ANNUAL REPORT FOR 2001

DOWD DAIRY FARM MITIGATION SITE
BLADEN COUNTY
PROJECT NO. 8.1241802
TIP NO. R-2204WM

Prepared By:
Natural Systems Unit & Roadside Environmental Unit
North Carolina Department of Transportation
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DOWD DAIRY FARM MITIGATION SITE
2001 REPORT – EXECUTIVE SUMMARY

The following report summarizes the monitoring activities that have occurred in the past year at the Dowd Dairy Farm Mitigation Site. Phase 1 of this site was constructed in 1998, and Phase 2 was completed in 2000. Although monitoring for the site began in 1999, the Monitoring activities in 2001 represent the first year of official monitoring following completion of the entire site. The site must demonstrate hydrologic and vegetation success for a minimum of three years or until the project is deemed successful.

The site contains 36 groundwater monitoring gauges, 2 rain gauges, and 38 vegetation plots.

This year, rainfall data has been primarily collected from an onsite rain gauge. Also, daily rainfall data was used for comparison from the William O. Huske location (Bladen County), maintained by the NC State Climate Office.

Hydrologic monitoring indicated that the site is improving toward the goal of meeting the success criteria. Twenty-eight gauges met jurisdictional hydrologic success of at least 12.5% during the growing season; conversely, only three gauges met hydrology less than 5% of the growing season.

All vegetation monitoring plots indicated an average tree density of 491 trees per acres, well above the 320 trees per acre requirement.

Based on the monitoring results from the 2001 growing season, NCDOT recommends that monitoring continue.

1.0 INTRODUCTION

1.1 Project Description

The Dowd Dairy Farm Wetland Mitigation Site is located 7 miles north of Elizabethtown and 2 miles east of White Oak in Bladen County (Figure 1). It is bounded by SR 1324 (Dowd Dairy Farm Road) to the north, SR 1332 (Oak Grove Church Road) to the west, and dense forest to the south and east. The site represents a Coastal Plain interstream divide converted for agricultural use. The site receives drainage from elevated sandy terraces and discharges into Ellis Creek and Panther Branch, tributaries of the Cape Fear River.

The site encompasses approximately 658 acres and is designed as a mitigation site for the Cape Fear River Basin. So far, the site is targeted to provide mitigation for several TIP Projects, R-2238AA (USACE Action ID No. 199302820), R-2562AA/AB (USACE Action ID No. 199304806), and R-2204A (USACE Action ID No.199602560).

1.2 Purpose

In order to demonstrate successful mitigation, hydrologic and vegetative monitoring must be conducted for a minimum of five years or until success criteria are fulfilled. Success criteria are based on federal guidelines for wetland mitigation. These guidelines stipulate criteria for both hydrologic conditions and vegetation survival. The following report details the results of hydrologic and vegetative monitoring during 2001 at the Dowd Dairy Farm Mitigation Site.

Activities in 2001 reflect the first year of monitoring following the construction of Phase 2 at the site. Included in this report are analyses of both hydrologic and vegetative monitoring results as well as local climate conditions throughout the growing season.

1.3 Project History

Summer 1998	Construction – Phase 1
Spring 1999	Tree Planting – Phase 1
February – April 1999	Installation of Monitoring Gauges
March – November 1999	Hydrologic monitoring (Year 1)
Sept 1999	Construction Begins – Phase 2
November 1999	Vegetation Monitoring (Year 1)
March – November 2000	Hydrologic Monitoring (Year 2)
June 2000	Construction Completed – Phase 2
November 2000	Vegetation Monitoring (Year 2)
February 2001	Tree Planting – Phase 2
March – November 2001	Hydrologic Monitoring (Restart Year 1)
October 2001	Vegetation Monitoring (Restart Year 1)

Phase 1 construction consisted of clearing, grubbing, ripping, filling lateral ditches, and adding ditch plugs. Phase 2 construction consisted of filling in the central canal. Completion of the site was delayed to June 2000 due to the saturated conditions from the hurricane activity in the fall of 1999.

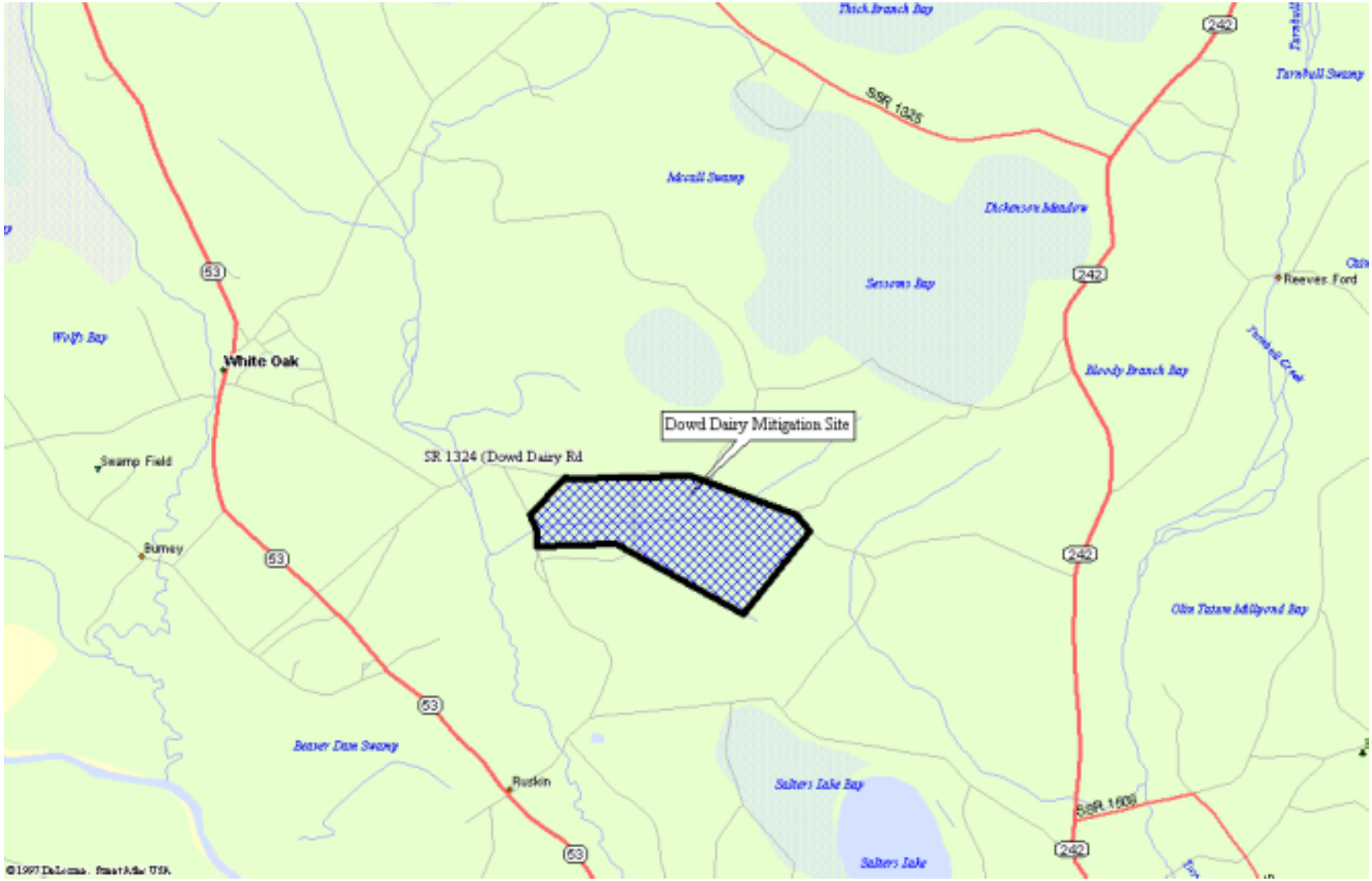


FIGURE 1: SITE LOCATION MAP

1.4 Debit Ledger

Because of its size, Dowd Dairy Farm will provide mitigation for several highway projects. Table 1 shows the projects that this site is providing mitigation for through November 2001.

Table 1
Dowd Dairy Debit Ledger

Habitat	Acres at Start	Acres Remaining	TIP Debit	TIP Debit	TIP Debit
Headwater Swamp (Riv)	13	6.6	R-2204A	R-2238AA	R-2562AA/AB
Nonriverine Swamp Forest	198	175.2	0	0.6	5.8
Nonriverine Wet Hardwood Forest	357	338.1	17	5.8	0
Wetland/Upland Restoration	20	20	0	2.5	16.4
Nonriverine Atlantic White Cedar	70	70	0	0	0
Total:	658	609.9	17	8.9	22.2

1.5 Permit Requirements

As shown on the ledger, the Dowd Dairy Mitigation Site has been debited to compensate for impacts to TIP Project numbers R-2204A (USACE Action ID number 199602560), R-2562 AA/BB (USACE Action ID number 199304806), and R-2238 AA (USACE Action ID Number 199302820).

The permits for project R-2562AA/AB and R-2238AA stated that grading on the restoration site should be completed no later than August 1, 2000, and all planting should be completed by March 1, 2001. All grading and planting have been completed.

The permit for projects R-2204A stated that the annual monitoring reports should describe the overall success of the entire mitigation site and any recommended remedial actions that may become necessary. This report summarizes the findings for 2001.

2.0 HYDROLOGY

2.1 Success Criteria

In accordance with federal guidelines 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. 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 other factors, such as the presence of hydrophytic vegetation and hydric soils.

The growing season in Bladen County begins March 16 and ends November 14. The dates correspond to a 50% probability that temperatures will drop to 28^{o} F or lower after March 16 and before November 14.[1] The growing season is 243 days; therefore the optimum duration for wetland hydrology is 31 days. Also, local climate must represent average conditions for the area.

2.2 Hydrologic Description

Historically, wetlands on the tract were created by a combination of radial groundwater and surface water flow from adjacent terraces as well as precipitation and vertical groundwater fluctuations maintained within the site. After an extensive study of the site's hydrology, it was concluded that blocking and filling the drainage ditches within the site would elevate the groundwater to a level that would saturate the soil stratum within the required twelve inches. It was predicted that this, in addition to surface water and runoff would be sufficient to restore wetland hydrology.

Thirty-one groundwater monitoring gauges, and two rain gauges were installed in 1999 (Figure 3). Five additional gauges were installed in transects along the main channel in 2001 to examine potential drainage effects of the large remaining canal. The rain gauges and groundwater monitoring gauges recorded daily readings of rainfall and depth to groundwater, respectively.

Appendix A contains a plot of the groundwater depth for each monitoring gauge. Data determined to be erroneous was omitted; therefore, some gaps appear in the plots. Precipitation events are included on each graph as bars. The rainfall plotted is the daily rainfall recorded by rain gauges located on the site. It must be noted that several gauges continued to be problematic throughout the growing season and were eventually replaced.

[1] Natural Resources Conversation Service, Soil Survey of Bladen County, North Carolina, p. 123.

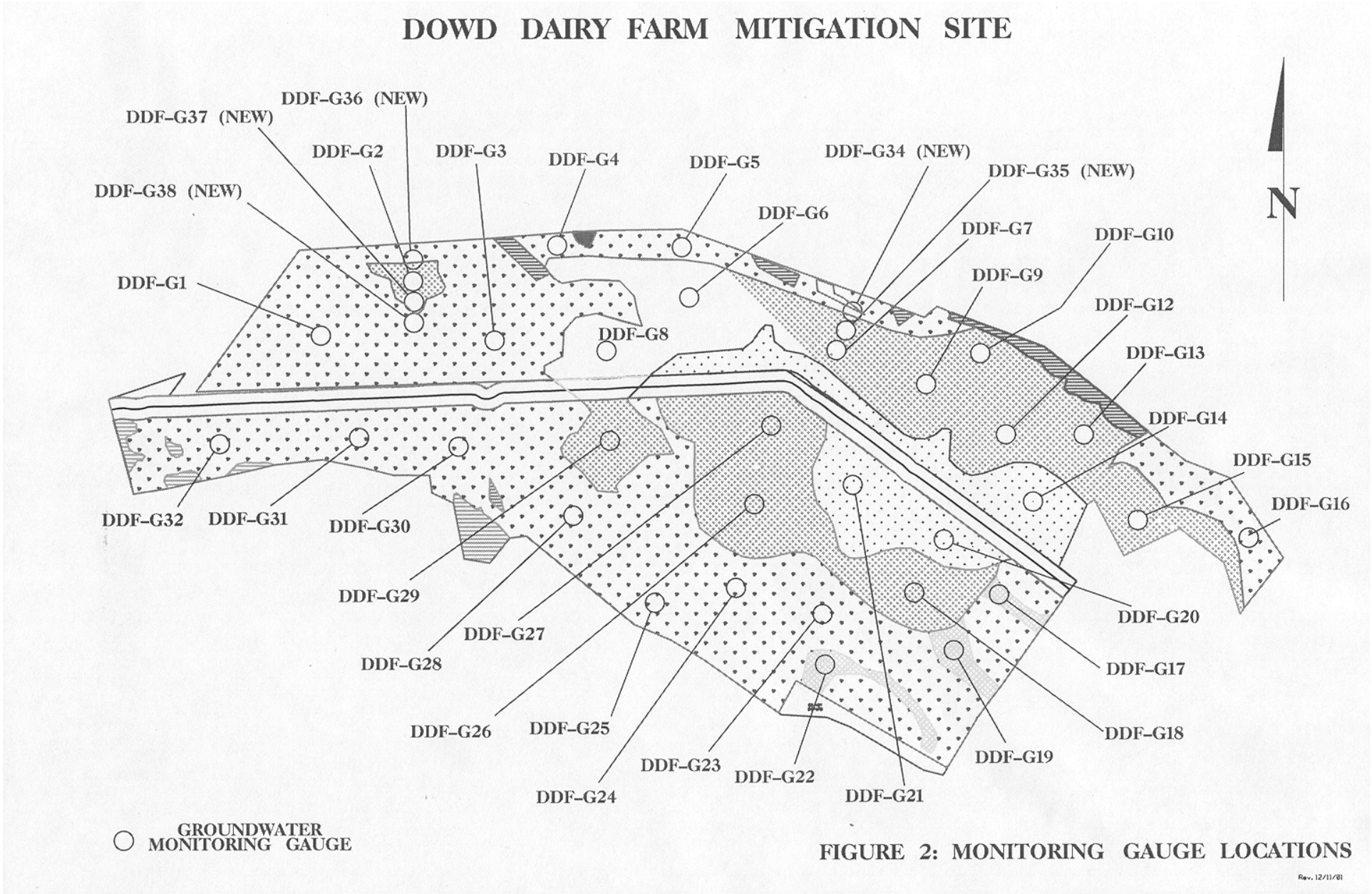


FIGURE 2: MONITORING GAUGE LOCATIONS

2.3 Results of Hydrologic Monitoring

2.3.1 Site Data

The maximum number of consecutive days that the groundwater was within twelve inches of the surface was determined for each groundwater gauge. This number was converted into a percentage of the 243-day growing season. Because a report was not completed for 2000, the data is included in this report. Table 2A presents the hydrologic monitoring results for 2000, and Table 2B presents the 2001 results.

Appendix A contains a plot of the groundwater depth for each monitoring gauge. The maximum number of consecutive days is noted on each graph.

Table 2A
2000 HYDROLOGIC MONITORING RESULTS –
(MARCH 16 – NOVEMBER 14)

Monitoring Gauge	< 5% (<12 dy)	5 - 8% (12-19 dy)	8 – 12.5% (20-30 dy)	> 12.5% (>31 dy)	Actual %	Dates Meeting Success
DDF-G1				✔	63.9	5/22 – 10/24
DDF-G2	✔				4.1	9/23 – 10/2
DDF-G3			✔		10.7	4/13 – 5/8
DDF-G4	✔				2.5	9/23 – 9/28
DDF-G5				✔	17.6	8/31 – 10/12
DDF-G6				✔	40.6	7/22 – 10/28
DDF-G7				✔	25.4	3/16 – 5/16
DDF-G8				✔	36.9	7/22 – 10/19
DDF-G9				✔	26.2	3/16 – 5/18
DDF-G10				✔	100	3/16 – 11/14
DDF-G12				✔	63.5	5/22 – 10/23
DDF-G13	✔				1.6	9/23 – 9/26
DDF-G14				✔	24.2	3/16 – 5/13
DDF-G15				✔	42.6	3/16 – 6/27
DDF-G16				✔	40.2	3/16 – 6/21
DDF-G17				✔	24.6	3/16 – 5/14
DDF-G18				✔	27.0	3/16 – 5/20
DDF-G19				✔	24.6	3/16 – 5/14
DDF-G20				✔	66.4	5/22 – 10/30
DDF-G21				✔	65.6	5/22 – 10/28
DDF-G22				✔	24.6	3/16 – 5/14
DDF-G23				✔	49.6	4/19 – 8/17
DDF-G24				✔	51.2	3/16 – 7/18
DDF-G25				✔	60.2	3/16 – 10/15
DDF-G26				✔	93.0	3/16 – 10/28
DDF-G27				✔	64.3	5/22 – 10/25
DDF-G28				✔	91.8	3/16 – 10/25
DDF-G29				✔	95.1	3/16 – 11/2
DDF-G30				✔	100	3/16 – 11/14
DDF-G31				✔	33.6	8/8 – 10/28
DDF-G32				✔	40.2	7/22 – 10/27

Table 2B
2001 HYDROLOGIC MONITORING RESULTS –
(MARCH 16 – NOVEMBER 14)

Monitoring Gauge	< 5% (<12 dy)	5 - 8% (12-19 dy)	8 – 12.5% (20-30 dy)	> 12.5% (>31 dy)	Actual %	Dates Meeting Success
DDF-G1				✔	21.0	8/31-10/20
DDF-G2	✔				2.9	3/29-4/4
DDF-G3		✔			7.8	3/23-4/10
DDF-G4	✔				1.6	3/23-3/26
DDF-G5				✔	14.0	3/16-3/18
DDF-G6				✔	18.1	3/16-4/28
DDF-G7				✔	8.2	3/16-6/17
DDF-G8			✔		12.3	3/23-4/21
DDF-G9				✔	17.3	3/16-4/26
DDF-G10				✔	20.2	3/16-5/3
DDF-G12				✔	18.1	3/16-4/28
DDF-G13	✔				1.2	9/2-9/3
DDF-G14				✔	17.3	3/16-4/27
DDF-G15				✔	19.3	8/19-10/4
DDF-G16				✔	17.3	5/29-6/9
DDF-G17				✔	17.7	3/16-4/27
DDF-G18				✔	19.8	3/16-5/2
DDF-G19				✔	15.6	3/16-4/22
DDF-G20				✔	19.8	3/16-5/2
DDF-G21				✔	19.3	3/16-5/1
DDF-G22			✔		11.1	3/23-4/18
DDF-G23				✔	20.2	3/16-5/3
DDF-G24				✔	17.3	3/165/3
DDF-G25				✔	19.8	3/16-4/22
DDF-G26				✔	18.9	3/16-5/1
DDF-G27				✔	18.9	3/16-4/30
DDF-G28				✔	19.3	3/16-5/1
DDF-G29				✔	21.0	3/16-5/5
DDF-G30				✔	18.5	3/16-4/29
DDF-G31				✔	17.3	3/16-4/26
DDF-G32				✔	13.6	3/23-4/24
DDF-G34*				✔	13.2	3/16-4/16
DDF-G35*				✔	14.0	3/16-4/18
DDF-G36*					00.0	NONE
DDF-G37*			✔		10.7	3/16-4/10
DDF-G38*				✔	14.0	3/16-4/18

* Installed in 2001

Figure 4A is a graphical representation of the hydrologic monitoring results for the year 2000 and Figure 4B gives the same information for the year 2001. A blue dot represents wetland hydrology for more than 12.5% of the season; a red

dot indicates hydrology between 8% and 12.5%; a green dot represents hydrology between 5% and 8%.

During the time period from March through November 2000, twenty-seven of the thirty-one gauges met jurisdictional hydrologic success of at least 12.5% during the growing season. Conversely, only three gauges met hydrology of less than 5% of the growing season.

For this time period from March through November 2001, twenty-eight of the thirty-six gauges met jurisdictional hydrologic success of at least 12.5% during the growing season. Conversely, only three gauges met hydrology of less than 5% of the growing season. Of the gauges that didn't meet the minimum 5% hydrology, two of them (G2 and G4) are located in an area that was estimated to be dry in the mitigation plan report.

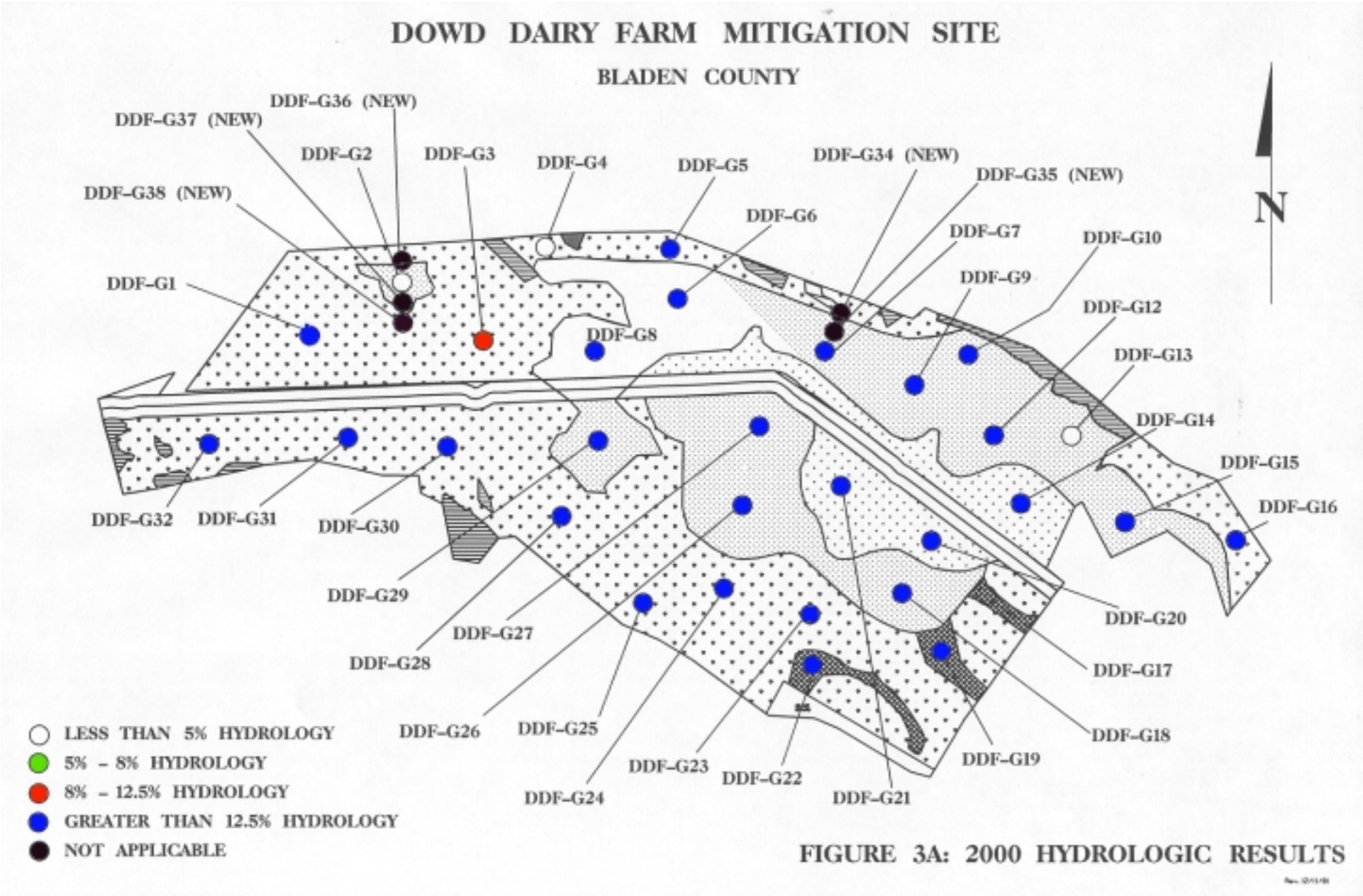


FIGURE 3A: 2000 HYDROLOGIC RESULTS

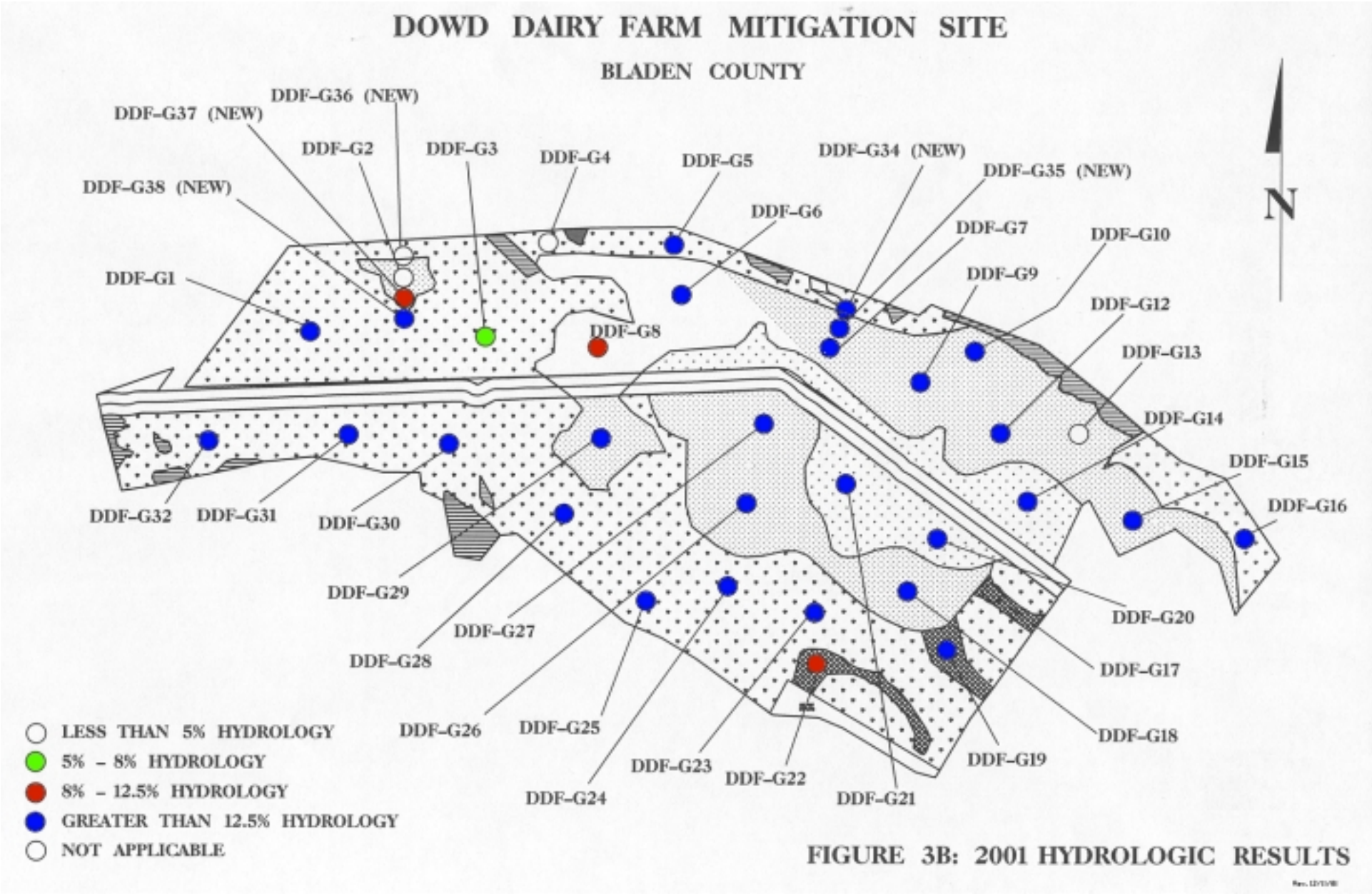


FIGURE 3B: 2001 HYDROLOGIC RESULTS

Table 3 gives a further comparison between the three years that monitoring has been documented. Groundwater Gauges 34 through 38 were not installed until the 2001 monitoring season, so there is no data for 1999 and 2000.

Table 3
HYDOLOGIC MONITORING RESULTS FOR 1999-2001
(IN PERCENTAGE OF GROWING SEASON)

Monitoring Gauge	*Year*		
	1999*	**2000**	**2001**
DDF-G1	11.5	63.9	21.0
DDF-G2	.8	4.1	2.9
DDF-G3	2.1	10.7	7.8
DDF-G4	.8	2.5	1.6
DDF-G5	0	17.6	14.0
DDF-G6	0	40.6	18.1
DDF-G7	2.1	25.4	8.2
DDF-G8	.4	36.9	12.3
DDF-G9	9.1	26.2	17.3
DDF-G10	11.9	100	20.2
DDF-G12	11.5	63.5	18.1
DDF-G13	.8	1.6	1.2
DDF-G14	2.1	24.2	17.3
DDF-G15	4.5	42.6	19.3
DDF-G16	12.3	40.2	17.3
DDF-G17	9.1	24.6	17.7
DDF-G18	11.5	27.0	19.8
DDF-G19	10.7	24.6	15.6
DDF-G20	9.1	66.4	19.8
DDF-G21	3.7	65.6	19.3
DDF-G22	10.7	24.6	11.1
DDF-G23	13.6	49.6	20.2
DDF-G24	10.7	51.2	17.3
DDF-G25	10.7	60.2	19.8
DDF-G26	8.6	93.0	18.9
DDF-G27	4.1	64.3	18.9
DDF-G28	12.3	91.8	19.3
DDF-G29	11.9	95.1	21.0
DDF-G30	11.5	100	18.5
DDF-G31	3.7	33.6	17.3
DDF-G32	11.5	40.2	13.6
DDF-G34	--	--	13.2
DDF-G35	--	--	14.0
DDF-G36	--	--	00.0
DDF-G37	--	--	10.7
DDF-G38	--	--	14.0

* Pre-hurricane data

2.3.2 Climatic Data

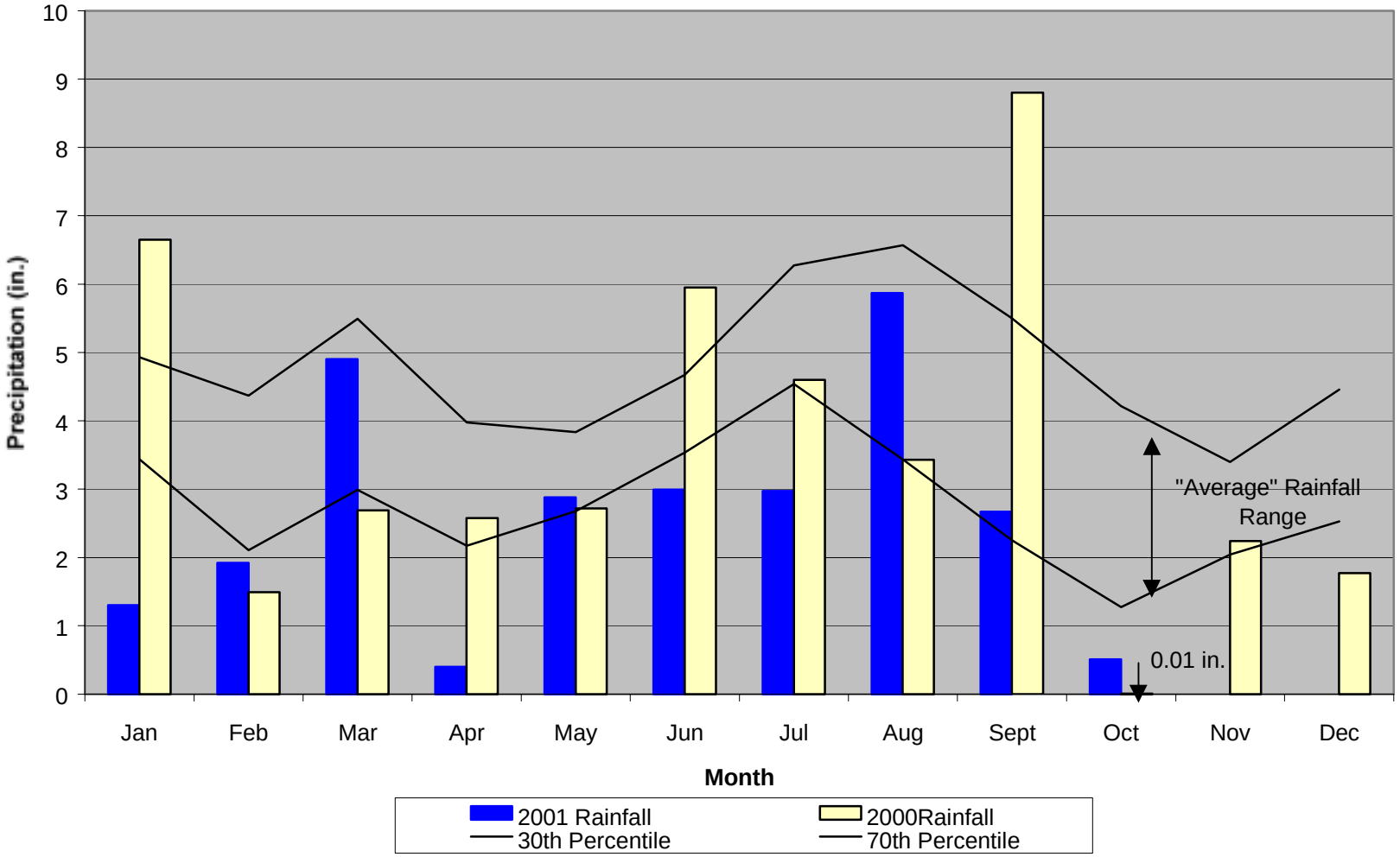
Figure 5 represents an examination of the local climate in comparison with historical data in order to determine whether 2001 was “average” in terms of climate conditions. The two lines represent the 30th and 70th percentiles of monthly precipitation for William O. Huske L&D, NC. The bars are monthly rainfall totals for 2000 and 2001. The historical data was collected from the National Climatic Data Center while the recent rainfall was provided by the State Climate Office of North Carolina. Because of data availability, the 2001 rainfall encompasses precipitation through November. The 2002 annual monitoring report will include a 30-70 percentile graph with the monthly rainfall from December 2001.

The months of March and August 2001 were considered “average”. The remaining months for 2001 were considered below average.

2.4 Conclusions

For the Year 2000, twenty-seven of thirty-one monitoring gauges indicated optimum hydrologic success of at least 12.5% from March through August, while only three gauges met hydrology less than 5% of the growing season. For the Year 2001, twenty-eight of thirty-six monitoring gauges met hydrological success of at least 12.5% during the growing season, only three gauges met hydrology less than 5% of the growing season.

FIGURE 4: Dowd Dairy 30-70 Percentile Graph
Bladen County



3.0 VEGETATION

3.1 Success Criteria

Success Criteria states that there must be a minimum of 320 trees per acre living for at least three consecutive years. A minimum of 5 character tree species must be present, with no more than 20% of any one species is also required with the exception of Atlantic White Cedar which may comprise up to 75% in swamp forest restoration. Loblolly Pine cannot comprise of more than 10% of the 320 trees per acre requirement

3.2 Description of Species

The following tree species were planted in the Wetland Planting Areas:

Zone 1: Non-Riverine Wet Hardwood Forest (320.25 acres)

Quercus falcata var. pagodaefolia, Cherrybark Oak
Fraxinus pennsylvanica, Green Ash
Quercus laurifolia, Laurel Oak
Quercus lyrata, Overcup Oak
Quercus michauxii, Swamp Chestnut Oak
Nyssa aquatica, Water Tupelo
Quercus nigra, Water Oak
Quercus phellos, Willow Oak

Zone 2: Pine/Oak Hickory (17.68 acres)

Juglans nigra, Black Walnut
Nyssa sylvatica, Blackgum
Pinus palustris, Longleaf Pine
Quercus falcata, Southern Red Oak
Quercus nigra, Water Oak
Quercus alba, White Oak
Quercus phellos, Willow Oak
Liriodendron tulipfera, Tulip Poplar
Quercus lyrata, Overcup Oak
Quercus falcata var. pagodaefolia, Cherrybark Oak

Zone 3: Non-Riverine Swamp Forest (201.2 acres)

Chamaecyparis thyoides, Atlantic White Cedar
Taxodium distichum, Bald Cypress
Quercus falcata var. pagodaefolia, Cherrybark Oak
Fraxinus pennsylvanica, Green Ash
Quercus laurifolia, Laurel Oak
Quercus lyrata, Overcup Oak
Quercus nigra, Water Oak

Quercus phellos, Willow Oak
Nyssa aquatica, Water Tupelo

Zone 4: Headwater (Slope) Swamp (12.05 acres)

Taxodium distichum, Bald Cypress
Quercus falcata var. pagodaefolia, Cherrybark Oak
Quercus laurifolia, Laurel Oak
Quercus lyrata, Overcup Oak
Quercus michauxii, Swamp Chestnut Oak
Quercus nigra, Water Oak
Quercus phellos, Willow Oak
Liriodendron tulipfera, Tulip Poplar

Zone 5: Atlantic White Cedar Slope (67.76 acres)

Chamaecyparis thyoides, Atlantic White Cedar
Taxodium distichum, Bald Cypress
Pinus serotina, Pond Pine
Quercus michauxii, Swamp Chestnut Oak
Nyssa aquatica, Water Tupelo
Quercus phellos, Willow Oak
Liriodendron tulipfera, Tulip Poplar
Quercus falcata var. pagodaefolia, Cherrybark Oak
Fraxinus pennsylvanica, Green Ash
Quercus laurifolia, Laurel Oak
Quercus lyrata, Overcup Oak

3.3 Results of Vegetation Monitoring (1 yr.)

Table 4 shows the results for the vegetation for the Year 2001.

Table 4: 2001 Vegetation Monitoring Results

ZONE	Plot #	Swamp Chestnut Oak	Laurel Oak	Willow Oak	Cherrybark Oak	Water Tupelo	Water Oak	Green Ash	Overcup Oak	White Oak	Southern Red Oak	Longleaf Pine	Pond Pine	Blackgum	Black Walnut	Tulip Poplar	Baldcypress	Atlantic White Cedar	Total (1 year)	Total (at planting)	Density (Tree/Acre)
1	1			7	1			6	10										24	37	441
	3	6	1	4		1			3										15	40	255
	4	2	2	2		1			17										24	28	583
	5		3	3	1	4		13	7										31	39	541
	8	4	1	3	1	5		8											22	38	394
	14	5	1	6	10														22	39	384
	15	3	4	10	4				1										22	32	468
	17	14	3	1	9	3			1										31	41	514
	19	4	1	2					3										10	35	194
	28	3		9		3		7	4										26	37	478
	29	5	1	1				6	18										31	41	514
	30		3	9				18	2										32	39	558
	31	14			1	1		6	4										26	37	478
	32	7		4	1	1		8	3										24	38	429
	33		2	4	5			25	8										44	44	680
	34	7	3	1	1	7		7	8										34	39	593
													ZONE 1 AVERAGE							**469**
2	2			1	3				20							1			25	25	680
	12			4			2				7								13	26	340
													ZONE 2 AVERAGE							**510**

ZONE	Plot #	Swamp Chestnut Oak	Laurel Oak	Willow Oak	Cherrybark Oak	Water Tupelo	Water Oak	Green Ash	Overcup Oak	White Oak	Southern Red Oak	Longleaf Pine	Pond Pine	Blackgum	Black Walnut	Tulip Poplar	Baldcypress	Atlantic White Cedar	Total (1 year)	Total (at planting)	Density (Tree/Acre)
3	6		4	1	4		1	2	2										14	30	317
	7				1			9	2								19		31	40	527
	9			3	1												10	8	22	34	440
	10		3		5		2		10								12		32	44	495
	11		1	15	1				3								7	1	28	28	680
	20		1	1				10											12	37	221
	24			5	4			3	1								4	5	22	34	440
	25		1	6	6			7	5								1	5	31	31	680
	26			2				17	1								6	5	31	35	602
	27		1	11	1			1	9									4	27	36	510
	35				2	4		6	1									2	15	37	276
	36		6	5				2									2		15	36	283
													ZONE 3 AVERAGE								456
4	16	3			3				5								12		23	31	505
	18	6		3					1							2	9		21	35	408
													ZONE 4 AVERAGE								456
5	13		2	2	5			5	3										17	24	482
	21			4									10				15		29	29	680
	22	9		3		3							1				8	3	27	27	680
	23	1		9		2							6				12		30	38	537
	37	13		8		8							5				13		47	47	680
	38	21		9					4					13		1	2		50	50	680
													ZONE 5 AVERAGE								623
													TOTAL AVERAGE								491

Site Notes:

Zone 1: Other species noted: goldenrod, briars, volunteer red maple, broomsedge, volunteer pine, volunteer sweetgum, stinkweed, sicklepod, trumpet creeper, *Juncus* sp., *Aster* sp., switch grass, giant foxtail, fennel, sassafras, and *Bidens* sp.

Zone 2: Other species noted: ragweed, *Aster* sp., *Juncus* sp., broomsedge, volunteer pine, goldenrod, and cacti.

Zone 3: Other species noted: fennel, broomsedge, goldenrod, winged sumac, *Baccharis halimifolia*, cattail, stinkweed, *Juncus* sp., volunteer black willow, foxtail, volunteer sweetgum, briars, sassafras, ragweed, smartgrass, sicklepod, bahia, and aster.

Zone 4: Other species noted: volunteer sweetgum, briar, fennel, volunteer red maple, broomsedge, *Aster* sp., and *Juncus* sp.

Zone 5: Other species noted: fennel, briars, volunteer sweetgum, volunteer red maple, bermuda grass, *Juncus* sp., cattail, *Aster* sp., winged sumac, and broomsedge.

3.4 Conclusions

Of the 658 acres of this site, approximately 619 acres involved tree planting. There were 38 test plots established throughout the planting areas, covering all plant communities. The 2001 vegetation monitoring of the planted areas revealed an average density of 491 trees per acre, which is well above the minimum requirement of 320 trees per acre. It should be noted that since that is a phased project the majority of the plots contain 3-year old trees.

Phase 2 construction was completed in 2000 and the remainder of the site was planted in spring 2001 with the exception of the upland area along the road, which will be planted in spring 2002.

4.0 OVERALL CONCLUSIONS/ RECOMMENDATIONS

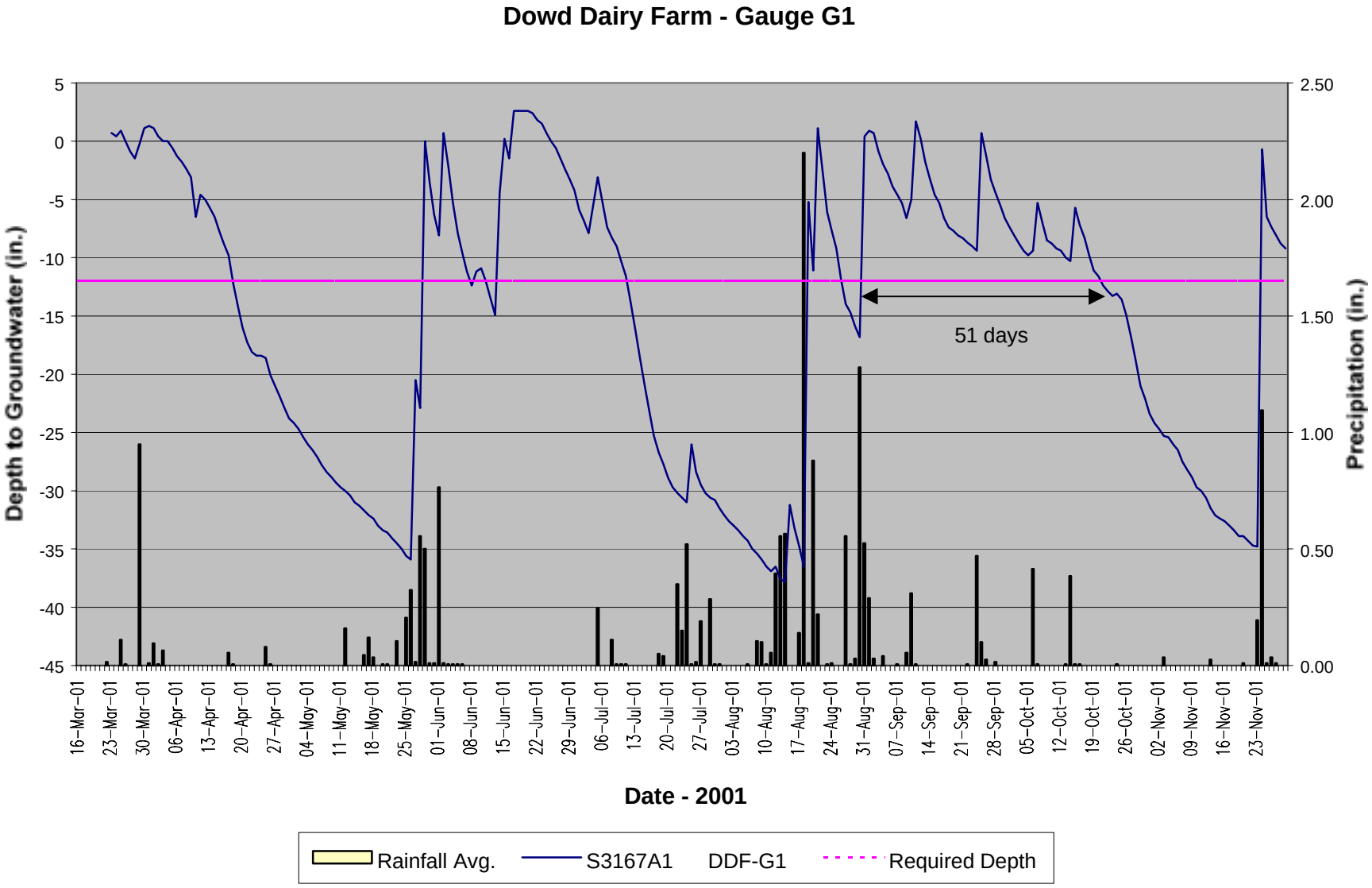
For the Year 2001, twenty-eight of thirty-six monitoring gauges indicated optimum hydrologic success of at least 12.5% from March through August, while only three gauges were below 5%.

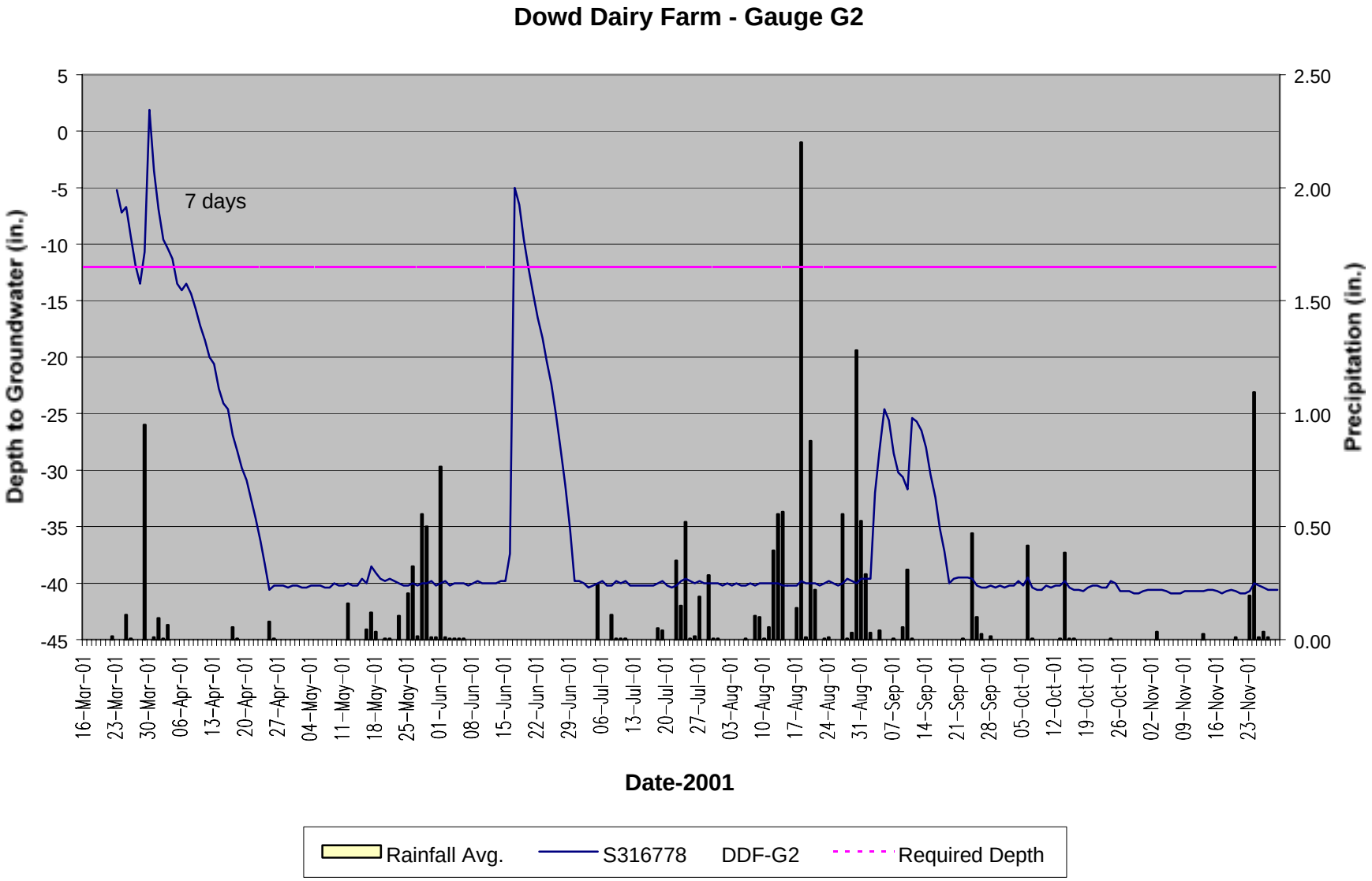
The first year of official vegetation monitoring of the planted areas revealed an average density to be 491 trees per acre, which is well above the minimum requirement of 320 trees per acre.

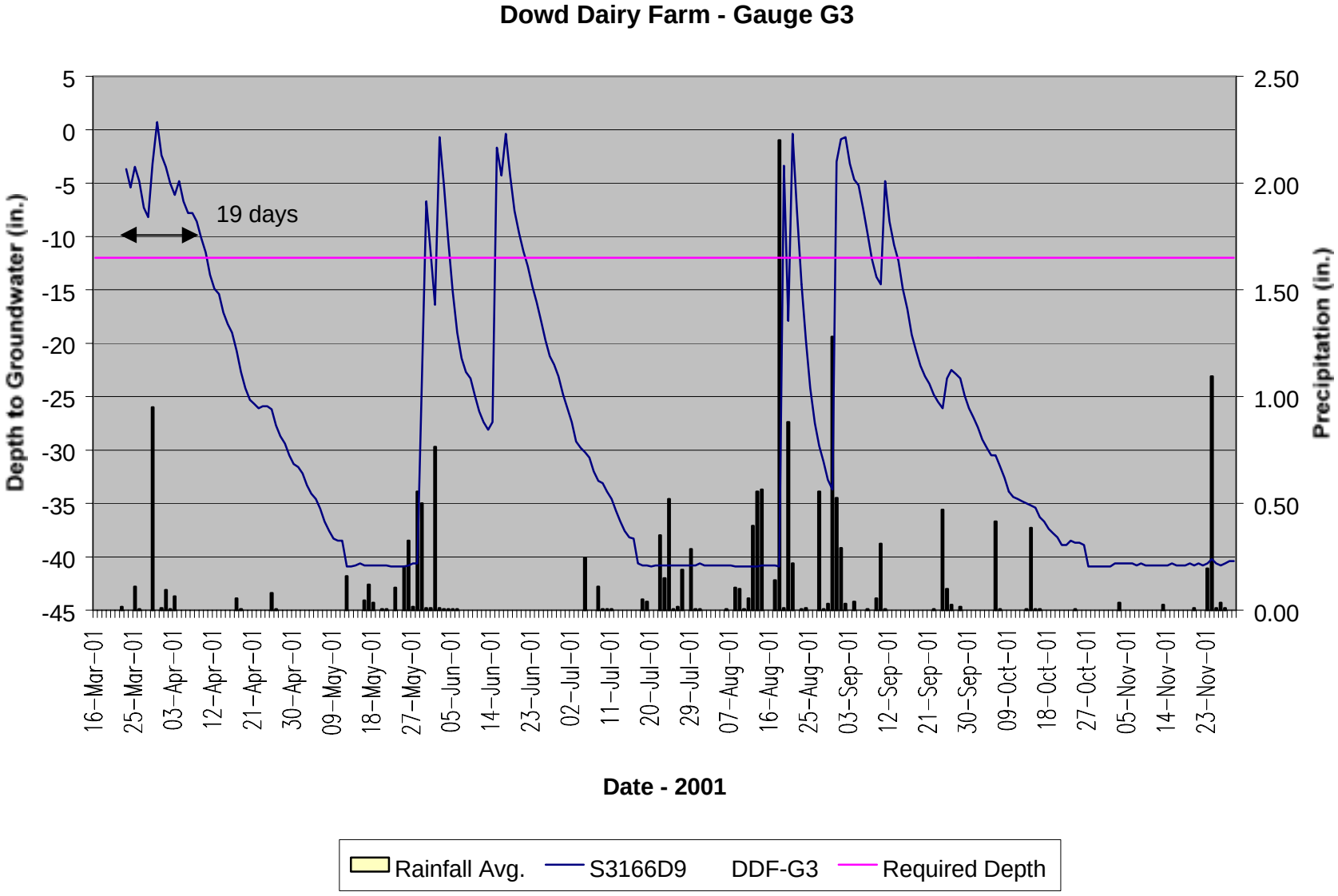
NCDOT will continue to monitor both hydrology and site vegetation.

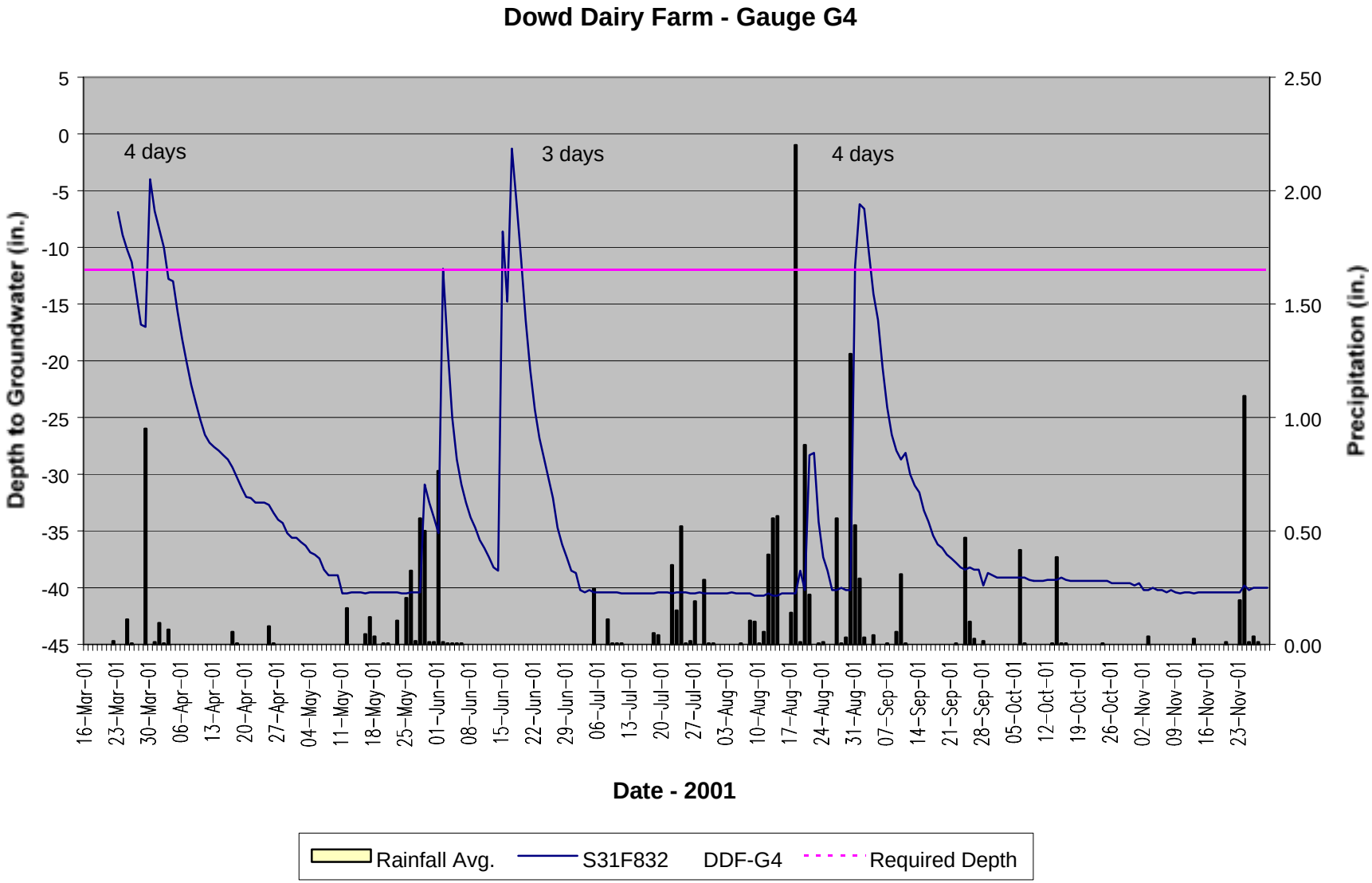
APPENDIX A

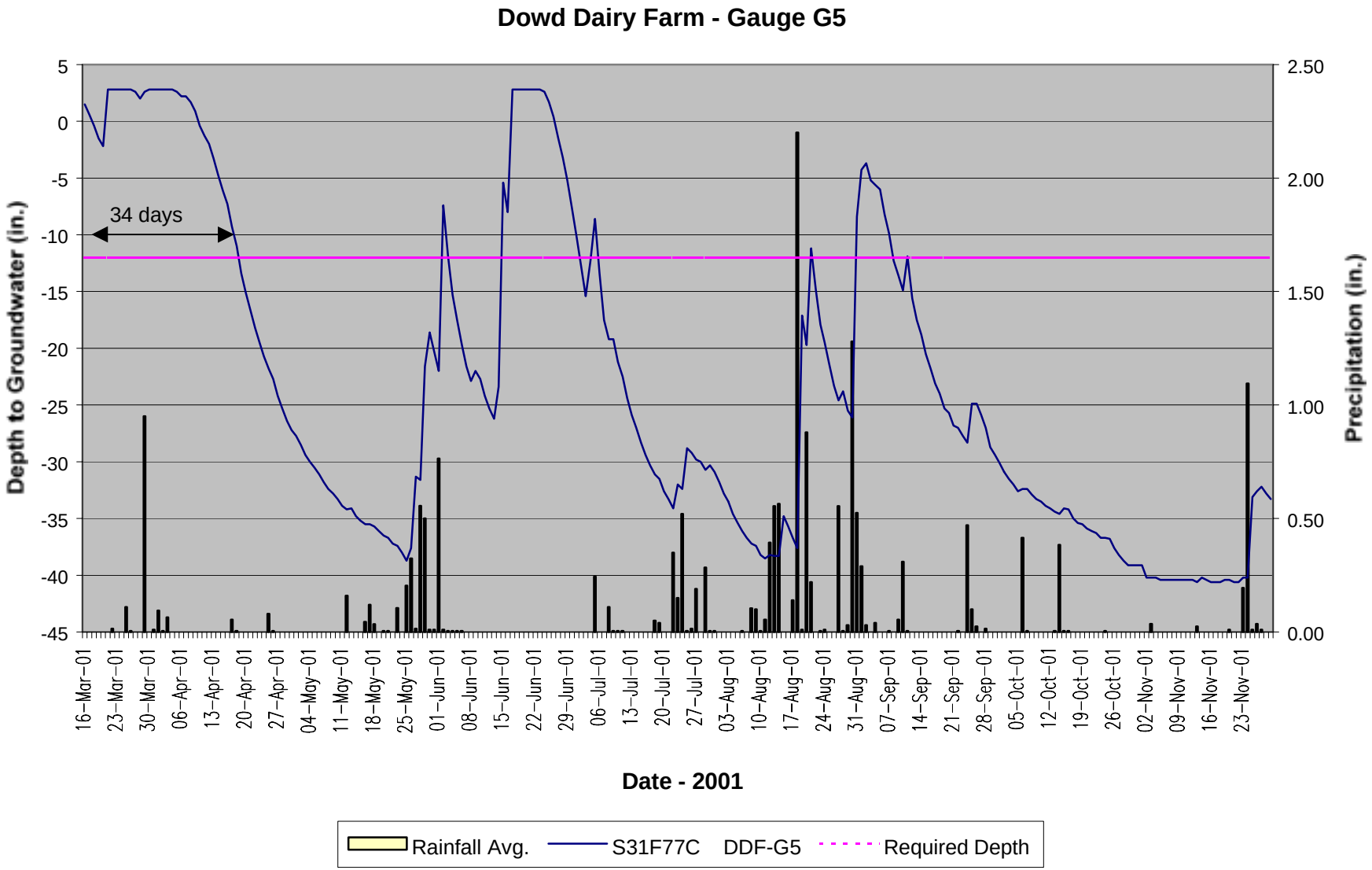
DEPTH TO GROUNDWATER GRAPHS


Dowd Dairy Farm - Gauge G1
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
51 days
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S3167A1
DDF-G1
Required Depth

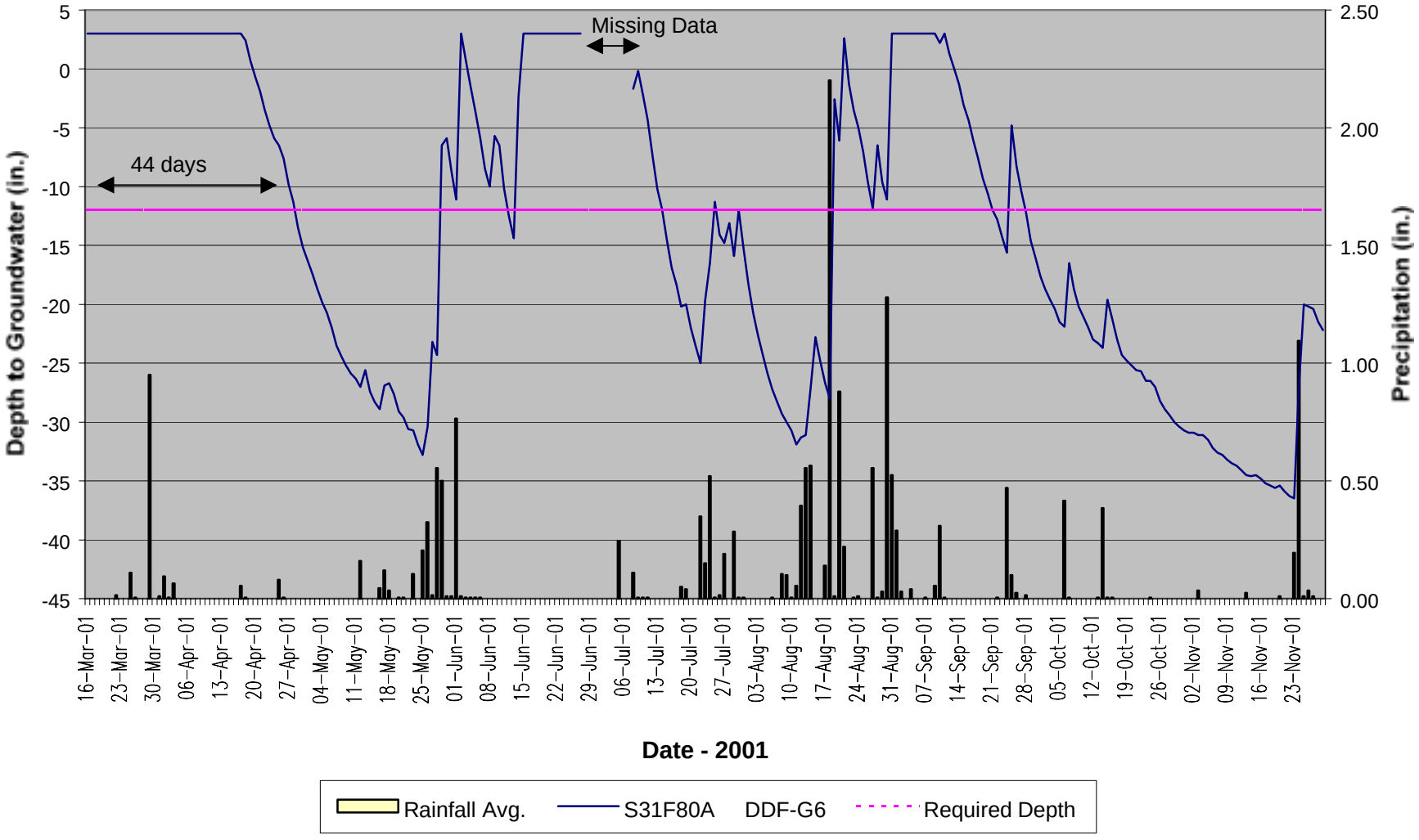

Dowd Dairy Farm - Gauge G2
7 days
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date-2001
Rainfall Avg.
S316778
DDF-G2
Required Depth

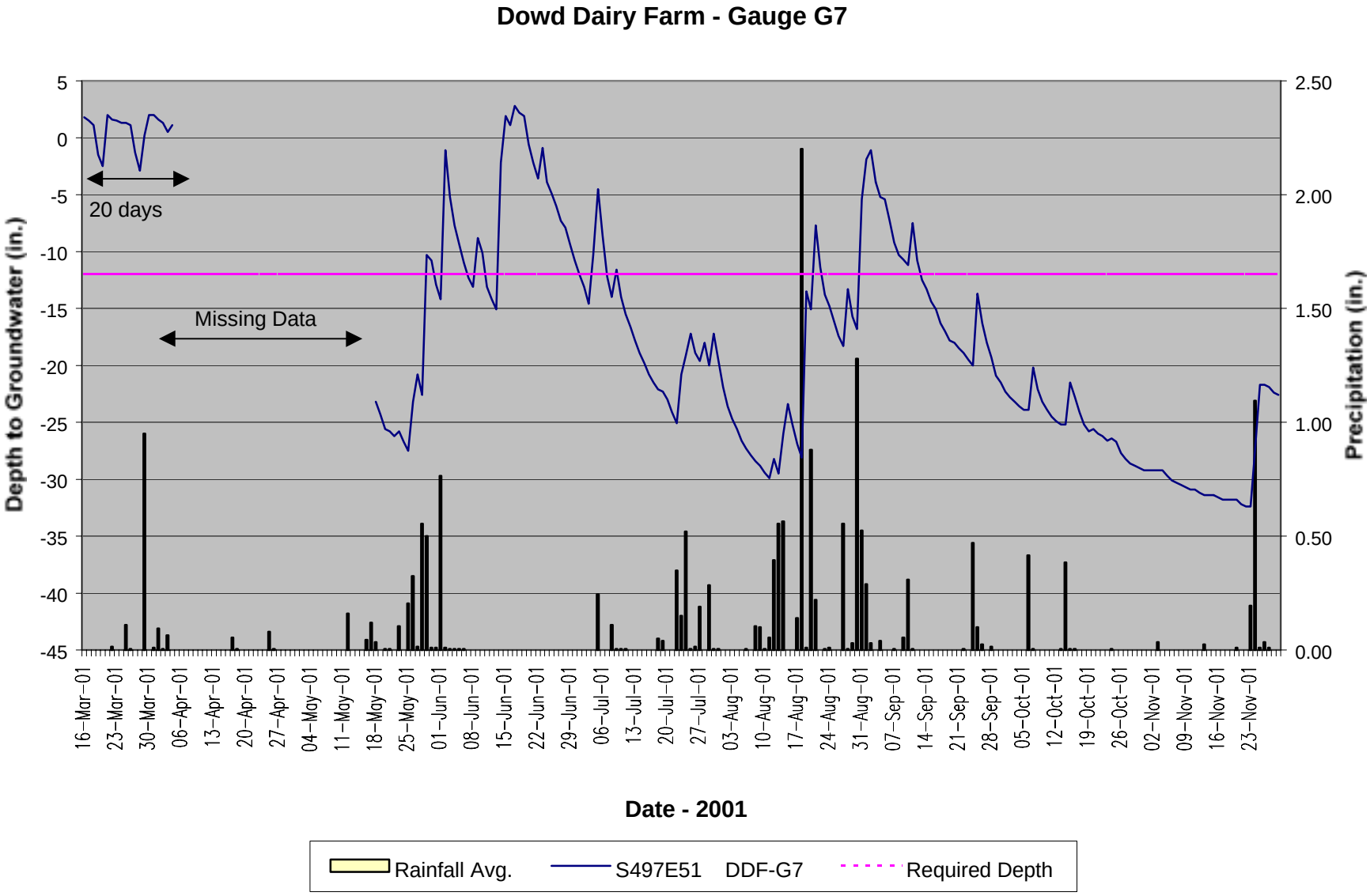

Dowd Dairy Farm - Gauge G3
Depth to Groundwater (in.)
Precipitation (in.)
19 days
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
25-Mar-01
03-Apr-01
12-Apr-01
21-Apr-01
30-Apr-01
09-May-01
18-May-01
27-May-01
05-Jun-01
14-Jun-01
23-Jun-01
02-Jul-01
11-Jul-01
20-Jul-01
29-Jul-01
07-Aug-01
16-Aug-01
25-Aug-01
03-Sep-01
12-Sep-01
21-Sep-01
30-Sep-01
09-Oct-01
18-Oct-01
27-Oct-01
05-Nov-01
14-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S3166D9
DDF-G3
Required Depth

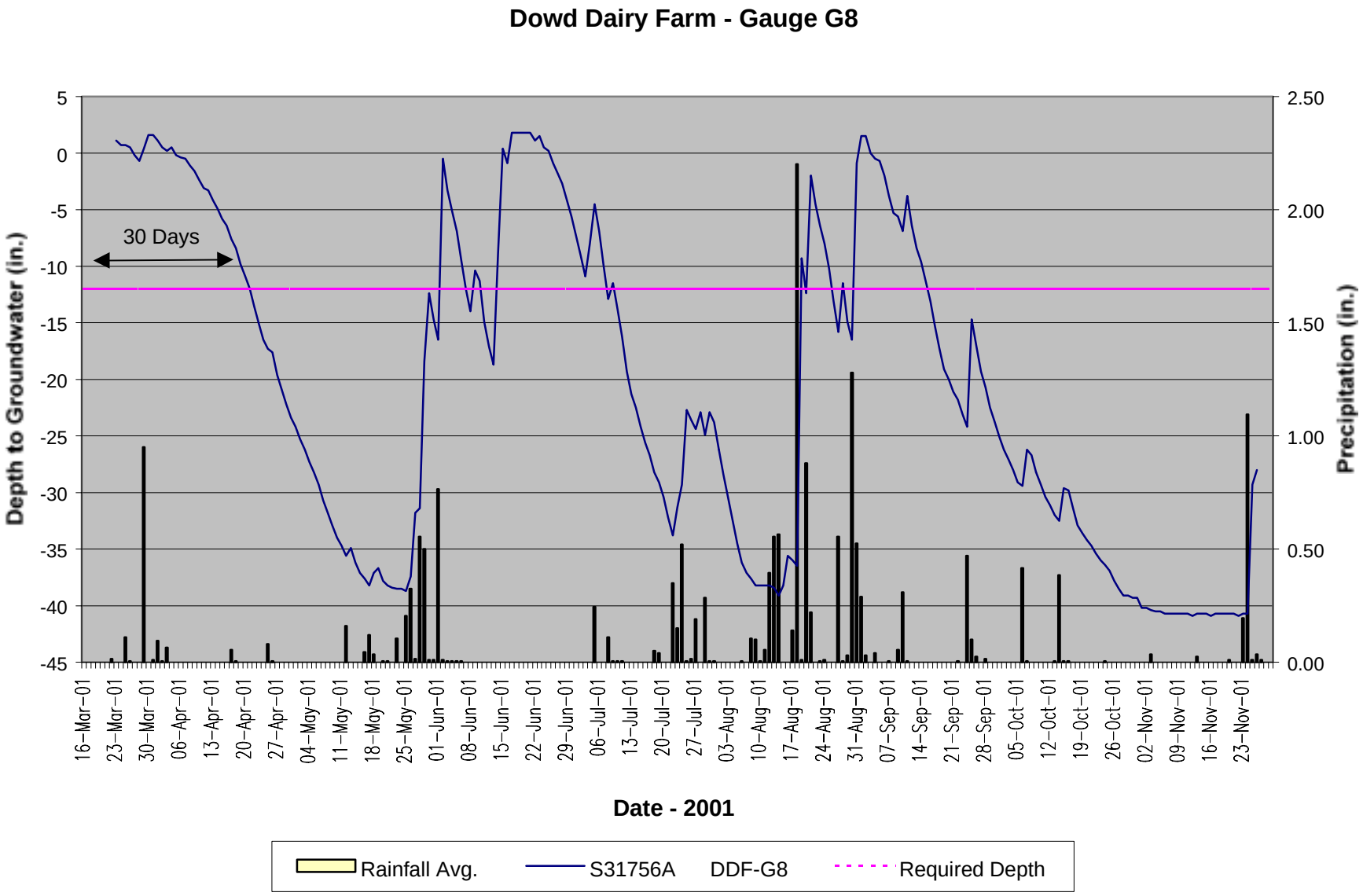

Dowd Dairy Farm - Gauge G4
4 days
3 days
4 days
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S31F832
DDF-G4
Required Depth

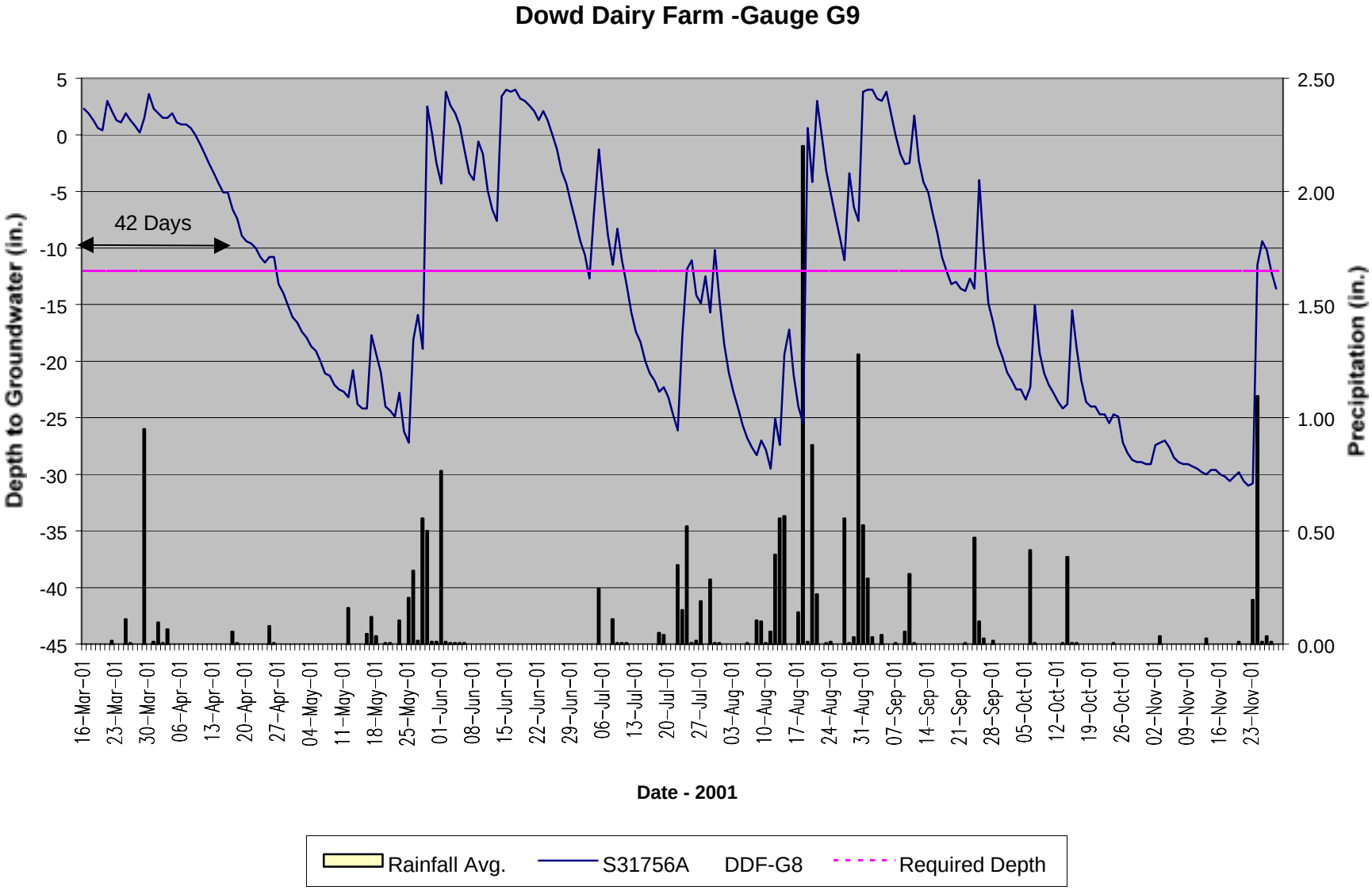

Dowd Dairy Farm - Gauge G5
Depth to Groundwater (in.)
Precipitation (in.)
34 days
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S31F77C DDF-G5
Required Depth

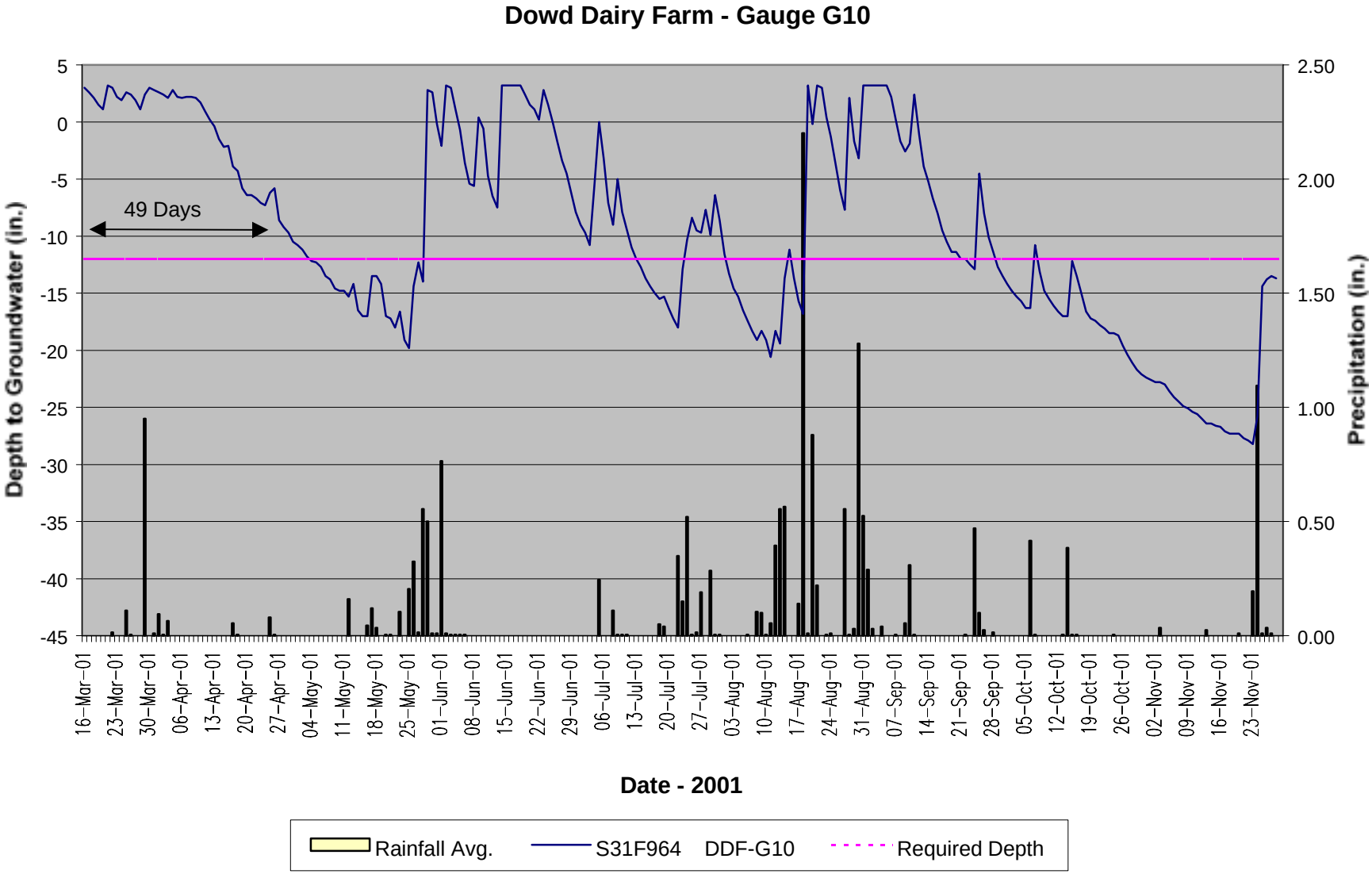
Dowd Dairy Farm - Gauge G6



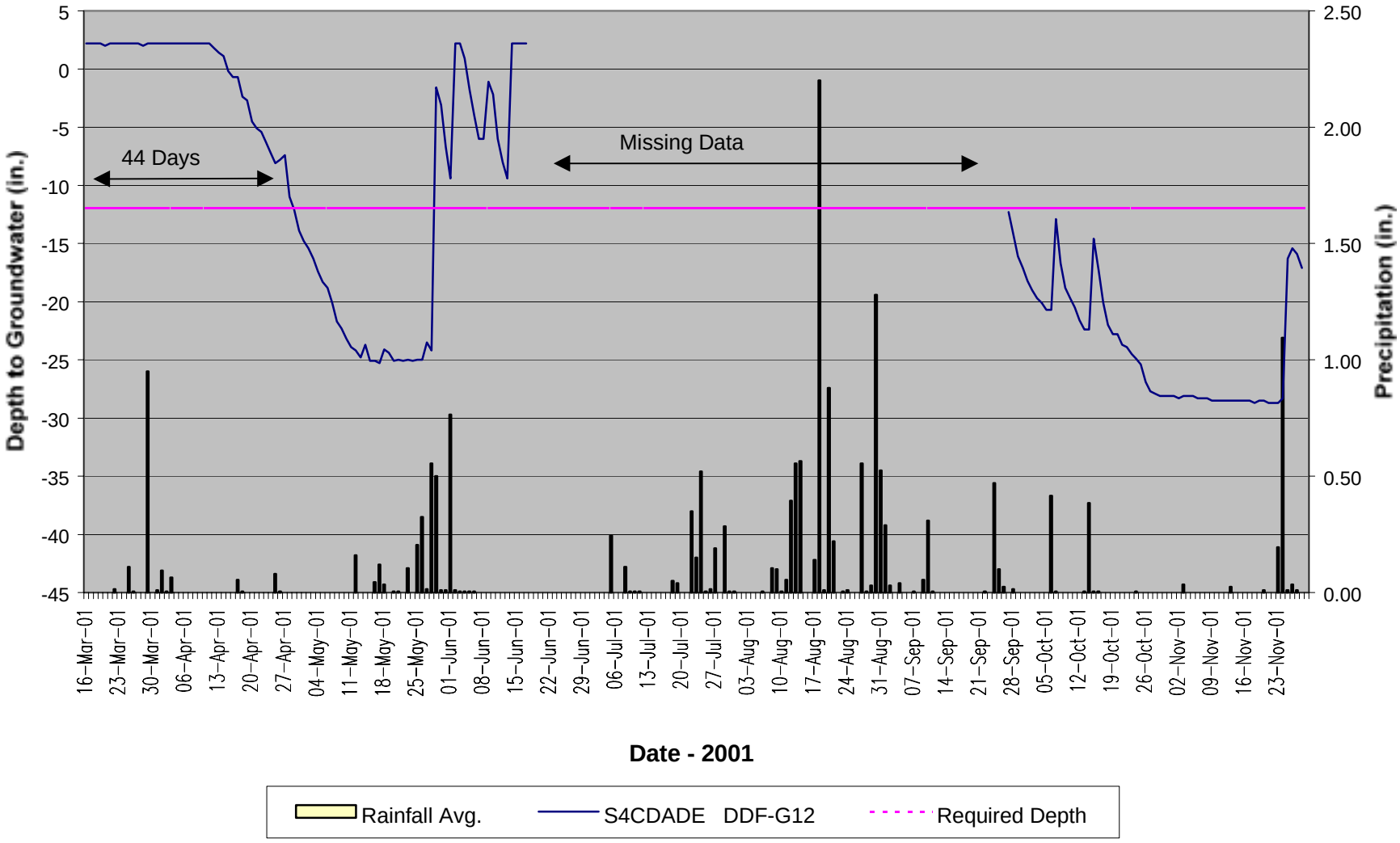

Dowd Dairy Farm - Gauge G7
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
20 days
Missing Data
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S497E51 DDF-G7
Required Depth

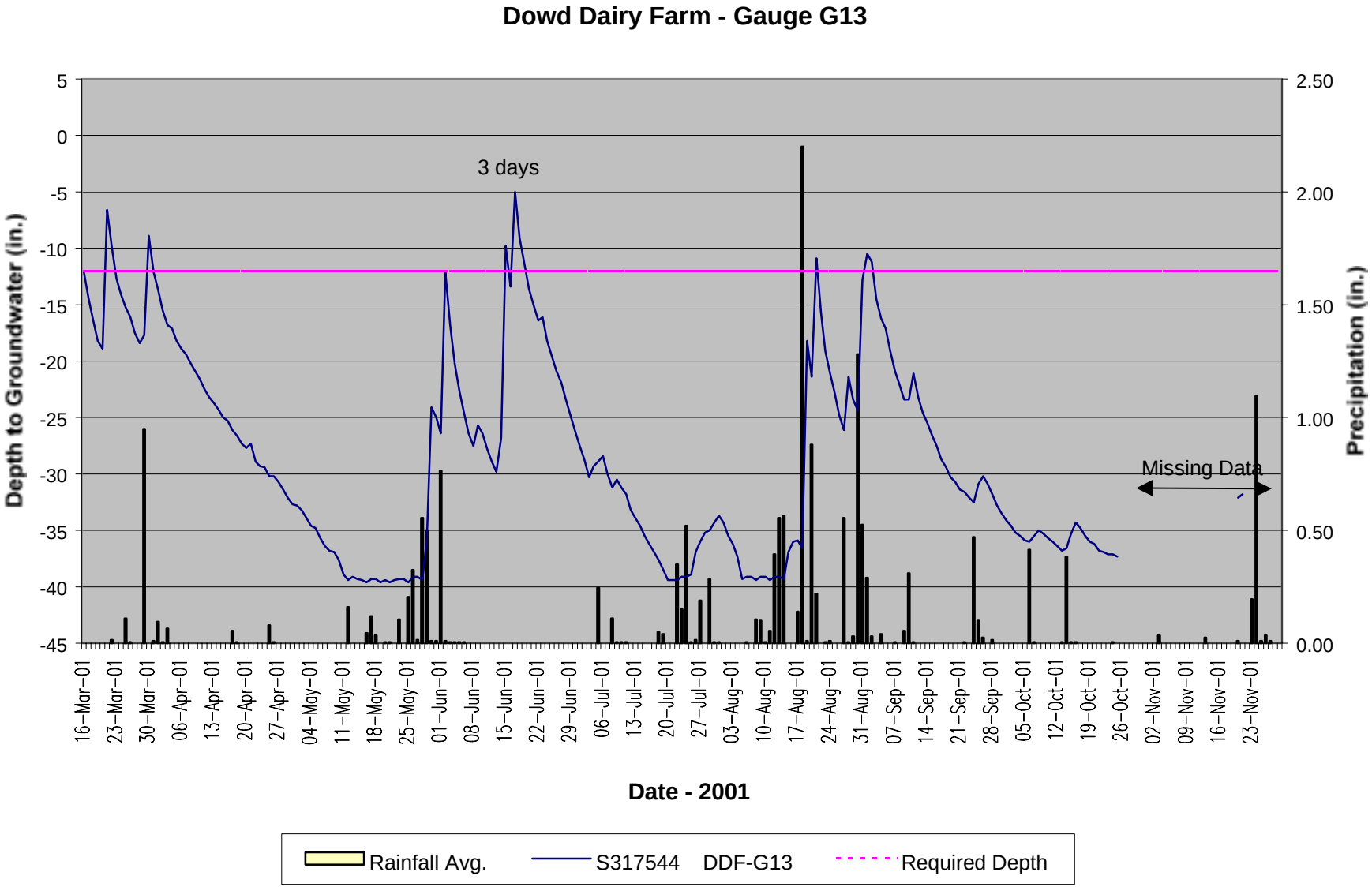

Dowd Dairy Farm - Gauge G8
Depth to Groundwater (in.)
Precipitation (in.)
30 Days
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S31756A
DDF-G8
Required Depth

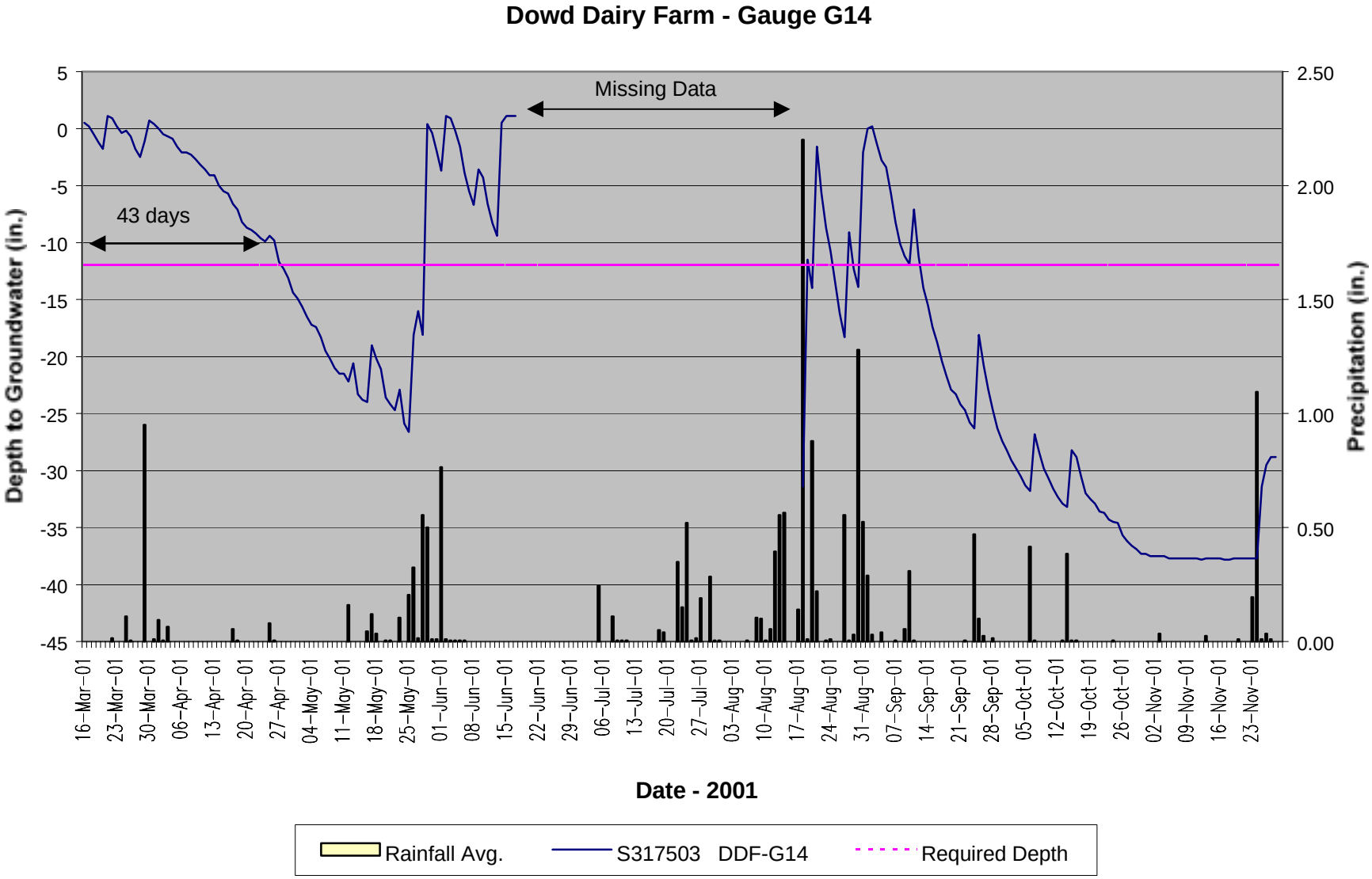

Dowd Dairy Farm -Gauge G9
Depth to Groundwater (in.)
Precipitation (in.)
42 Days
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S31756A
DDF-G8
Required Depth

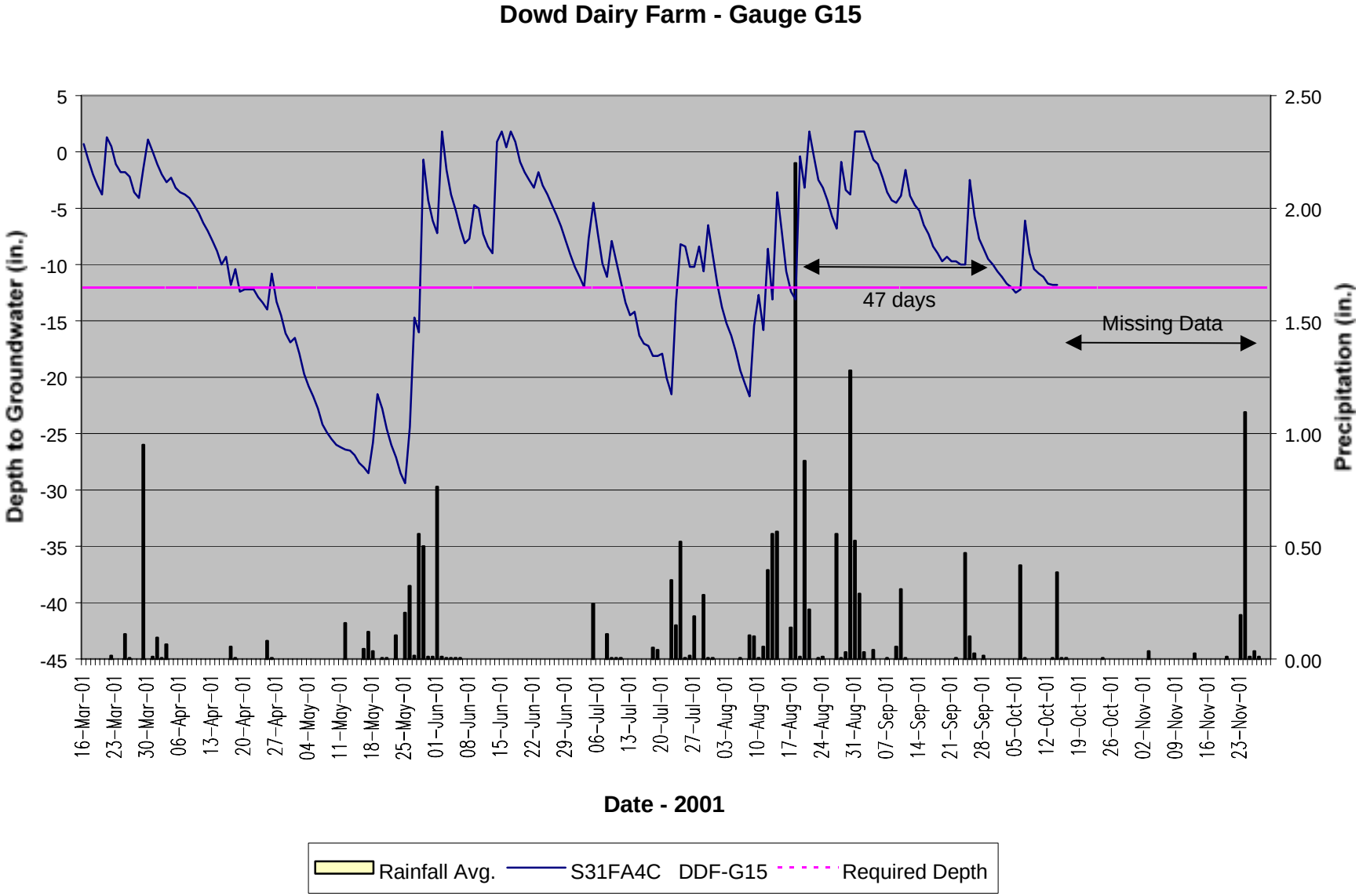

Dowd Dairy Farm - Gauge G10
Depth to Groundwater (in.)
Precipitation (in.)
49 Days
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S31F964 DDF-G10
Required Depth

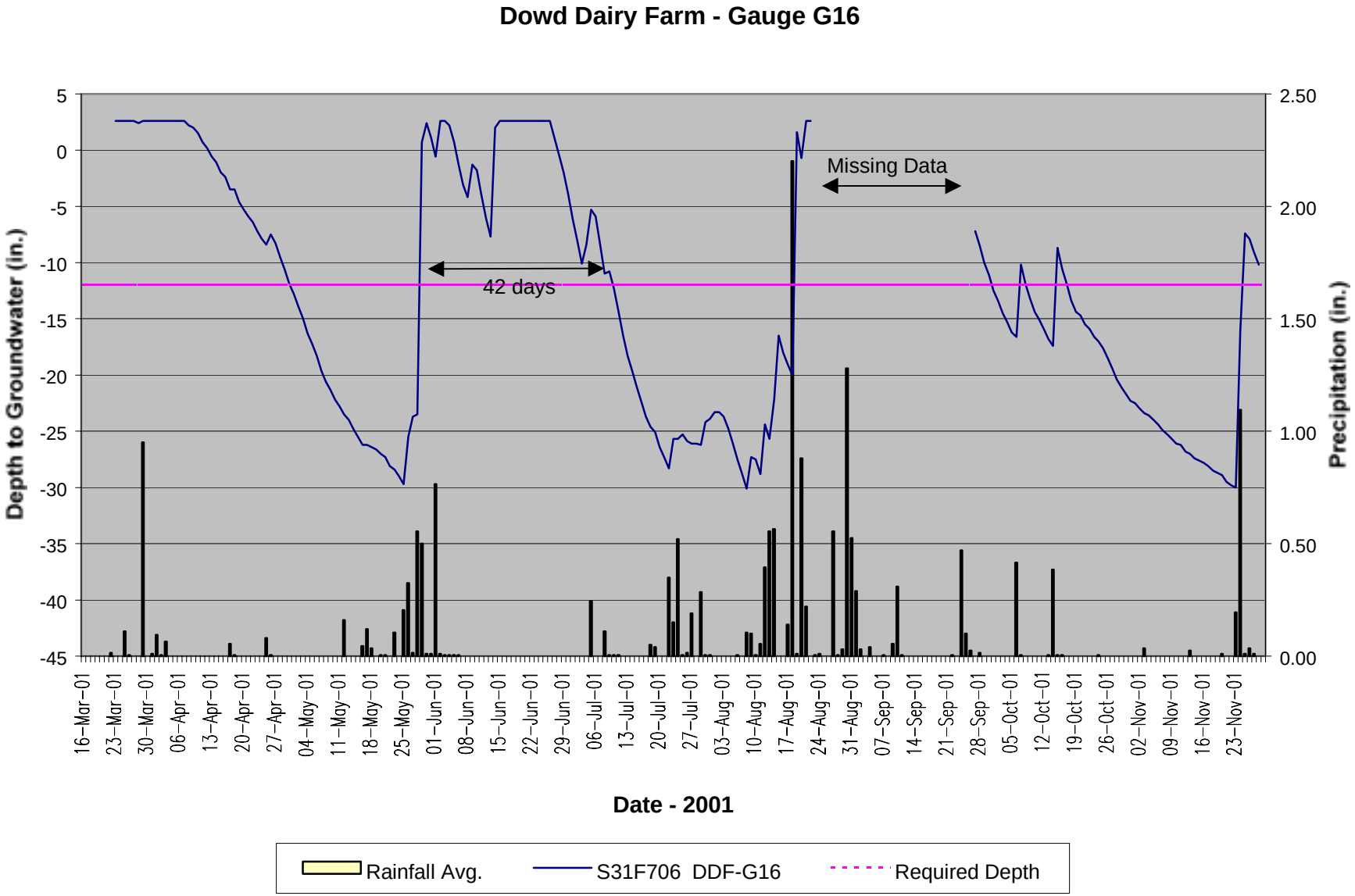
Dowd Dairy Farm - Gauge G12

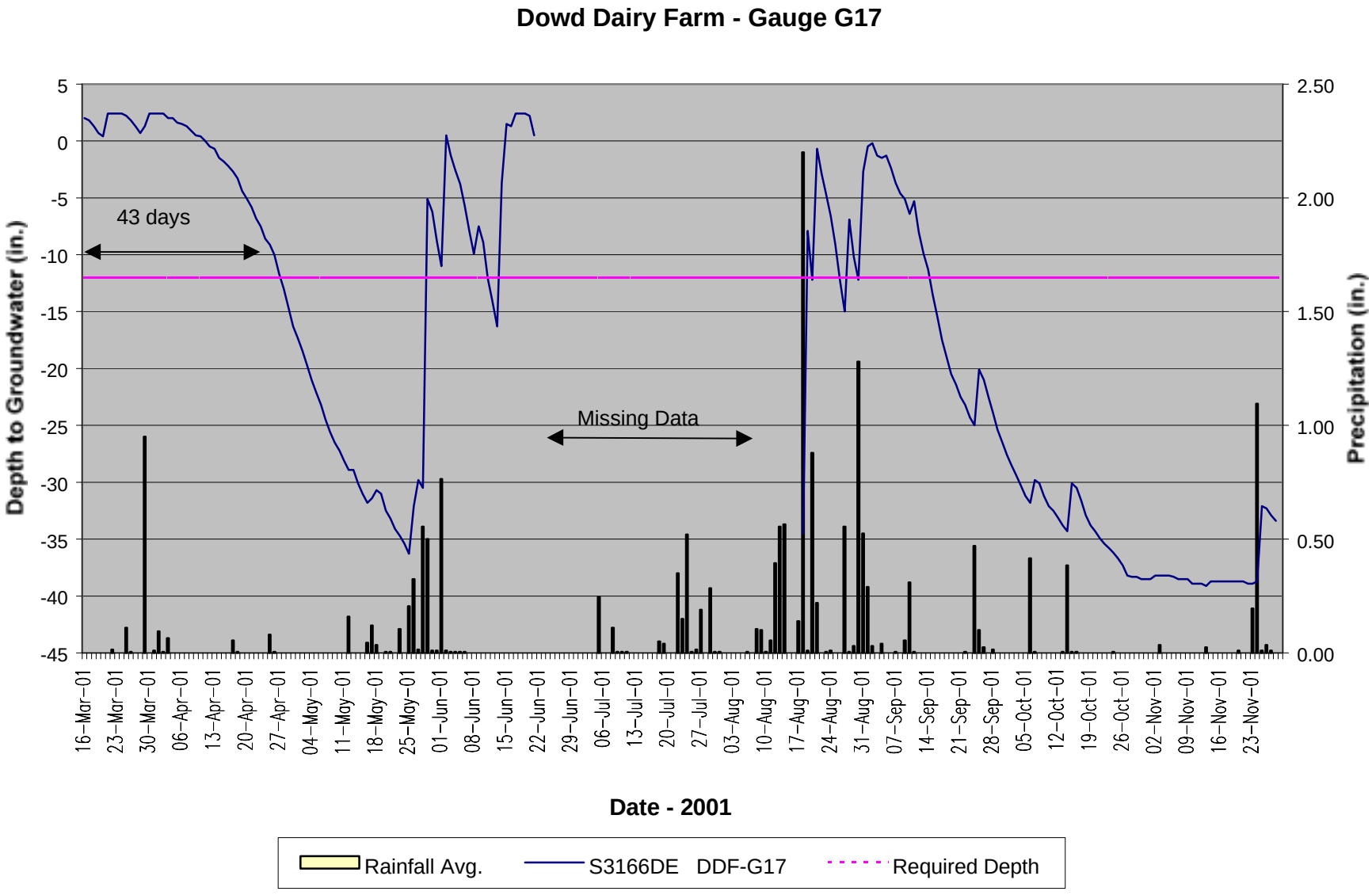


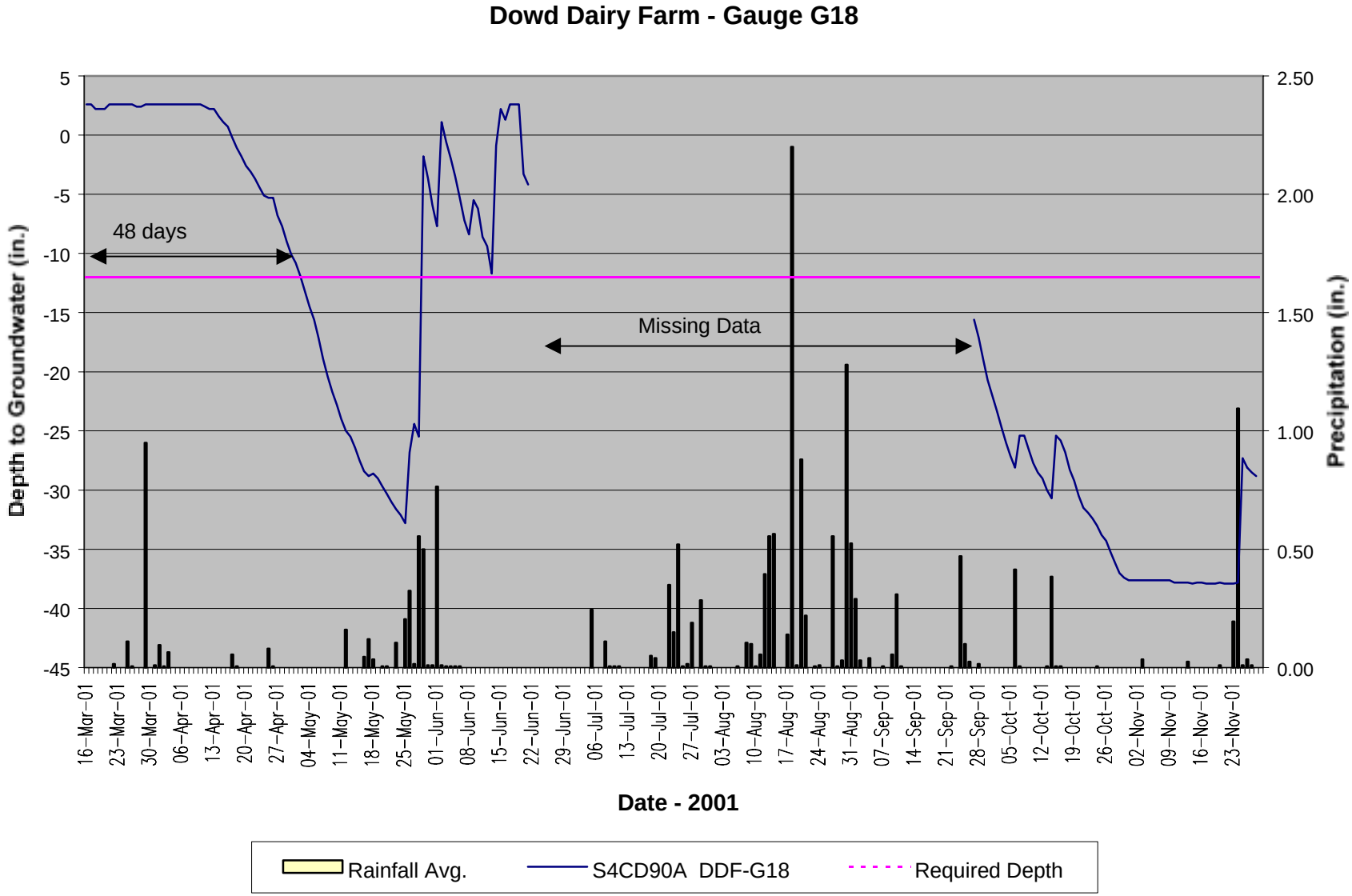

Dowd Dairy Farm - Gauge G13
Depth to Groundwater (in.)
Precipitation (in.)
3 days
Missing Data
Date - 2001
Rainfall Avg.
S317544 DDF-G13
Required Depth

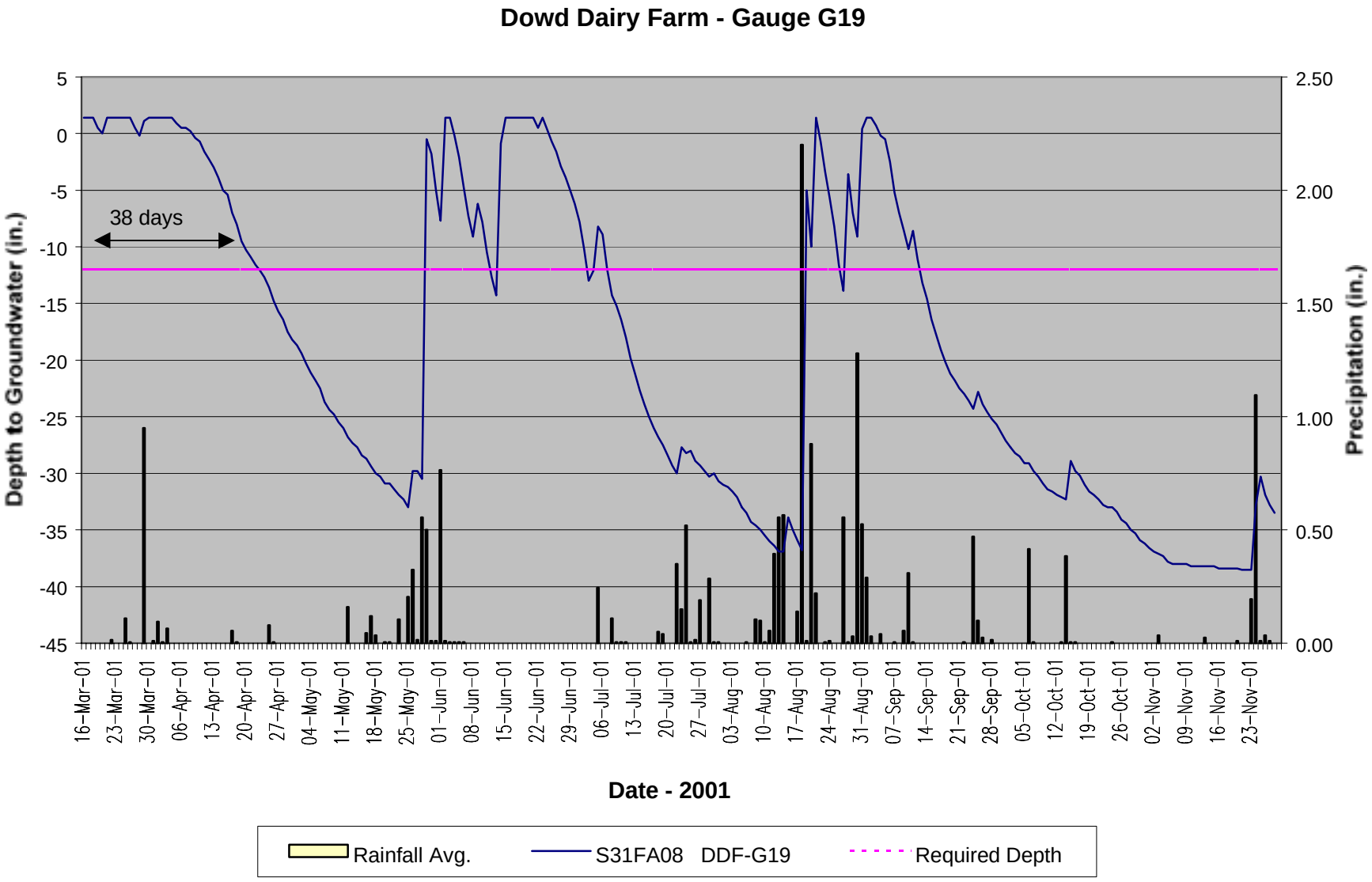

Dowd Dairy Farm - Gauge G14
Missing Data
43 days
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S317503 DDF-G14
Required Depth


Dowd Dairy Farm - Gauge G15
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
47 days
Missing Data
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S31FA4C DDF-G15
Required Depth

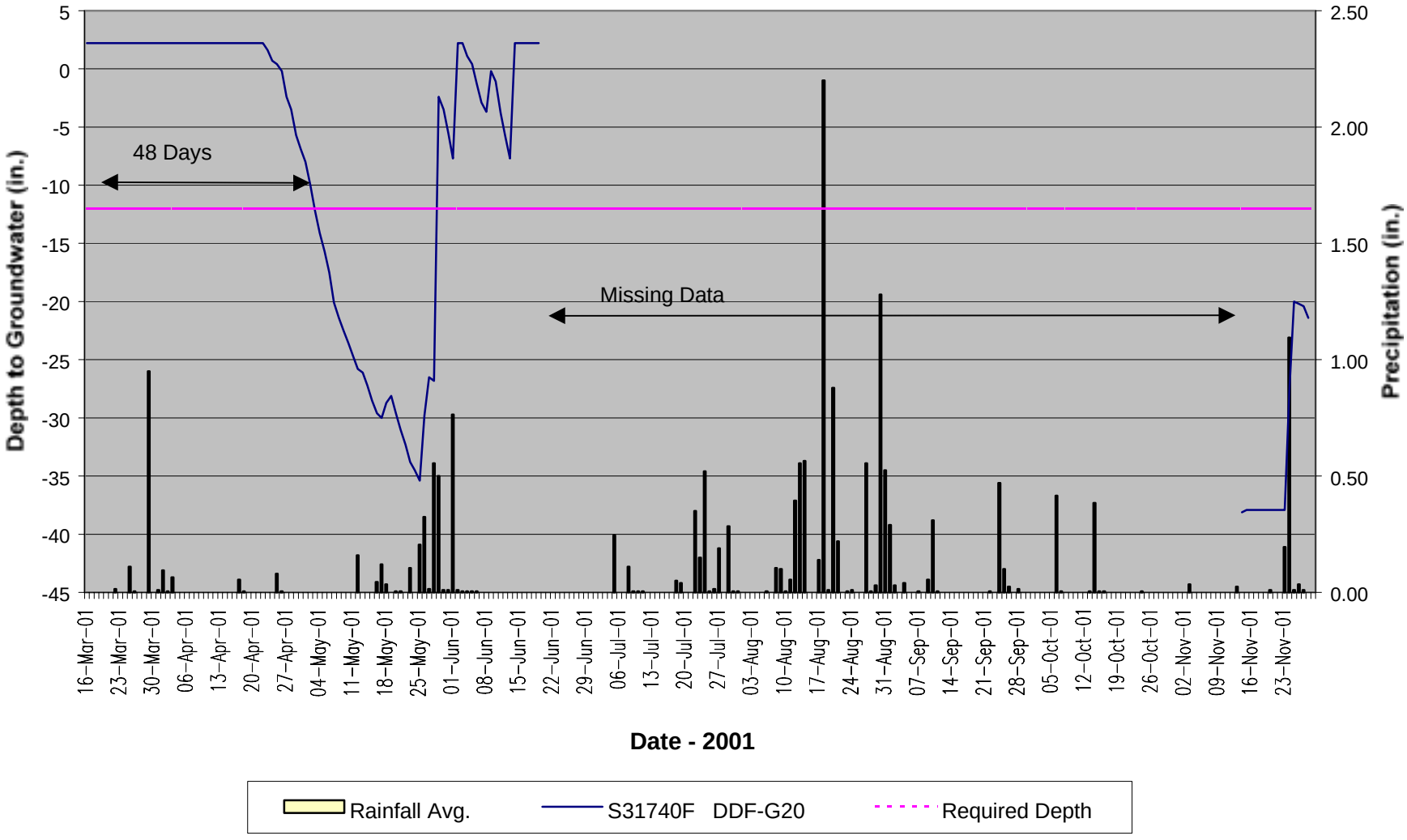

Dowd Dairy Farm - Gauge G16
Depth to Groundwater (in.)
Precipitation (in.)
Missing Data
42 days
Date - 2001
Rainfall Avg.
S31F706 DDF-G16
Required Depth

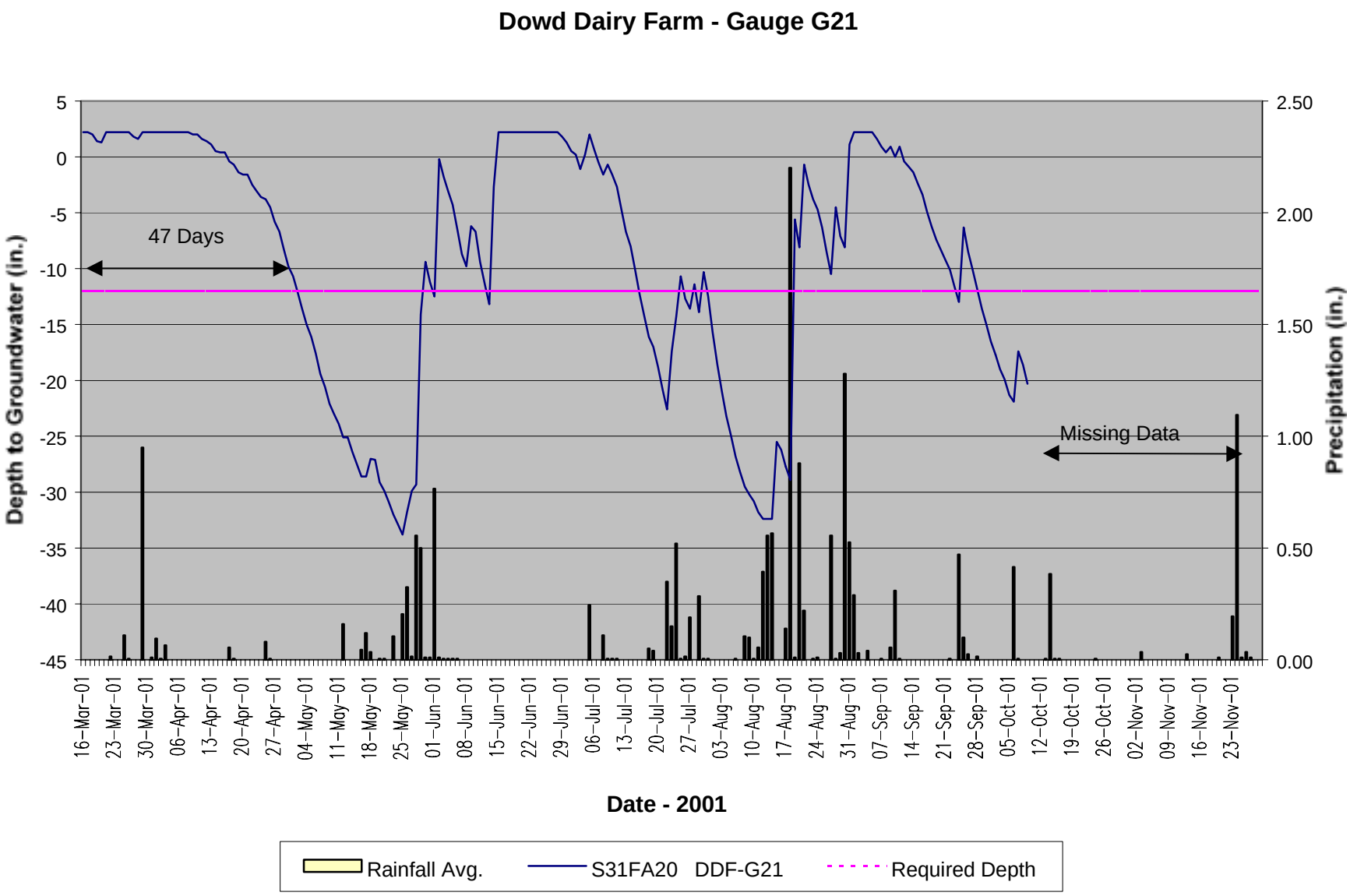

Dowd Dairy Farm - Gauge G17
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
43 days
Missing Data
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S3166DE DDF-G17
Required Depth

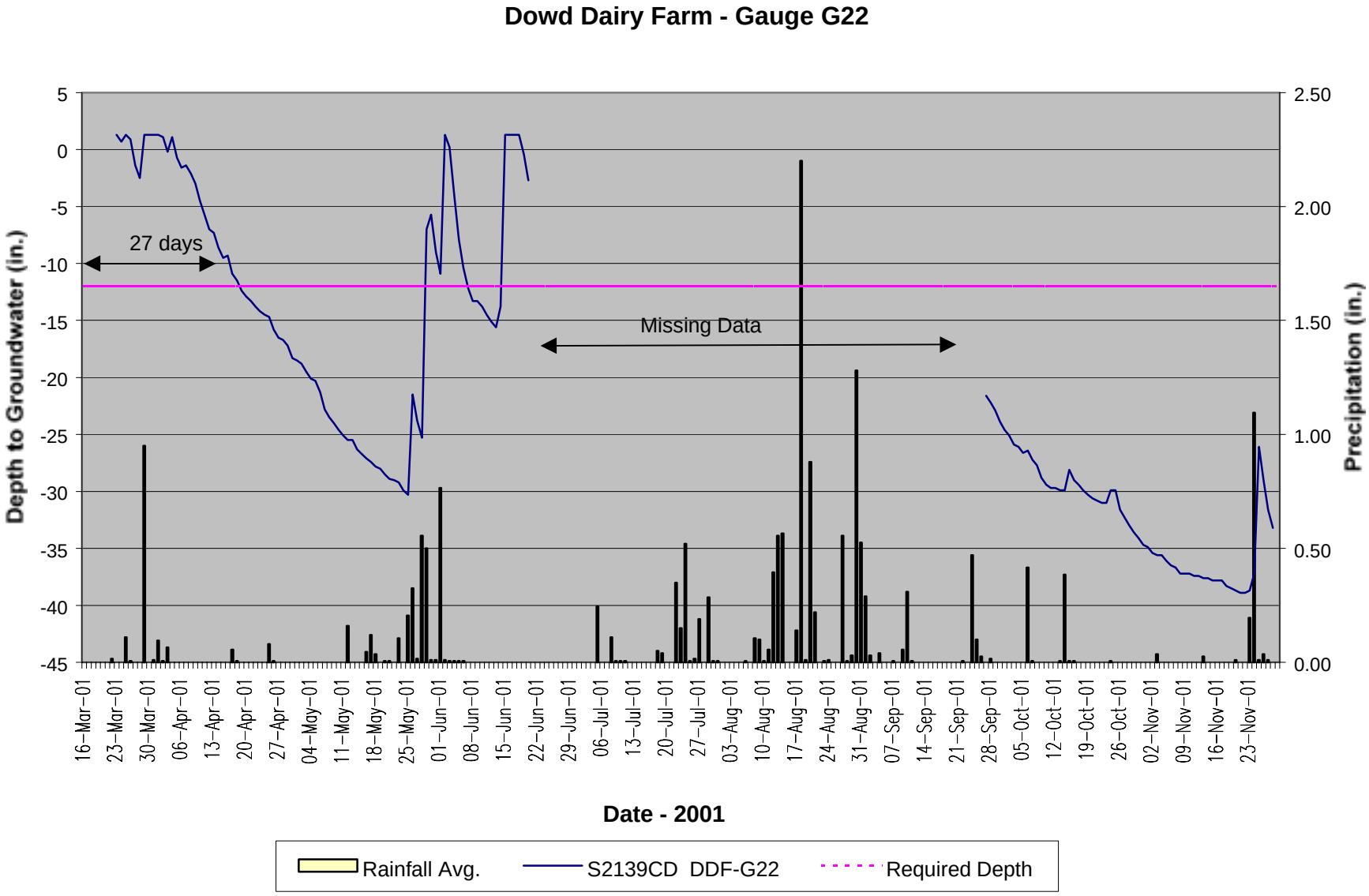

Dowd Dairy Farm - Gauge G18
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
48 days
Missing Data
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S4CD90A DDF-G18
Required Depth


Dowd Dairy Farm - Gauge G19
Depth to Groundwater (in.)
Precipitation (in.)
38 days
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S31FA08 DDF-G19
Required Depth

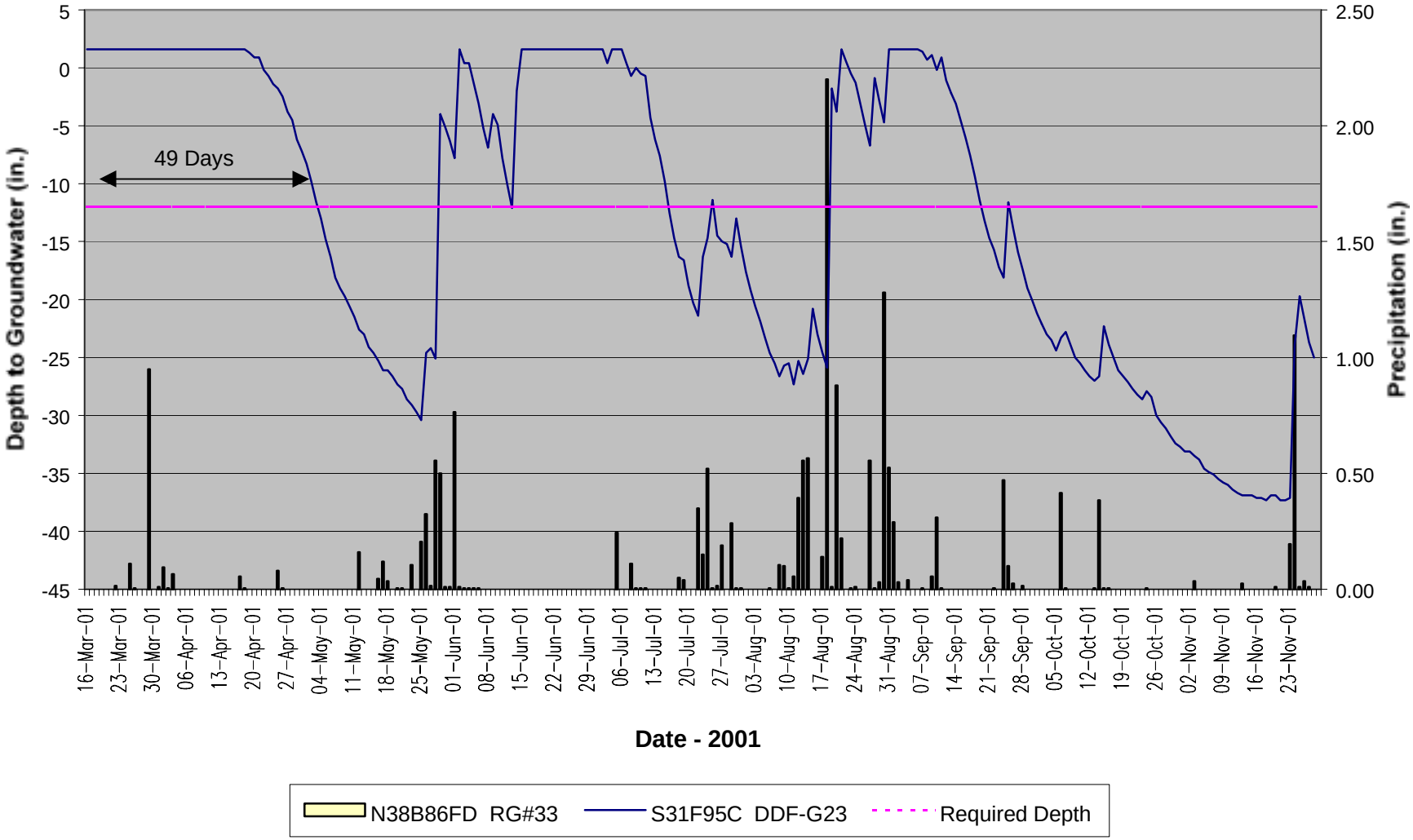
Dowd Dairy Farm - Gauge G20



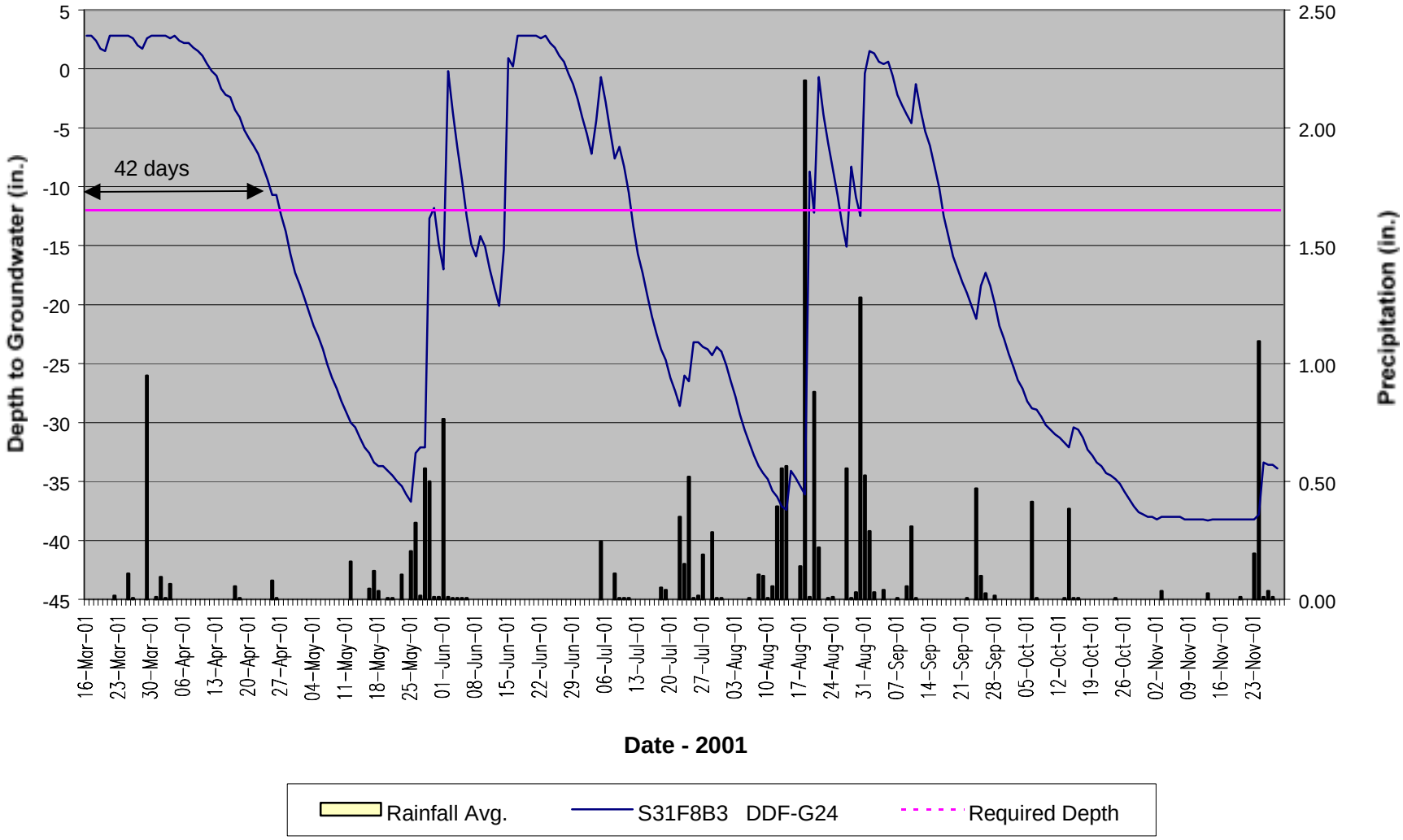

Dowd Dairy Farm - Gauge G21
Depth to Groundwater (in.)
Precipitation (in.)
47 Days
Missing Data
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S31FA20 DDF-G21
Required Depth

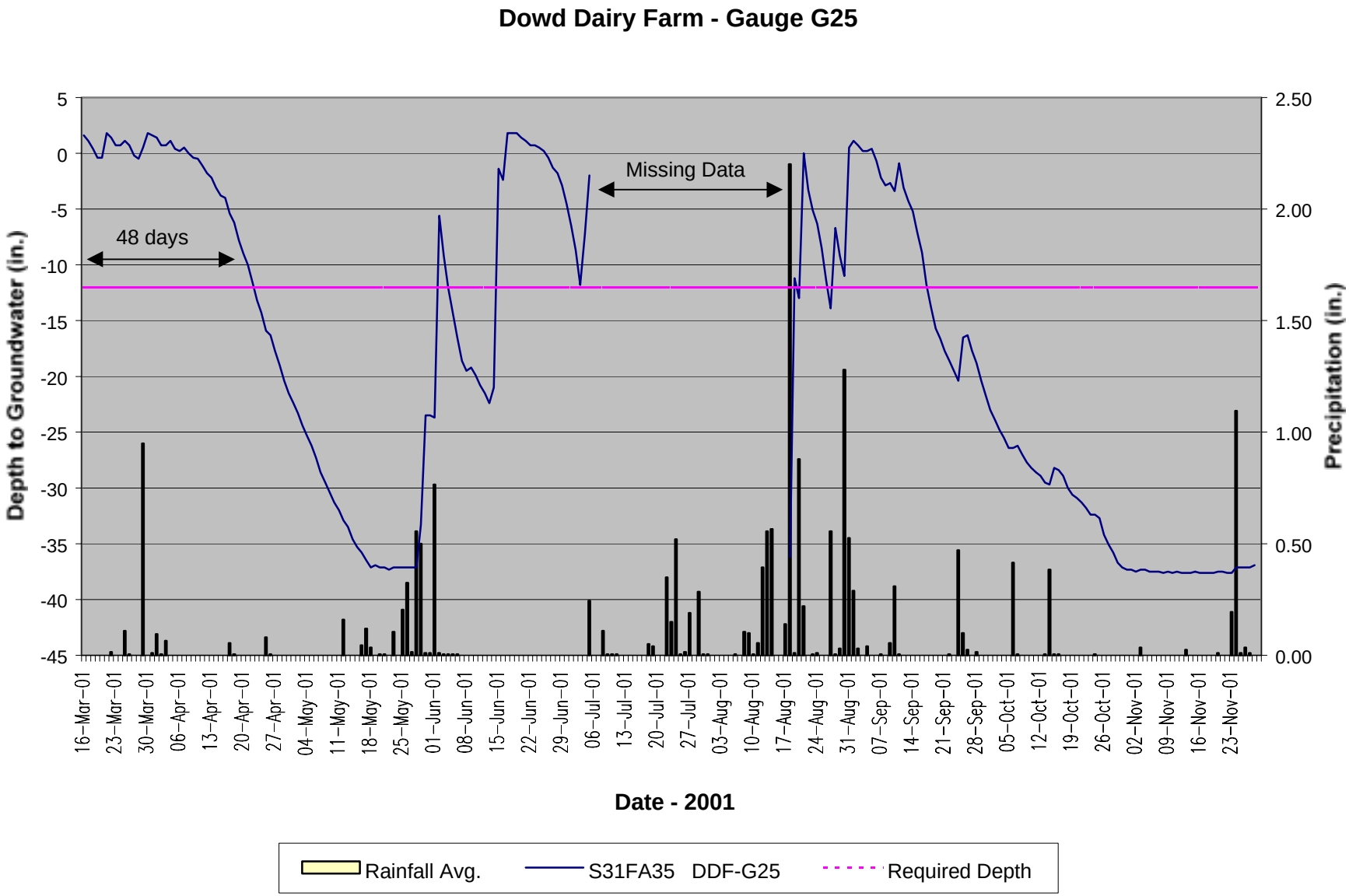

Dowd Dairy Farm - Gauge G22
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
27 days
Missing Data
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S2139CD DDF-G22
Required Depth

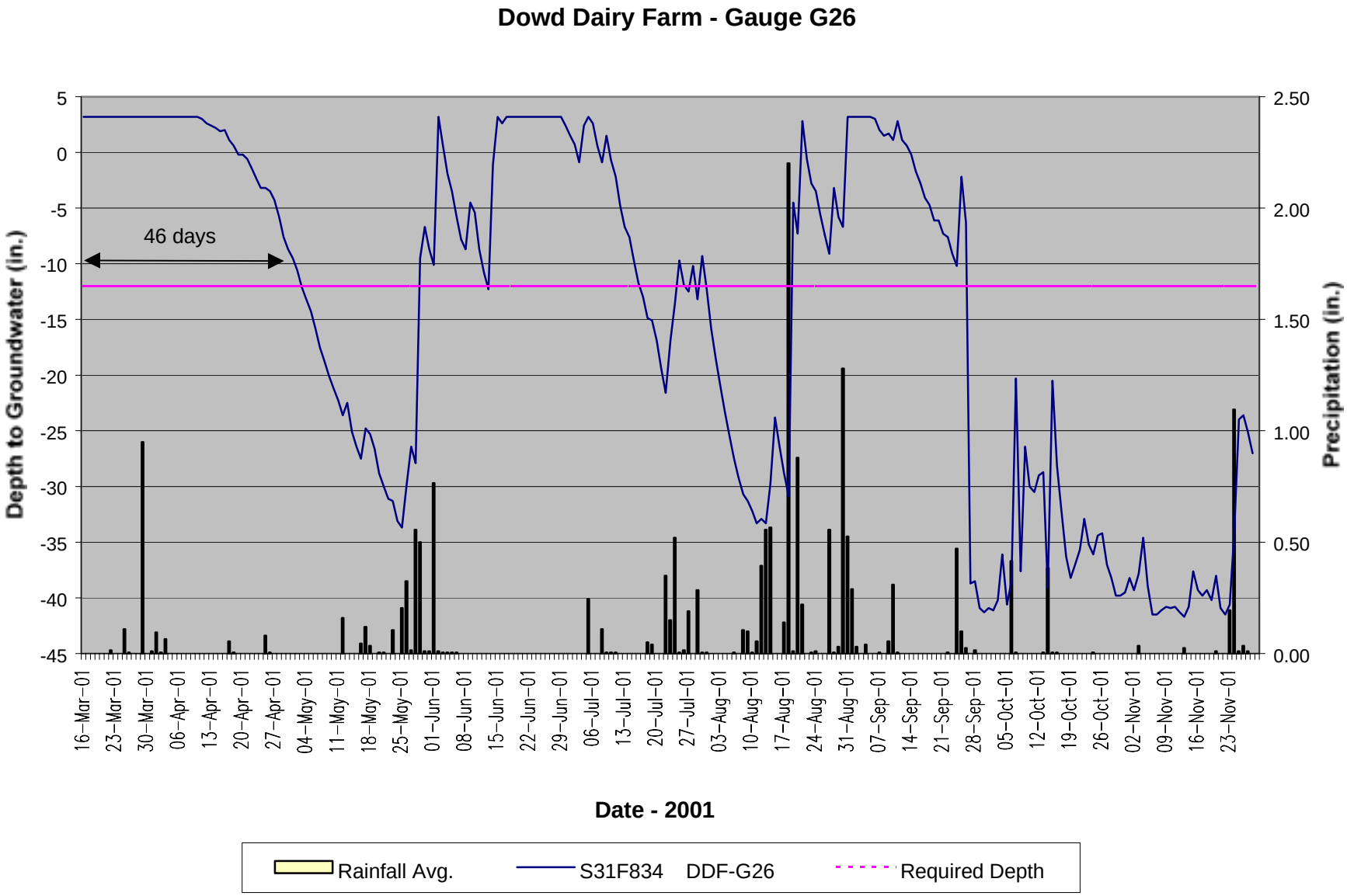
Dowd Dairy Farm - Gauge G23



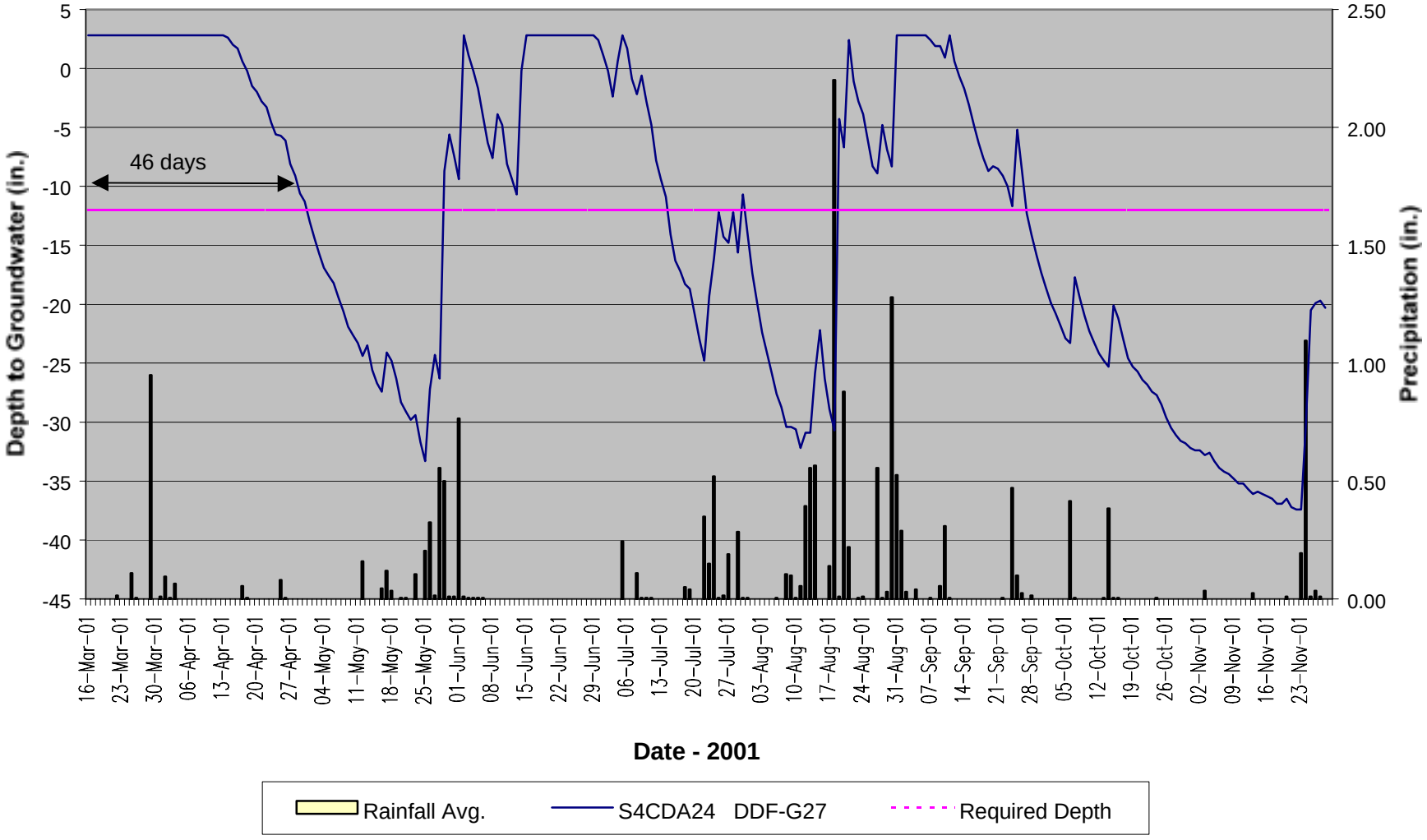
Dowd Dairy Farm - Gauge G24



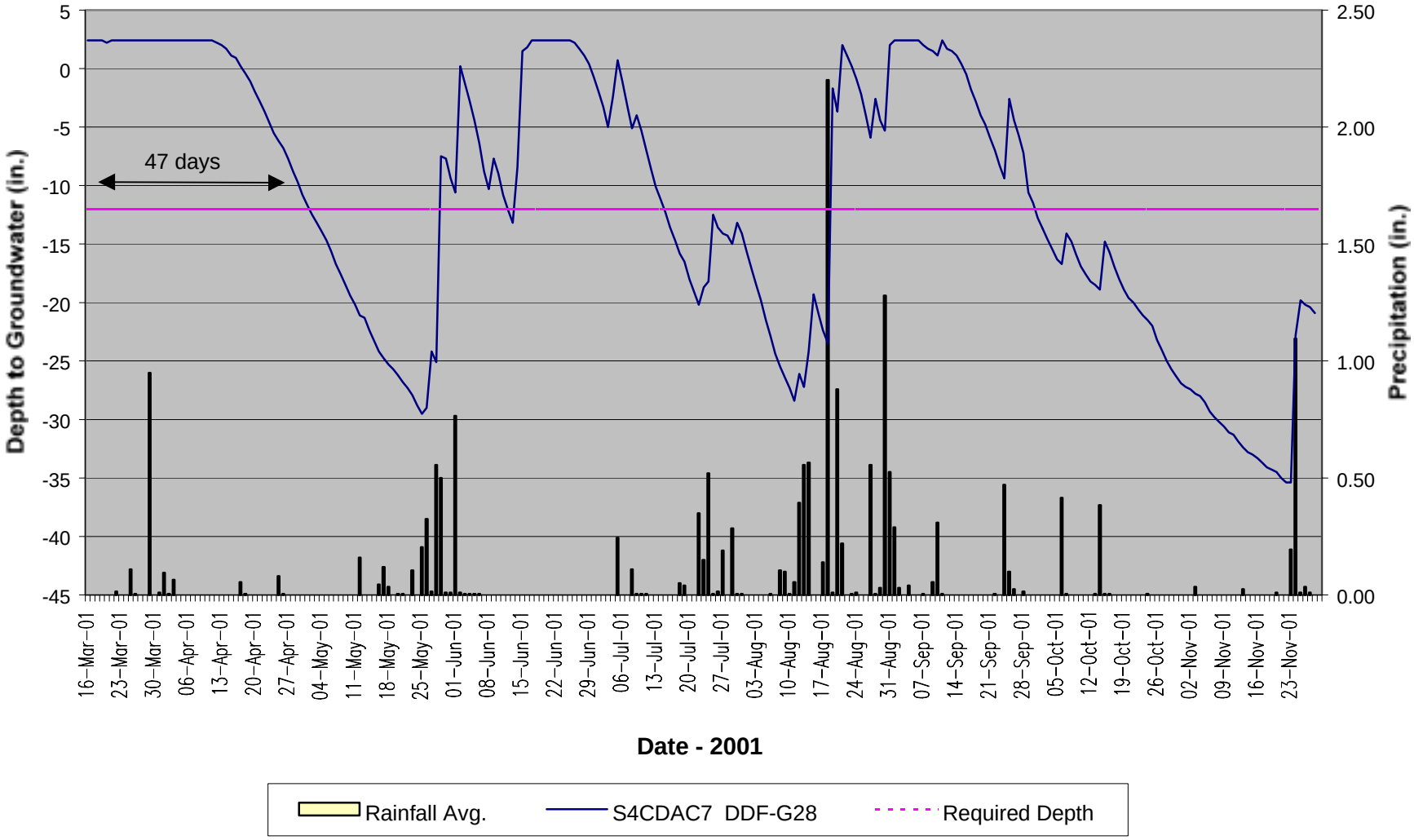

Dowd Dairy Farm - Gauge G25
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
48 days
Missing Data
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S31FA35 DDF-G25
Required Depth


Dowd Dairy Farm - Gauge G26
Depth to Groundwater (in.)
Precipitation (in.)
46 days
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
23-Mar-01
30-Mar-01
06-Apr-01
13-Apr-01
20-Apr-01
27-Apr-01
04-May-01
11-May-01
18-May-01
25-May-01
01-Jun-01
08-Jun-01
15-Jun-01
22-Jun-01
29-Jun-01
06-Jul-01
13-Jul-01
20-Jul-01
27-Jul-01
03-Aug-01
10-Aug-01
17-Aug-01
24-Aug-01
31-Aug-01
07-Sep-01
14-Sep-01
21-Sep-01
28-Sep-01
05-Oct-01
12-Oct-01
19-Oct-01
26-Oct-01
02-Nov-01
09-Nov-01
16-Nov-01
23-Nov-01
Date - 2001
Rainfall Avg.
S31F834 DDF-G26
Required Depth

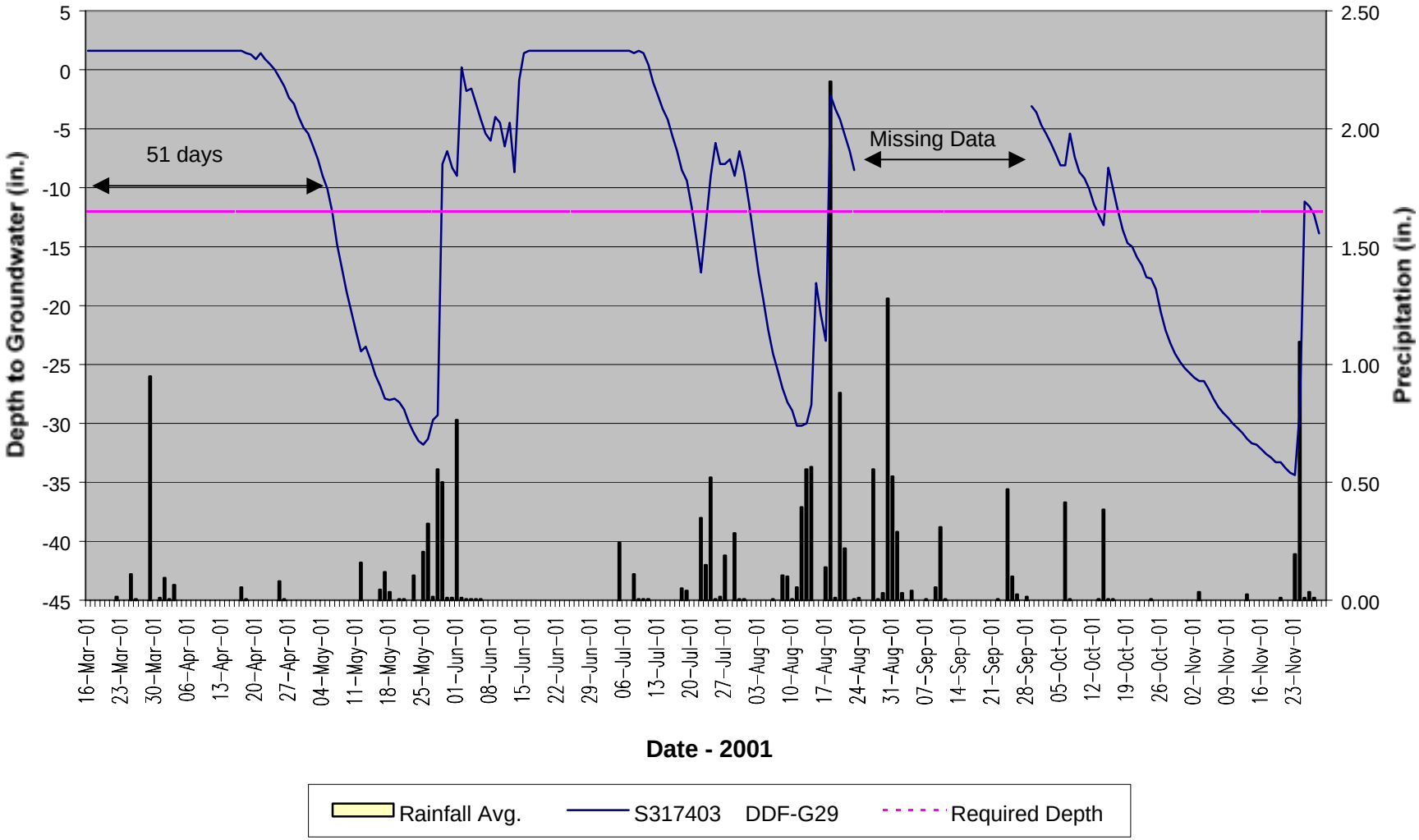
Dowd Dairy Farm - Gauge G27



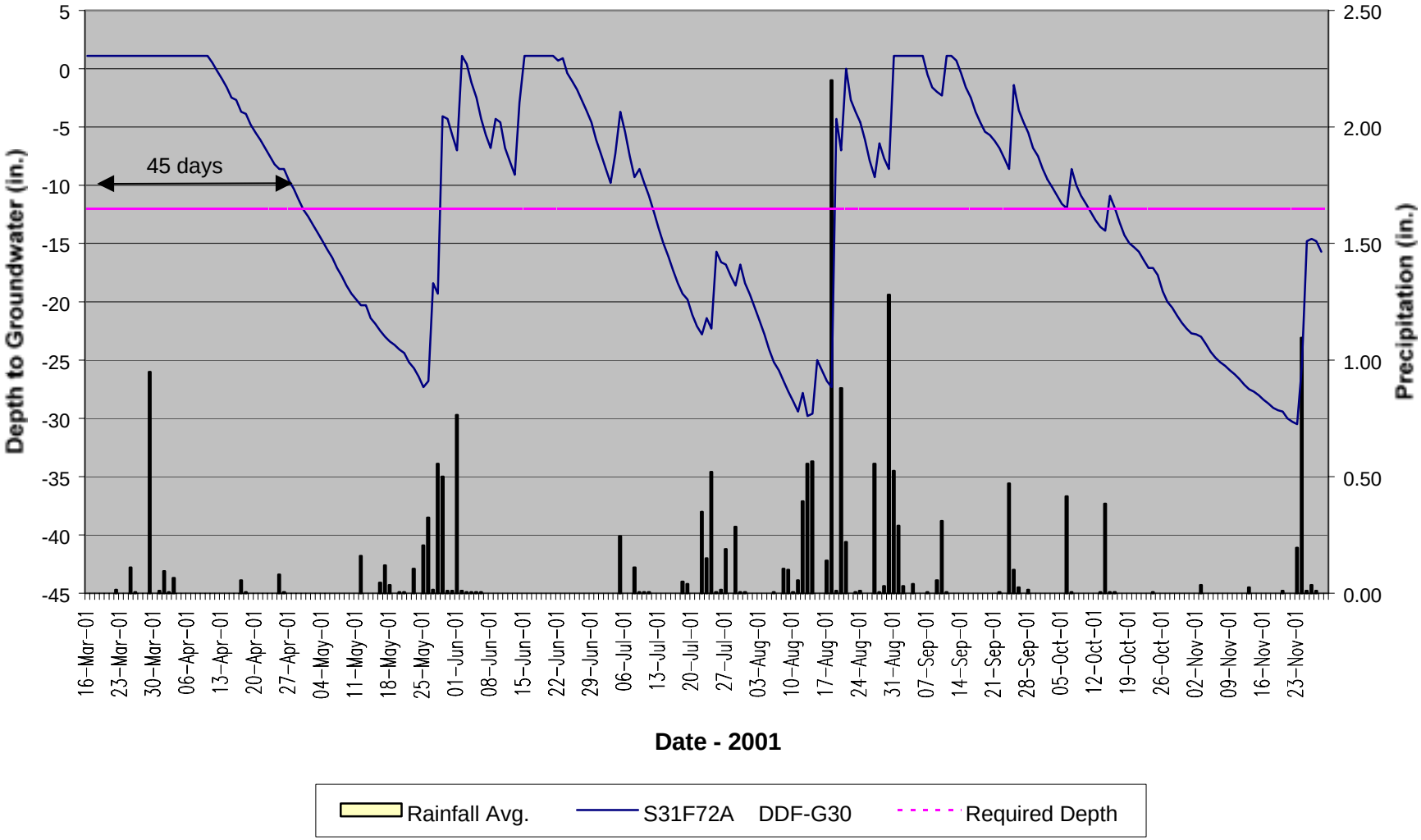
Dowd Dairy Farm - Gauge G28



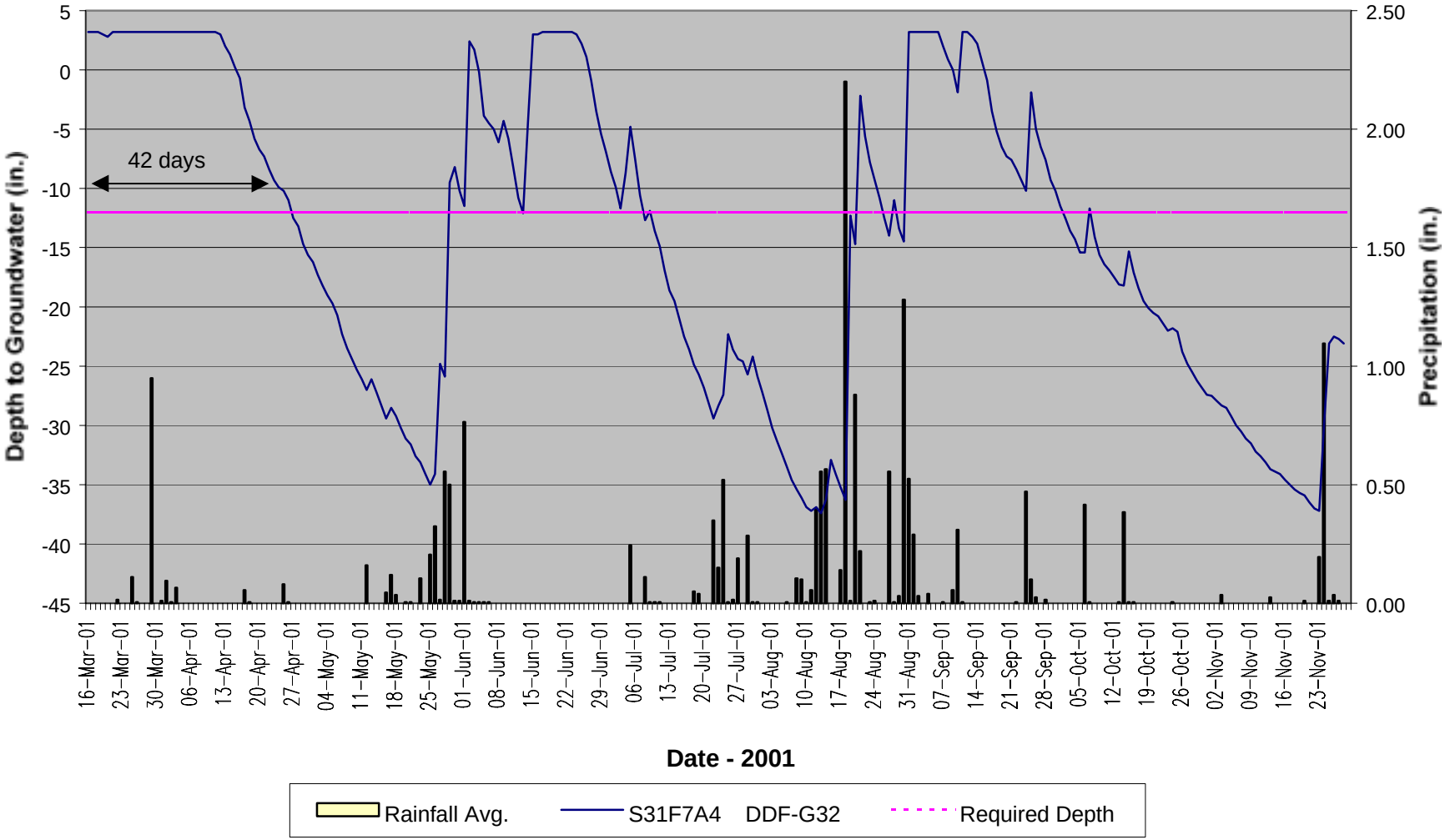
Dowd Dairy Farm - Gauge G29

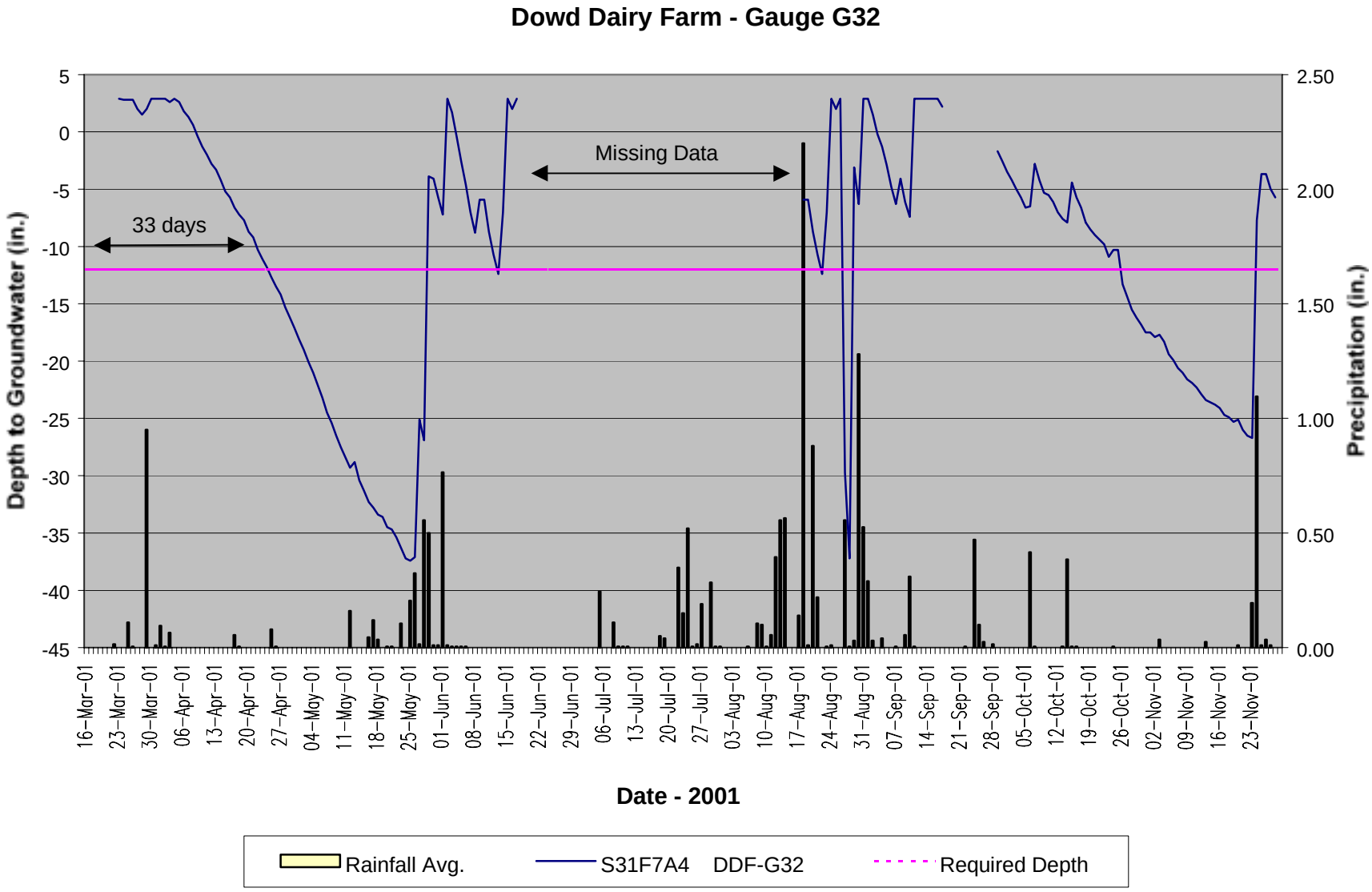


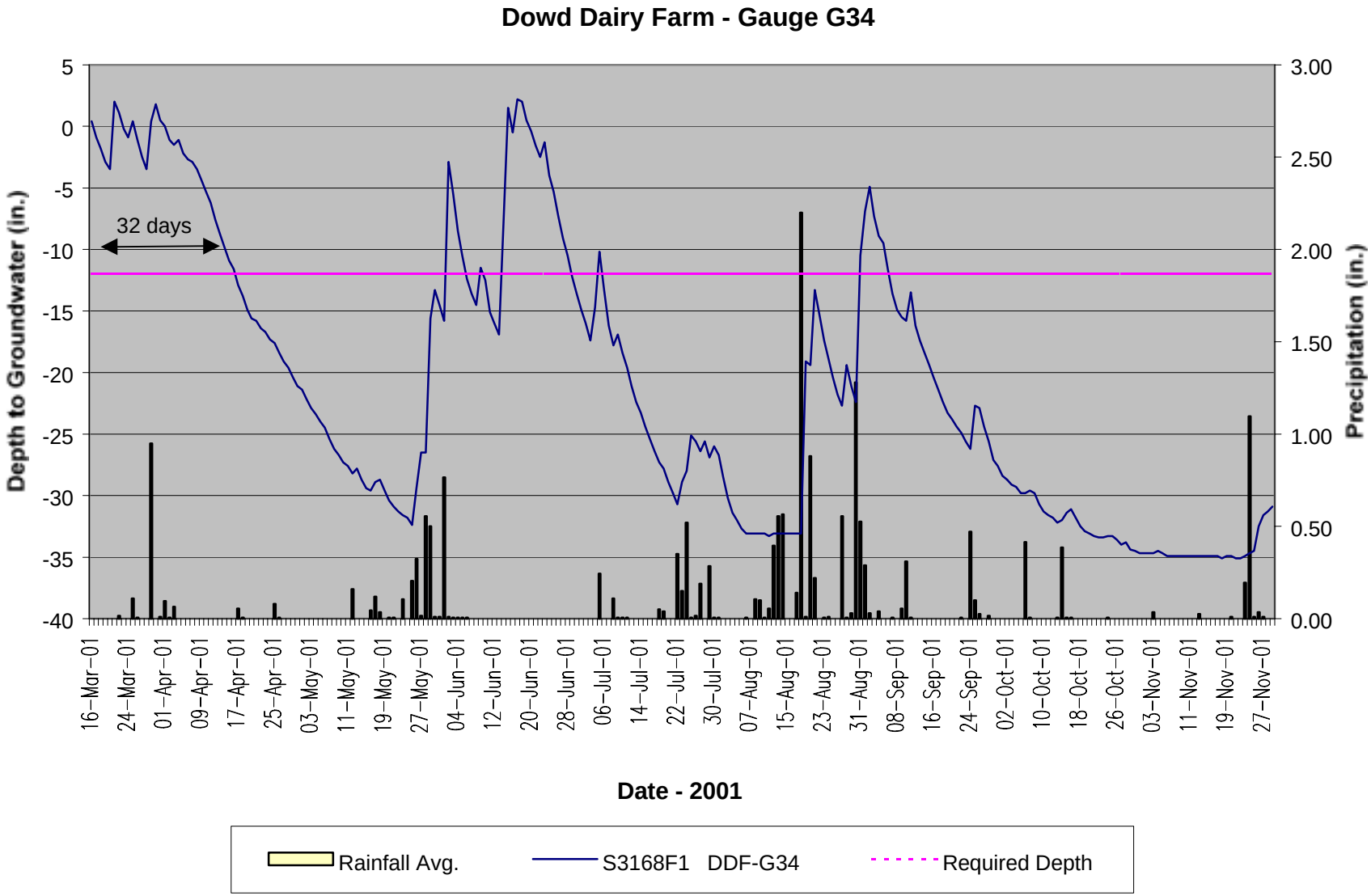
Dowd Dairy Farm - Gauge G30

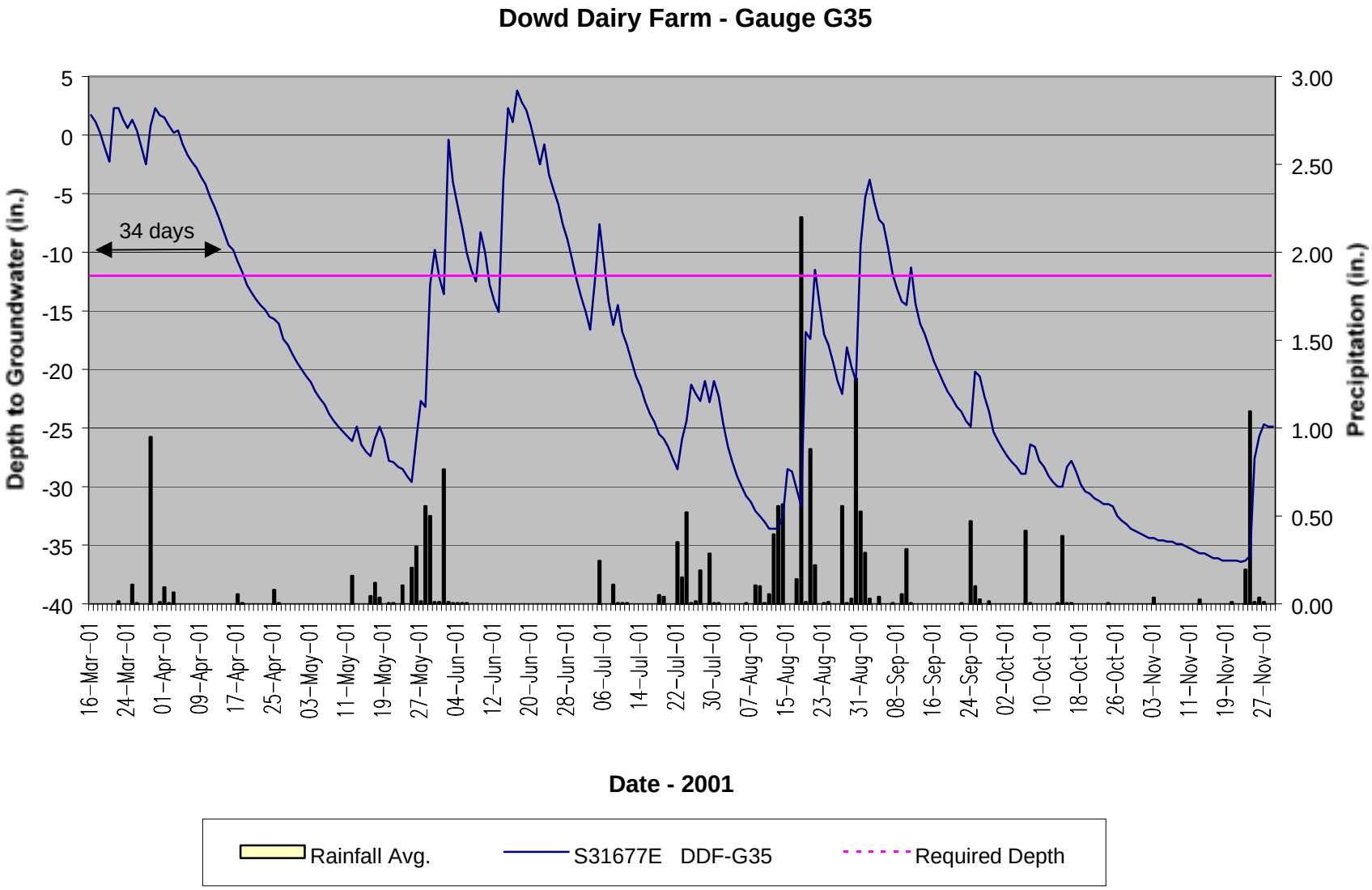


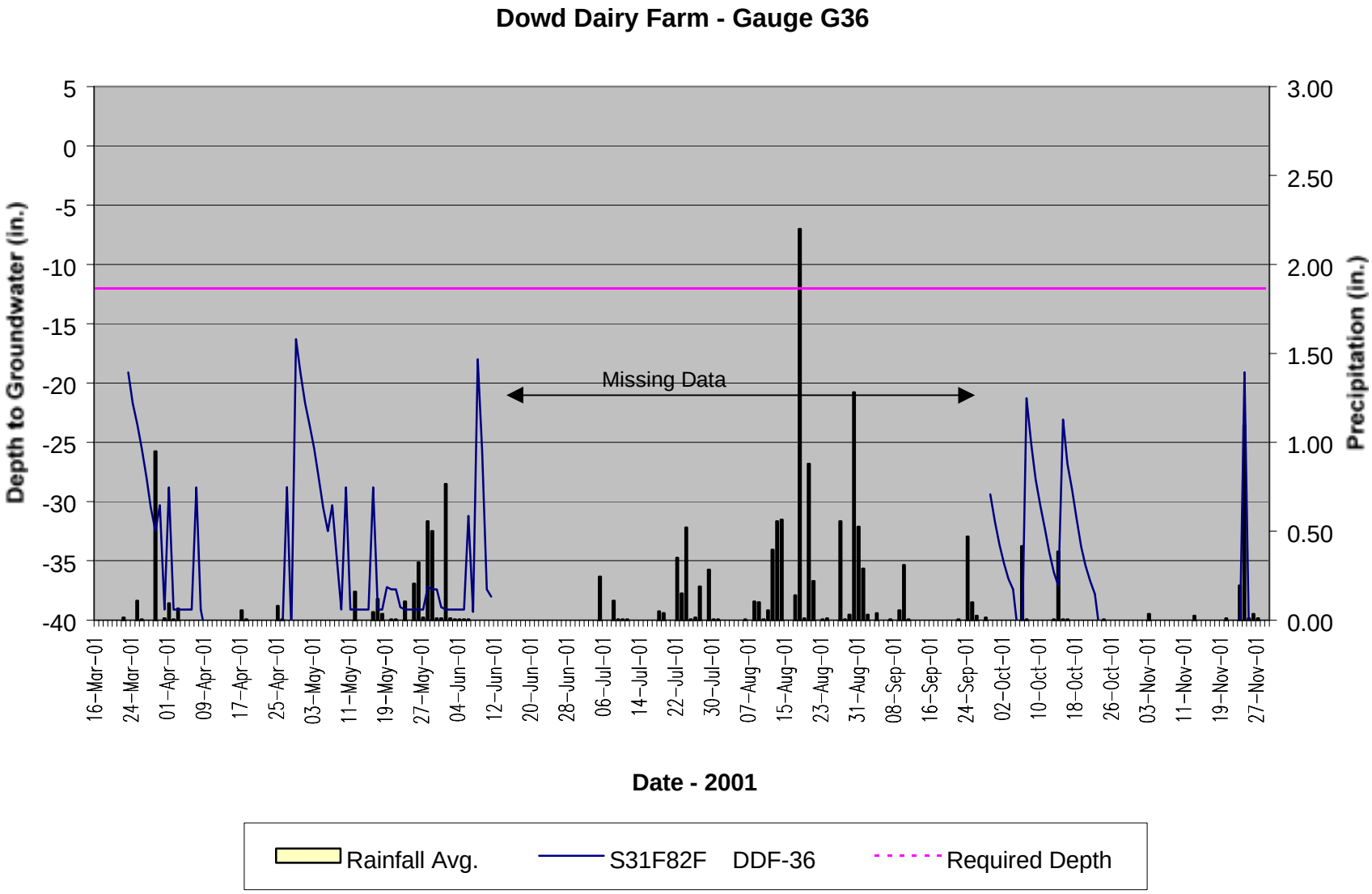
Dowd Dairy Farm - Gauge G31

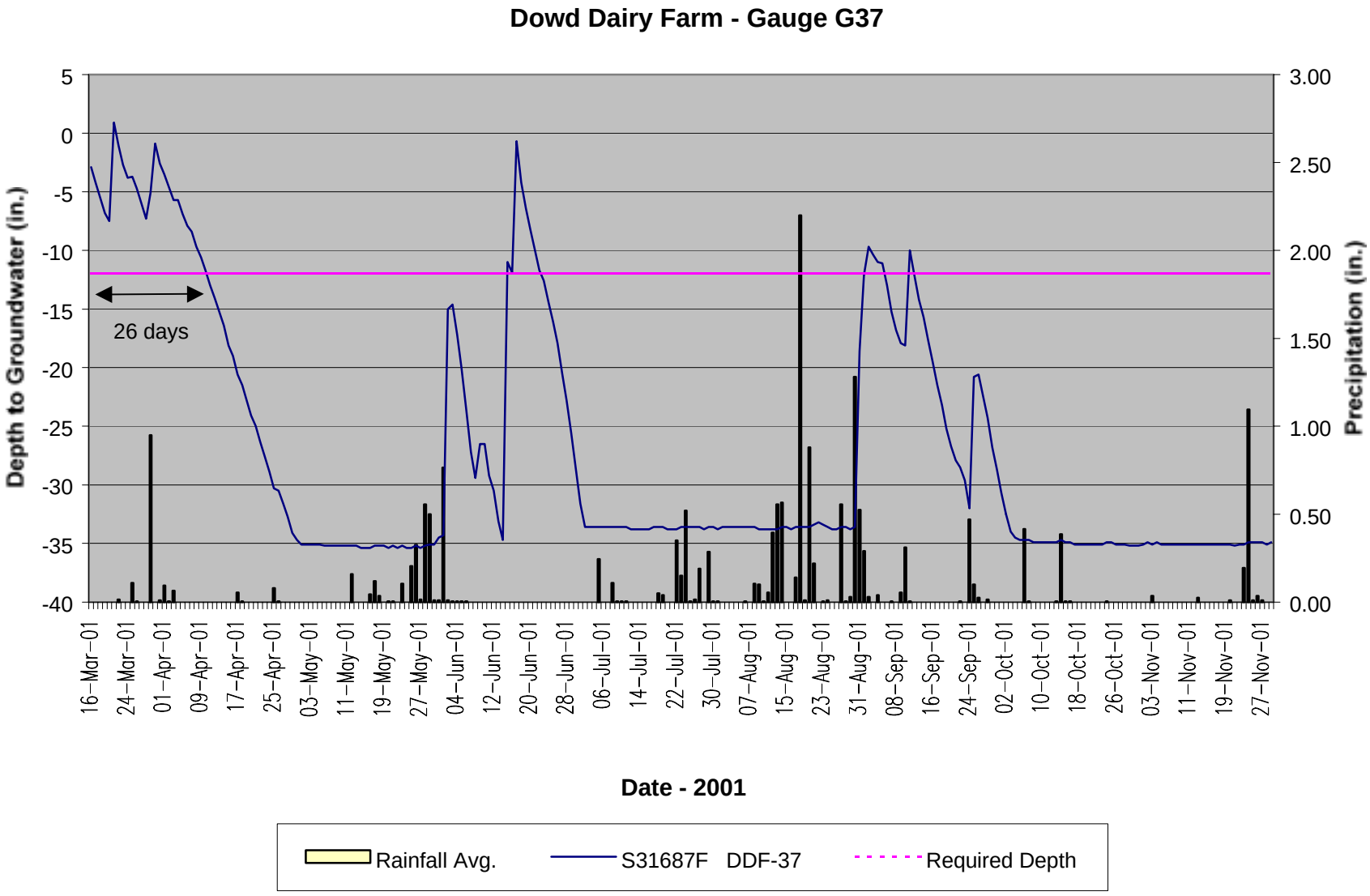


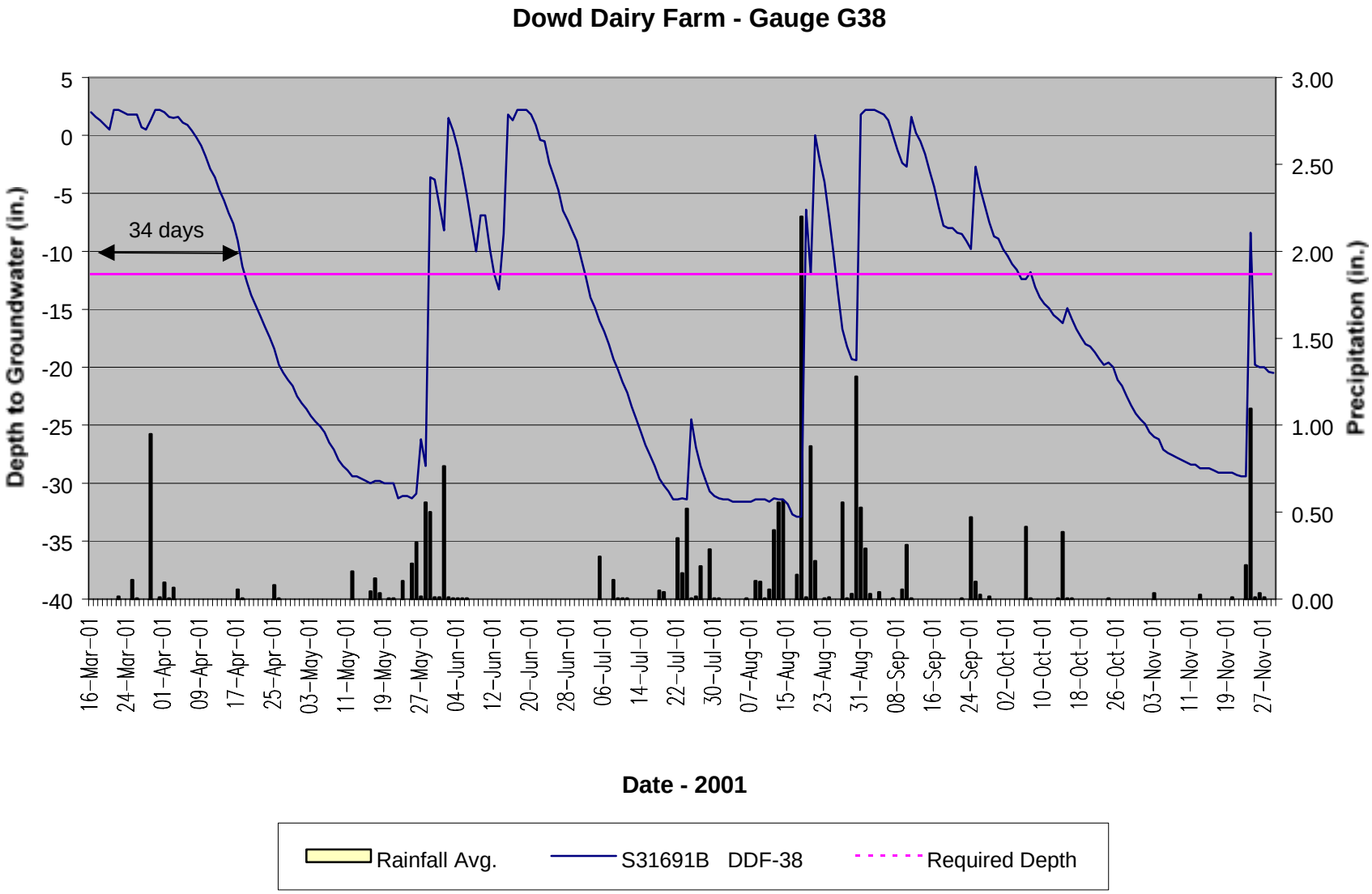

Dowd Dairy Farm - Gauge G32
Depth to Groundwater (in.)
Precipitation (in.)
Missing Data
33 days
Date - 2001
Rainfall Avg.
S31F7A4 DDF-G32
Required Depth


Dowd Dairy Farm - Gauge G34
Depth to Groundwater (in.)
Precipitation (in.)
32 days
5
0
-5
-10
-15
-20
-25
-30
-35
-40
3.00
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
24-Mar-01
01-Apr-01
09-Apr-01
17-Apr-01
25-Apr-01
03-May-01
11-May-01
19-May-01
27-May-01
04-Jun-01
12-Jun-01
20-Jun-01
28-Jun-01
06-Jul-01
14-Jul-01
22-Jul-01
30-Jul-01
07-Aug-01
15-Aug-01
23-Aug-01
31-Aug-01
08-Sep-01
16-Sep-01
24-Sep-01
02-Oct-01
10-Oct-01
18-Oct-01
26-Oct-01
03-Nov-01
11-Nov-01
19-Nov-01
27-Nov-01
Date - 2001
Rainfall Avg.
S3168F1 DDF-G34
Required Depth


Dowd Dairy Farm - Gauge G35
Depth to Groundwater (in.)
Precipitation (in.)
34 days
5
0
-5
-10
-15
-20
-25
-30
-35
-40
3.00
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
24-Mar-01
01-Apr-01
09-Apr-01
17-Apr-01
25-Apr-01
03-May-01
11-May-01
19-May-01
27-May-01
04-Jun-01
12-Jun-01
20-Jun-01
28-Jun-01
06-Jul-01
14-Jul-01
22-Jul-01
30-Jul-01
07-Aug-01
15-Aug-01
23-Aug-01
31-Aug-01
08-Sep-01
16-Sep-01
24-Sep-01
02-Oct-01
10-Oct-01
18-Oct-01
26-Oct-01
03-Nov-01
11-Nov-01
19-Nov-01
27-Nov-01
Date - 2001
Rainfall Avg.
S31677E DDF-G35
Required Depth


Dowd Dairy Farm - Gauge G36
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Missing Data
16-Mar-01
24-Mar-01
01-Apr-01
09-Apr-01
17-Apr-01
25-Apr-01
03-May-01
11-May-01
19-May-01
27-May-01
04-Jun-01
12-Jun-01
20-Jun-01
28-Jun-01
06-Jul-01
14-Jul-01
22-Jul-01
30-Jul-01
07-Aug-01
15-Aug-01
23-Aug-01
31-Aug-01
08-Sep-01
16-Sep-01
24-Sep-01
02-Oct-01
10-Oct-01
18-Oct-01
26-Oct-01
03-Nov-01
11-Nov-01
19-Nov-01
27-Nov-01
Date - 2001
Rainfall Avg.
S31F82F DDF-36
Required Depth


Dowd Dairy Farm - Gauge G37
Depth to Groundwater (in.)
Precipitation (in.)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
3.00
2.50
2.00
1.50
1.00
0.50
0.00
26 days
16-Mar-01
24-Mar-01
01-Apr-01
09-Apr-01
17-Apr-01
25-Apr-01
03-May-01
11-May-01
19-May-01
27-May-01
04-Jun-01
12-Jun-01
20-Jun-01
28-Jun-01
06-Jul-01
14-Jul-01
22-Jul-01
30-Jul-01
07-Aug-01
15-Aug-01
23-Aug-01
31-Aug-01
08-Sep-01
16-Sep-01
24-Sep-01
02-Oct-01
10-Oct-01
18-Oct-01
26-Oct-01
03-Nov-01
11-Nov-01
19-Nov-01
27-Nov-01
Date - 2001
Rainfall Avg.
S31687F DDF-37
Required Depth


Dowd Dairy Farm - Gauge G38
Depth to Groundwater (in.)
Precipitation (in.)
34 days
5
0
-5
-10
-15
-20
-25
-30
-35
-40
3.00
2.50
2.00
1.50
1.00
0.50
0.00
16-Mar-01
24-Mar-01
01-Apr-01
09-Apr-01
17-Apr-01
25-Apr-01
03-May-01
11-May-01
19-May-01
27-May-01
04-Jun-01
12-Jun-01
20-Jun-01
28-Jun-01
06-Jul-01
14-Jul-01
22-Jul-01
30-Jul-01
07-Aug-01
15-Aug-01
23-Aug-01
31-Aug-01
08-Sep-01
16-Sep-01
24-Sep-01
02-Oct-01
10-Oct-01
18-Oct-01
26-Oct-01
03-Nov-01
11-Nov-01
19-Nov-01
27-Nov-01
Date - 2001
Rainfall Avg.
S31691B DDF-38
Required Depth

APPENDIX B

SITE PHOTOS
PHOTO AND VEGETATION PLOT LOCATIONS

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

Photo 12

Photo 13

Photo 14

Note: Photos 13 and 14 are of rock plug at end of filled main ditch.

BLADEN COUNTY, NORTH CAROLINA
DOWD DAIRY FARM MONITORING 2001

PLANTING ZONES, VEGETATION PLOT, AND PHOTO LOCATIONS