Sandy Creek Wetland Restoration
Randolph County, North Carolina
Annual Monitoring Report

Monitoring Year: 2005

Monitoring Year: 2005
Measurement Year 5
As-Built Date: 1999
NCEEP Project Number: 321

February 2006

SANDY CREEK WETLAND RESTORATION 2005 MONITORING REPORT

CONDUCTED FOR THE NORTH CAROLINA DEPARTMENT
OF
ENVIRONMENT AND NATURAL RESOURCES

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I Executive Summary/Project Abstract

The Sandy Creek Mitigation Site consists of about 10 acres of bottomland hardwood forest restoration along Sandy Creek in Randolph County, North Carolina. The site was constructed by the North Carolina Department of Transportation in 2000. The following report provides the results of Year 5, 2005 Monitoring.

A dense growth of vegetation covers the site and no problem areas were observed. With active recruitment the vegetation criteria for the site is met. Groundwater data indicates that wetland hydrology criteria (12.5% of growing season) was exceeded in 5 of the 6 groundwater gauges. The remaining one exceeds 8% of the growing season. Because of the presence of wetland vegetation this gauge also meets the success criteria.

However, during the last visit of the year to download gauge data, it was noted that beaver have built a dam on Sandy Creek and are starting to forage on young trees within the restoration site.

II Project Background

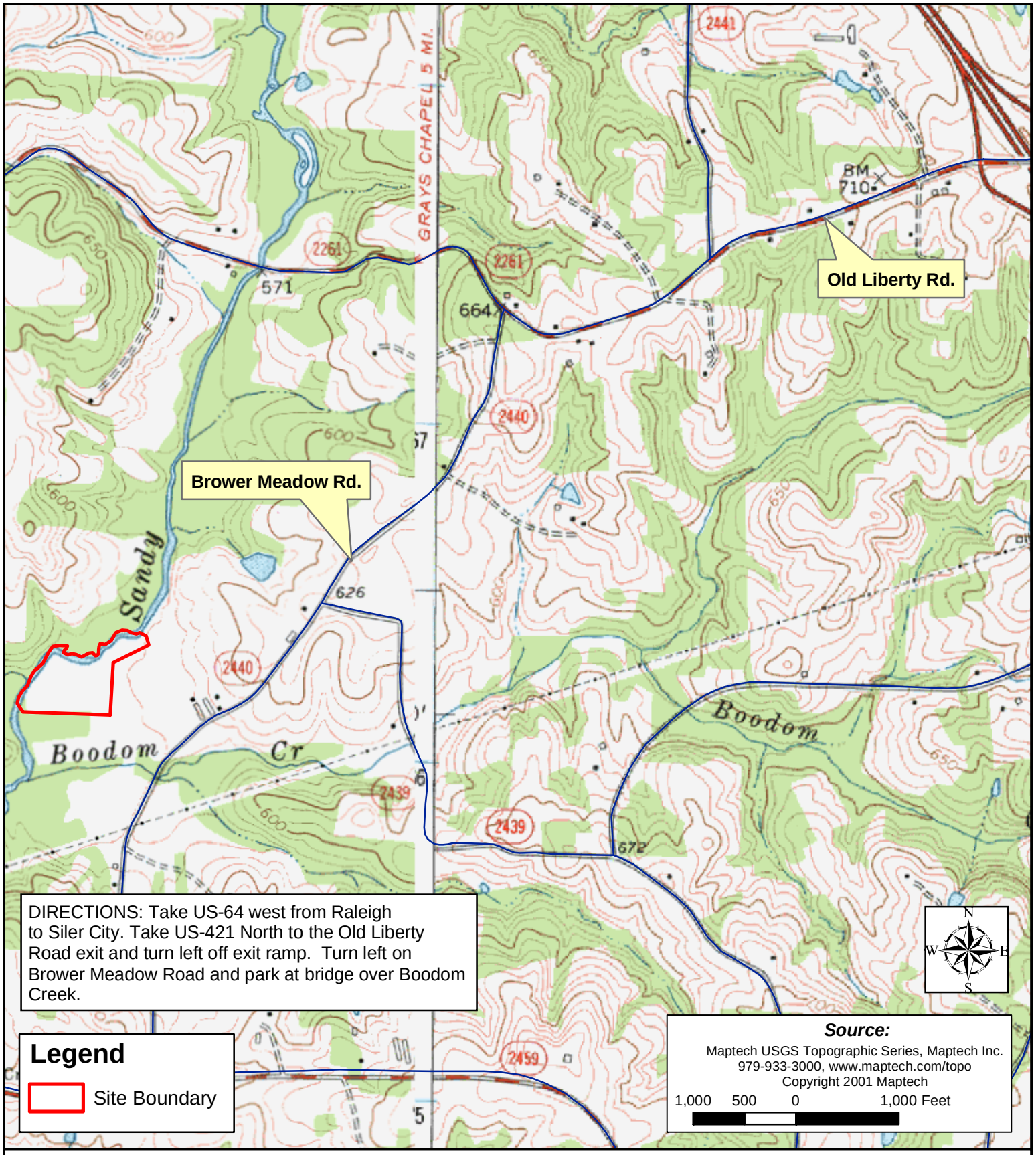
1. Location and Setting

The Sandy Creek Mitigation Site is located in northeast Randolph County approximately 4 miles west of the town of Liberty (**Figure 1**). The Sandy Creek site is accessed by taking US 421 north from the junction of US 64 and US 421 in Siler City approximately 12.5 miles to Old Liberty Rd. Proceed west on Old Liberty Rd. approximately 1.0 mile to Brower Meadow Road on the left. Follow this dirt road south of Old Liberty Rd until it crosses Boodom Creek. The site is accessed by a fenced path that joins the road to the west and follows a fence line until reaching the site boundary.

2. Mitigation Structure and Objectives

The Sandy Creek Property consists of an approximately 12.9 acre parcel consisting of pastureland, stream, and a forested riparian area within the floodplain of Sandy Creek. The field, which is 10 acres in size was used for hay production and was part of a larger 33.5 acre farm. The field had been ditched and bedded to provide better drainage. According to the landowner the field was frequently flooded by Sandy Creek, and was often difficult to work due to wetness. DRAINMOD modeling of the site indicated that wetland hydrology was no longer present.

It was proposed that wetland hydrology could be restored to the field by removal of the raised beds and by filling of the lateral and perimeter ditches. Once the beds were removed, ditches filled, and ground surface graded to form shallow, water holding depressions, the DRAINMOD model indicated that wetland hydrologic conditions could be met on the site. Once the site was contoured, it was planted with selected bottomland hardwood tree species.



Ecosystem Enhancement PROGRAM

FIGURE 01
VICINITY MAP

Sandy's Creek Wetland Mitigation Site
Randolph County, North Carolina

Map Produced: January 2006

Q:\86566\GIS\Sandy_Creek_vicinity.mxd 12_05

Table I. Project Mitigation Structure and Objectives Sandy Creek Wetland Mitigation Site/Project No: 321					
Project Segment	Mitigation Type	Approach	Linear Footage or Acreage	Stationing	Comment
Bottomland Hardwood Wetlands	Restoration	--	10 ac	N/A	

In order to demonstrate successful mitigation, hydrologic and vegetative monitoring was to conducted for a minimum of five years or until success criteria was fulfilled. Success criteria was based on federal guidelines for wetland mitigation which stipulate criteria for both hydrologic conditions and vegetative survival. In accordance with federal regulations for wetland mitigation, the success criteria for hydrology states that the area must be inundated or saturated (within 12" of the surface) by surface or ground water for at least 12.5% of the growing season.

Therefore, the hydrologic goal for this project was for the soil to be ponded, flooded, or saturated within 12 inches of the surface for at least 12.5 percent of the growing season under average climatic conditions. Areas inundated less than 5% of the growing season are always classified as non-wetlands. Areas inundated between 5% - 12.5% of the growing season can be classified as wetlands depending upon factors such as the presence of hydrophytic vegetation and hydric soils.

The growing season for Asheboro in Randolph County begins on March 24 and ends on November 13. The dates correspond to a probability that temperatures will drop to 28˚F or lower after March 24 and before November 13. The growing season is 234 days; therefore the optimum duration for wetland hydrology is 29.25 days. Local climate must represent the average conditions for the area.

Success criteria for vegetation state that there must be a minimum of 240 trees per acre living for at least five consecutive years and at least six different representative tree species are present on the entire site.

3. Project History and Background

The following project background information was extracted from the Wetland Mitigation Plan written by Earth Tech and dated April 1999. The Sandy Creek Mitigation Site consists of an approximately 12.9 acre tract within the floodplain of Sandy Creek. Ten acres of the site lie in the floodplain of Sandy Creek and were previously used for hay production. Soils in the farm field had been heavily disturbed in the past by bedding and ditching prior to the 1950s. This site was formerly part of a larger 33.5 acre farm. The remaining 2.9 acres of the site consist of an alluvial forest that extends along portions of the creek.

The Sandy Creek Mitigation Site was identified by Earth Tech as part of a mitigation site search for the Greensboro Bypass Southern Loop (I-2402). Initial field surveys and the initiation of continuous preliminary groundwater data collection occurred in August 1998. Construction of the wetland mitigation site was completed in June 2000 and trees were planted in March 2001. A supplemental planting of the site was done in March 2002. It is assumed for this report that the same initial species were planted. The first annual hydrologic and vegetative monitoring took

place in 2001 and was continued annually through the monitoring year 2005 presented in this report.

Table II. Project Activity and Reporting History Sandy Creek Wetland Mitigation Site/Project No: 321			
Activity or Report	**Scheduled Completion**	**Data Collection Complete**	**Actual Completion or Delivery**
Restoration Plan	N/A*	N/A*	April 1999
Final Design-90%	N/A*	N/A*	December 1999
Construction	N/A*	N/A*	June 2000
Temporary S&E mix applied	N/A*	N/A*	N/A*
Bare root plantings of trees	N/A*	N/A*	March 2001
Mitigation Plan/As-built (Year 0 Monitoring – baseline)	N/A*	N/A*	N/A*
Year 1 Monitoring-Vegetation	N/A*	N/A*	July 2001
Supplemental Planting	N/A	N/A	March 2002
Year 2 Monitoring-Vegetation	N/A	N/A	June 2002
Year 3 Monitoring-Vegetation	N/A	N/A	June 2003
Year 4 Monitoring-Vegetation	N/A	N/A	July 2004
Year 5 Monitoring-Vegetation	December 2005	November 2005	December 2005

Bold item represent those events or deliverables that are variable. Non-bold items represent events that are standard components over the course of a typical project

*Historical documents necessary to provide this data were unavailable at the time of this report submission

Table III. Project Contact Table Sandy Creek Wetland Mitigation Site/Project No: 321	
Designer Primary project design POC	Earth Tech of North Carolina 701 Corporate Center Drive, Suite 475 Raleigh, NC 27607 Mr. Ron Johnson (919) 854-6210
Construction Contractor Construction Contractor POC	N/A*
Planting Contractor Planting Contractor POC	N/A*
Seeding Contractor Planting Contractor POC	N/A*
Seed Mix Sources	N/A*
Nursery Stock Suppliers	NC Dept of Forestry
Monitoring Performers-2000-2004	**Firm information/address** NCDOT
Monitoring Performers-2005	Earth Tech of North Carolina 701 Corporate Center Drive, Suite 475 Raleigh, NC 27607 Mr. Ron Johnson (919) 854-6210
Vegetation Monitoring POC	Mr. Ron Johnson (919) 854-6210
Wetland Monitoring POC	Mr. Ron Johnson (919) 854-6210

* Historical documents necessary to provide this data were unavailable at the time of this report submission

Table IV. Project Background Table Sandy Creek Wetland Mitigation Site/Project No. 321	
Project County	Randolph
Drainage Area	N/A
Drainage impervious cover estimate (%)	N/A
Stream order	N/A
Physiographic region	Piedmont
Ecoregion	Carolina Slate Belt (45c)
Rosgen classification of As-built	N/A
Cowardin classification	PFO1A – Palustrine Forested Wetland
Dominant soil types	Chewacla loam
Reference site ID	N/A
USGS HUC for Project	Deep River - HUC 03030003
NCDWQ sub-basin for project and reference	03-06-09
NCDWQ classification for project and reference	N/A
Any portion of project segment upstream of a 303d listed segment	No
Reasons for 303d listing or stressor	N/A
% of project easement fenced	25%

4. Monitoring Plan View

Figure 2 provides a Plan View of the site showing the location of groundwater gauges, vegetation plots, photo points, and the rain gauge.

III Project Condition and Monitoring Results

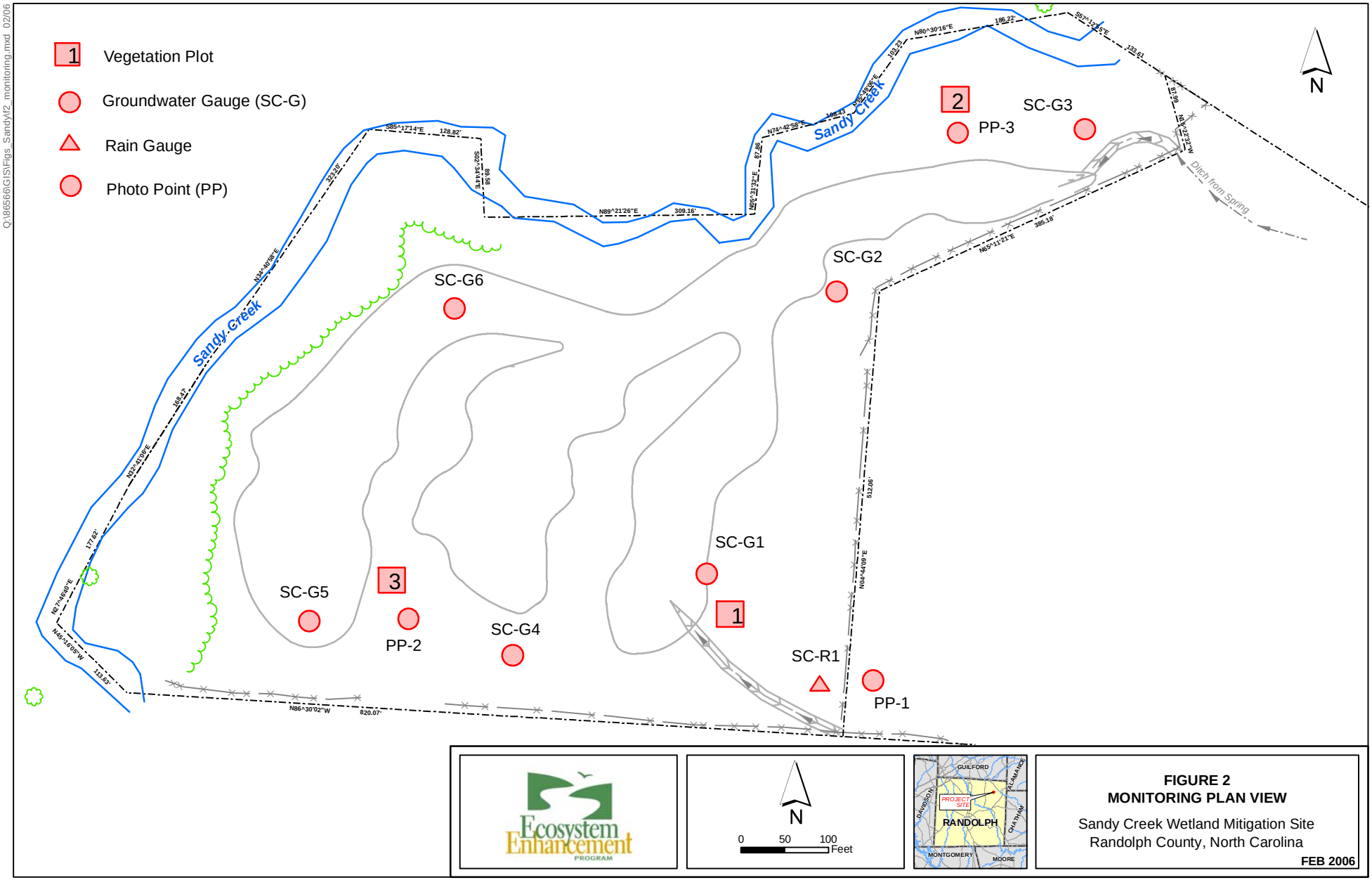
1. Vegetation Assessment

A. Soil Data

The soils at the site are mapped by the Randolph County Soils Survey as Chewacla loam and Dogue sandy loam (NRCS 2002). Both of these soils are listed by the NRCS as having hydric inclusions.

Table V. Preliminary Soil Data Sandy Creek Wetland Mitigation Site/Project No: 321					
Series	**Max Depth (in)**	**% Clay on surface**	**K**	**T**	**OM %**
Chewacla loam	65	10-35	0.28	5	1-4
Dogue sandy loam	63	5-15	0.37	5	0.5-1

Data from the Soil Survey of Randolph County (NRCS 2002).


Q:\86566\GIS\Figs_Sandy\f2_monitoring.mxd 02/06
1 Vegetation Plot
Groundwater Gauge (SC-G)
Rain Gauge
Photo Point (PP)
Sandy Creek
Sandy Creek
Ditch from Spring
SC-G1
SC-G2
SC-G3
SC-G4
SC-G5
SC-G6
SC-R1
PP-1
PP-2
PP-3
1
2
3
N
0 50 100 Feet
PROJECT SITE
RANDOLPH
GUILFORD
ALAMANCE
DAVIDSON
CHATHAM
MONTGOMERY
MOORE
Ecosystem Enhancement PROGRAM
FIGURE 2
MONITORING PLAN VIEW
Sandy Creek Wetland Mitigation Site
Randolph County, North Carolina
FEB 2006

B. Vegetation Problem Areas

During the December site visit increased beaver activity was observed. The beaver are removing large numbers of small trees in the vicinity of groundwater gauges G2 and G6. Increased ponding is evident throughout most of the tract which may have a negative effect on tree survival.

Table VI. Vegetative Problem Areas
Sandy Creek Wetland Mitigation Site/Project No: 321

Feature/Issue	Station #/Range	Probable Cause	Photo #
Tree herbivory	Gauges G2 and G6	Increased beaver activity	N/A

C. Vegetative Problem Area Plan View

See Figure 3 in Appendix A.

D. Stem Counts

Three vegetation plots had been previously established by the NCDOT. The plots were 10 meters square. The three plots were surveyed for the 2005 monitoring season. No reference area was studied; therefore no comparisons could be made to reference conditions.

Tree species reportedly planted include black gum, green ash, willow oak, river birch, cherrybark oak, water oak, and southern red oak (**Table VII**). The previous 2004 monitoring survey did not find any black gum or southern red oak within the plots. Species recorded that were not planted include box elder, sweet gum, sycamore, tulip poplar, and willow oak. Although shrubs were not planted a few are now present.

Because of the current size of the trees it was difficult to determine which individual trees had been planted as no markings or flagging was observed to distinguish volunteer trees from planted trees. Therefore, the distinction between planted trees versus natural recruitment was not made within the plots monitored, and all stems (trees) were counted.

Based on the number of stems counted all of the plots at this site have greater than 240 stems per acres and are considered a success. The average plot density is 6,993 stems per acre and the most dominant species is green ash. This appears to be from successful active recruitment. It can be predicted that this high density will naturally decline in the future as the trees become larger. Plot three is extremely dense with an estimated 15,054 stems per acres. The other two plots are more typical of the stem density across the mitigation site.

The herbaceous vegetation is dense in plots 1 and 2 with plot 3 having good coverage given the dense overstory. Smart weed and tear thumb are the dominant species within the plots, but overall the site appears to have a high diversity of herbaceous wetland vegetation. Approximately 18 different herbaceous species were observed throughout the 3 monitoring plots.

Table VII. Stem Counts for each species arranged by plot Sandy Creek Wetland Mitigation Site/Project No: 321													
Species		**Plots**					**Initial Totals***	**Year 1 Totals**	**Year 2 Totals *****	**Year 3 Totals**	**Year 4 Totals**	**Year 5 Totals**	**Survival %**
Common Name	**Scientific Name**	**1**	**2**	**3**	**Total Stems ****	**% of Total**							
Shrubs													
No shrub planted													
	Total Shrubs	0	0	0	0								
Trees													
Black gum	*Nyssa sylvatica*				0	0.0		14	9	7	0	0	0
Green ash	*Fraxinus pennsylvanicum*	145	186	849	1180	98.0		12	47	47	47	1180	N/A
Willow oak	*Quercus phellos*	2		5	7	0.6		20	32	25	6	7	35
River birch	*Betula nigra*	4	3	8	15	1.2		21	28	34	14	15	71
Cherrybark oak	*Quercus pagodifolia*			2	2	0.2		12	13	10	2	2	17
Water oak	*Quercus nigra*				0	0.0		0	9	7	2	0	N/A
Southern red oak	*Quercus falcata*				0	0.0		1	1	0	0	0	0
	Total Trees	**151**	**189**	**864**	**1204**								
					PLOT								
SUMMARY	**TABLE**				**AVERAGE**								
Total Stems		151	189	864	***401***								
% Shrubs		0%	0%	0%	***0%***								
% Trees		100%	100%	100%	***100%***								
Current Density													
Stems per acre		2,631	3,293	15,054	6,993			465	807	755	412	6,993	
Stems per hectare		6,501	8,138	37,200	17,280			1,148	1,995	1,866	1,019	17,280	

*Initial planting totals unknown.
**Stems per acre includes natural recruitment.
***Supplemental planting in 2002

E. Vegetation Plot Photos

Photos of the restoration site can be found in Appendix A.

2. Stream Assessment

There is no stream restoration associated with this site. Tables VIII through XIII are not applicable to this project.

3. Wetland Assessment

In accordance with federal guidelines for wetland mitigation, the success criteria for hydrology state that the area must be inundated or saturated (within 12" of the surface) by surface or ground water for at least 12.5% of the growing season (29 days). Areas inundated less than 5% of the growing season (12 days) are always classified as non-wetlands. Areas inundated between 5% - 12.5% of the growing season can be classified as wetlands depending upon factors such as the presence of hydrophytic vegetation and hydric soils.

Six groundwater-monitoring gauges were installed in February 2001 (**Figure 2**). The automatic monitoring gauges record daily readings of groundwater depth. Rainfall data was collected by an onsite rain gauge. Also, daily rainfall data recorded from a rain gauge maintained by the NC State Climate Office in Randleman, NC was used for comparison.

During the 2005 monitoring period, five of the six monitored gauges (G2 through G6) met the criteria of inundation/saturation within 12" of the surface for 12.5% of the growing season (**Table XIV**). The one remaining gauge meets the criteria between 8% and 12.5% of the growing season. Given that the vegetation consists of predominantly hydrophytic vegetation and the mapped soils are Chewacla, this remaining gauge most likely represents wetland condition. The wetland success criteria appears to have been met for this site. Hydrographs for the gauges can be found in Appendix B. A large discrepancy was noted between normal rainfall data for Randleman, NC and what was measured onsite. Average rainfall data from 1971 to 2000 for Randleman from March through June was 24.39 inches and only 4.91 inches fell during the same period in 2005. This is only 20.1% of what normally falls during this time period and more than likely influenced what would have been more frequent periods of wetland hydrology.

Table XIV. Wetland Criteria Attainment
(March 24 - November 13, 2005)
Sandy Creek Wetland Mitigation Site/ Project No. 321

Tract	Monitoring Gauge ID	Hydrology Threshold Met?	Tract Mean	Vegetation Plot ID	Vegetation Survival Threshold Met?	Tract Mean
	SC-G1	N	83%	01	Y	100%
	SC-G2	Y		02	Y	
	SC-G3	Y		03	Y	
	SC-G4	Y				
	SC-G5	Y				
	SC-G6	Y				

Earth Tech began monitoring of the site in June 2005. At this time it was found that gauges G1 and G6 were not working and therefore not collecting data. New groundwater gauges were

installed; however, data for the initial portion of the growing season was not collected. When comparing groundwater data from G1 and G6 to other gauges on the site (such as G2 and G3) a similar pattern or response to rain events can be seen in August and October. Both G2 and G3 met the wetland hydrology criteria at the beginning of the growing season. Due to the similar patterns observed, it is likely that the hydrologic wetland criteria was also obtained in both G1 and G6 at the beginning of the growing season.

APPENDIX A

Vegetation Survey Data Tables

Vegetation Monitoring Plot Photos

Vegetation Problem Area Plan View

Species	Exhibit Table VIII. Stem Counts for each species arranged by plot							Initial Totals	Year 1 Totals	Year 2 Totals	Year 3 Totals	Year 4 Totals	Year 5 Totals	Survival %
		Plots												
Common Name	***Scientific Name***	**1**	**2**	**3**	**Total Stems**	**% of total**								
Shrubs														
	No shrub planted													
	Total Shrubs	***0***	***0***	***0***	***0***									
Trees														
Black gum	*Nyssa sylvatica*				***0***	***0.0***			14	9	7	0	**0**	0
Green ash	*Fraxinus pennsylvanicum*	145	186	849	***1180***	***98.0***			12	47	47	47	**1180**	N/A
Willow oak	*Quercus phellos*	2		5	***7***	***0.6***			20	32	25	6	**7**	35
River birch	*Betula nigra*	4	3	8	***15***	***1.2***			21	28	34	14	**15**	71
Cherrybark oak	*Quercus pagodifolia*			2	***2***	***0.2***			12	13	10	2	**2**	17
Water oak	*Quercus nigra*				***0***	***0.0***			0	9	7	2	**0**	N/A
Southern red oak	*Quercus falcata*				***0***	***0.0***			1	1	0	0	**0**	0
	Total Trees	***151***	***189***	***864***	***1204***									
	TABLE SUMMARY				**AVERAGE**									
Total Stems of planted Woody vegetaion.		151	189	864	***401***									
% Shrubs		0%	0%	0%	***0%***									
% Trees		100%	100%	100%	***100%***									
Current Density														
Stems per acre		2,631	3,293	15,054	6,993				465	807	755	412	6,993	
Stems per hectare		6,501	8,138	37,200	17,280				1,148	1,995	1,866	1,019	17,280	

American sycamore	*Plantanu occidentalis*	6			***6***	***1.5***								
Sweet gum	*Liquidambar styraciflua*	18	1	87	***106***	***26.4***								
Box elder	*Acer negundo*	4	4	5	***13***	***3.2***								
Tulip poplar	*Liriodendron tulipifera*				***0***					3	0	0	**0**	

PHOTOPOINT PHOTOS
2005 MONITORING YEAR
SANDY CREEK WETLAND MITIGATION SITE.
RANDOLPH COUNTY, NC

Photo 1. Photopoint 1 facing West.

Photo 2. Photopoint 1 facing WNW and view of Vegetation plot 1.

Photo 3. Photopoint 1 facing NW.

Photo 4. Photopoint 2 facing NE.

Photo 5. Photopoint 2 facing North.

Photo 6. Photopoint 3 facing SE.

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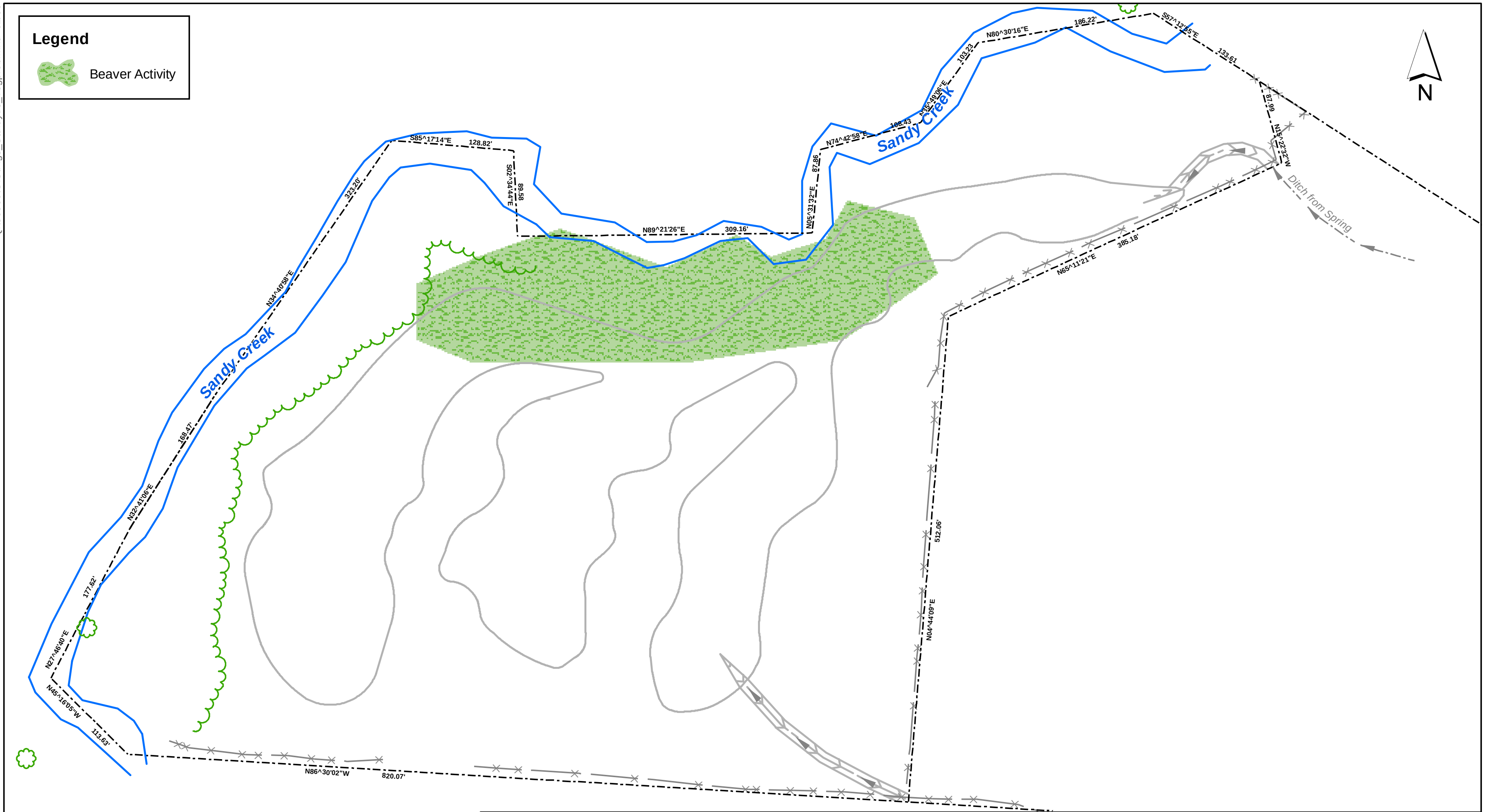


FIGURE 3
VEGETATION PROBLEM AREAS

Sandy Creek Wetland Mitigation Site
Randolph County, North Carolina

FEB 2006

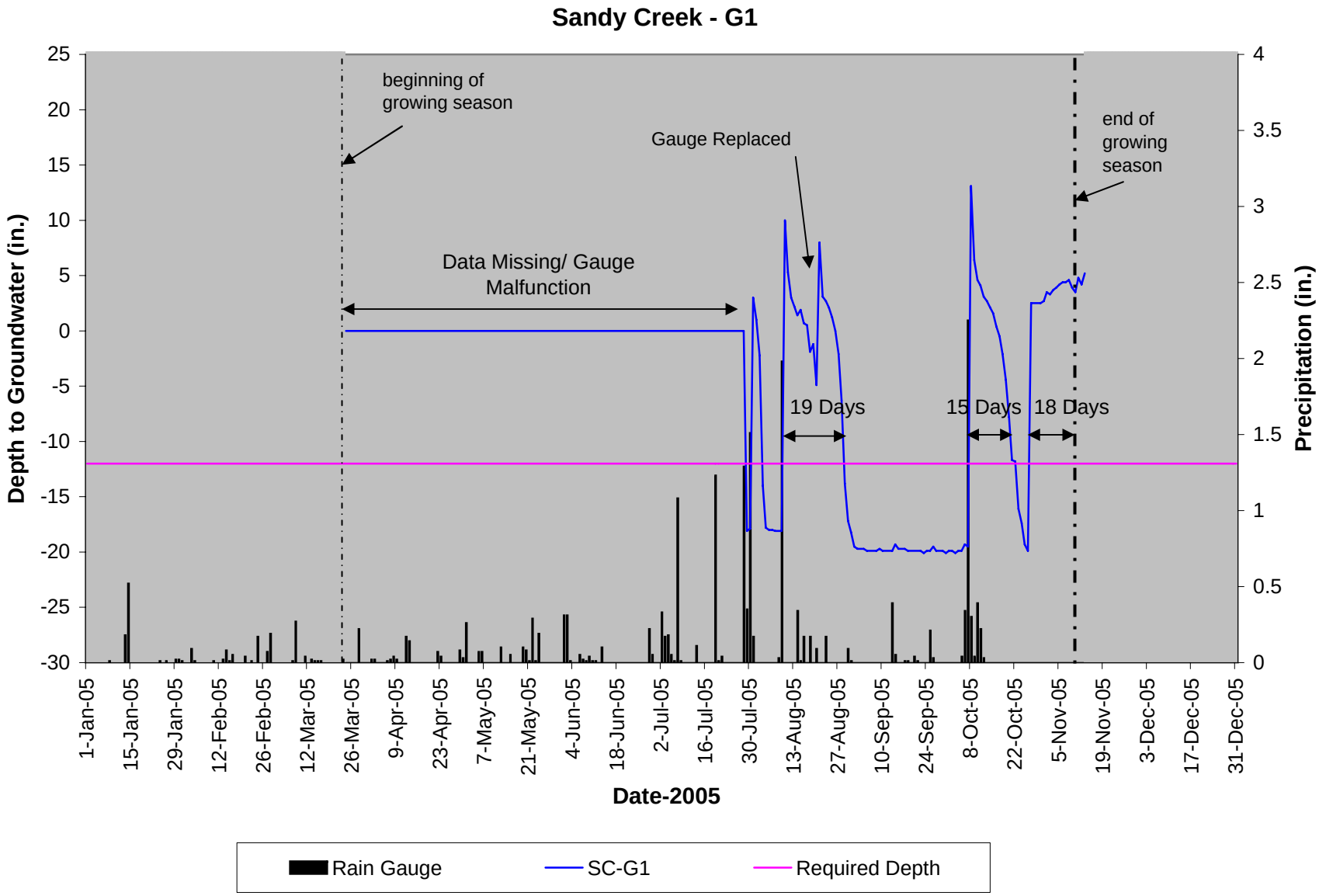
APPENDIX B

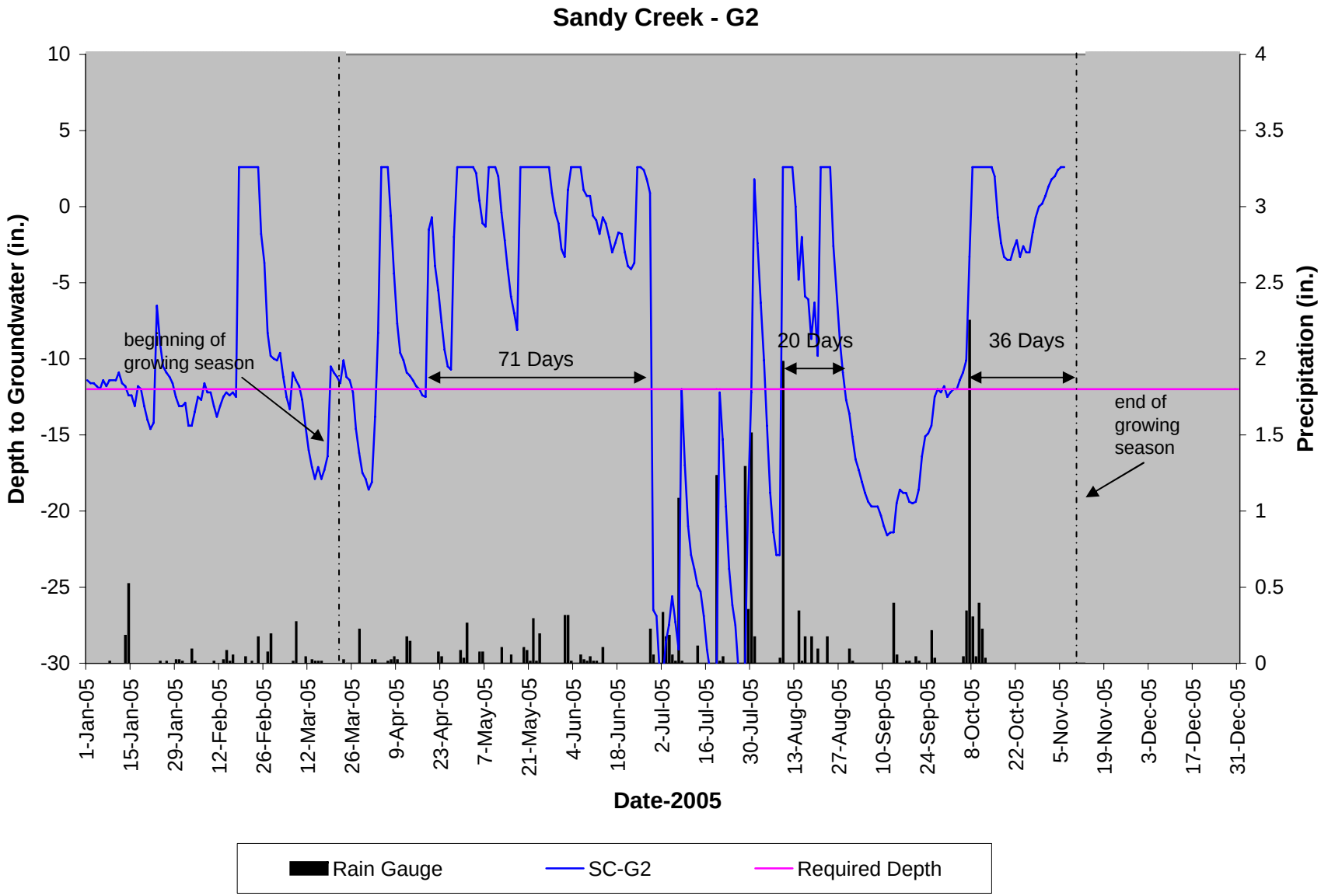
Precipitation -Water Level Plots

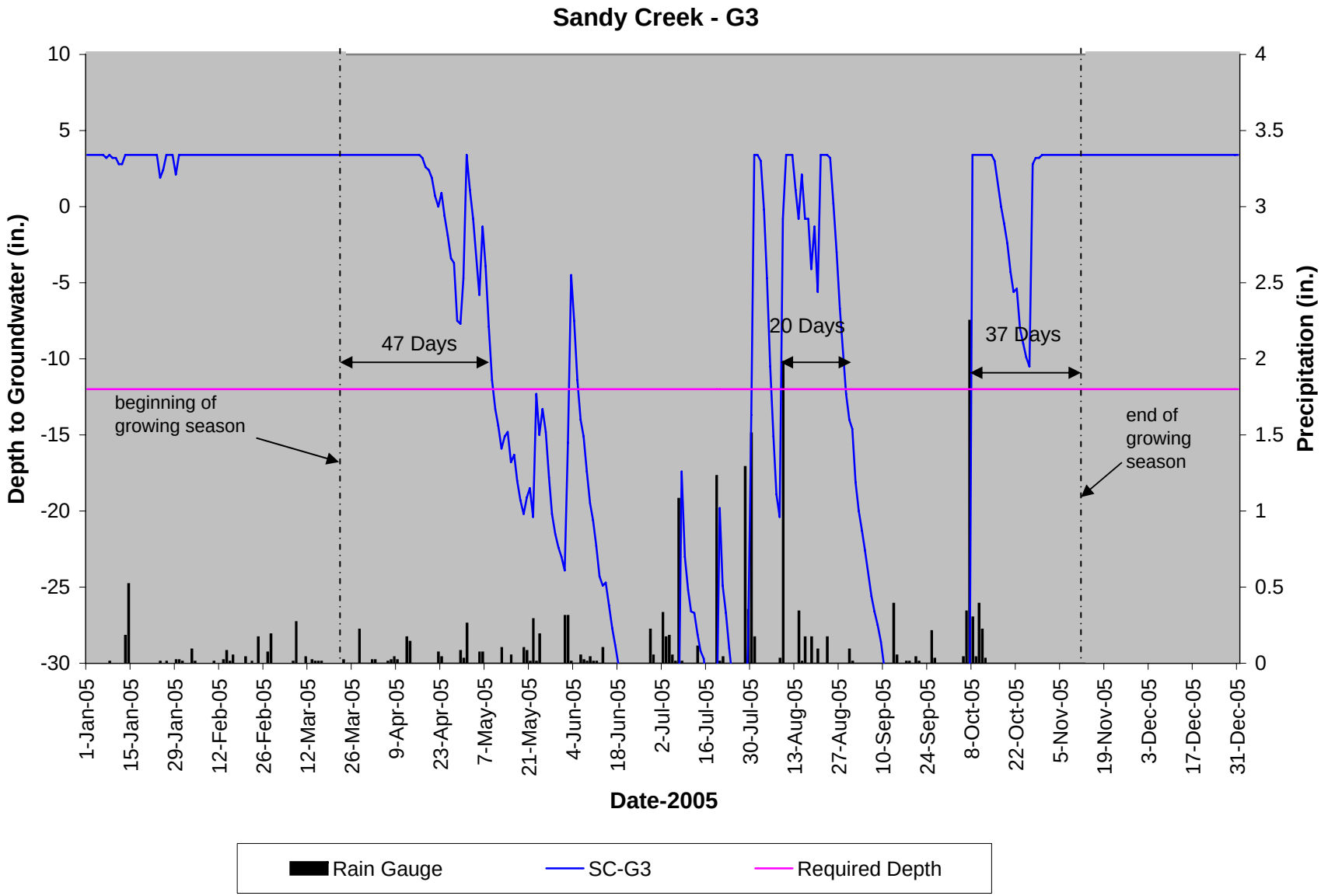
30 - 70 Percentile Graph

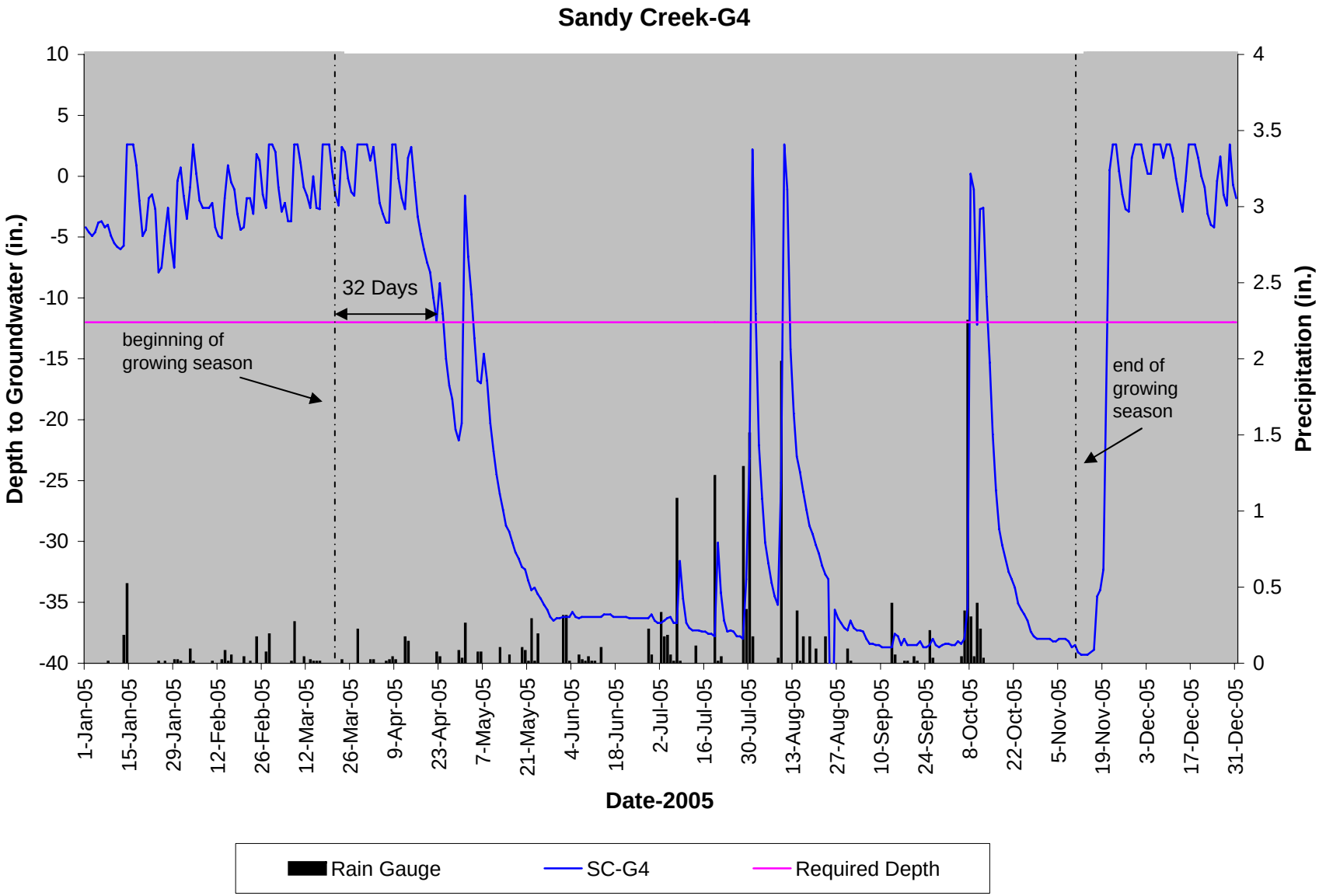
Precipitation Data

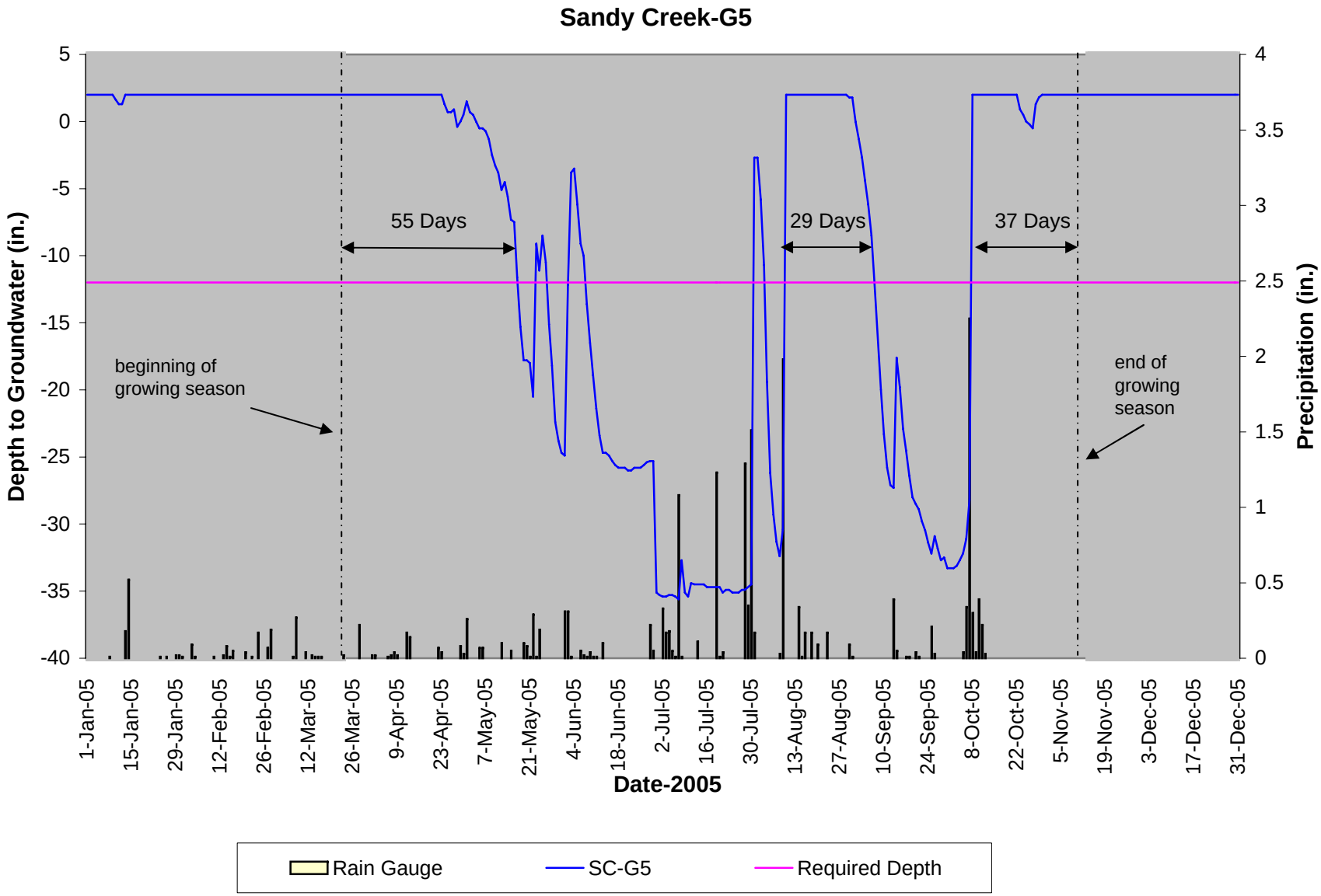
Hydrological Data Table

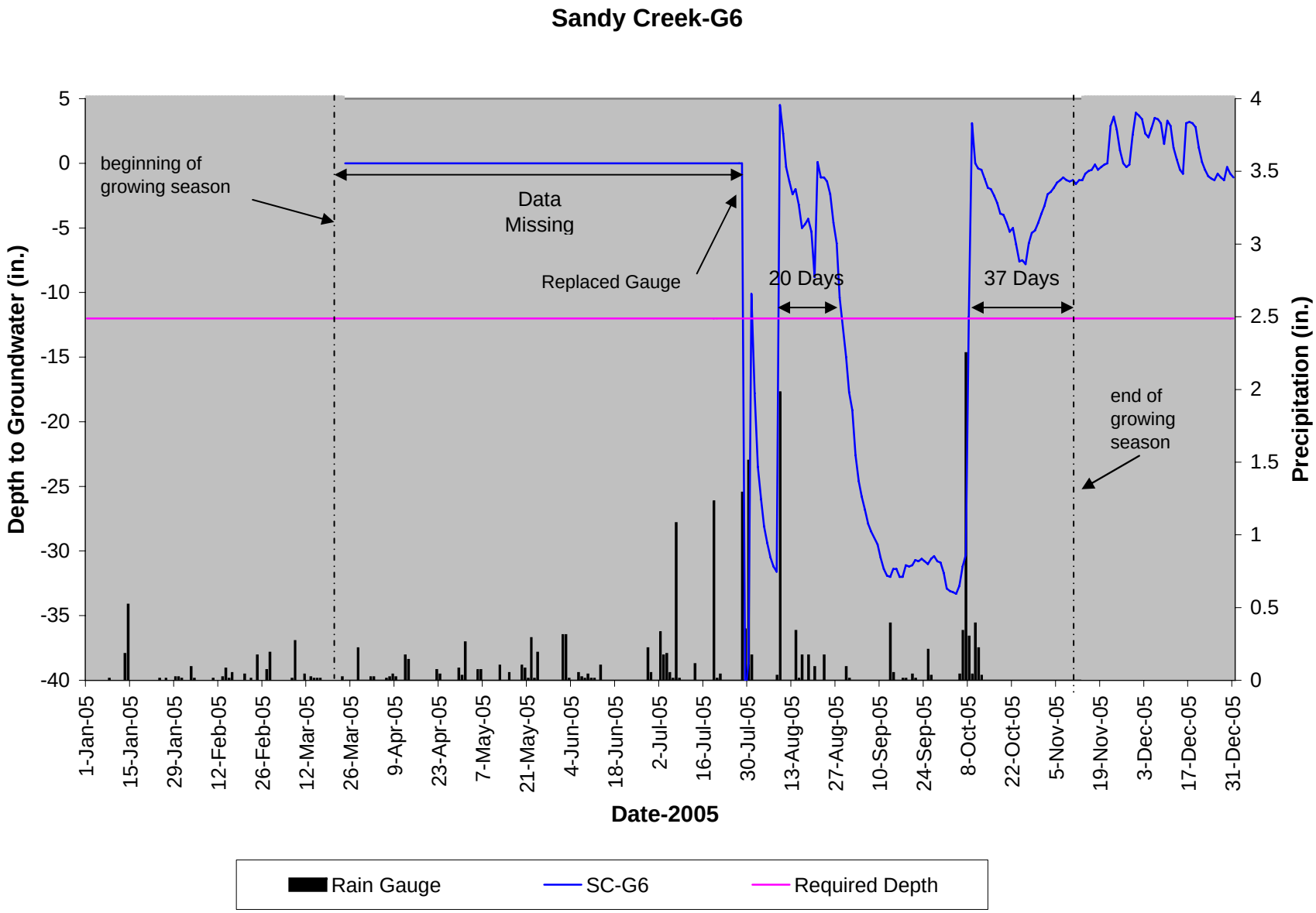

Sandy Creek - G1
beginning of growing season
Gauge Replaced
end of growing season
Data Missing/ Gauge Malfunction
19 Days
15 Days
18 Days
Depth to Groundwater (in.)
Precipitation (in.)
Date-2005
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
4
3.5
3
2.5
2
1.5
1
0.5
0
1-Jan-05
15-Jan-05
29-Jan-05
12-Feb-05
26-Feb-05
12-Mar-05
26-Mar-05
9-Apr-05
23-Apr-05
7-May-05
21-May-05
4-Jun-05
18-Jun-05
2-Jul-05
16-Jul-05
30-Jul-05
13-Aug-05
27-Aug-05
10-Sep-05
24-Sep-05
8-Oct-05
22-Oct-05
5-Nov-05
19-Nov-05
3-Dec-05
17-Dec-05
31-Dec-05
Rain Gauge
SC-G1
Required Depth

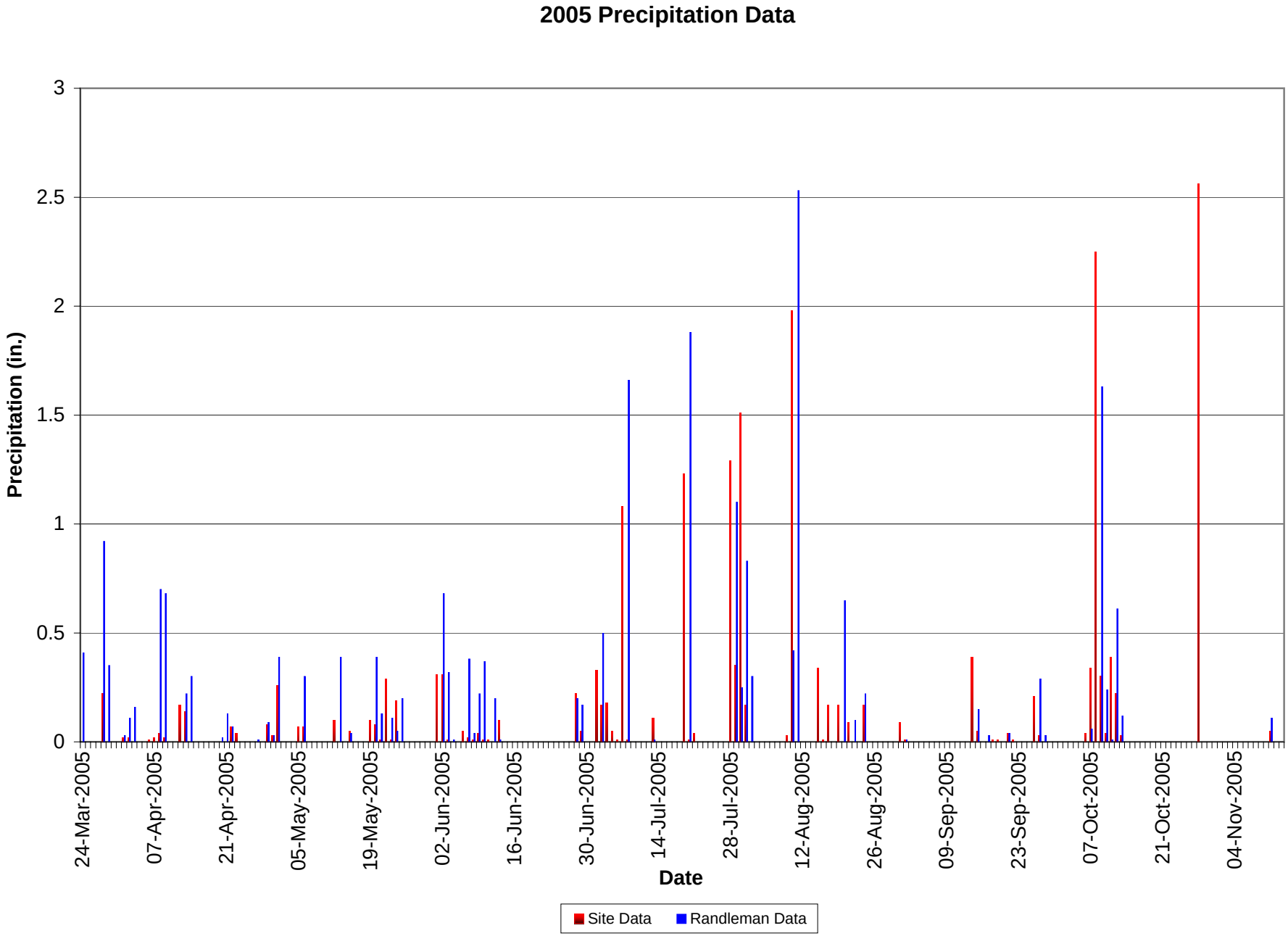

Sandy Creek - G2
Depth to Groundwater (in.)
Precipitation (in.)
Date-2005
beginning of growing season
71 Days
20 Days
36 Days
end of growing season
Rain Gauge
SC-G2
Required Depth


Sandy Creek - G3
Depth to Groundwater (in.)
Precipitation (in.)
Date-2005
47 Days
20 Days
37 Days
beginning of growing season
end of growing season
Rain Gauge
SC-G3
Required Depth

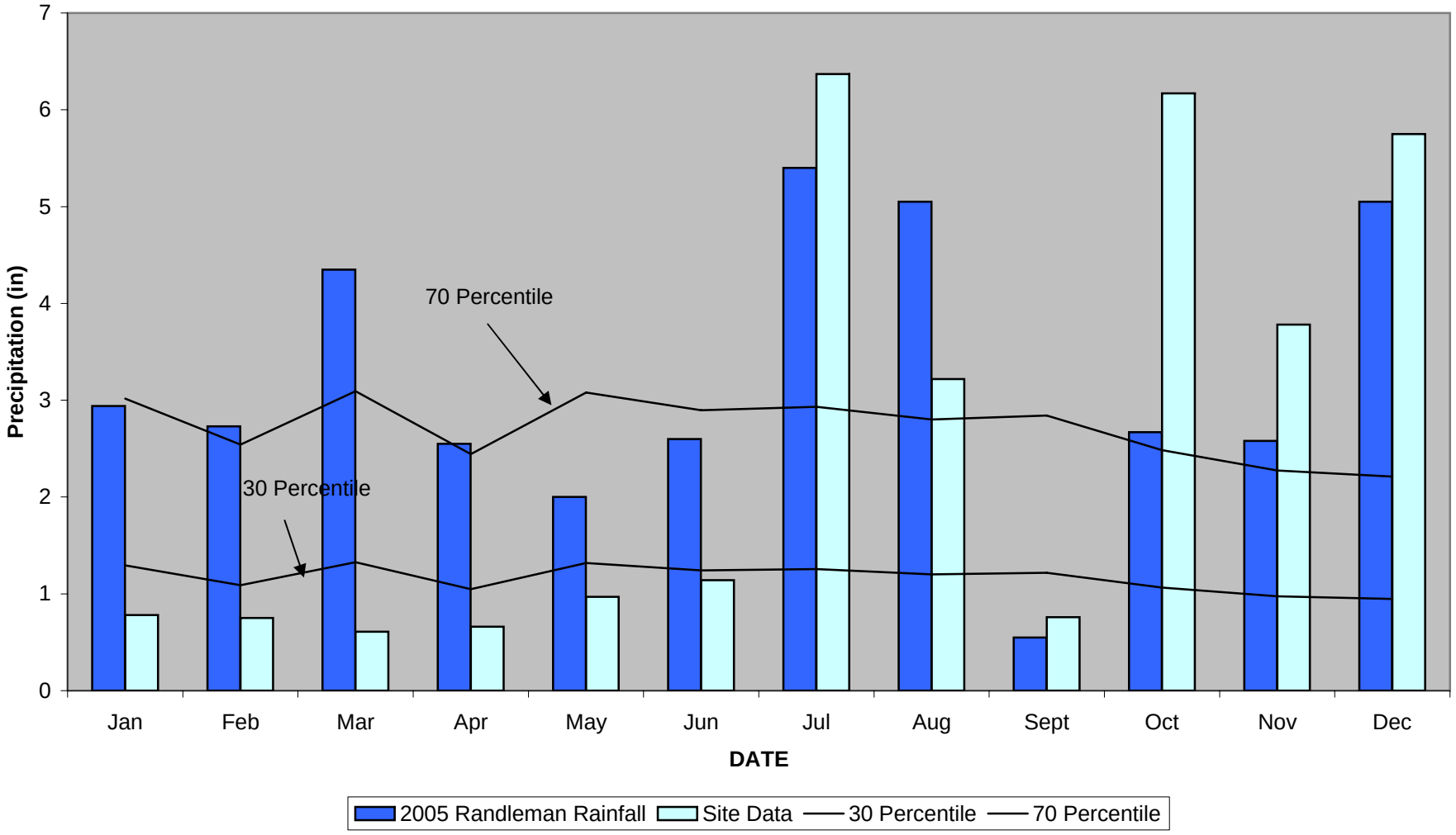

Sandy Creek-G4
Depth to Groundwater (in.)
Precipitation (in.)
Date-2005
32 Days
beginning of growing season
end of growing season
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
4
3.5
3
2.5
2
1.5
1
0.5
0
1-Jan-05
15-Jan-05
29-Jan-05
12-Feb-05
26-Feb-05
12-Mar-05
26-Mar-05
9-Apr-05
23-Apr-05
7-May-05
21-May-05
4-Jun-05
18-Jun-05
2-Jul-05
16-Jul-05
30-Jul-05
13-Aug-05
27-Aug-05
10-Sep-05
24-Sep-05
8-Oct-05
22-Oct-05
5-Nov-05
19-Nov-05
3-Dec-05
17-Dec-05
31-Dec-05
Rain Gauge
SC-G4
Required Depth


Sandy Creek-G5
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
4
3.5
3
2.5
2
1.5
1
0.5
0
55 Days
29 Days
37 Days
beginning of growing season
end of growing season
1-Jan-05
15-Jan-05
29-Jan-05
12-Feb-05
26-Feb-05
12-Mar-05
26-Mar-05
9-Apr-05
23-Apr-05
7-May-05
21-May-05
4-Jun-05
18-Jun-05
2-Jul-05
16-Jul-05
30-Jul-05
13-Aug-05
27-Aug-05
10-Sep-05
24-Sep-05
8-Oct-05
22-Oct-05
5-Nov-05
19-Nov-05
3-Dec-05
17-Dec-05
31-Dec-05
Date-2005
Rain Gauge
SC-G5
Required Depth


Sandy Creek-G6
Depth to Groundwater (in.)
Precipitation (in.)
Date-2005
beginning of growing season
Data Missing
Replaced Gauge
20 Days
37 Days
end of growing season
5
0
-5
-10
-15
-20
-25
-30
-35
-40
4
3.5
3
2.5
2
1.5
1
0.5
0
1-Jan-05
15-Jan-05
29-Jan-05
12-Feb-05
26-Feb-05
12-Mar-05
26-Mar-05
9-Apr-05
23-Apr-05
7-May-05
21-May-05
4-Jun-05
18-Jun-05
2-Jul-05
16-Jul-05
30-Jul-05
13-Aug-05
27-Aug-05
10-Sep-05
24-Sep-05
8-Oct-05
22-Oct-05
5-Nov-05
19-Nov-05
3-Dec-05
17-Dec-05
31-Dec-05
Rain Gauge
SC-G6
Required Depth


2005 Precipitation Data
Precipitation (in.)
3
2.5
2
1.5
1
0.5
0
24-Mar-2005
07-Apr-2005
21-Apr-2005
05-May-2005
19-May-2005
02-Jun-2005
16-Jun-2005
30-Jun-2005
14-Jul-2005
28-Jul-2005
12-Aug-2005
26-Aug-2005
09-Sep-2005
23-Sep-2005
07-Oct-2005
21-Oct-2005
04-Nov-2005
Date
Site Data
Randleman Data

Sandy Creek 2005
30-70 Percentile Graph
Randleman, NC 1971-2000 Normal Percentages



Hydrological Summary Data

Gauge	Longest date meeting wetland hydrology requirements	Longest period meeting wetland hydrology requirements	Longest percentage of growing season with wetland hydrology
G-1	8/10/05 - 8/28/05	19 days	8.1%
G-2	4/19/05 - 6/28/05	71 days	30.3%
G-3	3/24/05 - 5/9/05	47 days	20.1%
G-4	3/24/05 - 4/24/05	32 days	13.7%
G-5	3/24/05 - 5/17/05	55 days	23.5%
G-6	10/8/05 - 11/13/05	37 days	15.8%