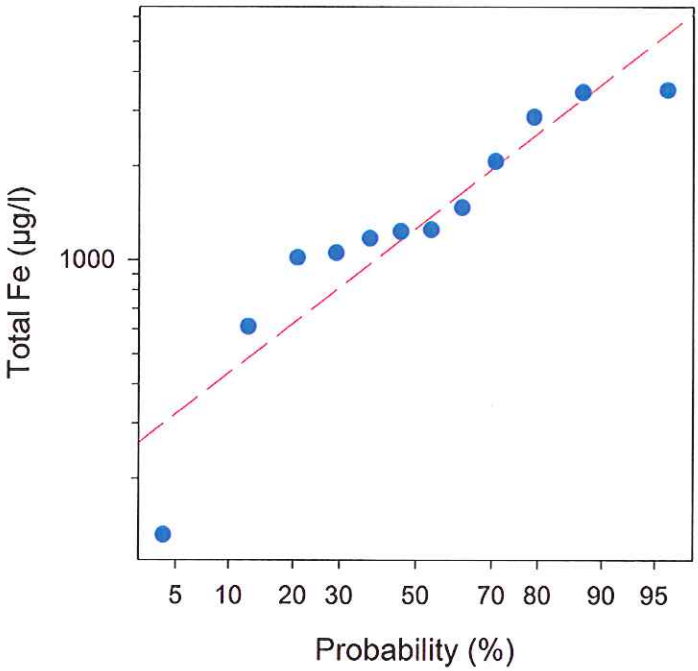


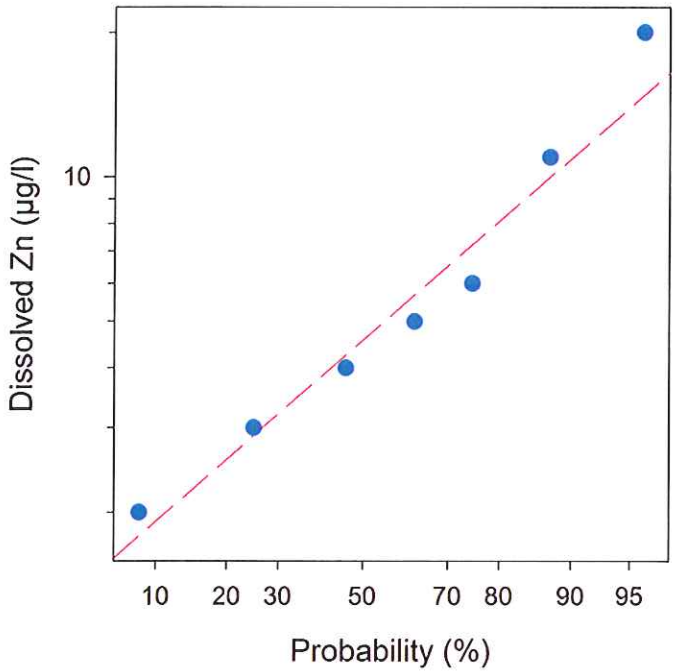


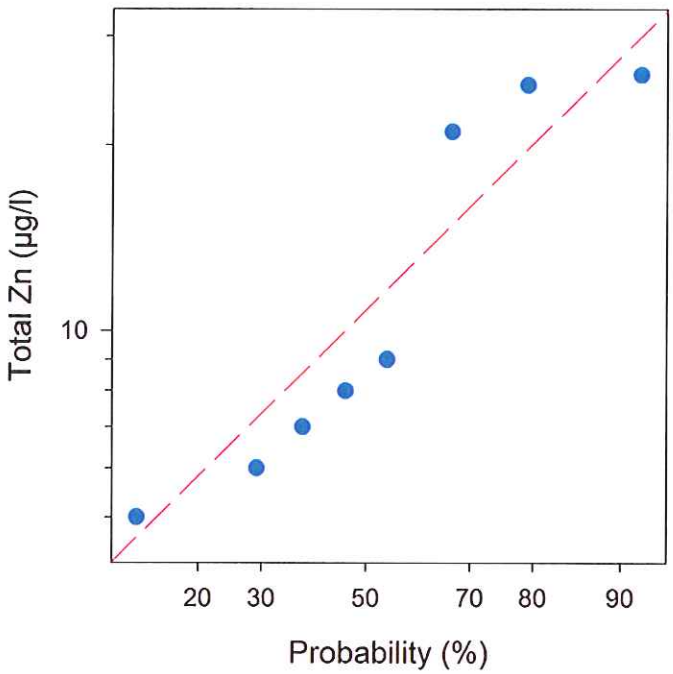


Dry Prairie
(Log Normal Probability Plots)



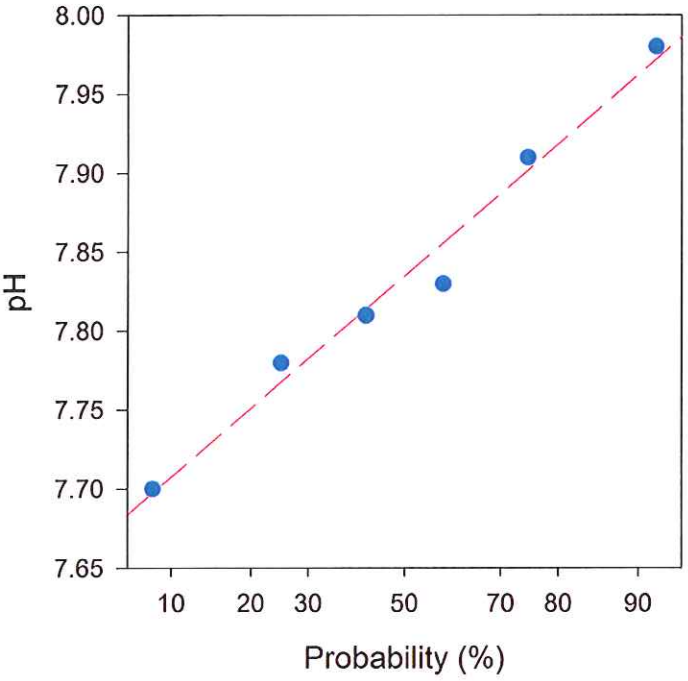


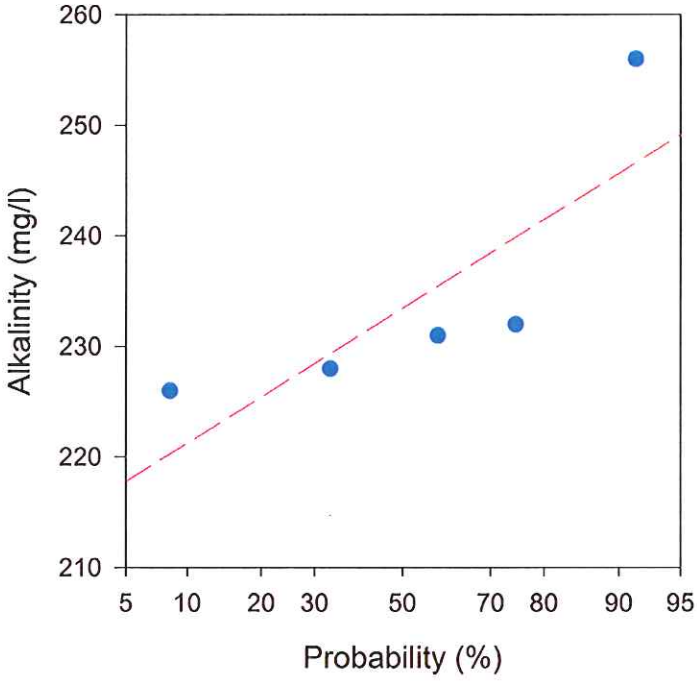


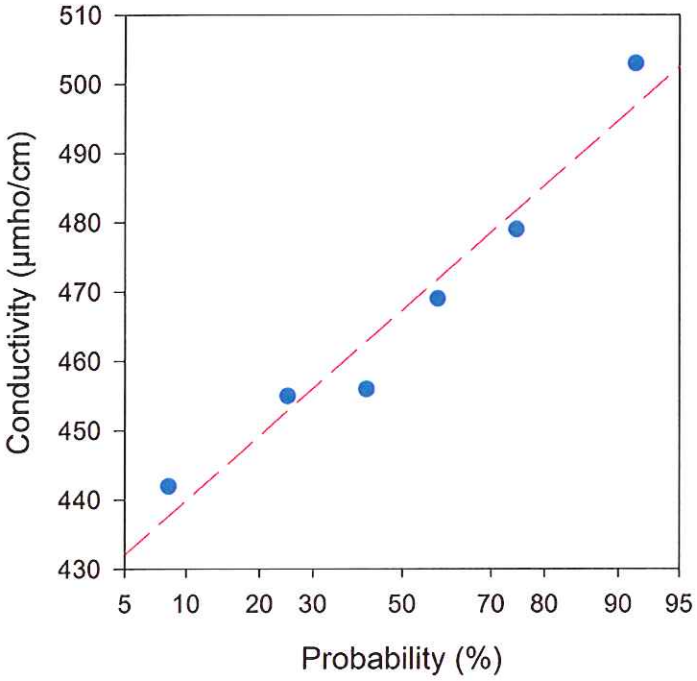


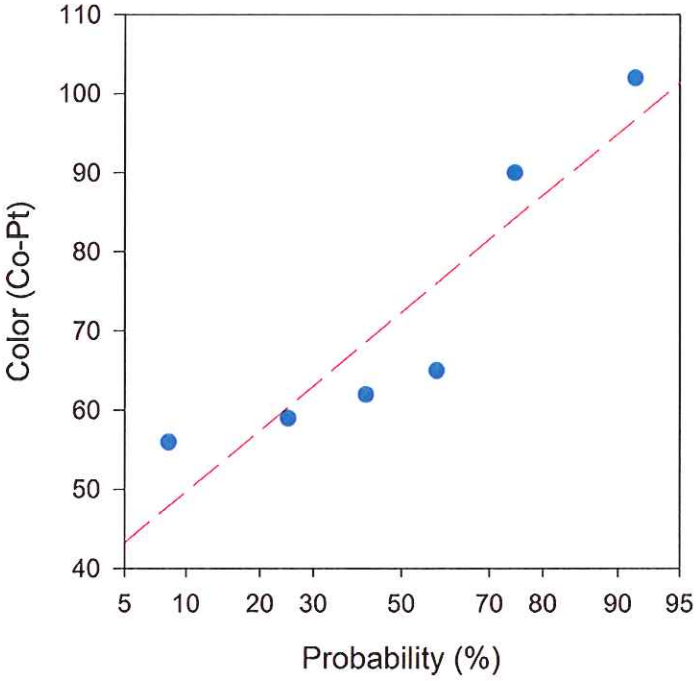
2. Marl Prairie

Marl Prairie
(Normal Probability Plots)

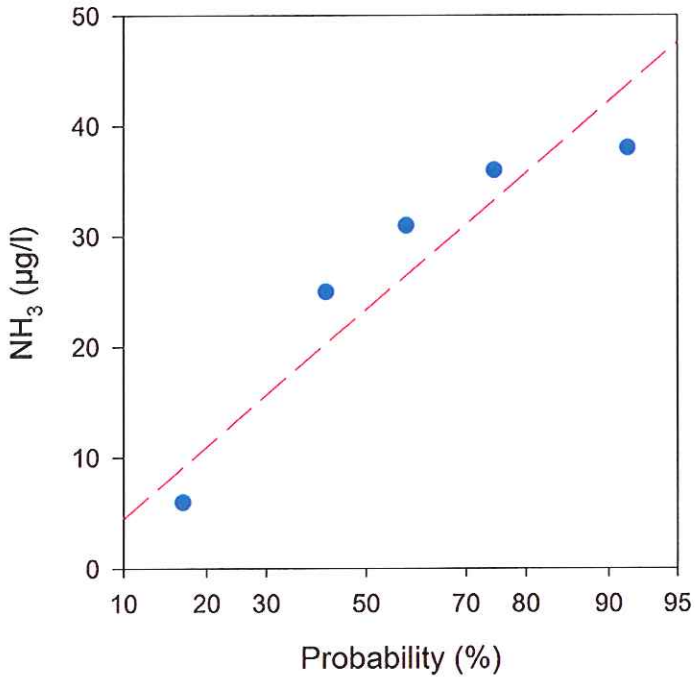


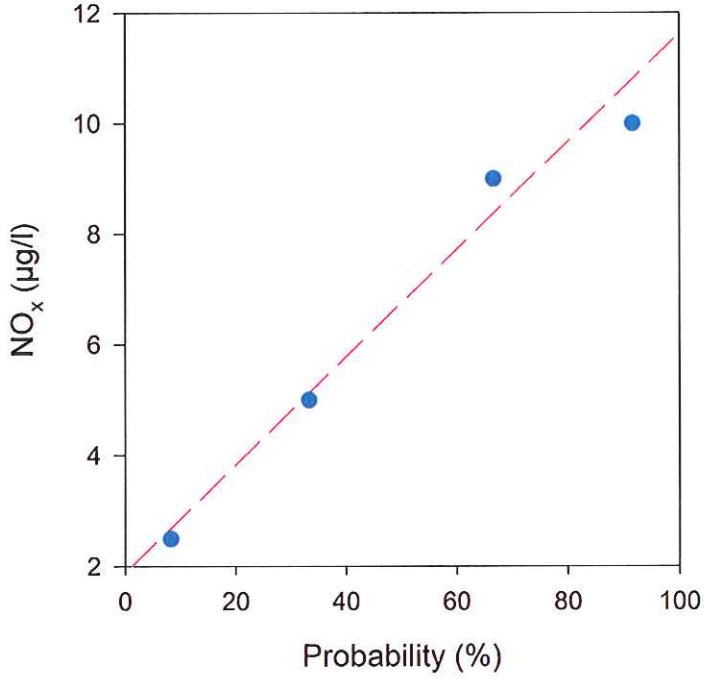


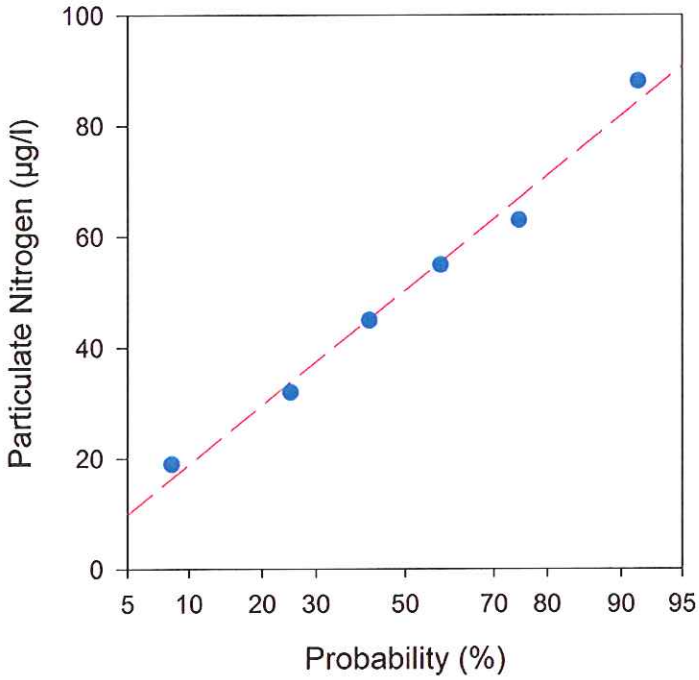


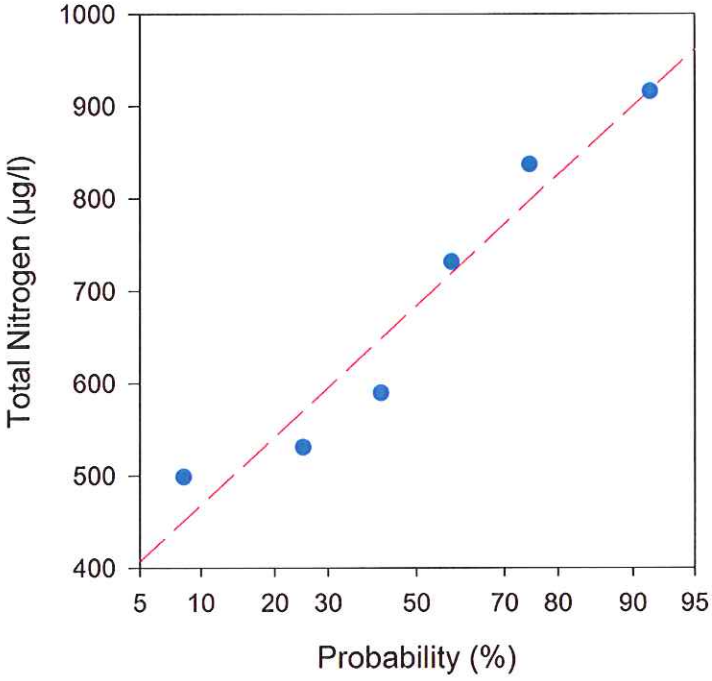


Marl Prairie
(Normal Probability Plots)

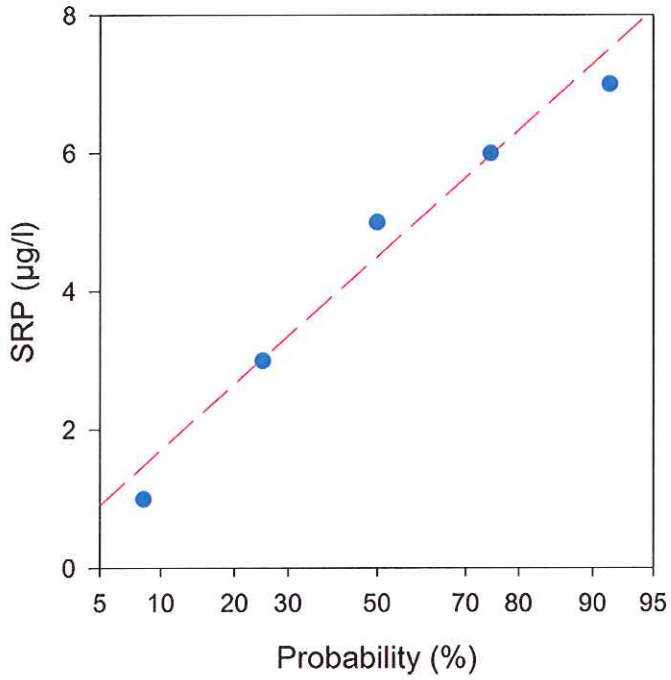


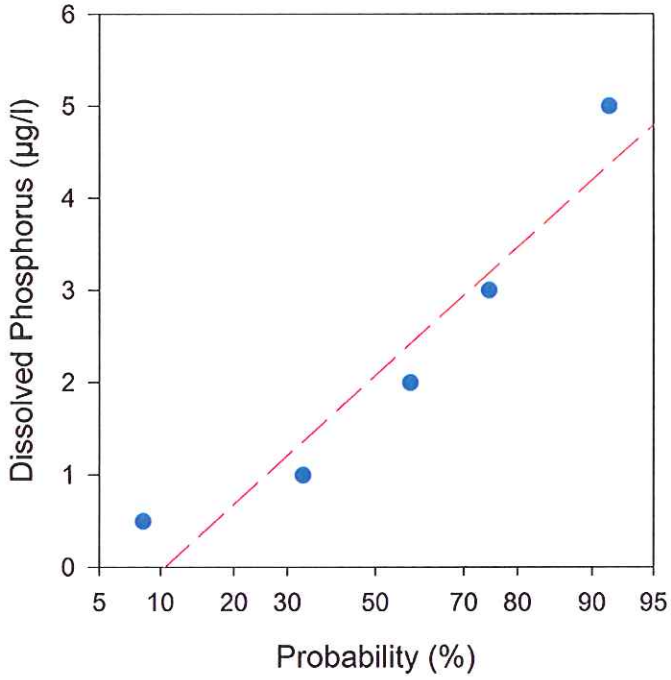


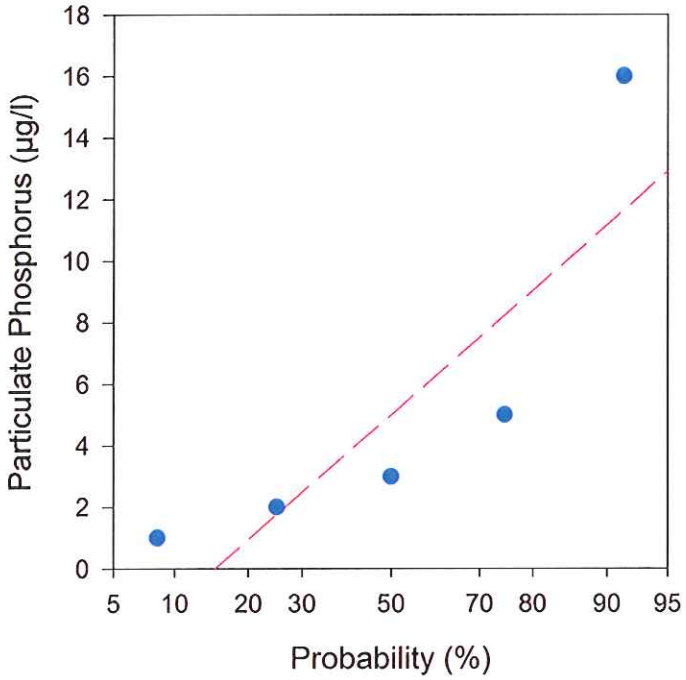


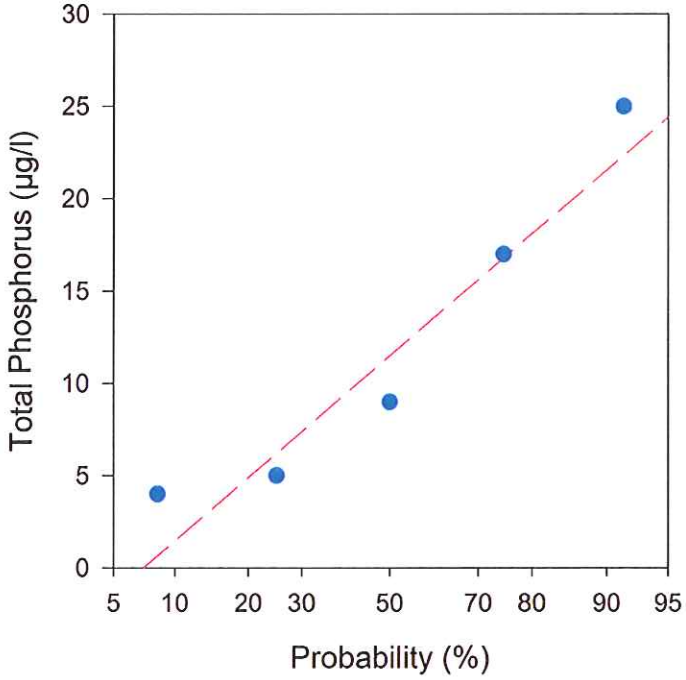


Marl Prairie
(Normal Probability Plots)

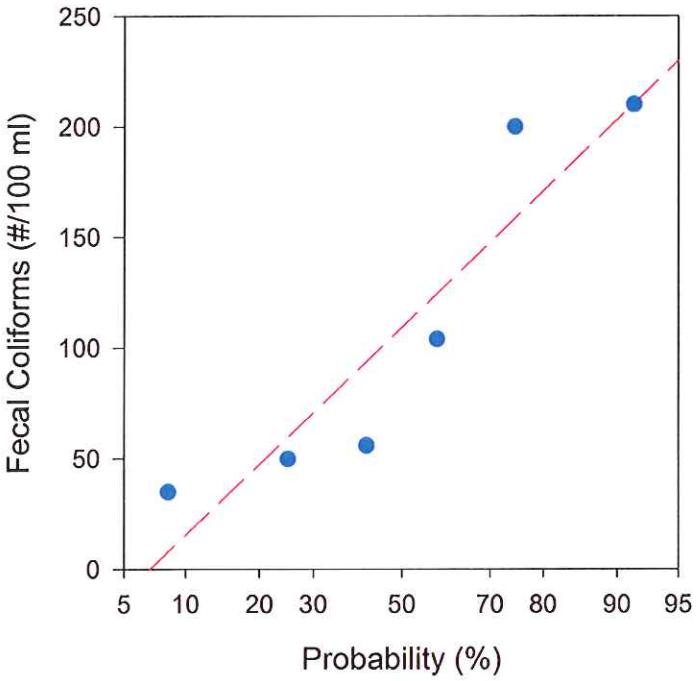


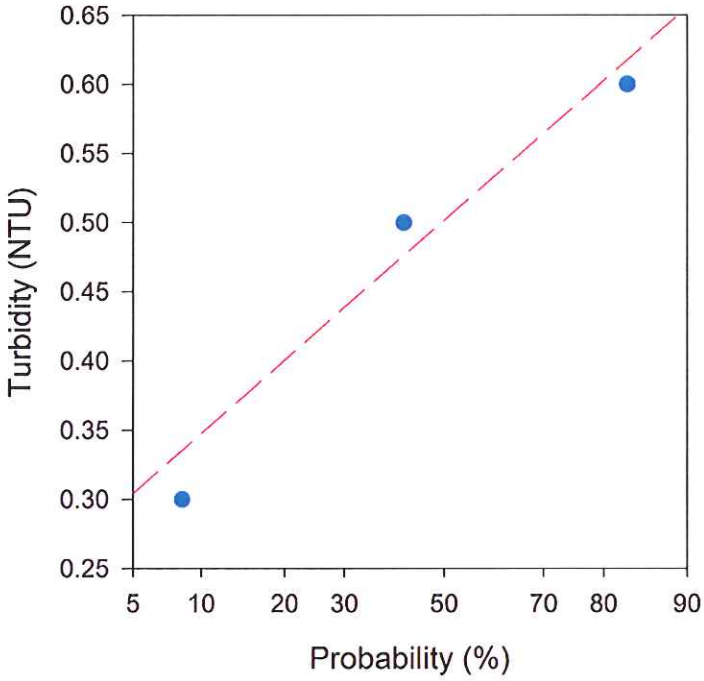


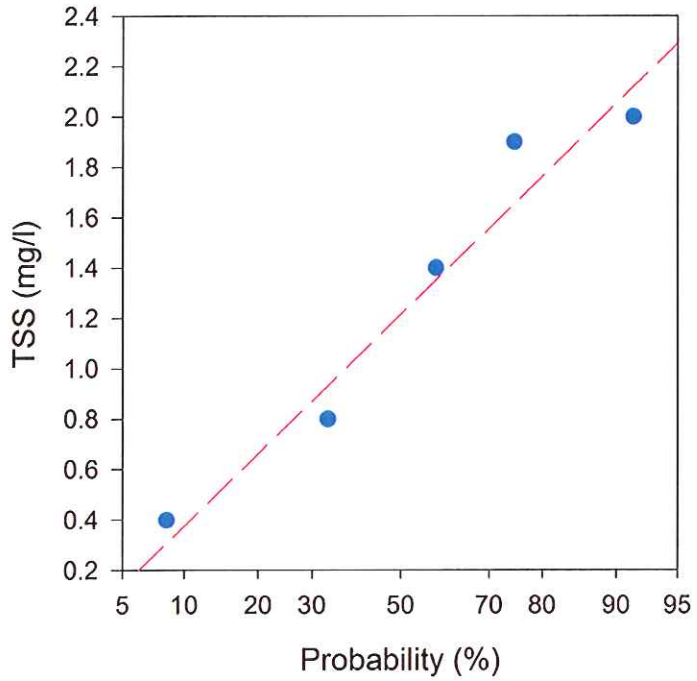


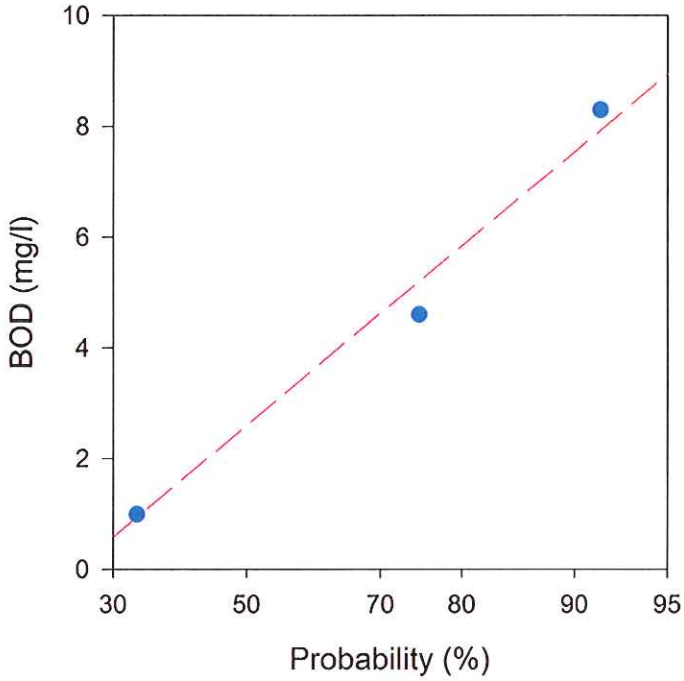


Marl Prairie
(Normal Probability Plots)

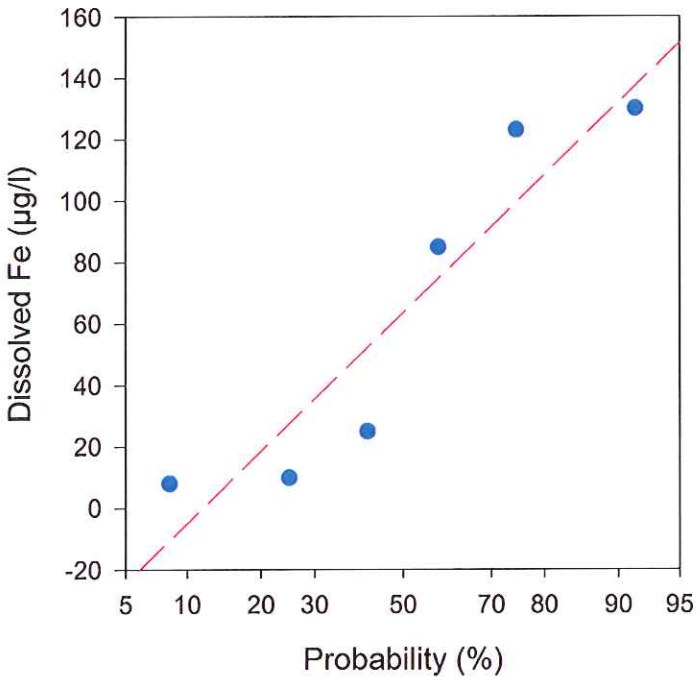


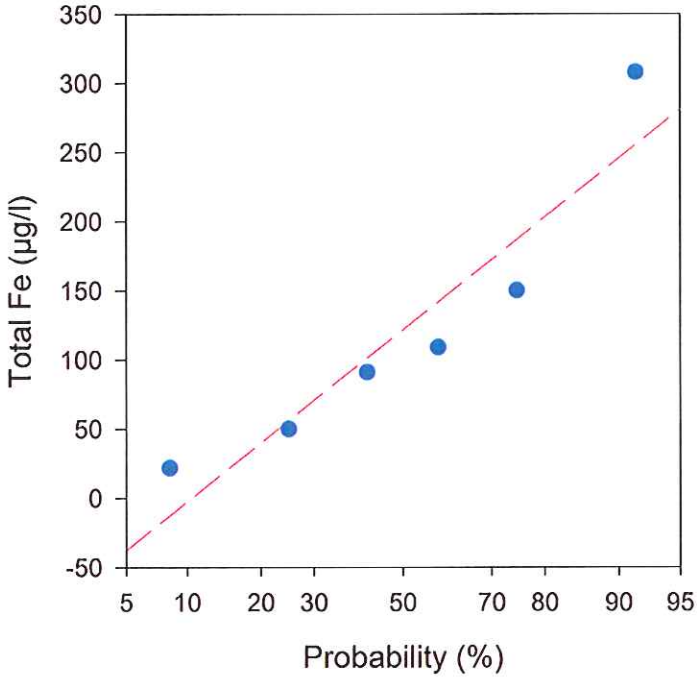


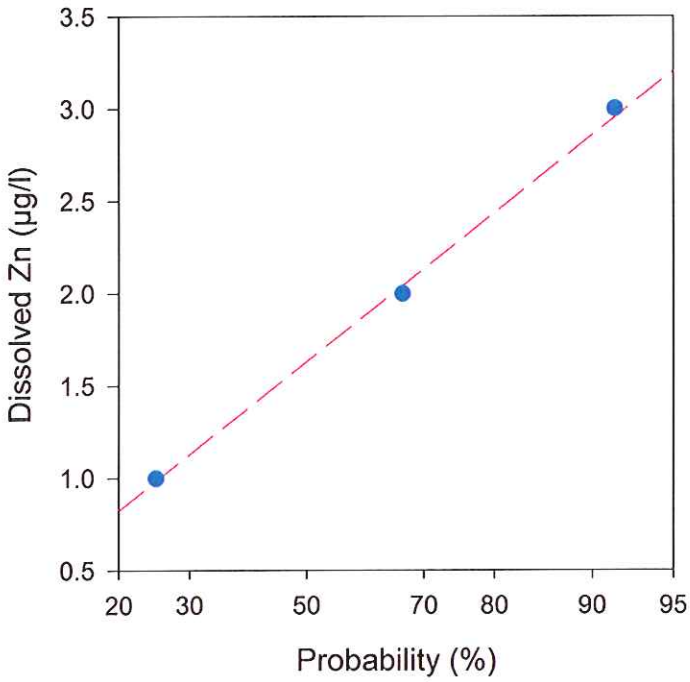


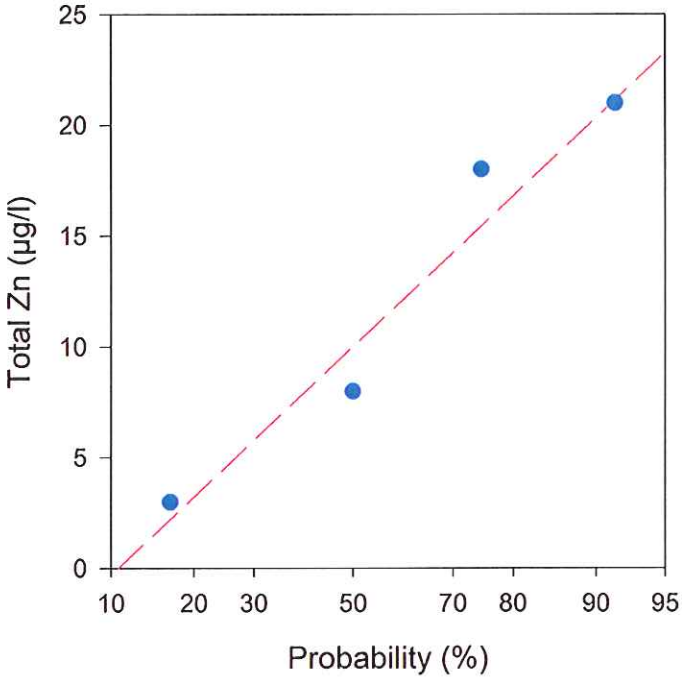


Marl Prairie
(Normal Probability Plots)

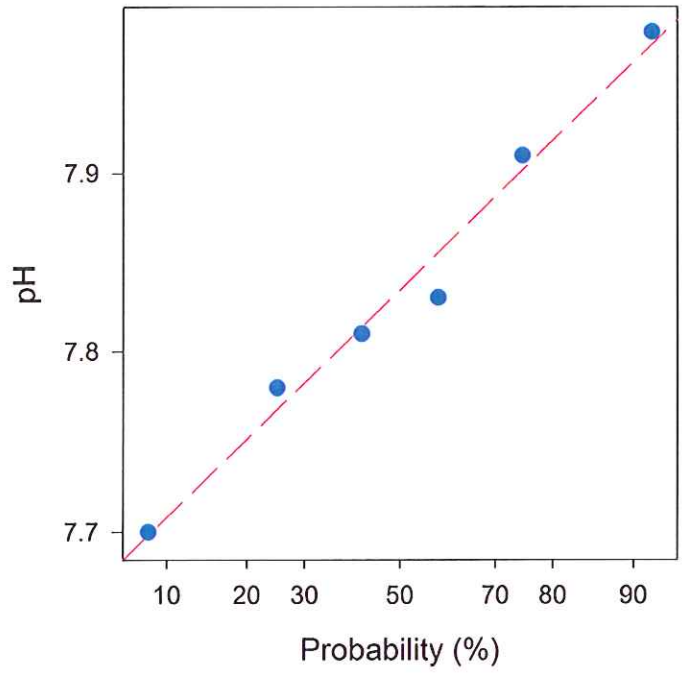


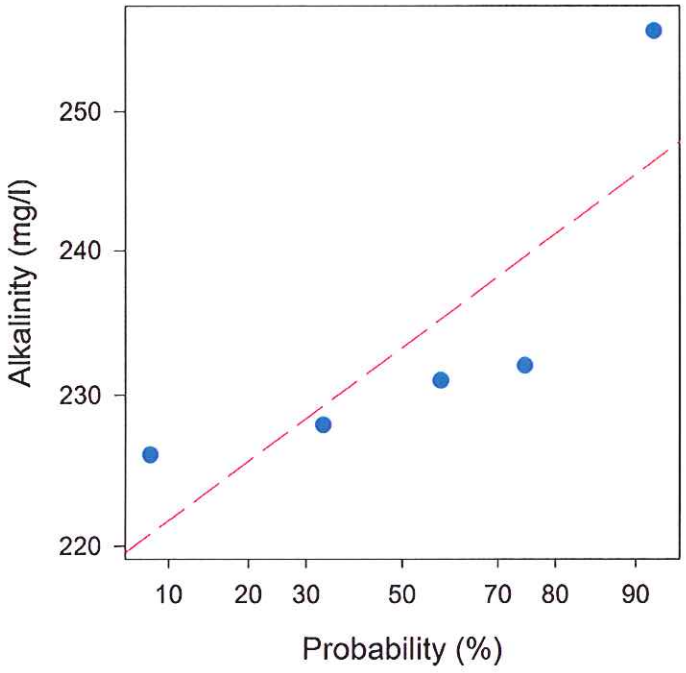


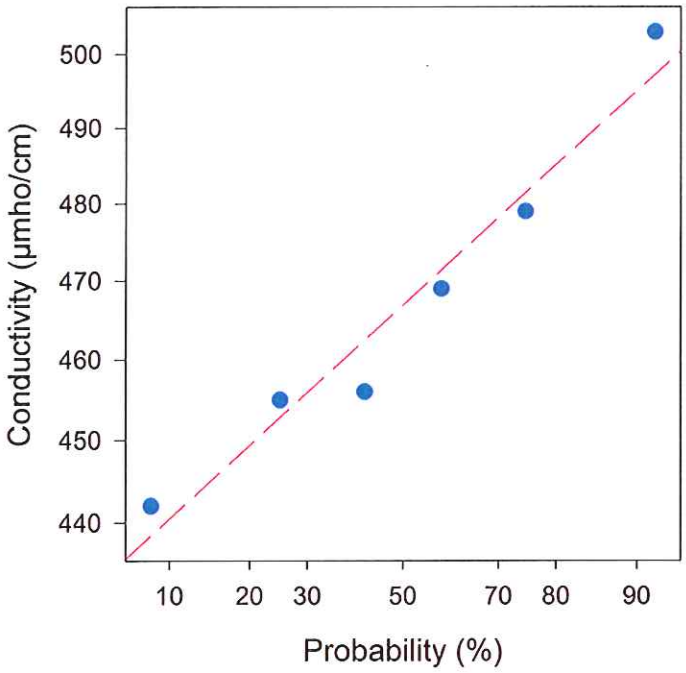


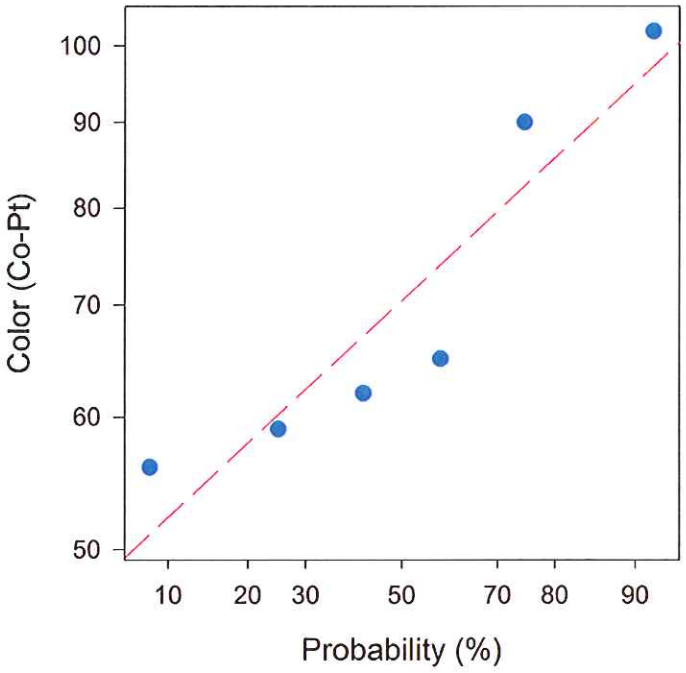


Marl Prairie
(Log Normal Probability Plots)

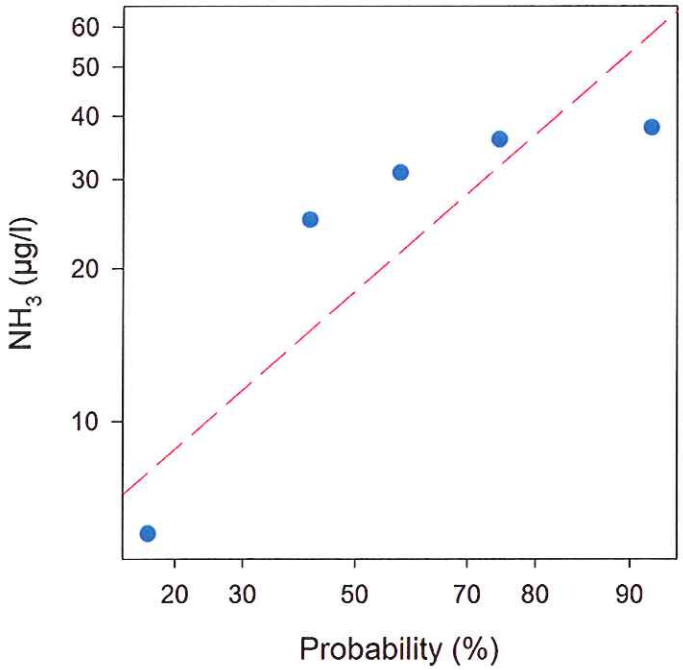


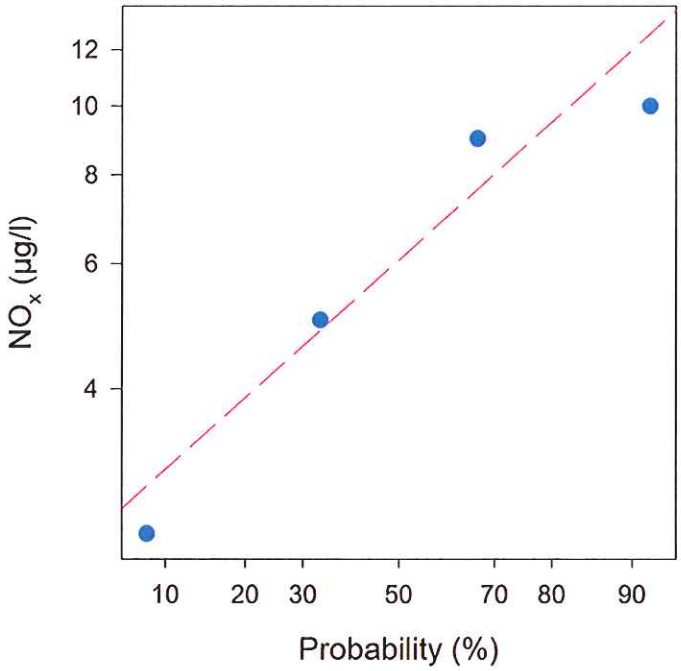


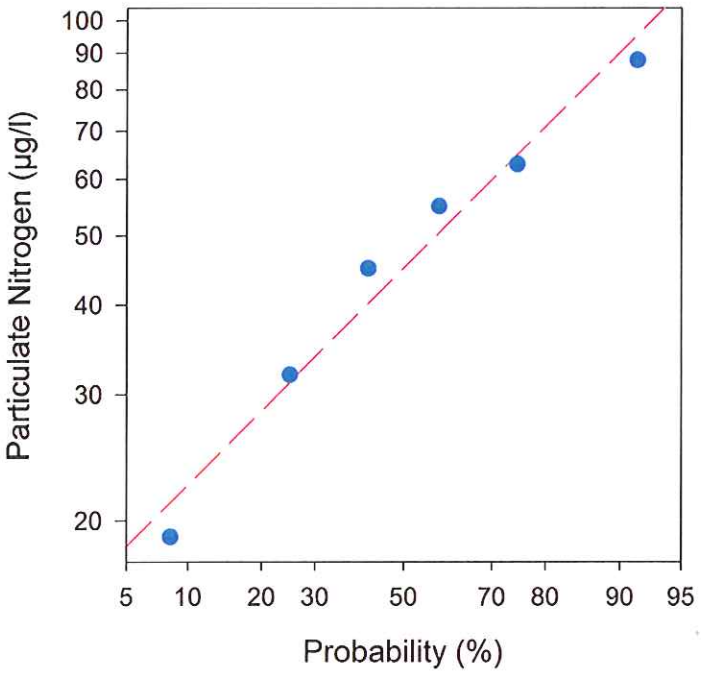


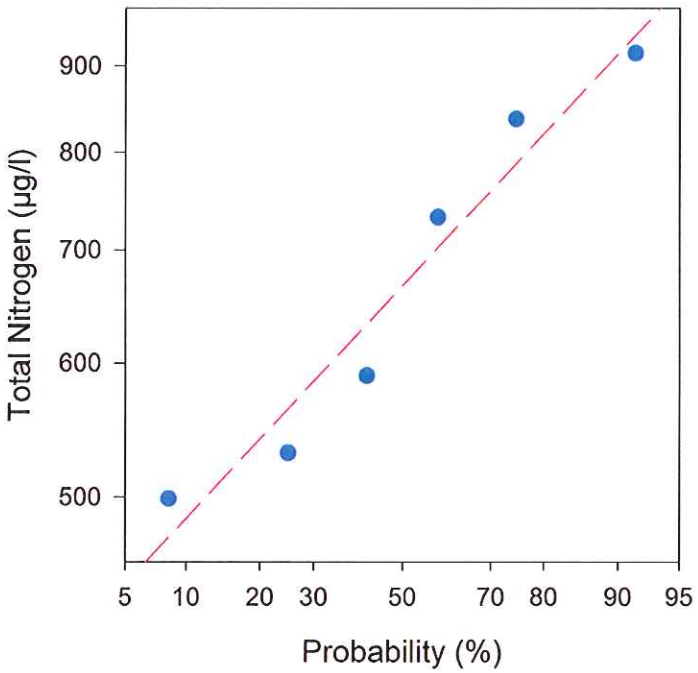


Marl Prairie
(Log Normal Probability Plots)

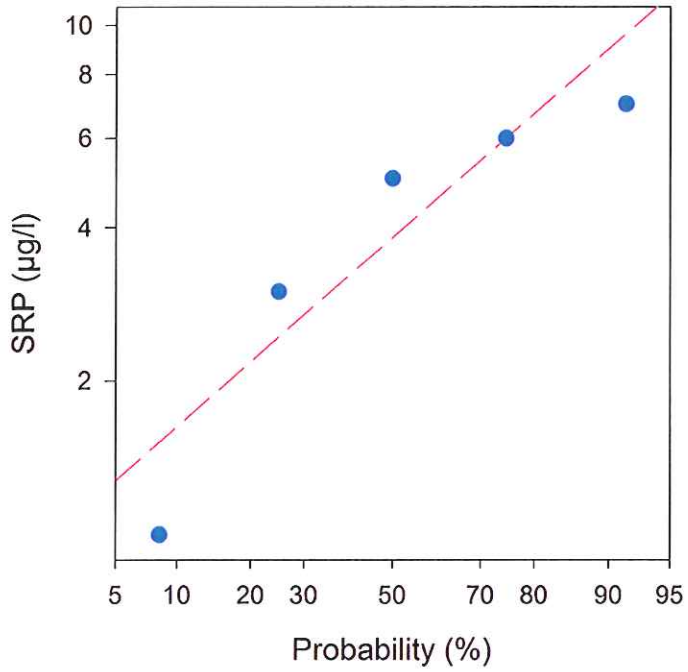


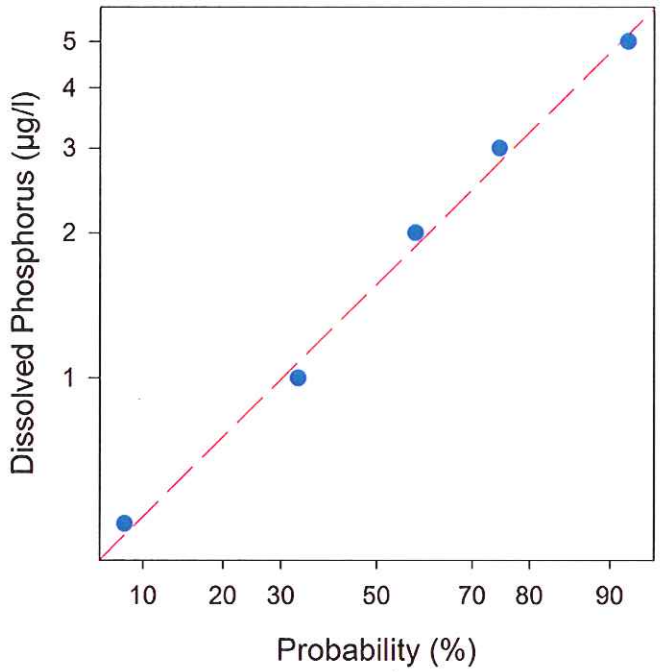


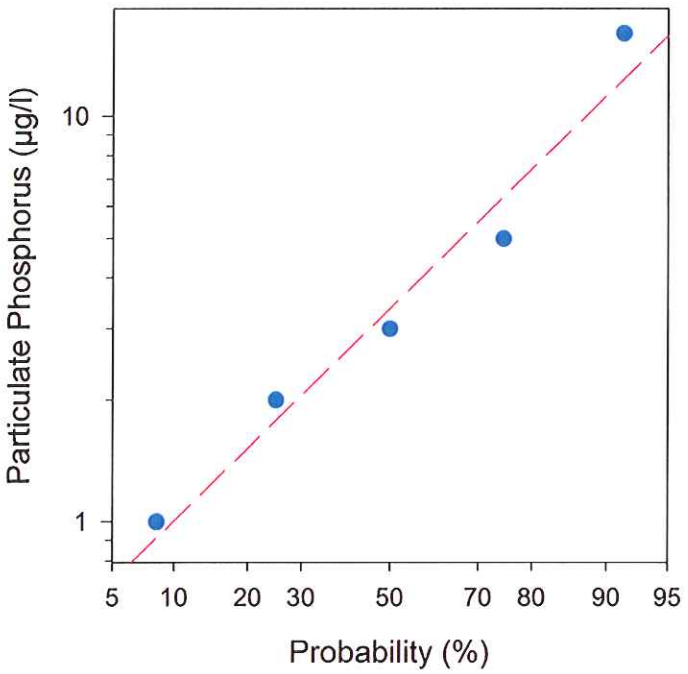


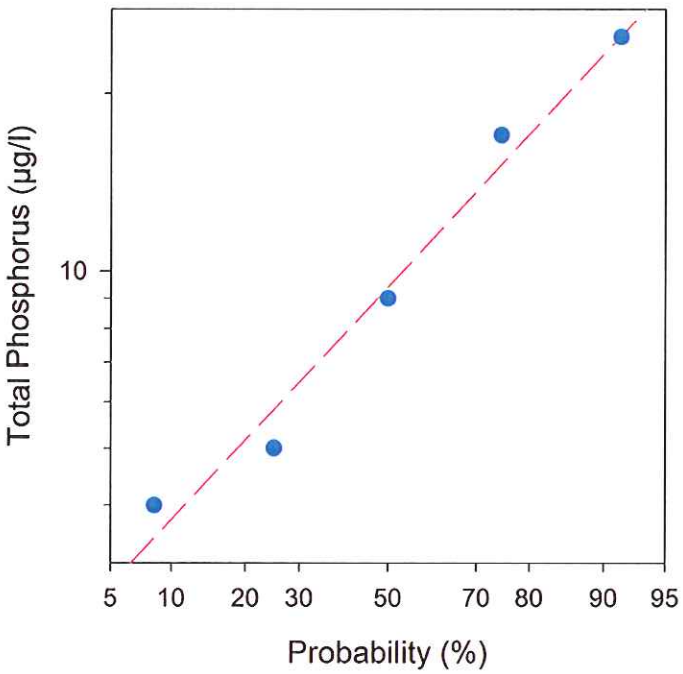


Marl Prairie
(Log Normal Probability Plots)

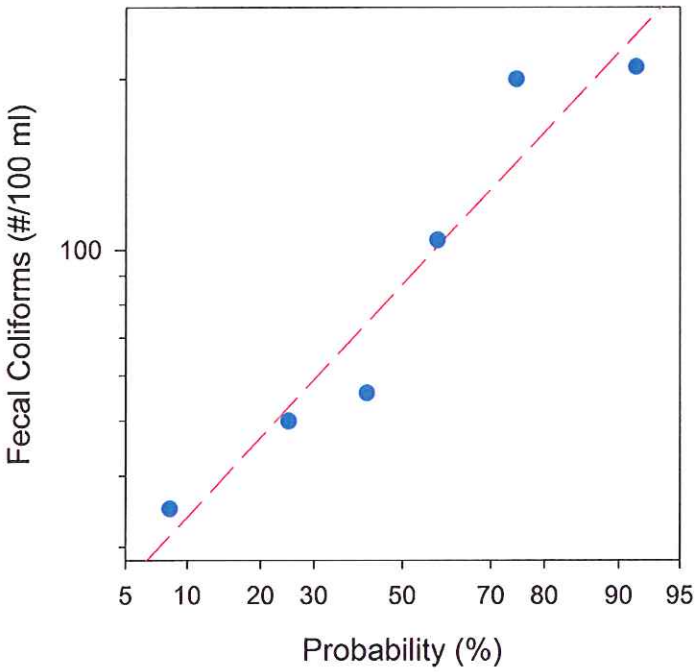


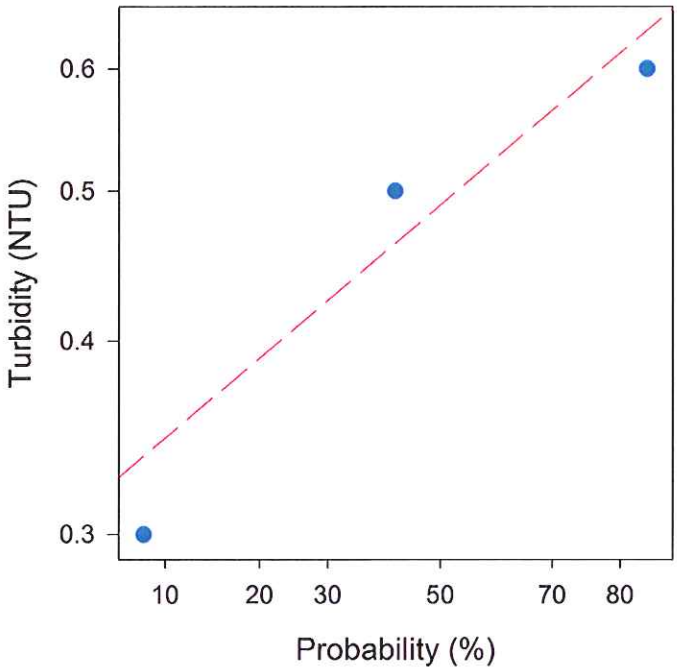


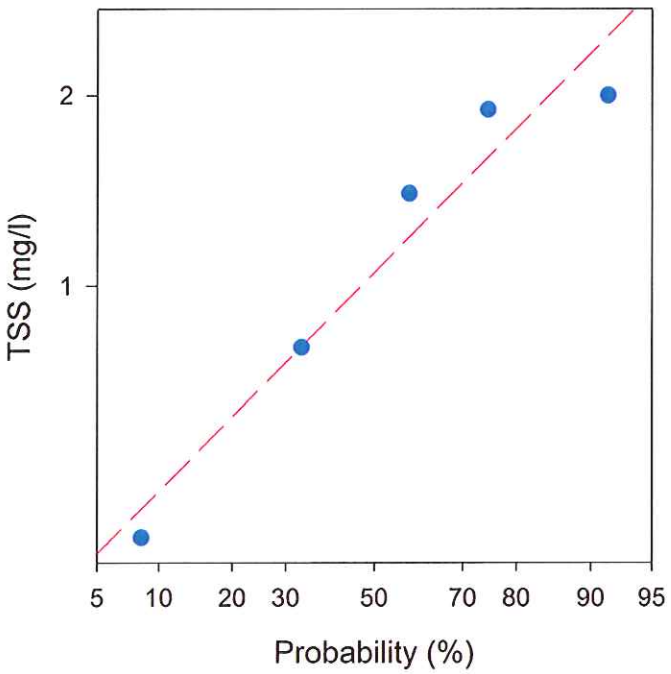


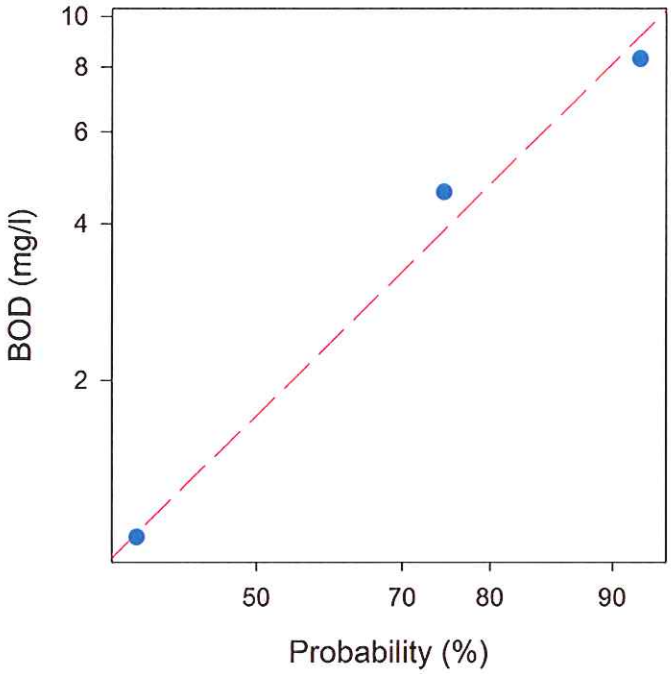


Marl Prairie
(Log Normal Probability Plots)

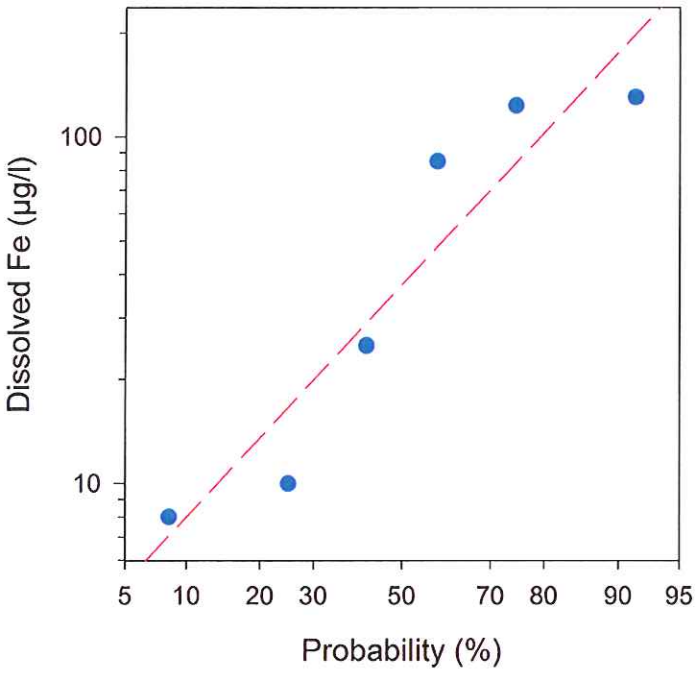


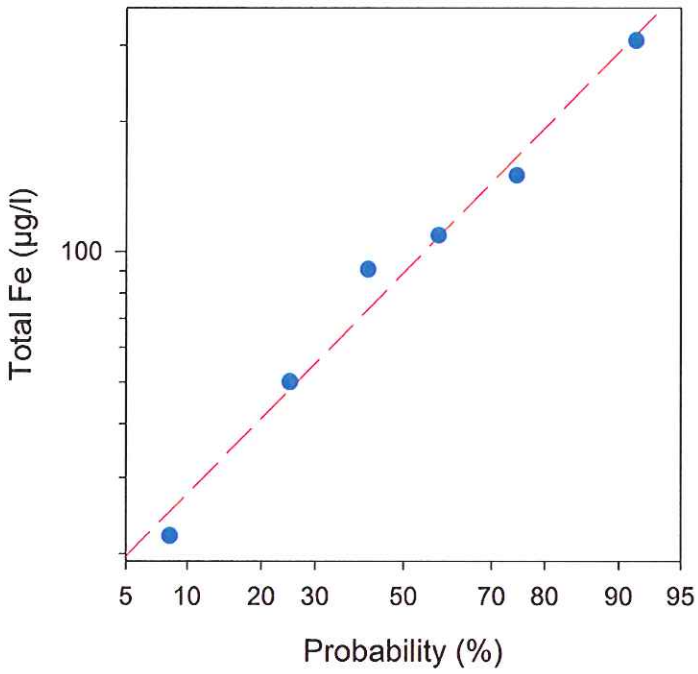


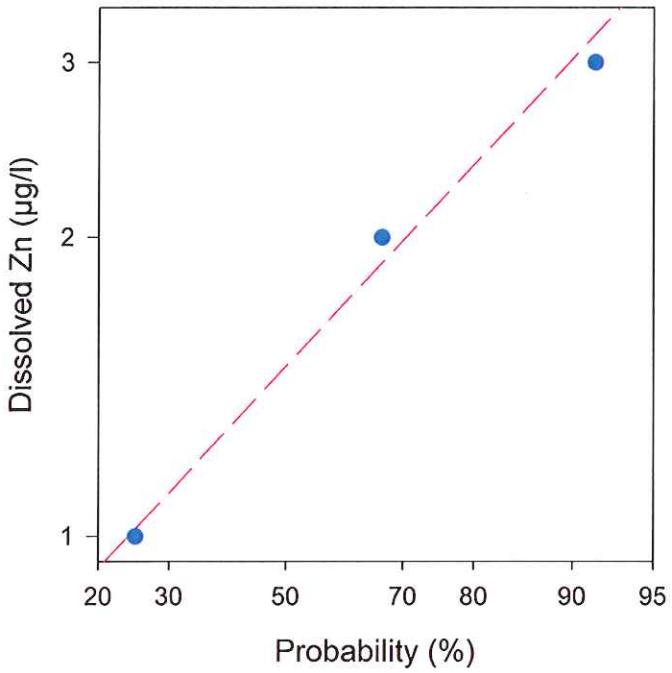


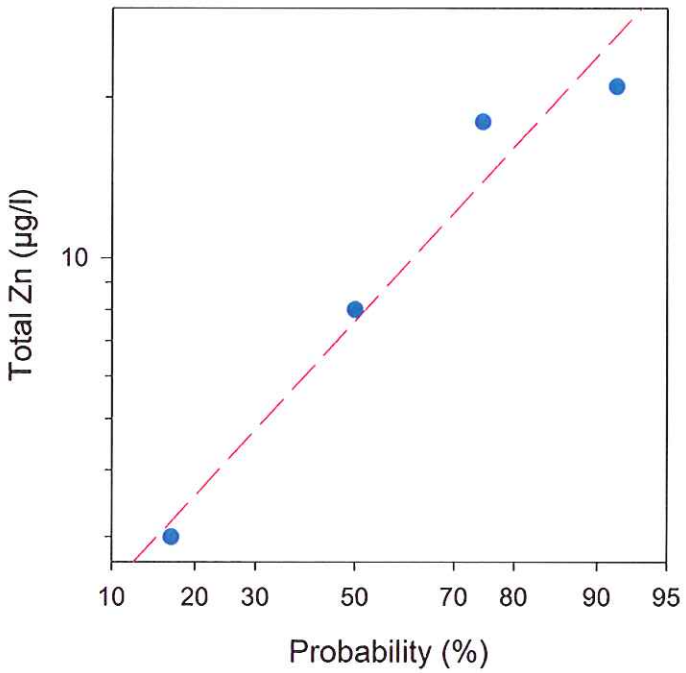


Marl Prairie
(Log Normal Probability Plots)



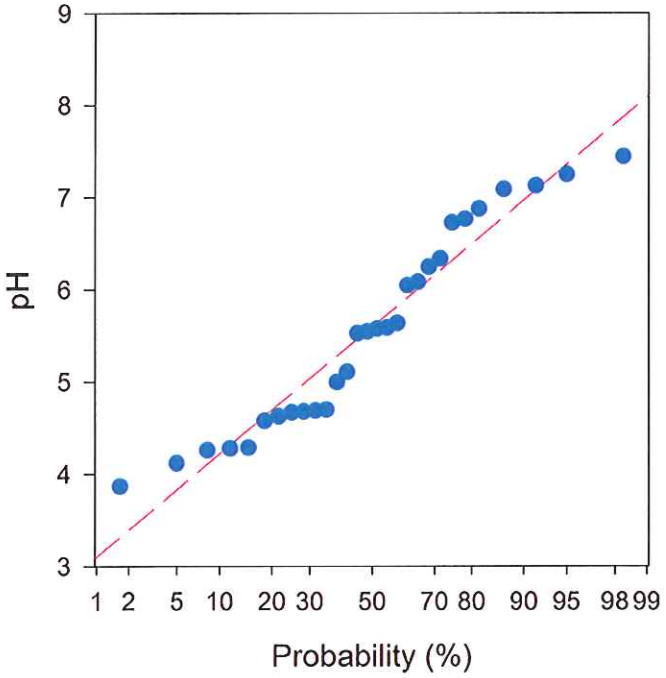


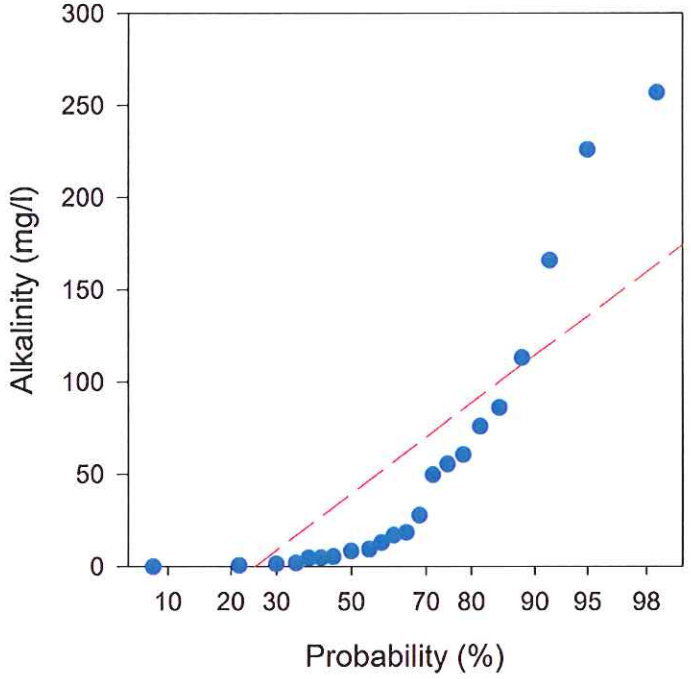


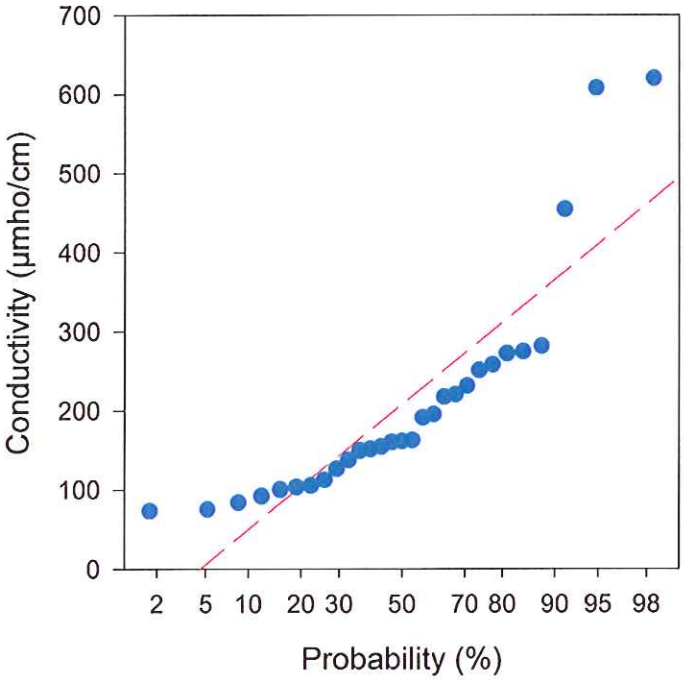


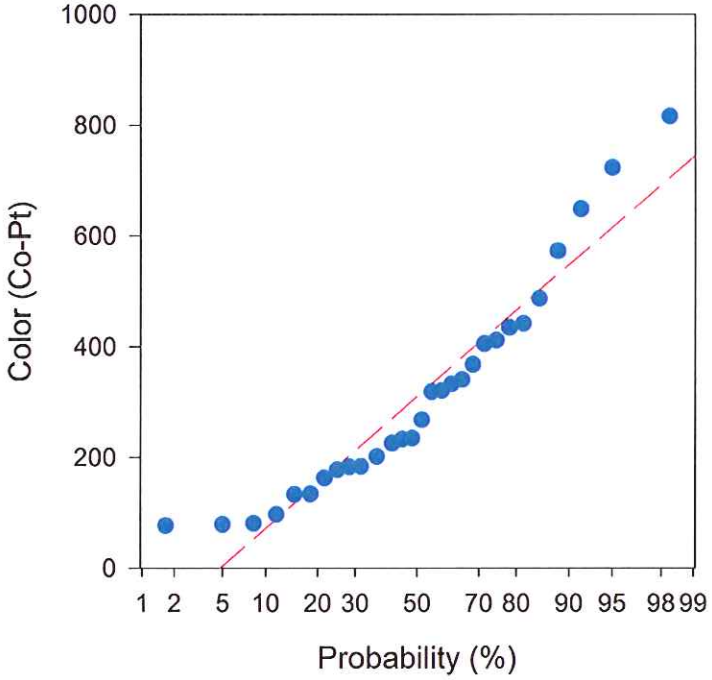
3. Mesic Flatwoods

Mesic Flatwoods
(Normal Probability Plots)

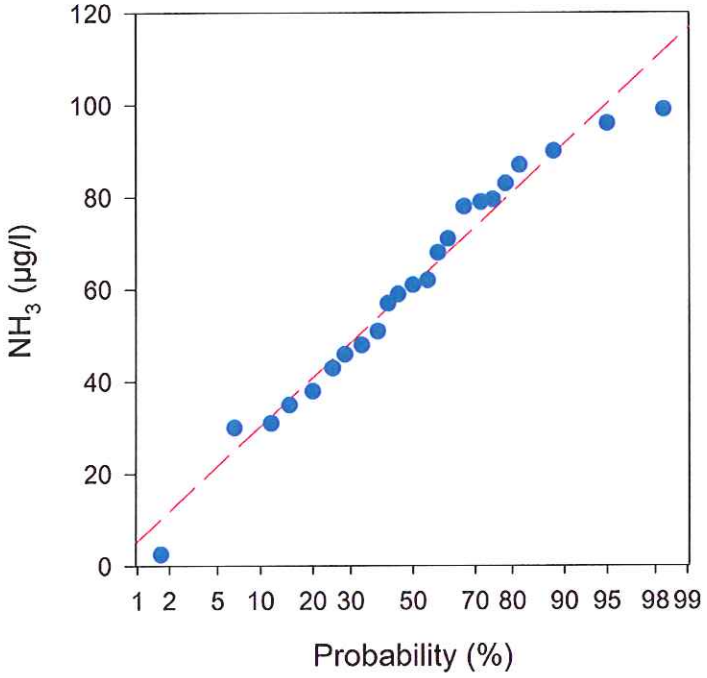


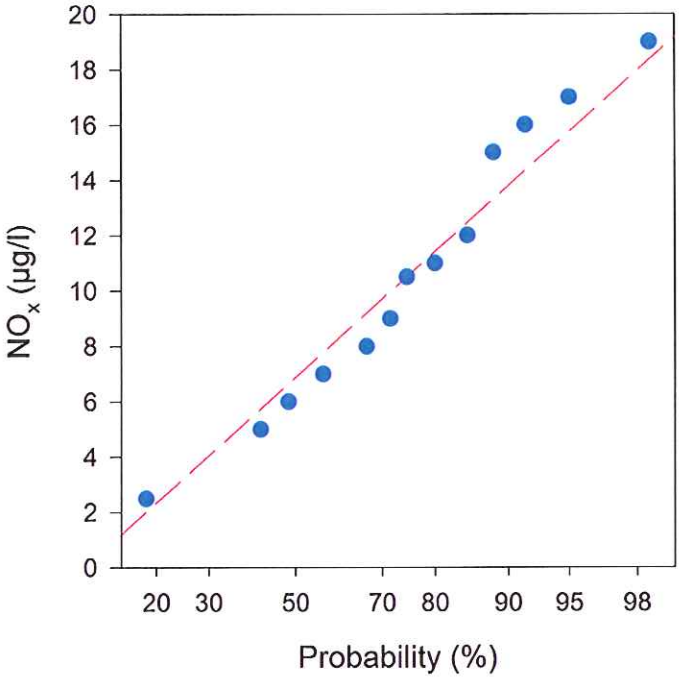


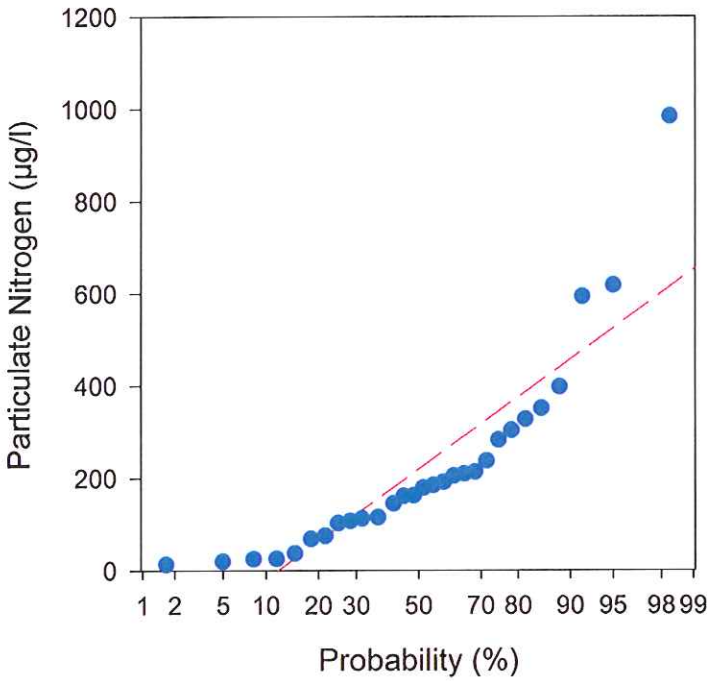


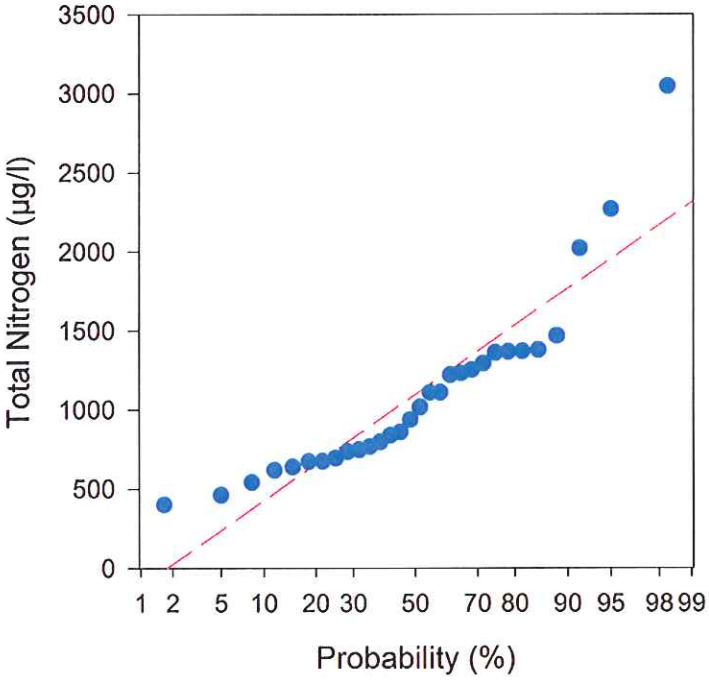


Mesic Flatwoods
(Normal Probability Plots)

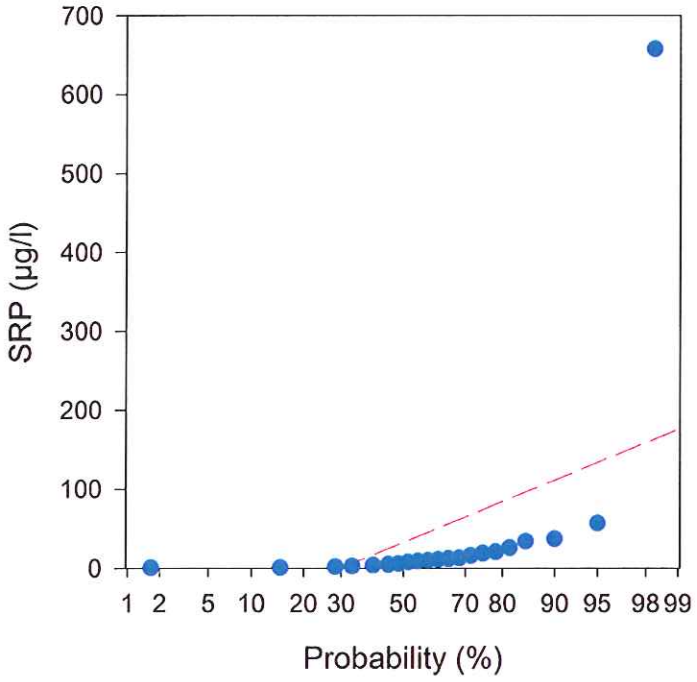


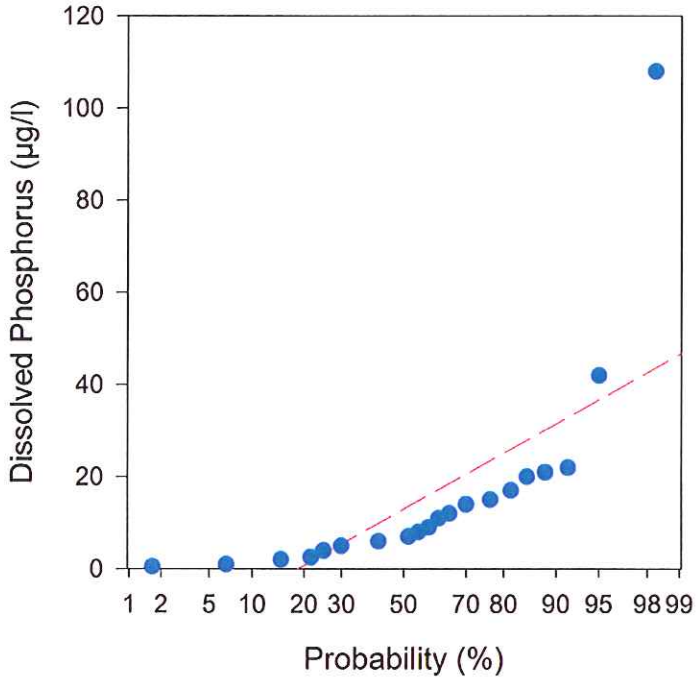


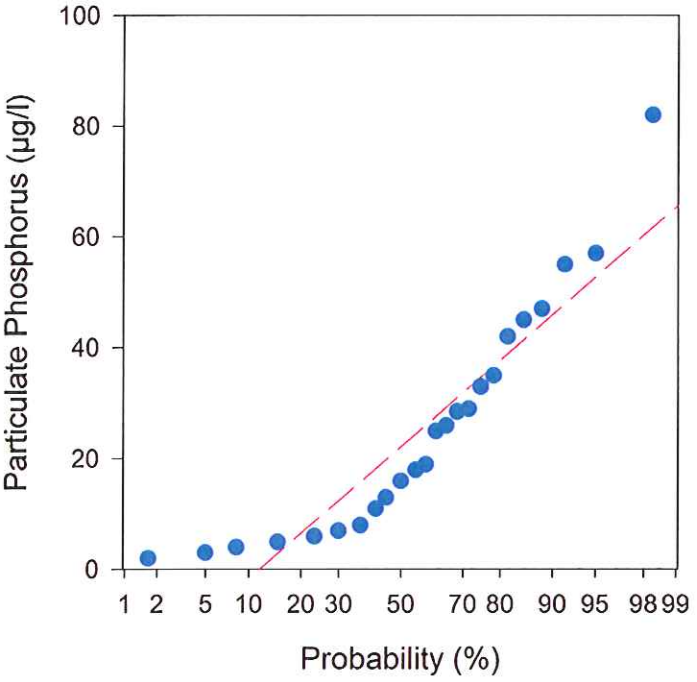


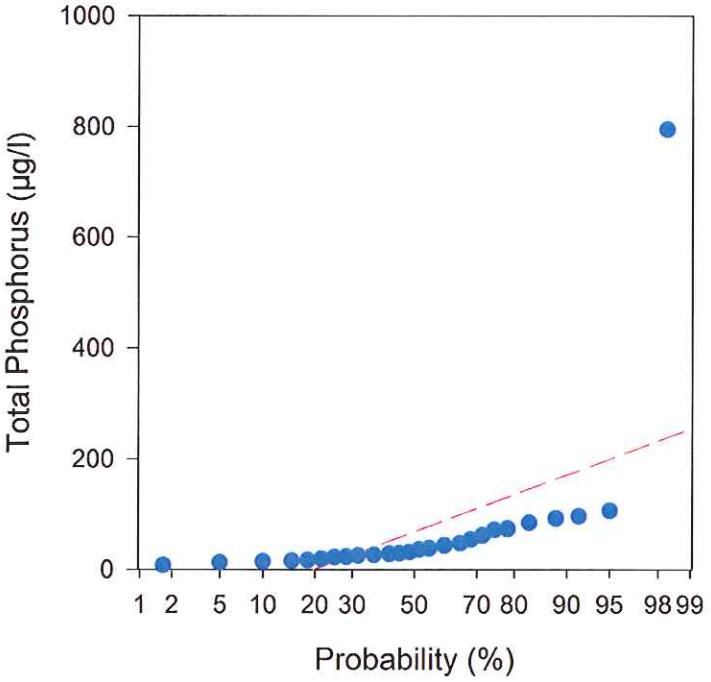


Mesic Flatwoods
(Normal Probability Plots)

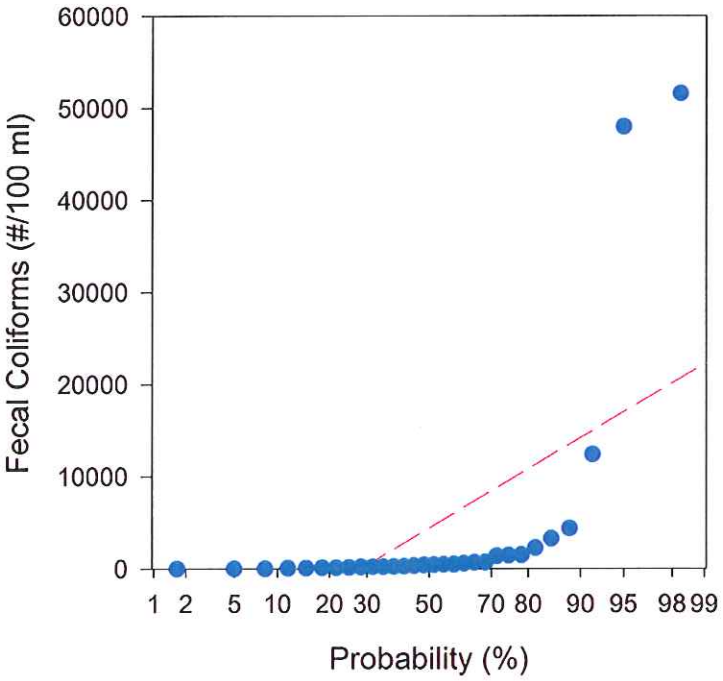


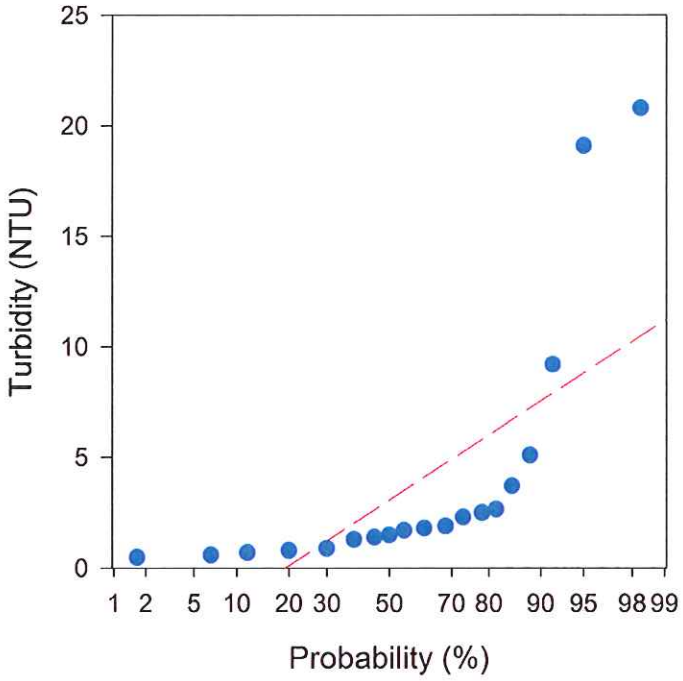


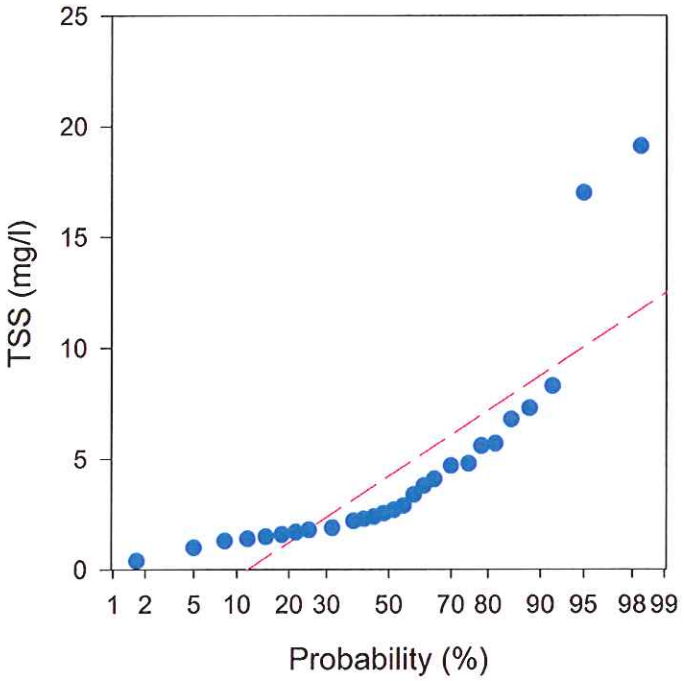


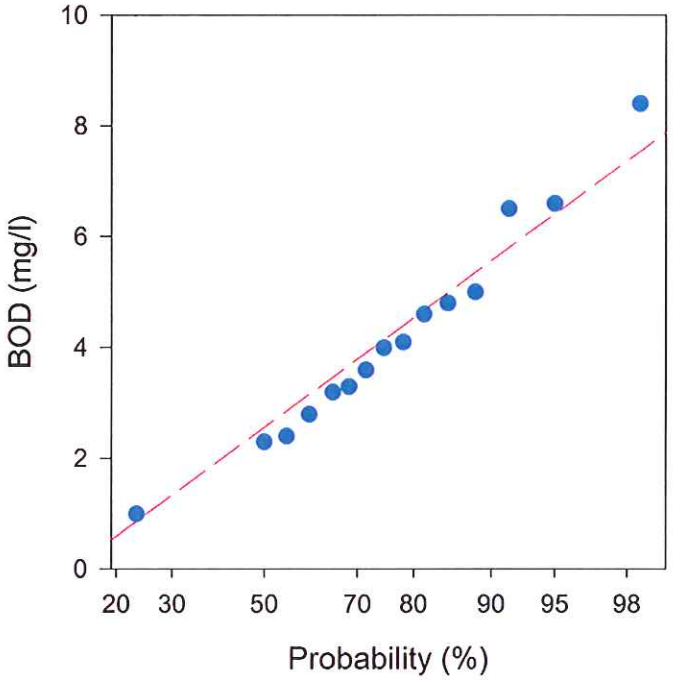


Mesic Flatwoods
(Normal Probability Plots)

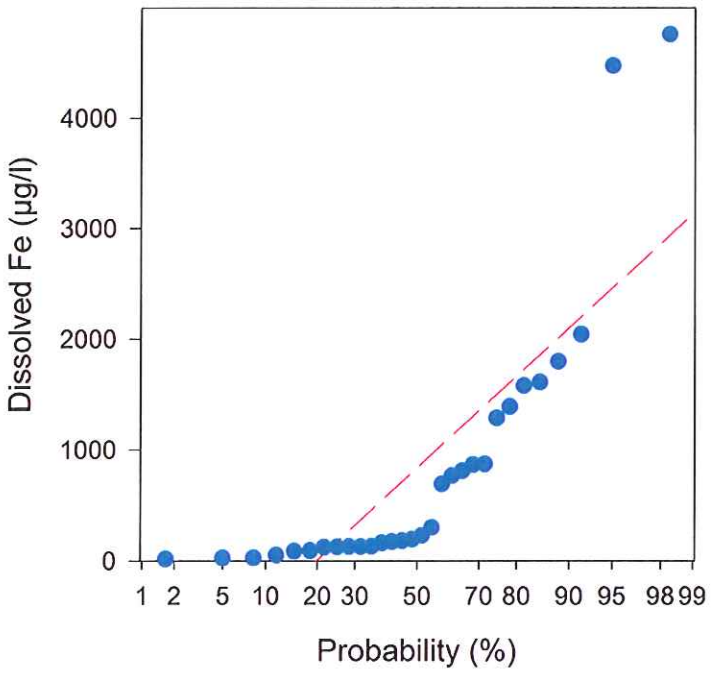


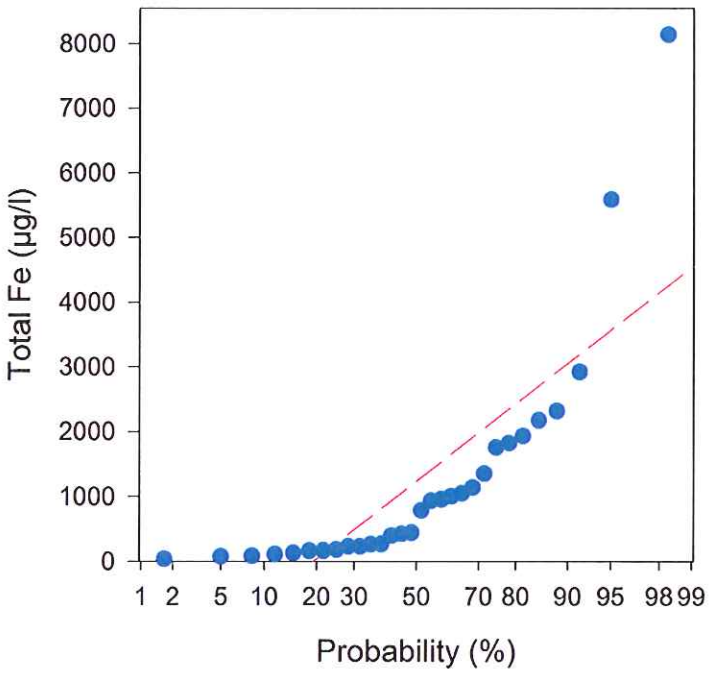


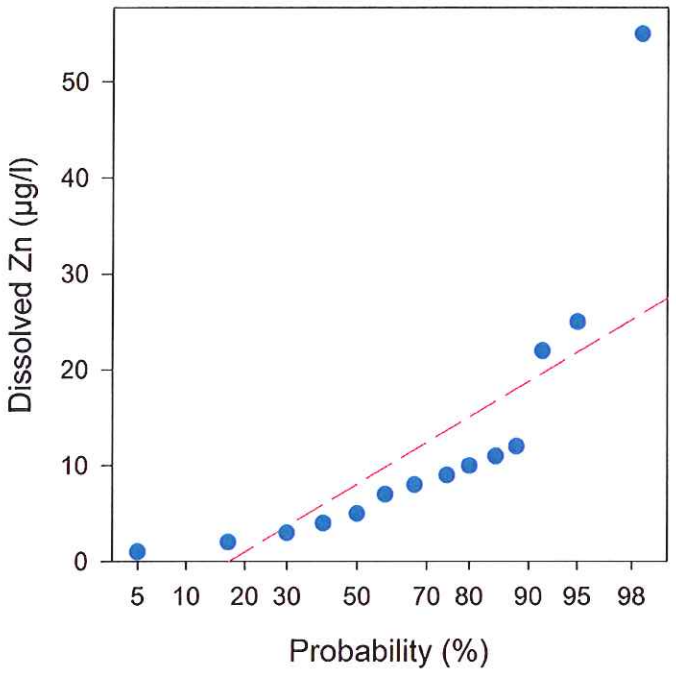


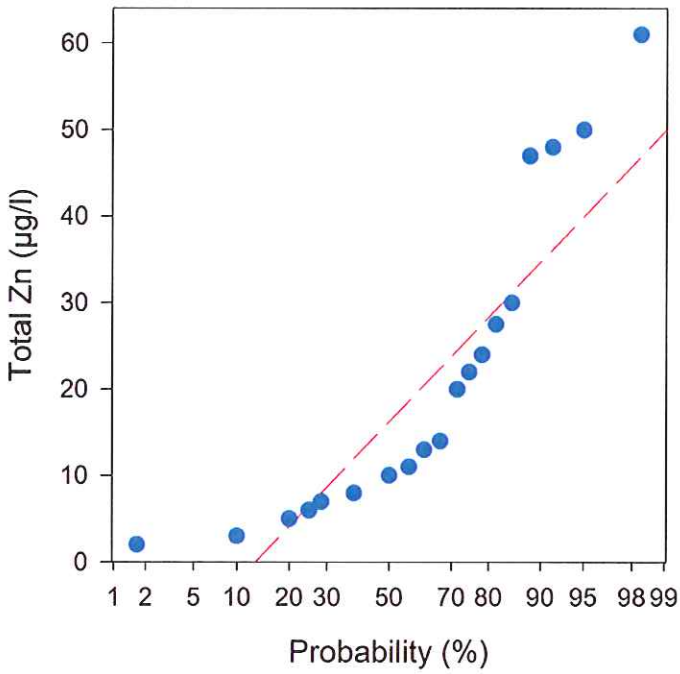


Mesic Flatwoods
(Normal Probability Plots)

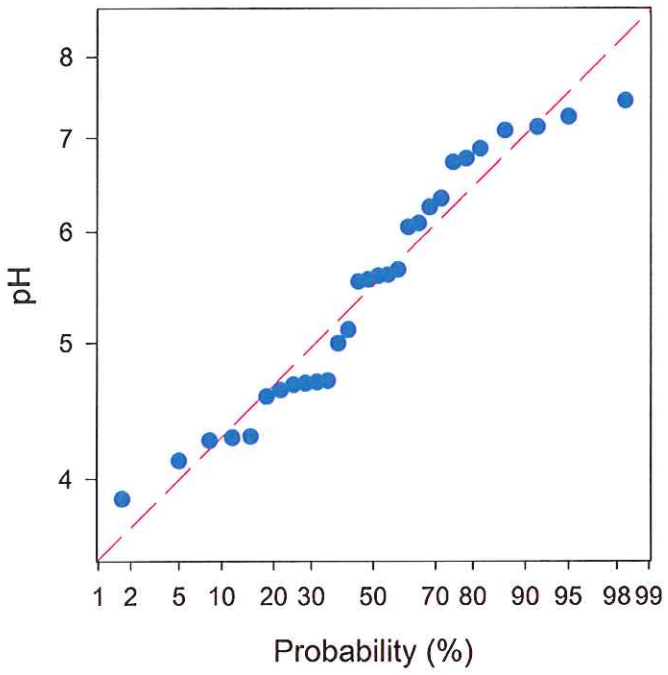


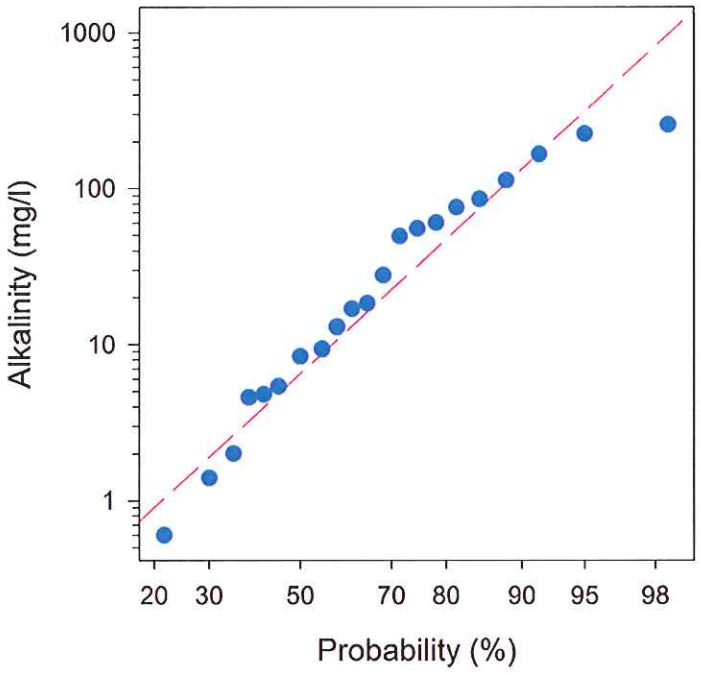


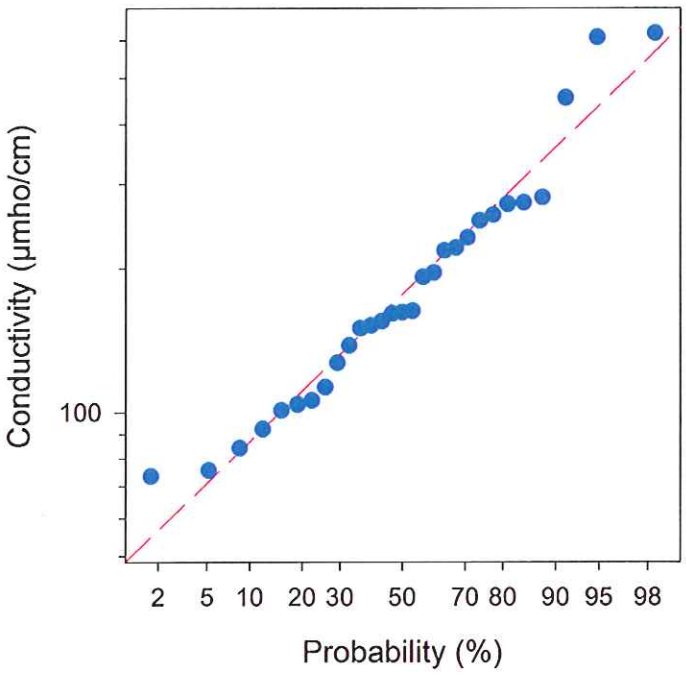


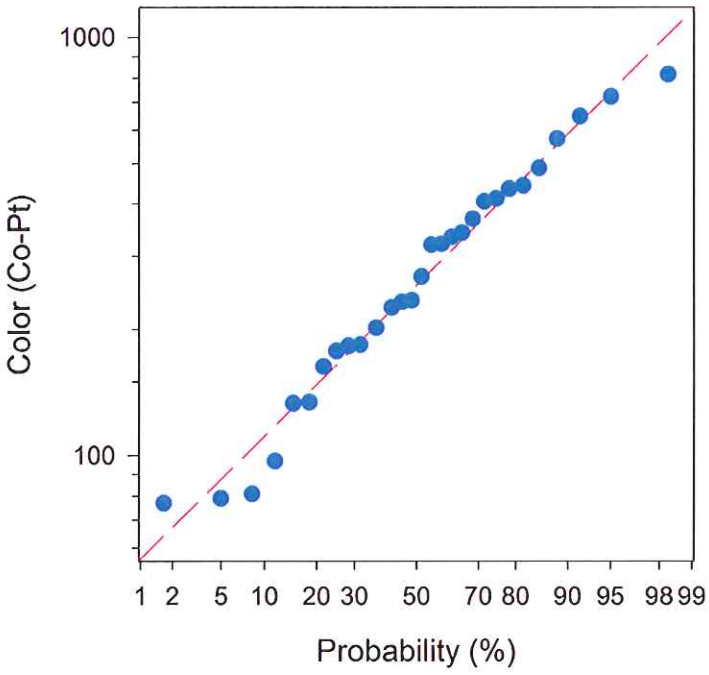


Mesic Flatwoods
(Log Normal Probability Plots)

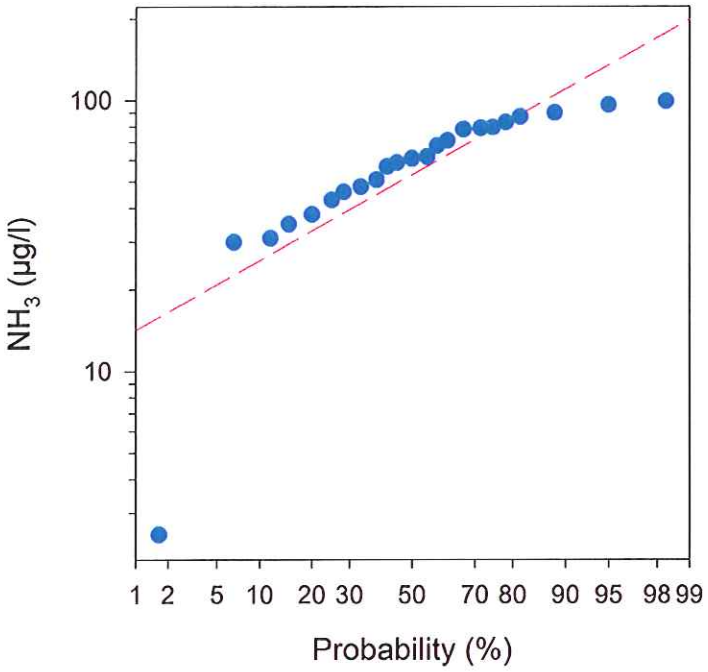


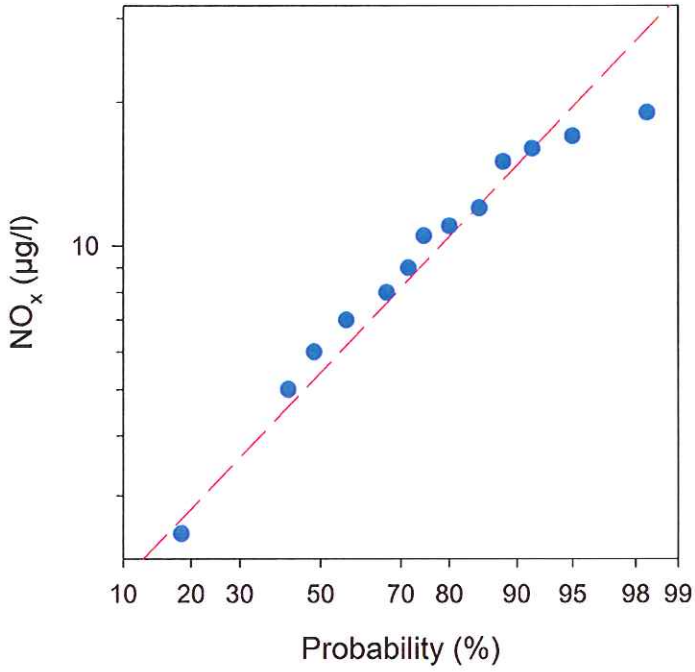


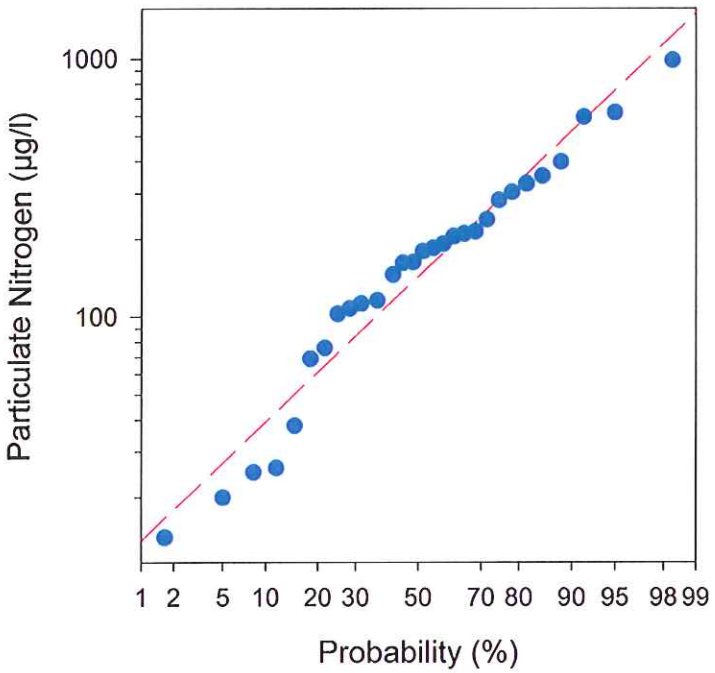


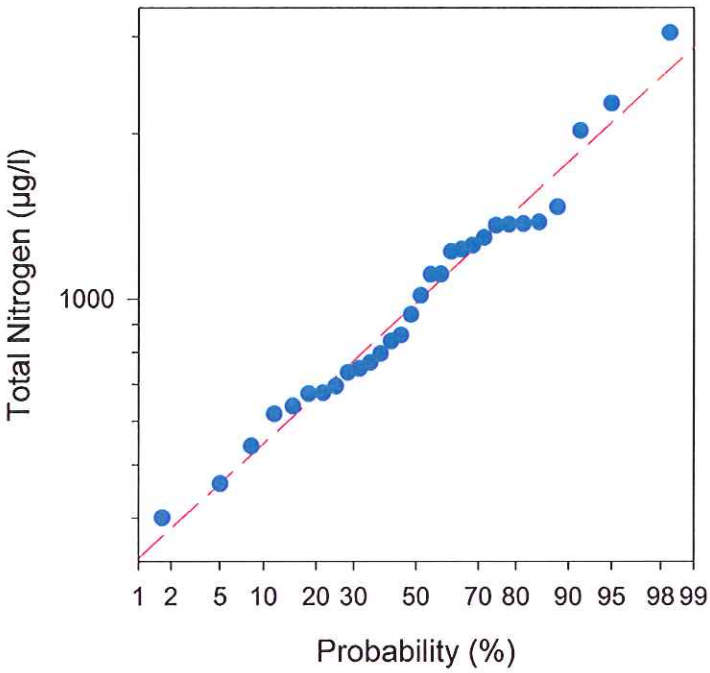


Mesic Flatwoods
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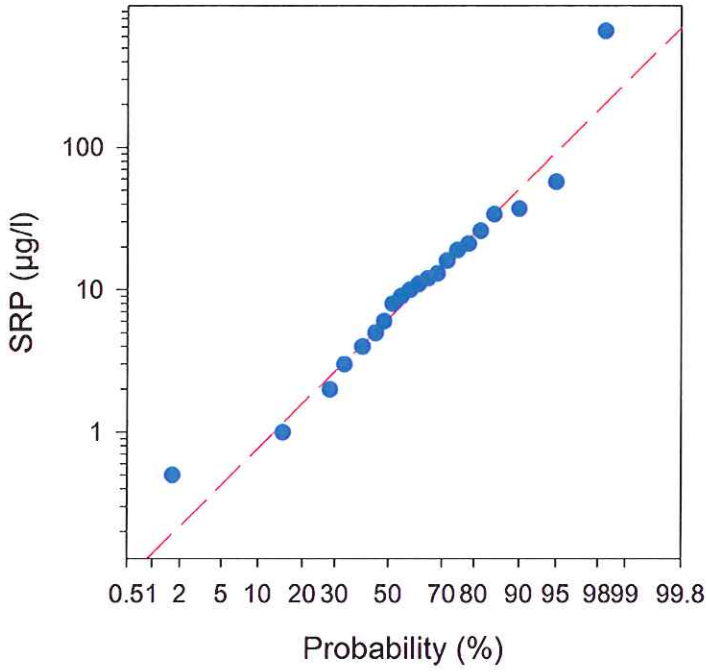


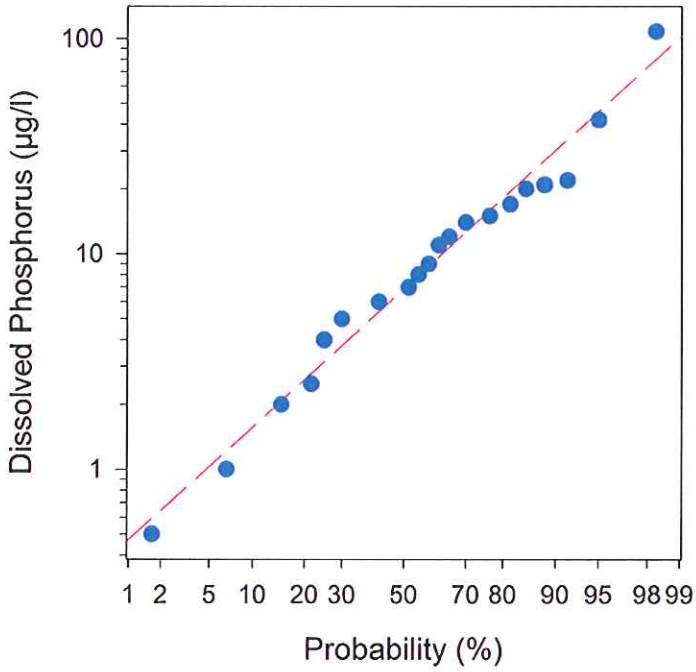


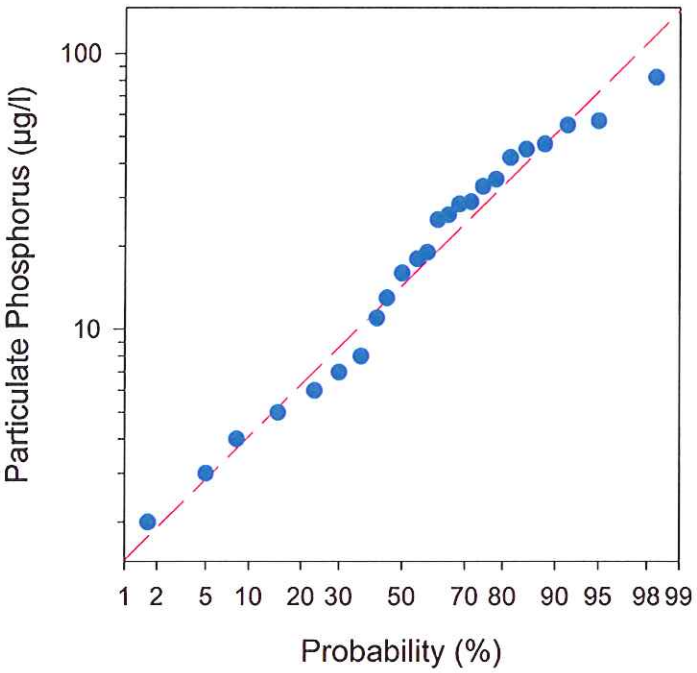


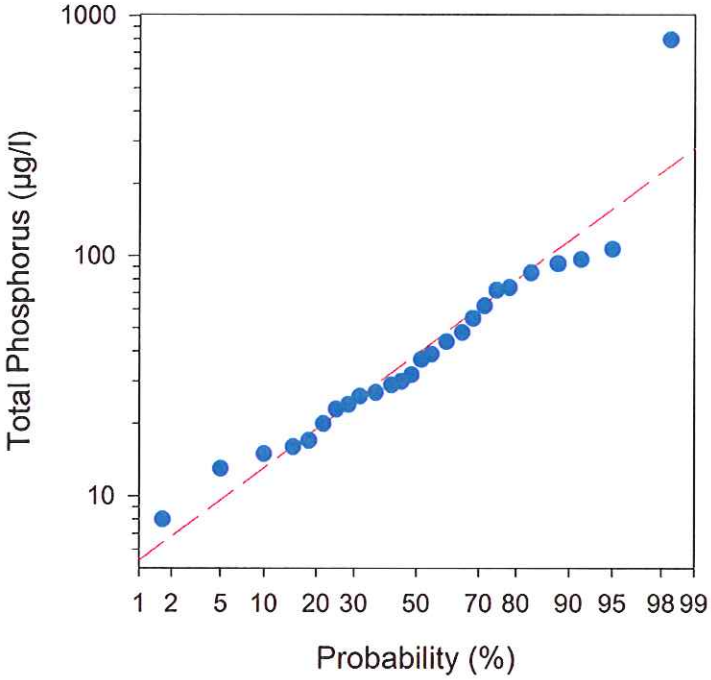


Mesic Flatwoods
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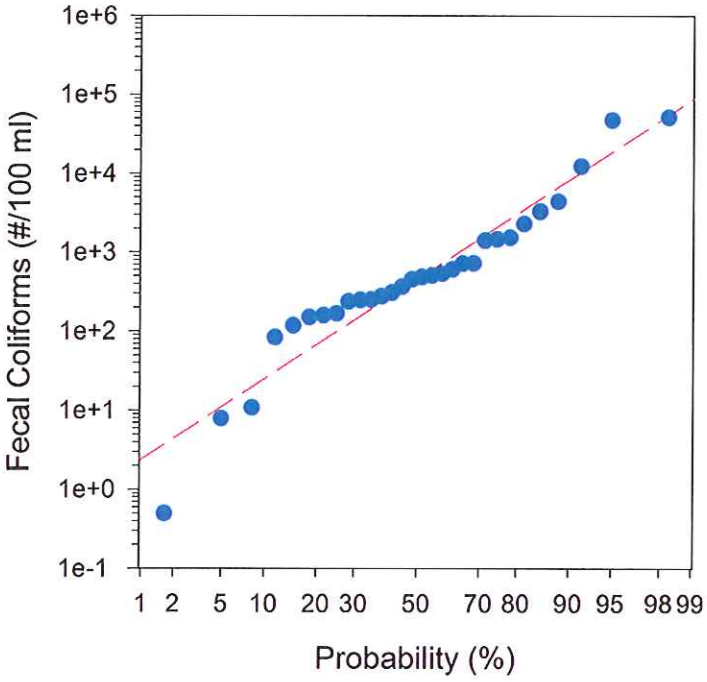


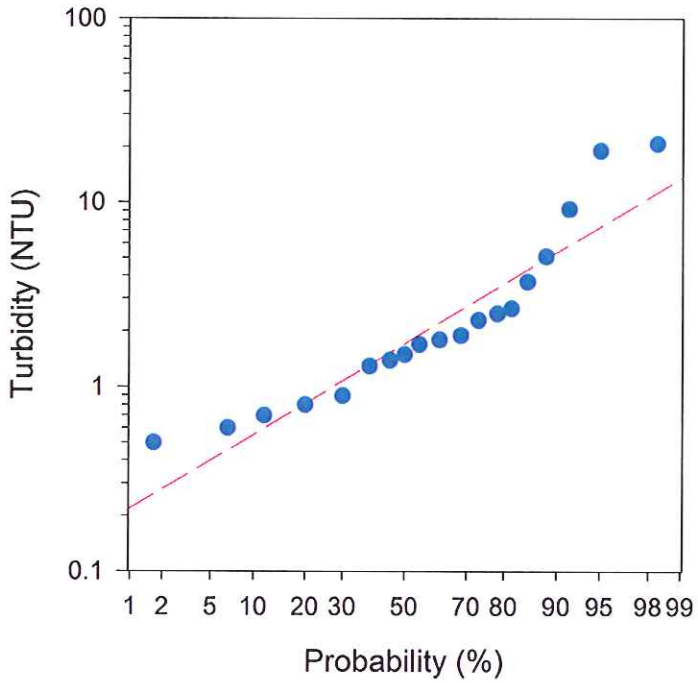


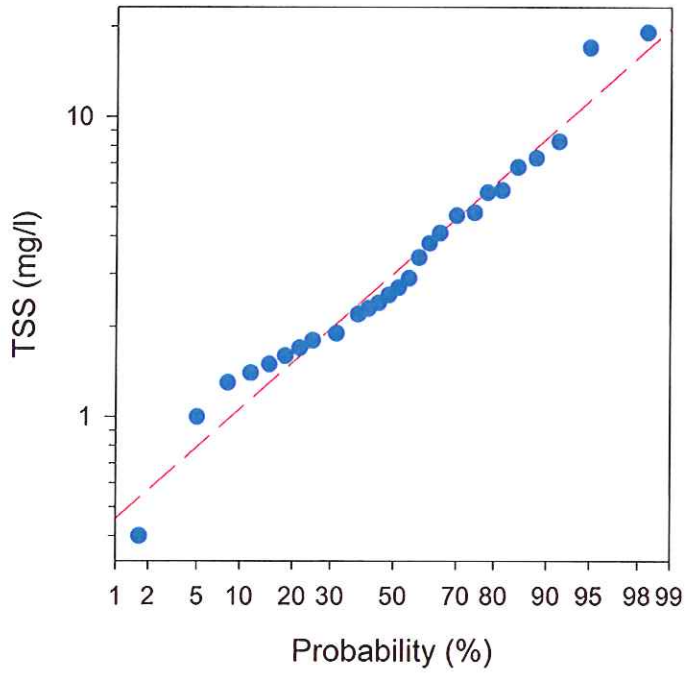


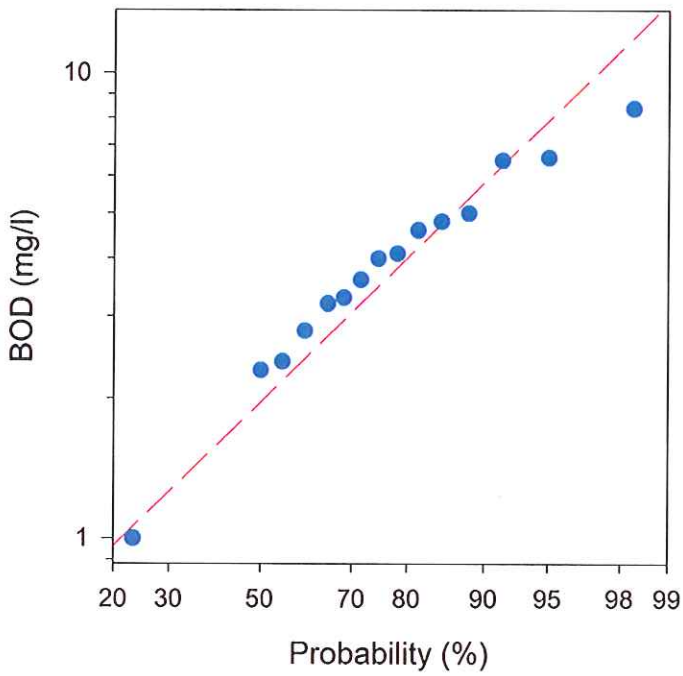


Mesic Flatwoods
(Log Normal Probability Plots)

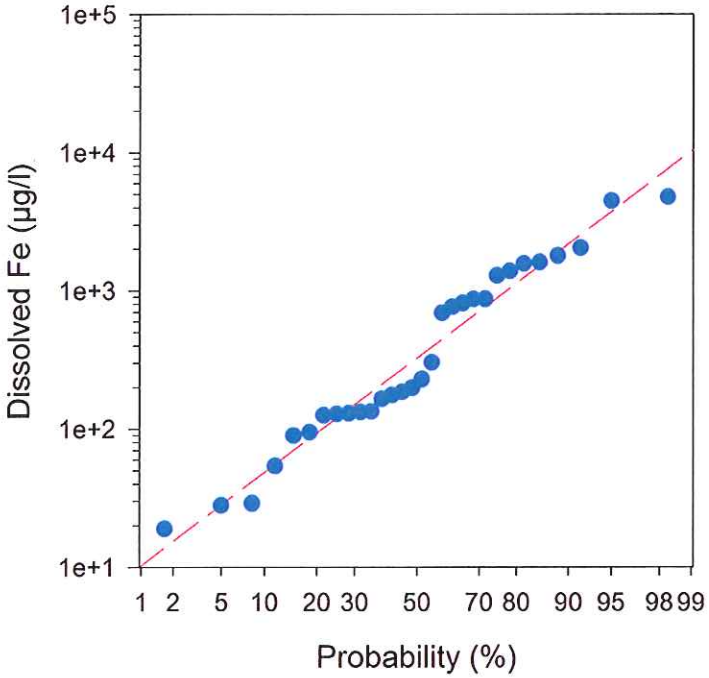


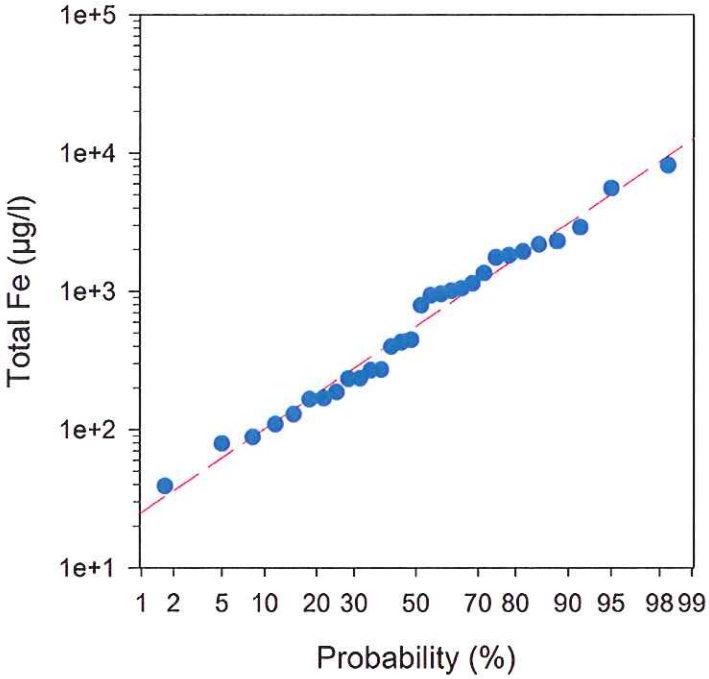


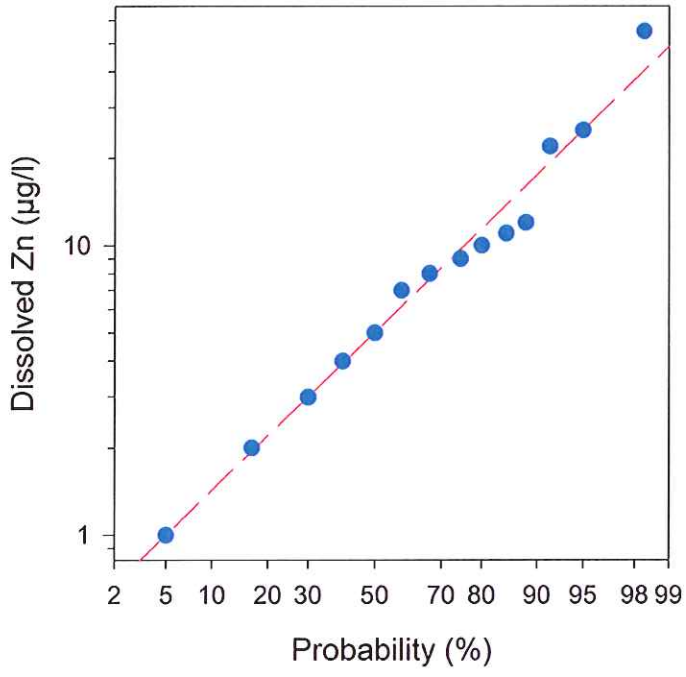


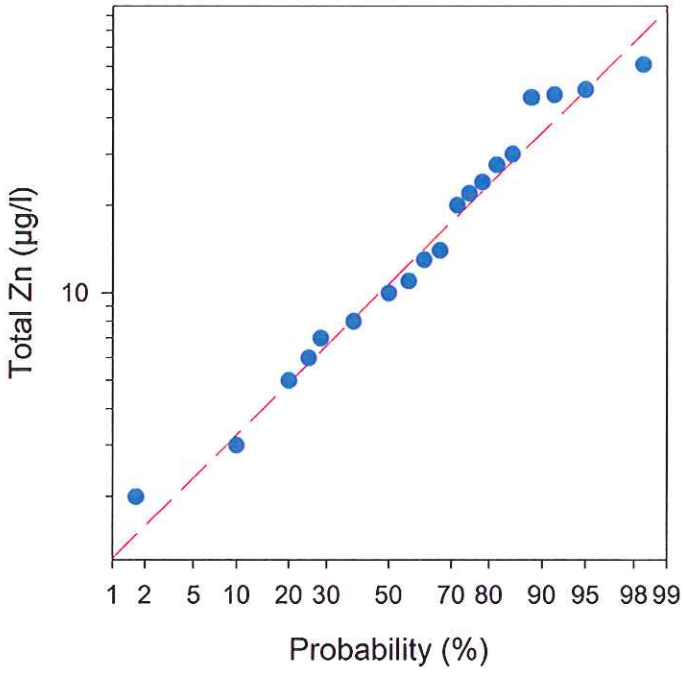


Mesic Flatwoods
(Log Normal Probability Plots)



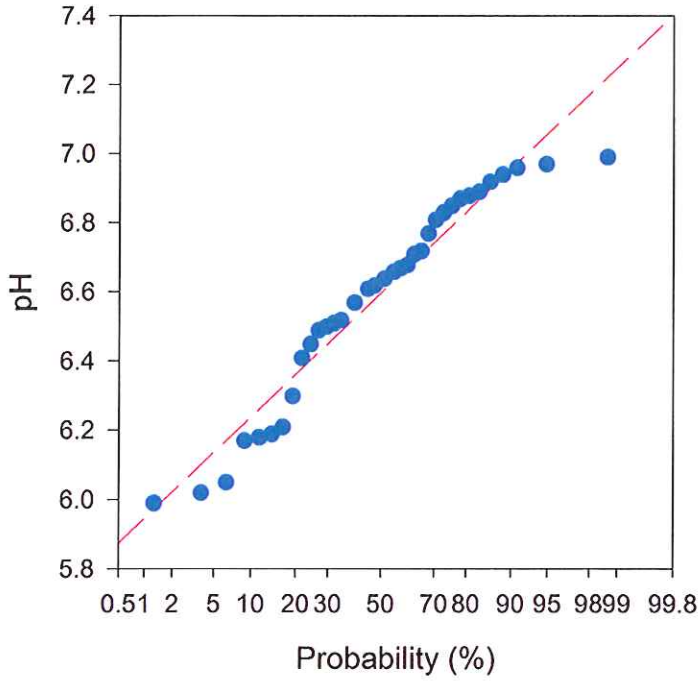


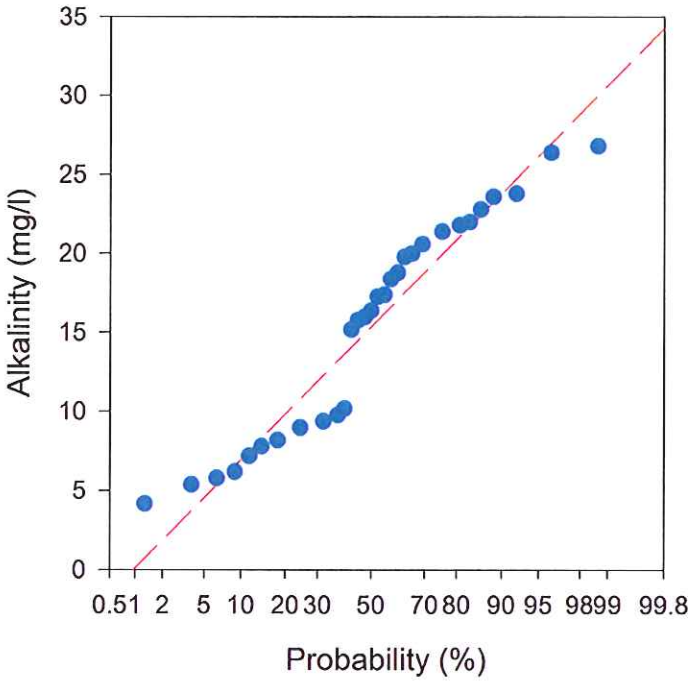


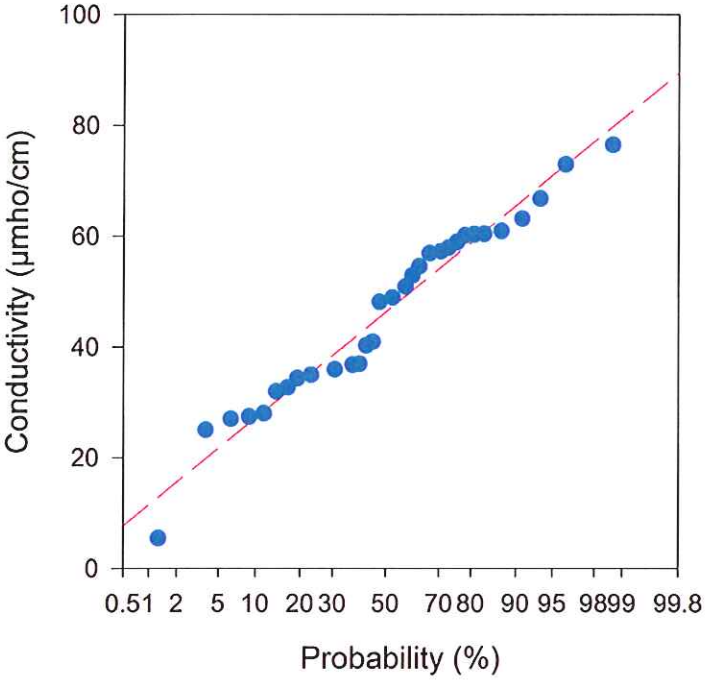


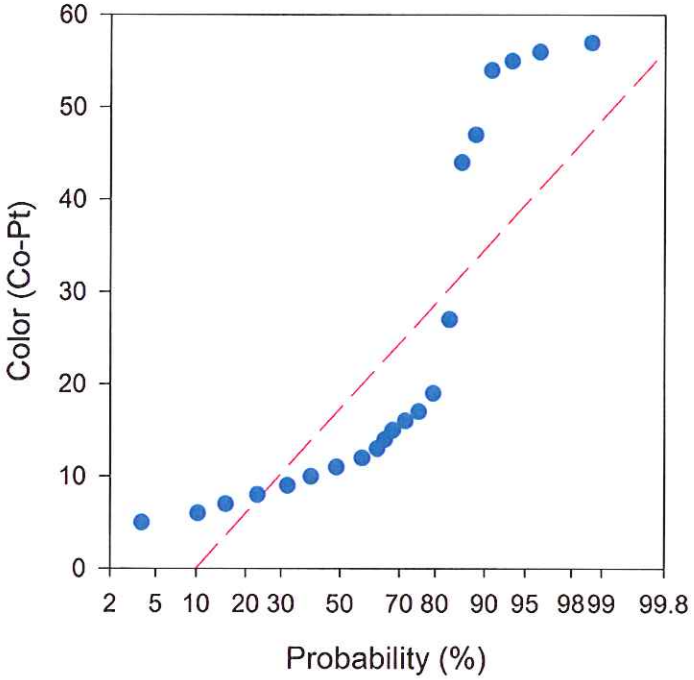
4. Mixed Hardwood Forest

Mixed Hardwoods
(Normal Probability Plots)

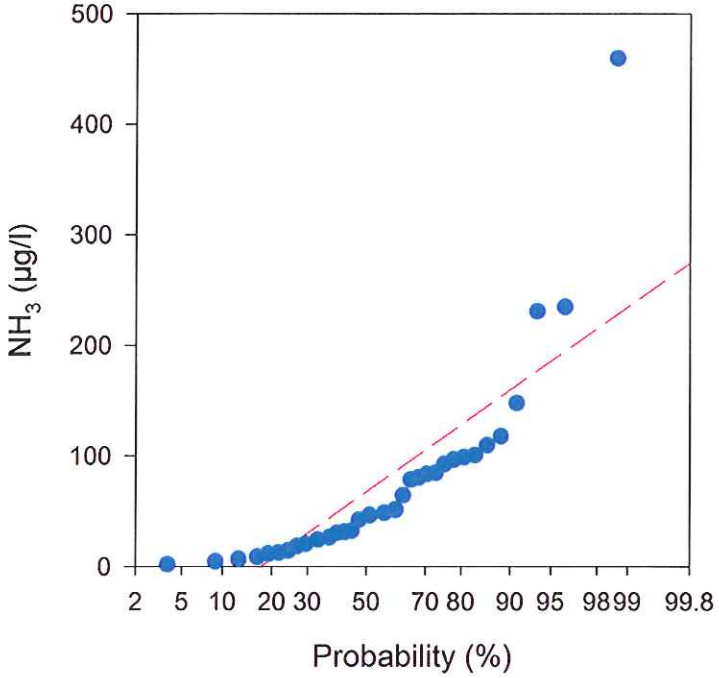


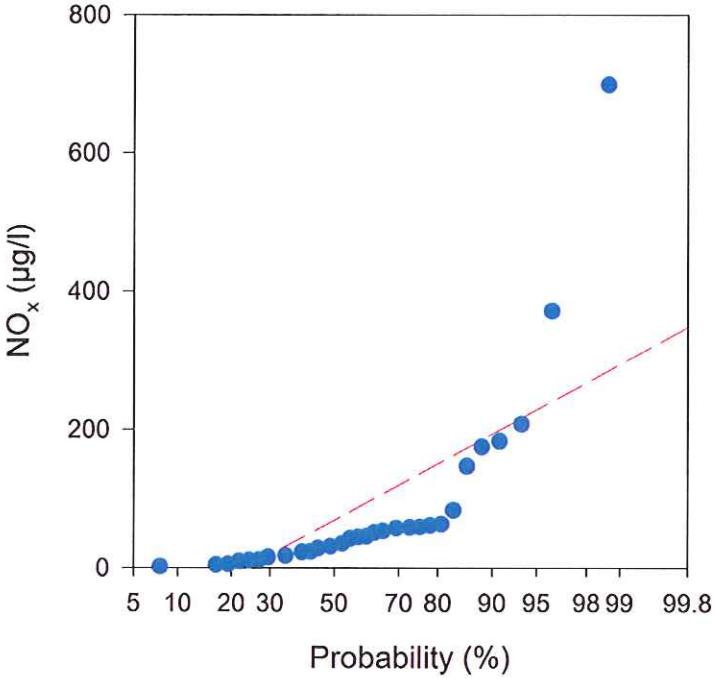


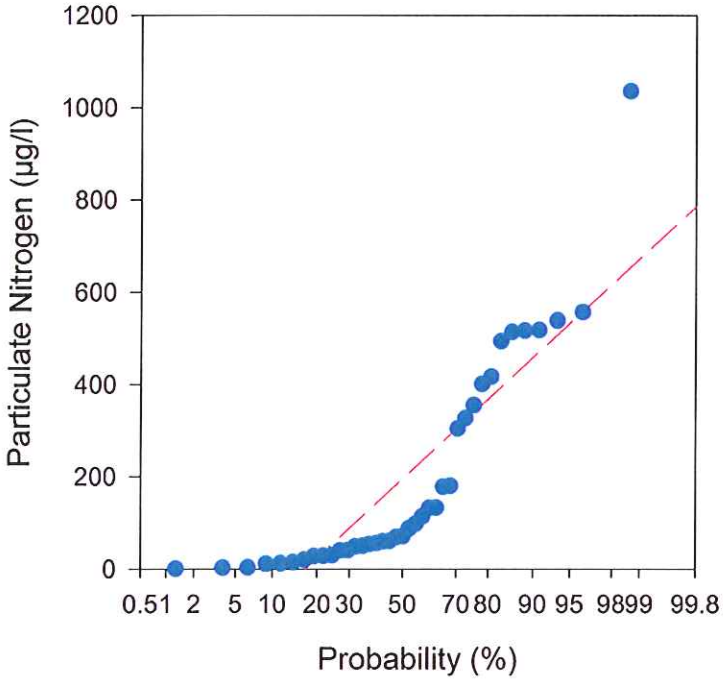


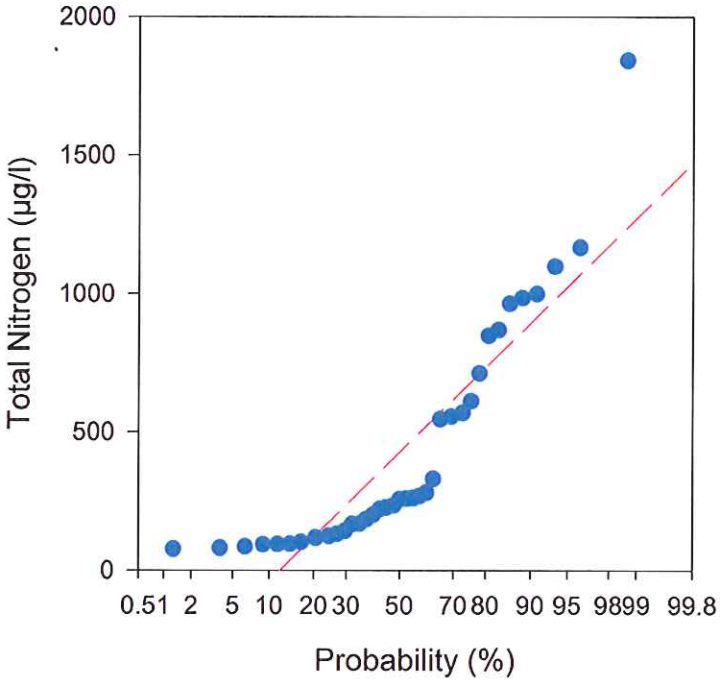


Mixed Hardwoods
(Normal Probability Plots)

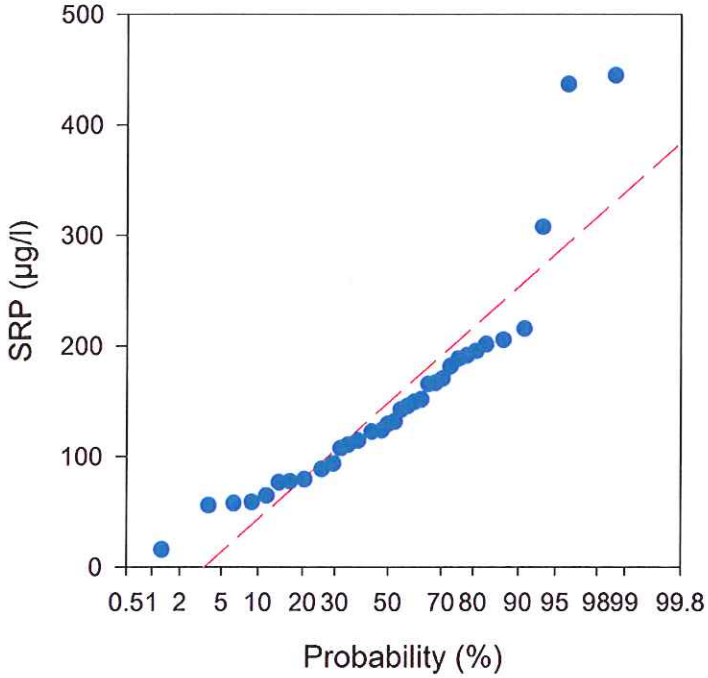


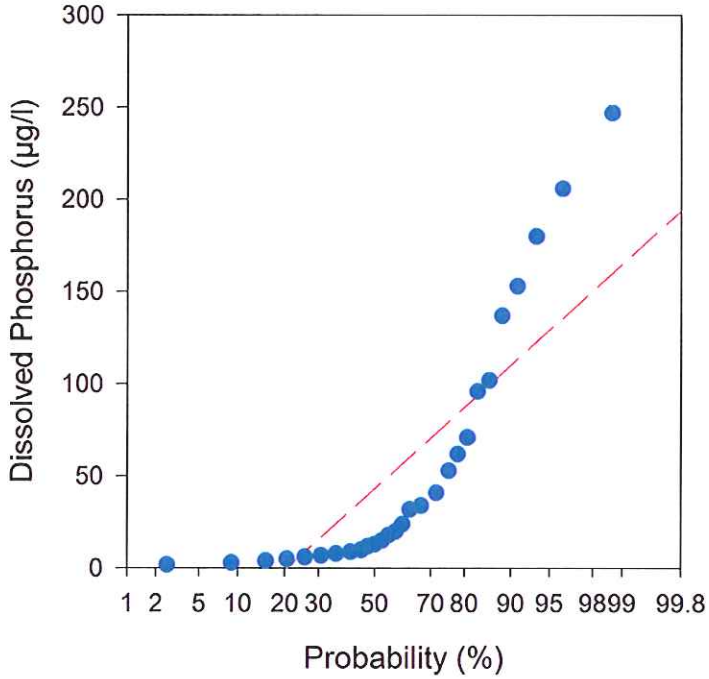


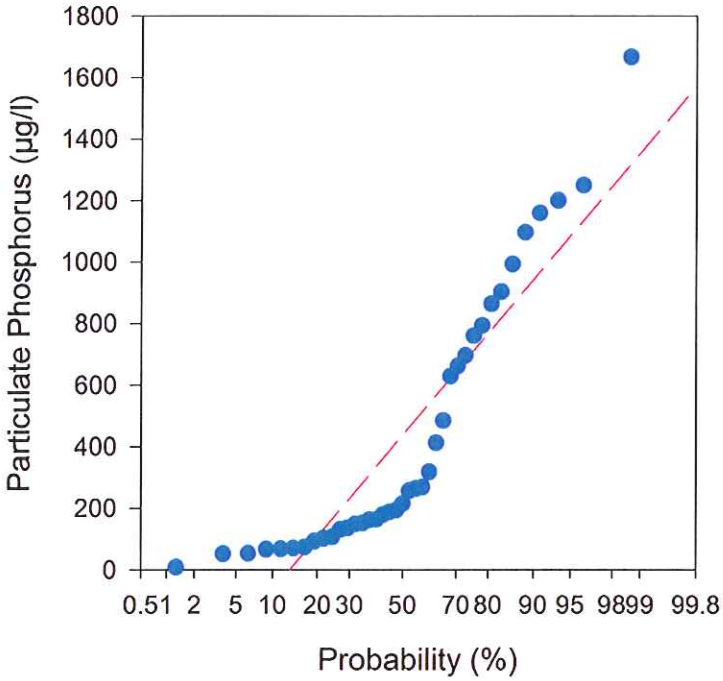


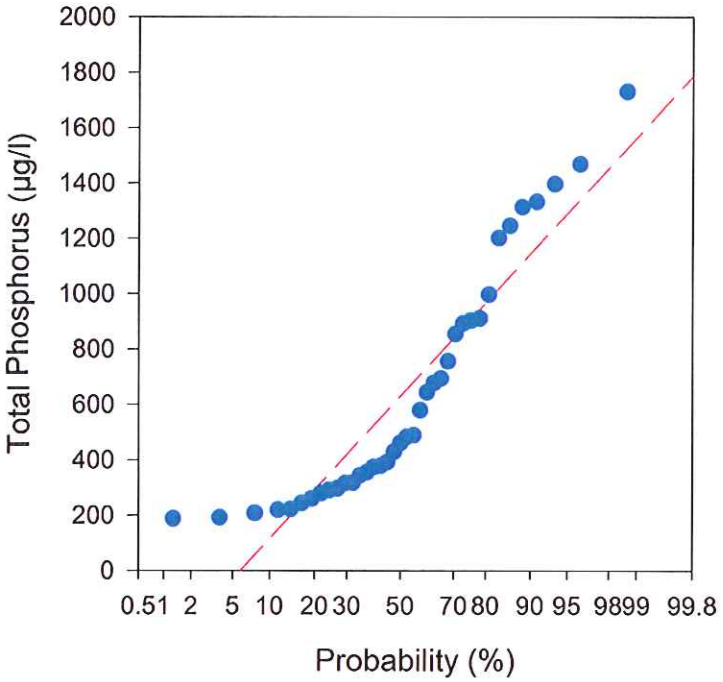


Mixed Hardwoods
(Normal Probability Plots)

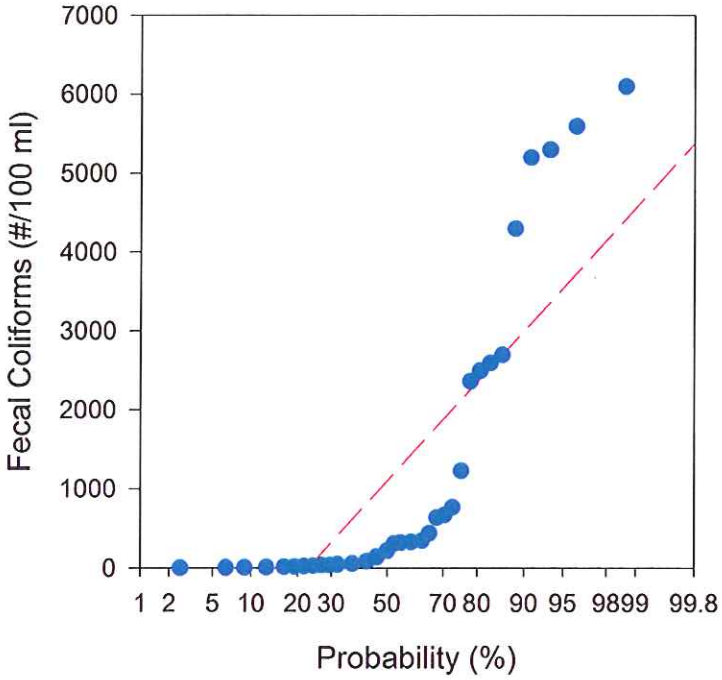


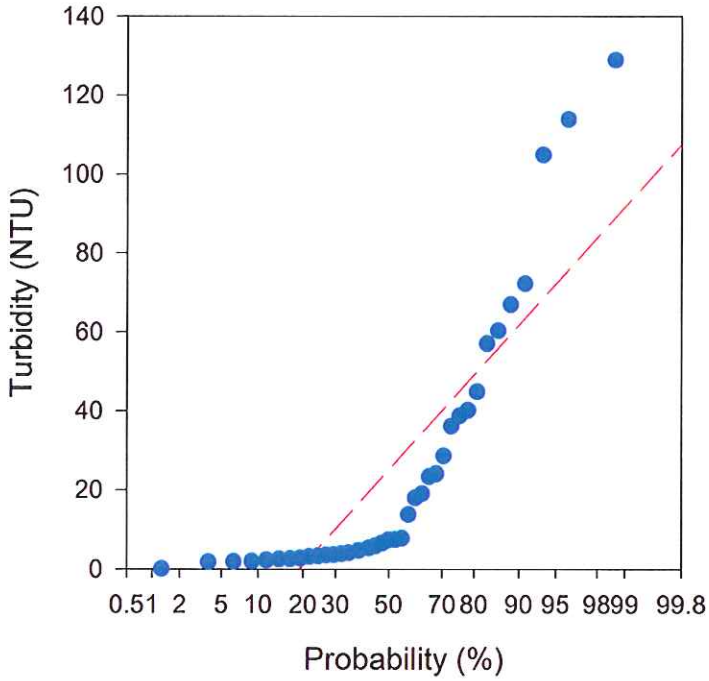


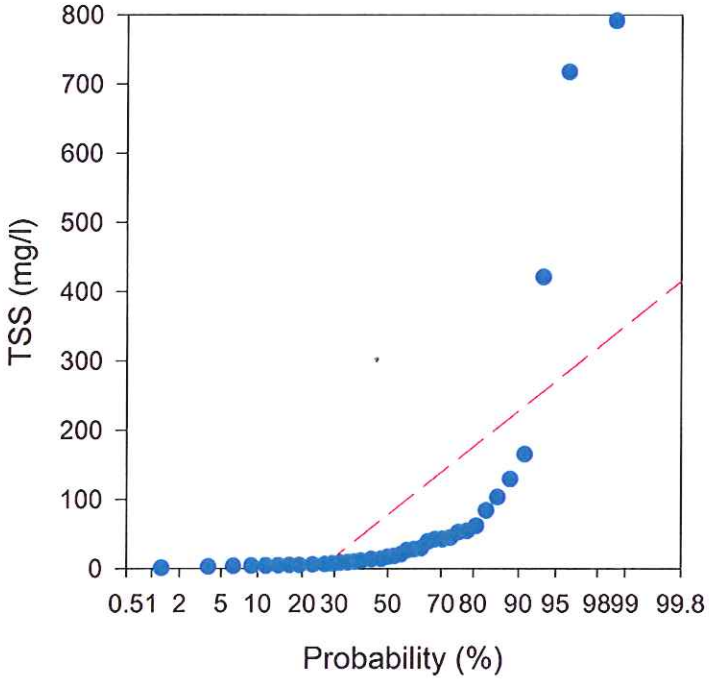


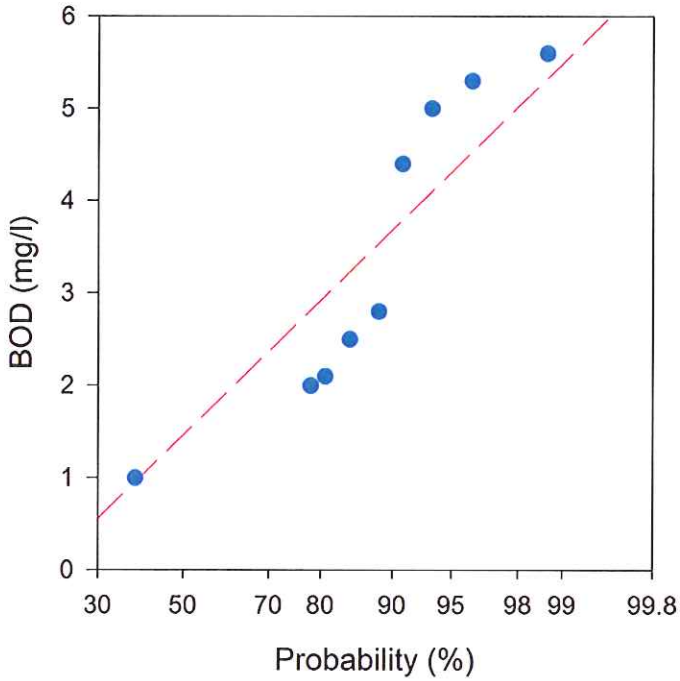


Mixed Hardwoods
(Normal Probability Plots)

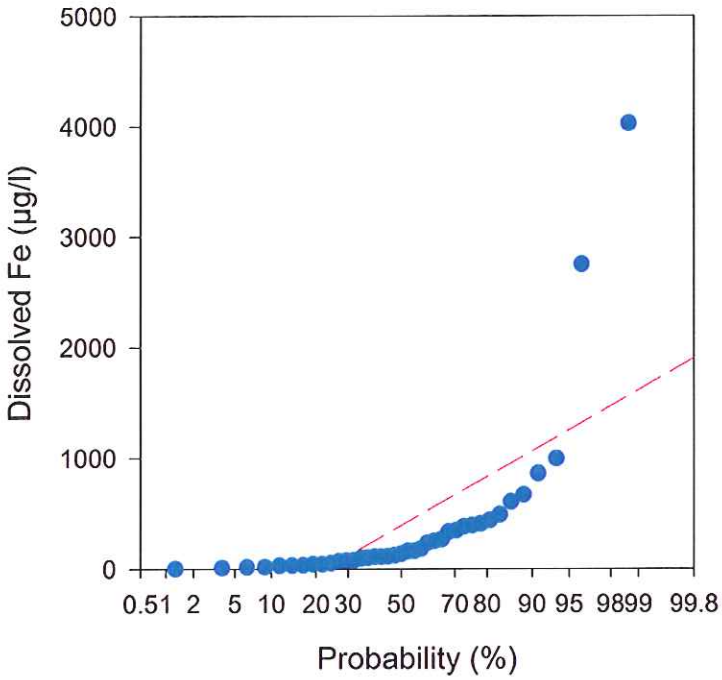


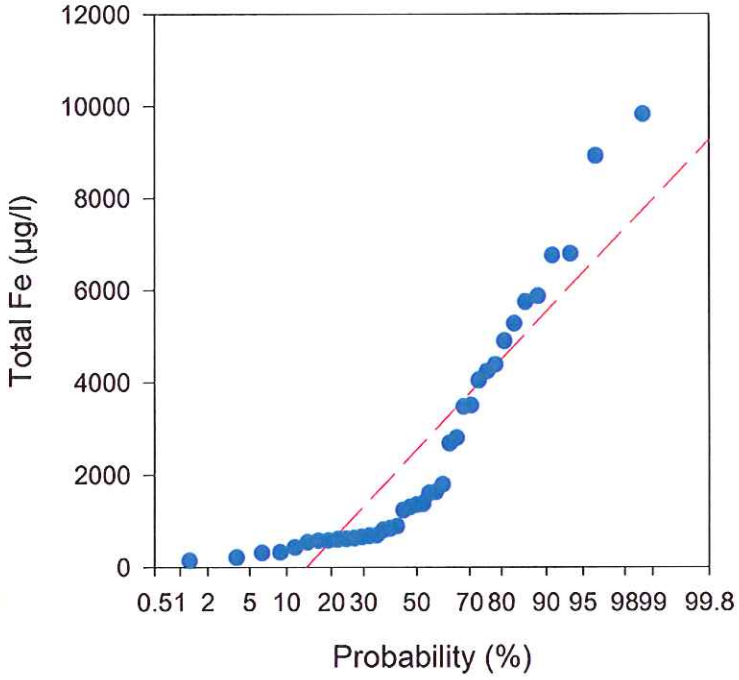


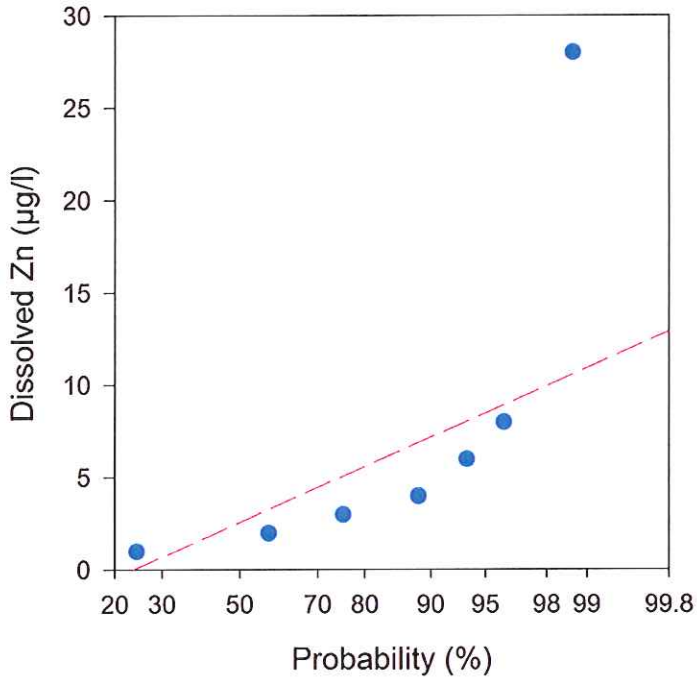


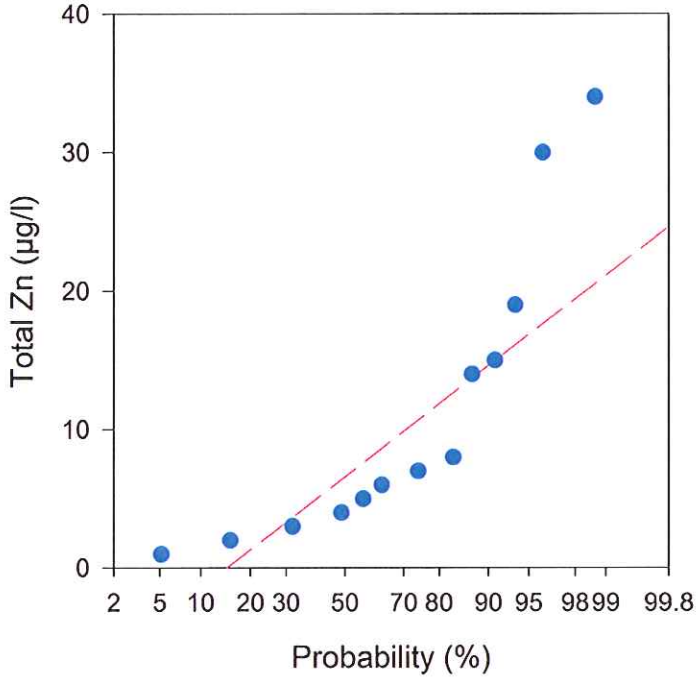


Mixed Hardwoods
(Normal Probability Plots)

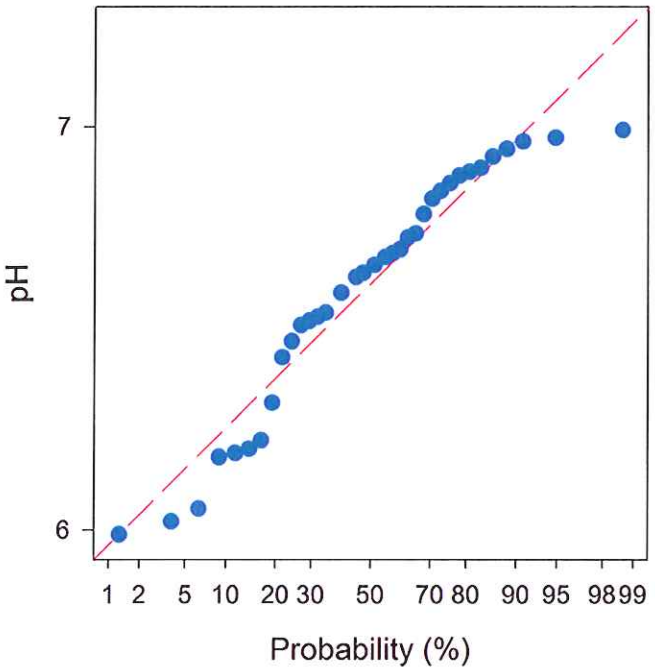


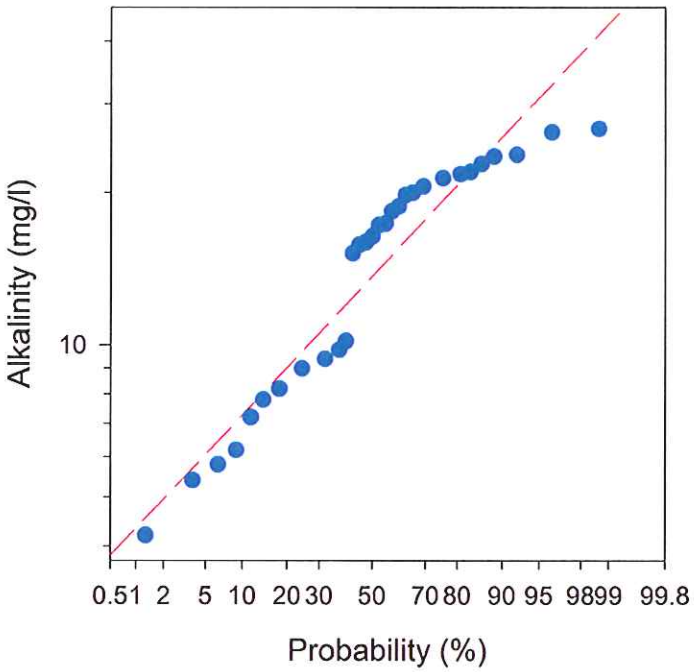


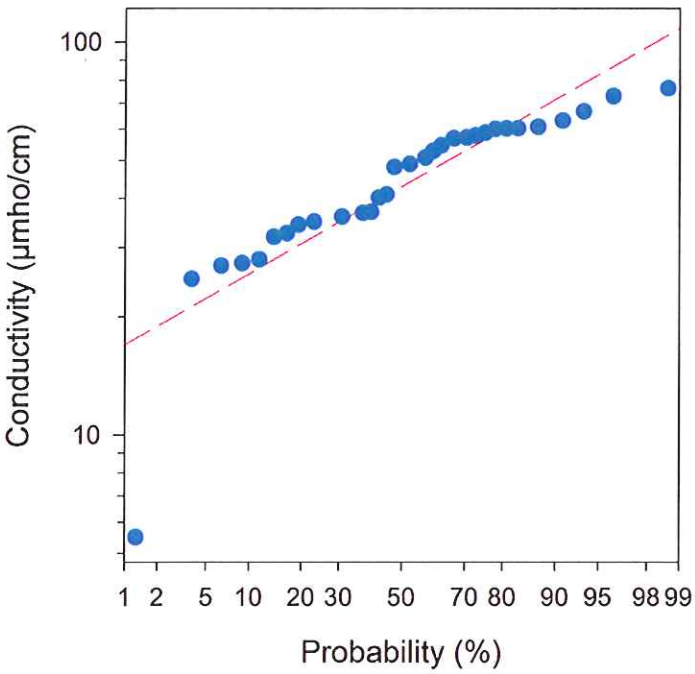


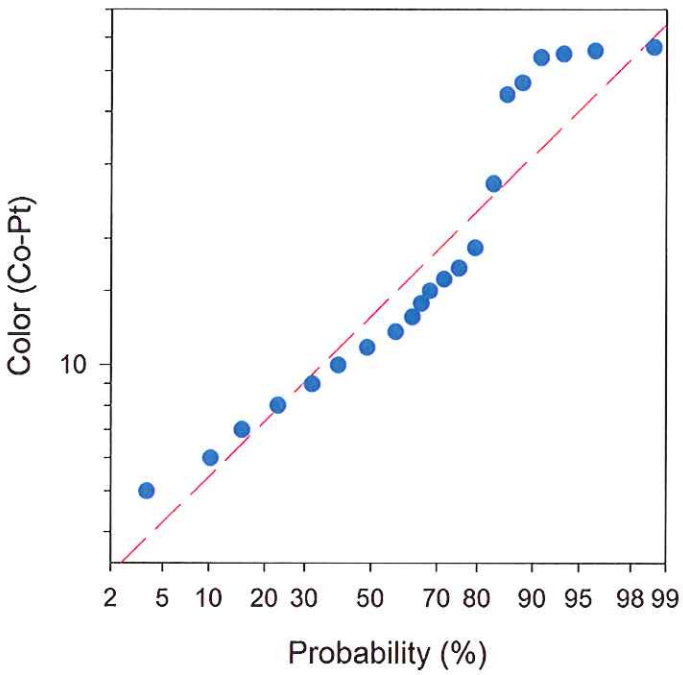


Mixed Hardwoods
(Log Normal Probability Plots)

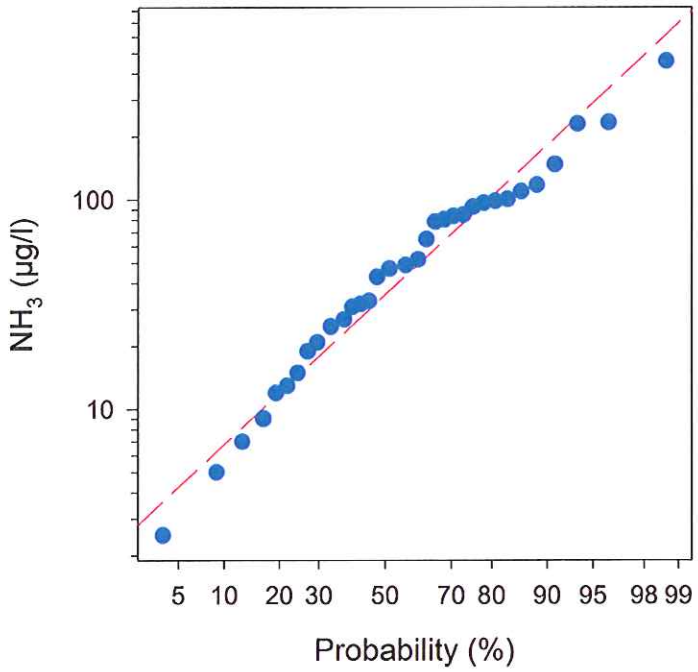


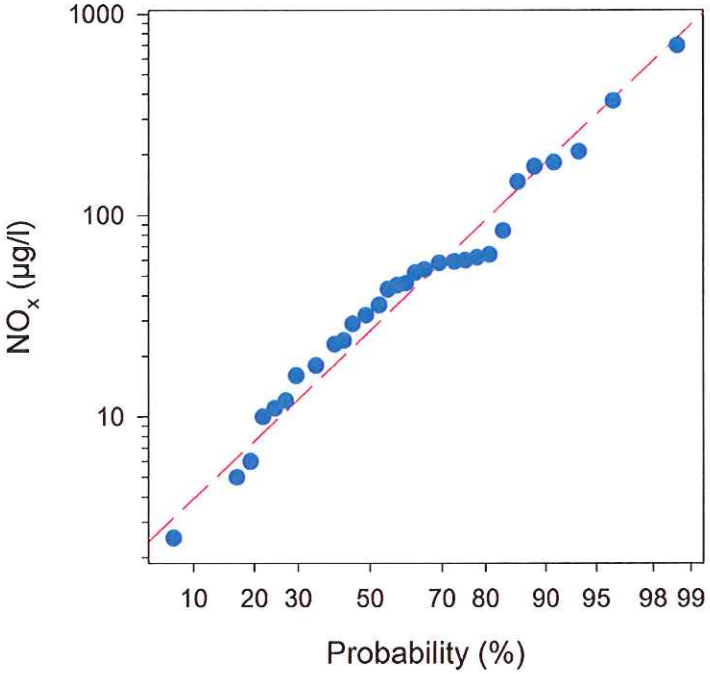


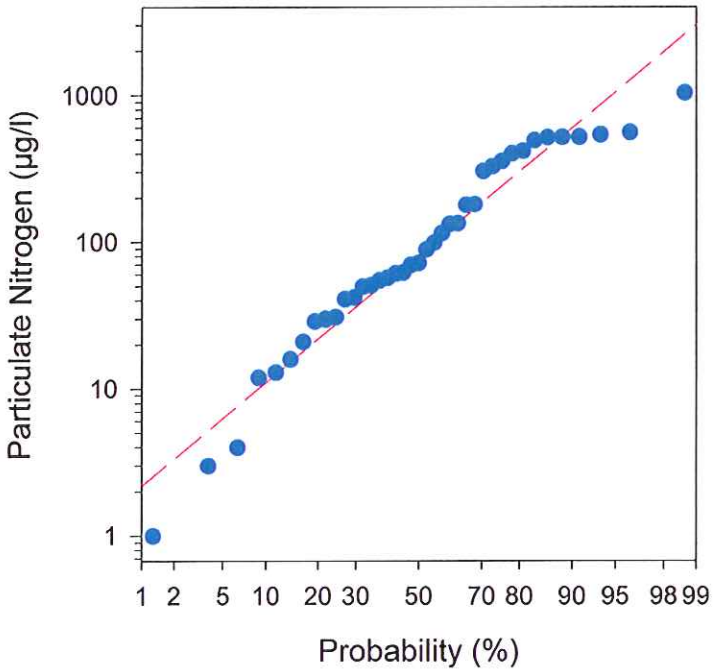


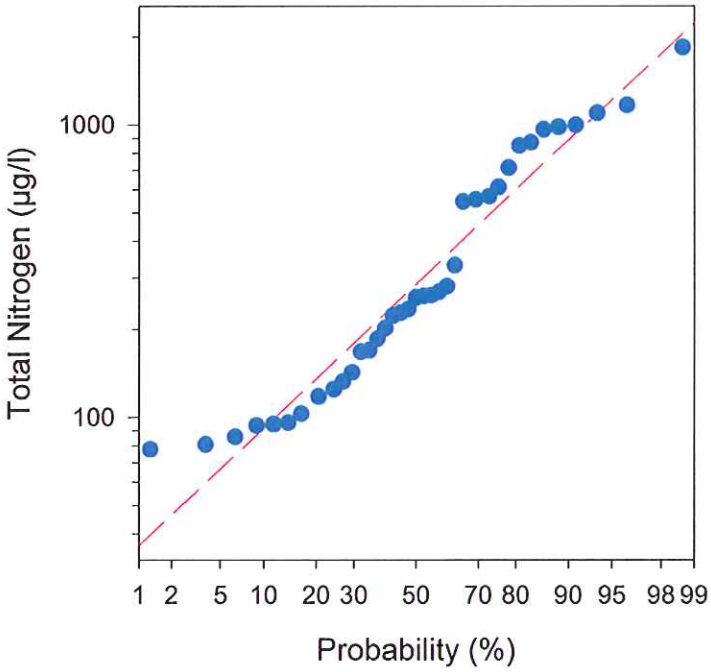


Mixed Hardwoods
(Log Normal Probability Plots)

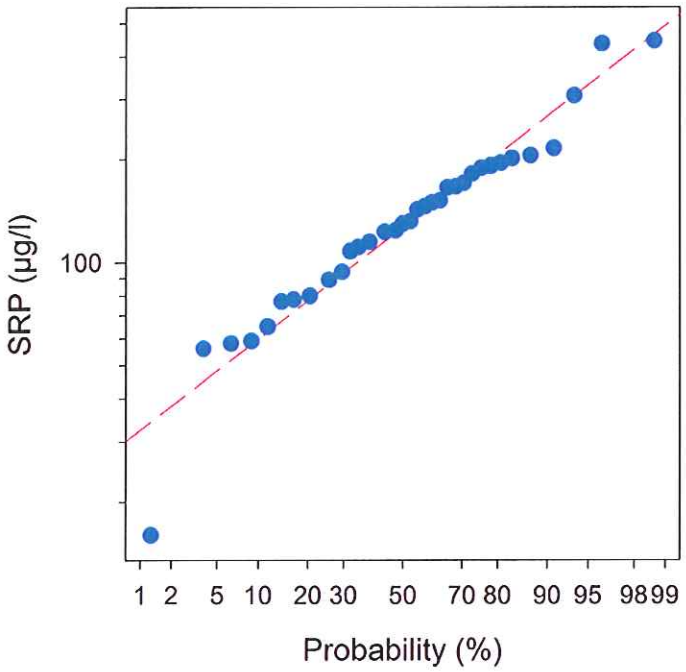


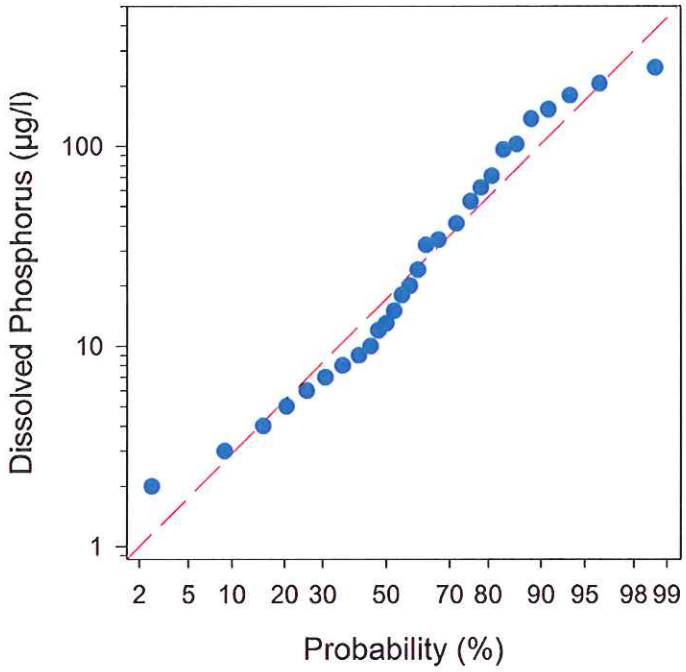


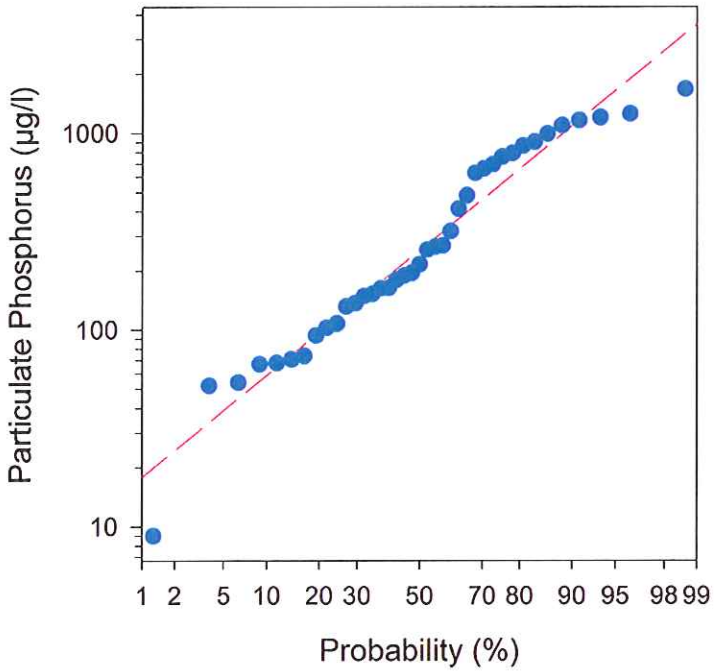


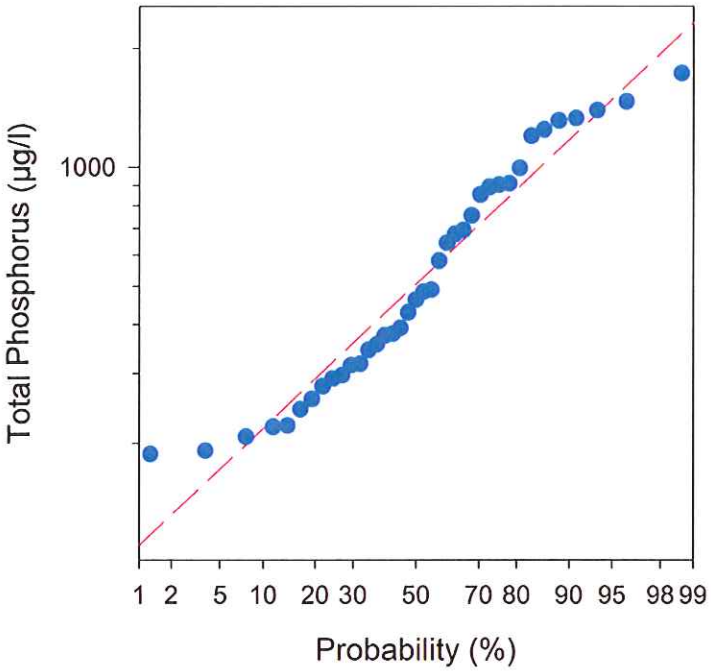


Mixed Hardwoods
(Log Normal Probability Plots)

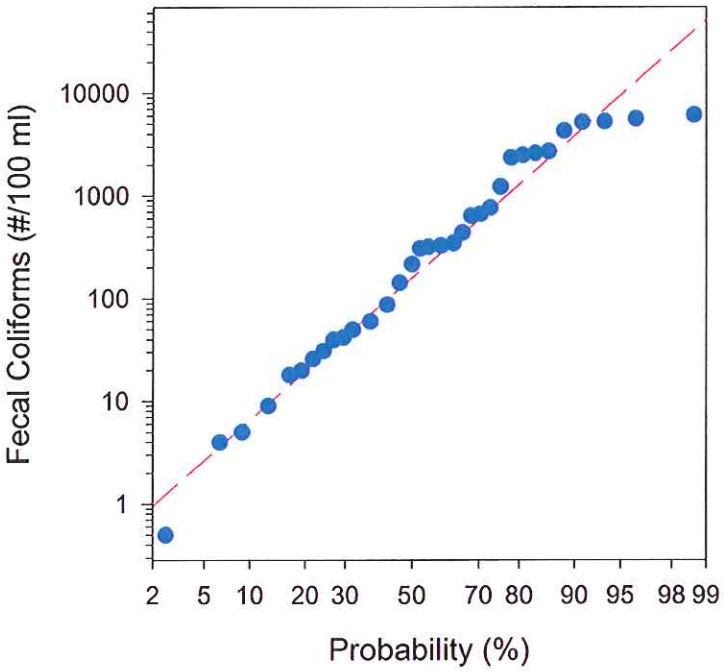


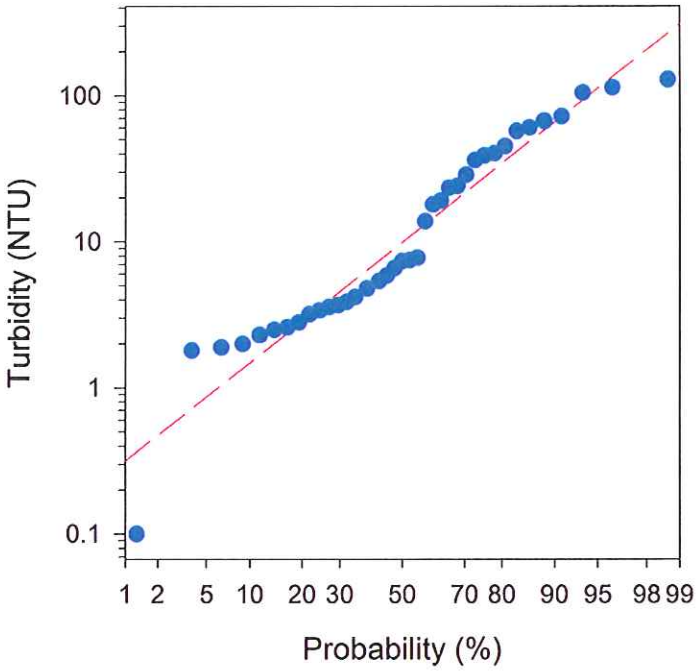


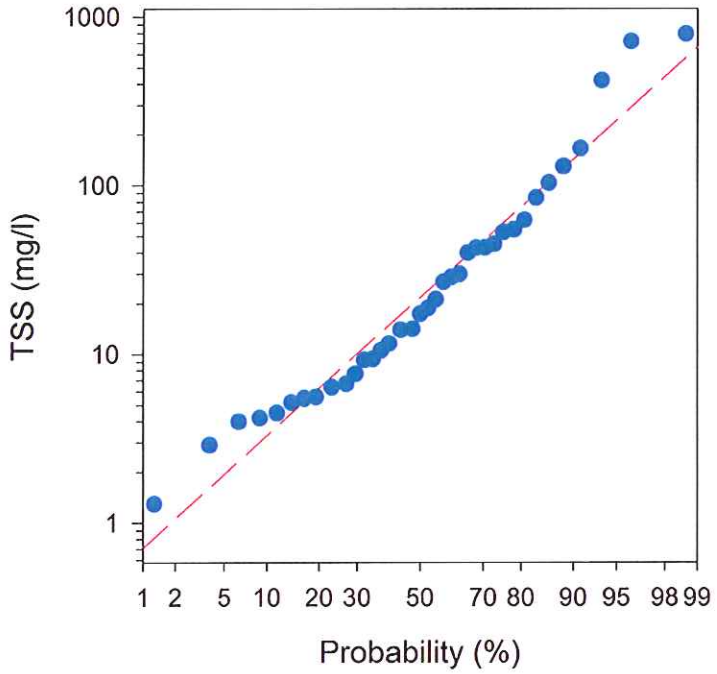


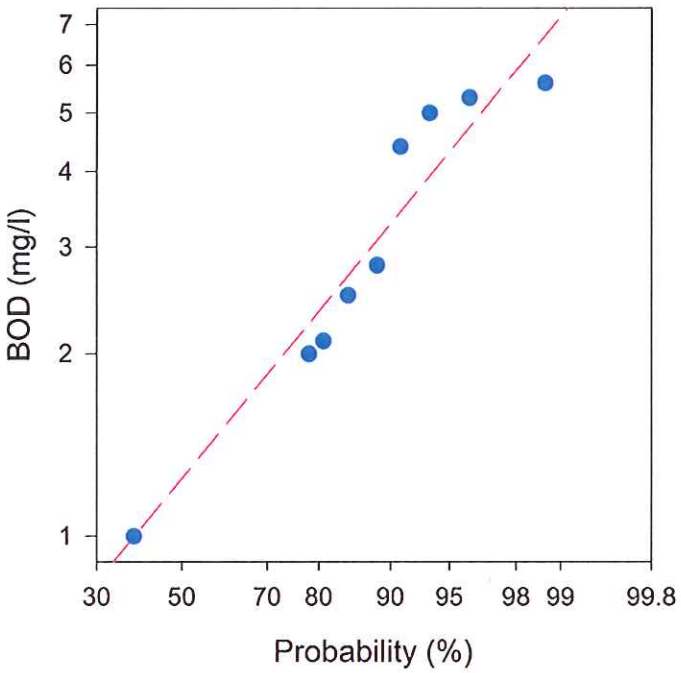


Mixed Hardwoods
(Log Normal Probability Plots)

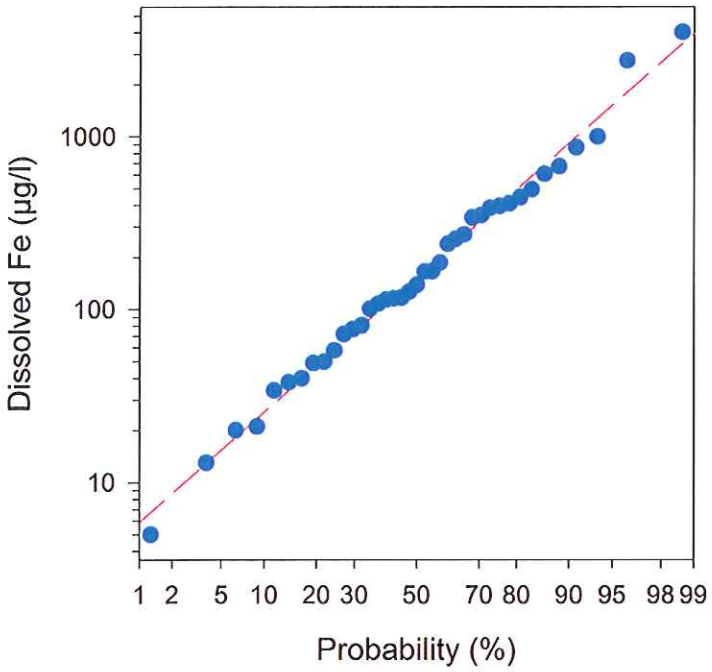


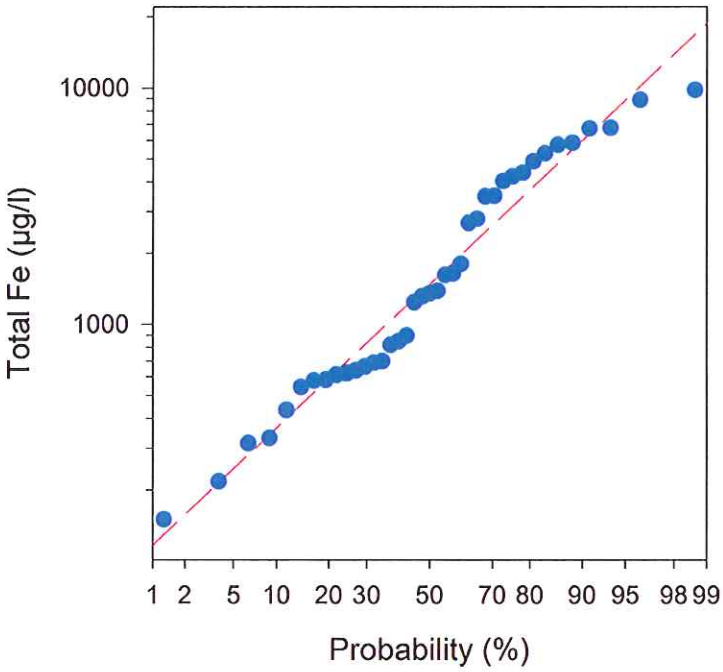


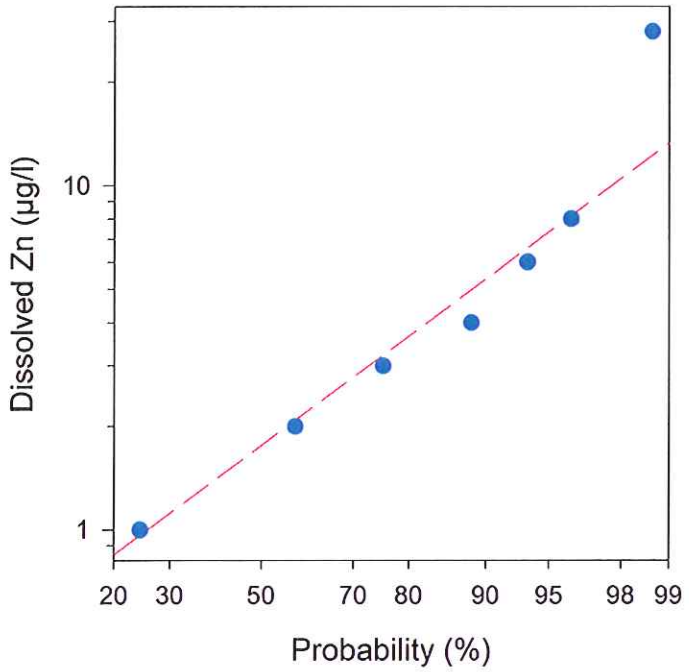


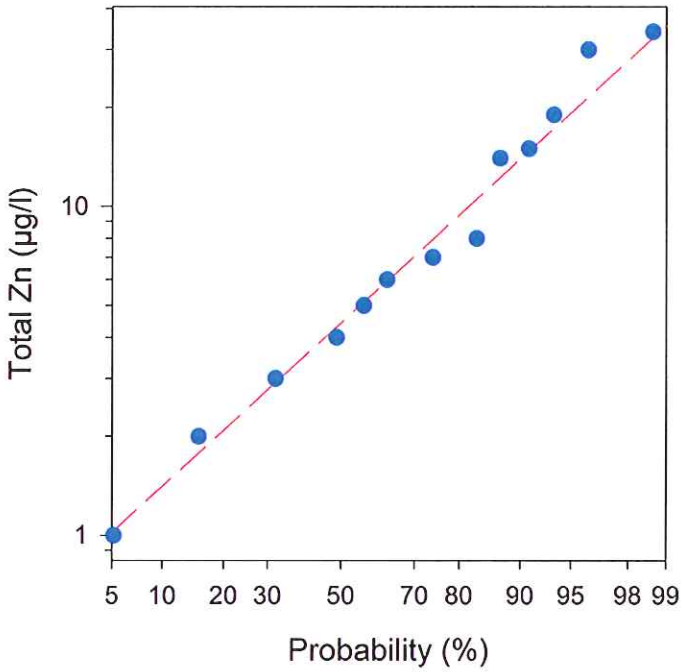


Mixed Hardwoods
(Log Normal Probability Plots)



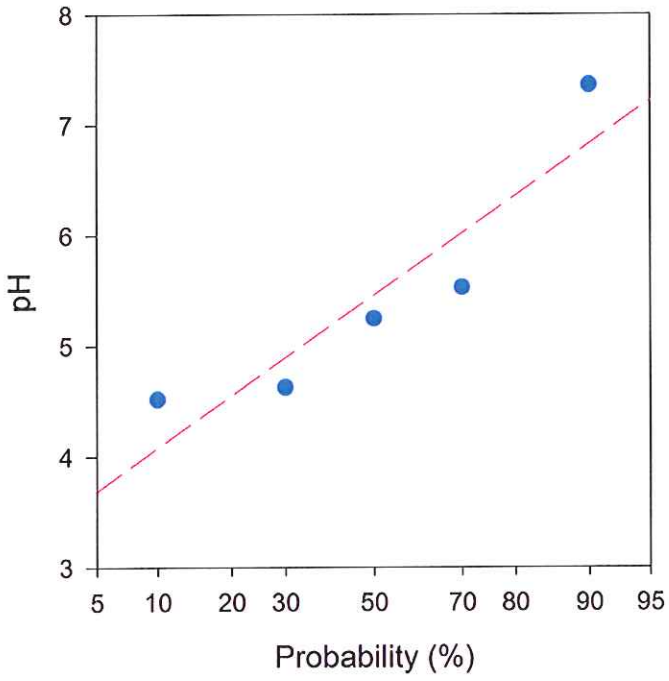


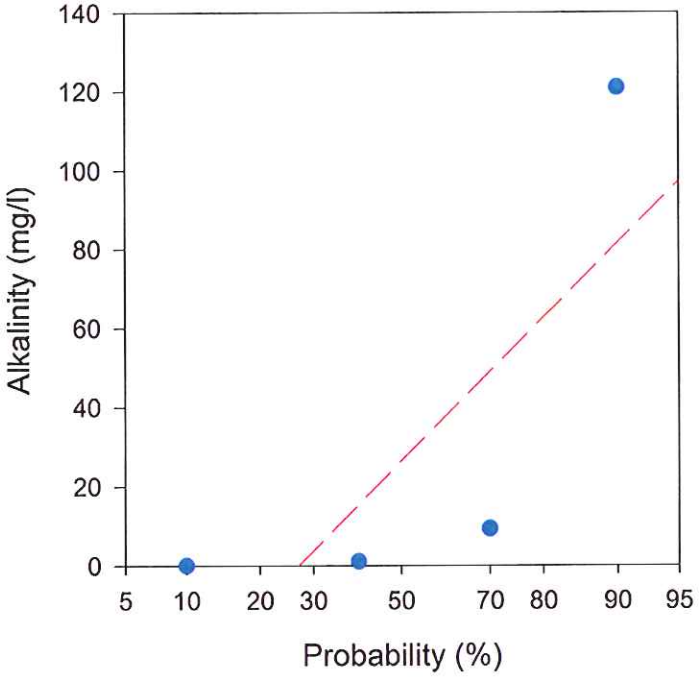


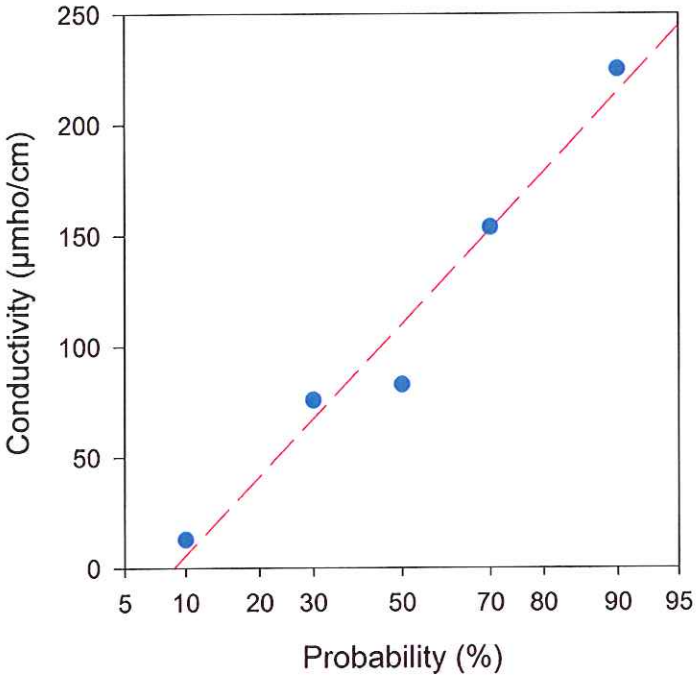


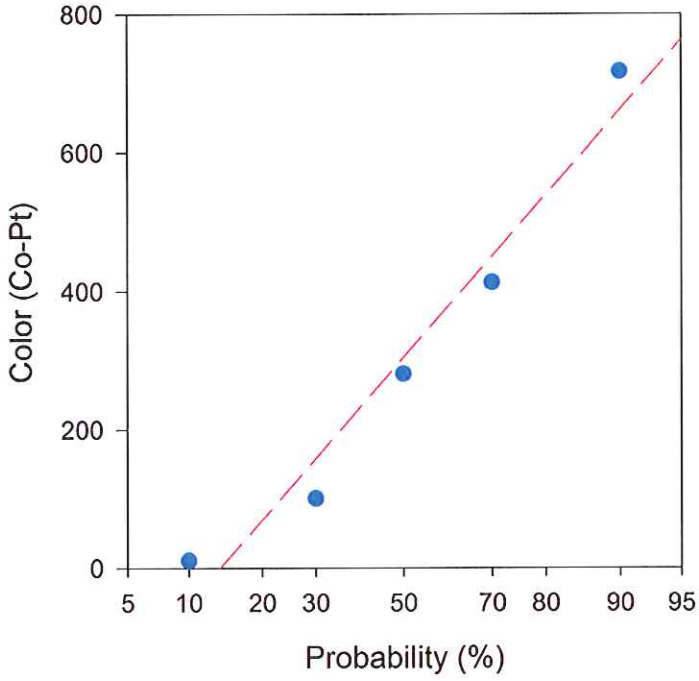
5. Ruderal / Upland Pine

Ruderal/Upland Pine
(Normal Probability Plots)

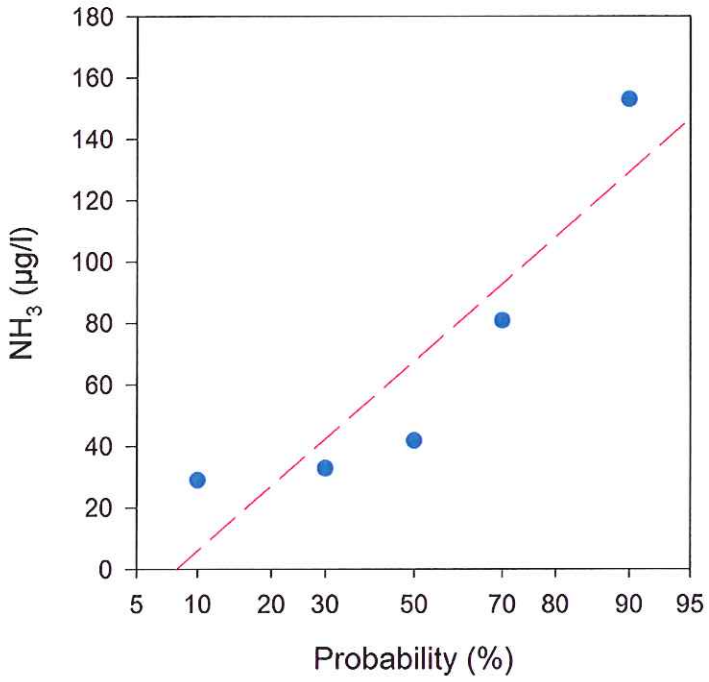


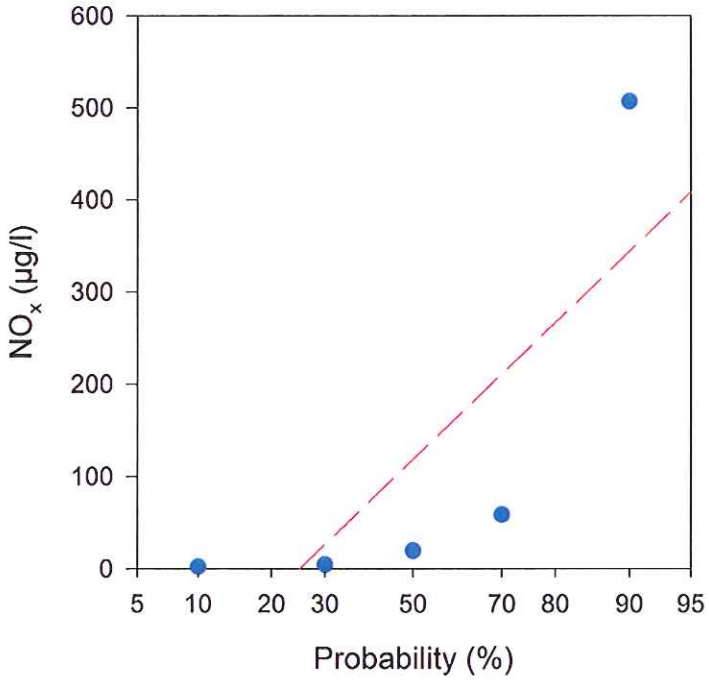


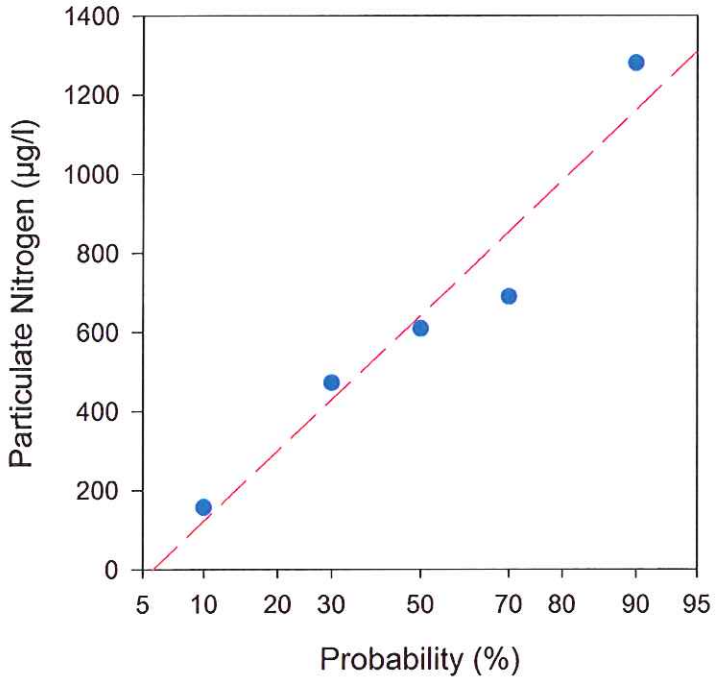


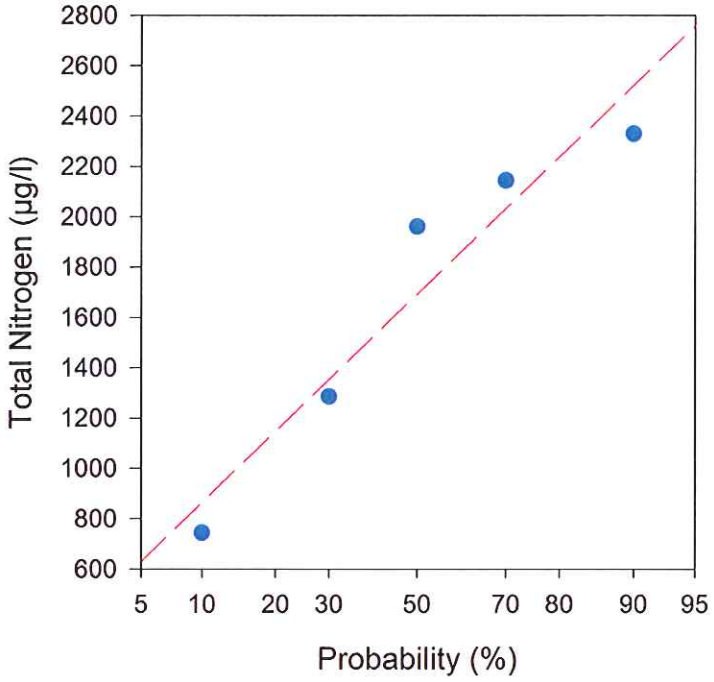


Ruderal/Upland Pine
(Normal Probability Plots)

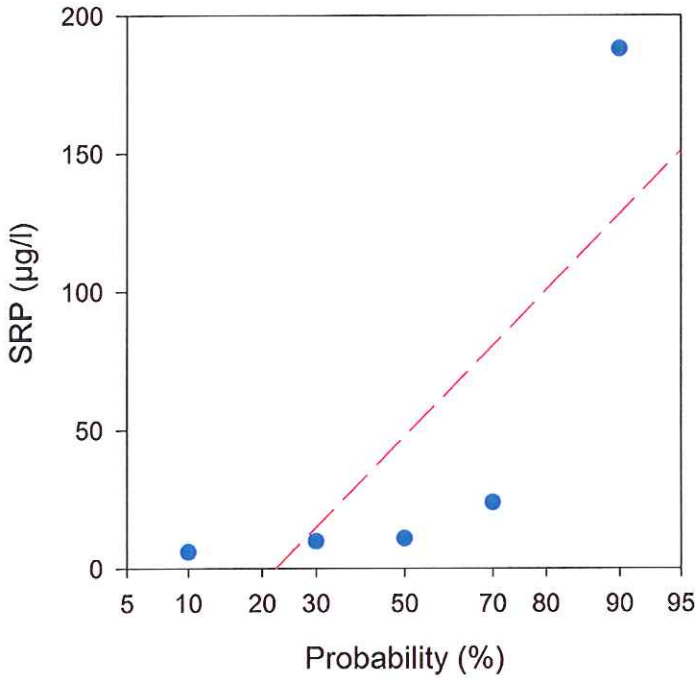


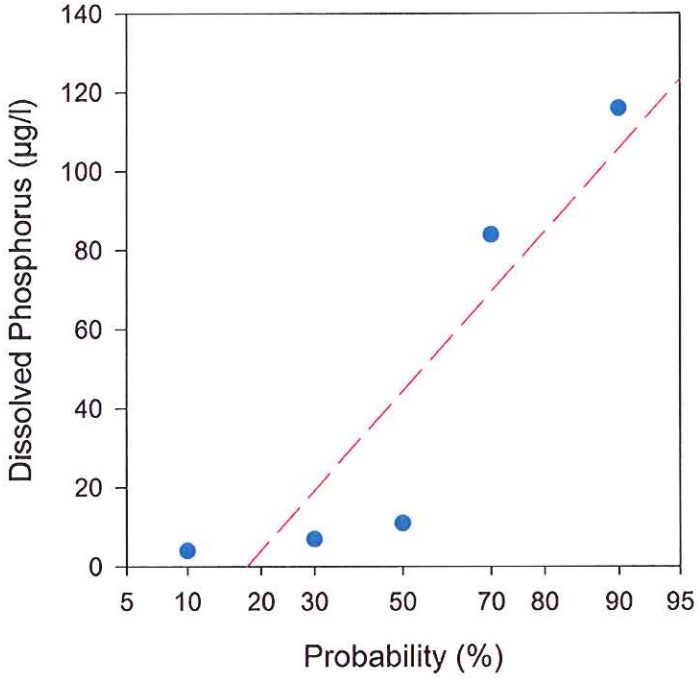


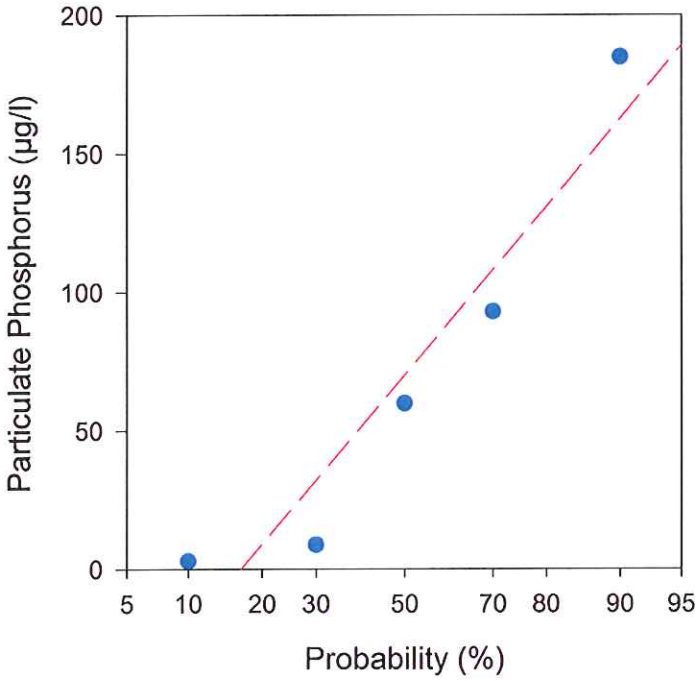


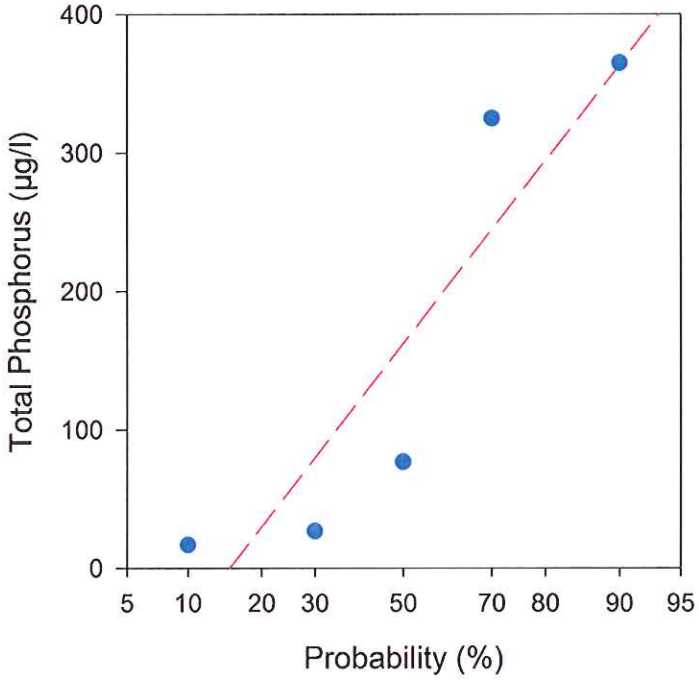


Ruderal/Upland Pine
(Normal Probability Plots)

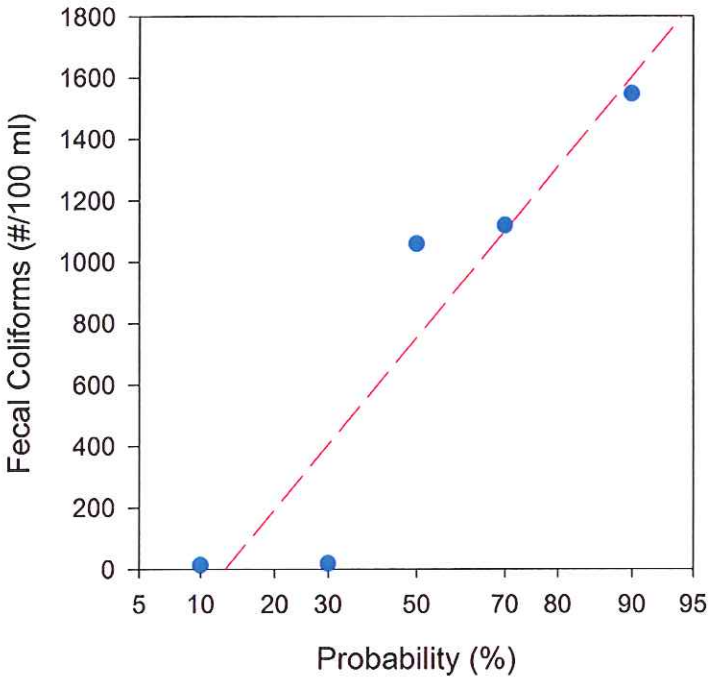


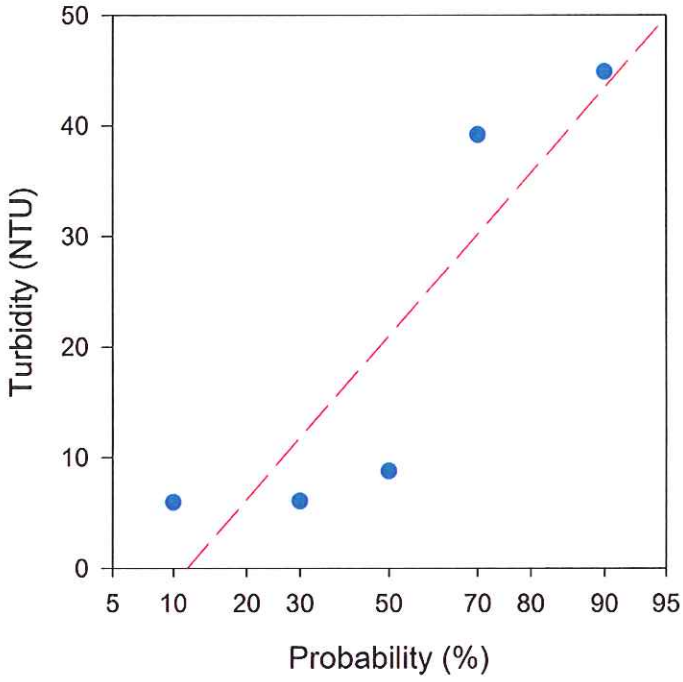


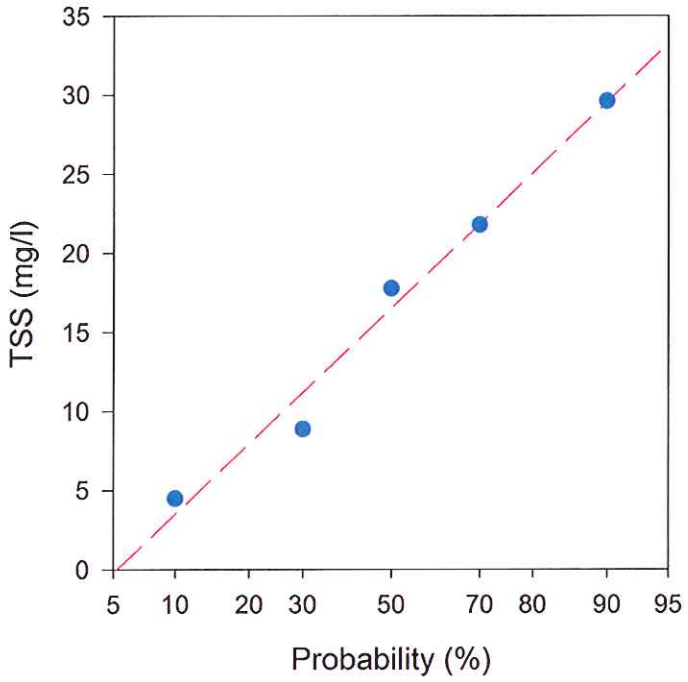


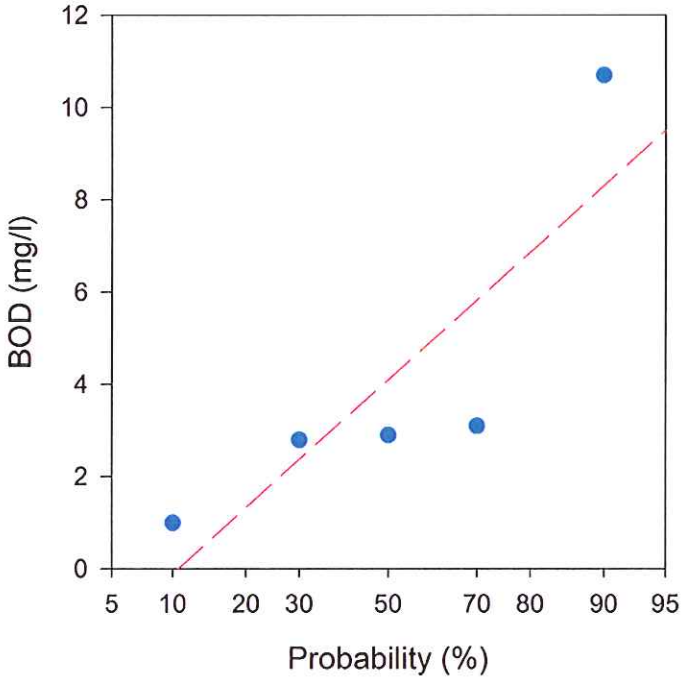


Ruderal/Upland Pine
(Normal Probability Plots)

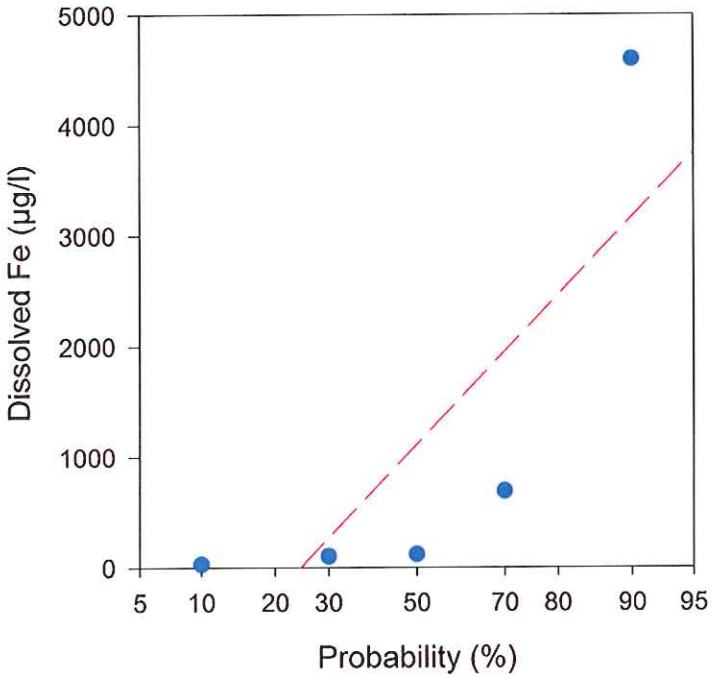


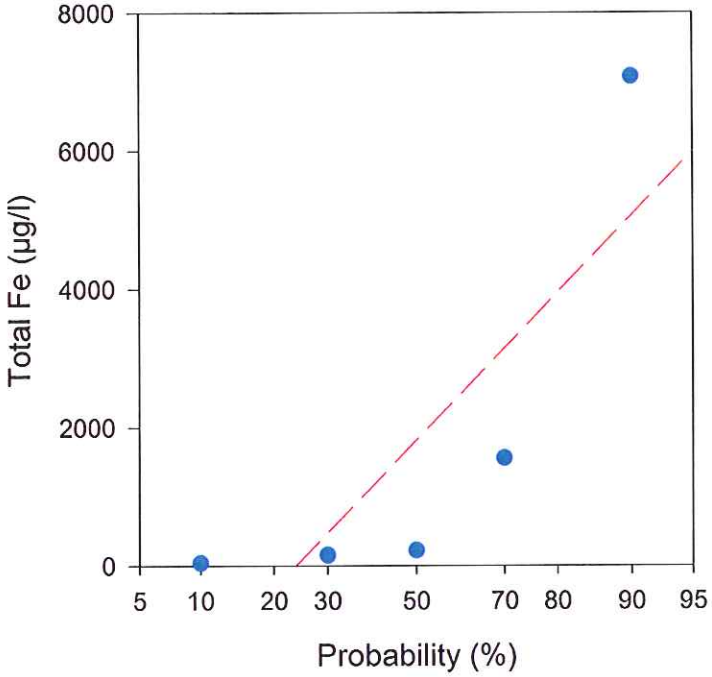


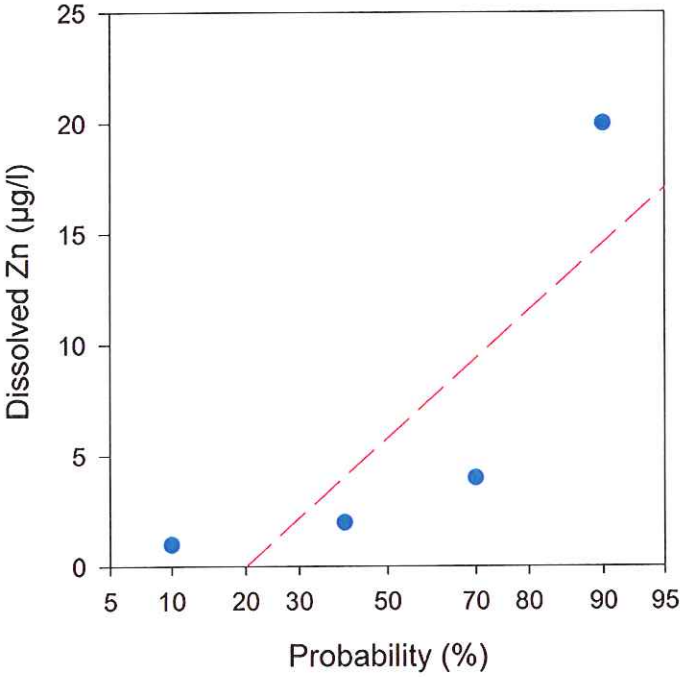


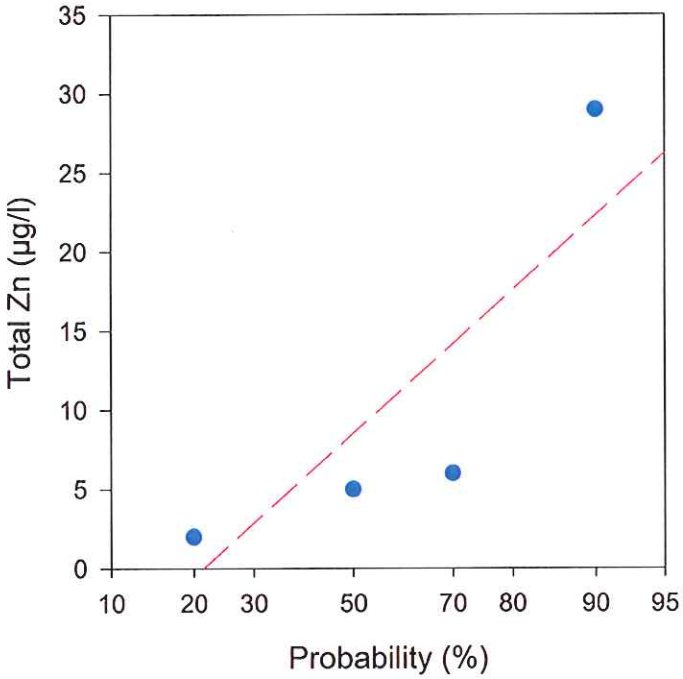


Ruderal/Upland Pine
(Normal Probability Plots)

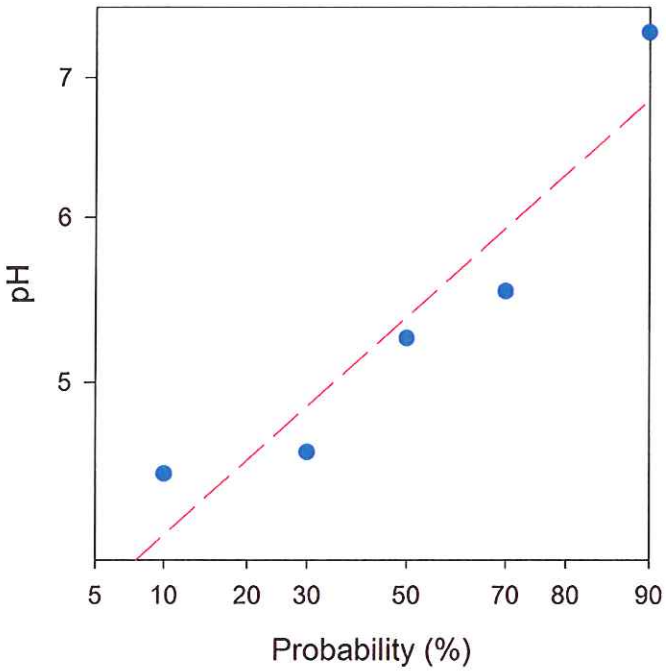


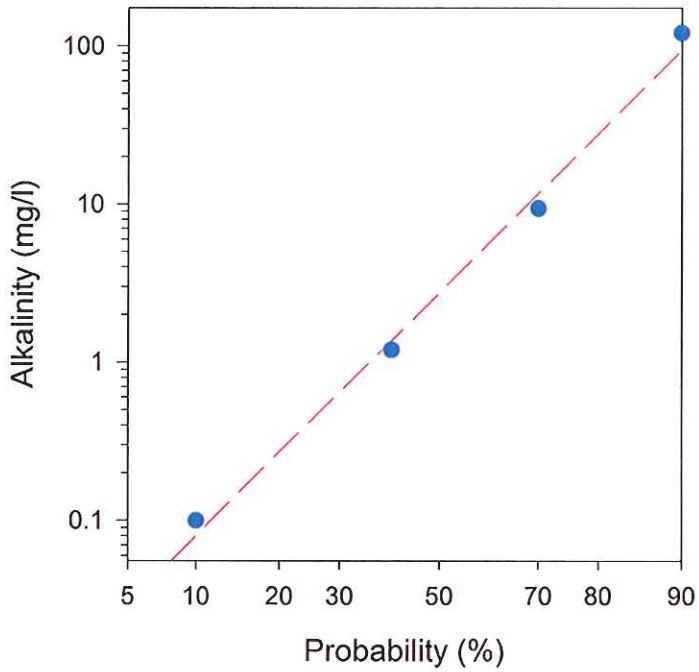


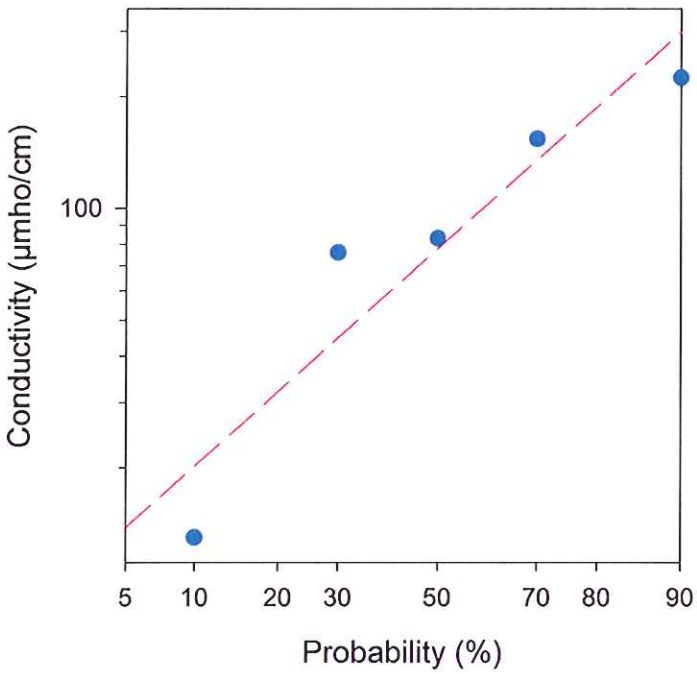


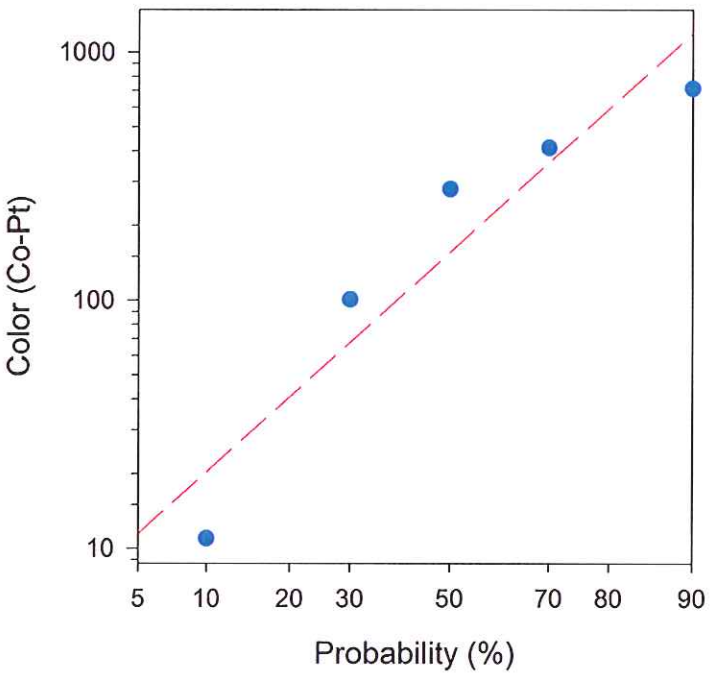


Ruderal/Upland Pine
(Log Normal Probability Plots)

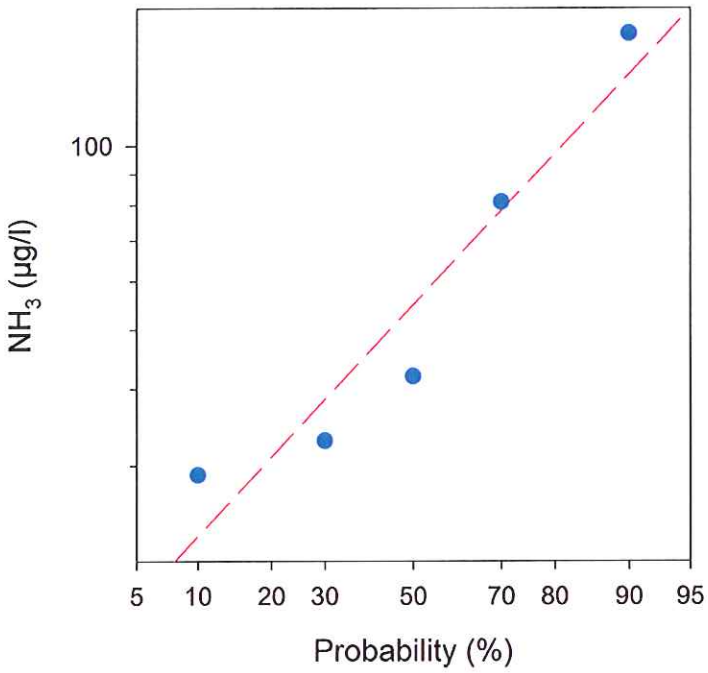


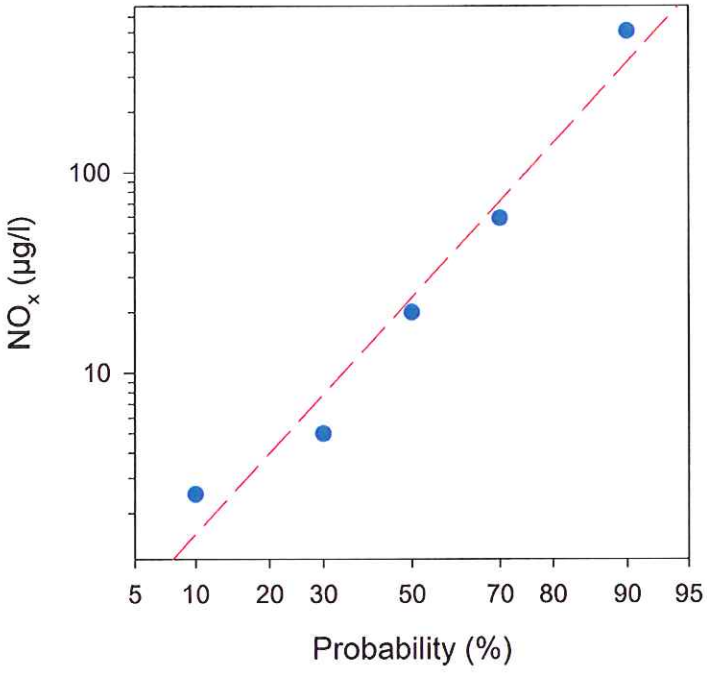


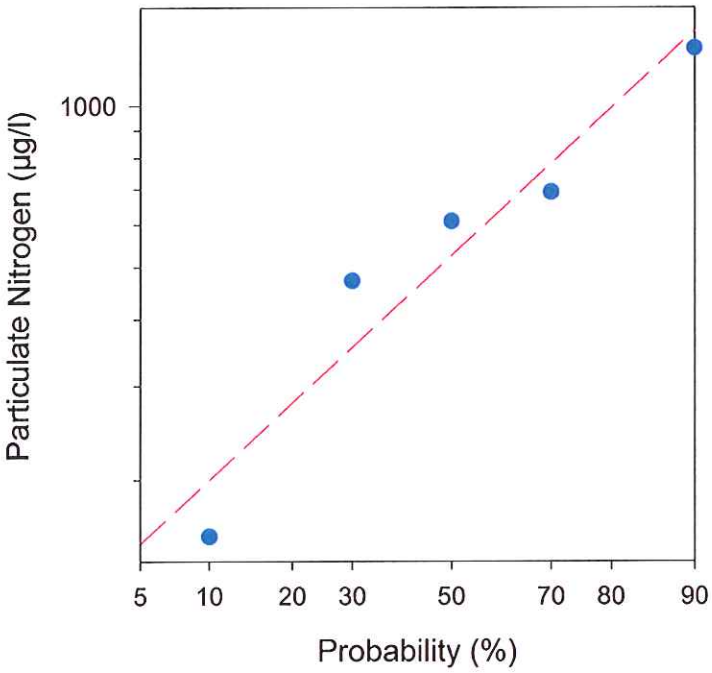


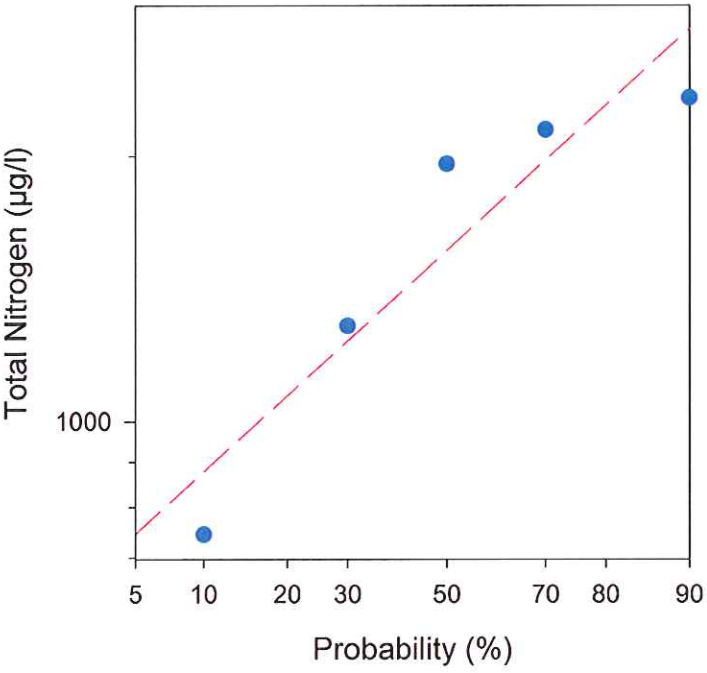


Ruderal/Upland Pine
(Log Normal Probability Plots)

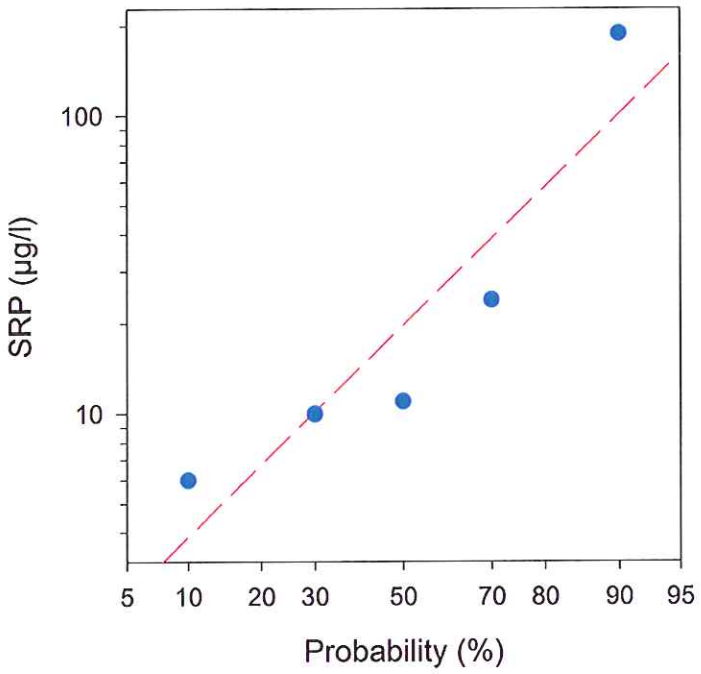


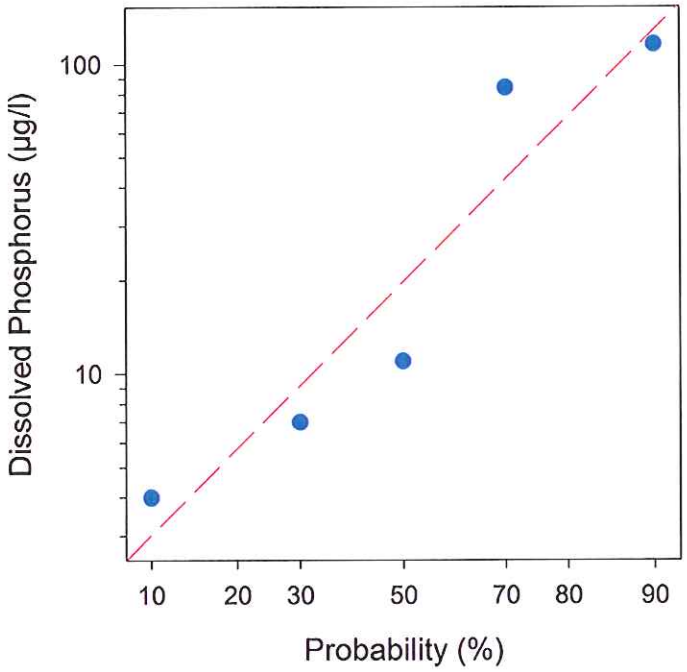


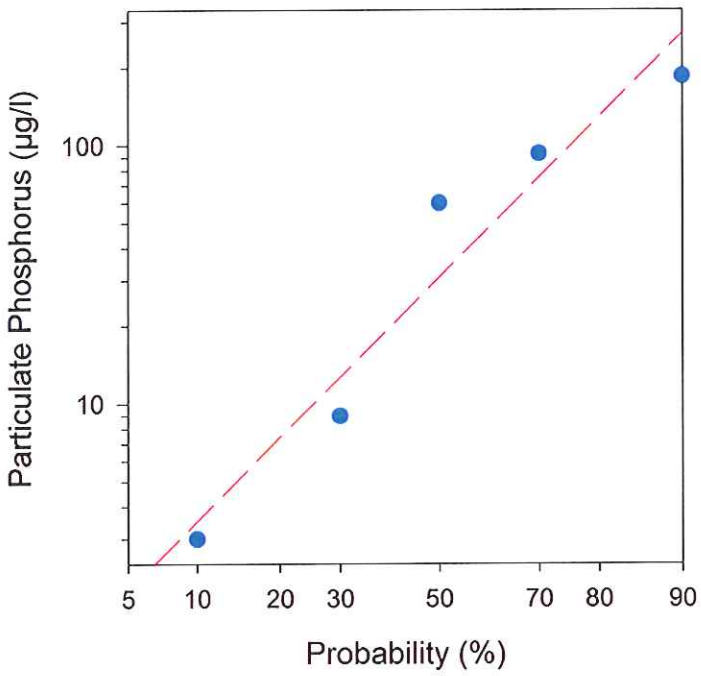


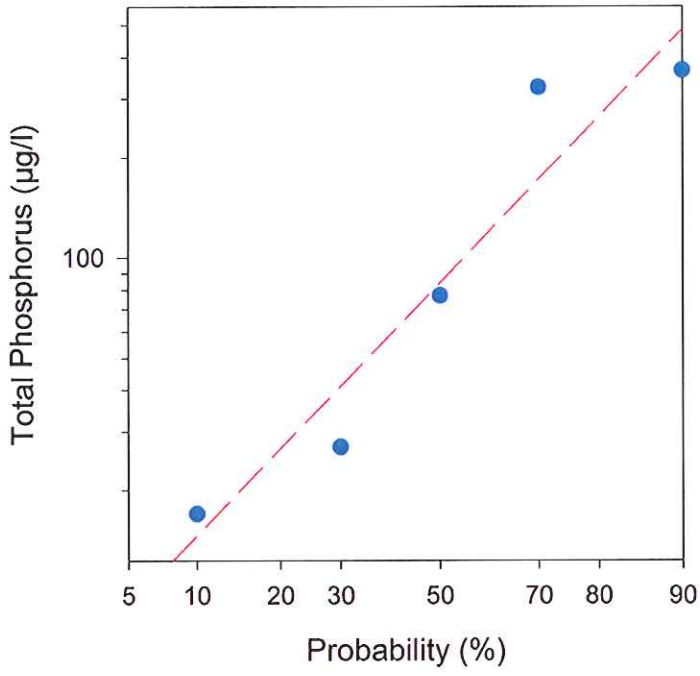


Ruderal/Upland Pine
(Log Normal Probability Plots)

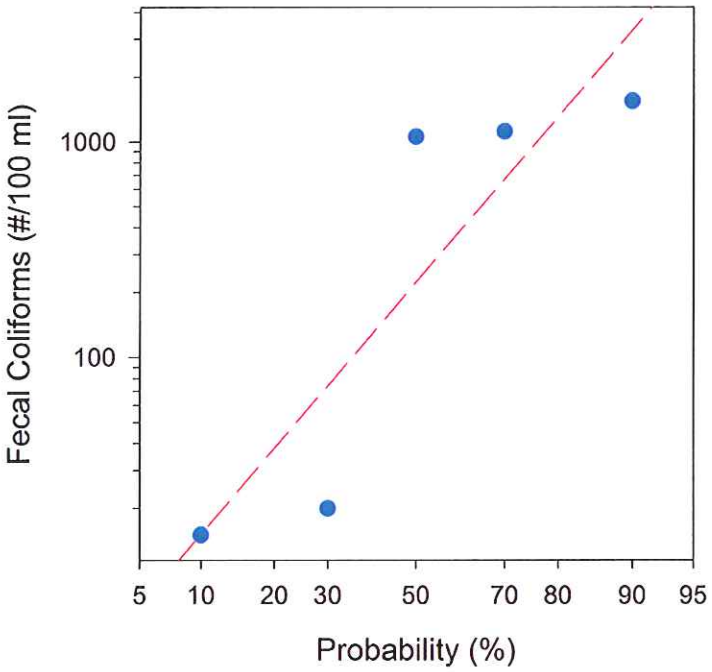


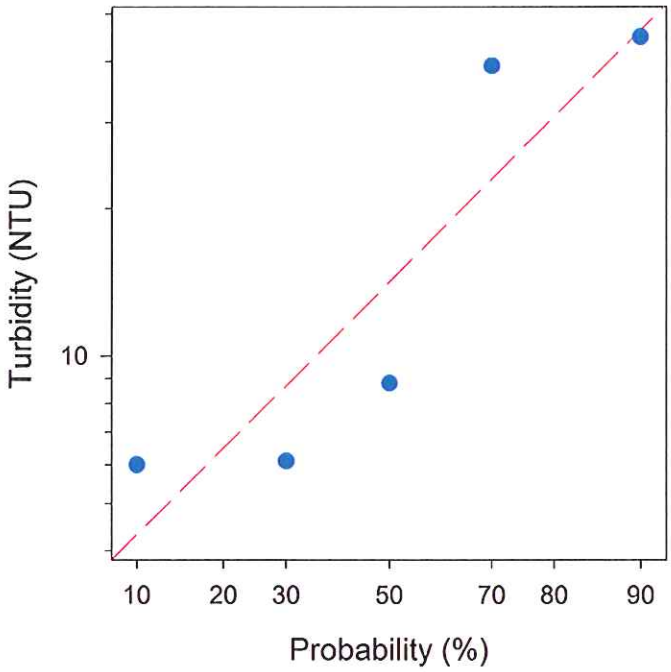


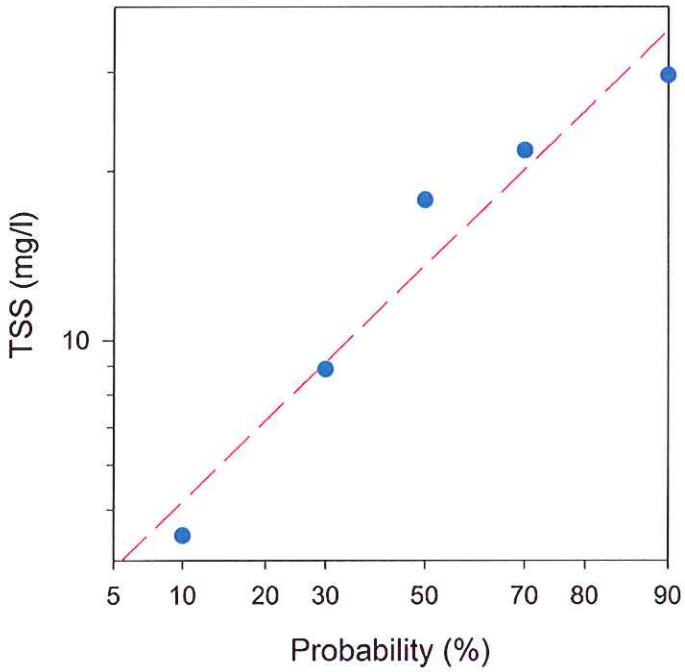


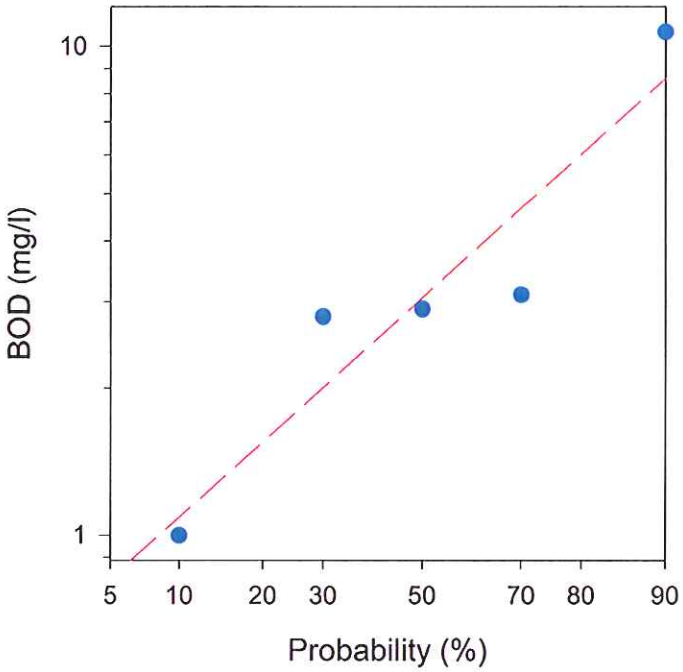


Ruderal/Upland Pine
(Log Normal Probability Plots)

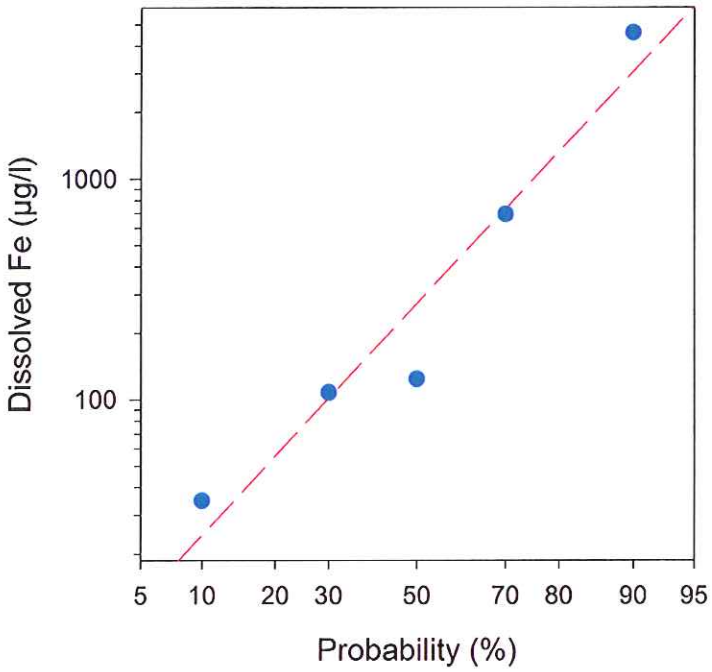


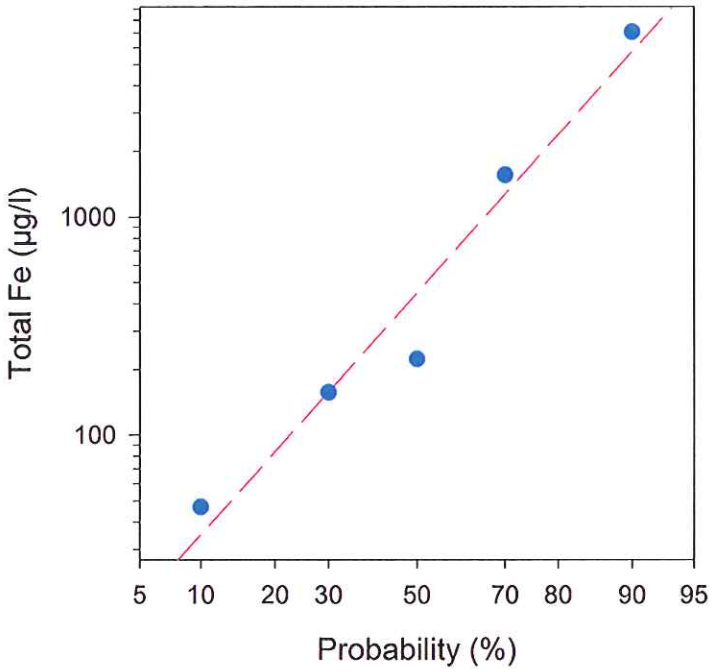


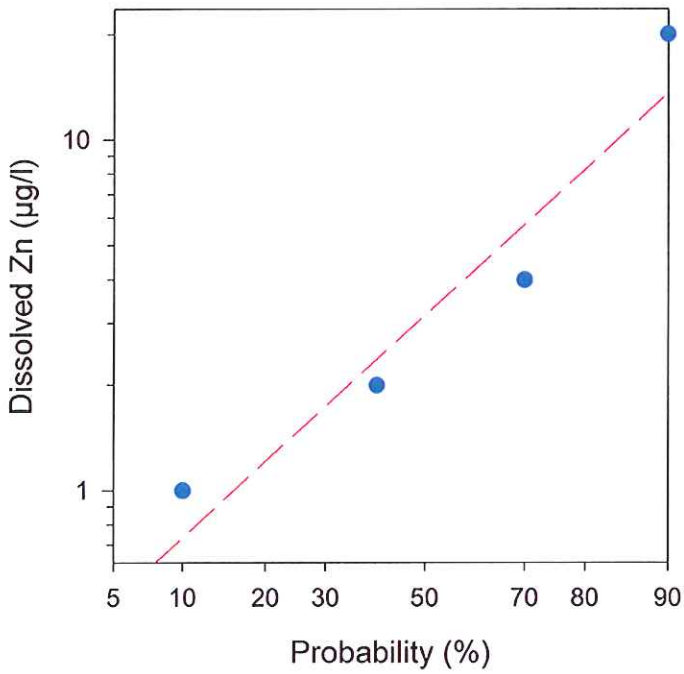


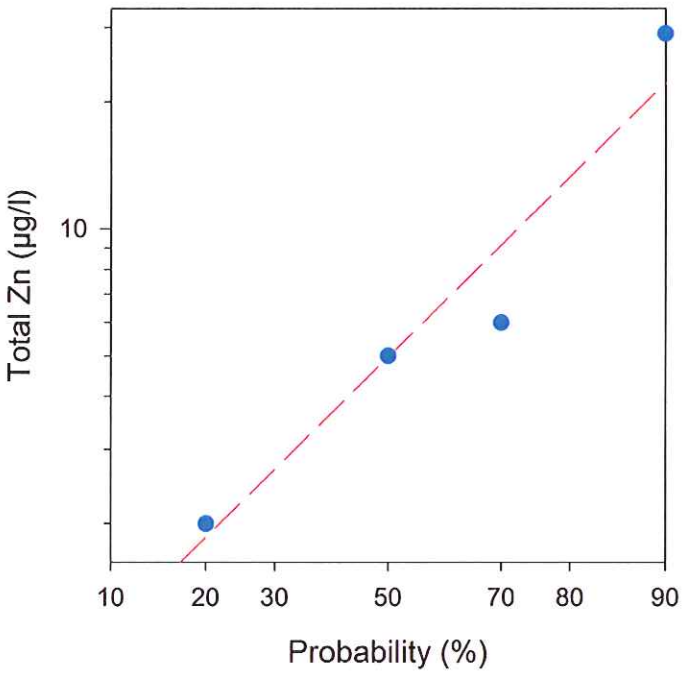


Ruderal/Upland Pine
(Log Normal Probability Plots)



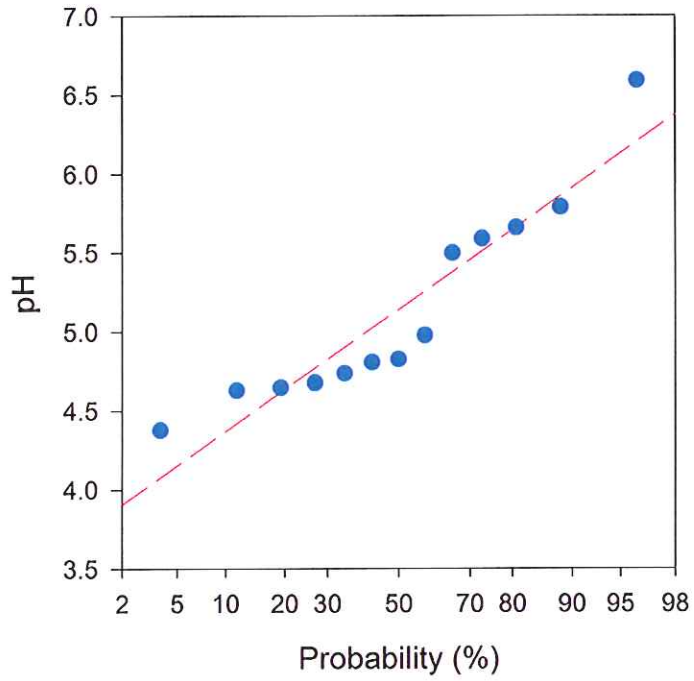


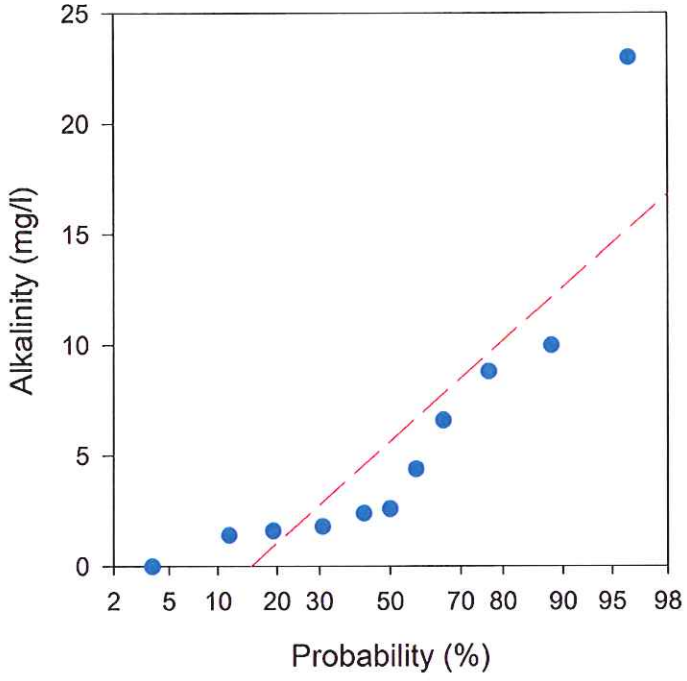


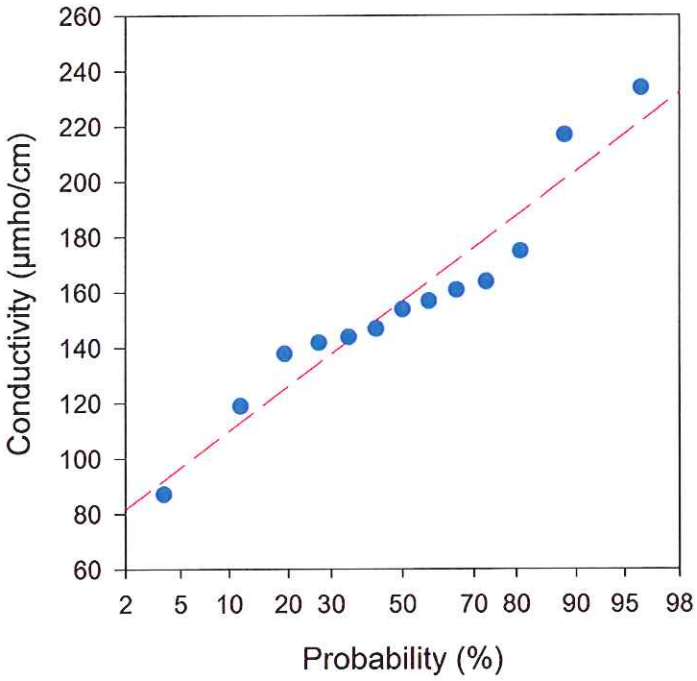


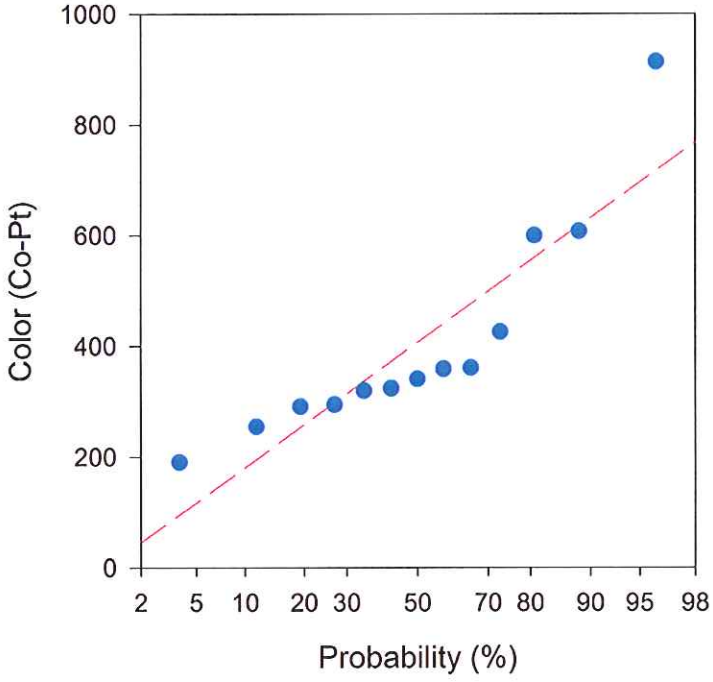
6. Scrubby Flatwoods

Scrubby Flatwoods
(Normal Probability Plots)

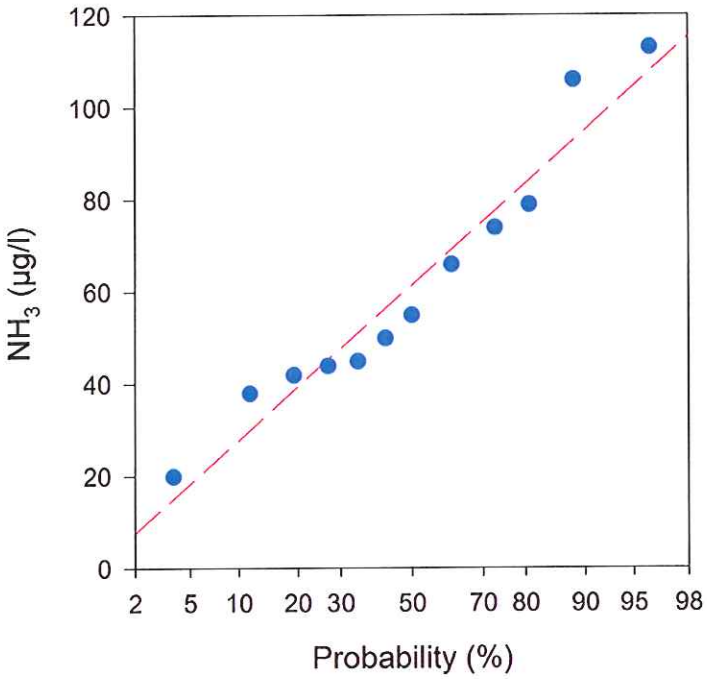


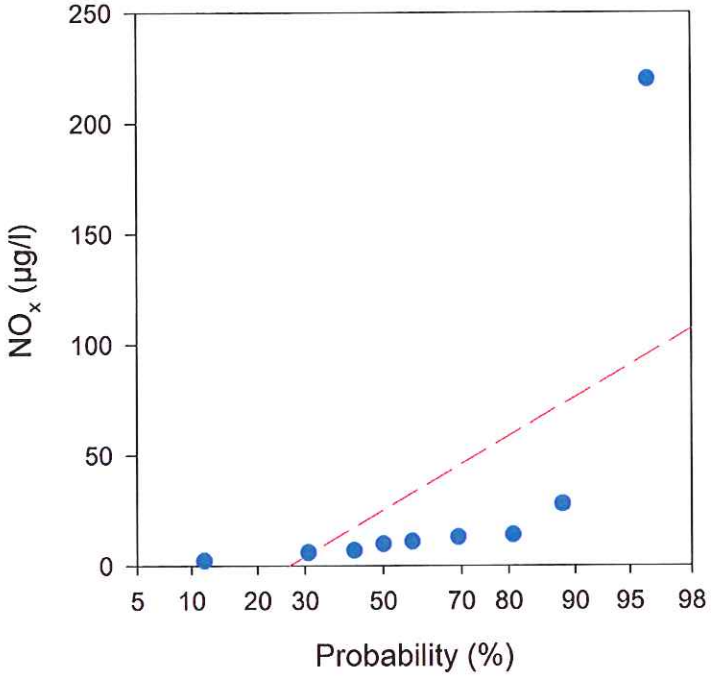


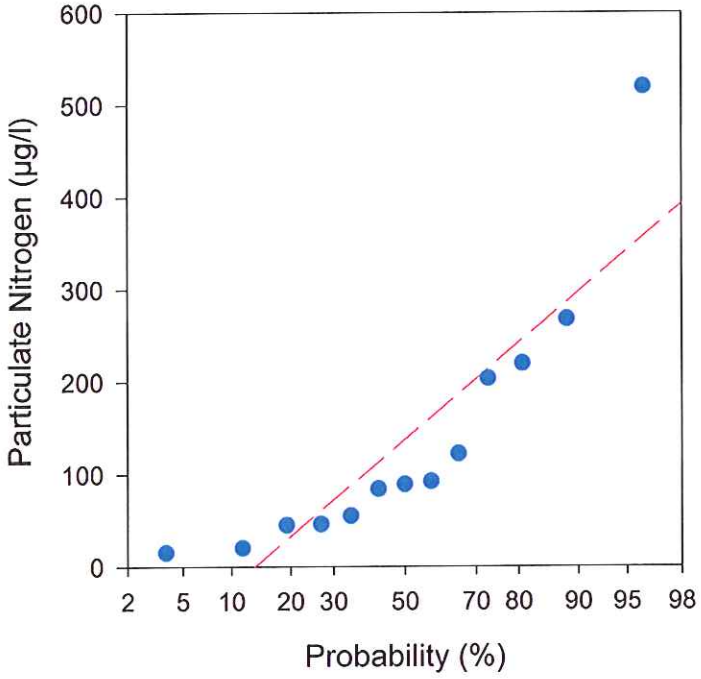


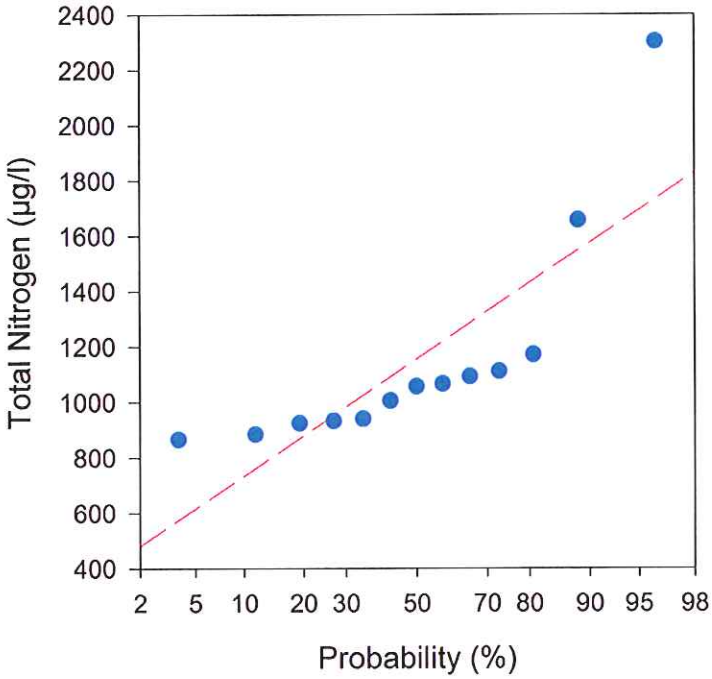


Scrubby Flatwoods
(Normal Probability Plots)

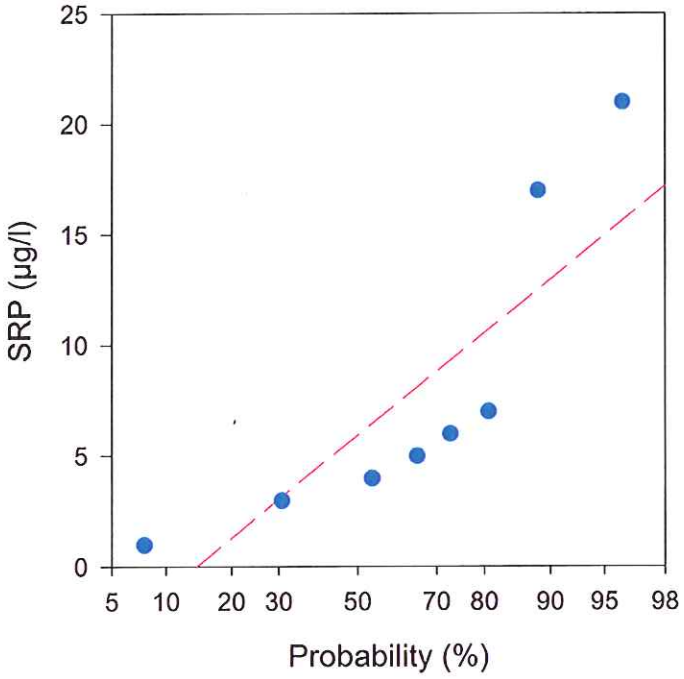


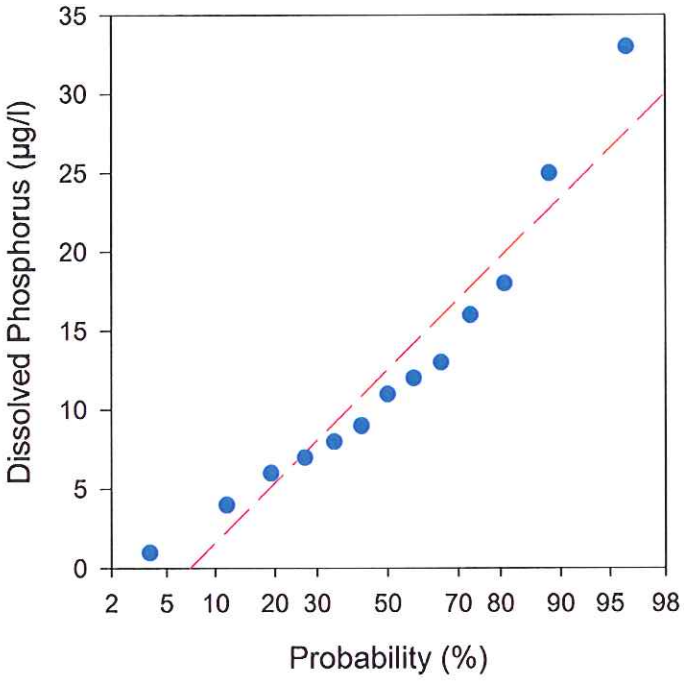


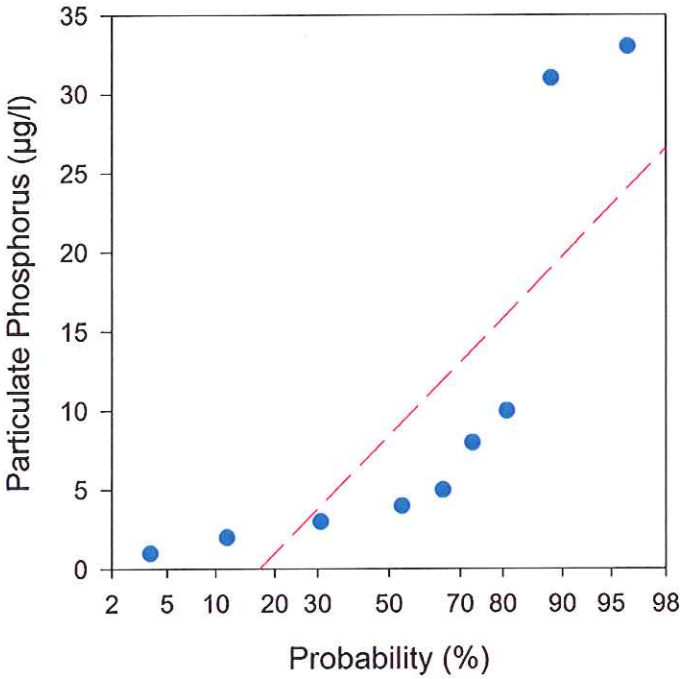


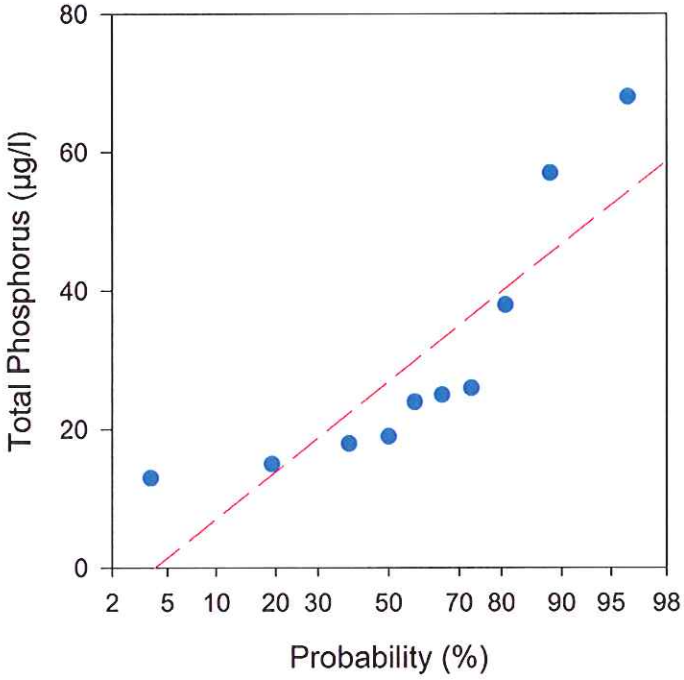


Scrubby Flatwoods
(Normal Probability Plots)

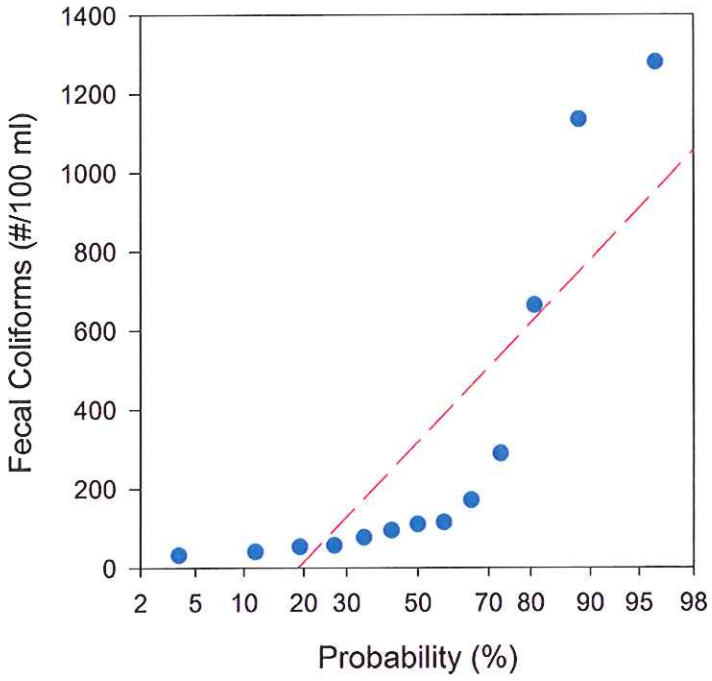


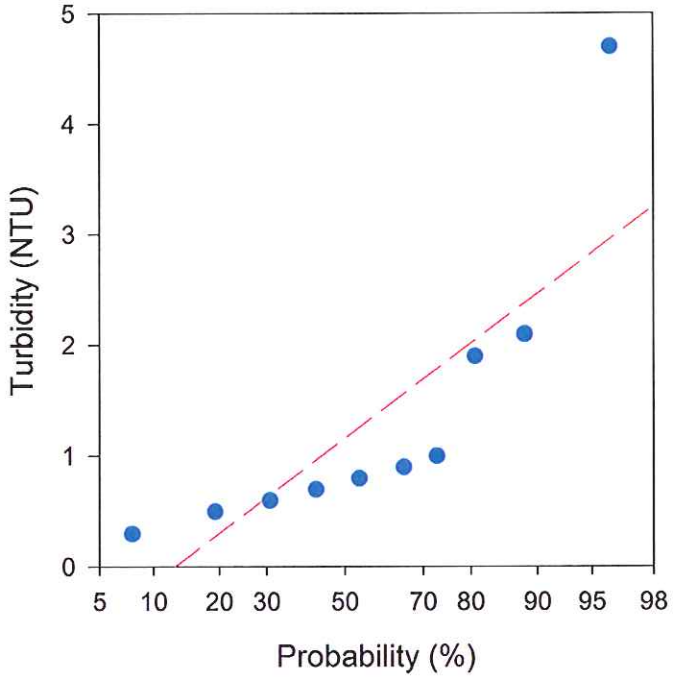


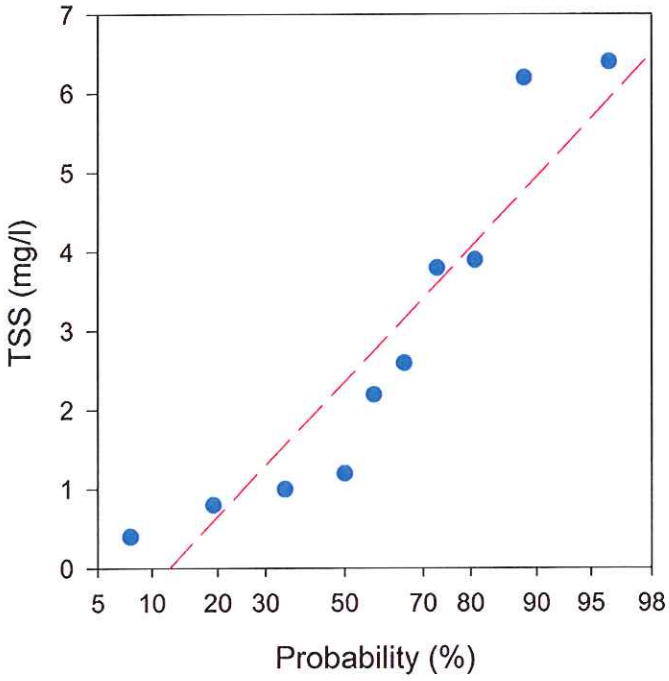


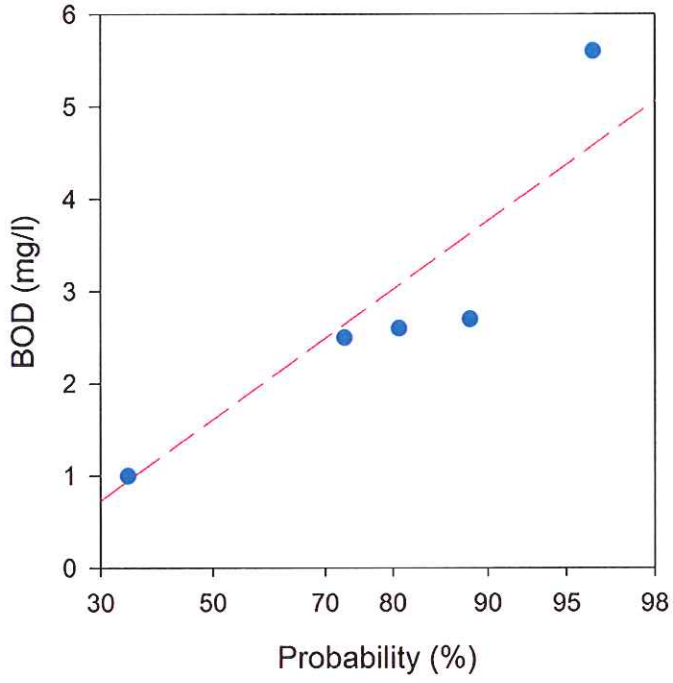


Scrubby Flatwoods
(Normal Probability Plots)

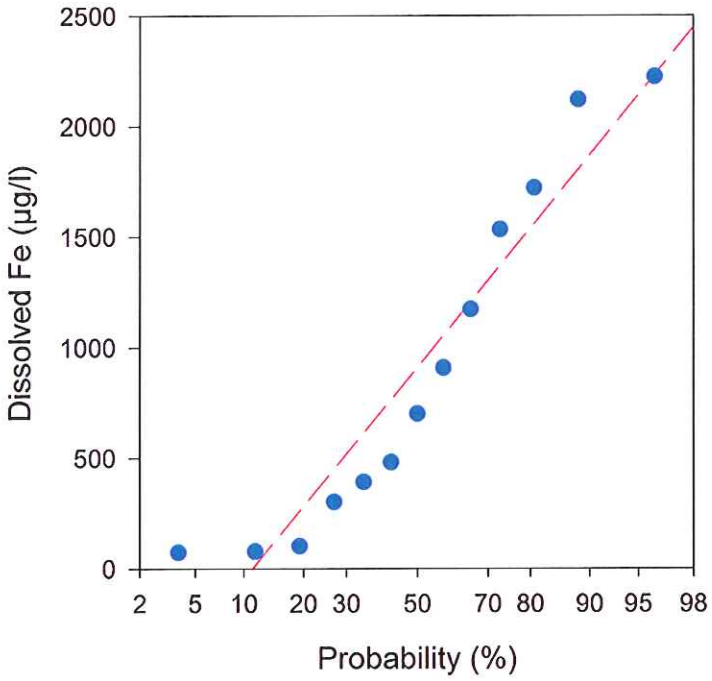


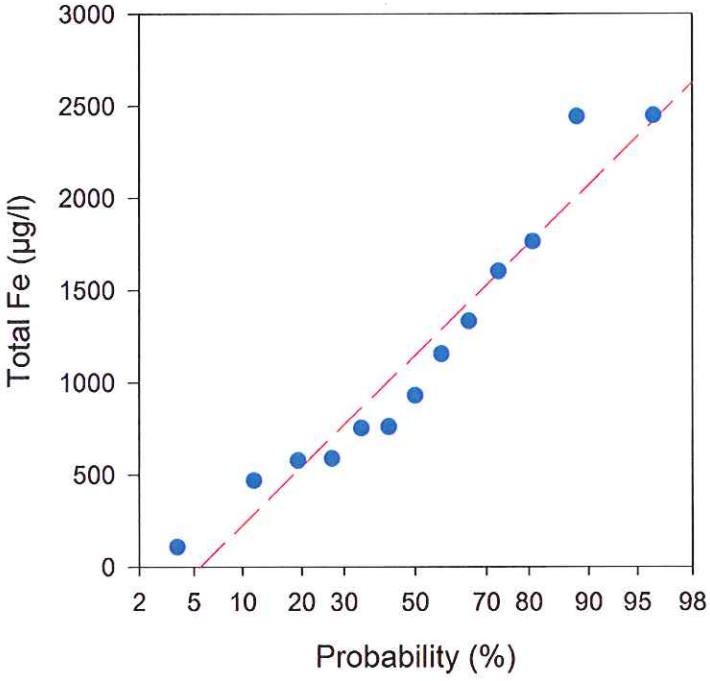


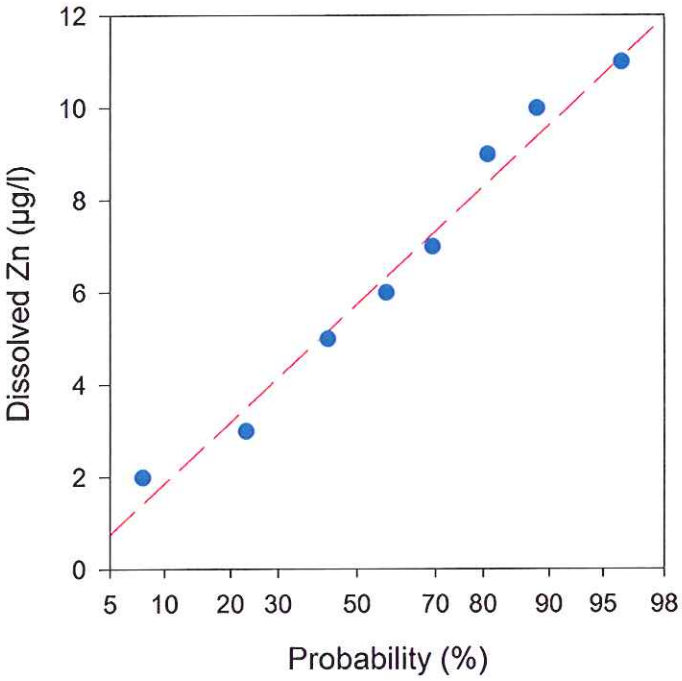


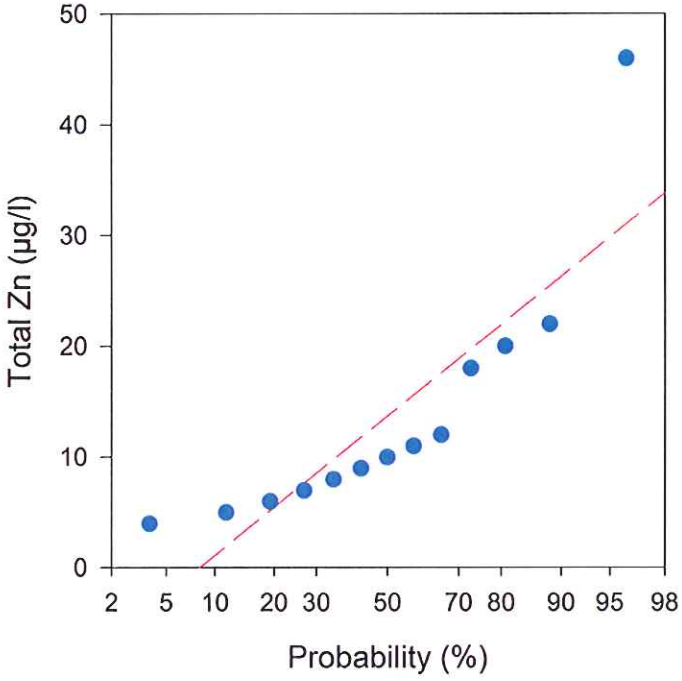


Scrubby Flatwoods
(Normal Probability Plots)

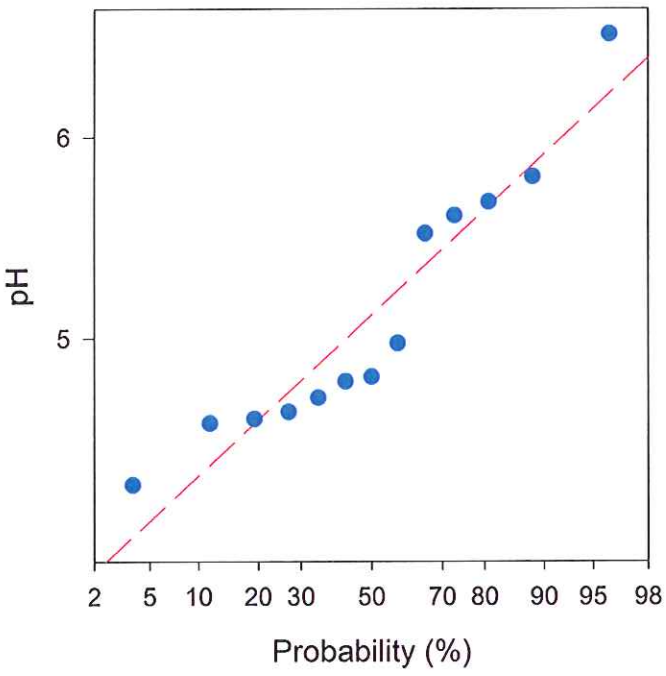


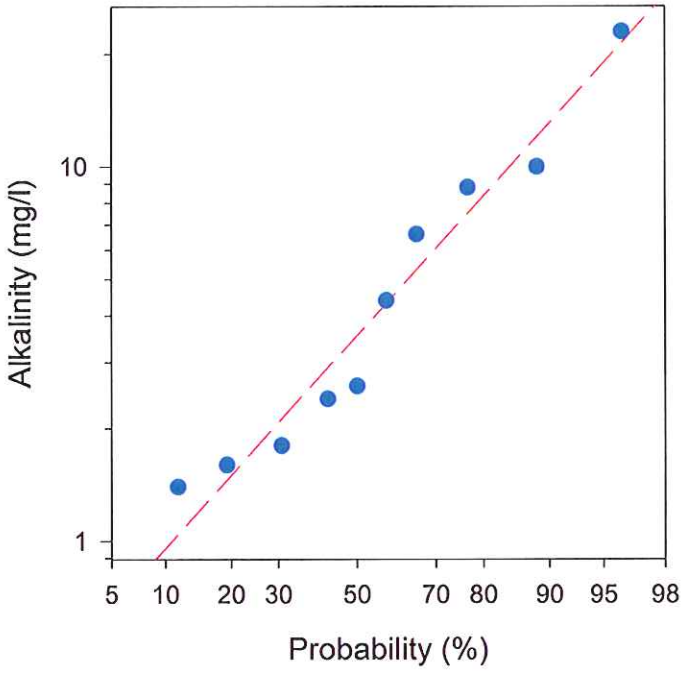


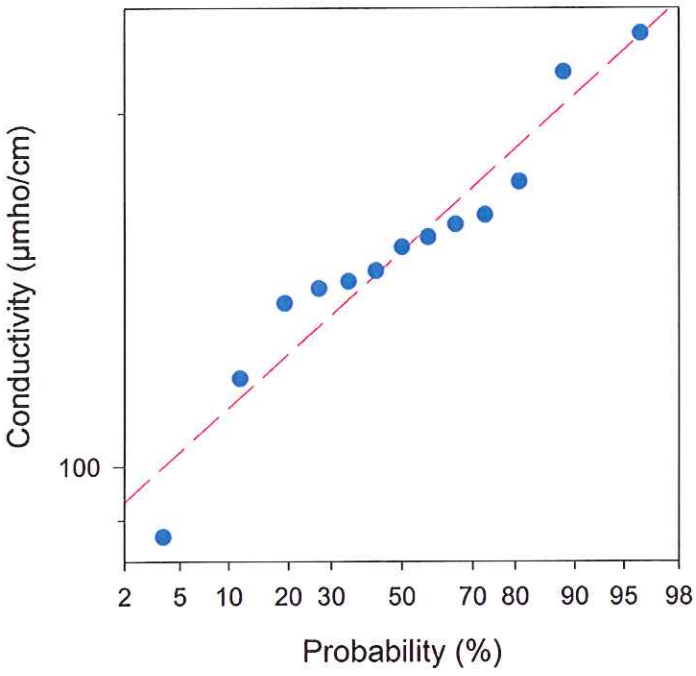


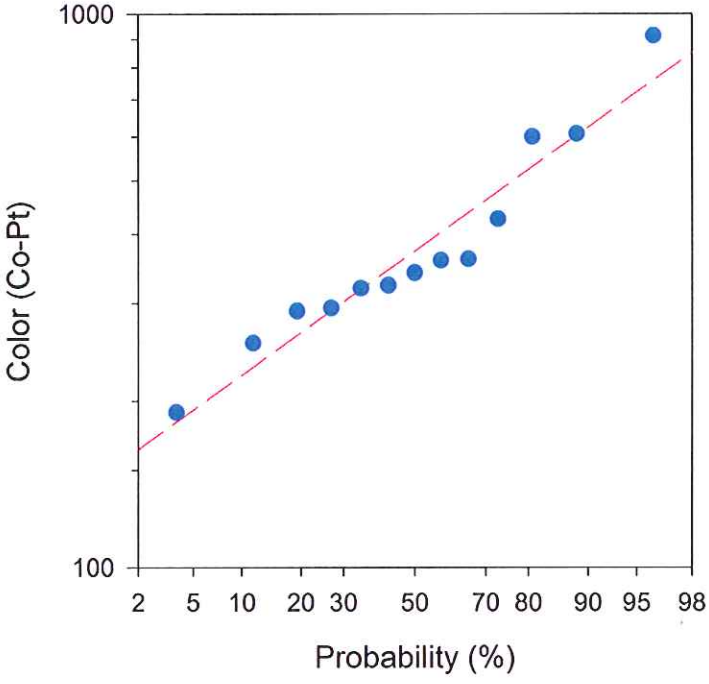


Scrubby Flatwoods
(Log Normal Probability Plots)

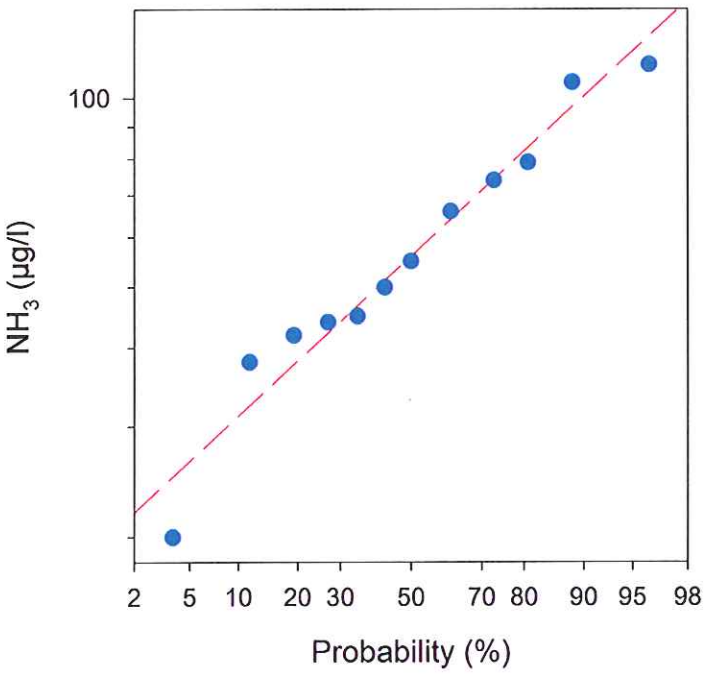


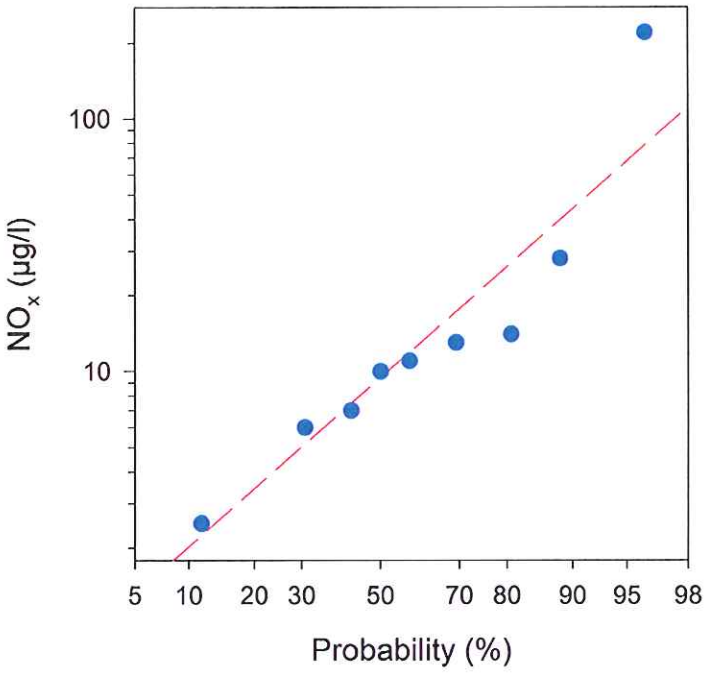


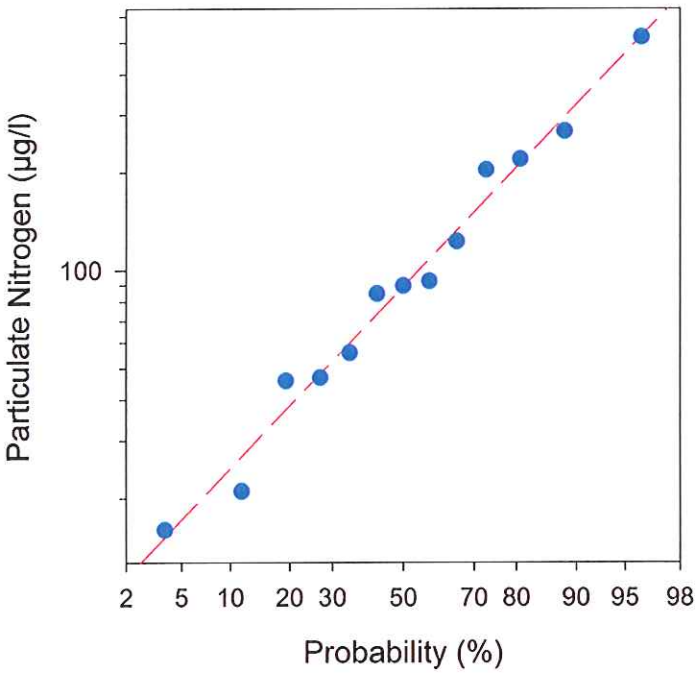


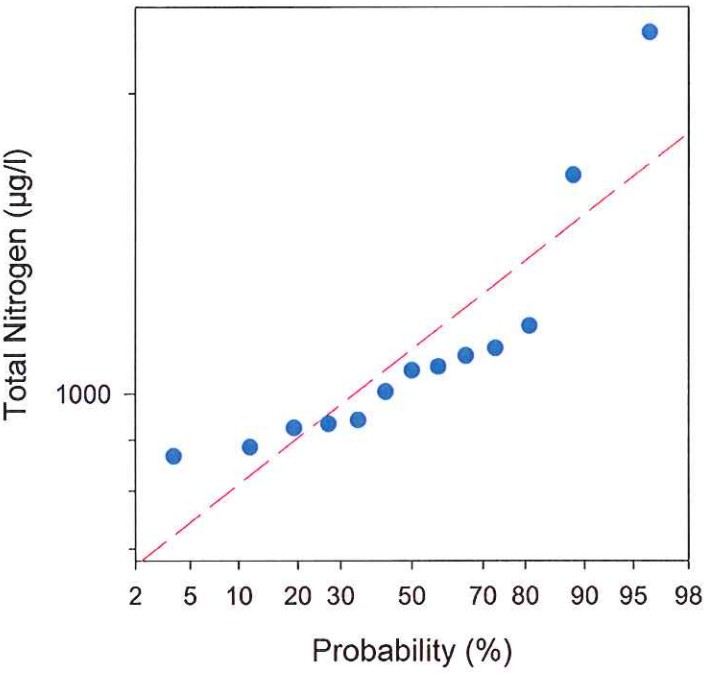


Scrubby Flatwoods
(Log Normal Probability Plots)

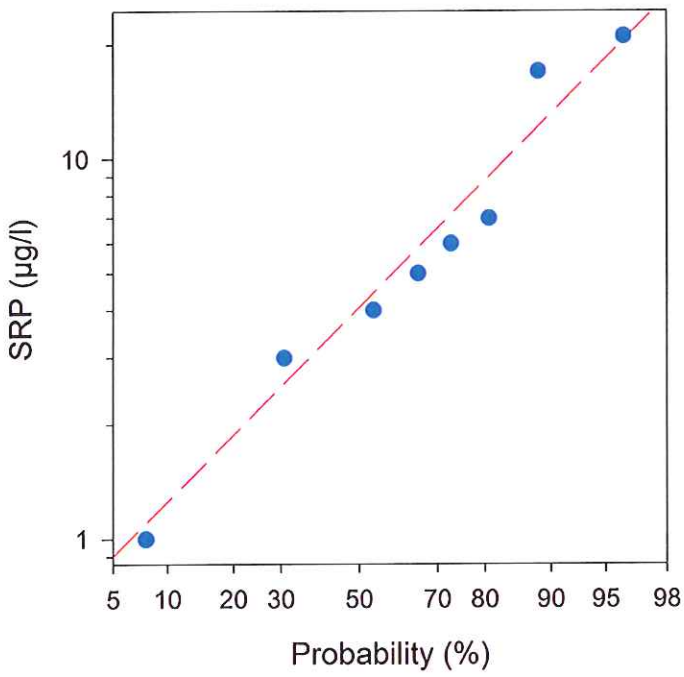


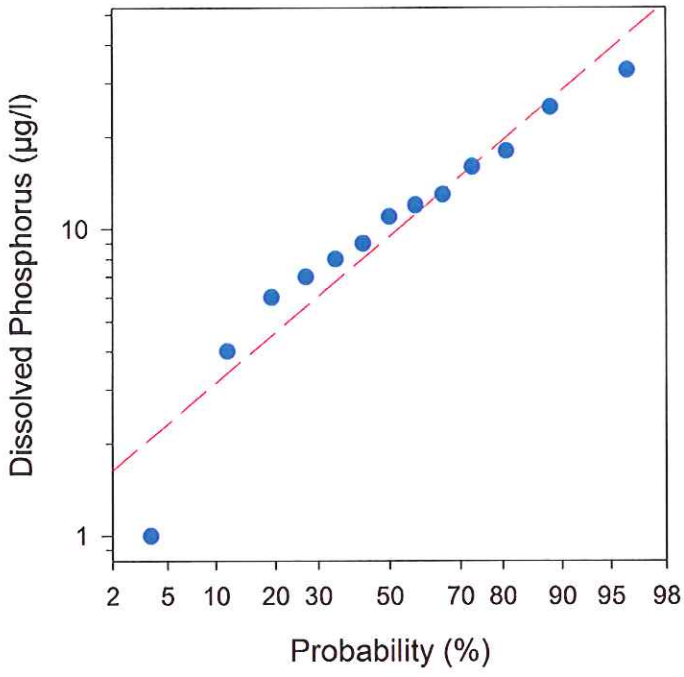


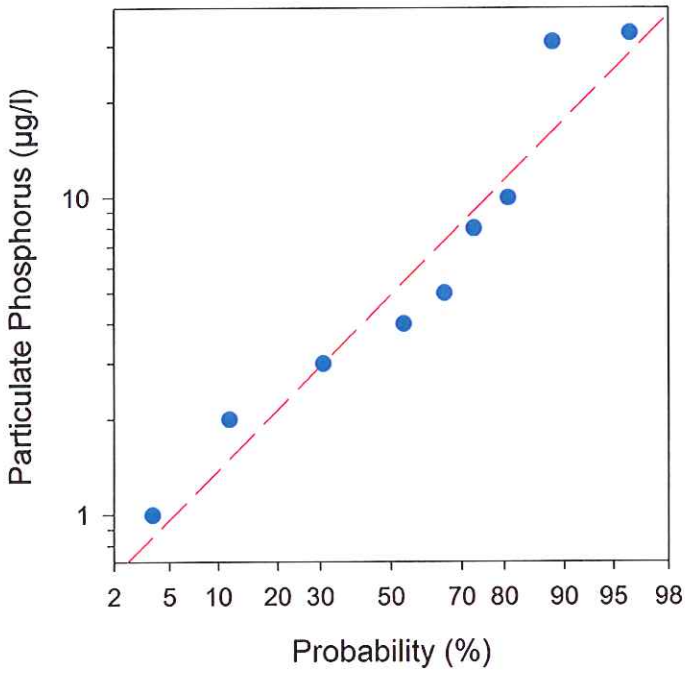


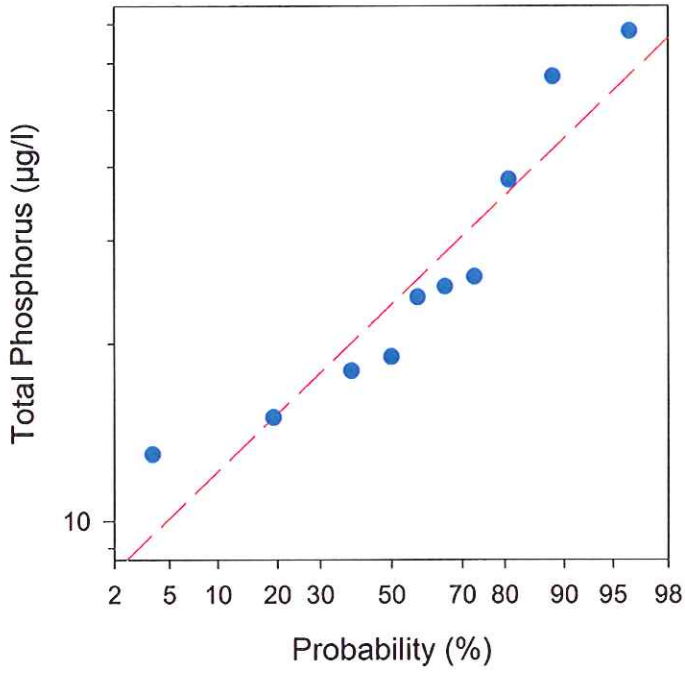


Scrubby Flatwoods
(Log Normal Probability Plots)

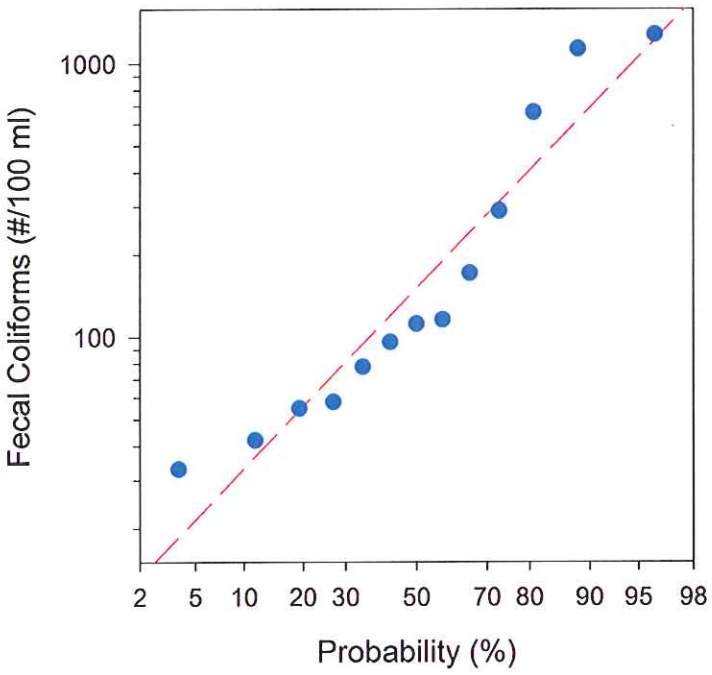


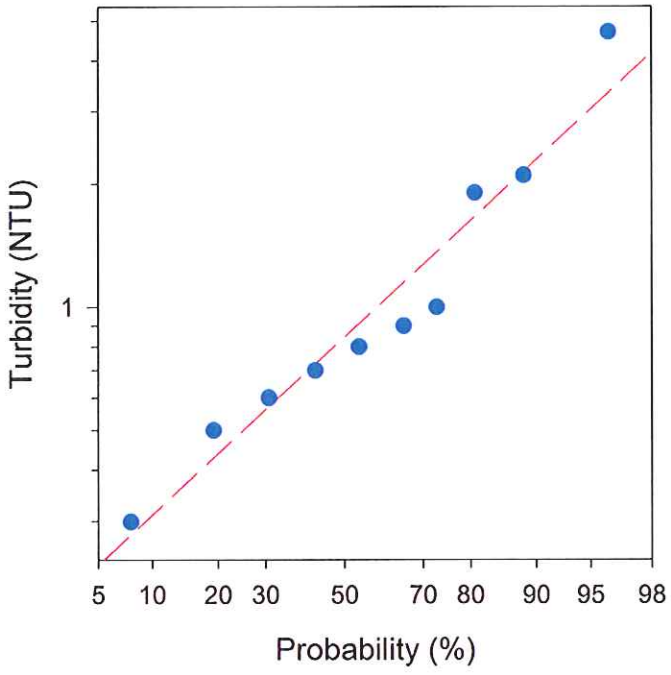


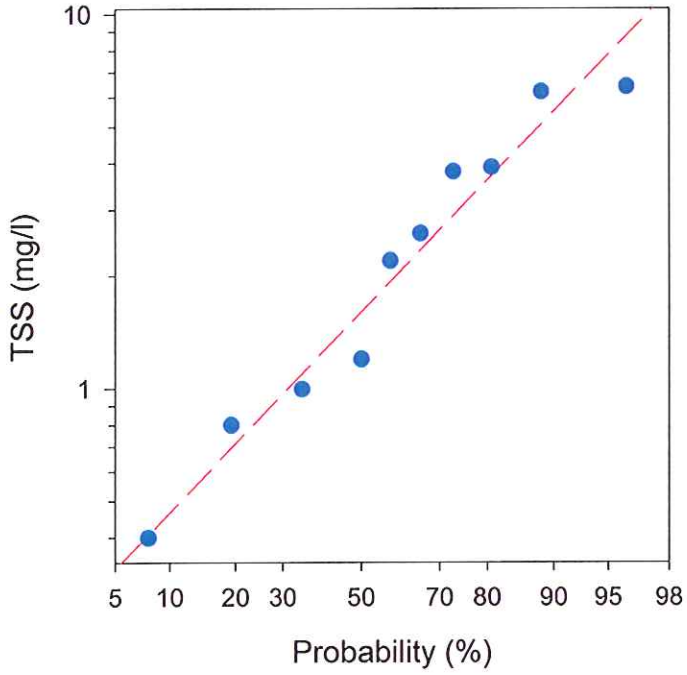


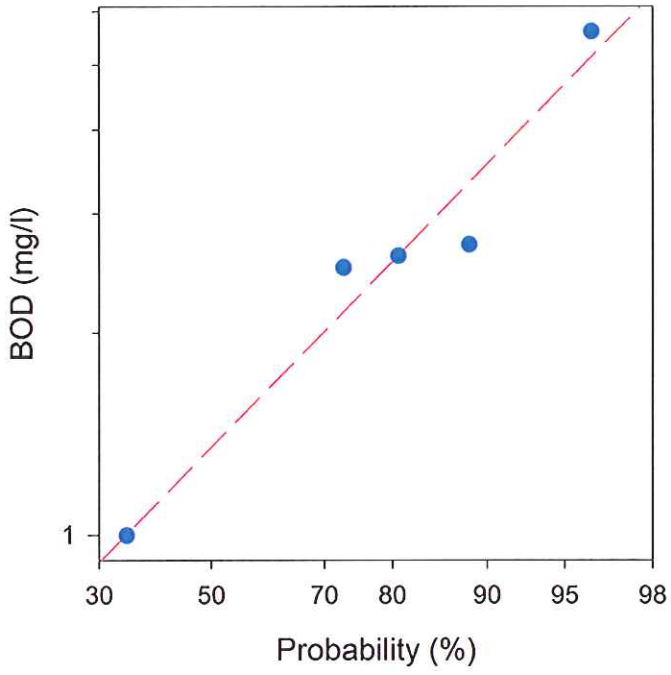


Scrubby Flatwoods
(Log Normal Probability Plots)

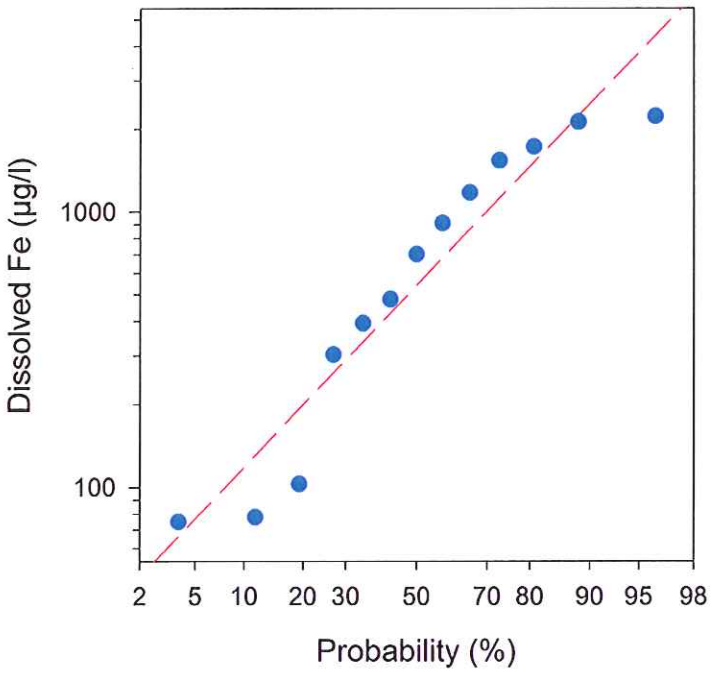


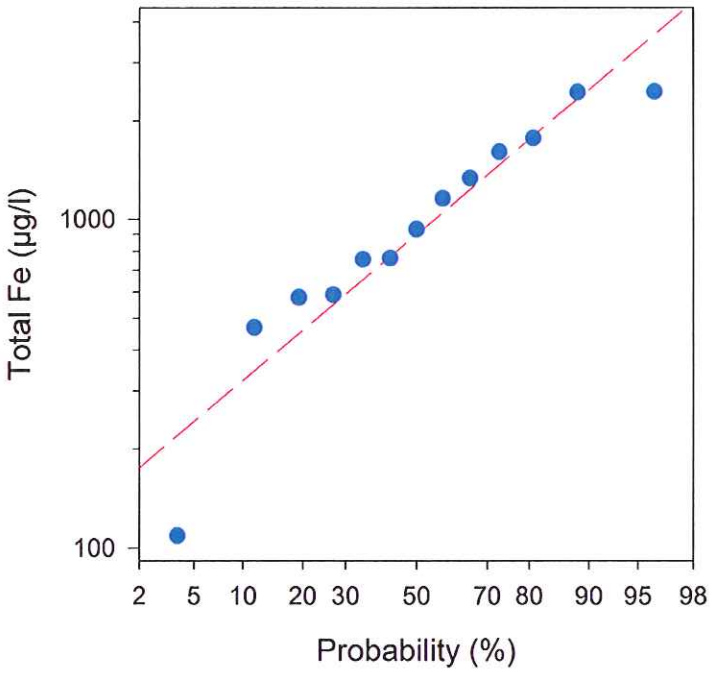


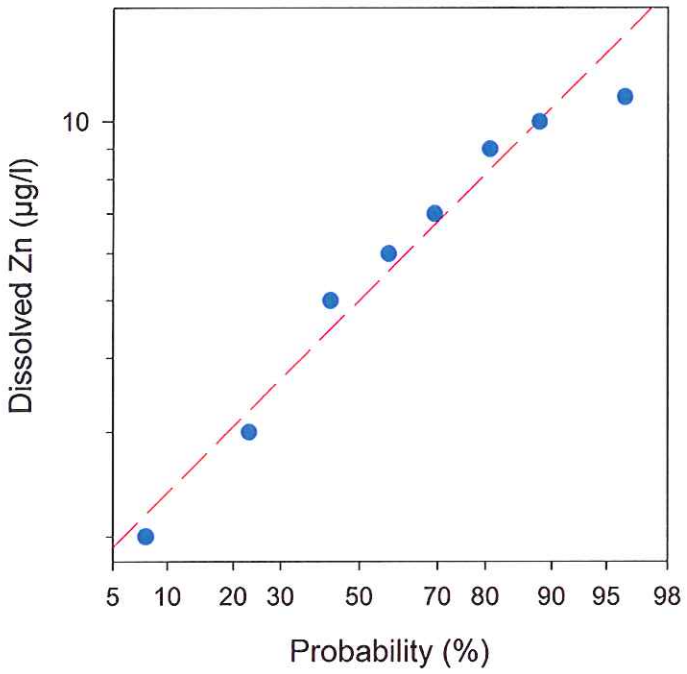


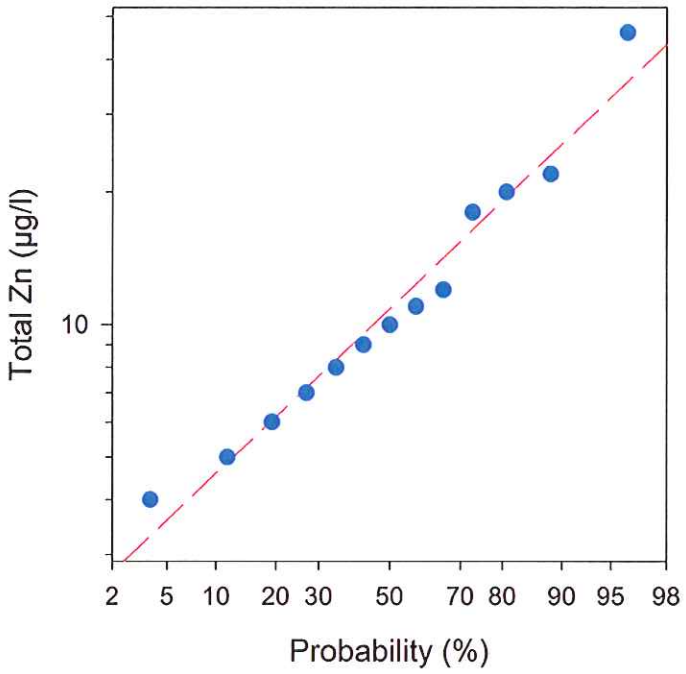


Scrubby Flatwoods
(Log Normal Probability Plots)



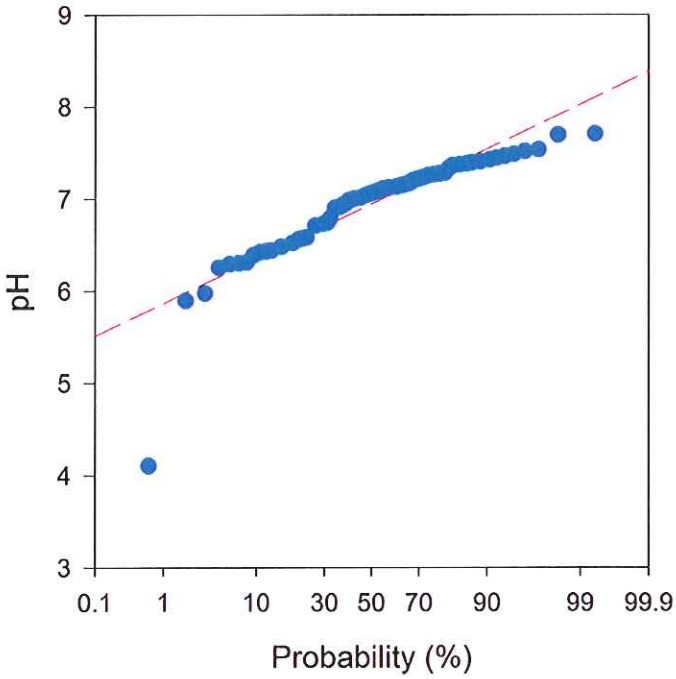


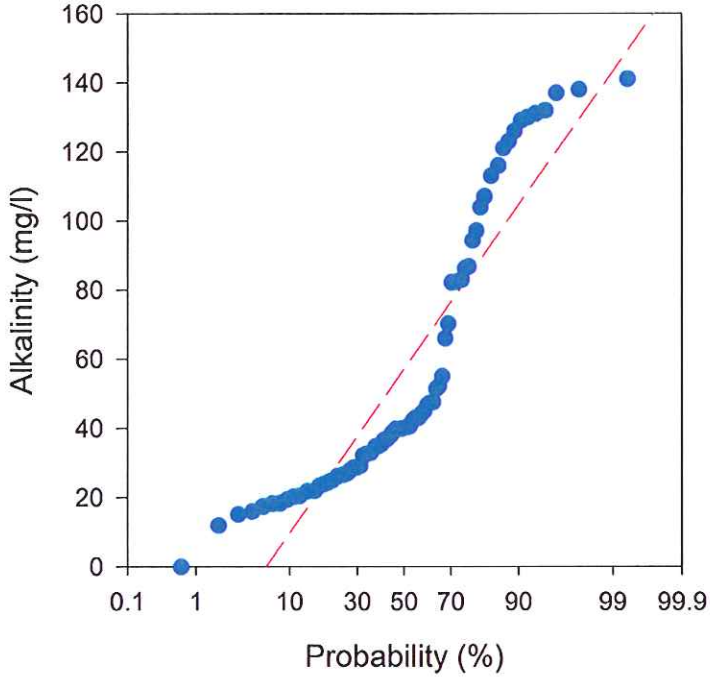


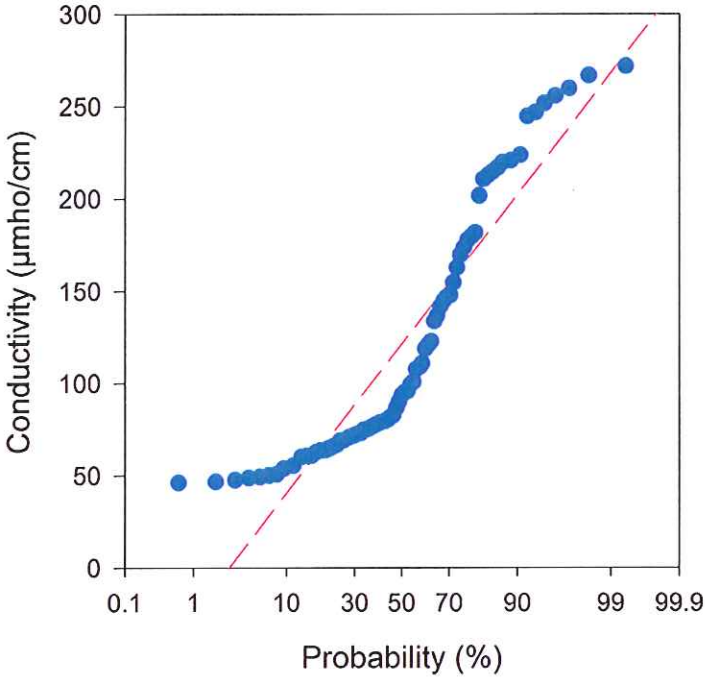


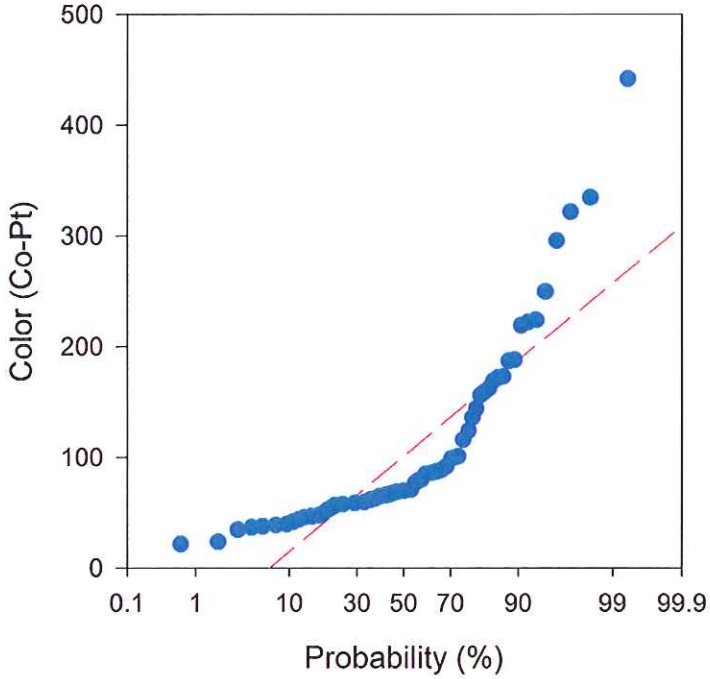
7. Upland Hardwood Forest

Upland Hardwood
(Normal Probability Plots)

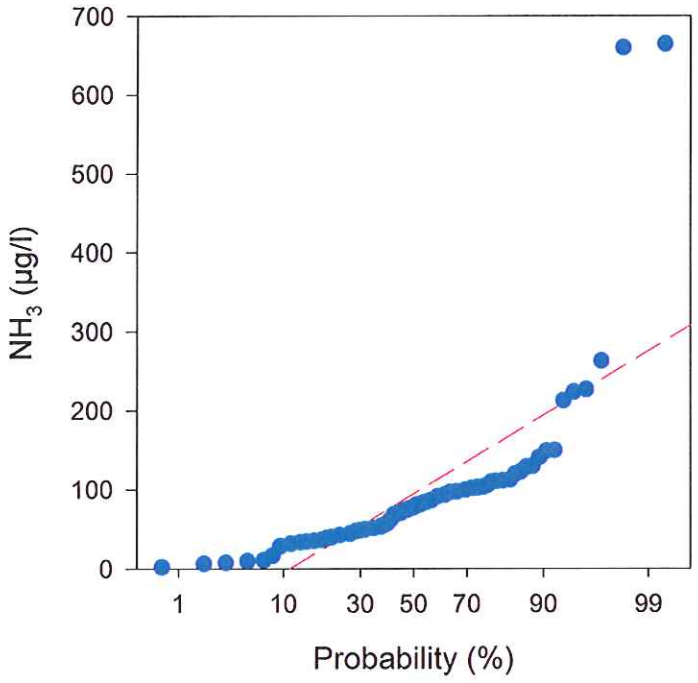


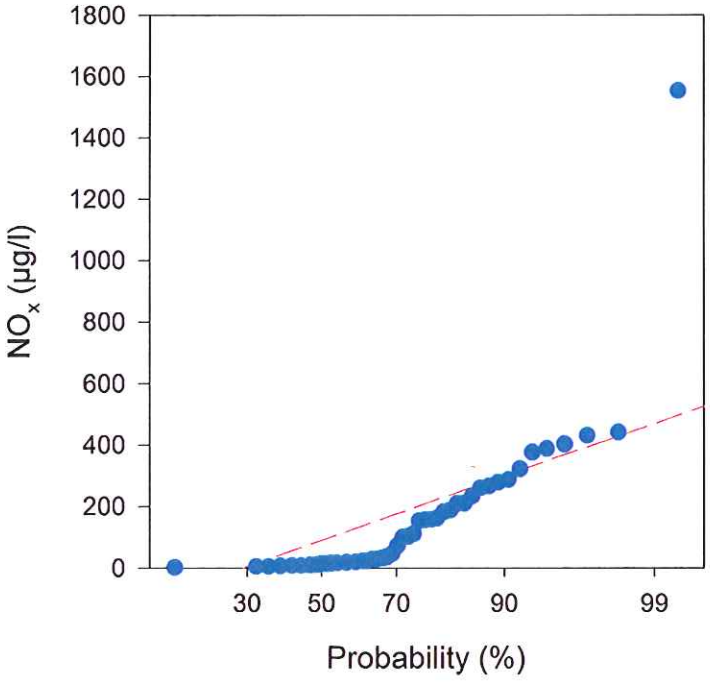


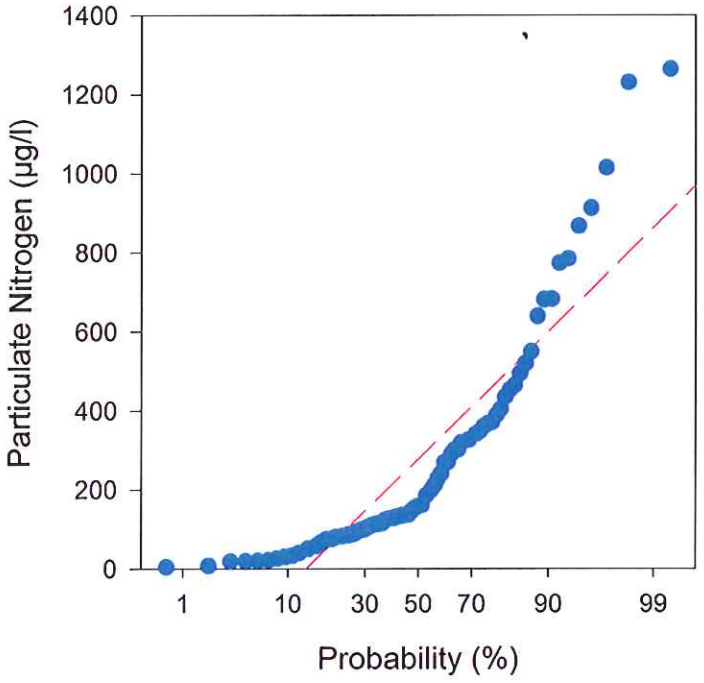


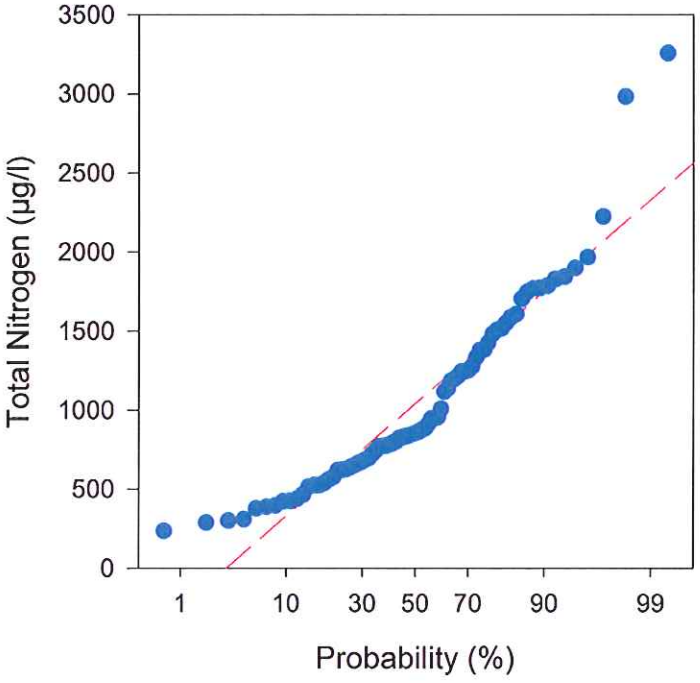


Upland Hardwood
(Normal Probability Plots)

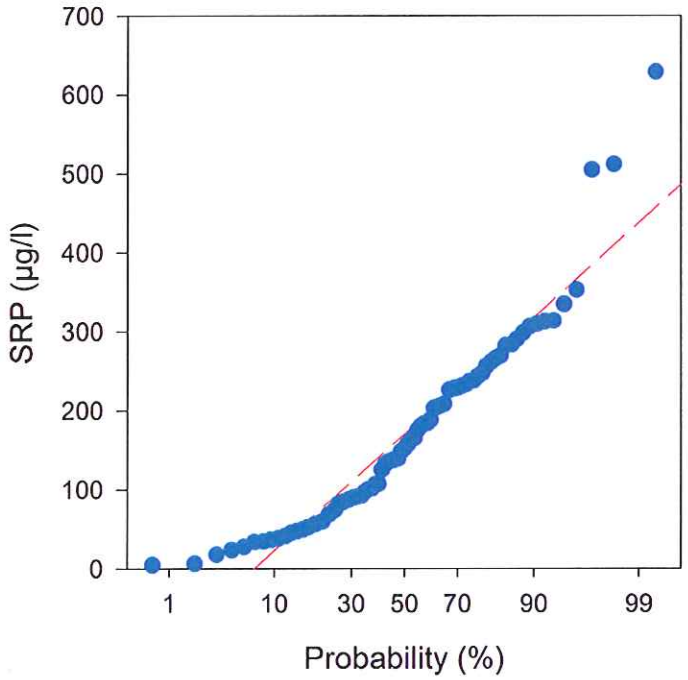


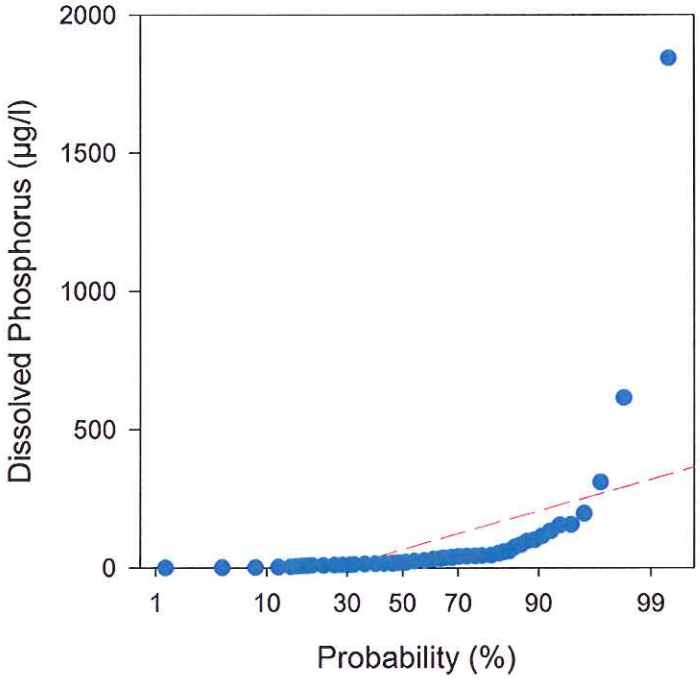


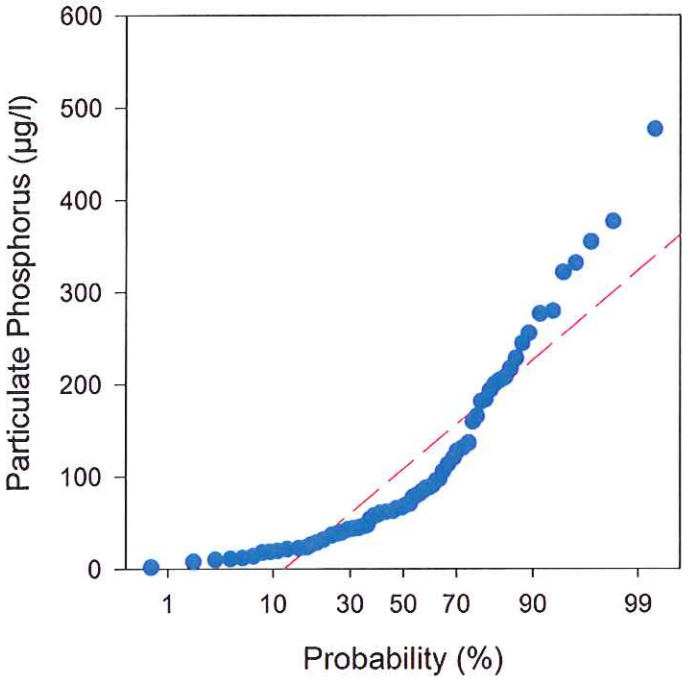


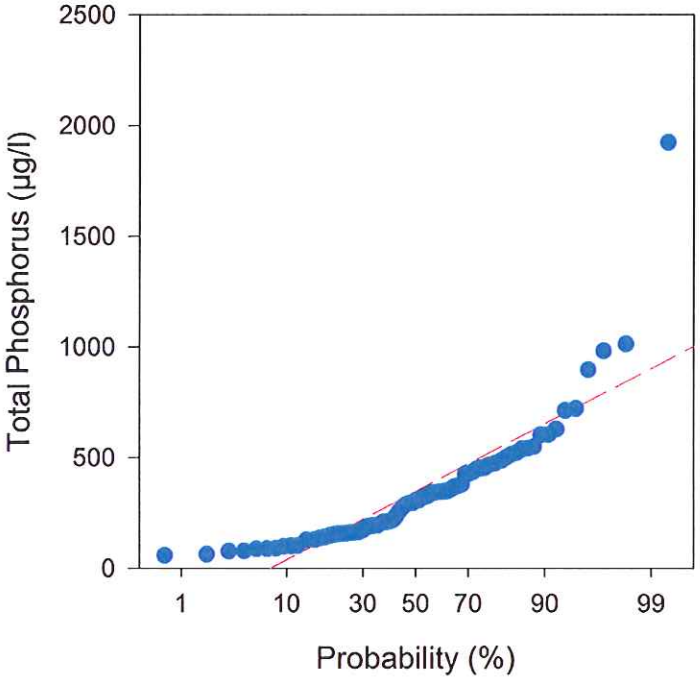


Upland Hardwood
(Normal Probability Plots)

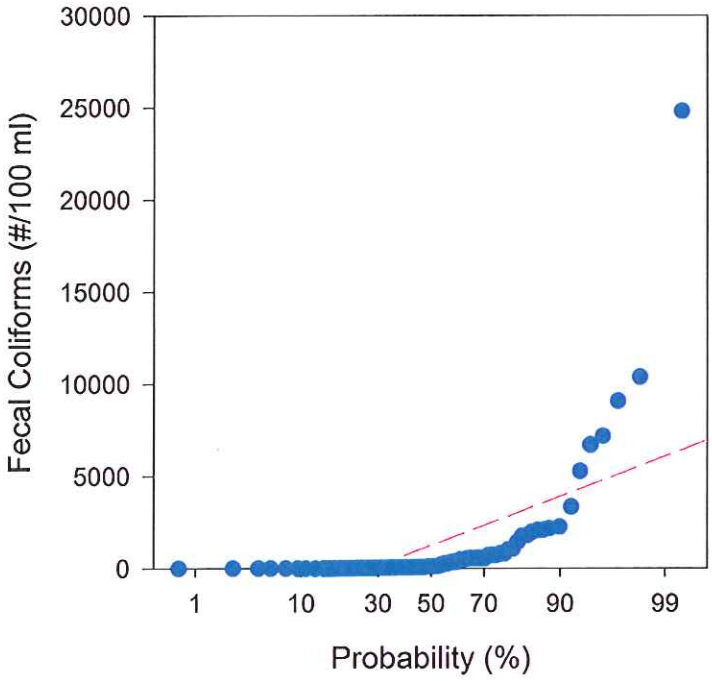


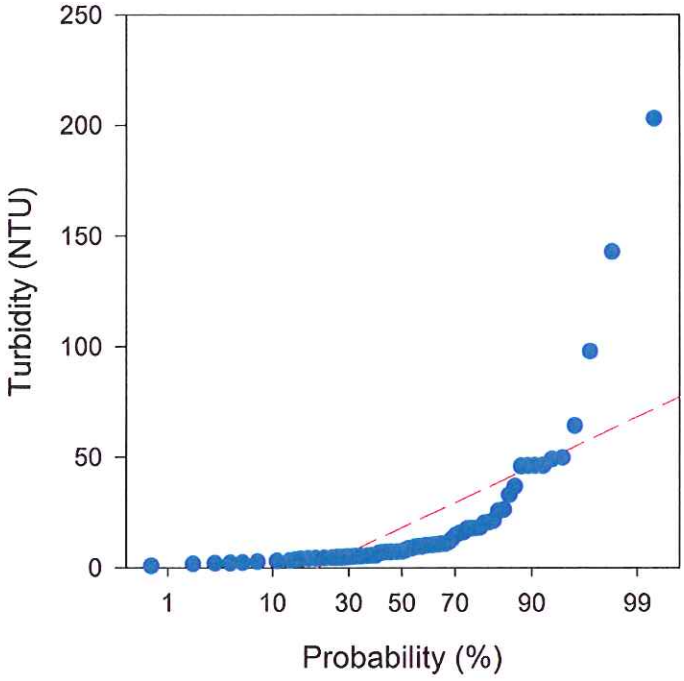


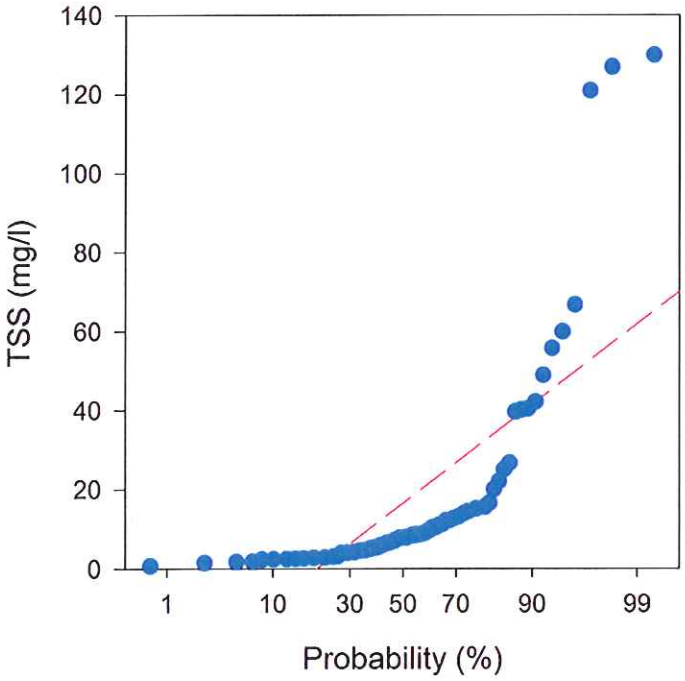


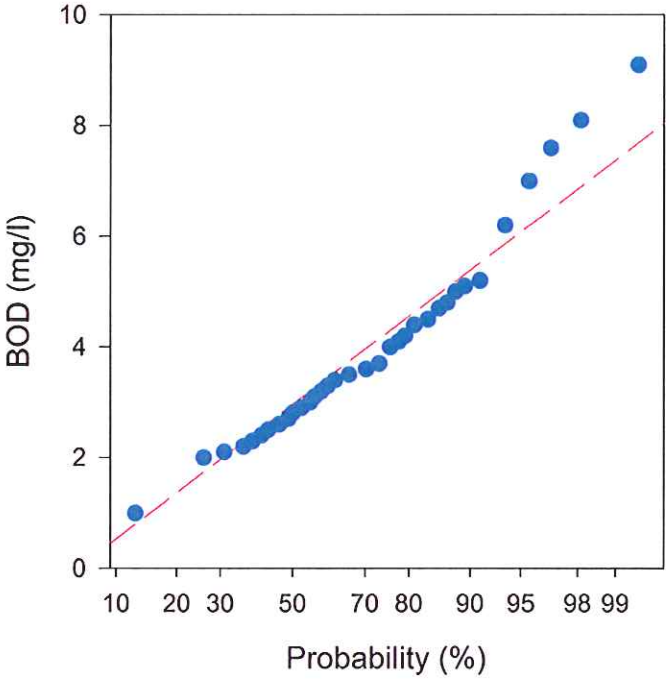


Upland Hardwood
(Normal Probability Plots)

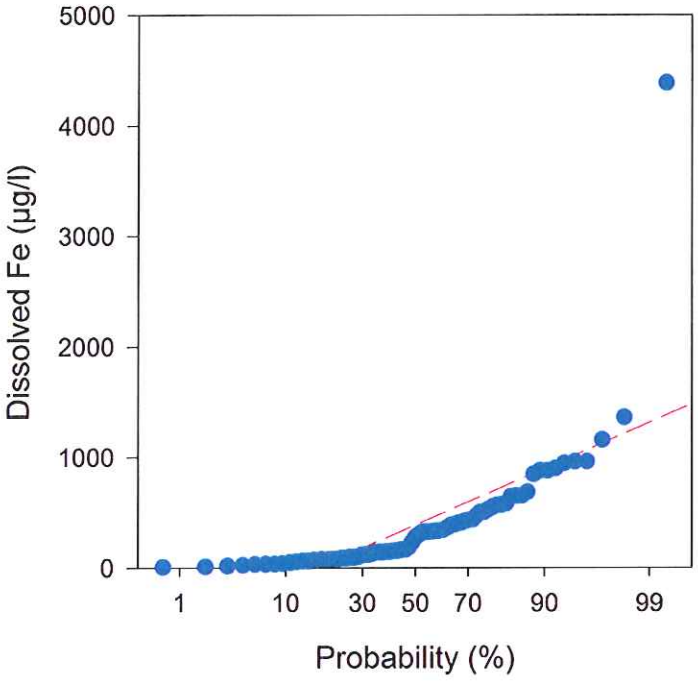


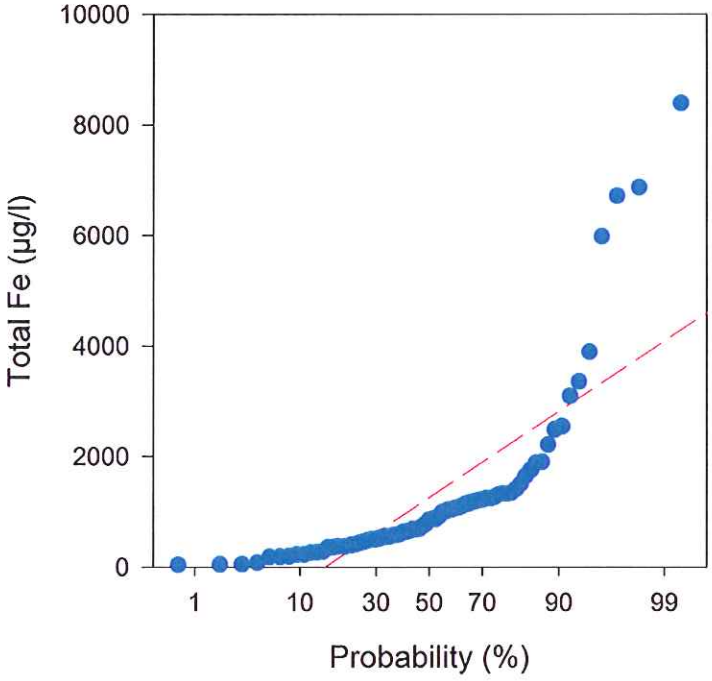


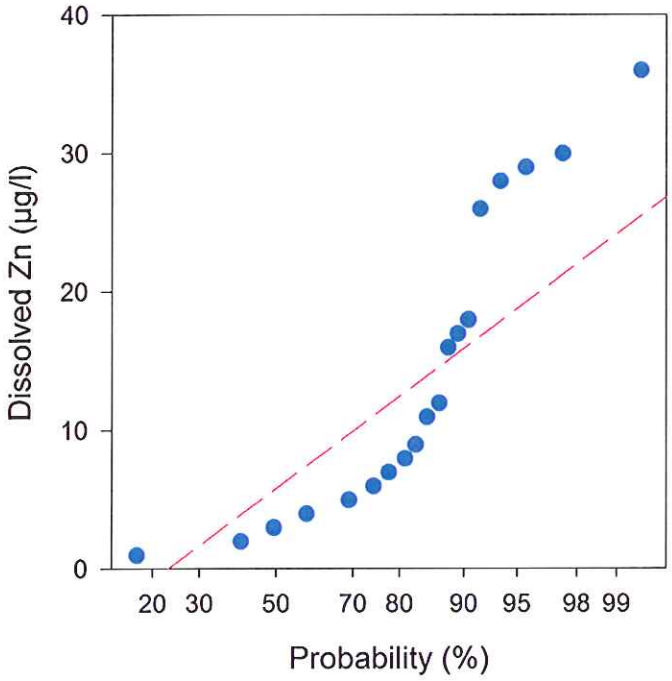


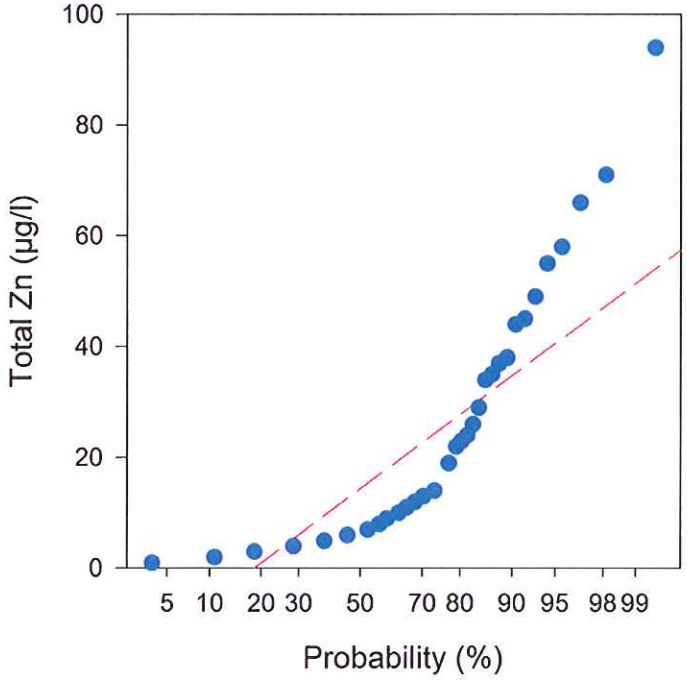


Upland Hardwood
(Normal Probability Plots)

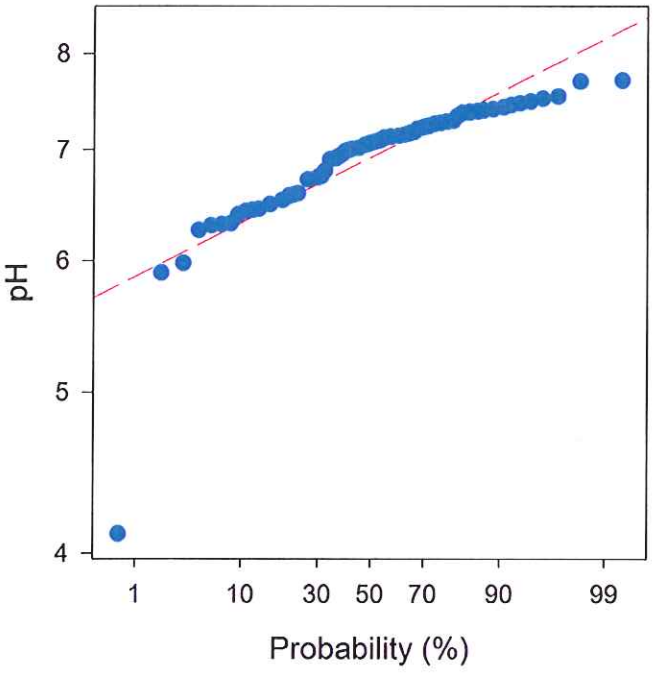


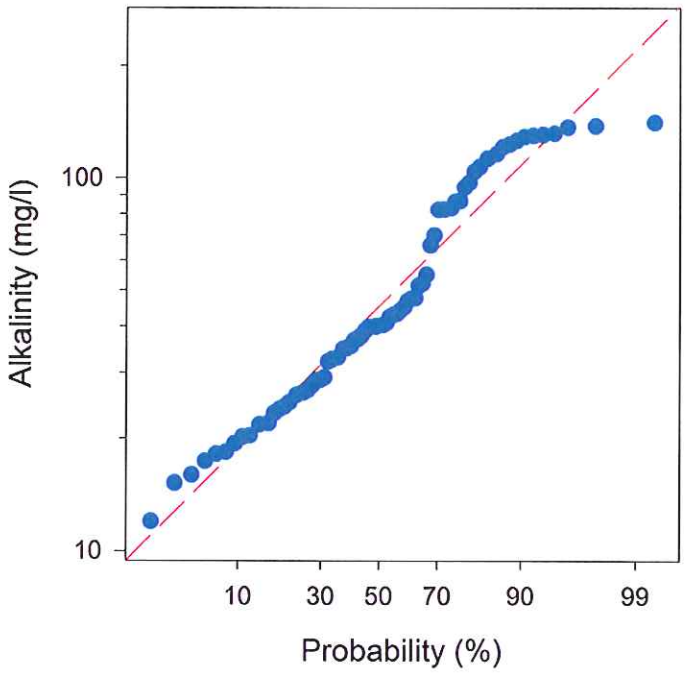


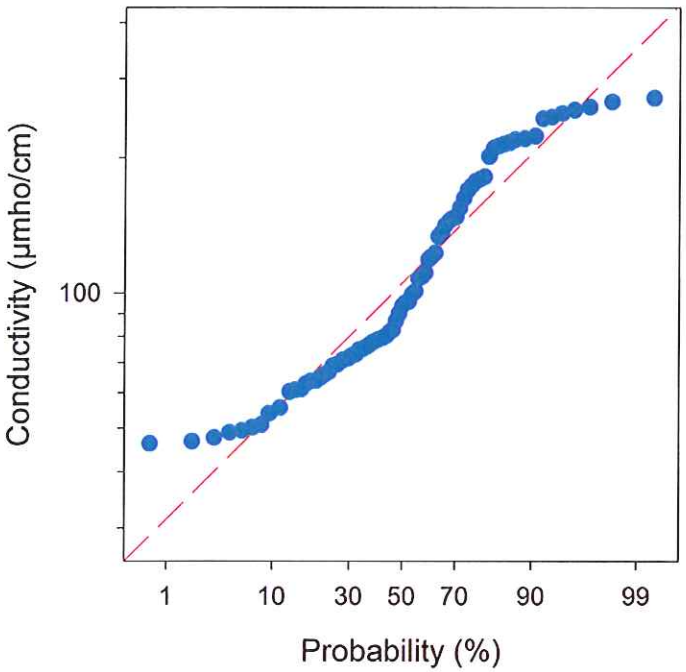


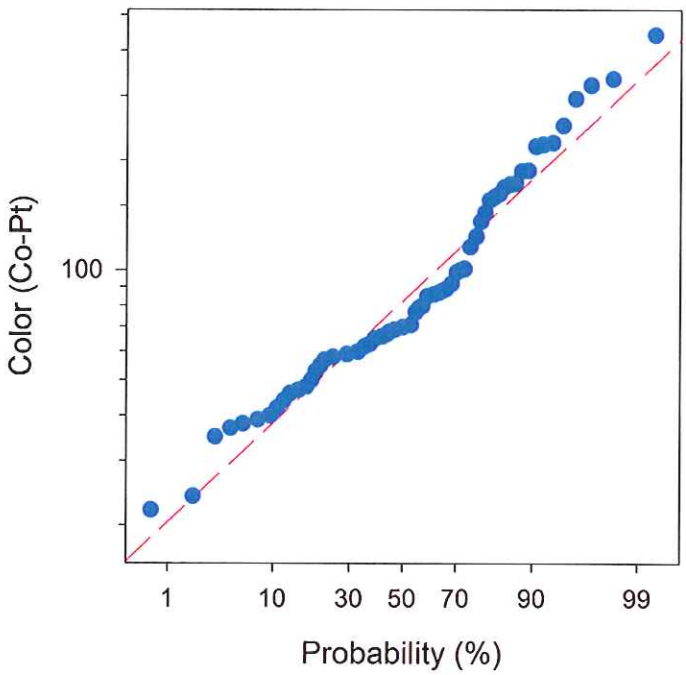


Upland Hardwood
(Log Normal Probability Plots)

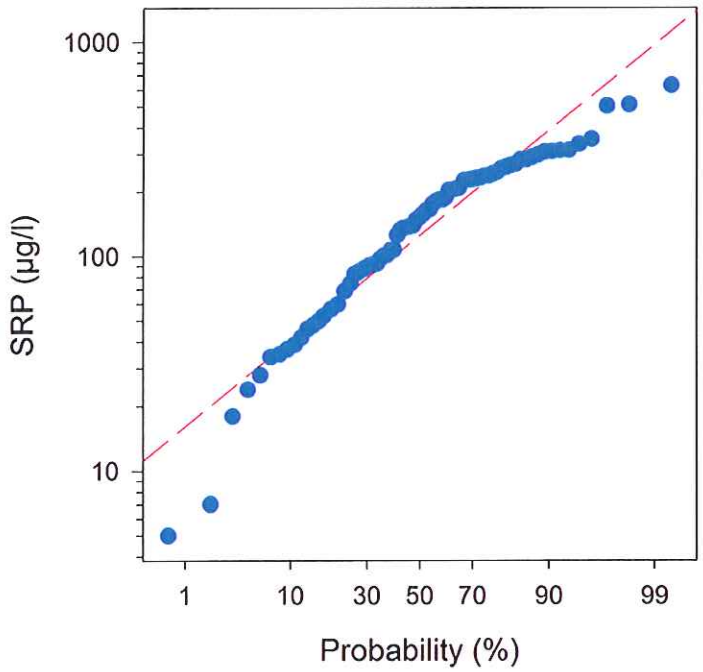


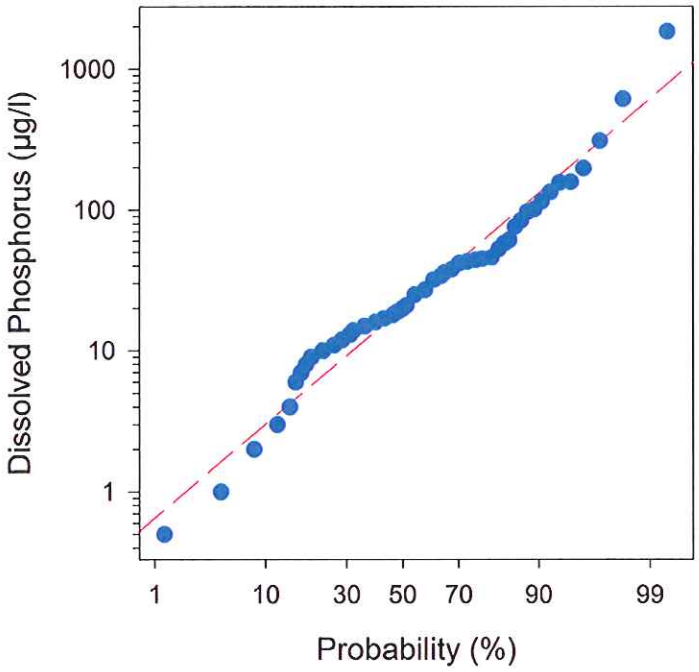


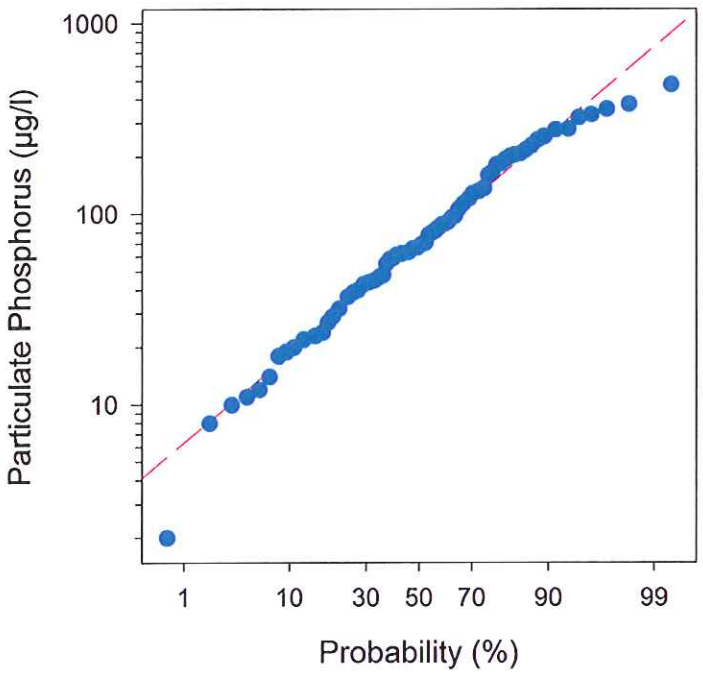


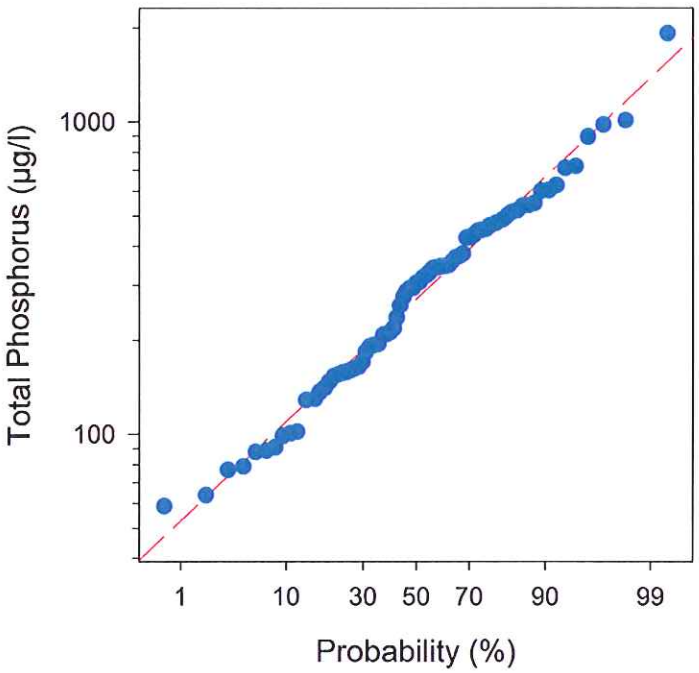


Upland Hardwood
(Log Normal Probability Plots)

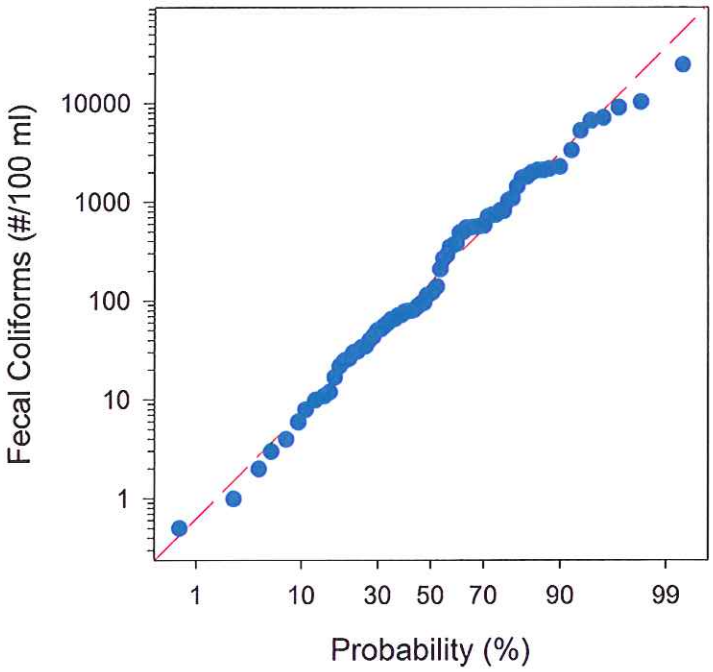


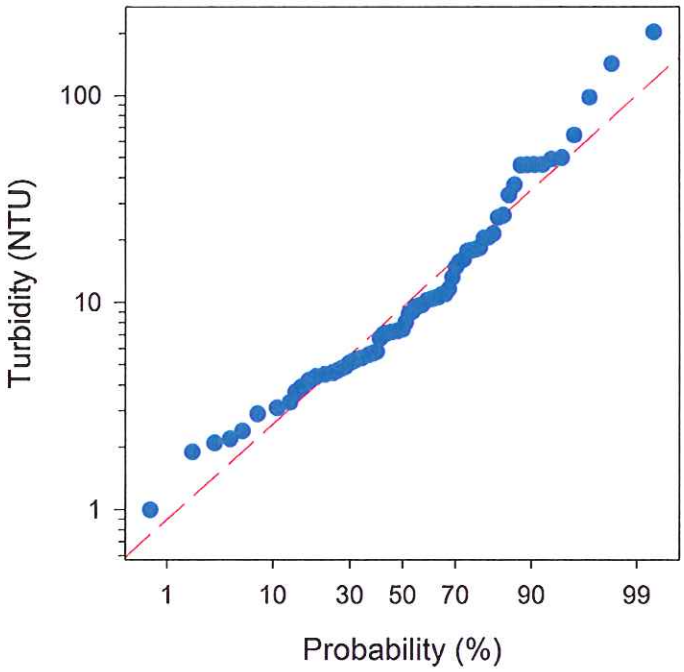


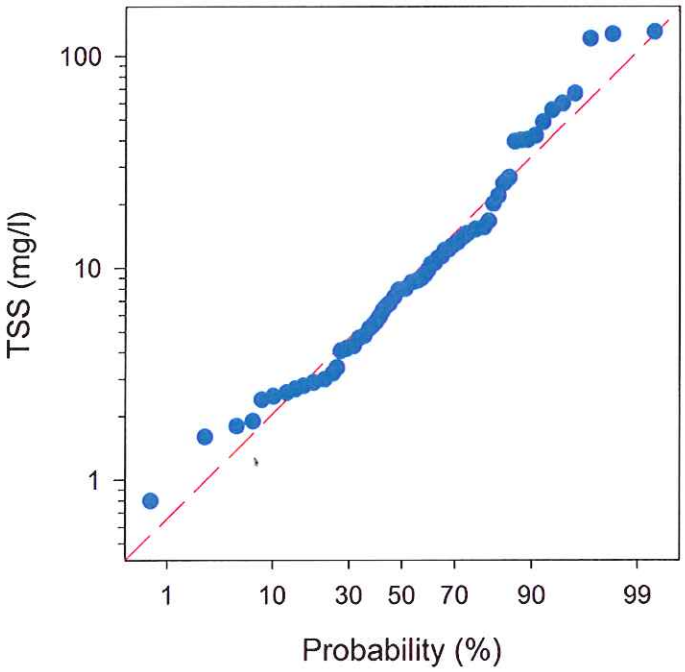


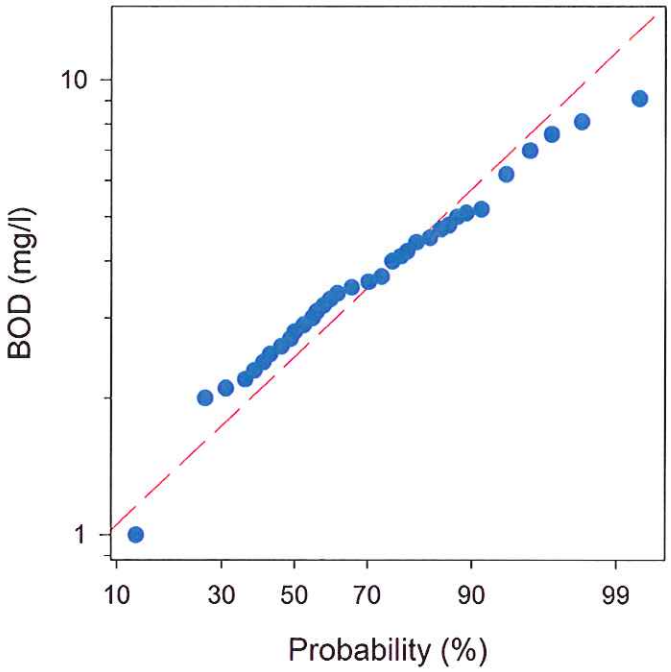


Upland Hardwood
(Log Normal Probability Plots)

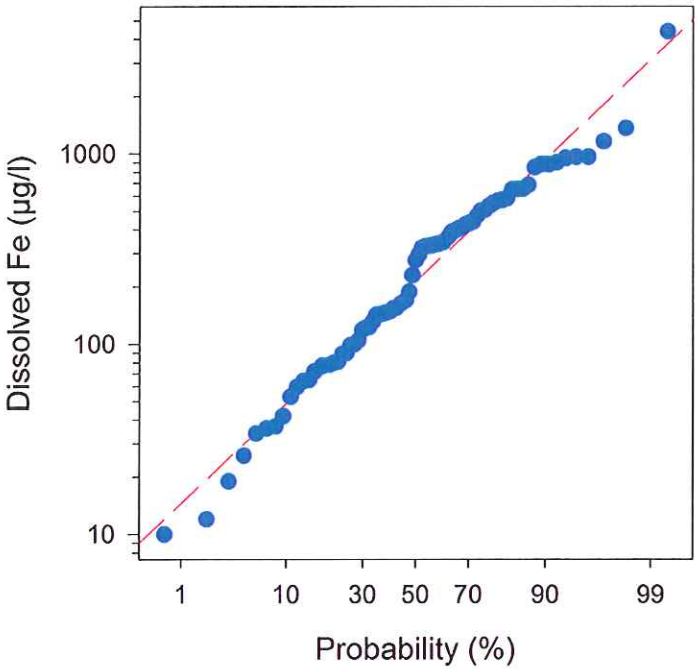


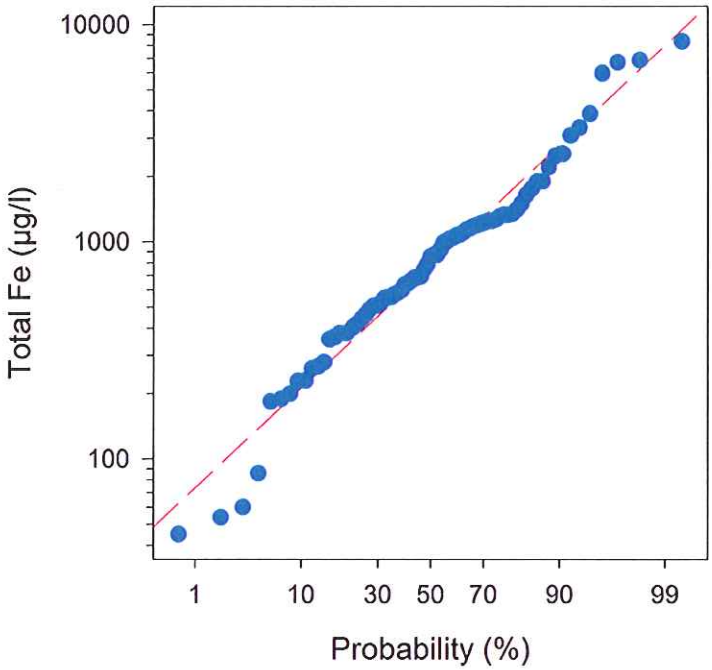


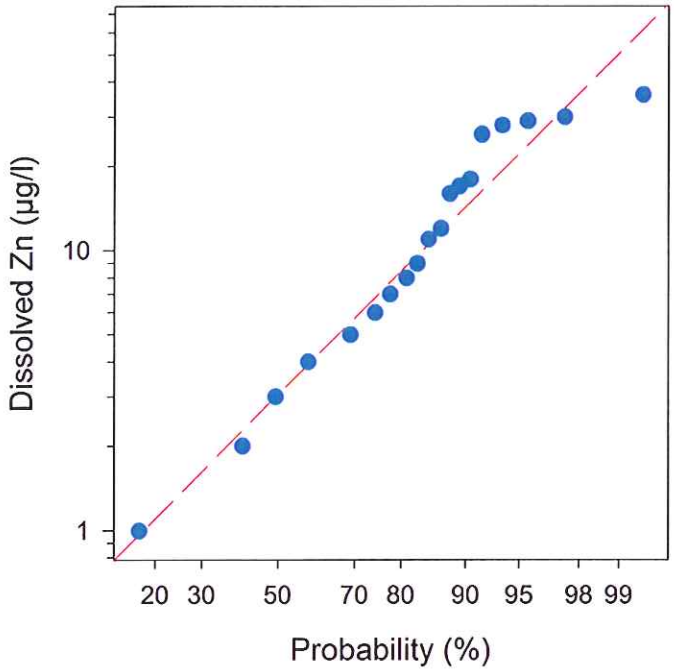


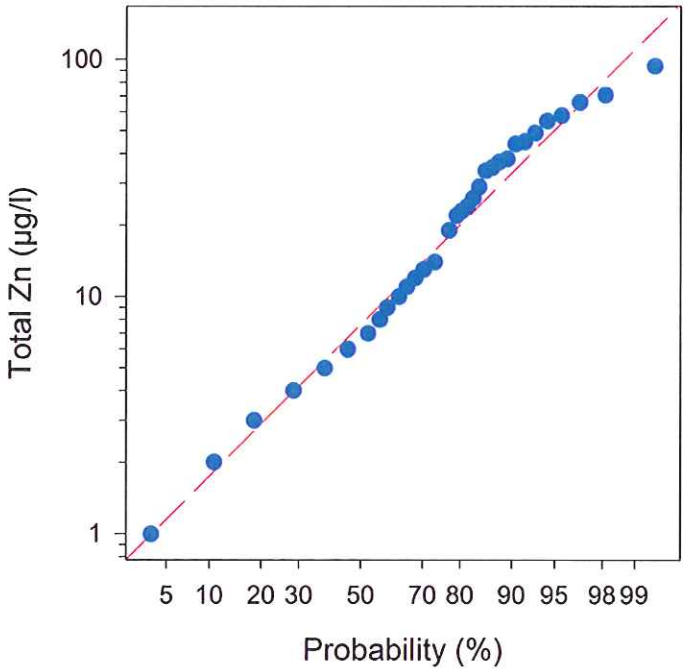


Upland Hardwood
(Log Normal Probability Plots)

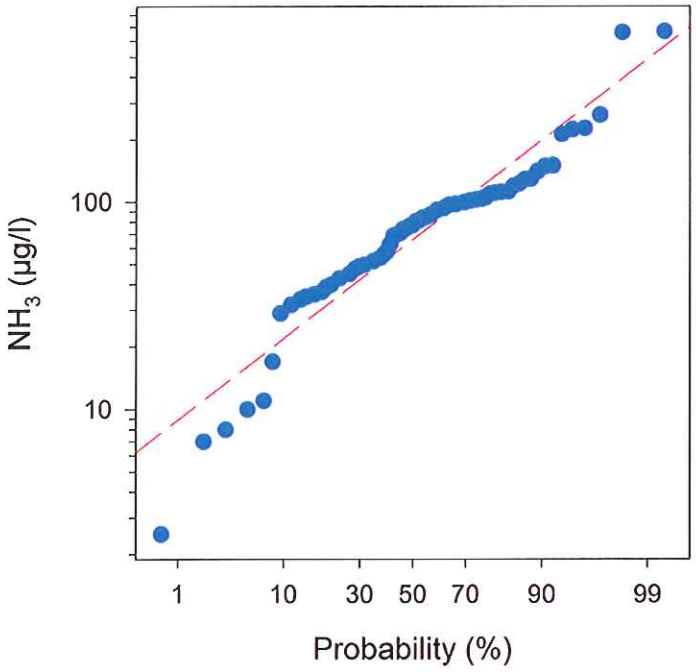


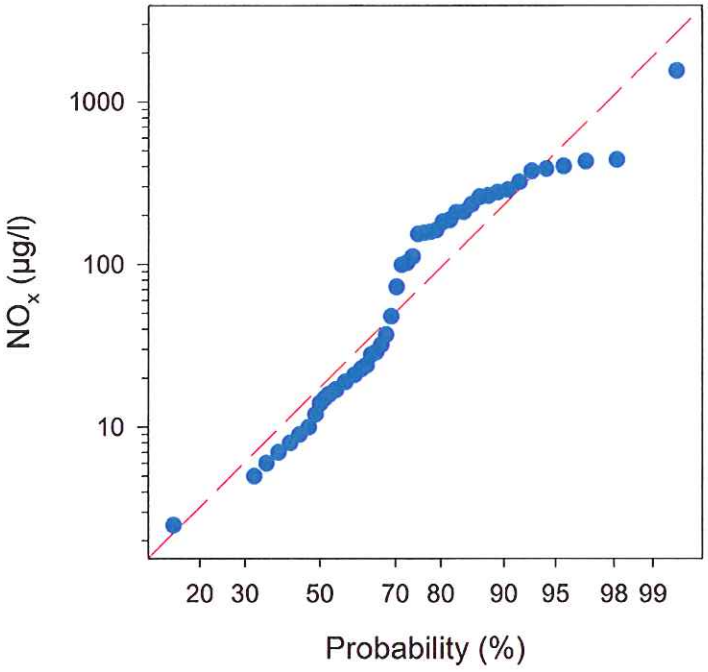


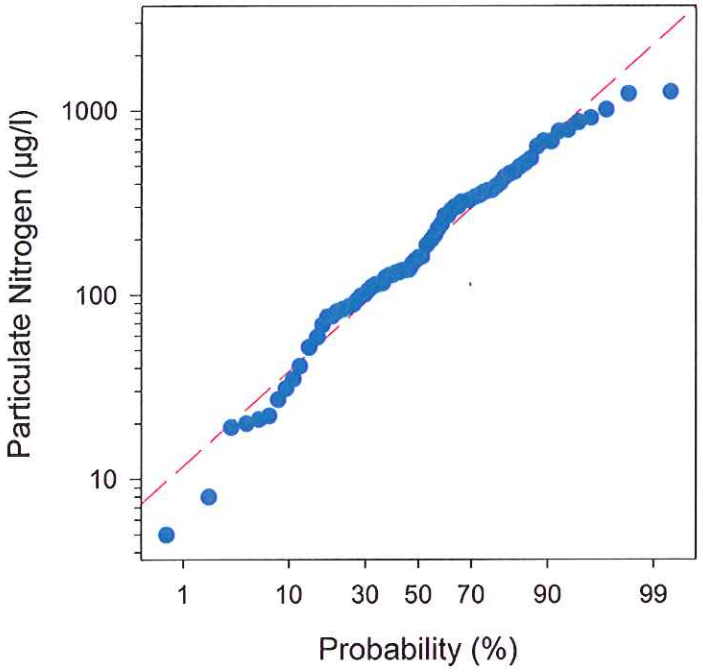


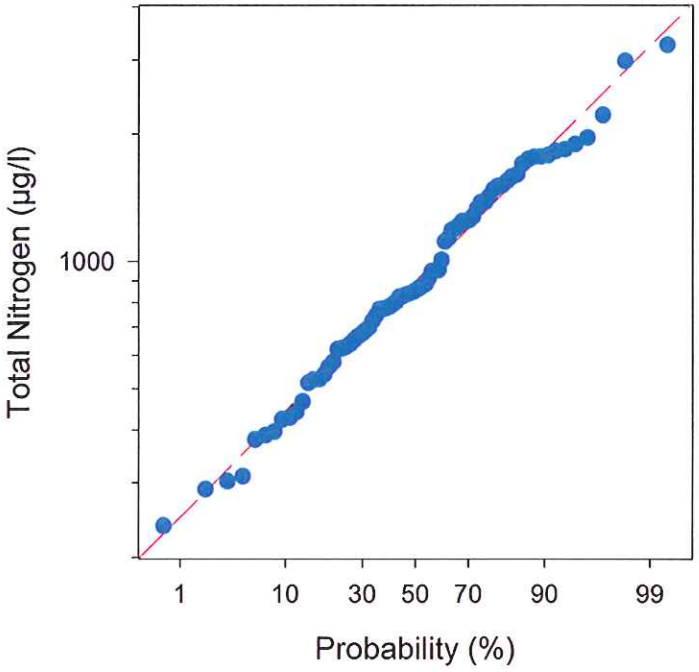


Upland Hardwood
(Log Normal Probability Plots)



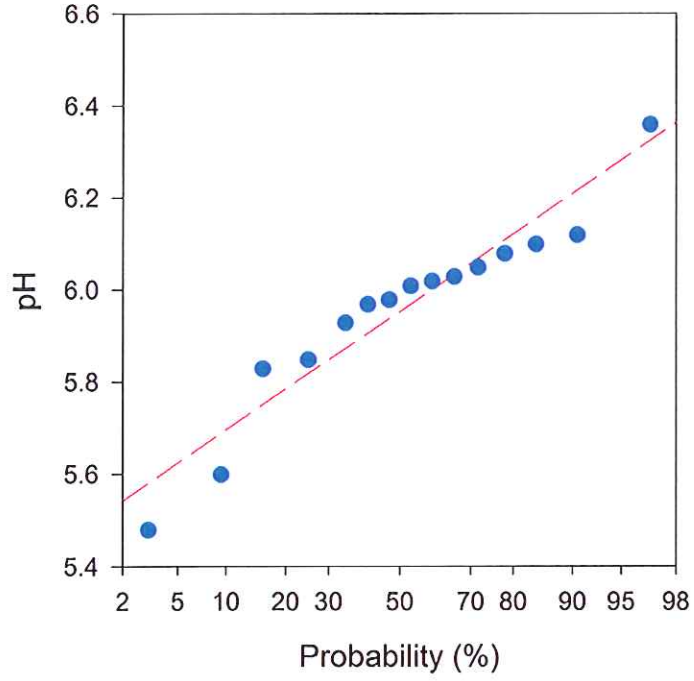


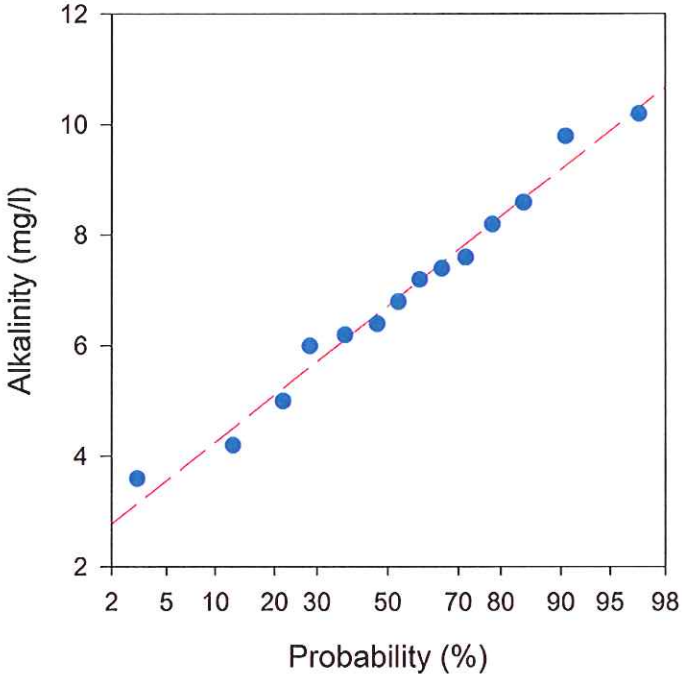


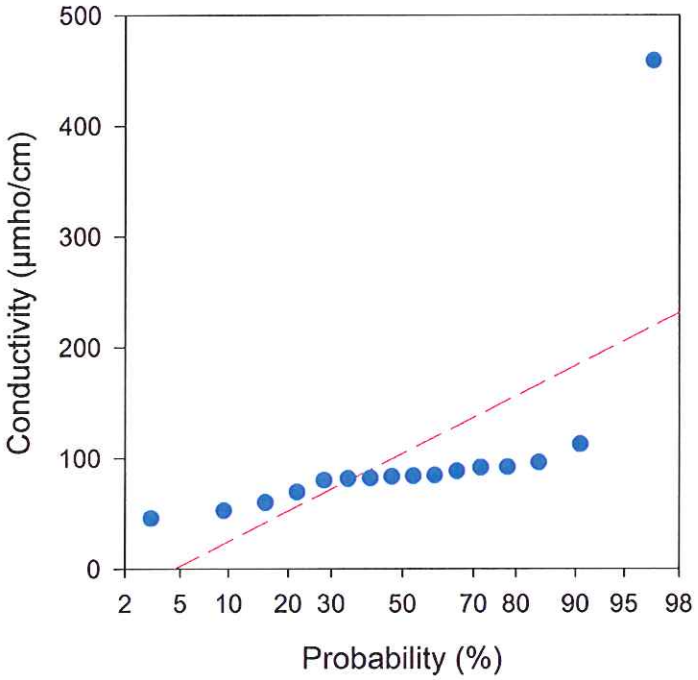


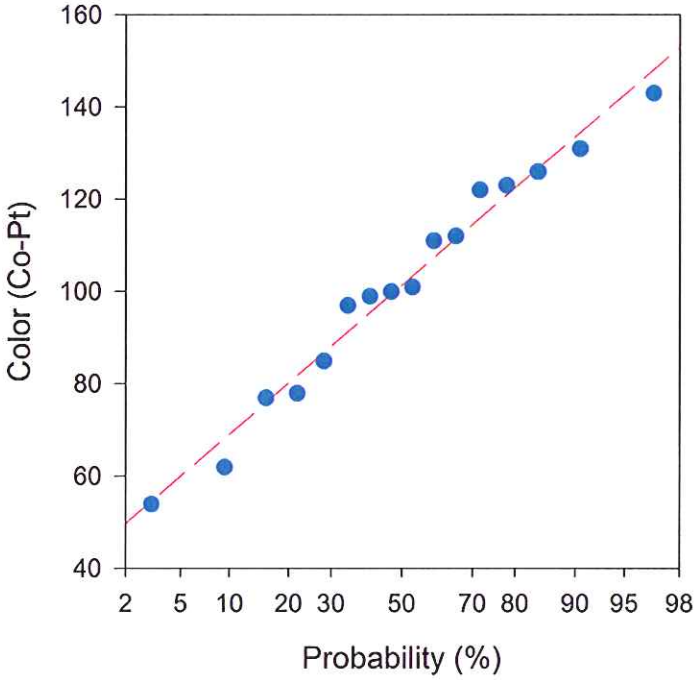
8. Upland Mixed Forest

Upland Mixed Forest
(Normal Probability Plots)

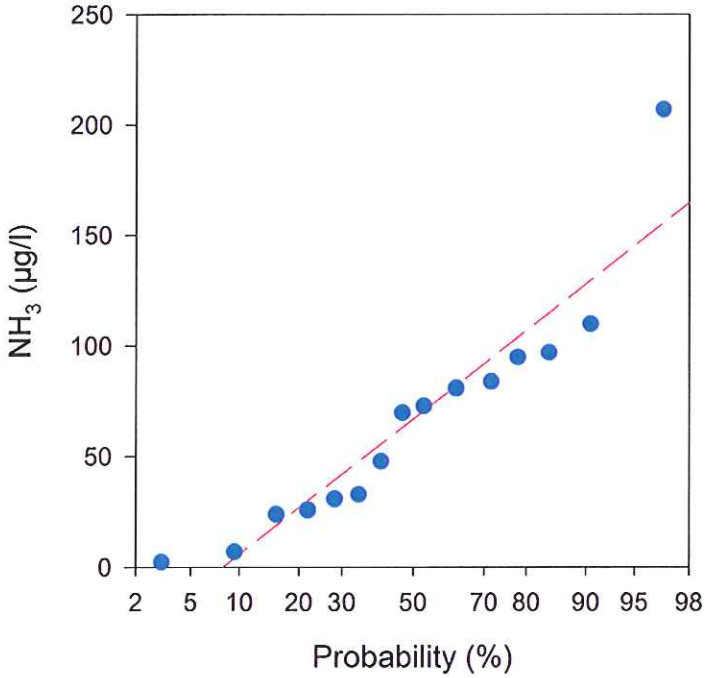


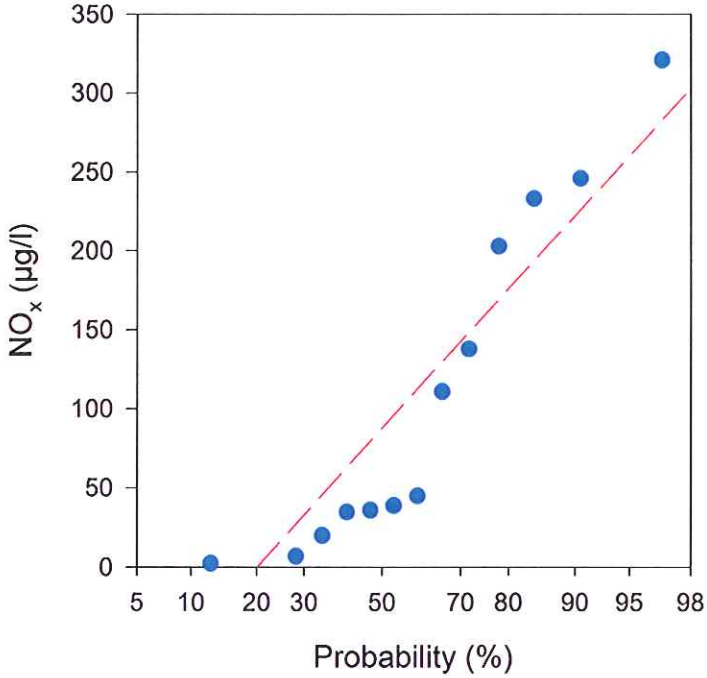


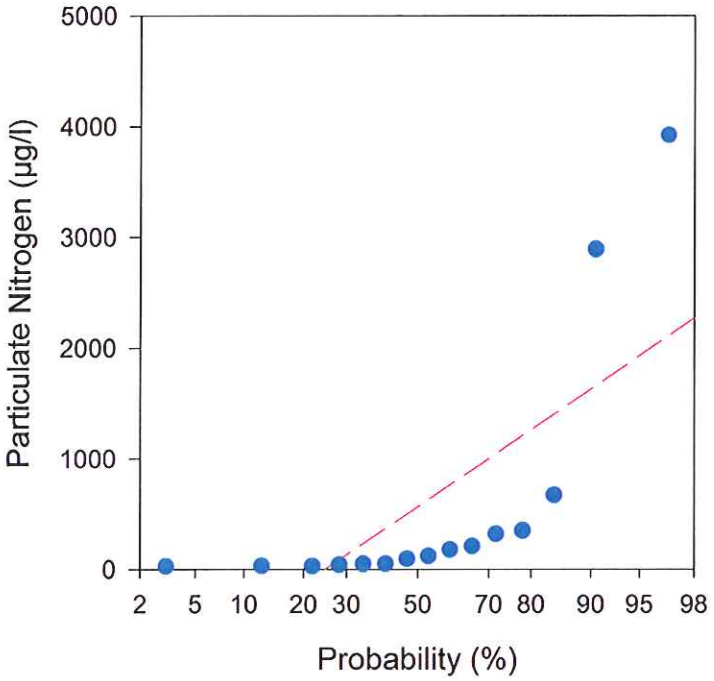


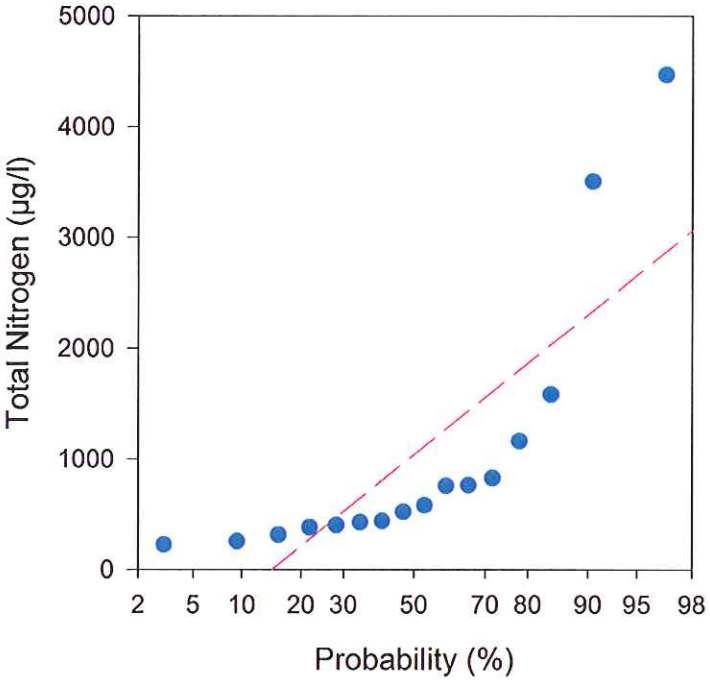


Upland Mixed Forest
(Normal Probability Plots)

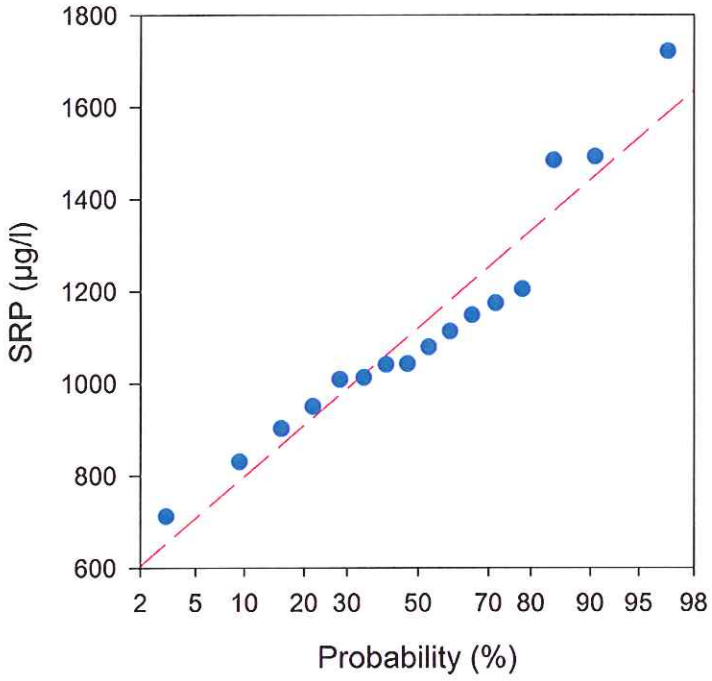


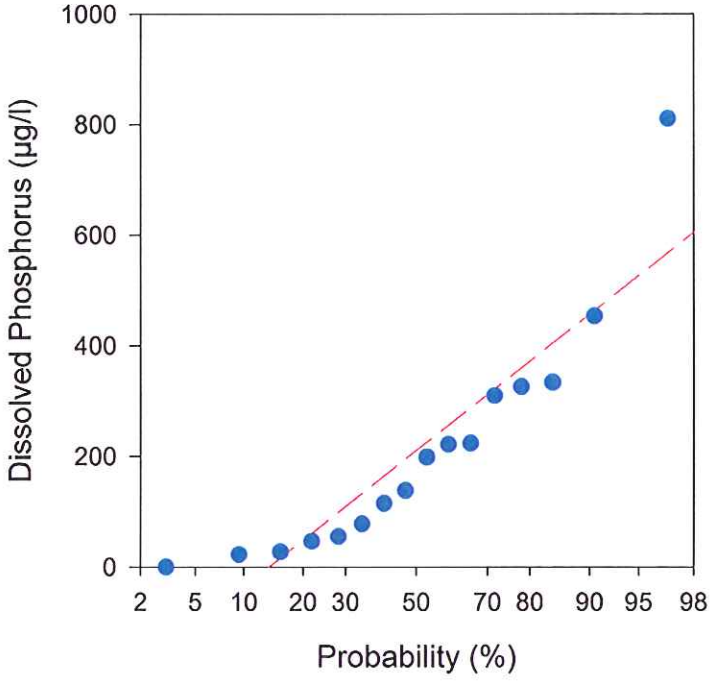


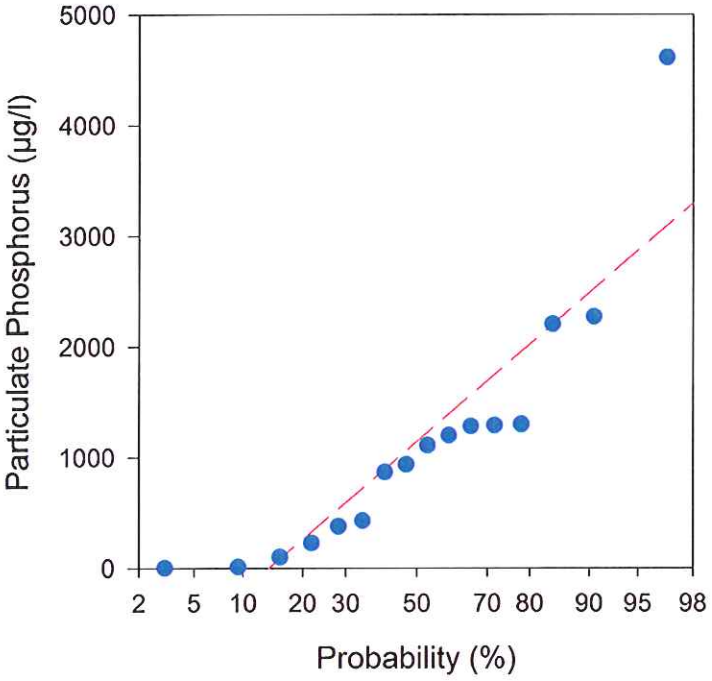


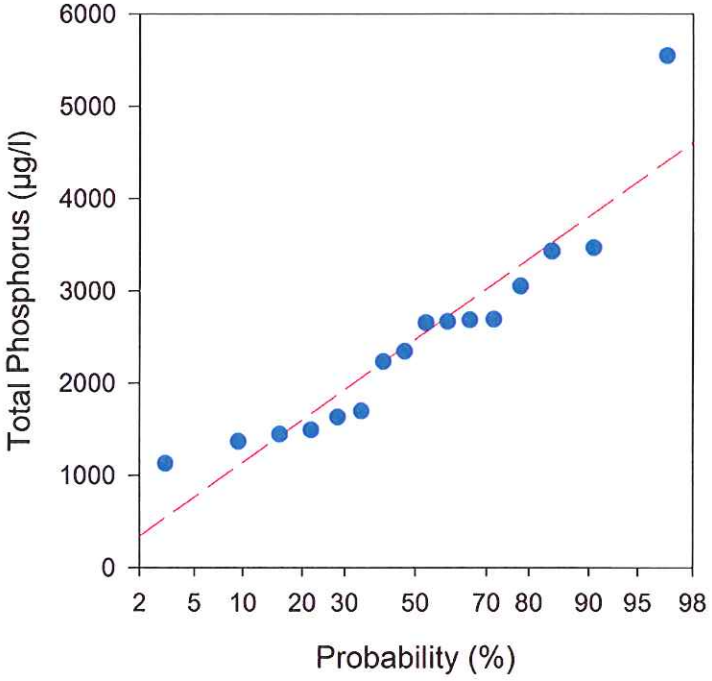


Upland Mixed Forest
(Normal Probability Plots)

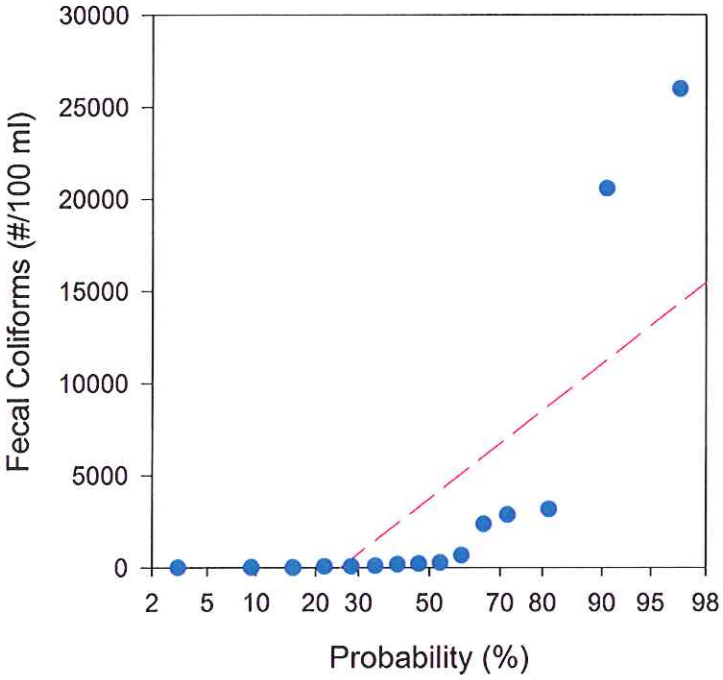


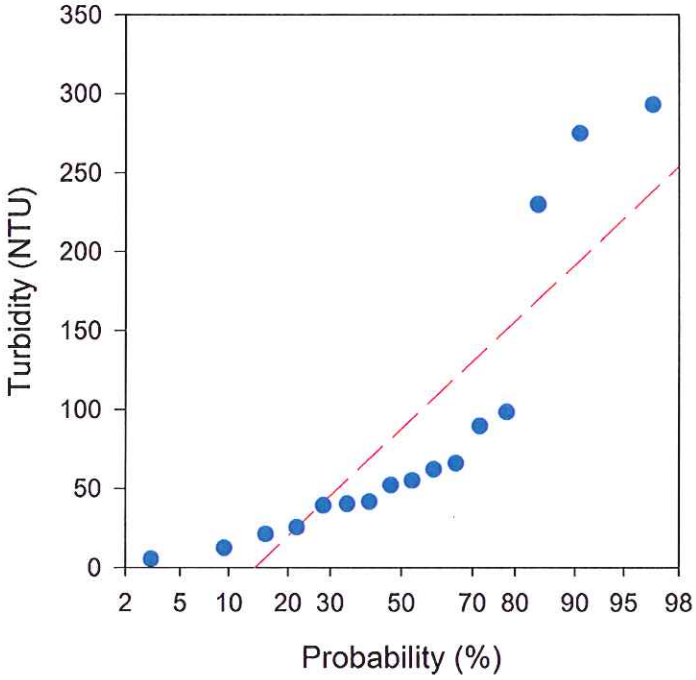


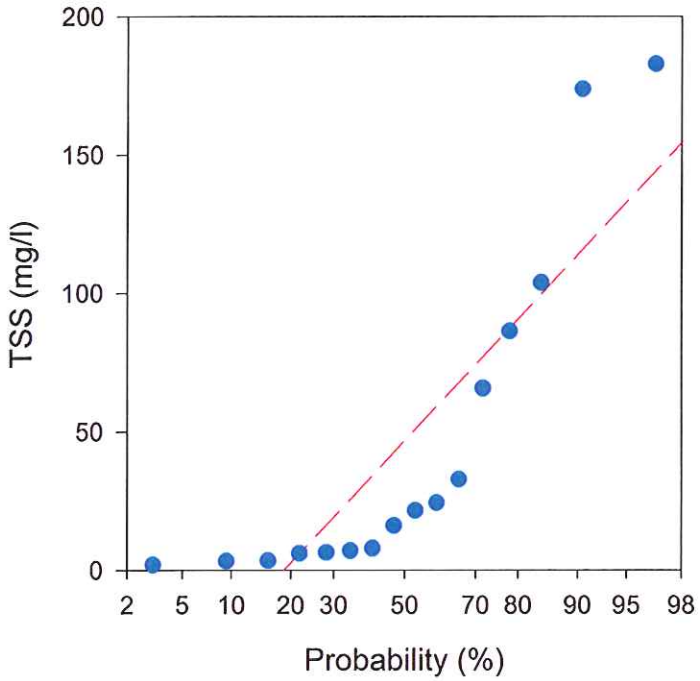


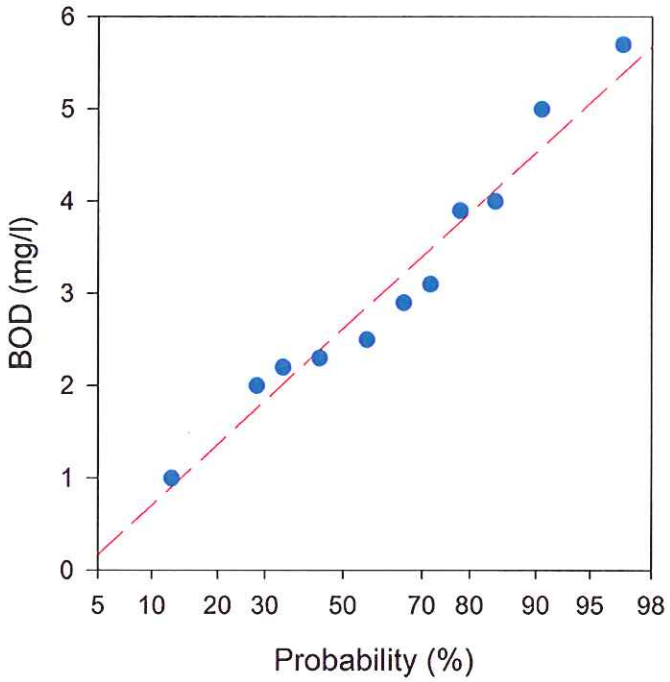


Upland Mixed Forest
(Normal Probability Plots)

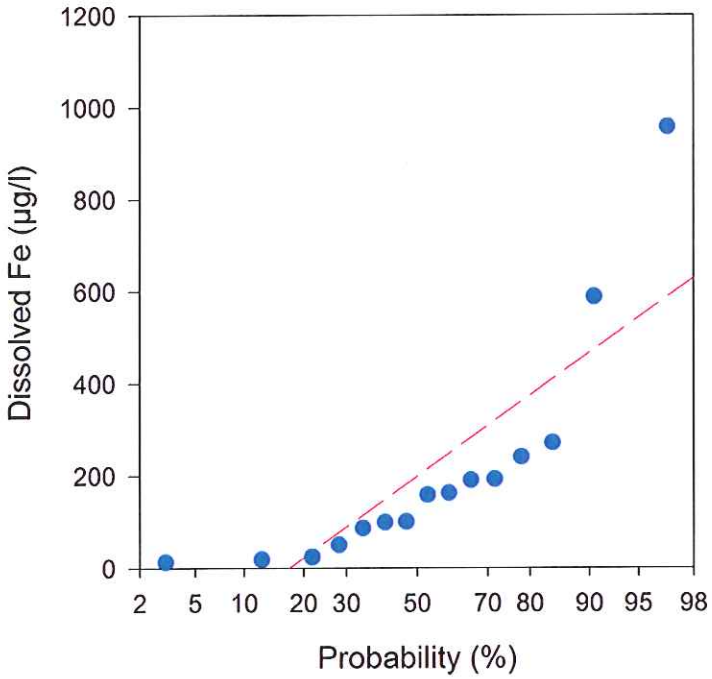


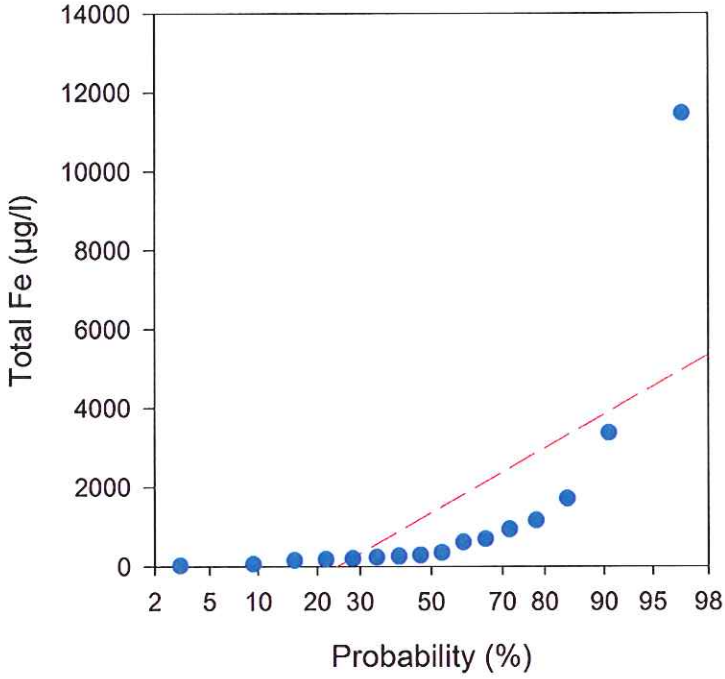


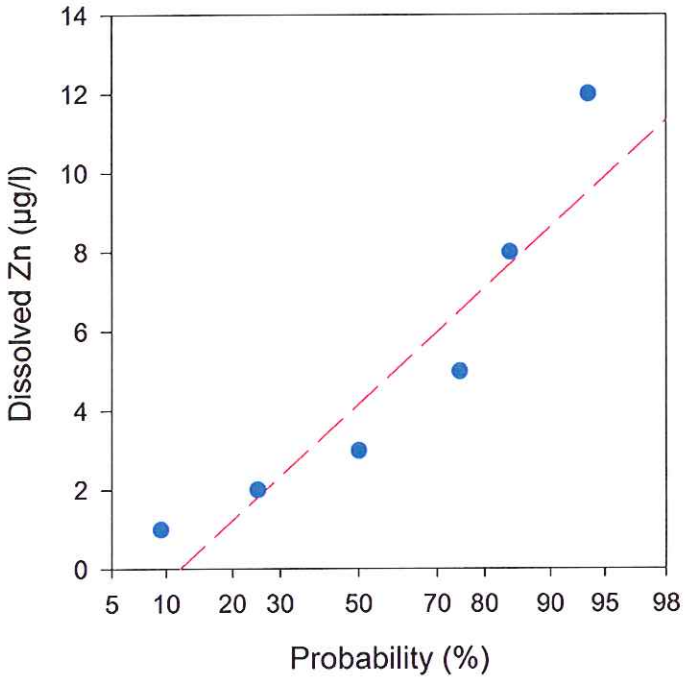


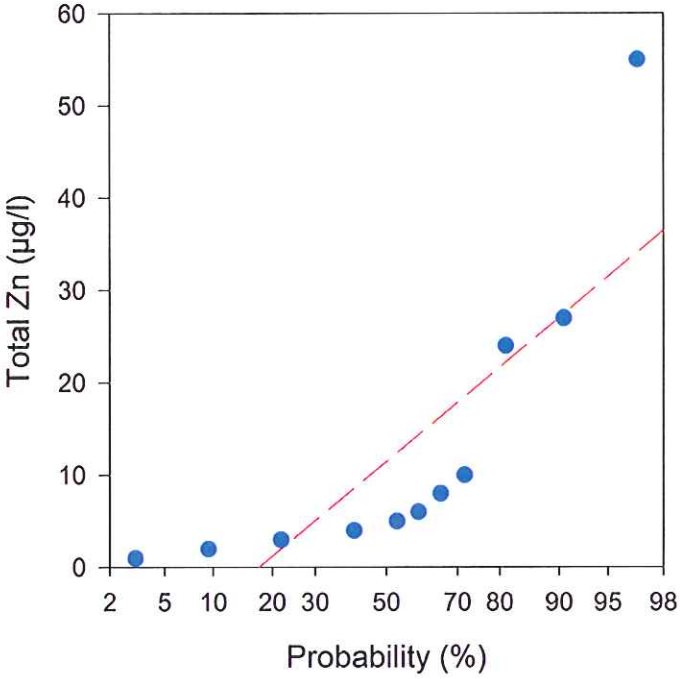


Upland Mixed Forest
(Normal Probability Plots)

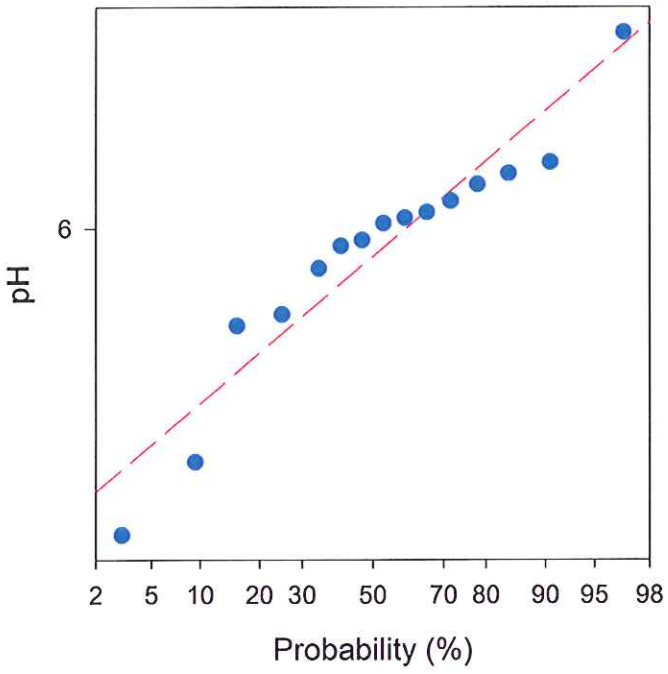


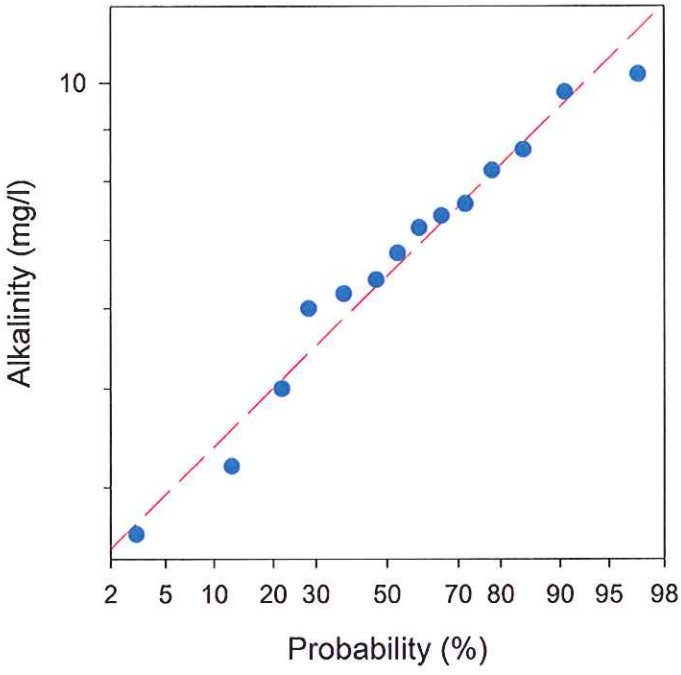


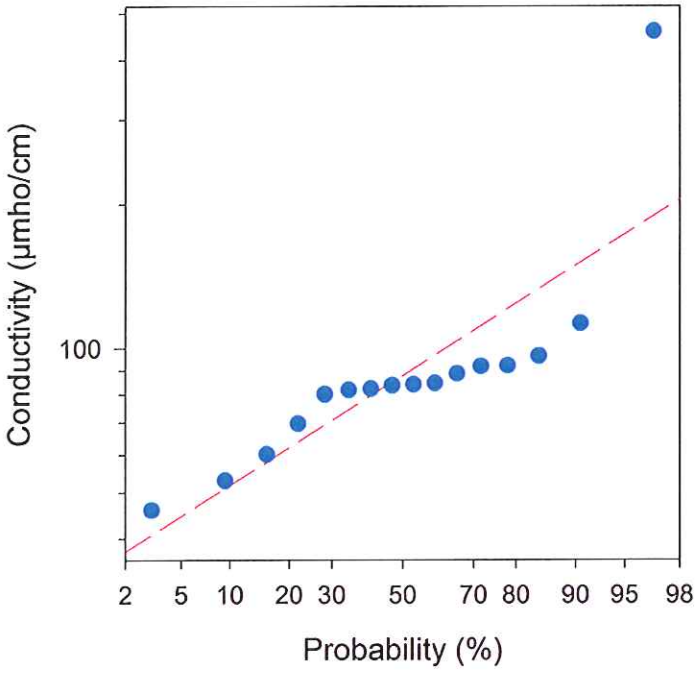


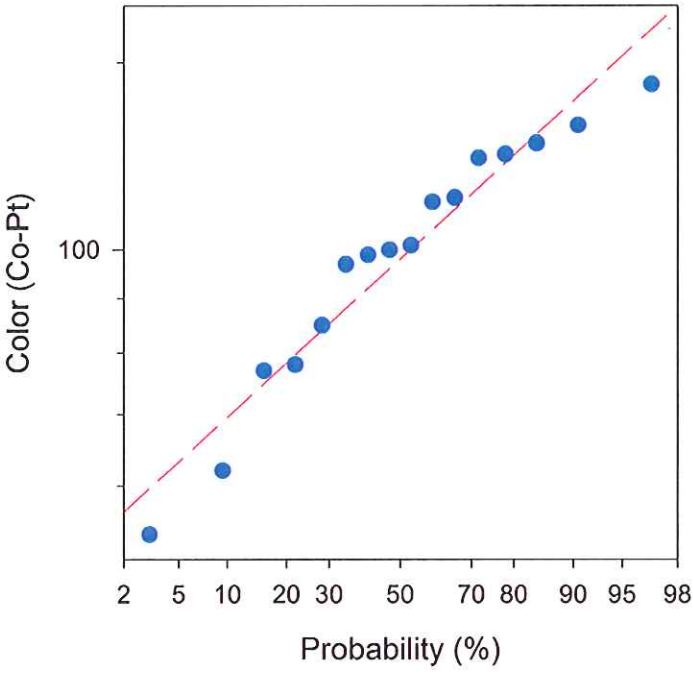


Upland Mixed Forest
(Log Normal Probability Plots)

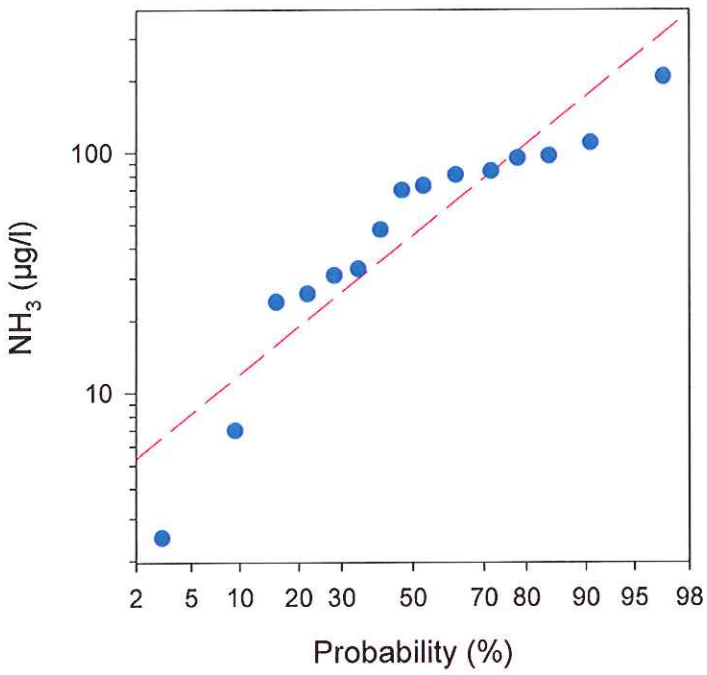


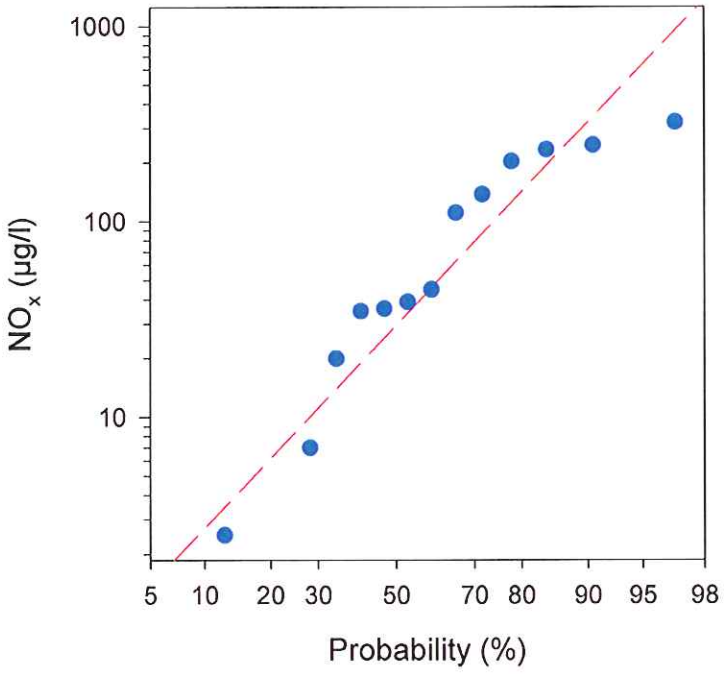


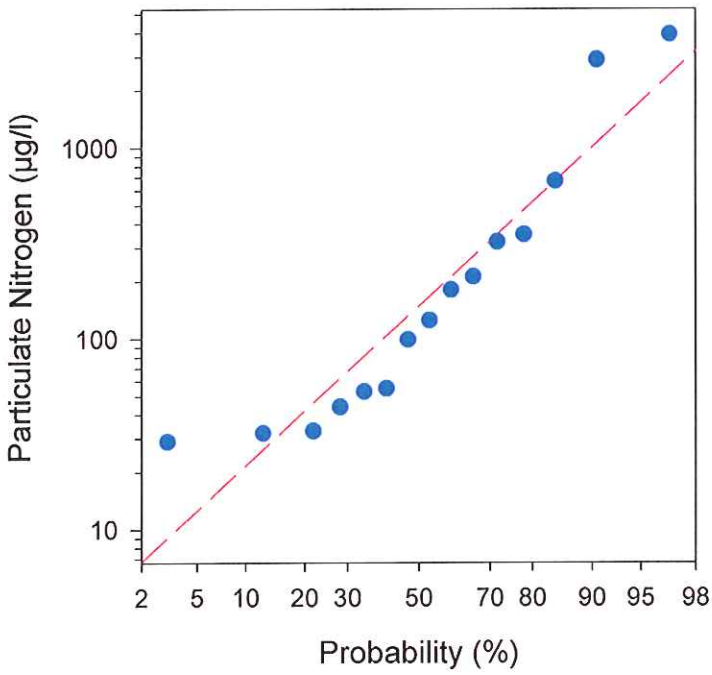


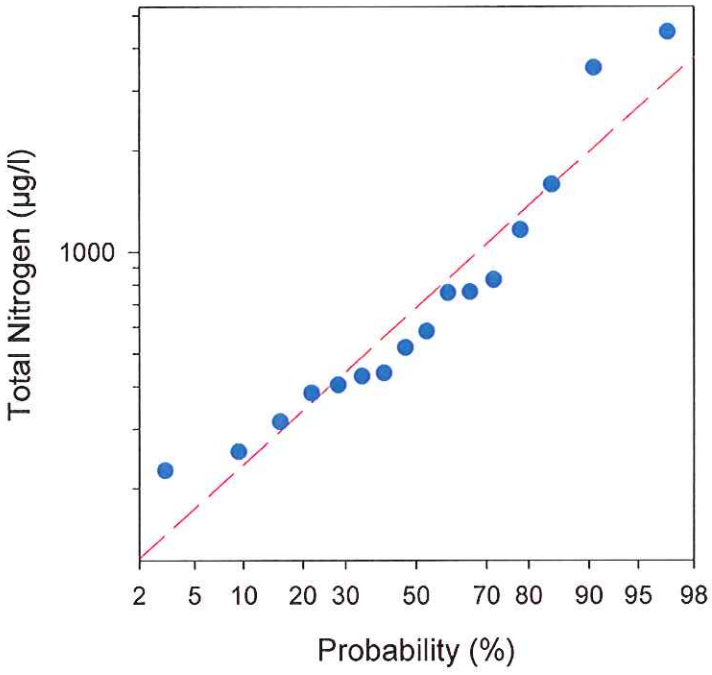


Upland Mixed Forest
(Log Normal Probability Plots)

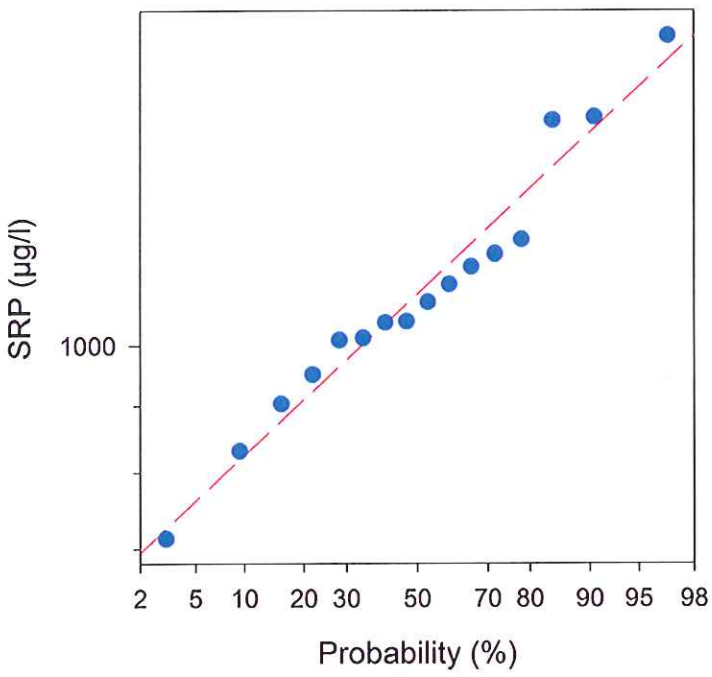


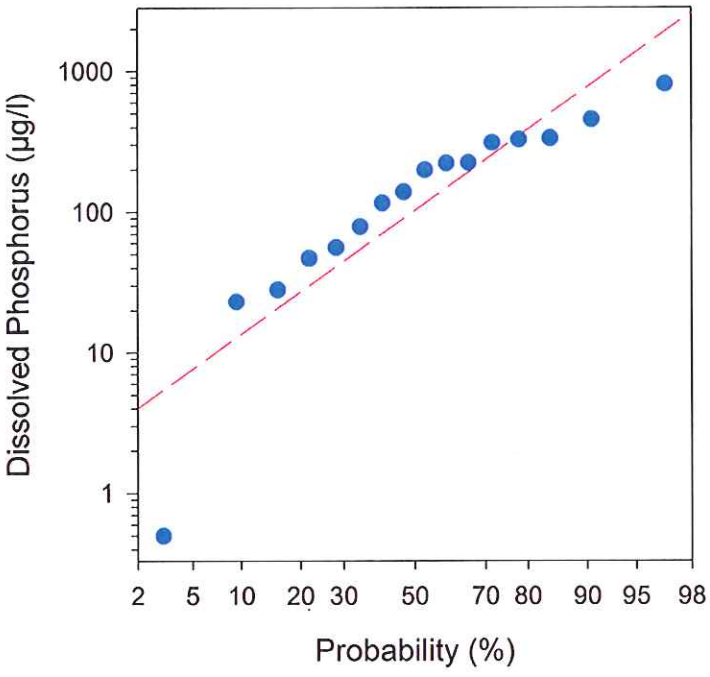


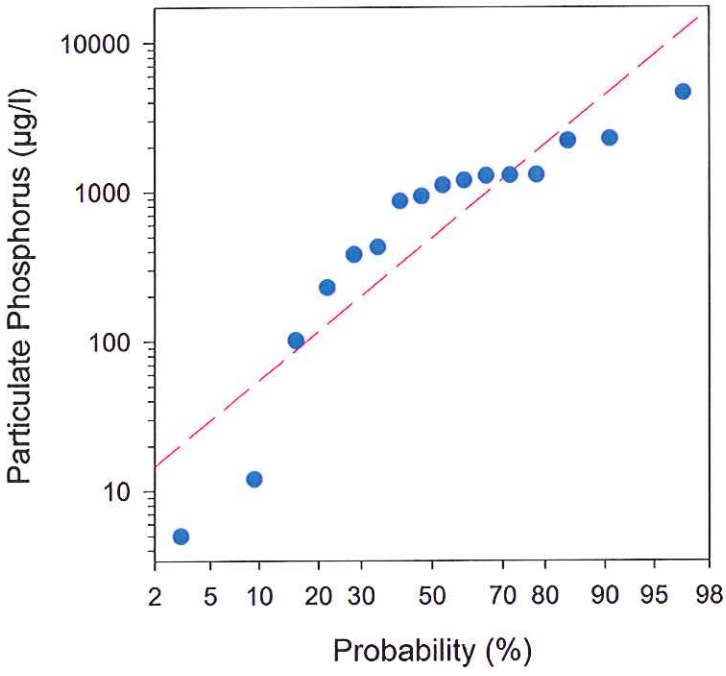


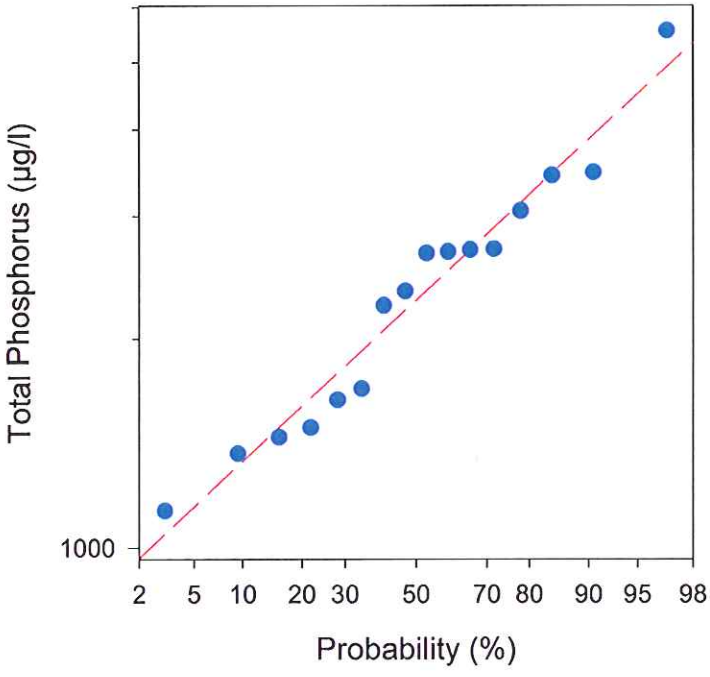


Upland Mixed Forest
(Log Normal Probability Plots)

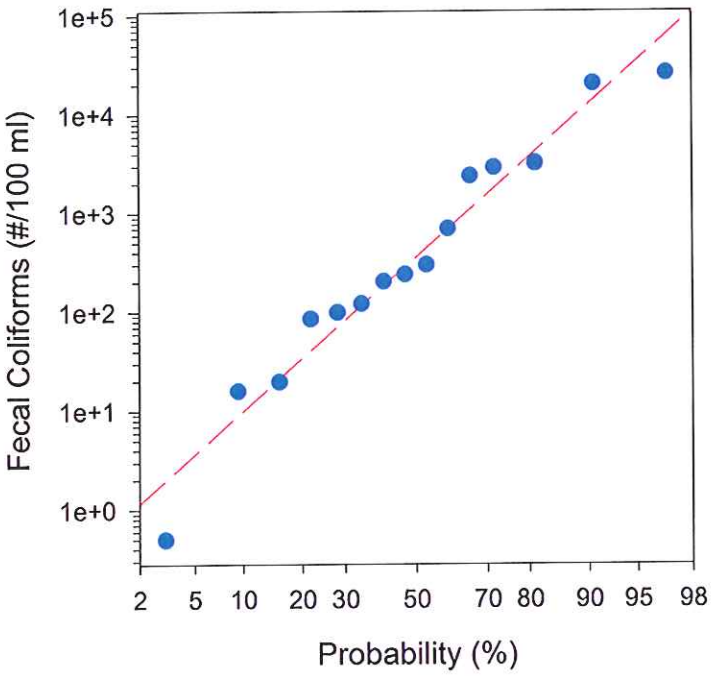


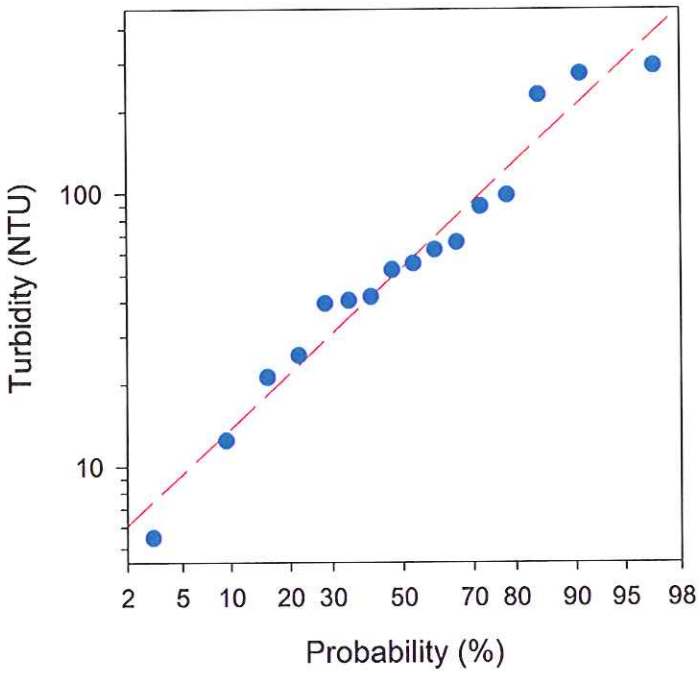


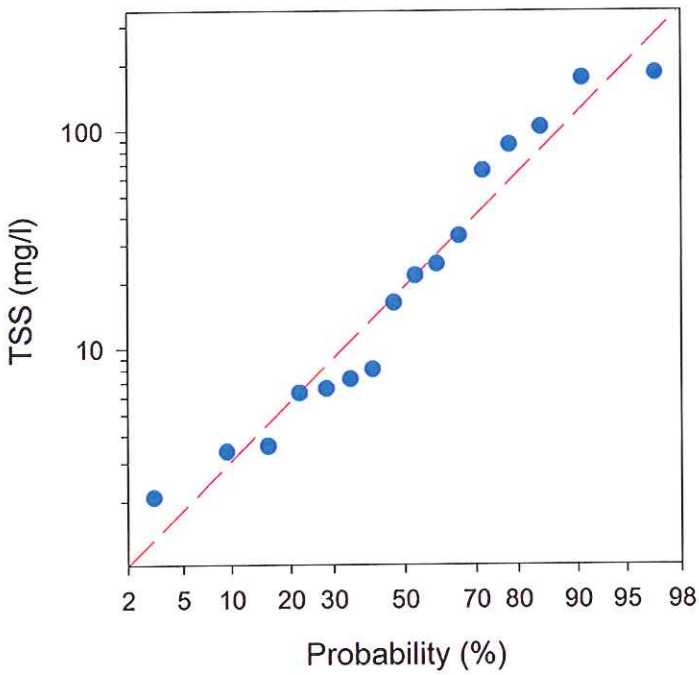


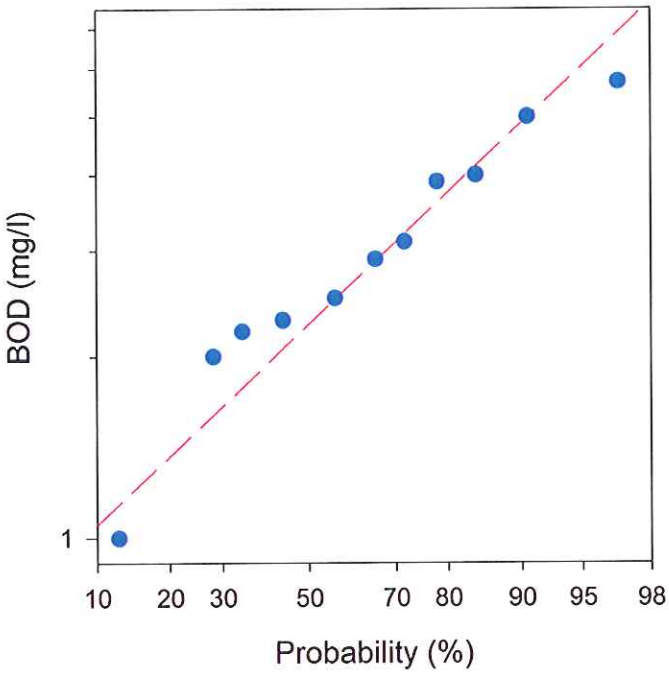


Upland Mixed Forest
(Log Normal Probability Plots)

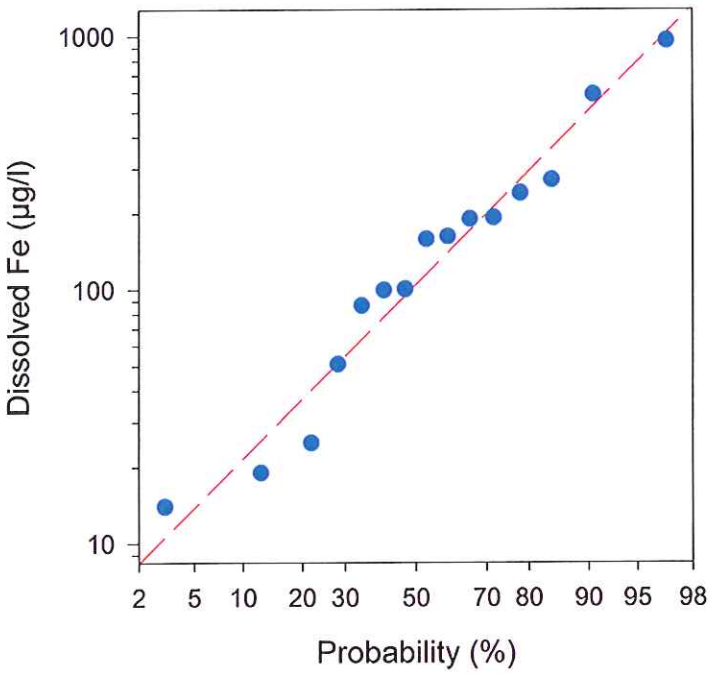


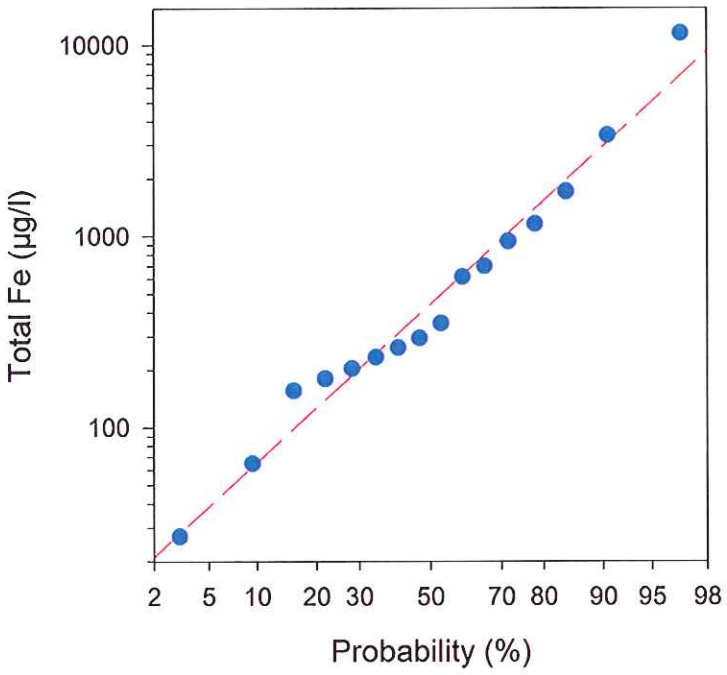


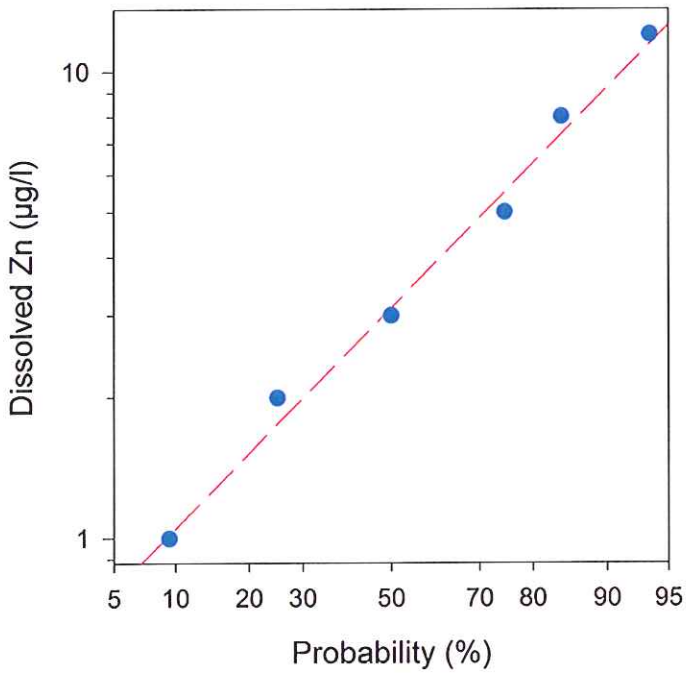


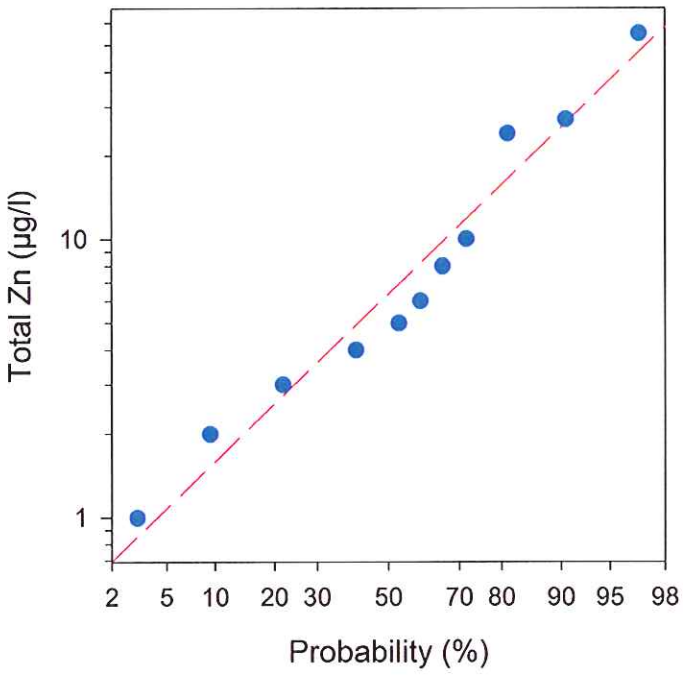


Upland Mixed Forest
(Log Normal Probability Plots)



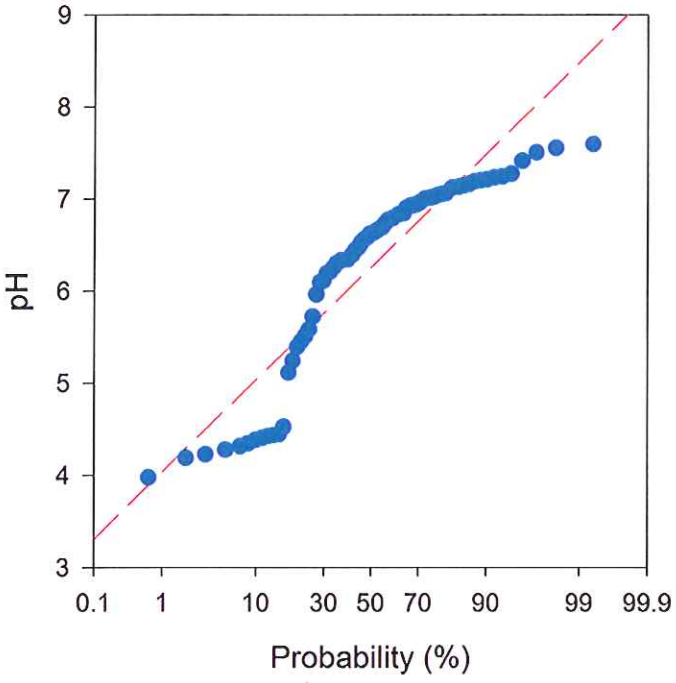


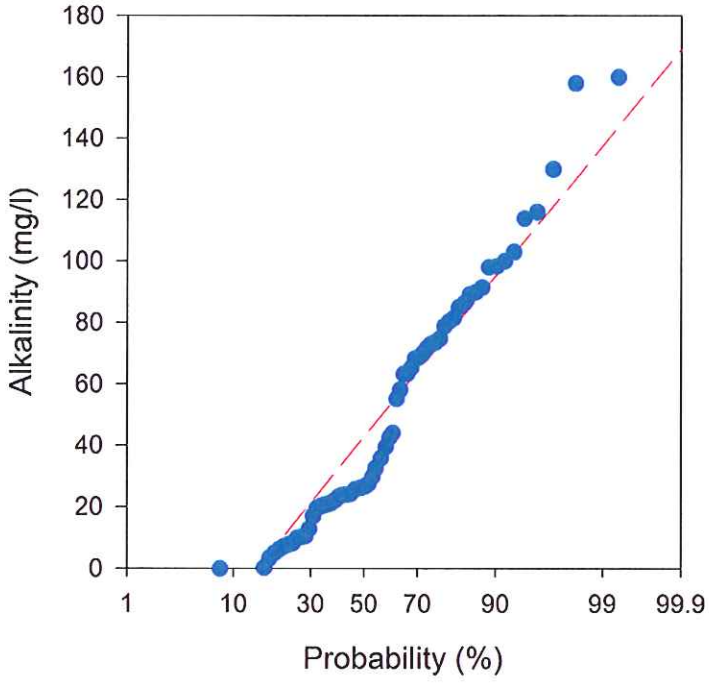


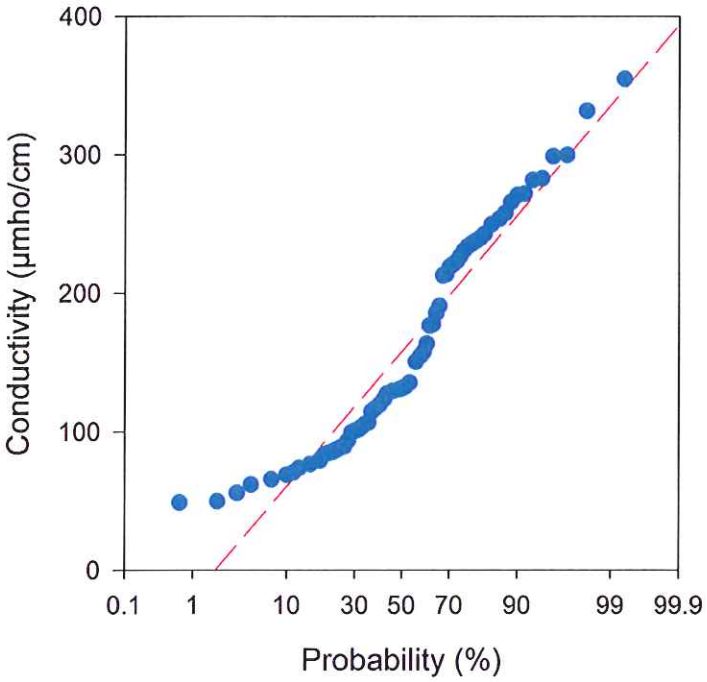


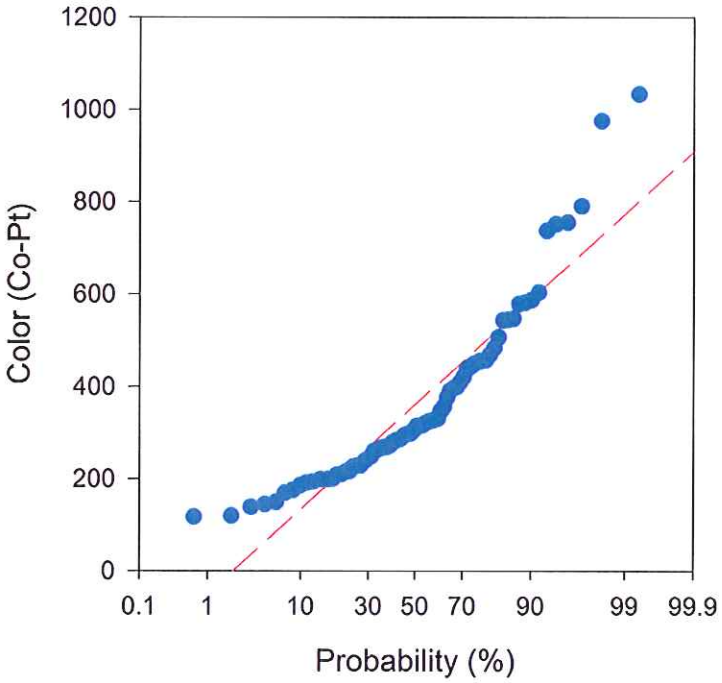
9. Wet Flatwood

Wet Flatwoods
(Normal Probability Plots)

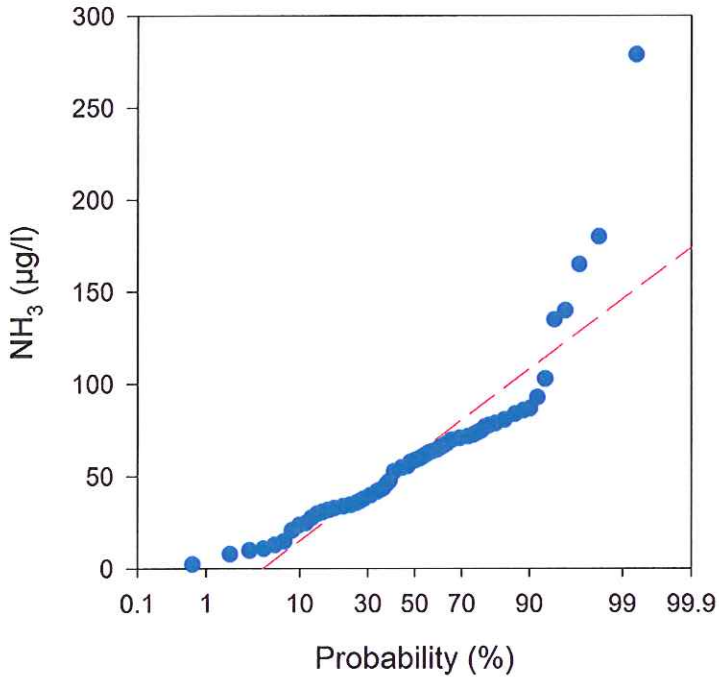


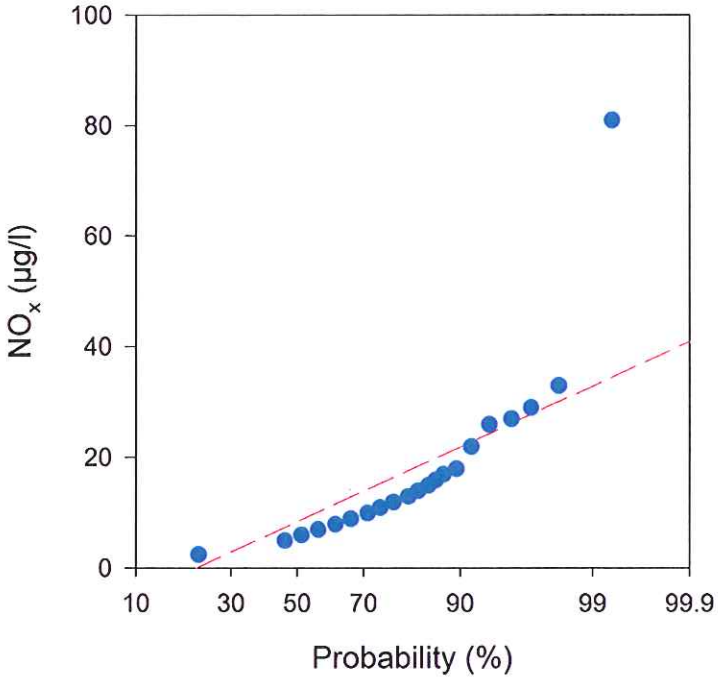


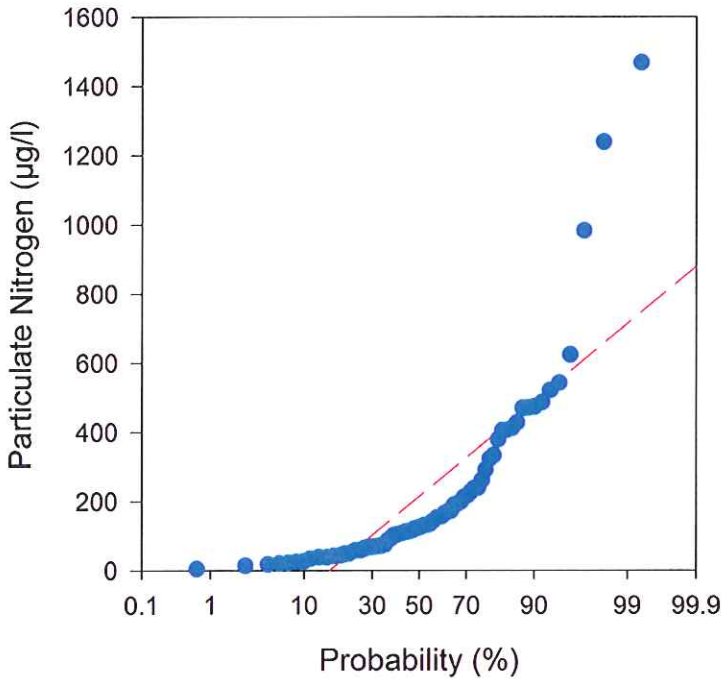


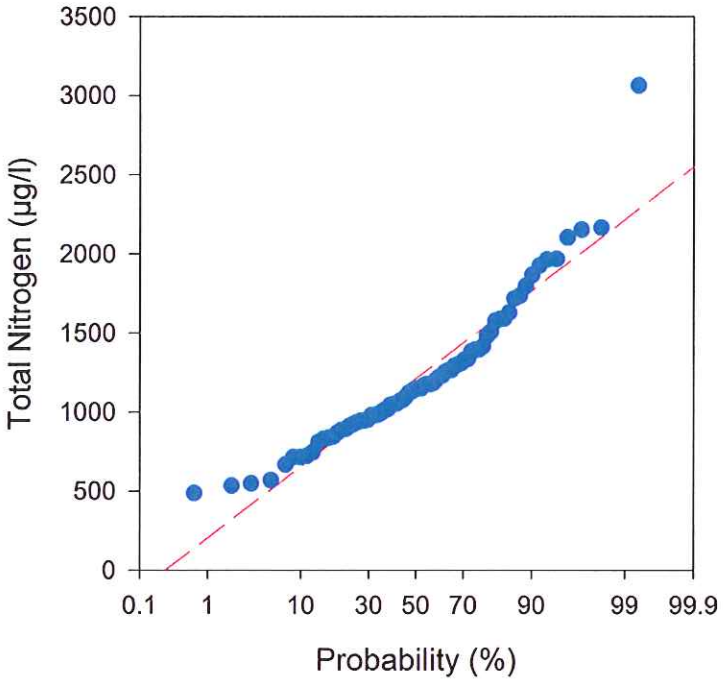


Wet Flatwoods
(Normal Probability Plots)

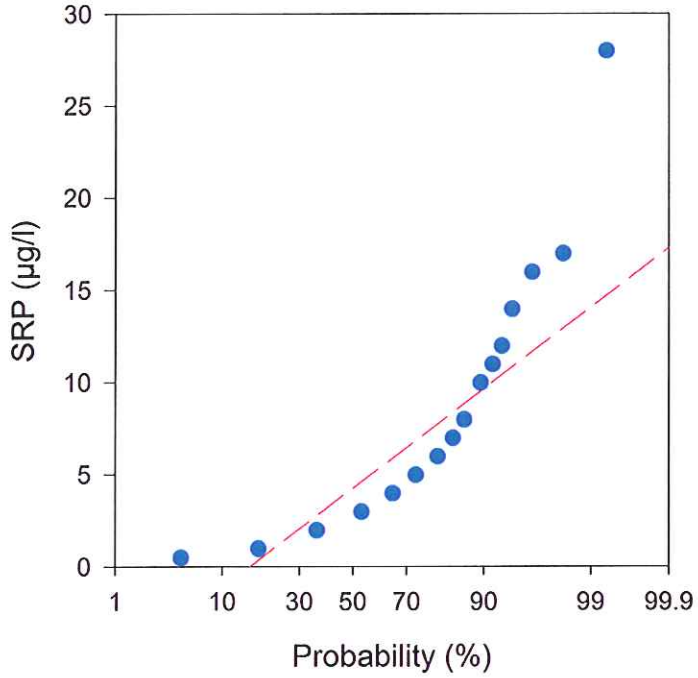


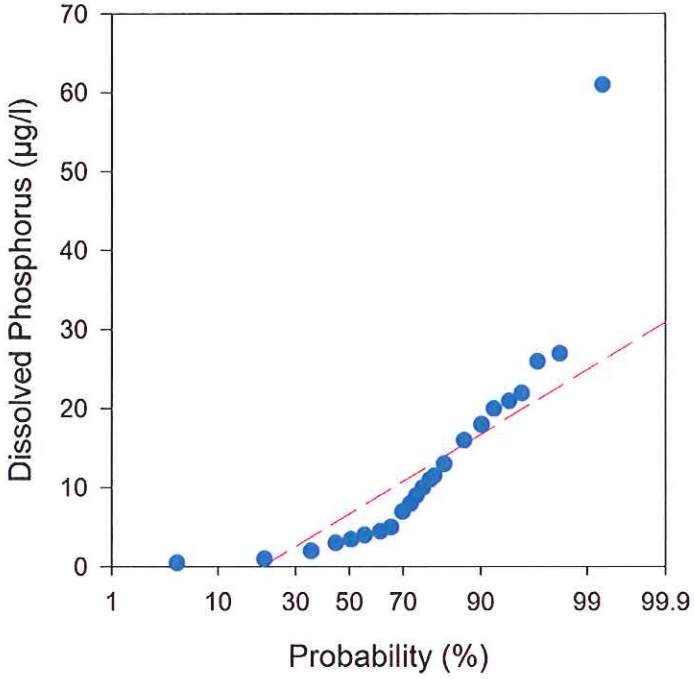


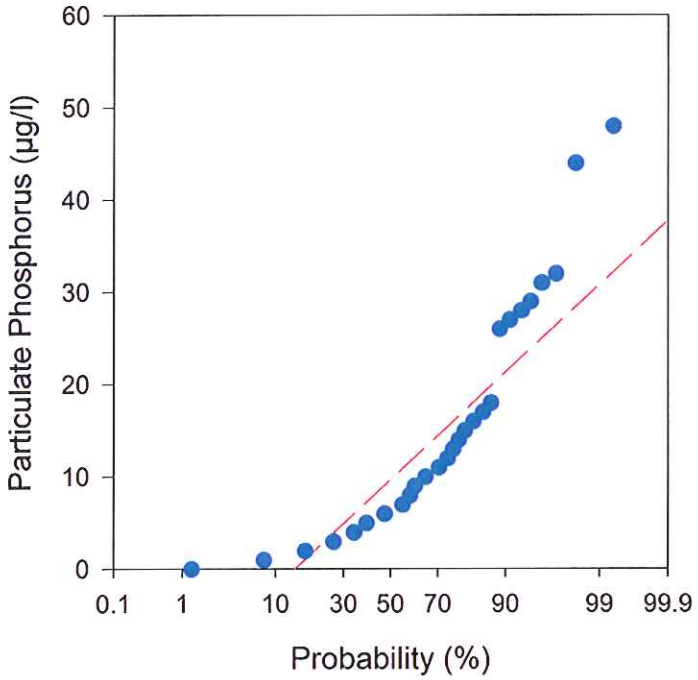


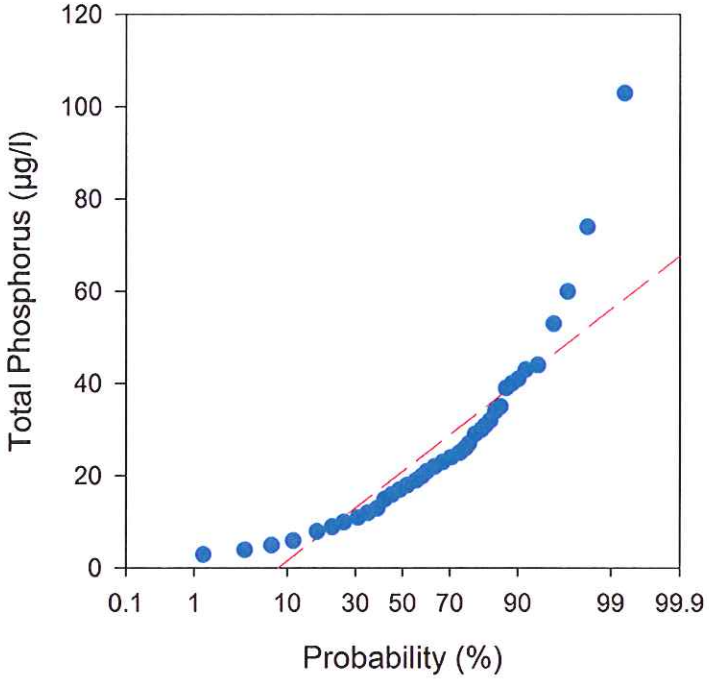


Wet Flatwoods
(Normal Probability Plots)

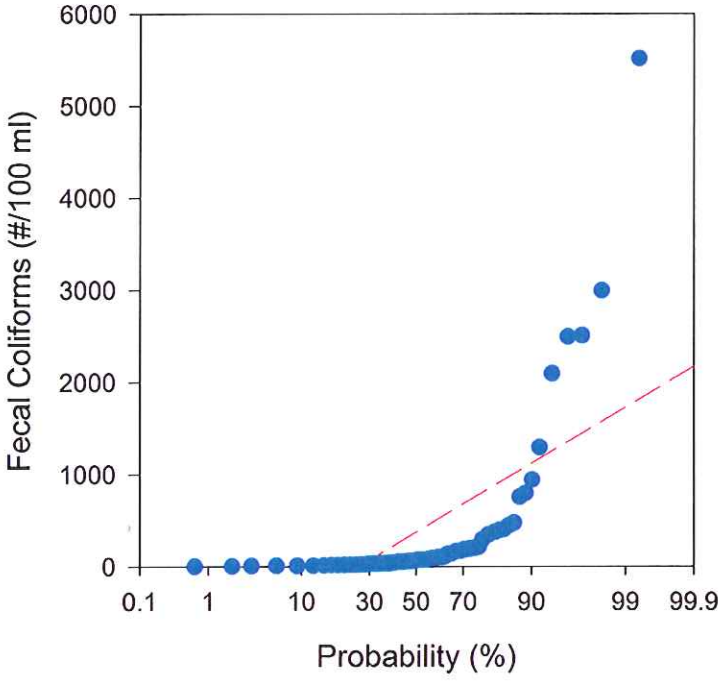


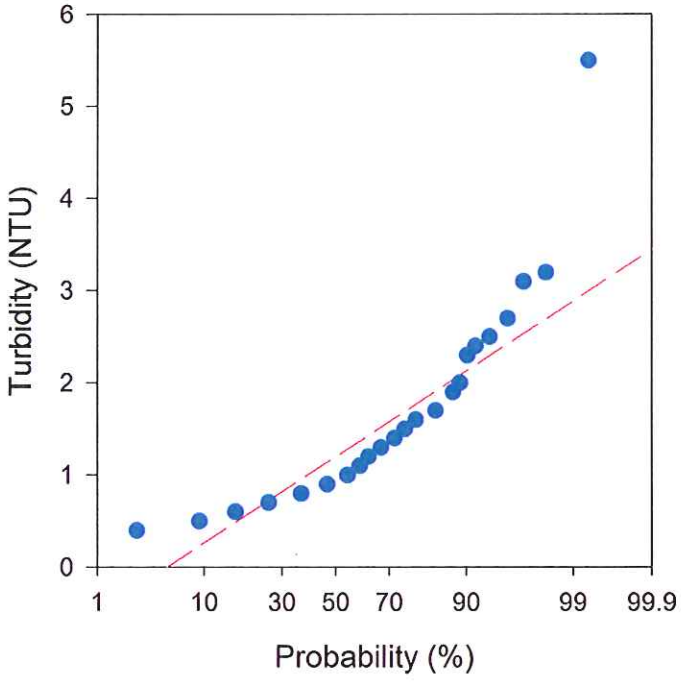


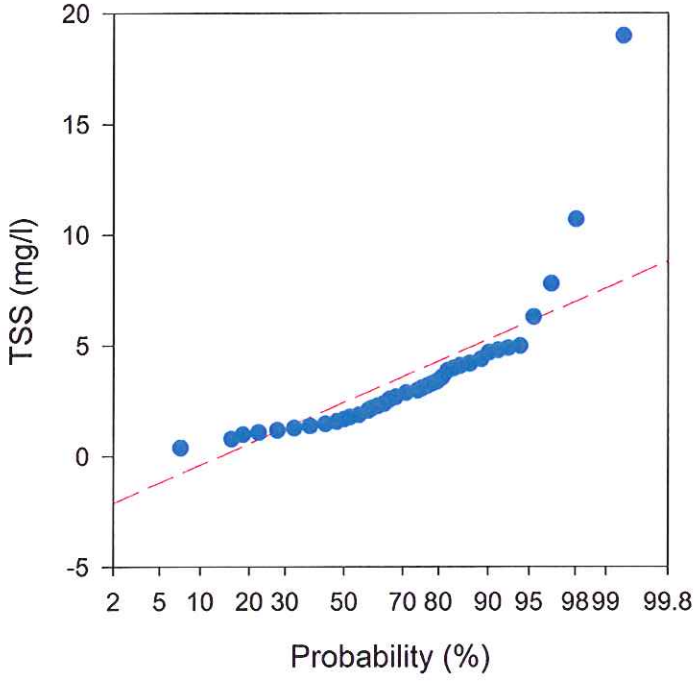


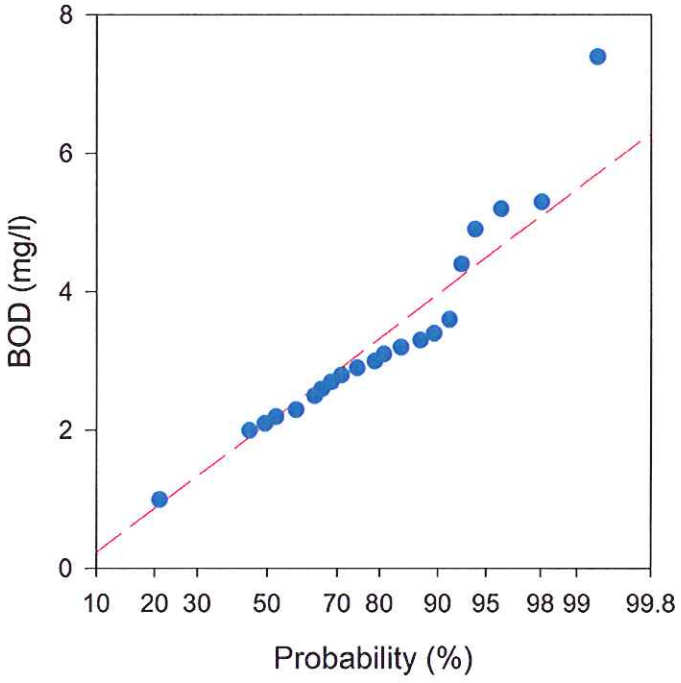


Wet Flatwoods
(Normal Probability Plots)

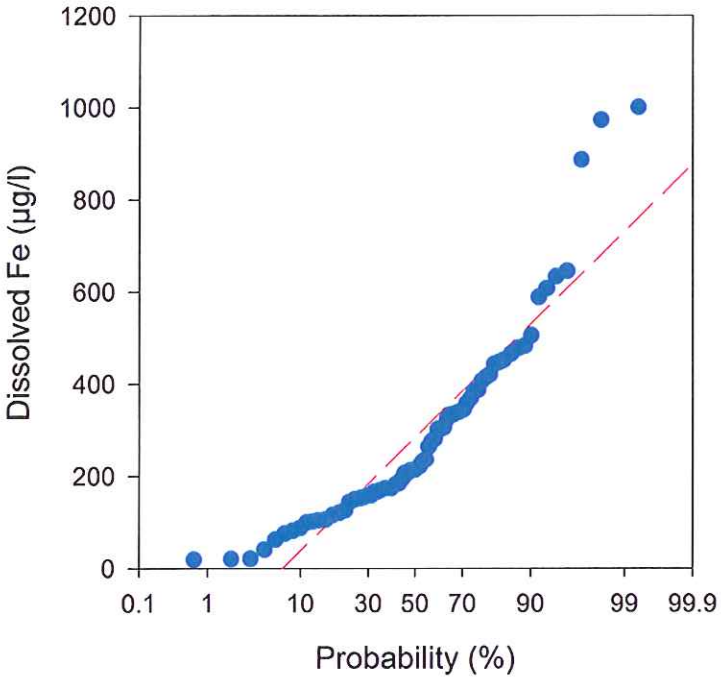


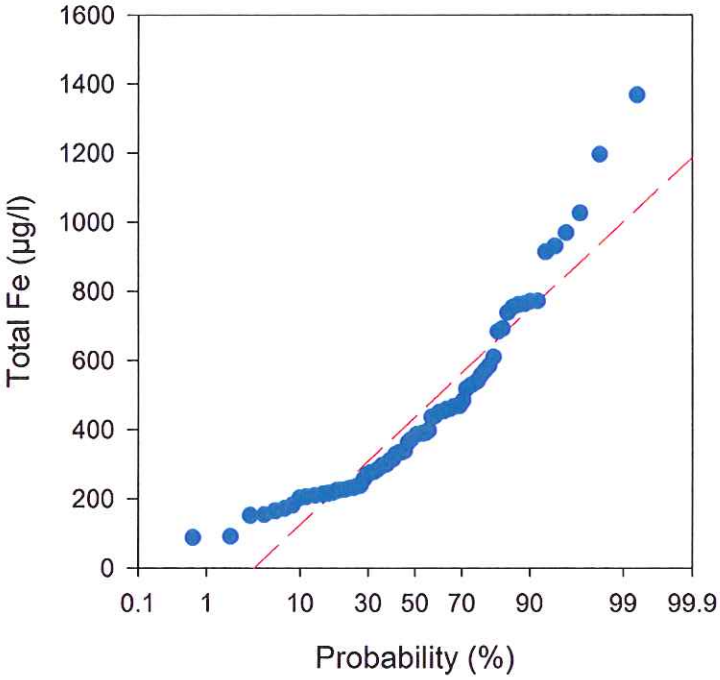


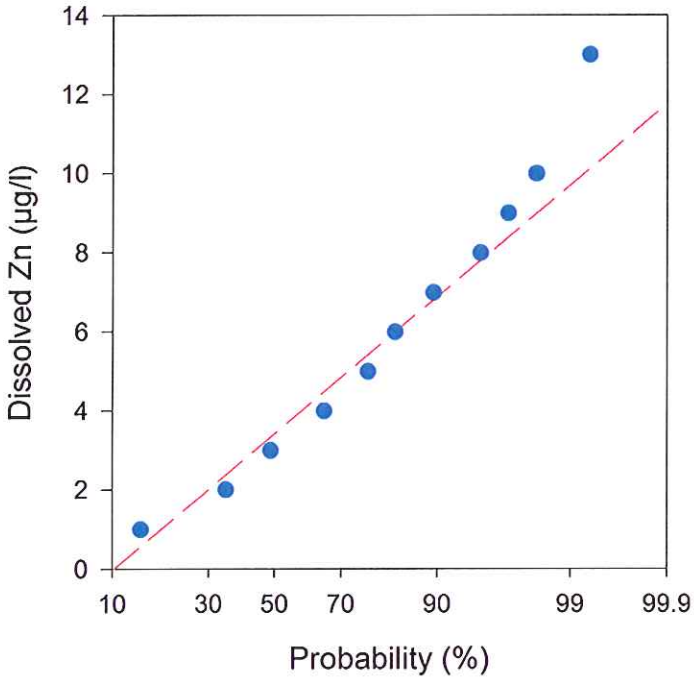


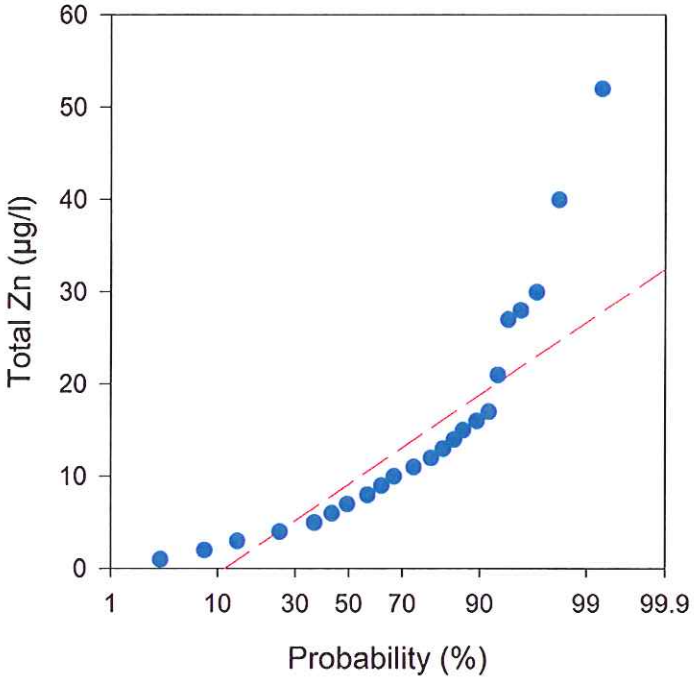


Wet Flatwoods
(Normal Probability Plots)

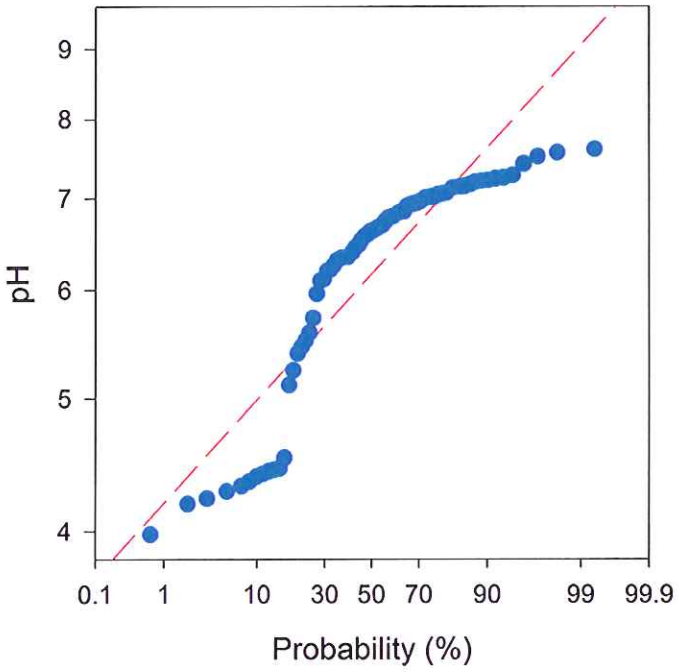


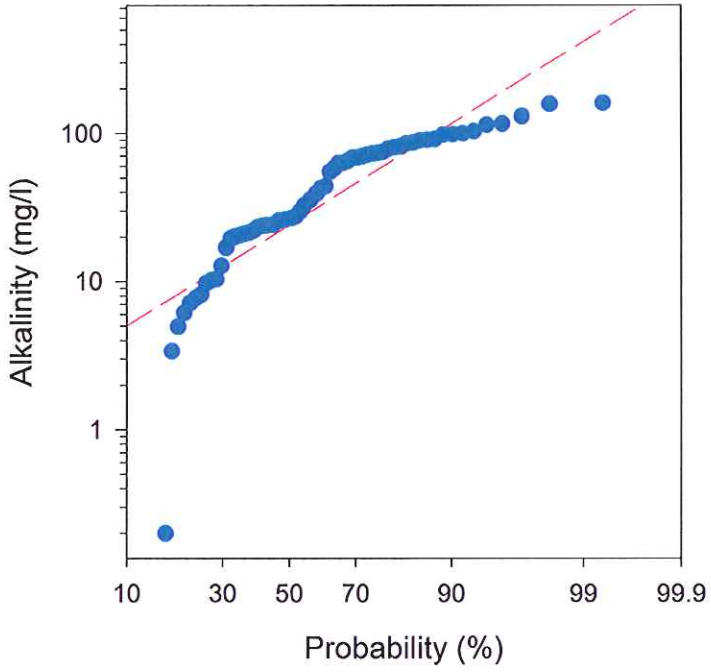


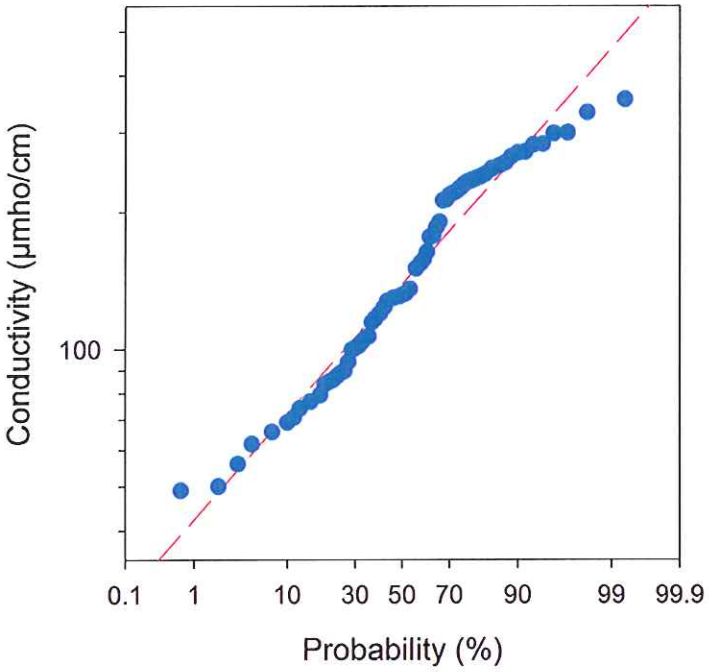


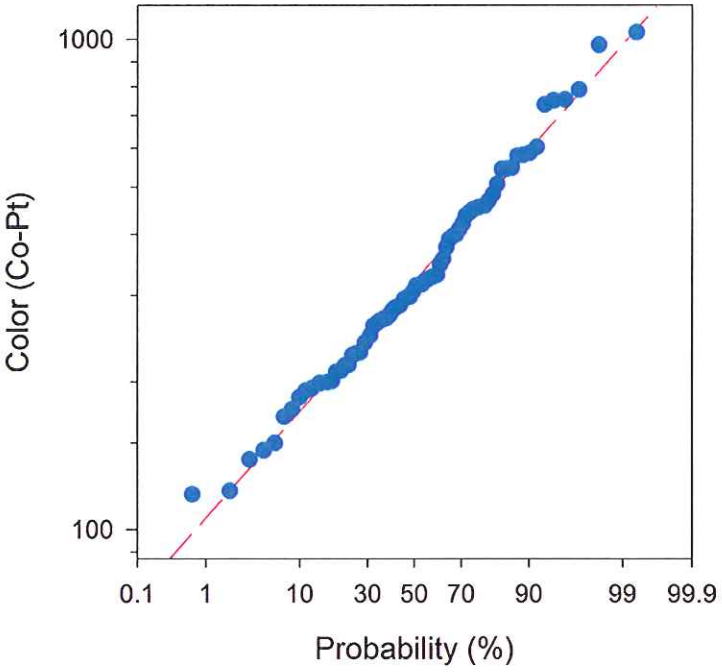


Wet Flatwoods
(Log Normal Probability Plots)

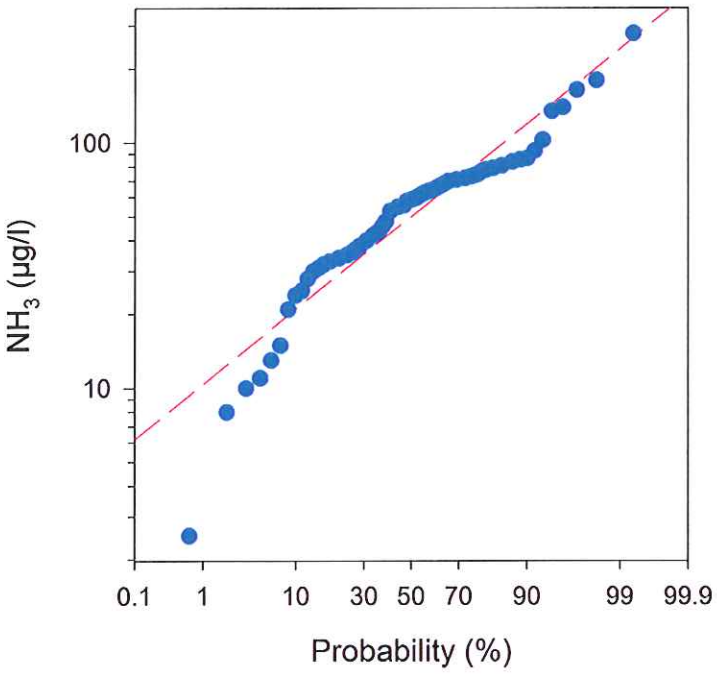


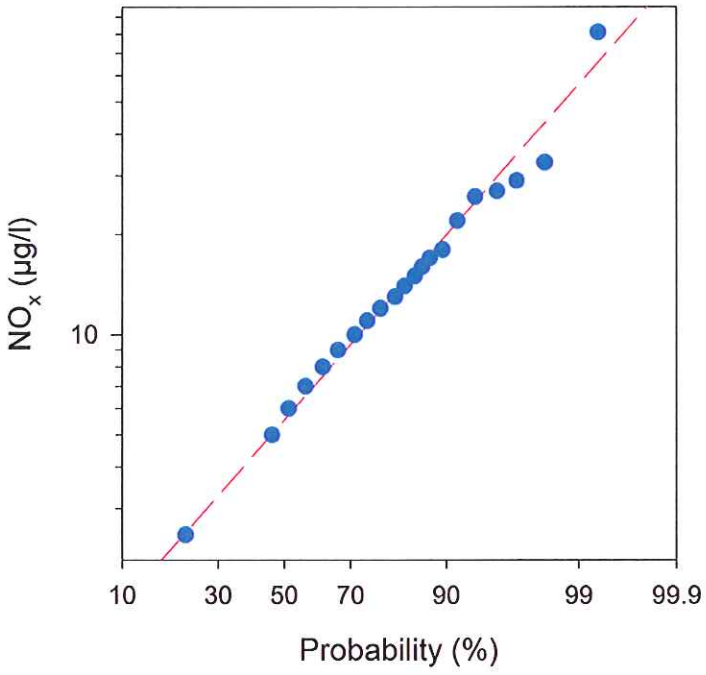


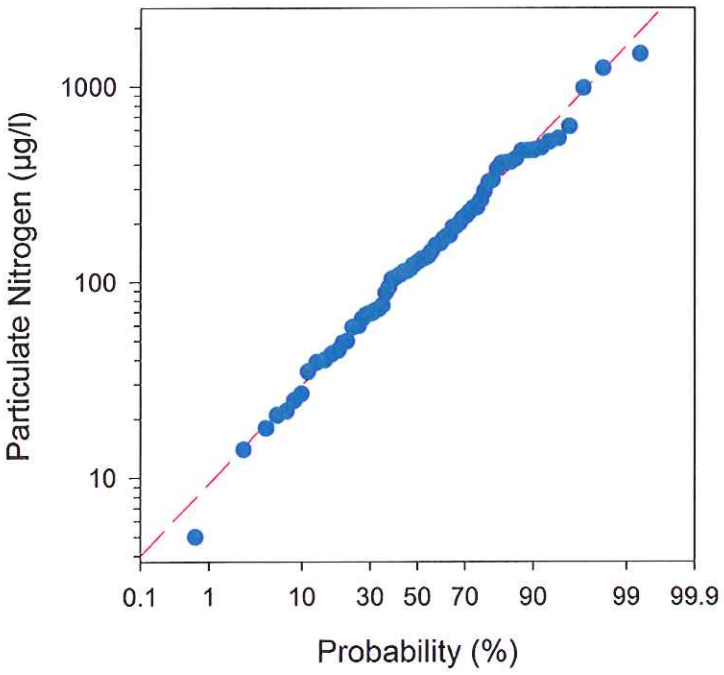


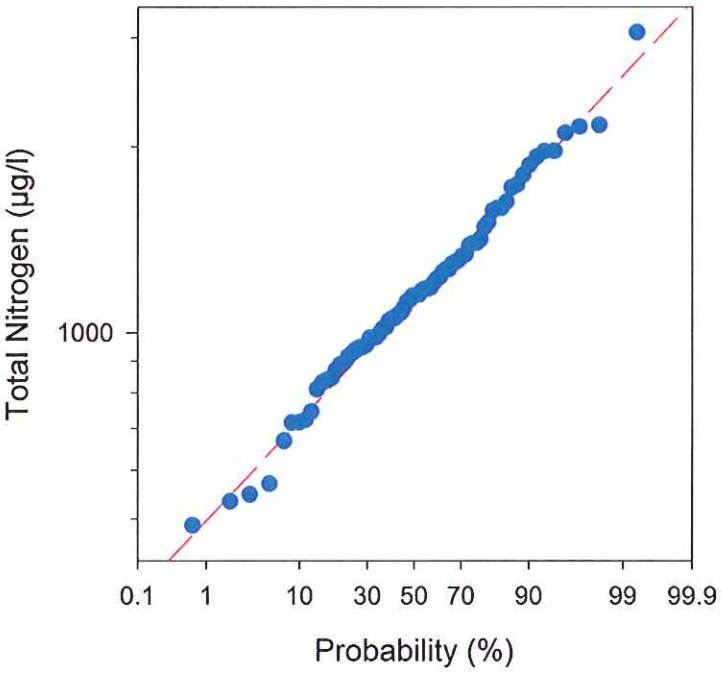


Wet Flatwoods
(Log Normal Probability Plots)

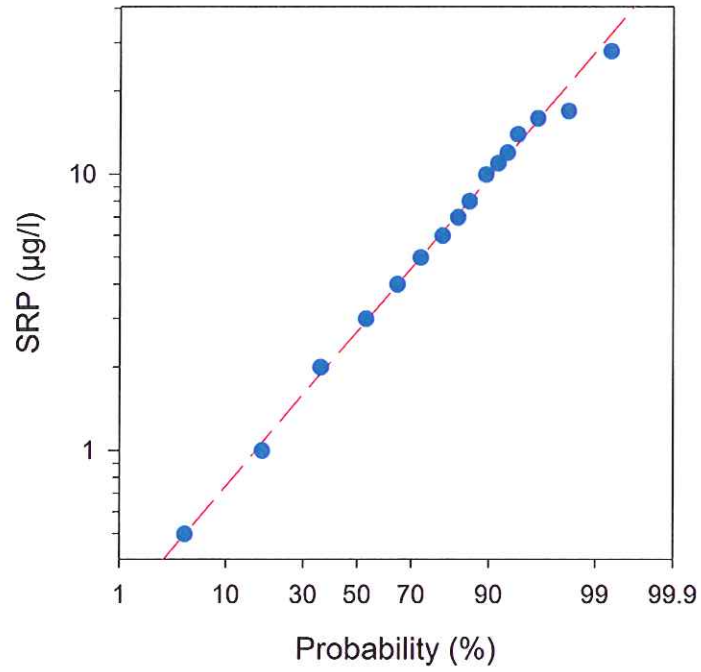


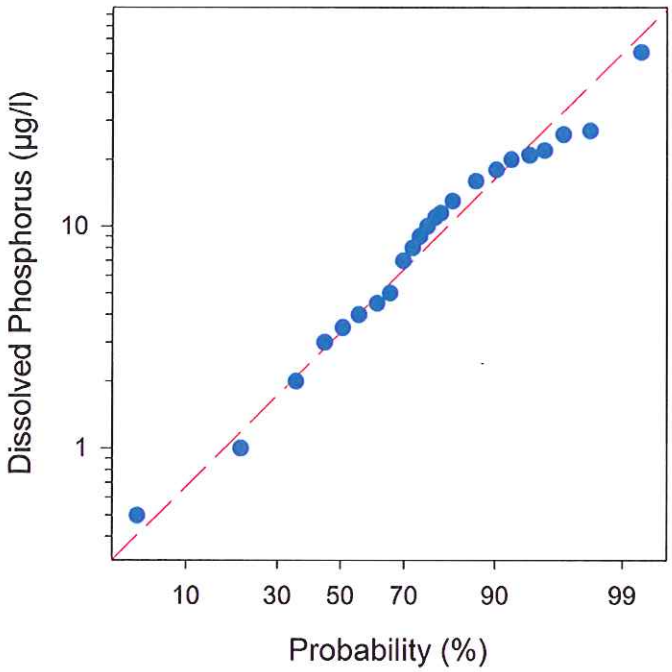


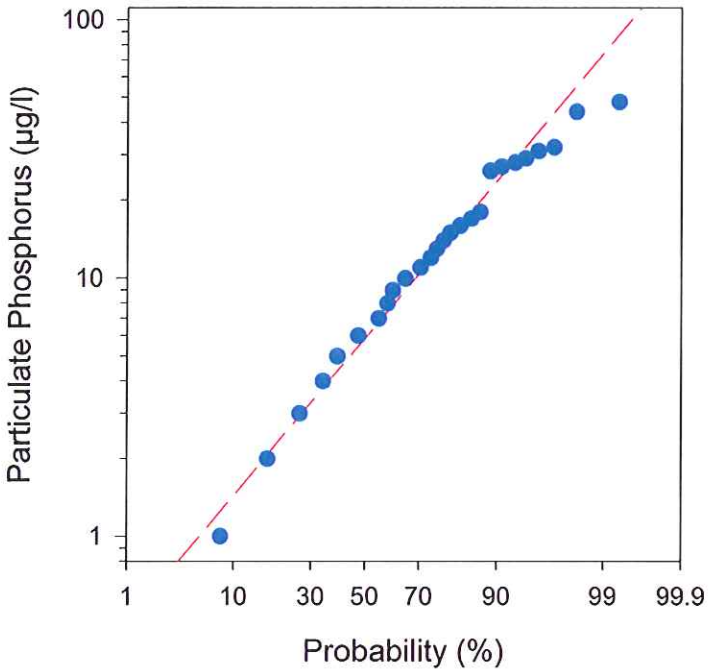


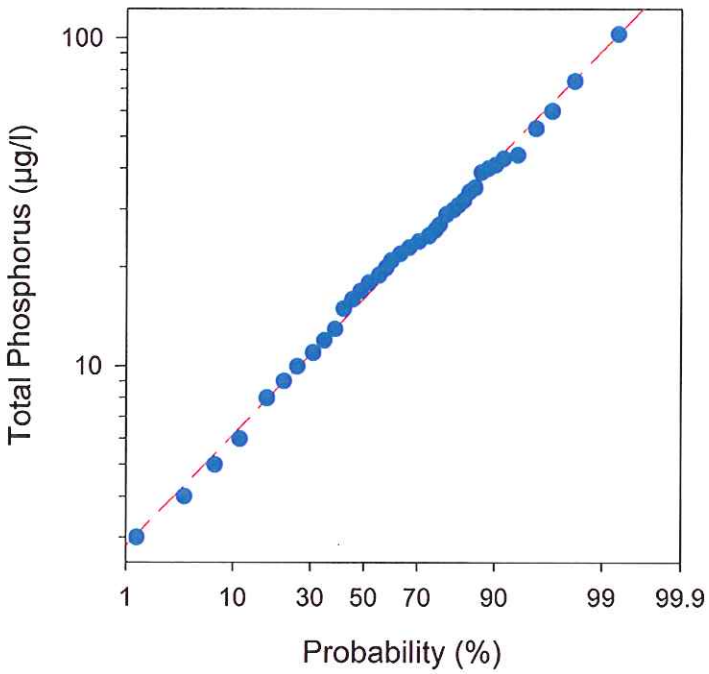


Wet Flatwoods
(Log Normal Probability Plots)

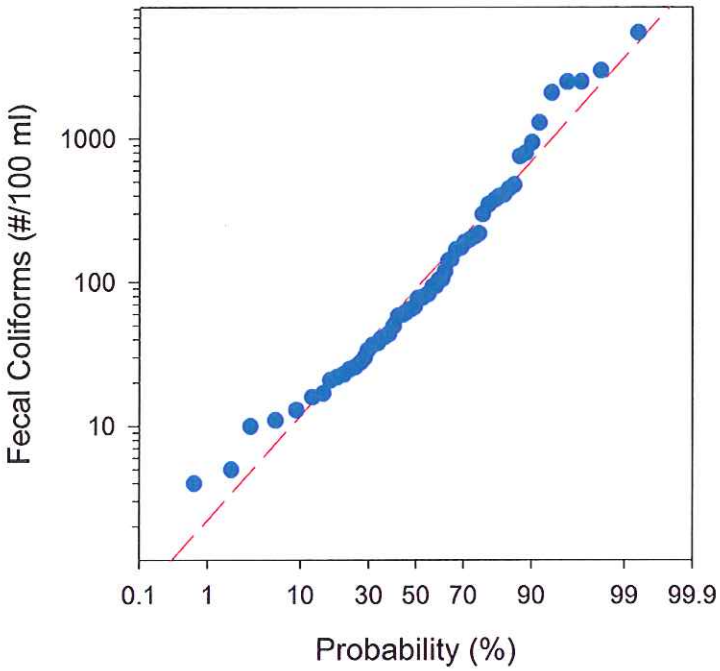


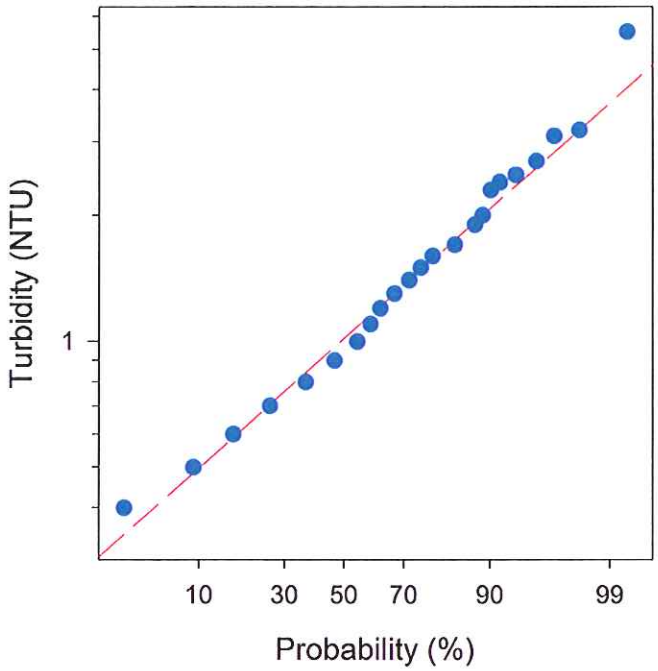


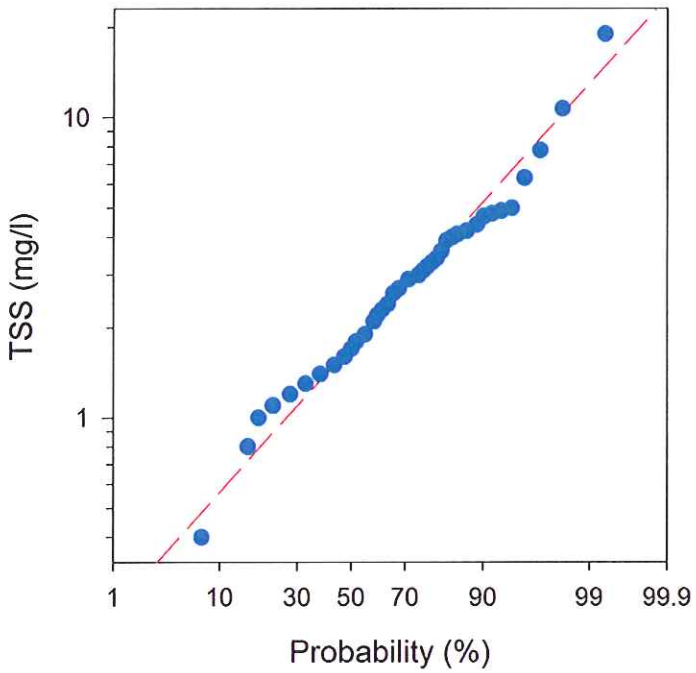


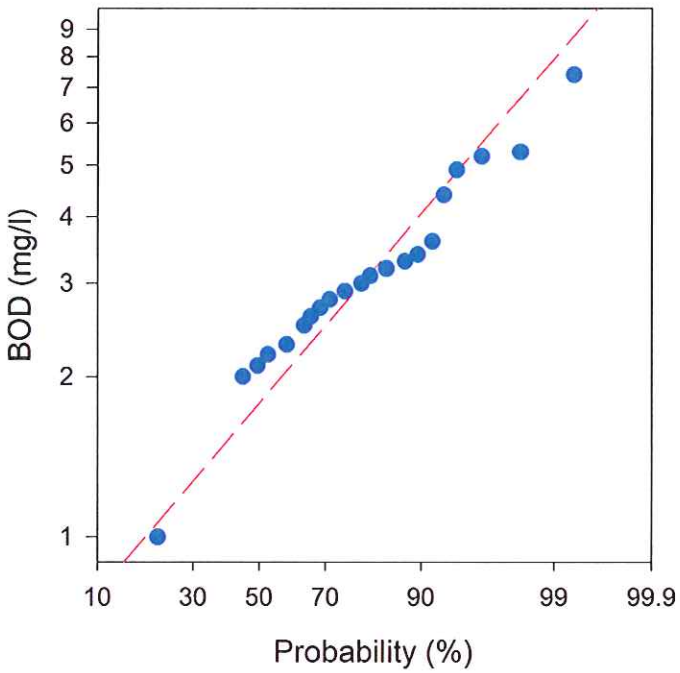


Wet Flatwoods
(Log Normal Probability Plots)

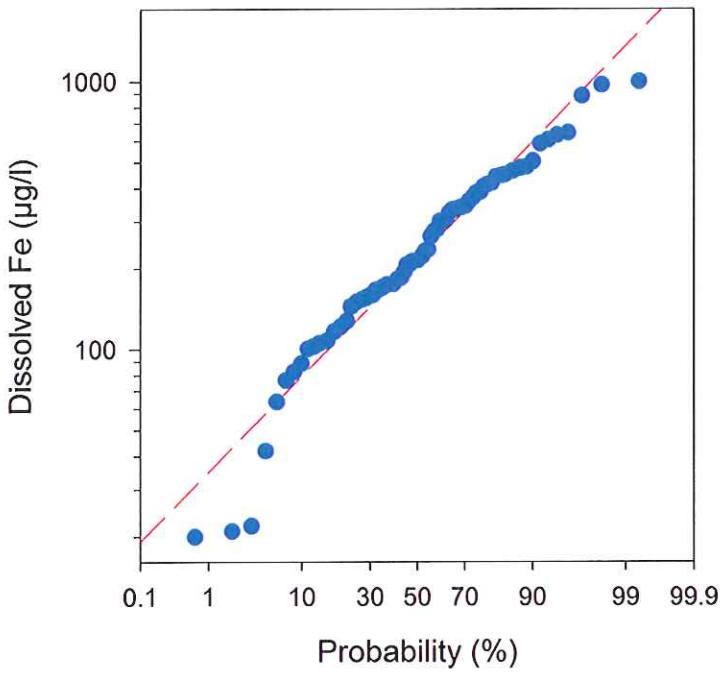


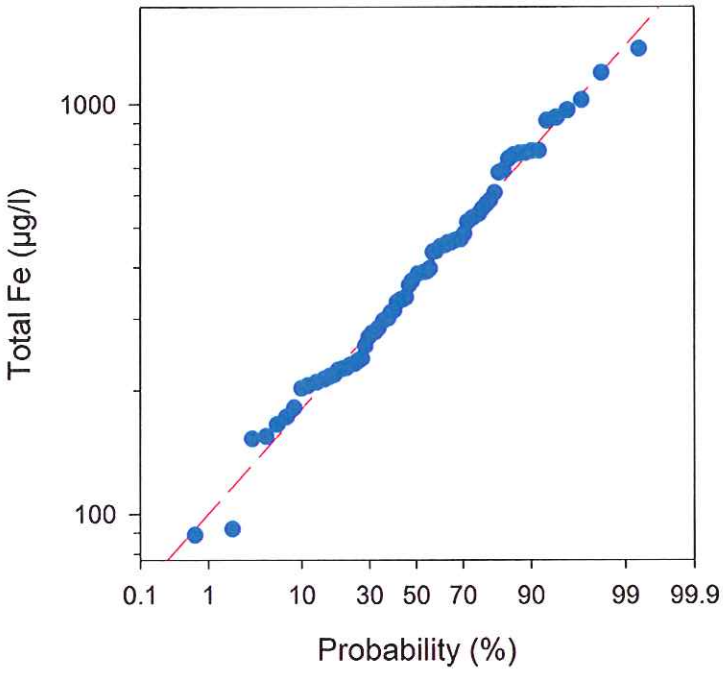


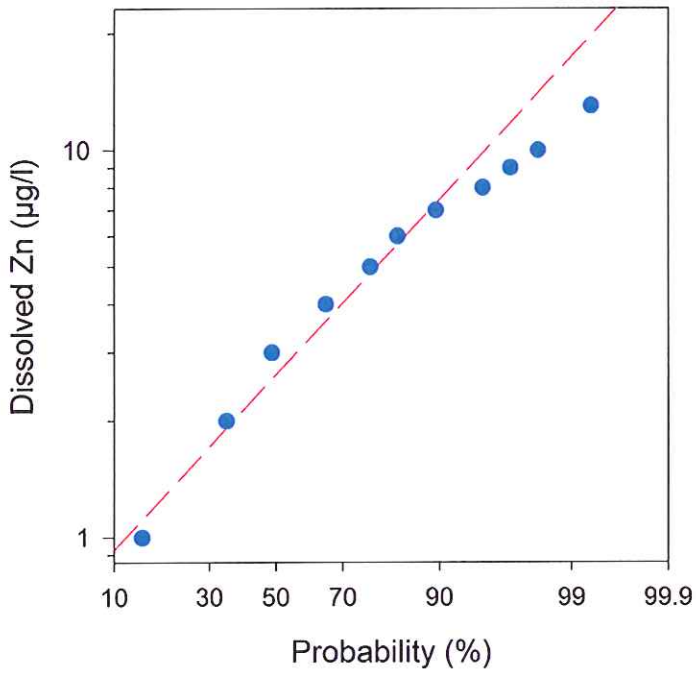


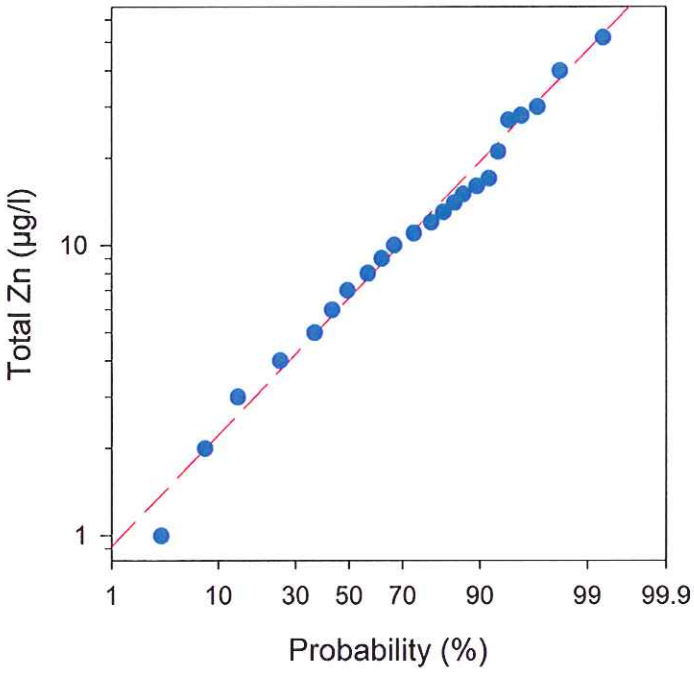


Wet Flatwoods
(Log Normal Probability Plots)



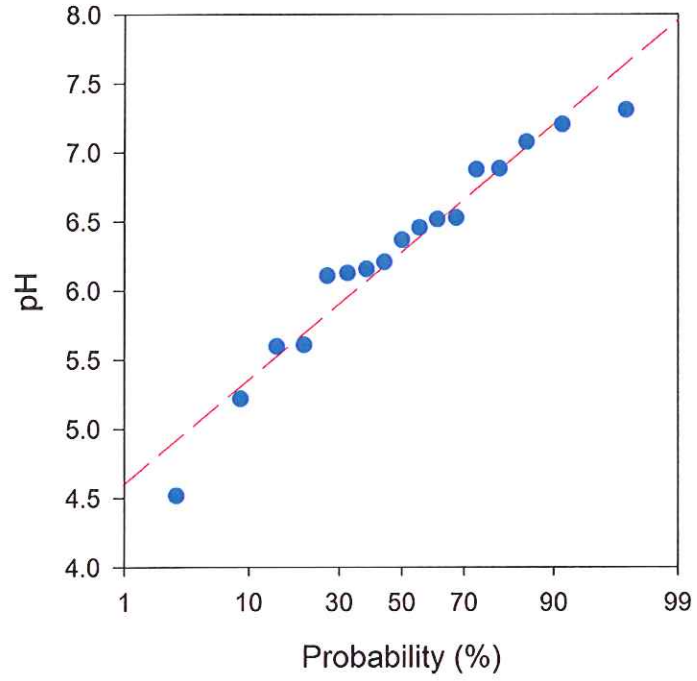


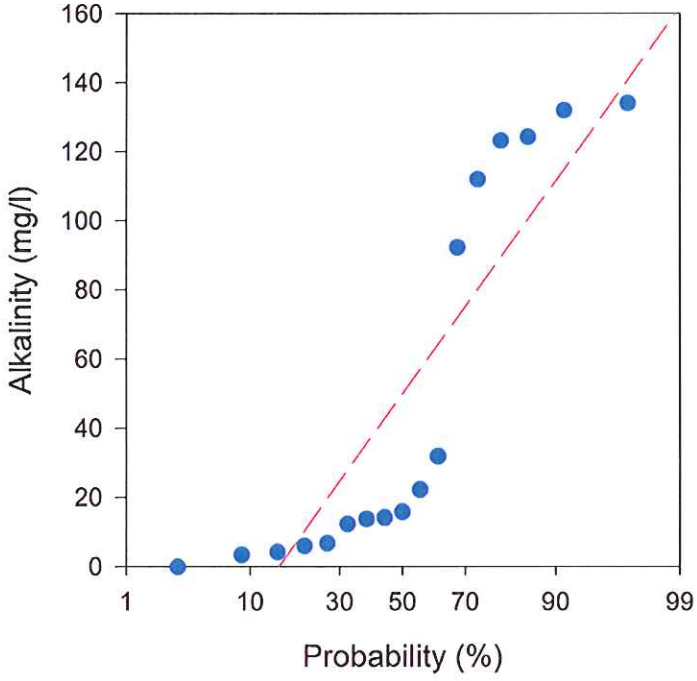


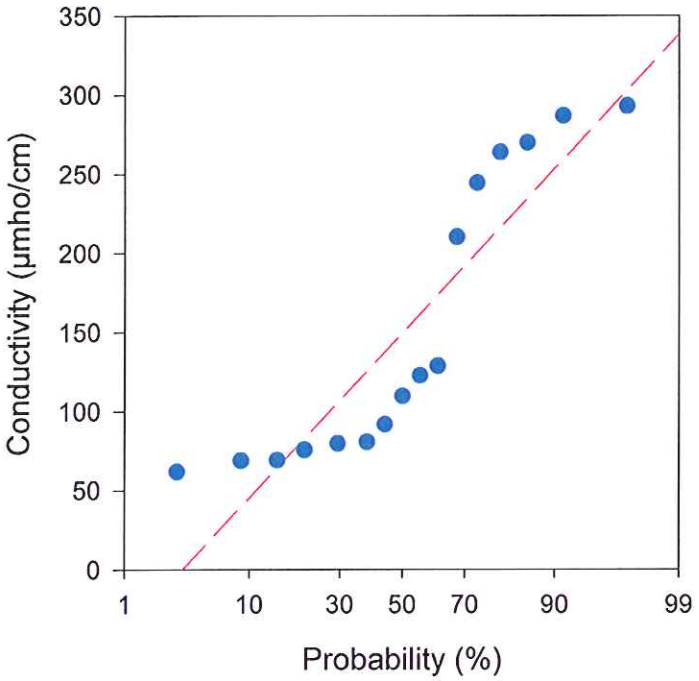


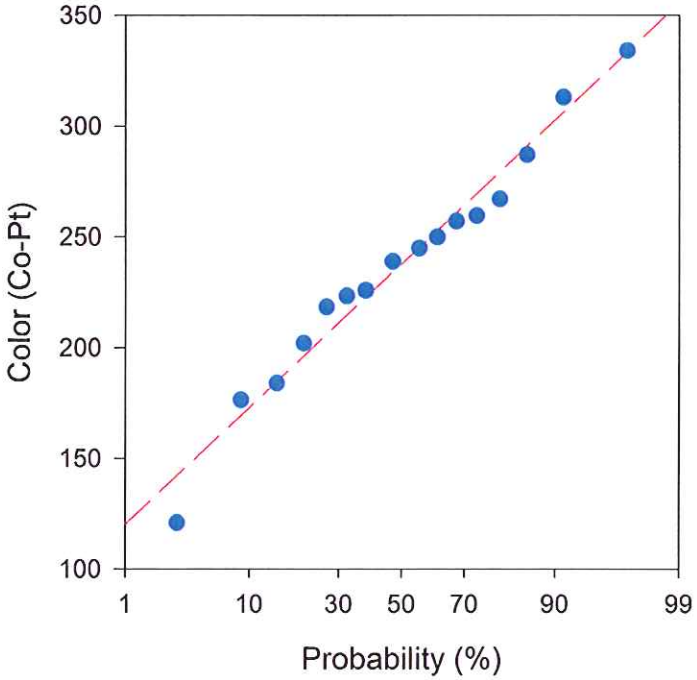
10. Wet Prairie

Wet Prairie
(Normal Probability Plots)

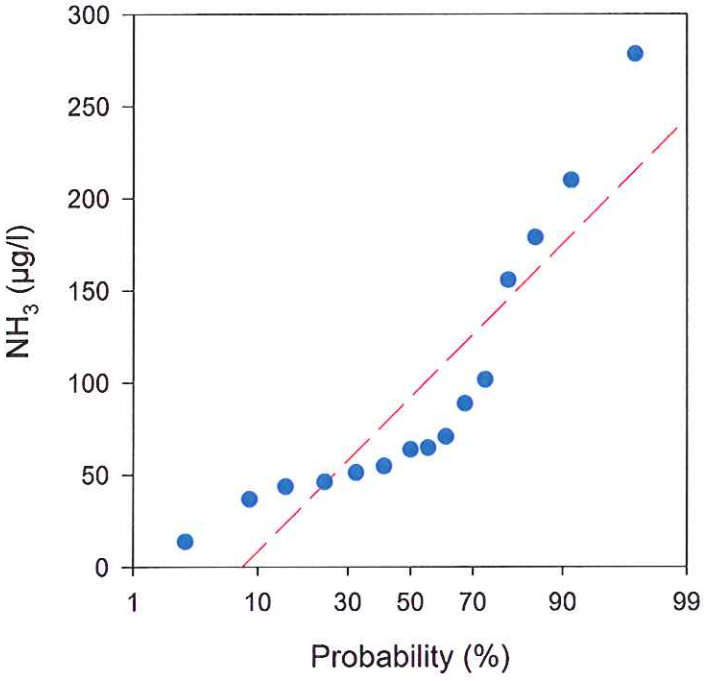


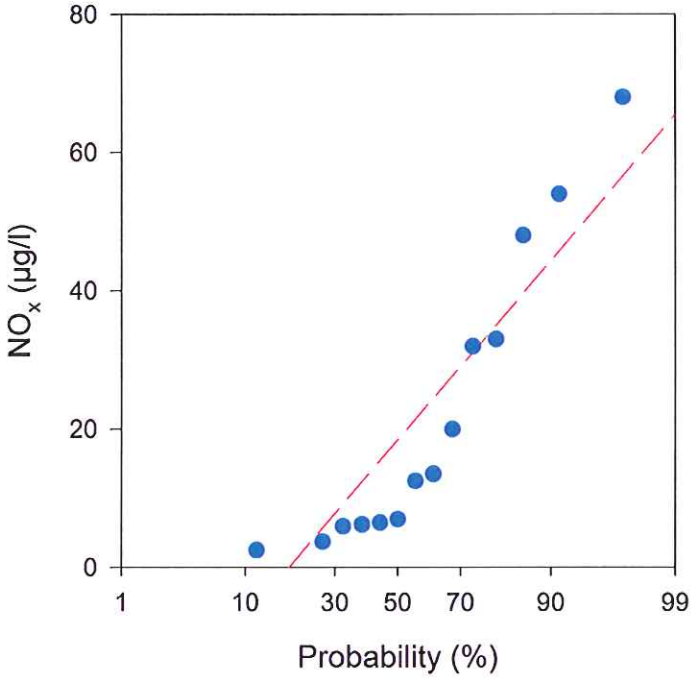


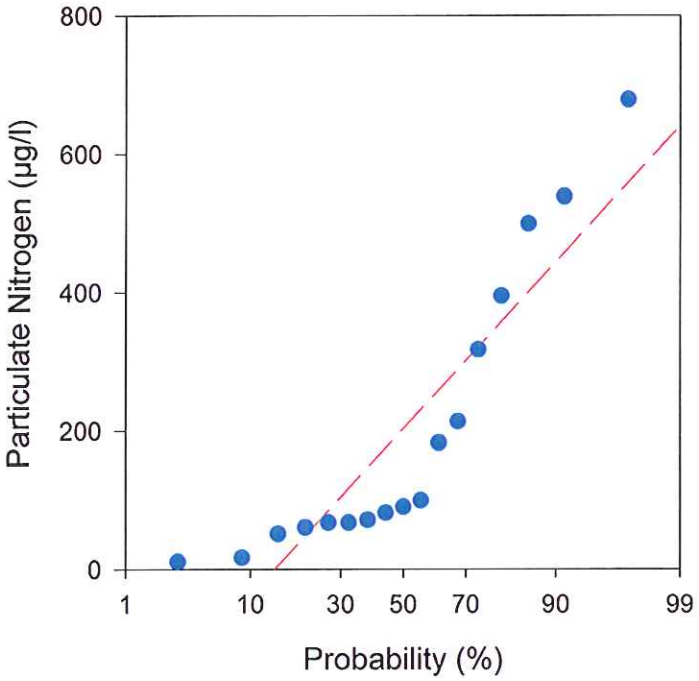


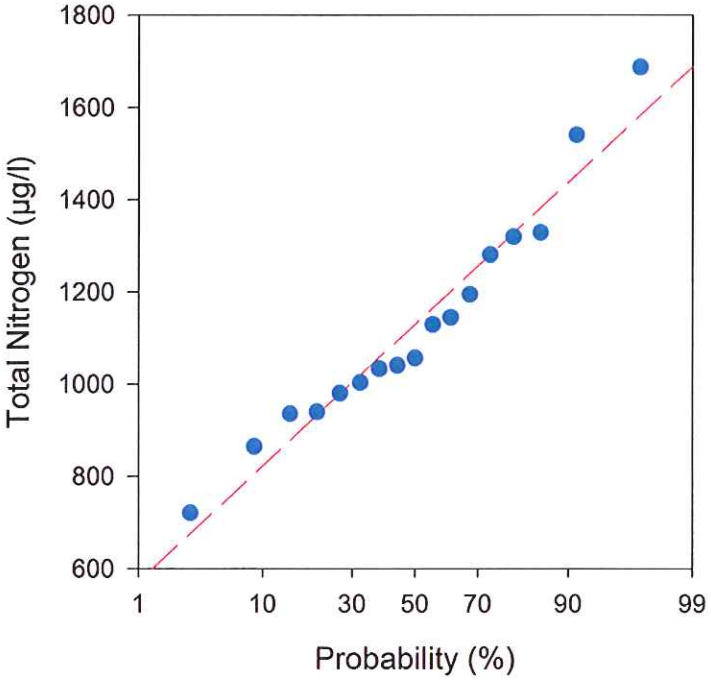


Wet Prairie
(Normal Probability Plots)

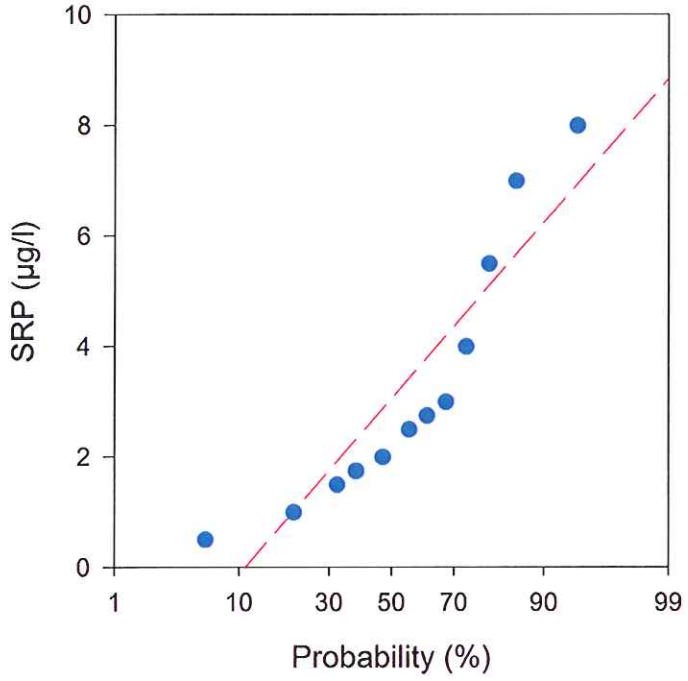


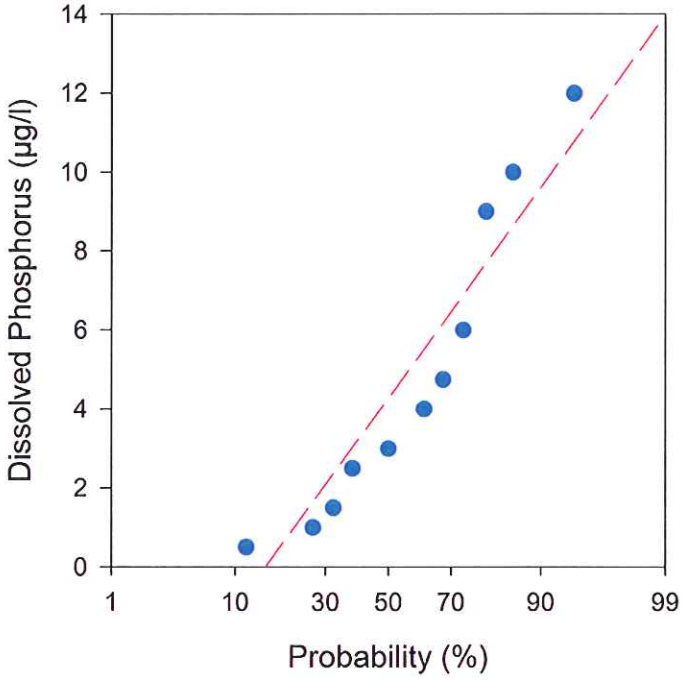


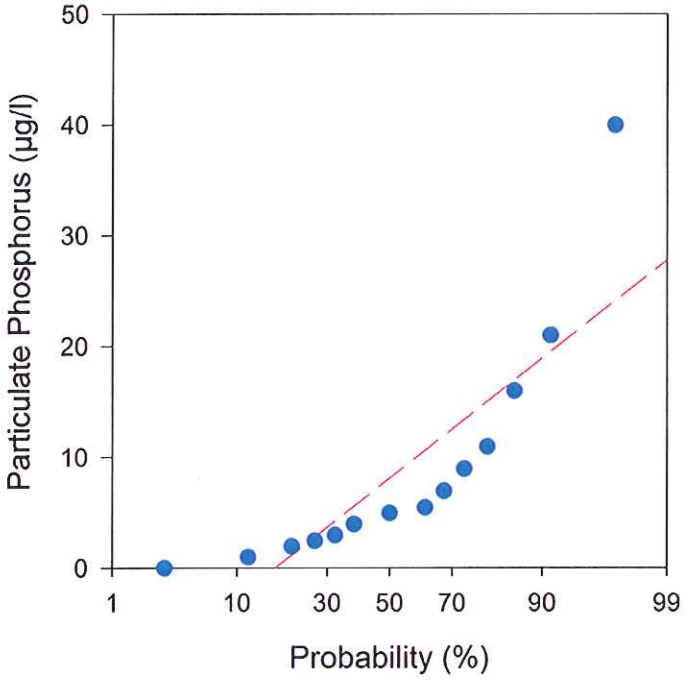


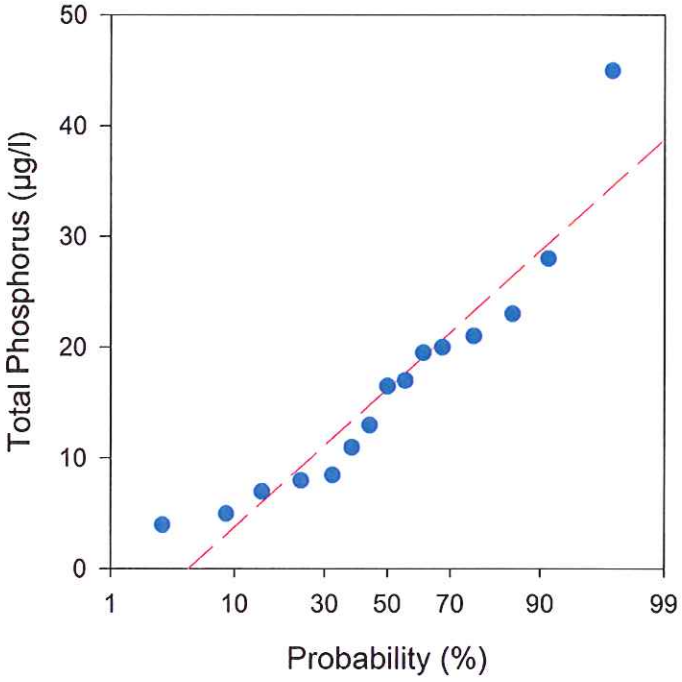


Wet Prairie
(Normal Probability Plots)

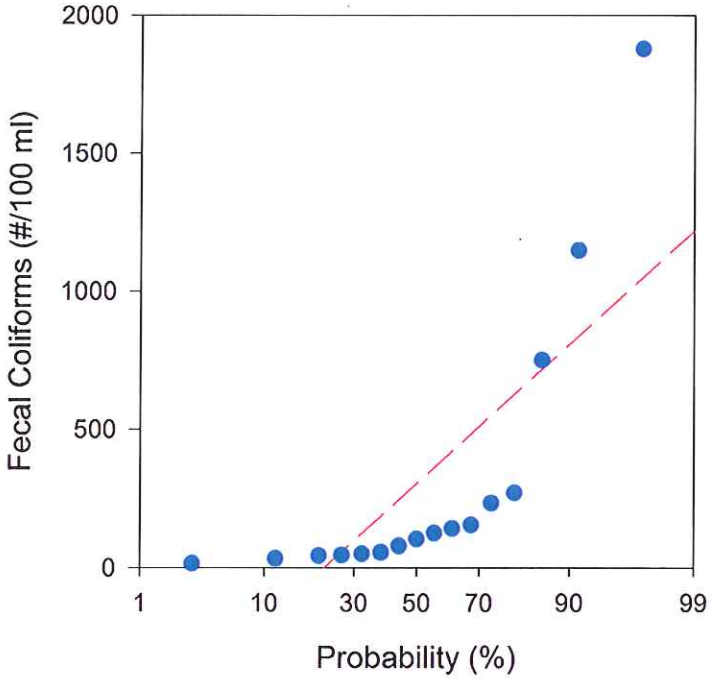


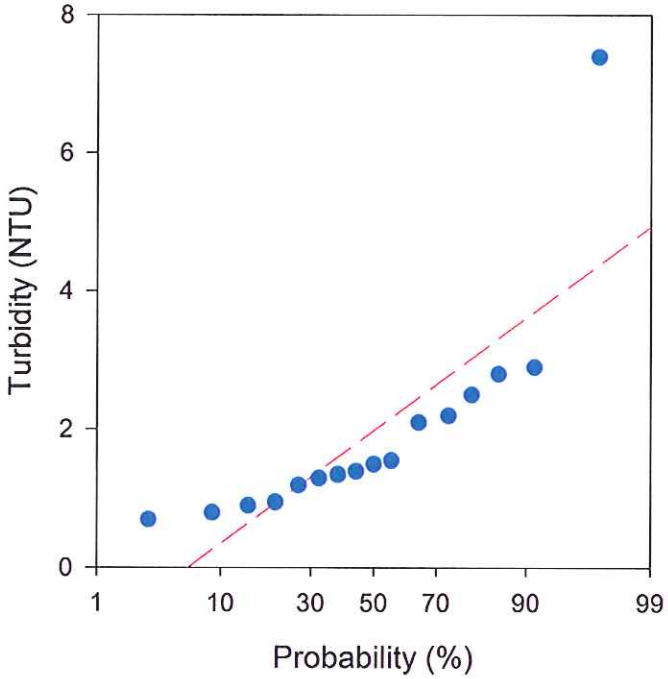


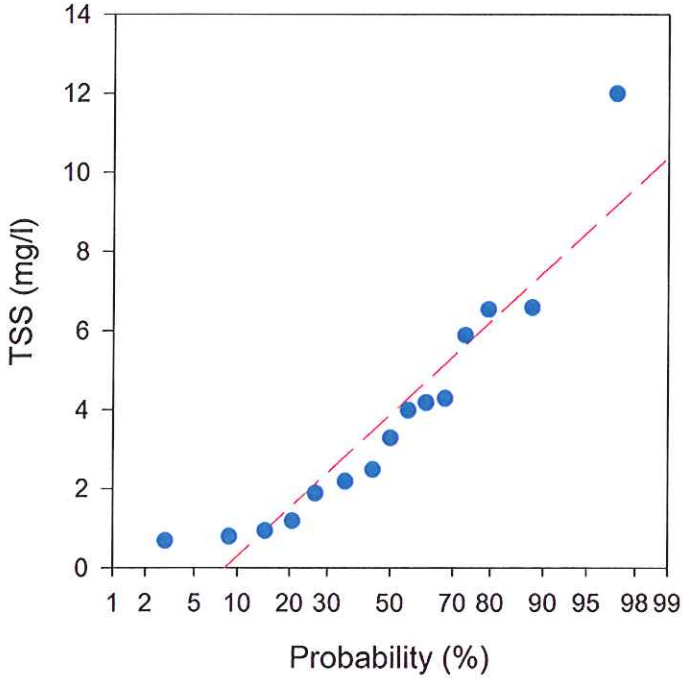


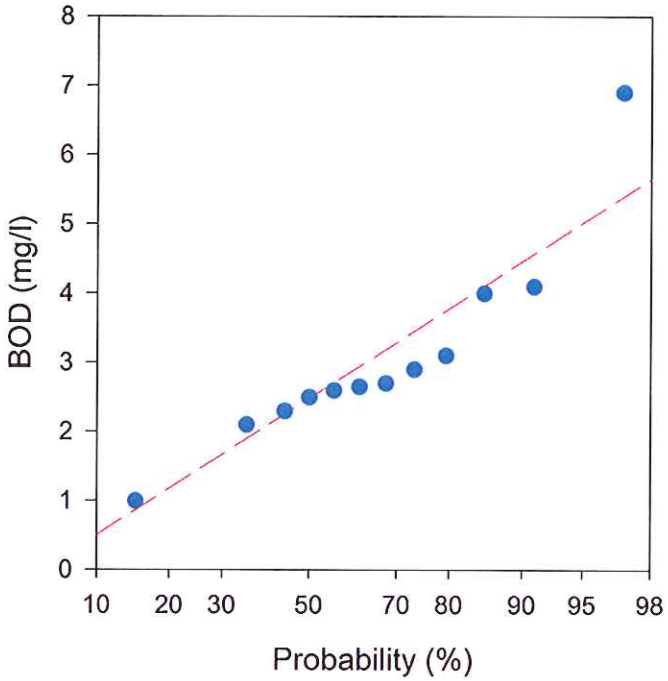


Wet Prairie
(Normal Probability Plots)

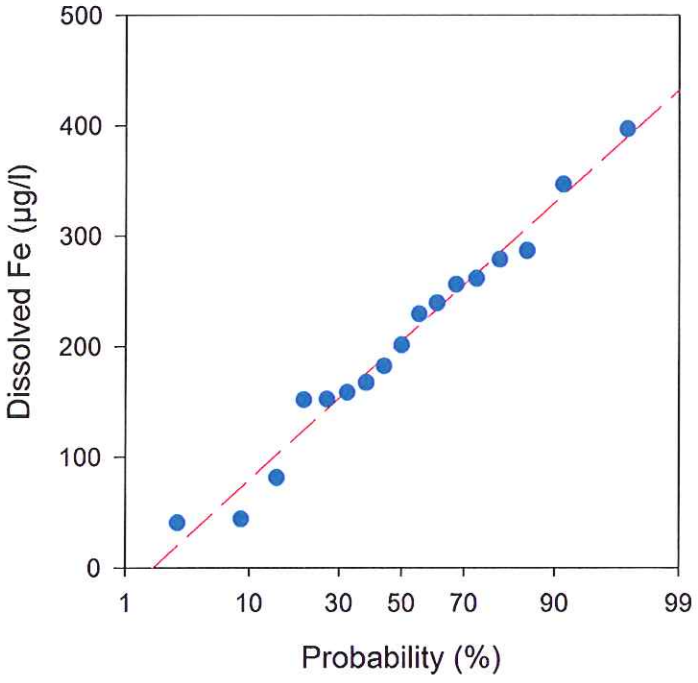


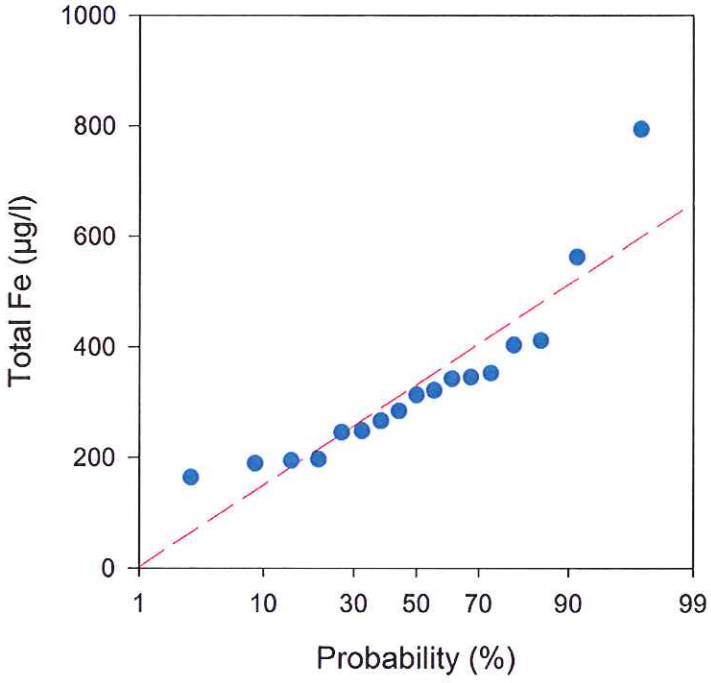


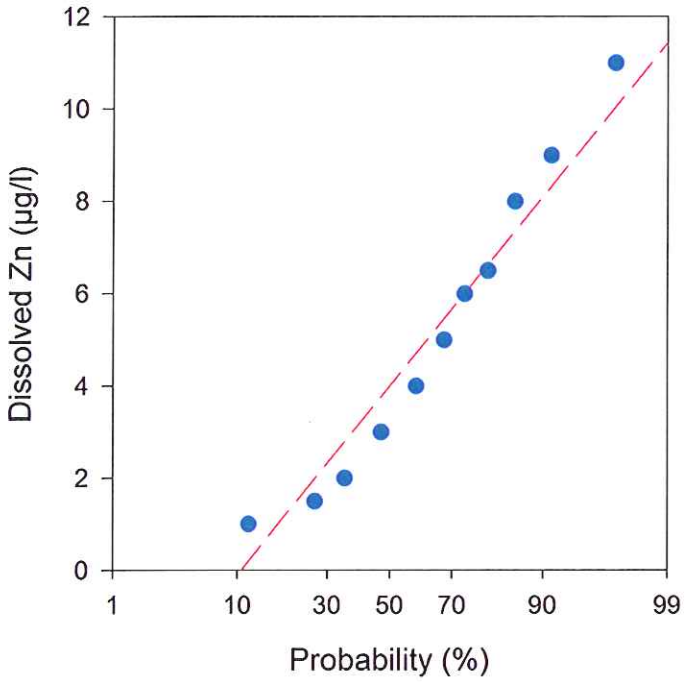


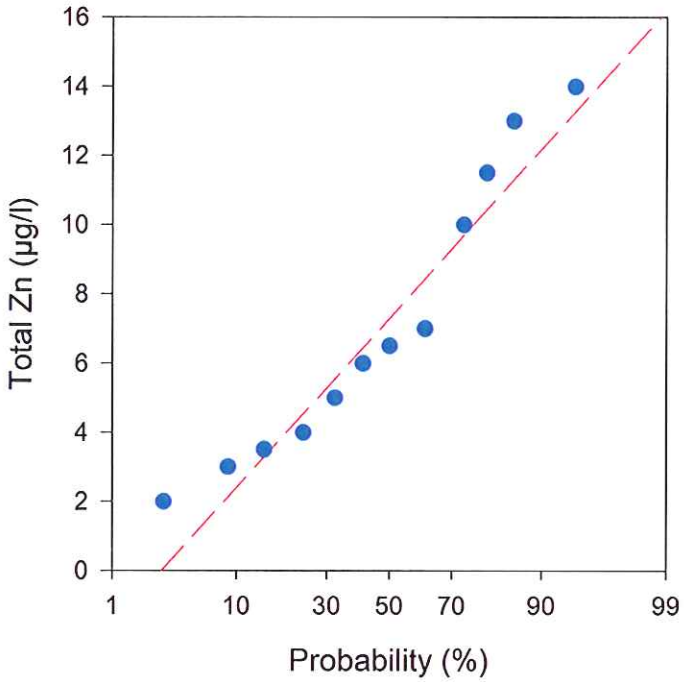


Wet Prairie
(Normal Probability Plots)

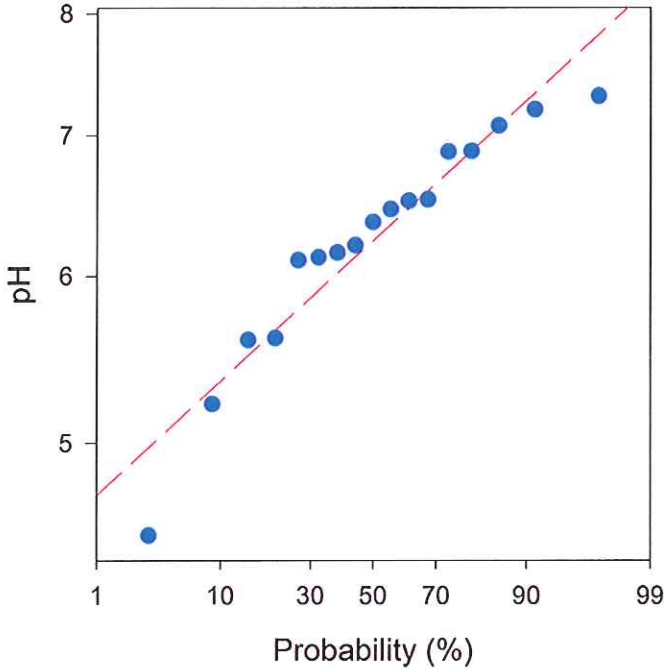


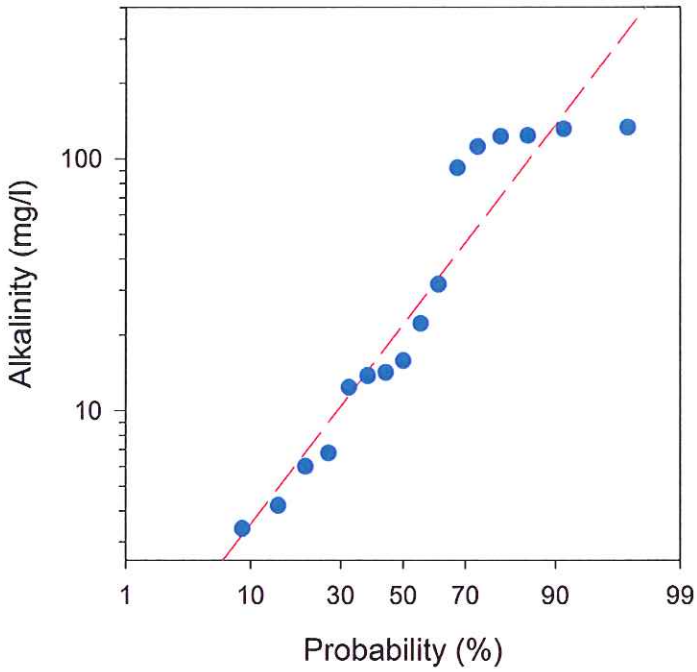


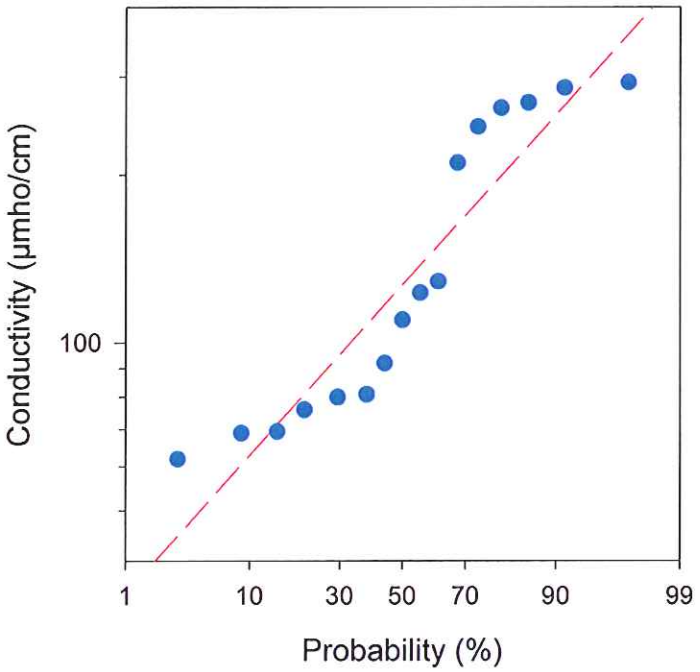


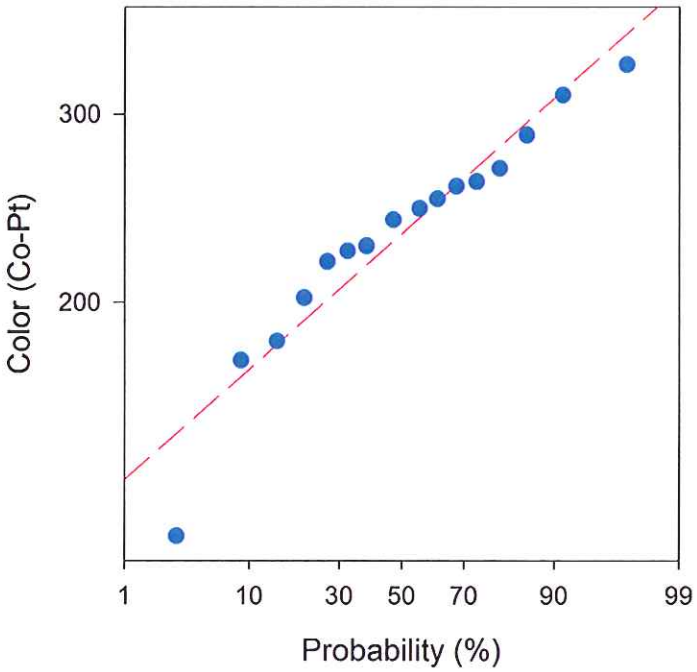


Wet Prairie
(Log Normal Probability Plots)

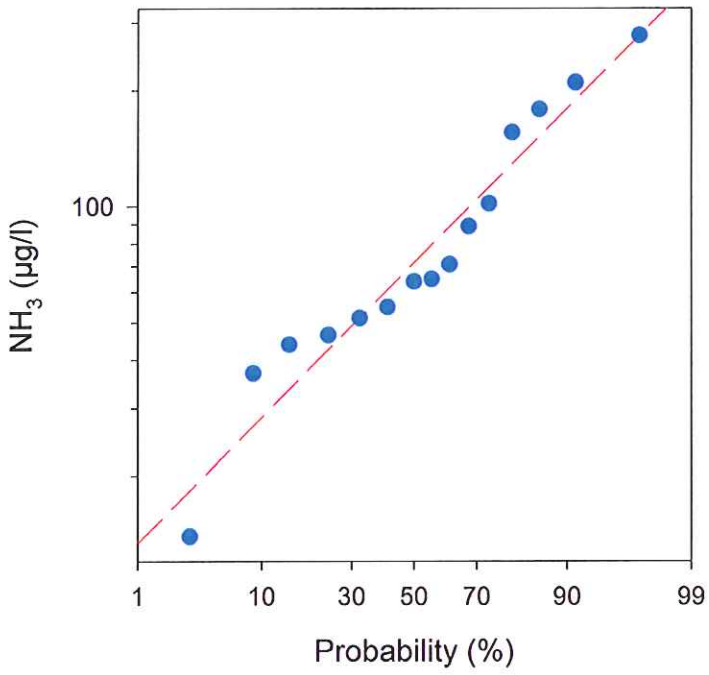


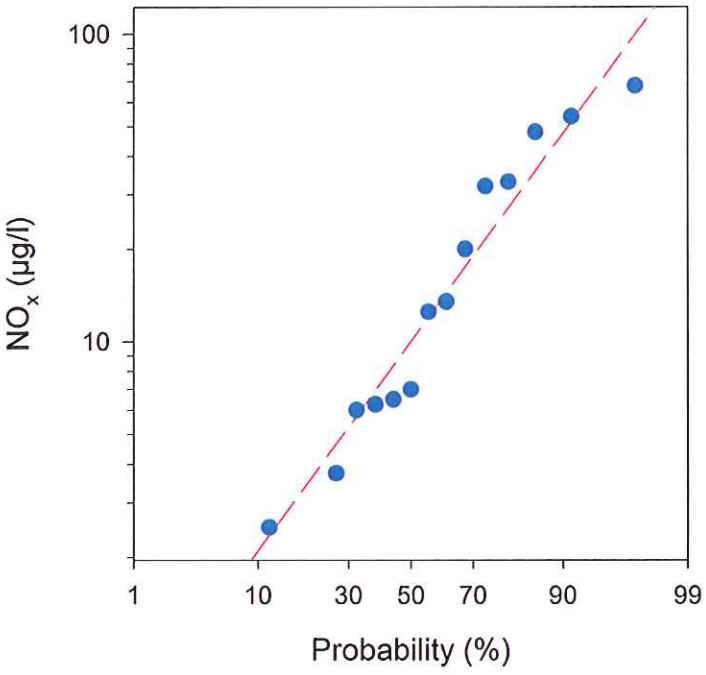


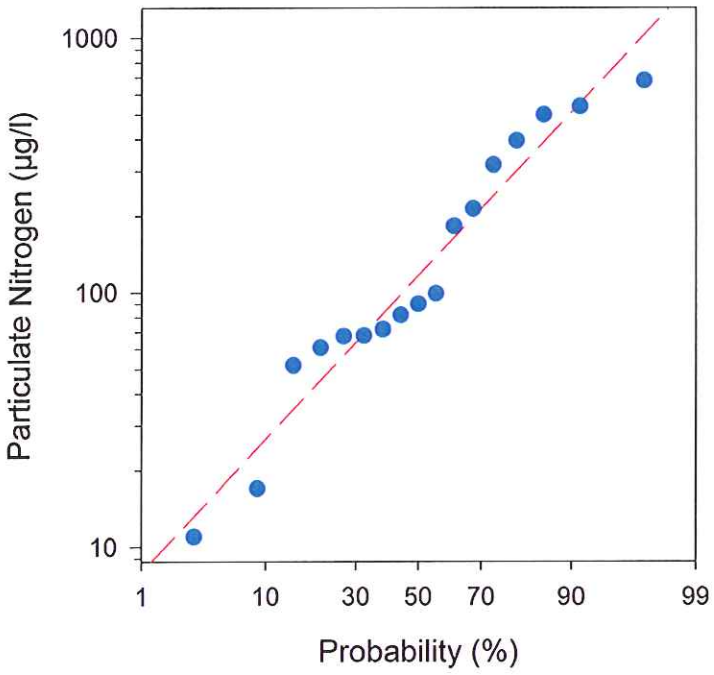


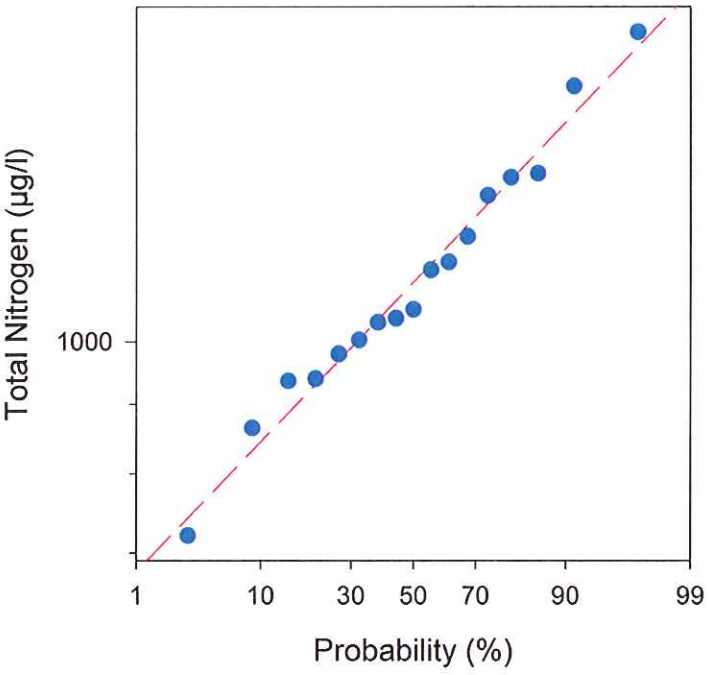


Wet Prairie
(Log Normal Probability Plots)

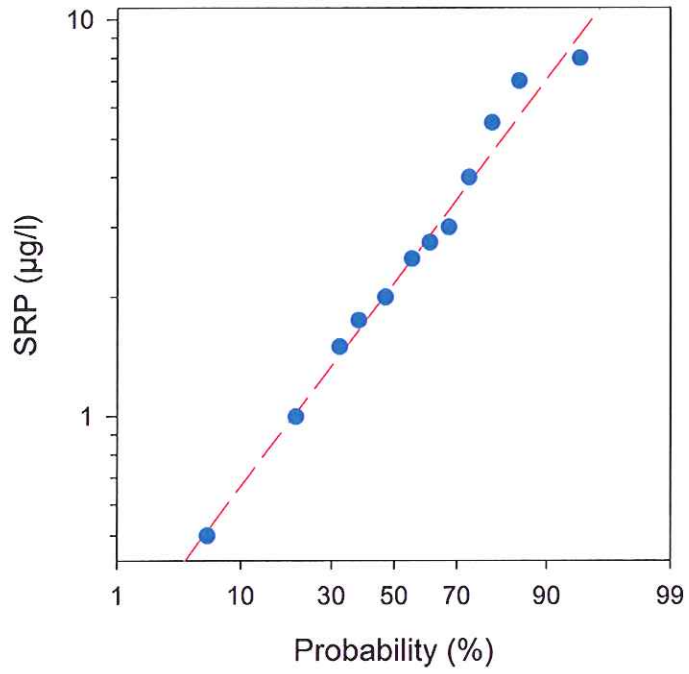


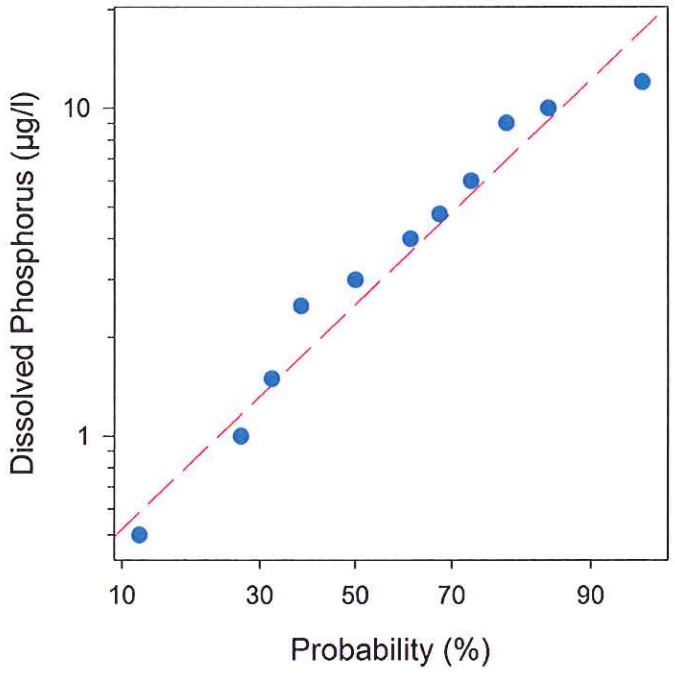


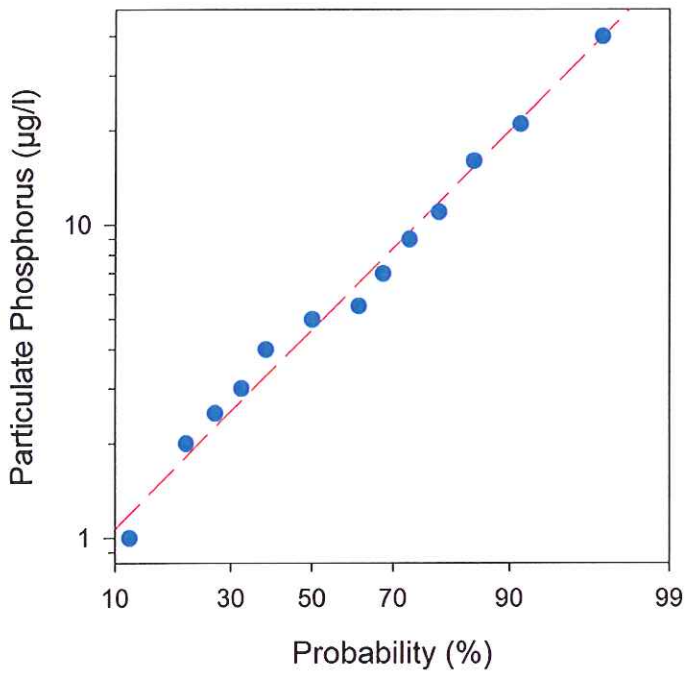


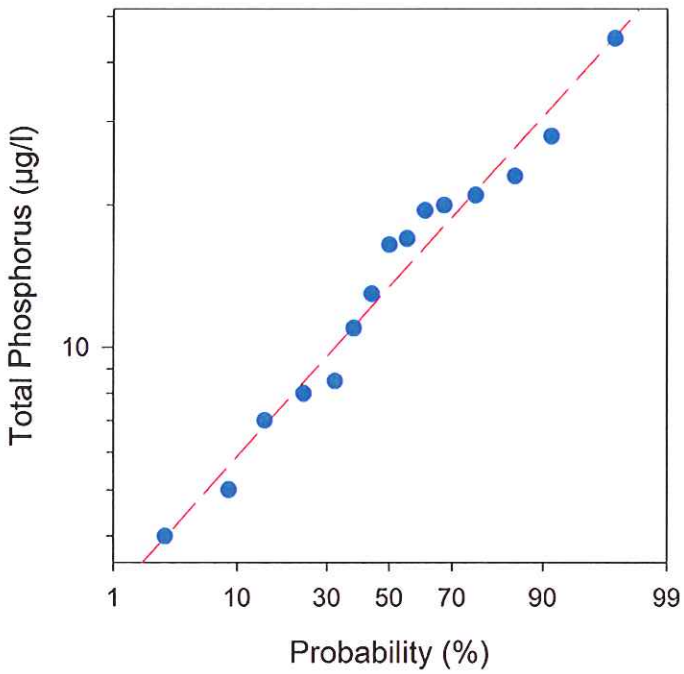


Wet Prairie
(Log Normal Probability Plots)

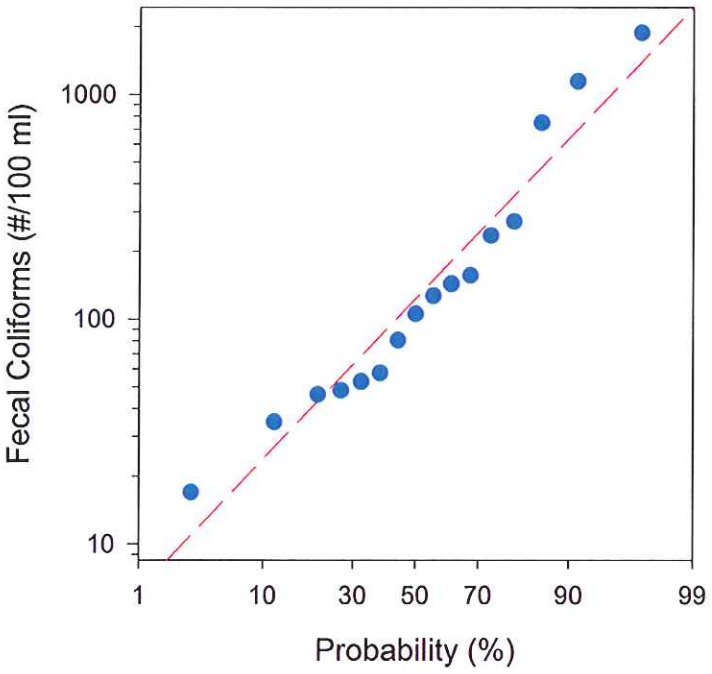


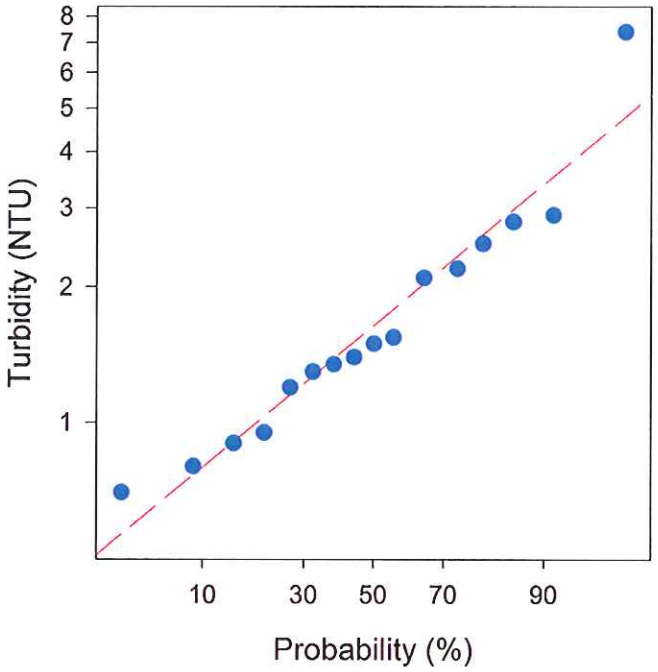


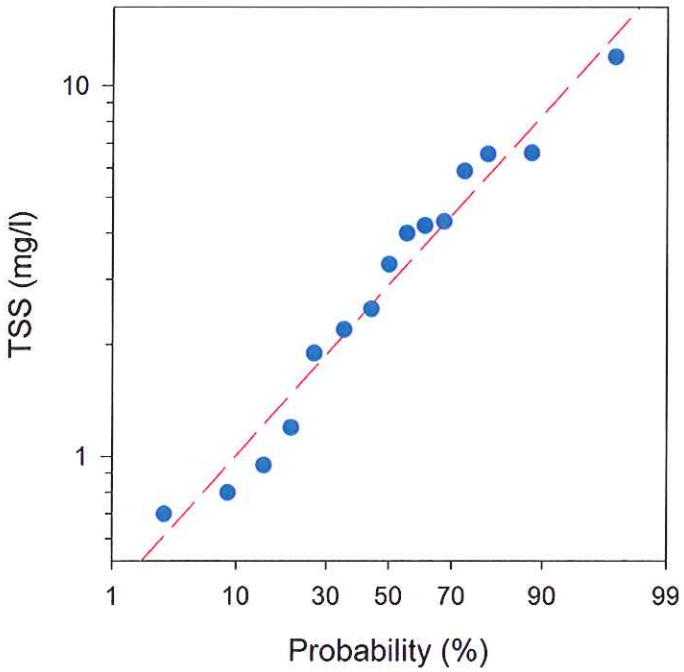


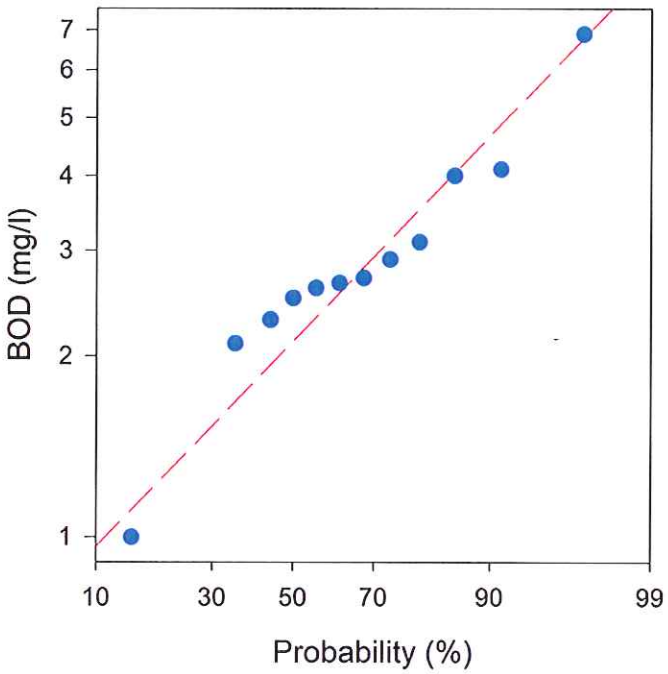


Wet Prairie
(Log Normal Probability Plots)

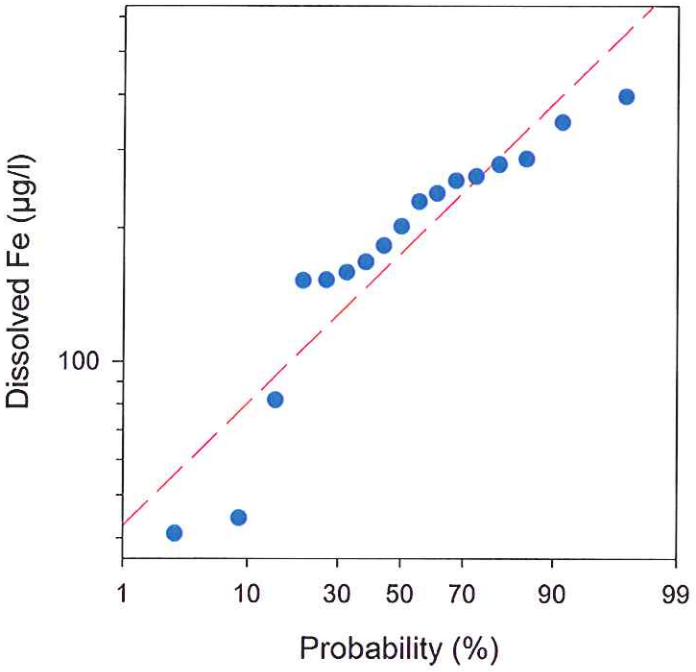


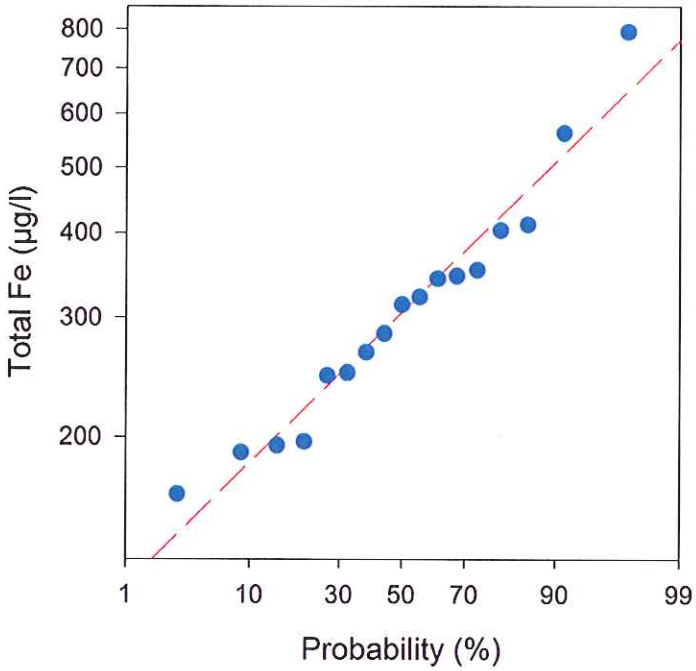


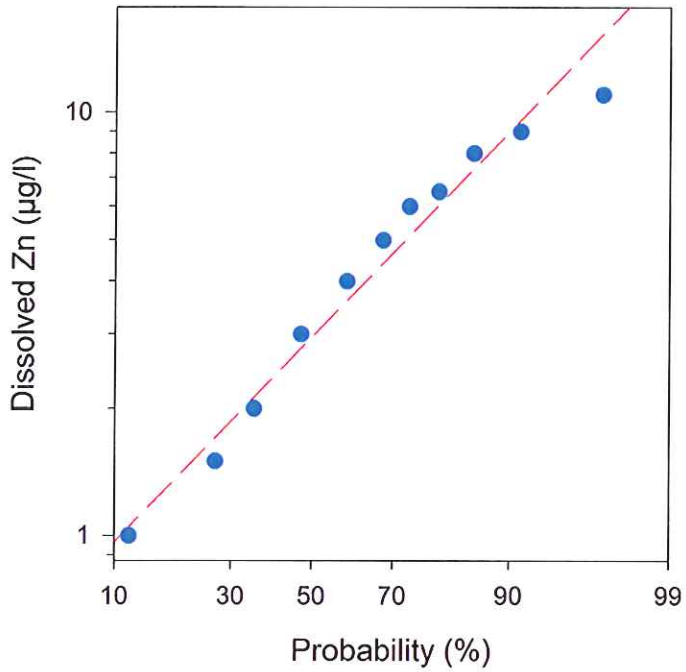


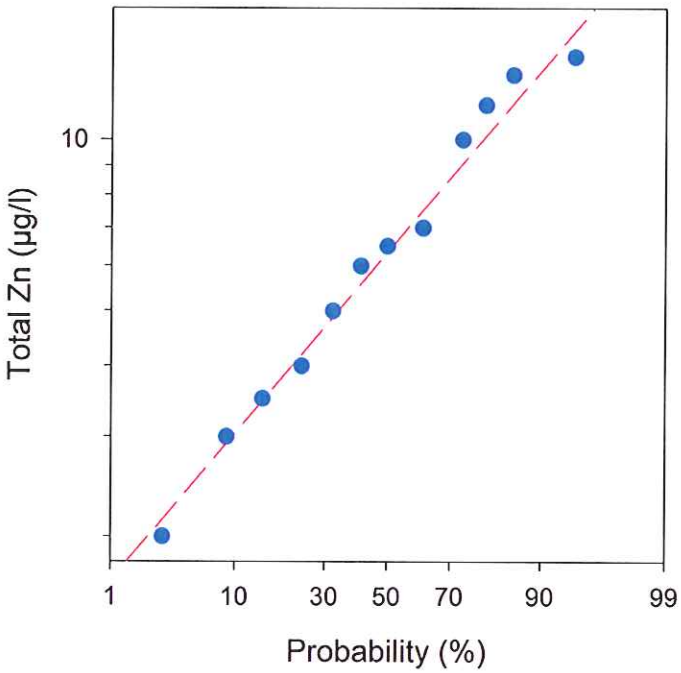


Wet Prairie
(Log Normal Probability Plots)









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