Cape Fear Basin Systems Data Summary

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Advancing the Management of Water Resources

HYDROLOGICS
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Reidsville Demand Pattern

Demand Pattern at Node 31, 'Reidsville WTP water supply'

	Month	Day	Demand
▶	1	1	0.891
	1	31	0.891
	2	1	0.884
	2	29	0.884
	3	1	0.856
	3	31	0.856
	4	1	0.905
	4	30	0.905
	5	1	0.944
	5	31	0.944
	6	1	1.128
	6	30	1.128
	7	1	1.080
	7	31	1.080
	8	1	1.238
	8	31	1.238
	9	1	1.164
	9	30	1.164
	10	1	1.075
	10	31	1.075
	11	1	1.018
	11	30	1.018
	12	1	0.817
	12	31	0.817
*			

MGD Units

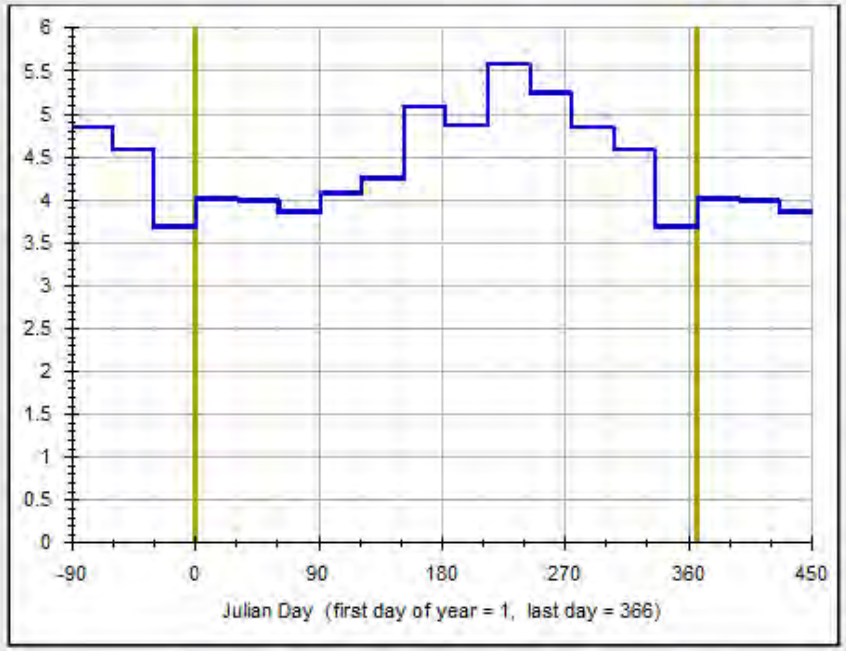
4.5 Annual Avg Demand

Change Node

Import Data

OK

Cancel



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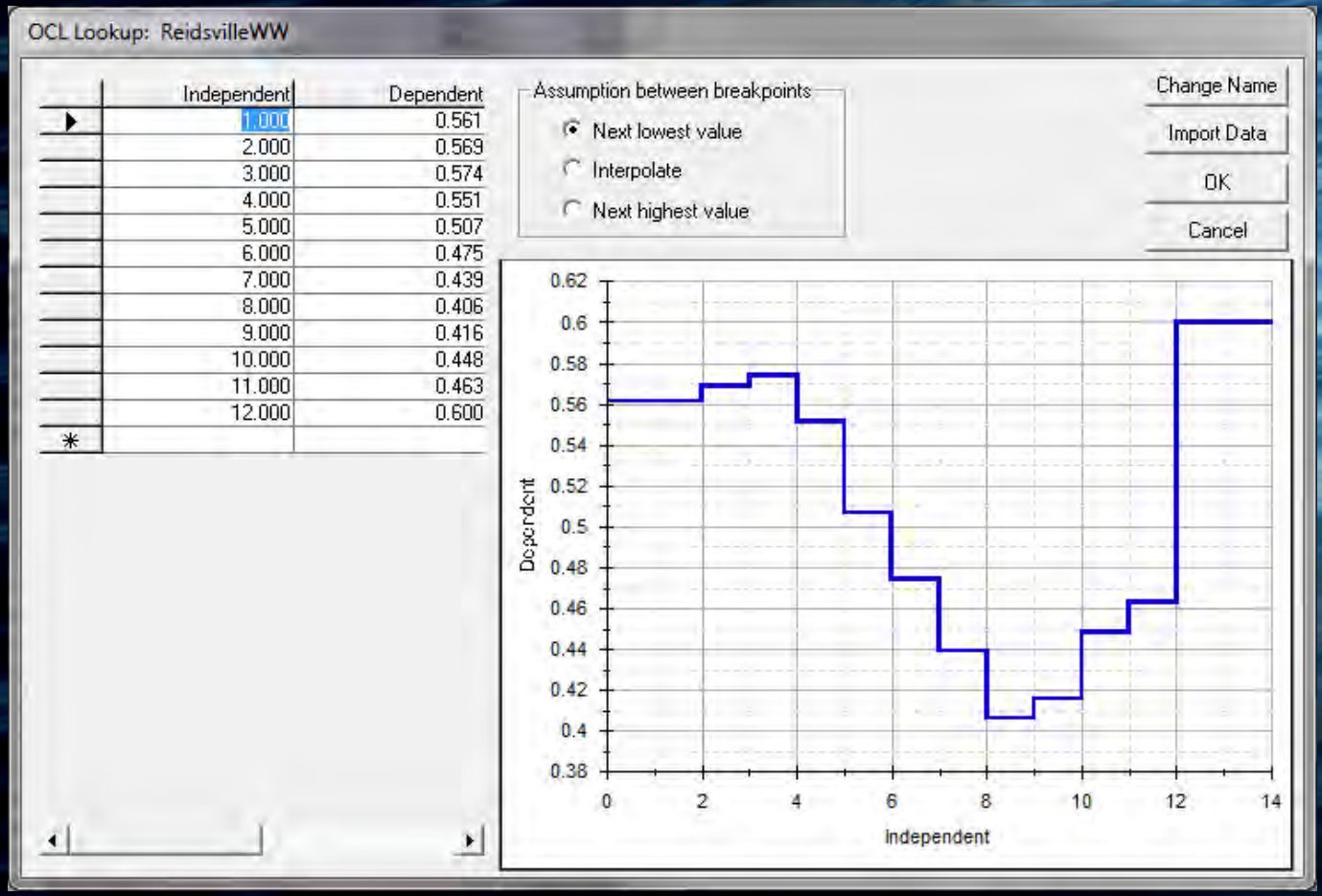
Reidsville Discharge Pattern



HYDROLOGICS

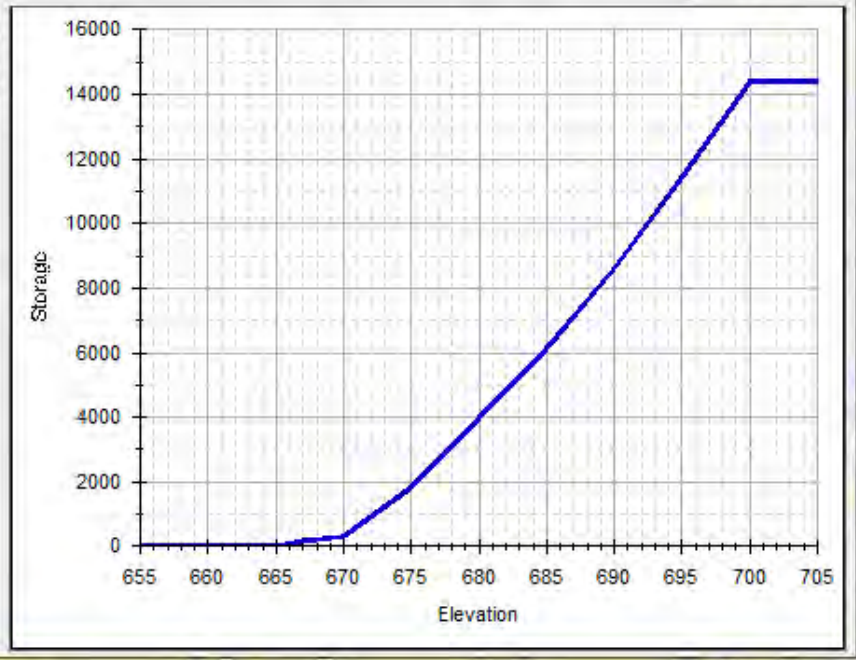
Reidsville Reservoir SAE Curve

Reservoir Storage-Area-Elevation at Node 30, 'Reidsville Dam'

	Elevation	Storage	Area
▶	665.000	0.000	0.000
	667.000	150.000	0.000
	670.000	307.000	11.000
	675.000	1841.000	132.000
	680.000	3990.000	363.000
	685.000	6138.000	680.000
	690.000	8593.000	1181.000
	695.000	11416.000	1600.000
	700.000	14371.000	2500.000
*			

	Units	X-Variable	Y-Variable
Elevation	FT	●	
Storage	AF		●
Area	ACRE	○	○

Change Node
Import Data
OK
Cancel



HYDROLOGICS

Burlington Ed Thomas Demand Pattern

Demand Pattern at Node 71, 'Burlington Ed Thomas water supply'

	Month	Day	Demand
▶	1	1	0.914
	1	31	0.914
	2	1	1.036
	2	29	1.036
	3	1	0.953
	3	31	0.953
	4	1	0.959
	4	30	0.959
	5	1	1.094
	5	31	1.094
	6	1	1.057
	6	30	1.057
	7	1	0.977
	7	31	0.977
	8	1	1.146
	8	31	1.146
	9	1	1.116
	9	30	1.116
	10	1	1.053
	10	31	1.053
	11	1	0.851
	11	30	0.851
	12	1	0.845
	12	31	0.845
*			

MGD Units

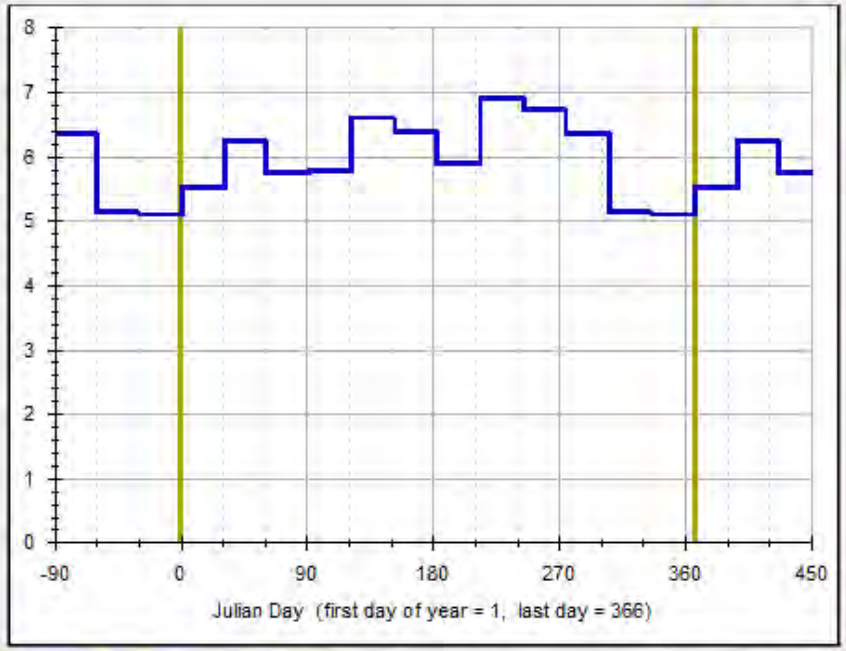
6.03 Annual Avg Demand

Change Node

Import Data

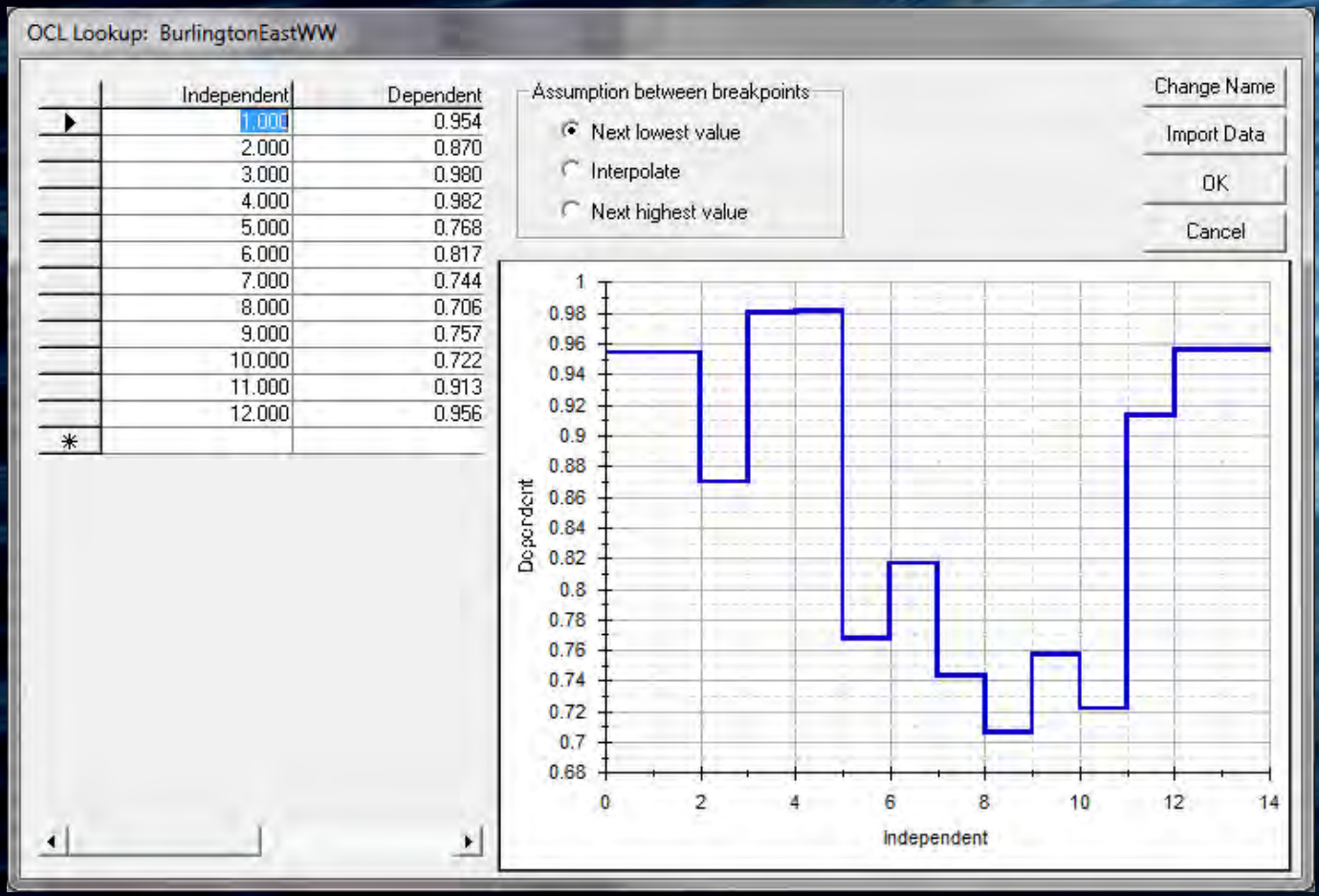
OK

Cancel



HYDROLOGICS

Burlington Ed Thomas Discharge Pattern



HYDROLOGICS

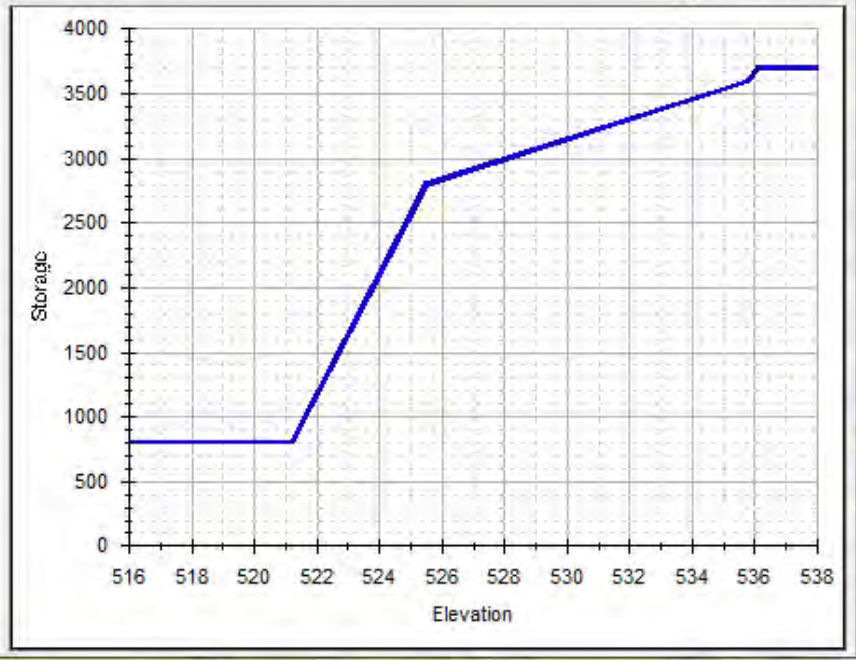
Burlington Stoney Ck SAE Curve

Reservoir Storage-Area-Elevation at Node 70, 'Old Stony Creek Res'

	Elevation	Storage	Area
▶	520.300	800.000	0.000
	521.200	800.000	10.000
	525.500	2800.000	120.000
	535.800	3600.000	220.000
	536.100	3700.000	250.000
*			

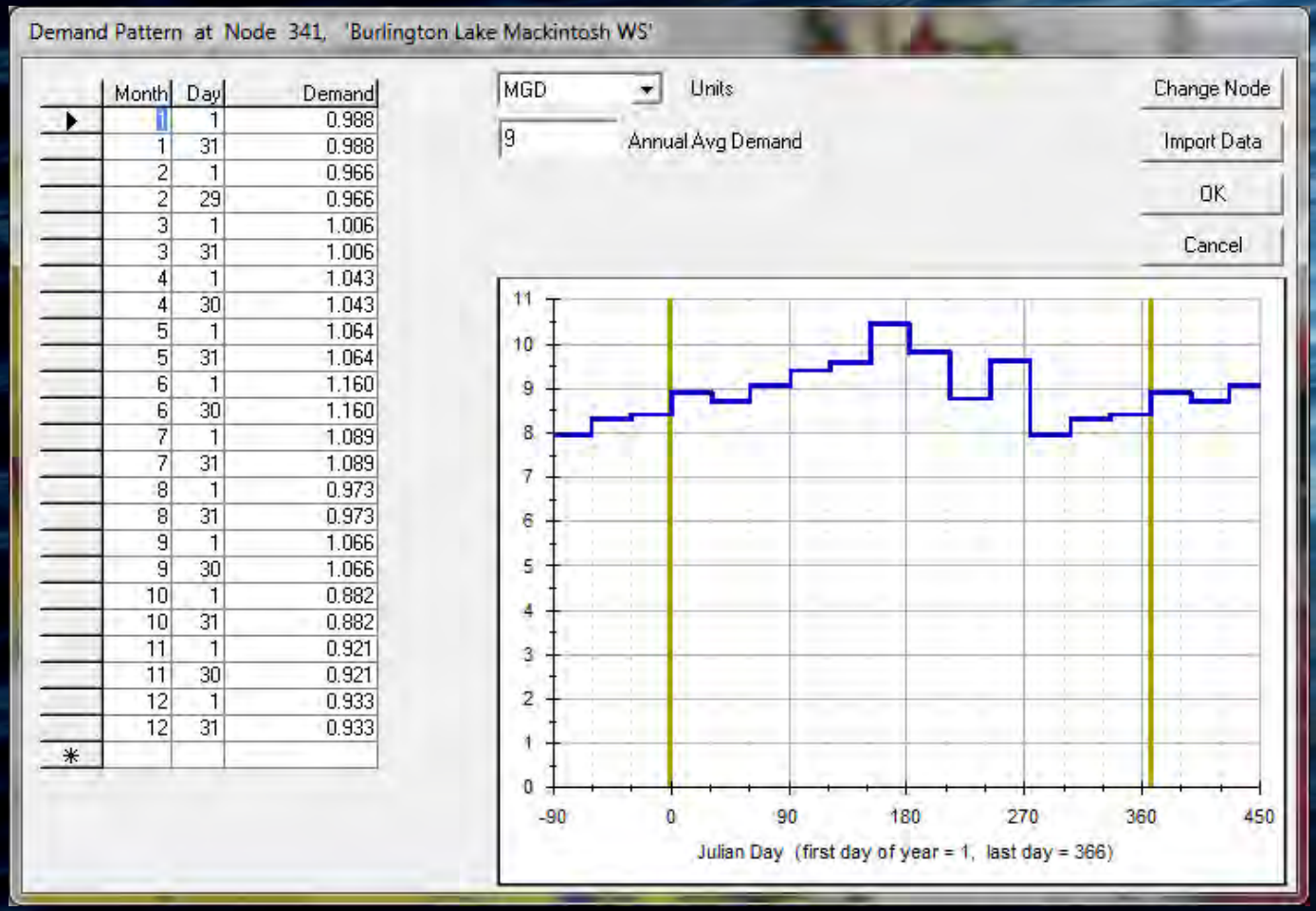
	Units	X-Variable	Y-Variable
Elevation	FT	●	
Storage	AF		●
Area	ACRE	○	○

Change Node
Import Data
OK
Cancel



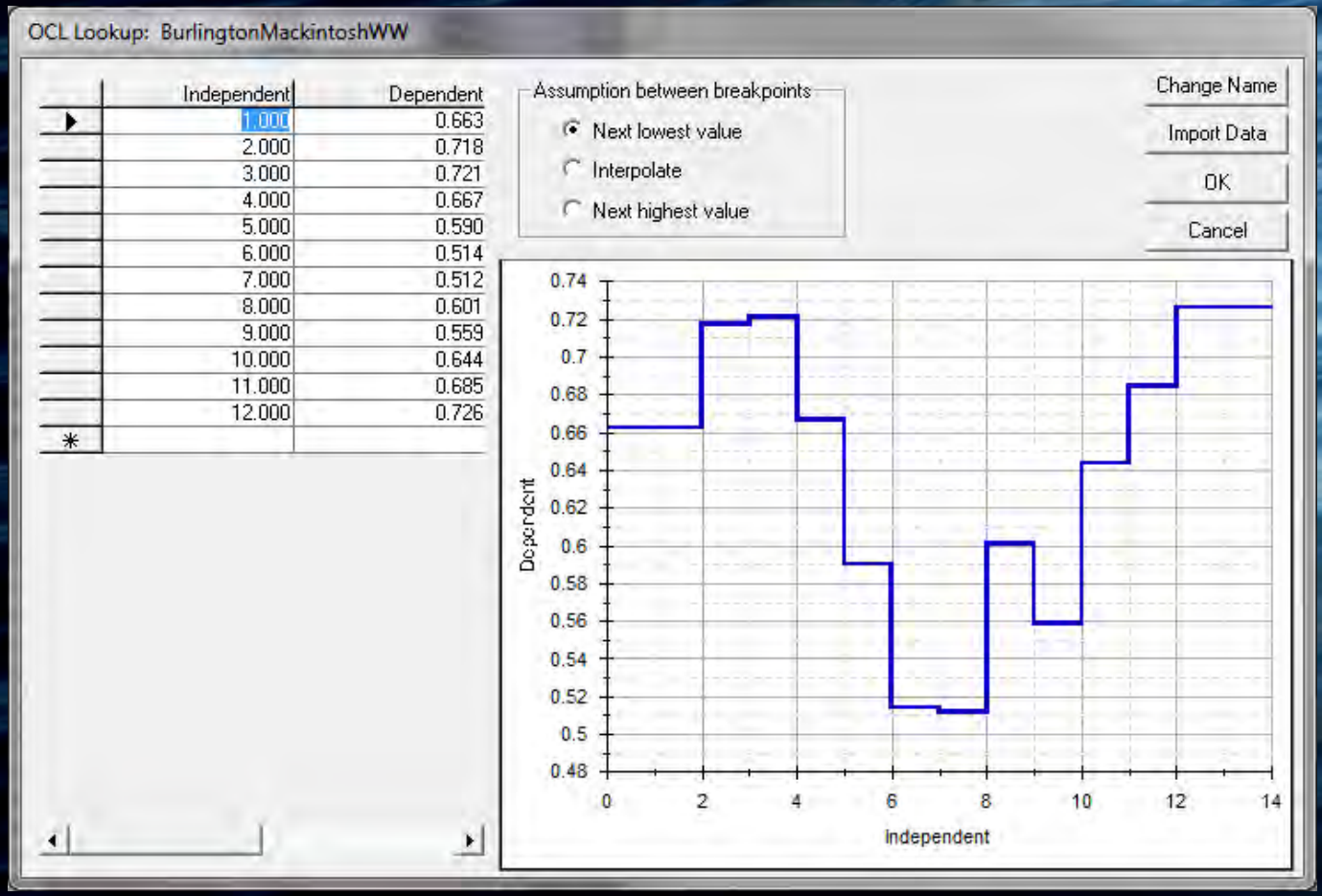
HYDROLOGICS

Burlington Mackintosh Demand Pattern



HYDROLOGICS

Burlington Mackintosh Discharge Pattern



HYDROLOGICS

Burlington Mackintosh SAE Curve

Reservoir Storage-Area-Elevation at Node 340, 'Mackintosh Res'

	Elevation	Storage	Area
▶	495.000	10.000	1.000
	500.000	189.000	37.000
	505.000	378.000	70.000
	510.000	661.000	103.000
	515.000	1322.000	172.000
	520.000	2266.000	254.000
	525.000	3872.000	361.000
	530.000	6043.000	492.000
	535.000	8971.000	624.000
	540.000	12465.000	739.000
	545.000	16430.000	919.000
	550.000	21530.000	1059.000
	555.000	27200.000	1301.000
	560.000	34700.000	1493.000
*			

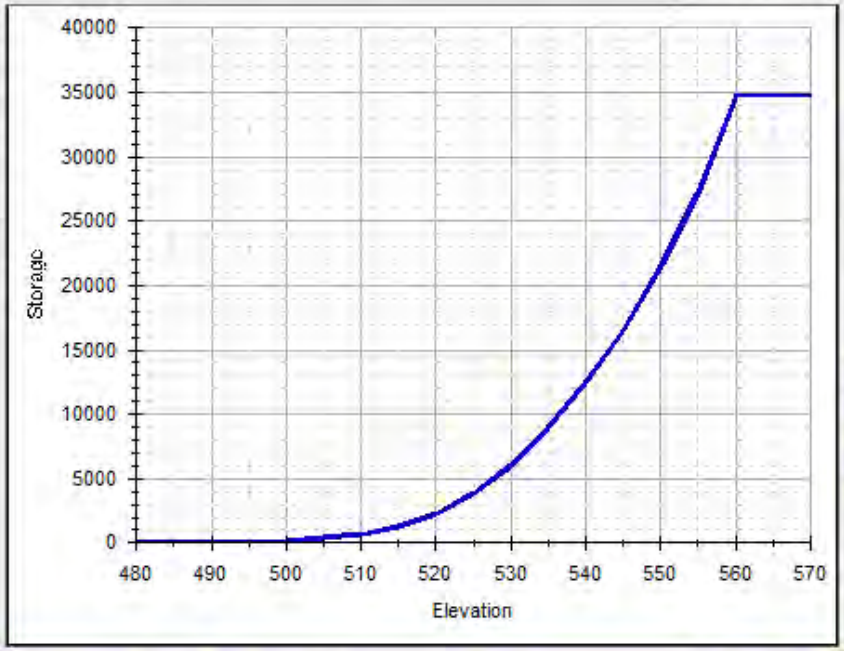
Units | X-Variable | Y-Variable

Elevation: FT (X-Variable)

Storage: AF (Y-Variable)

Area: ACRE

Change Node | Import Data | OK | Cancel



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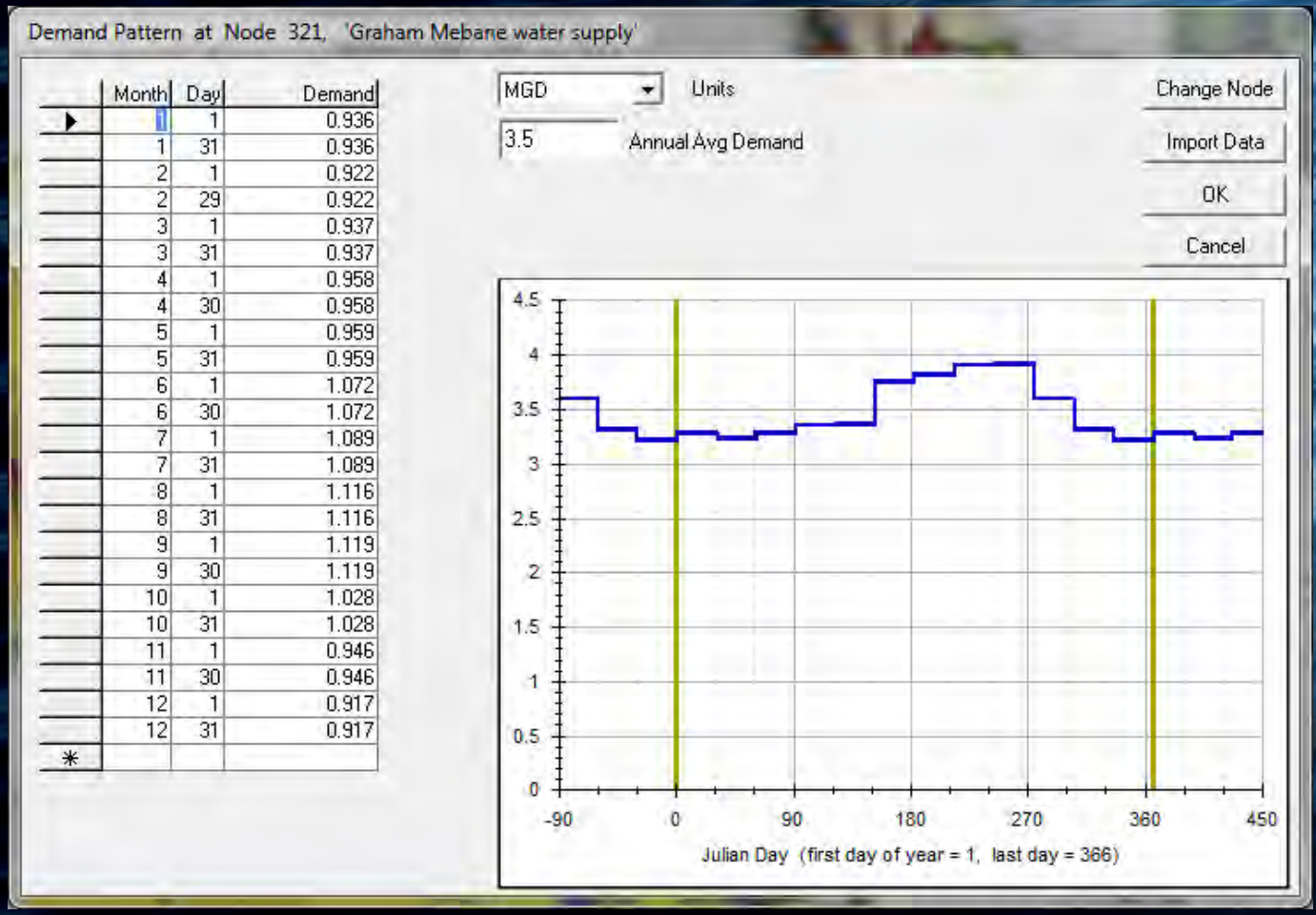
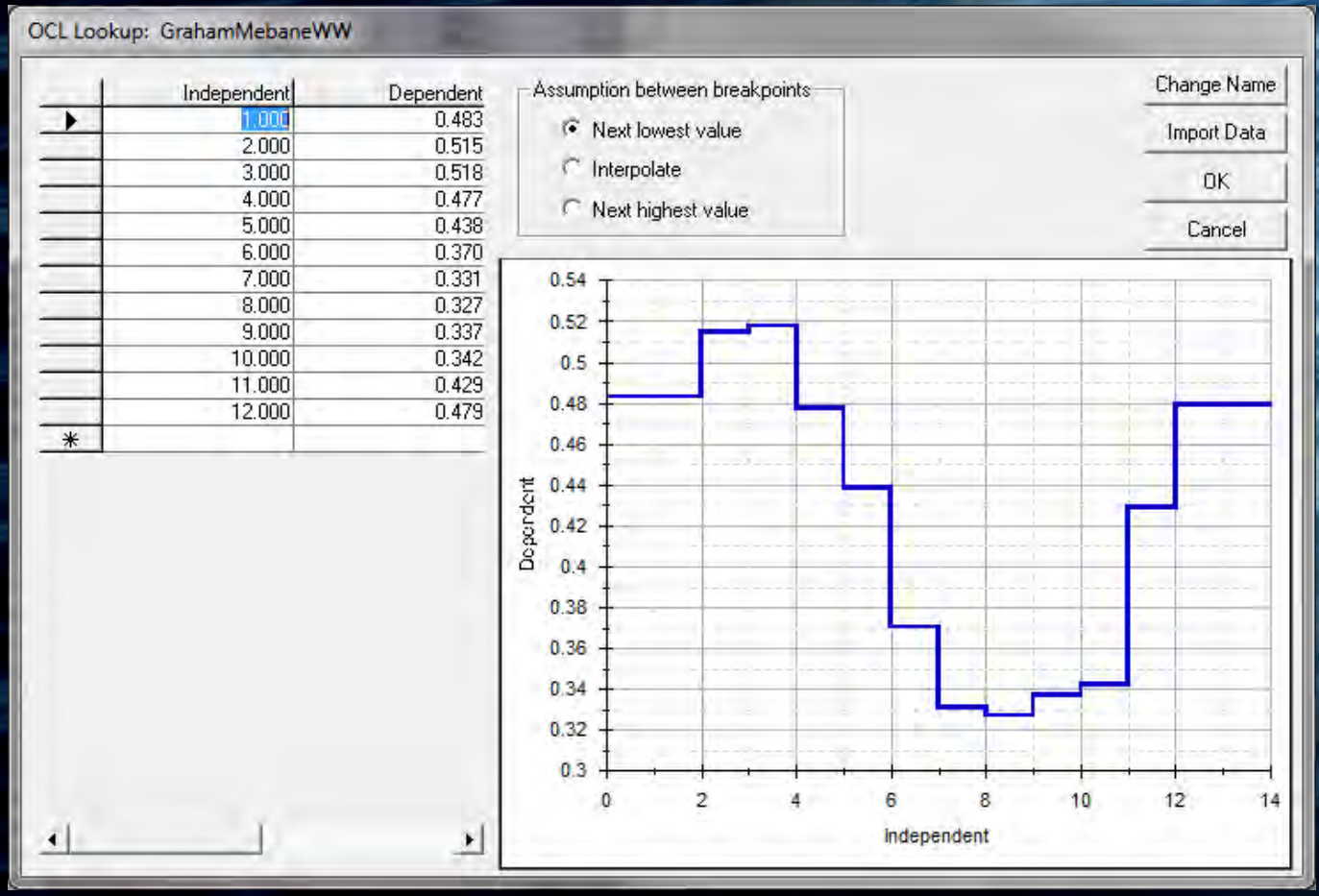
Graham-Mebane Demand Pattern



Month	Day	Demand
1	1	0.936
1	31	0.936
2	1	0.922
2	29	0.922
3	1	0.937
3	31	0.937
4	1	0.958
4	30	0.958
5	1	0.959
5	31	0.959
6	1	1.072
6	30	1.072
7	1	1.089
7	31	1.089
8	1	1.116
8	31	1.116
9	1	1.119
9	30	1.119
10	1	1.028
10	31	1.028
11	1	0.946
11	30	0.946
12	1	0.917
12	31	0.917

Graham-Mebane Discharge Pattern



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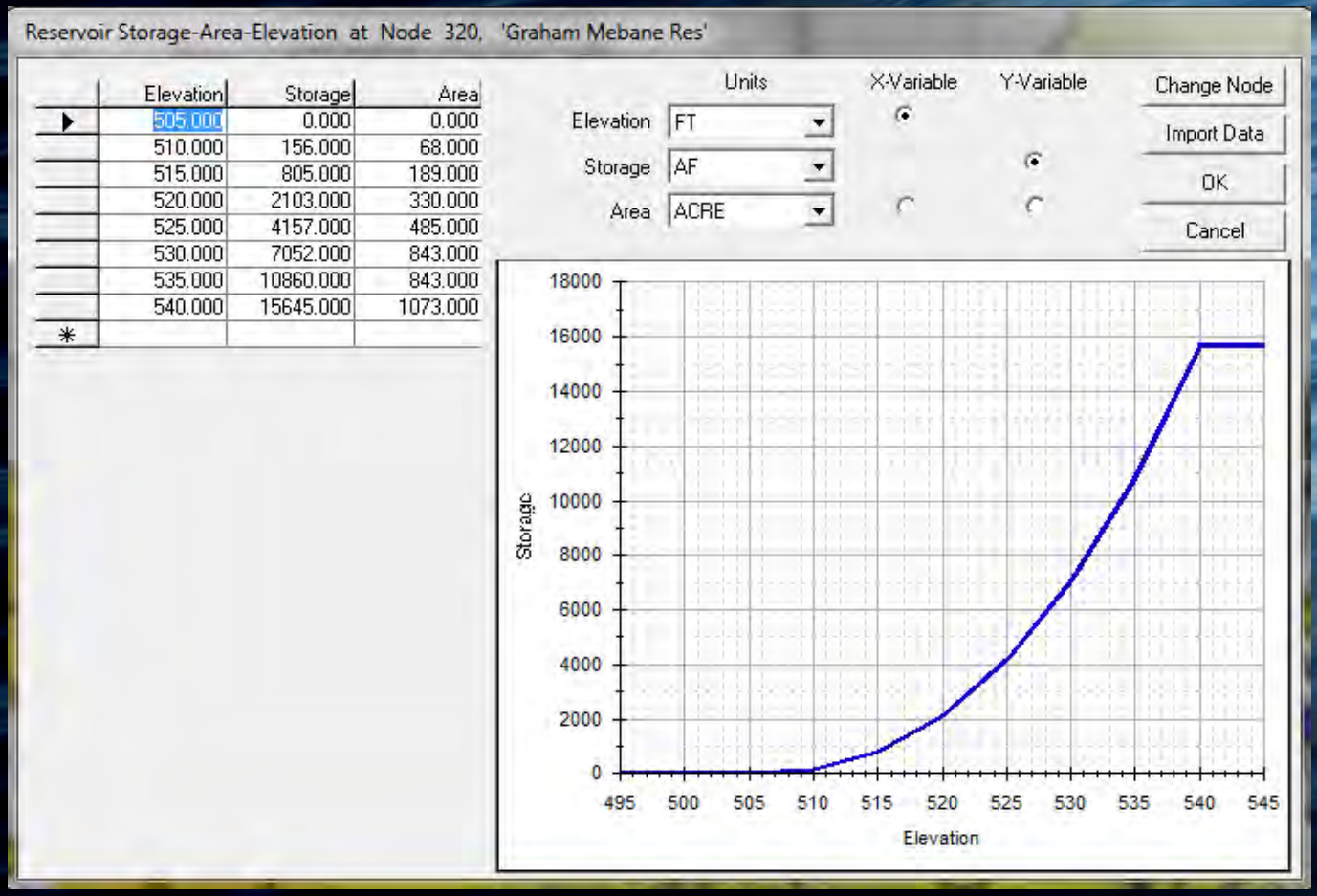
Graham-Mebane SAE Curve



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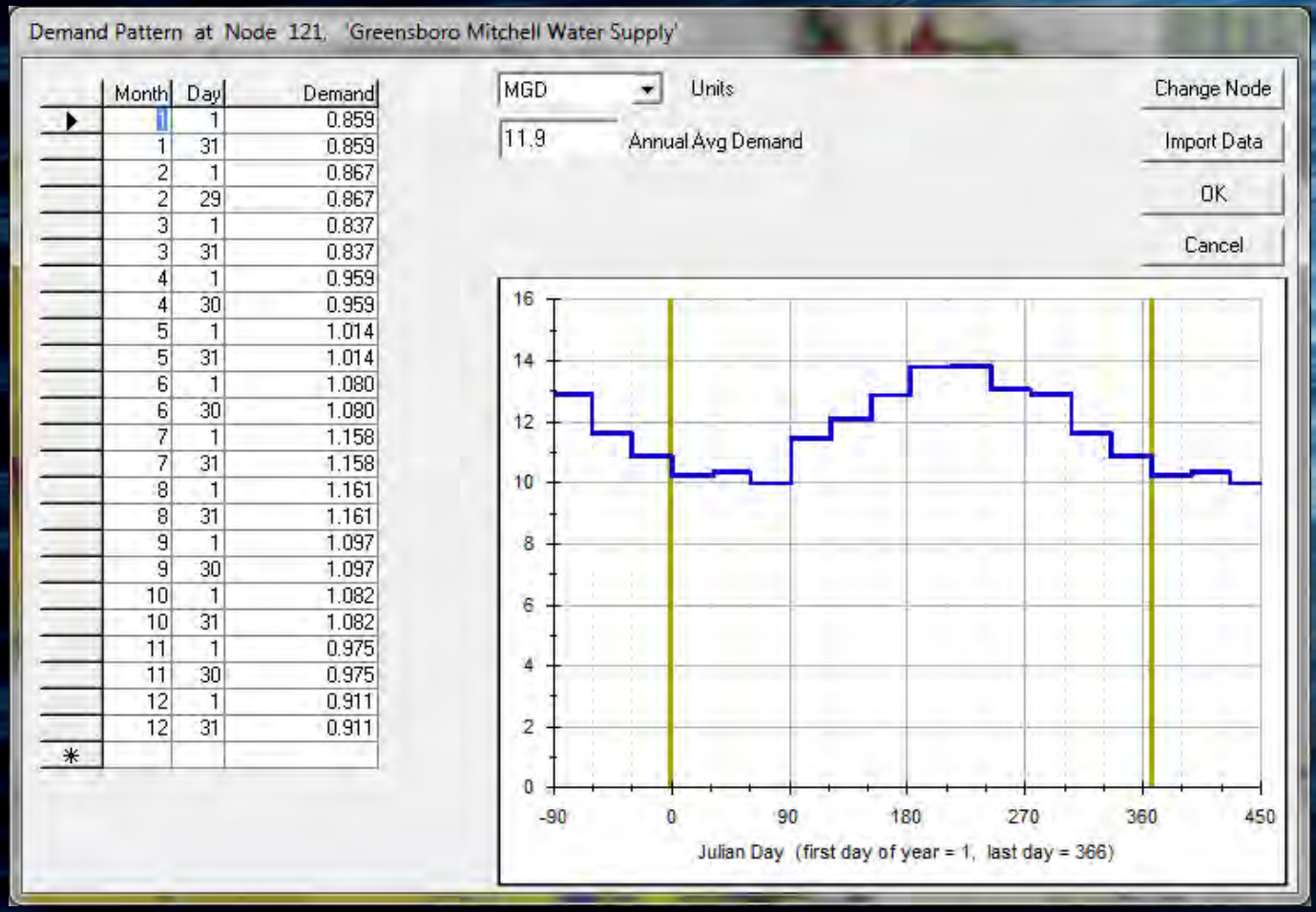
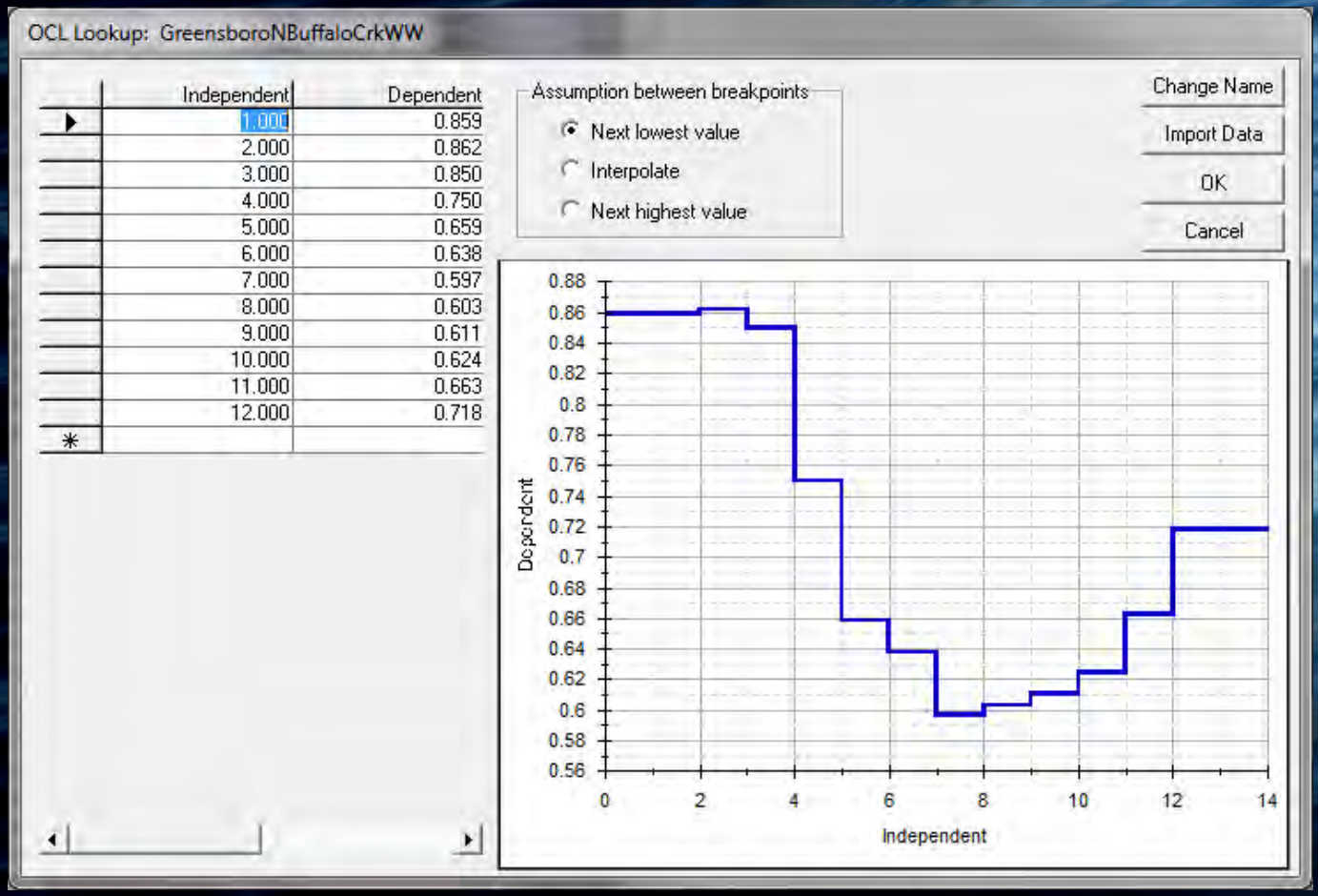
Greensboro Brandt Demand Pattern



Month	Day	Demand
1	1	0.859
1	31	0.859
2	1	0.867
2	29	0.867
3	1	0.837
3	31	0.837
4	1	0.959
4	30	0.959
5	1	1.014
5	31	1.014
6	1	1.080
6	30	1.080
7	1	1.158
7	31	1.158
8	1	1.161
8	31	1.161
9	1	1.097
9	30	1.097
10	1	1.082
10	31	1.082
11	1	0.975
11	30	0.975
12	1	0.911
12	31	0.911

Greensboro N. Buff Ck Discharge Pattern



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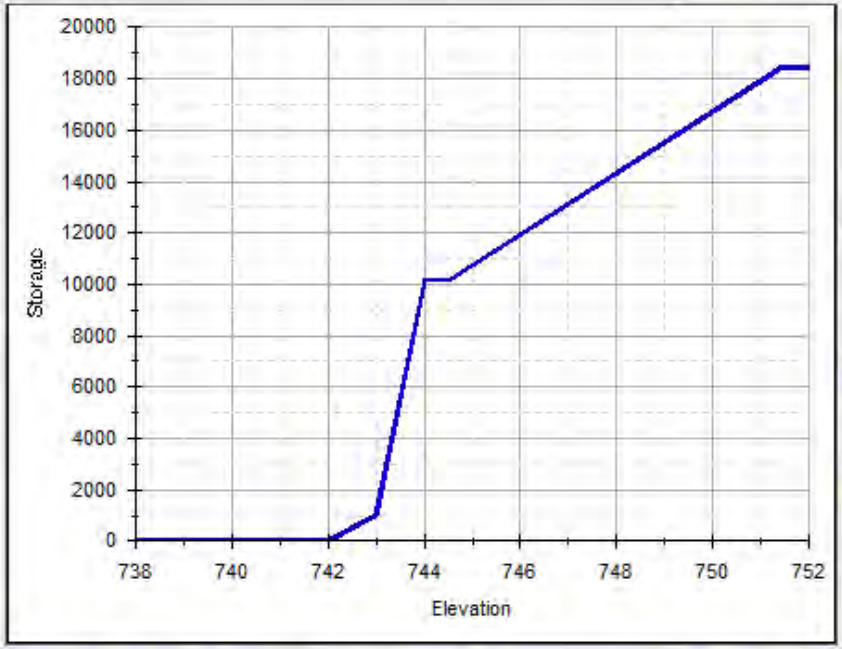
Greensboro Brandt SAE Curve

Reservoir Storage-Area-Elevation at Node 120, 'Brandt Res'

	Elevation	Storage	Area
▶	742.000	0.000	0.000
	743.000	1000.000	0.000
	744.000	10131.000	0.000
	744.500	10131.000	817.000
	751.400	18391.000	1170.000
*			

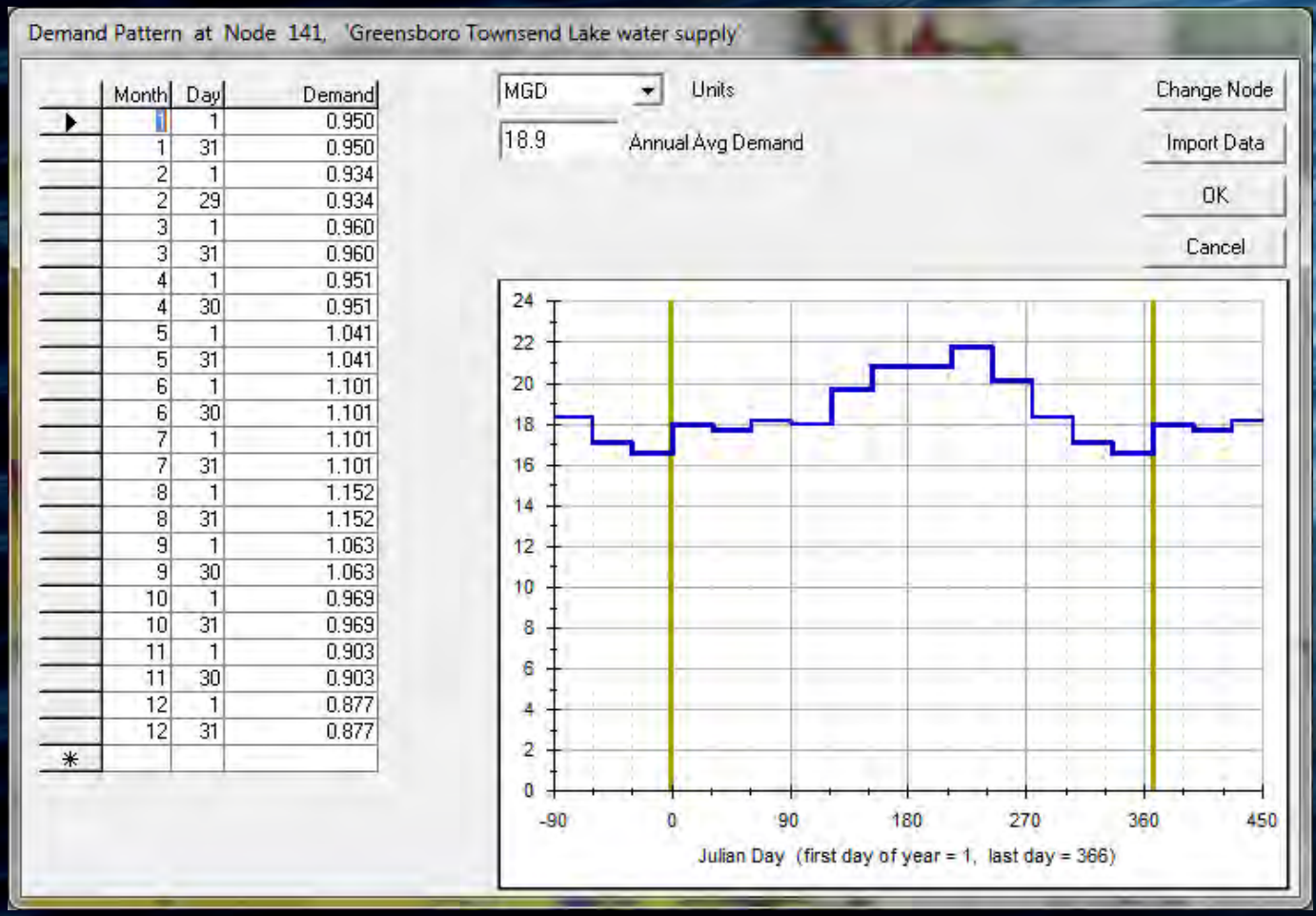
	Units	X-Variable	Y-Variable
Elevation	FT	●	
Storage	AF		●
Area	ACRE	○	○

Change Node
Import Data
OK
Cancel



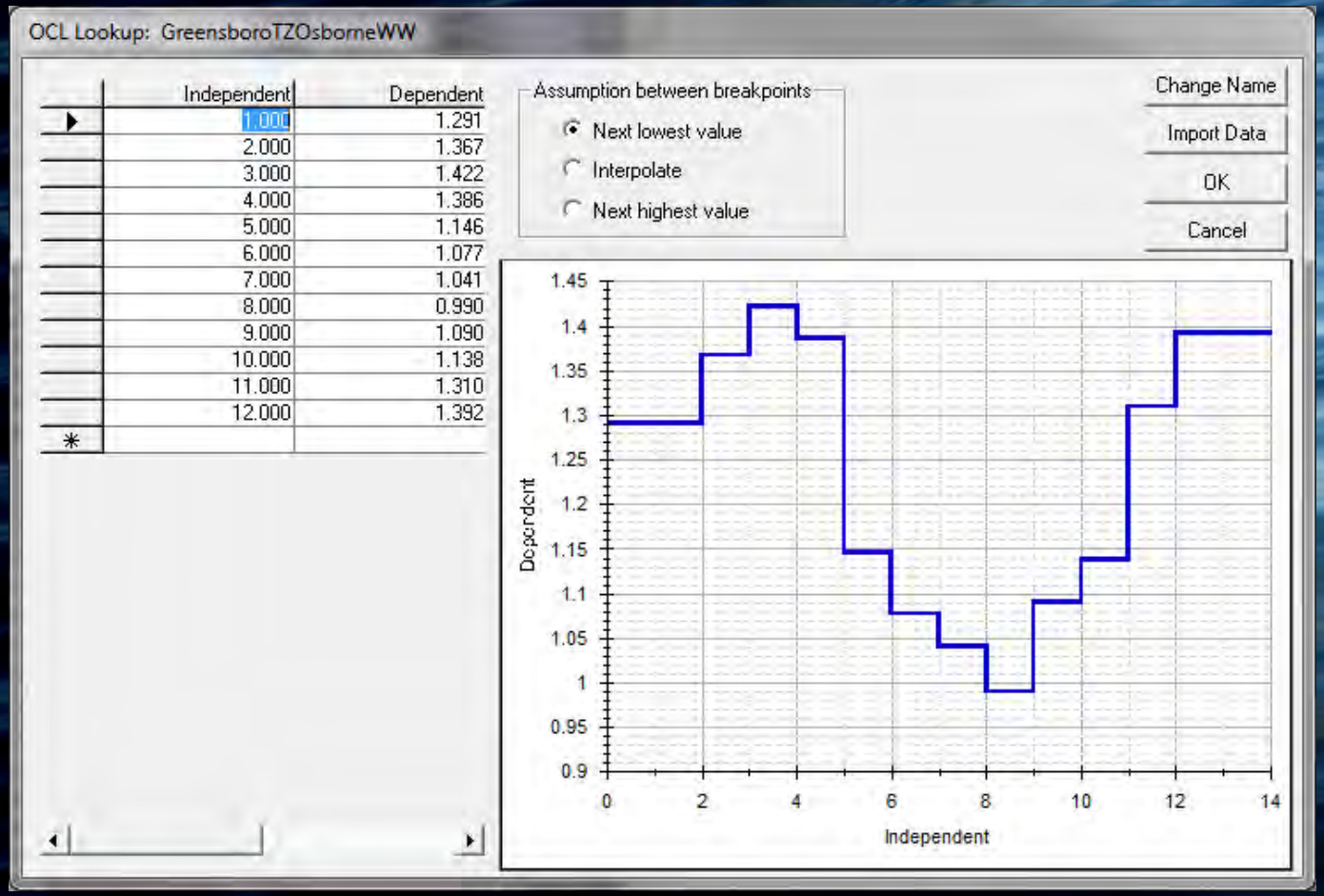
HYDROLOGICS

Greensboro Townsend Demand Pattern



Month	Day	Demand
1	1	0.950
1	31	0.950
2	1	0.934
2	29	0.934
3	1	0.960
3	31	0.960
4	1	0.951
4	30	0.951
5	1	1.041
5	31	1.041
6	1	1.101
6	30	1.101
7	1	1.101
7	31	1.101
8	1	1.152
8	31	1.152
9	1	1.063
9	30	1.063
10	1	0.969
10	31	0.969
11	1	0.903
11	30	0.903
12	1	0.877
12	31	0.877

Greensboro TZ Osborne Discharge Pattern



HYDROLOGICS

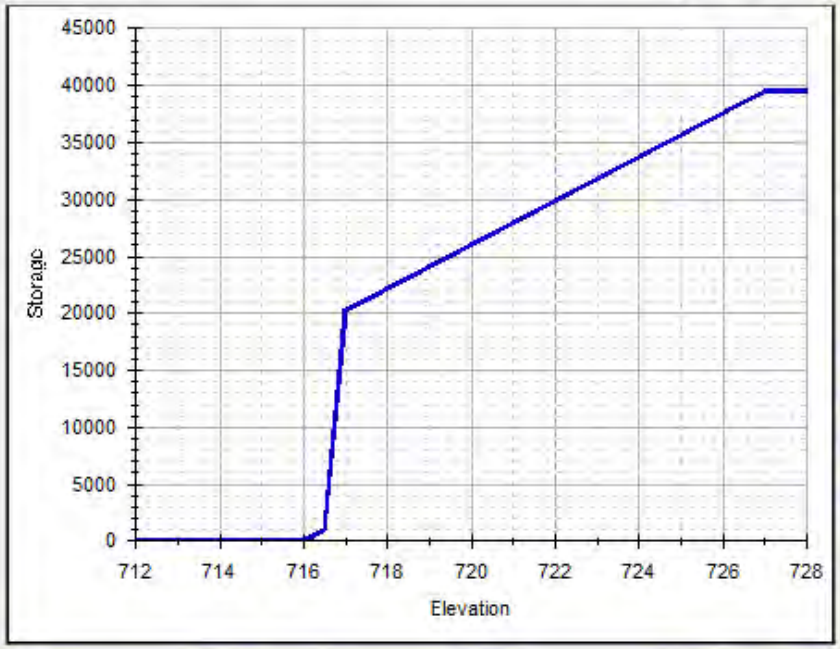
Greensboro Townsend SAE Curve

Reservoir Storage-Area-Elevation at Node 140, 'G/T Lake'

	Elevation	Storage	Area
▶	716.000	0.000	0.000
	716.500	1000.000	0.000
	717.000	20274.000	1635.000
	727.000	39504.000	2254.000
*			

	Units	X-Variable	Y-Variable
Elevation	FT	●	
Storage	AF		●
Area	ACRE	○	○

Change Node
Import Data
OK
Cancel



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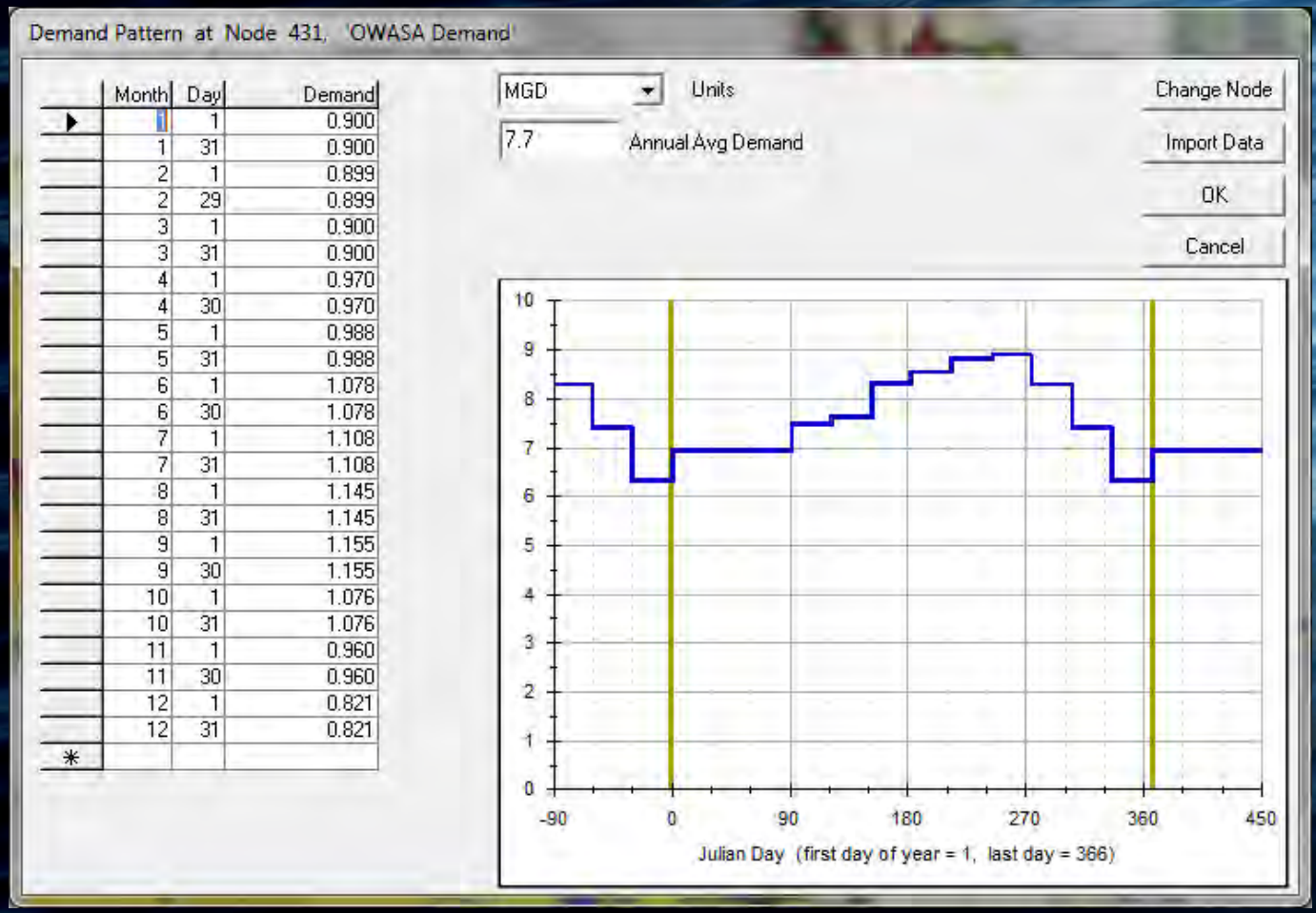
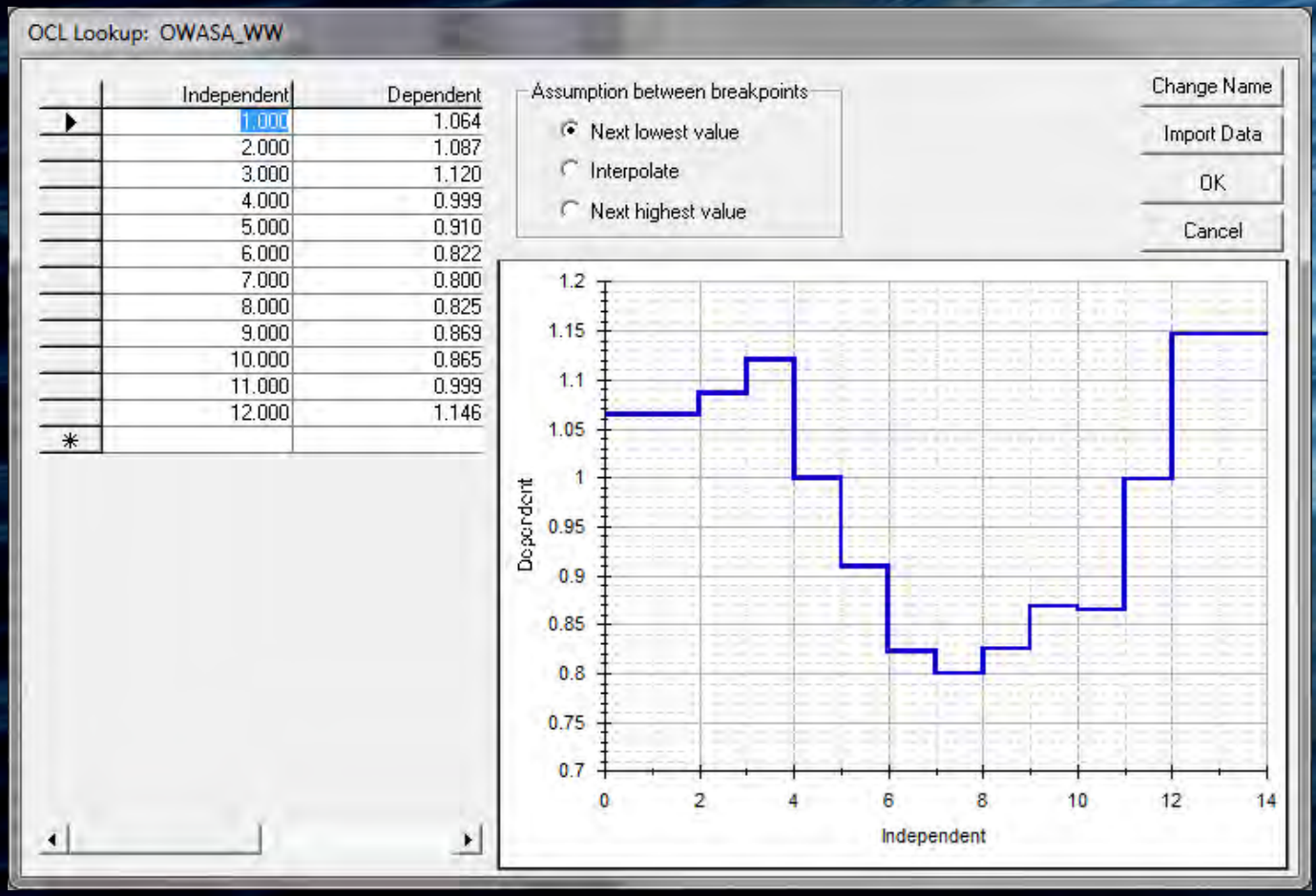
OWASA Demand Pattern



Month	Day	Demand
1	1	0.900
1	31	0.900
2	1	0.899
2	29	0.899
3	1	0.900
3	31	0.900
4	1	0.970
4	30	0.970
5	1	0.988
5	31	0.988
6	1	1.078
6	30	1.078
7	1	1.108
7	31	1.108
8	1	1.145
8	31	1.145
9	1	1.155
9	30	1.155
10	1	1.076
10	31	1.076
11	1	0.960
11	30	0.960
12	1	0.821
12	31	0.821

HYDROLOGICS

OWASA Discharge Pattern



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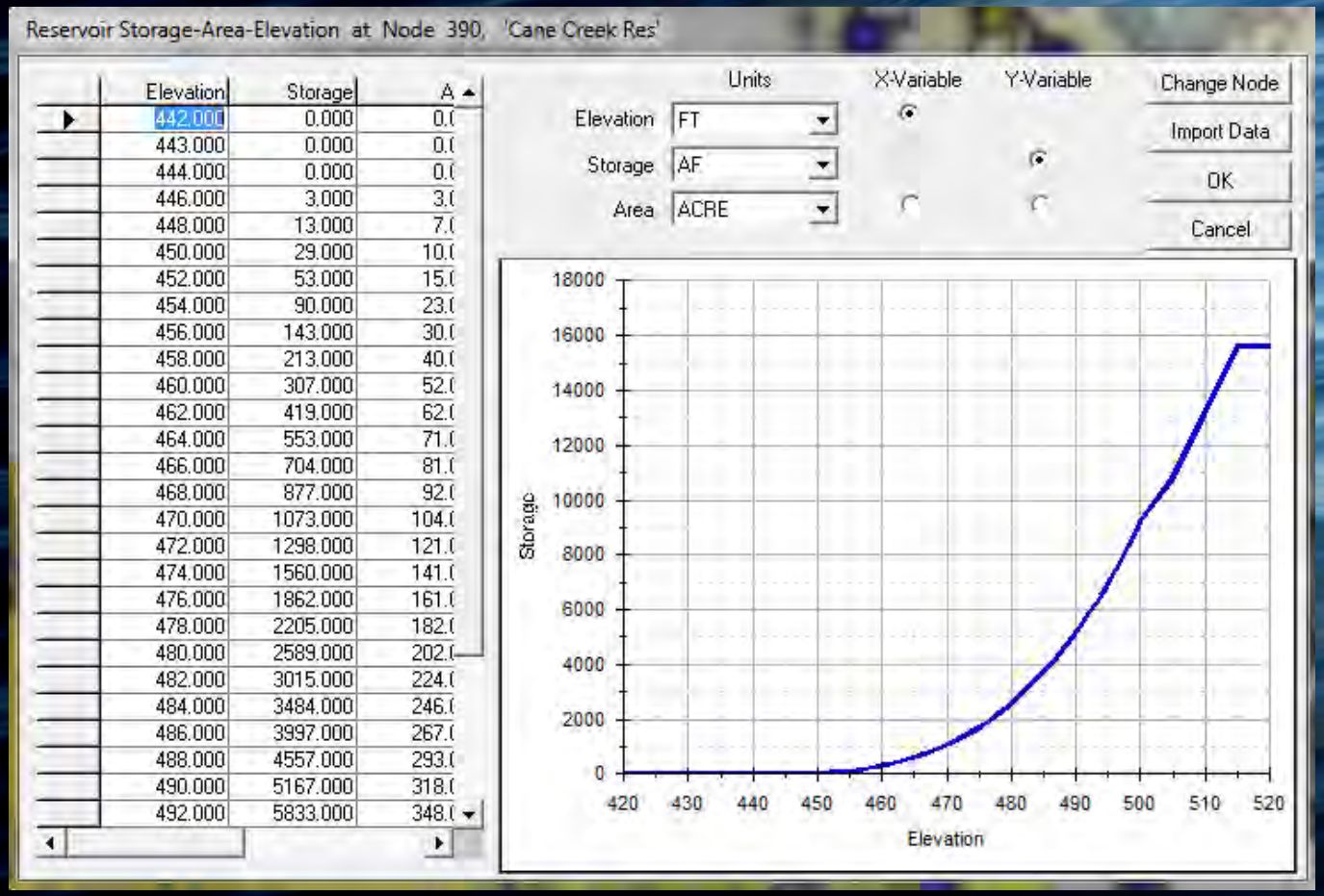
OWASA Updated Operations

- If one reservoir is full and the other is drawn down, withdraw from the full reservoir
- Split withdrawal when both reservoirs are full, and also split the first 100 MG withdrawn
- After the reservoirs are drawn down 50 MG each, withdraw the majority from Cane Creek, less 1 MGD from University Lake
- Only withdraw from quarry when supplemental flow is needed to meet demands
  - Refill quarry once Cane Creek is full

Cane Ck Res SAE Curve



HYDROLOGICS

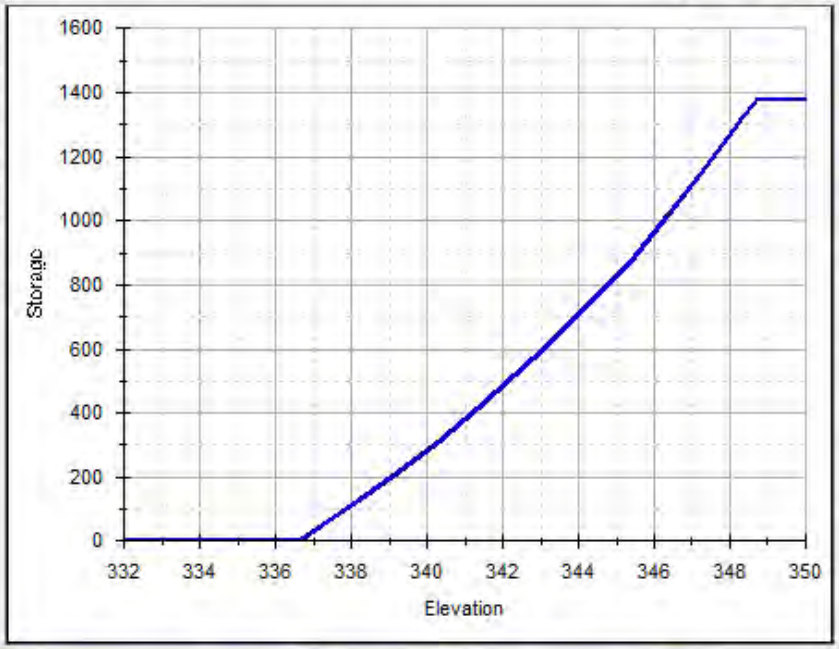
University Lake SAE Curve

Reservoir Storage-Area-Elevation at Node 430, 'Univ Lake'

	Elevation	Storage	Area
▶	336.000	0.000	0.000
	336.600	1.000	99.000
	337.300	56.000	105.000
	338.300	136.000	112.000
	339.300	221.000	119.000
	340.300	310.000	126.000
	341.300	412.000	132.000
	342.300	515.000	142.000
	343.300	624.000	151.000
	344.300	740.000	161.000
	345.300	864.000	170.000
	346.300	1007.000	183.000
	347.300	1161.000	195.000
	348.300	1316.000	207.000
	348.700	1378.000	212.000
*			

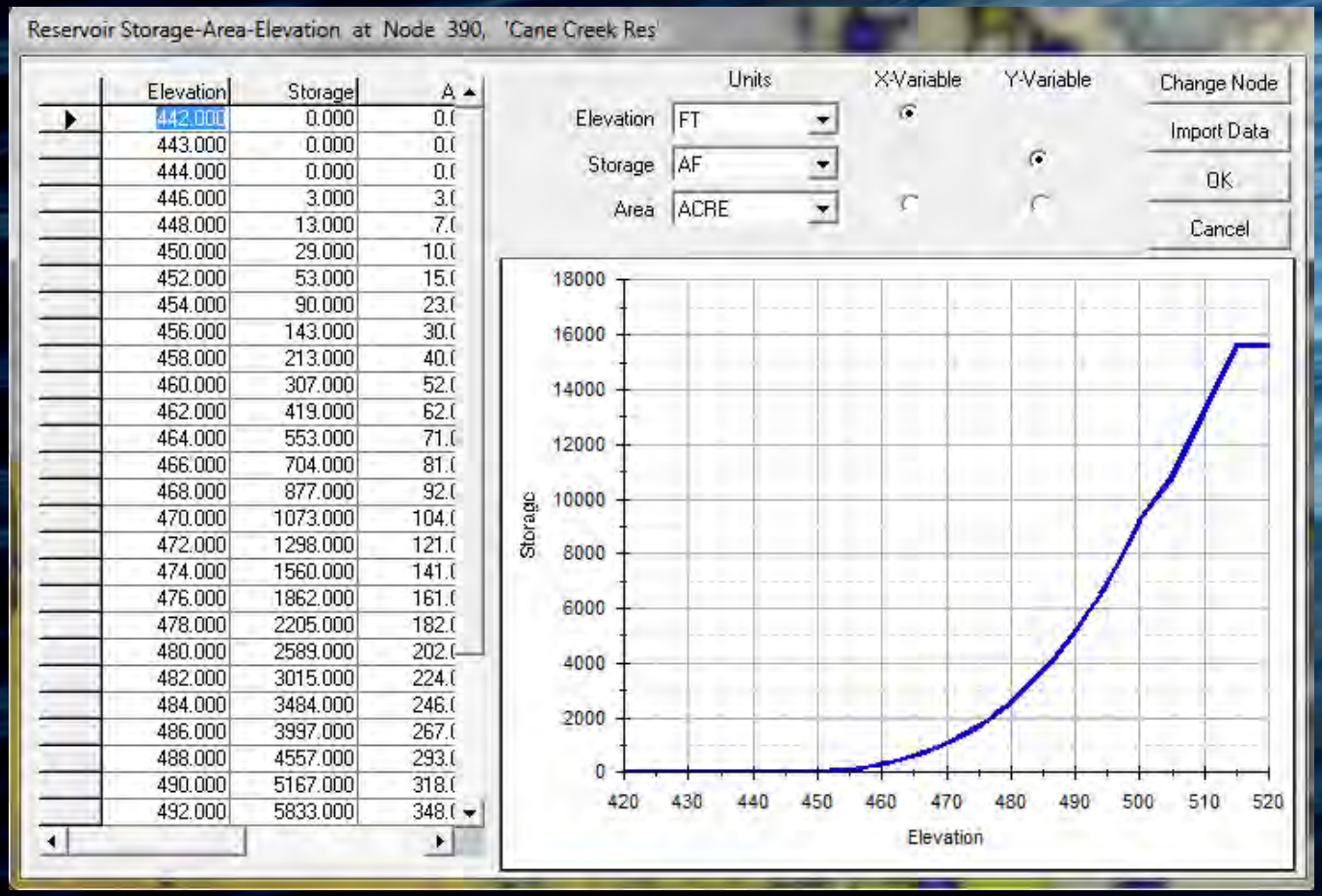
	Units	X-Variable	Y-Variable
Elevation	FT	●	
Storage	AF		●
Area	ACRE	○	○

Change Node | Import Data | OK | Cancel



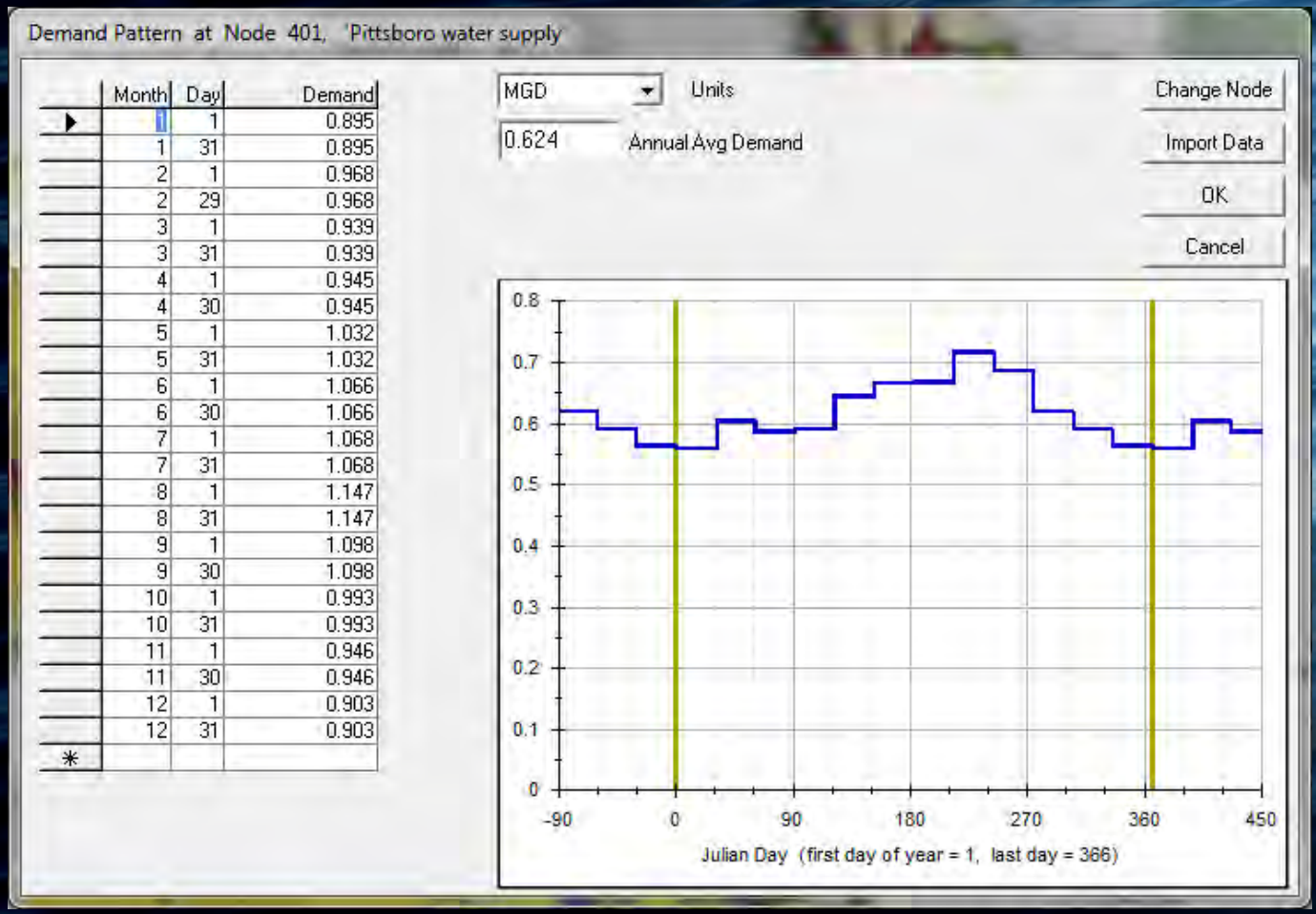
HYDROLOGICS

Stone Quarry SAE Curve



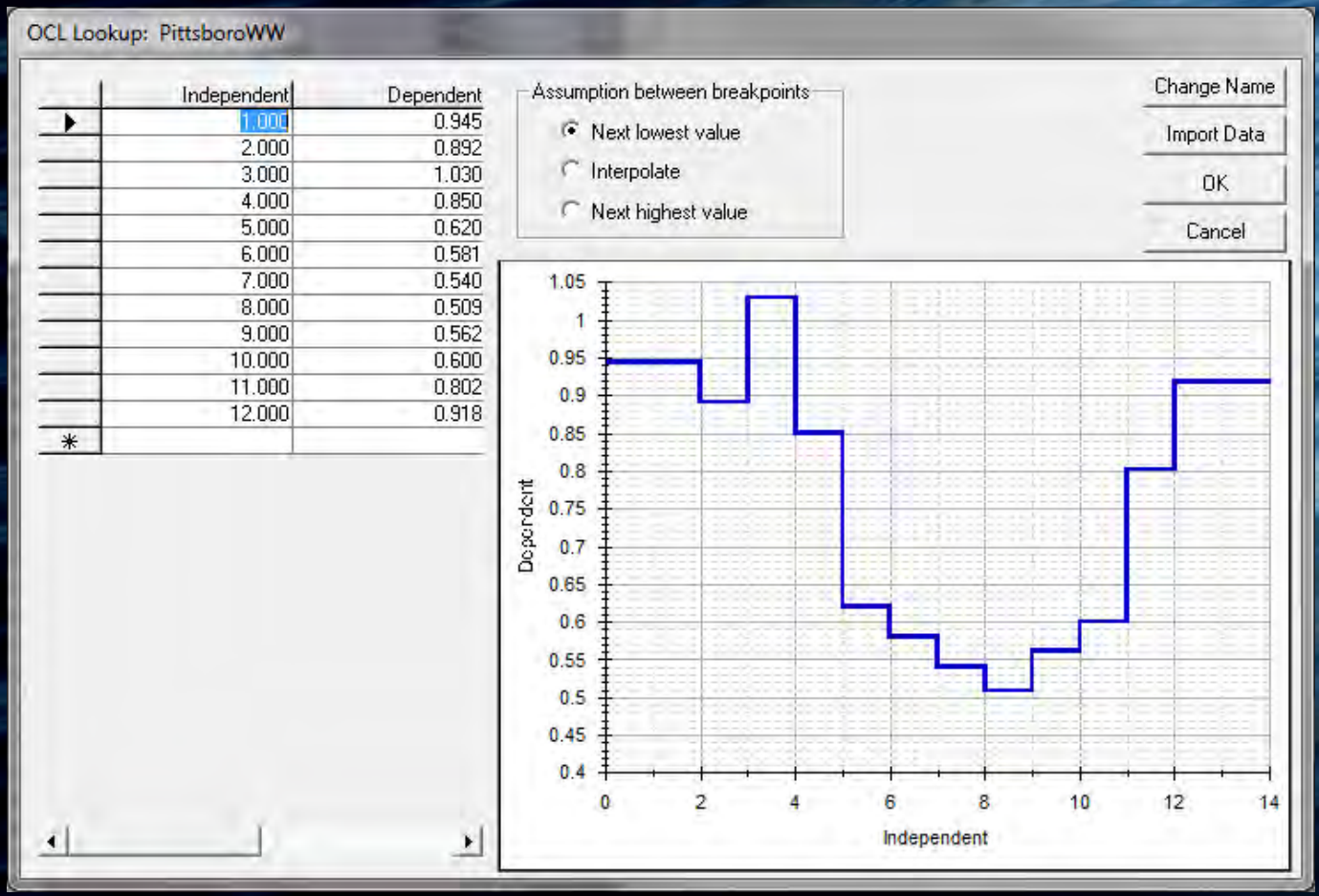
HYDROLOGICS

Pittsboro Demand Pattern



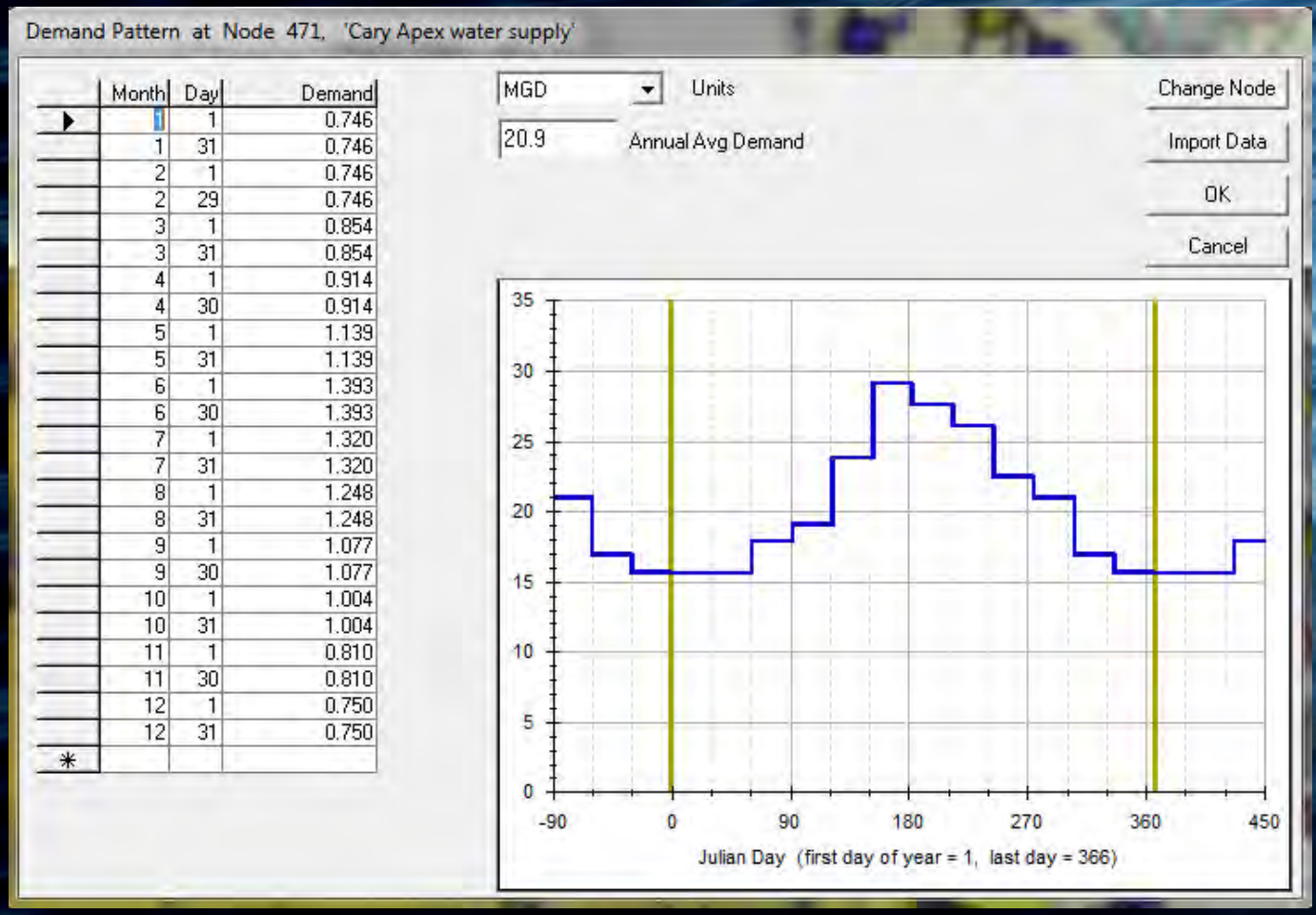
HYDROLOGICS

Pittsboro Discharge Pattern



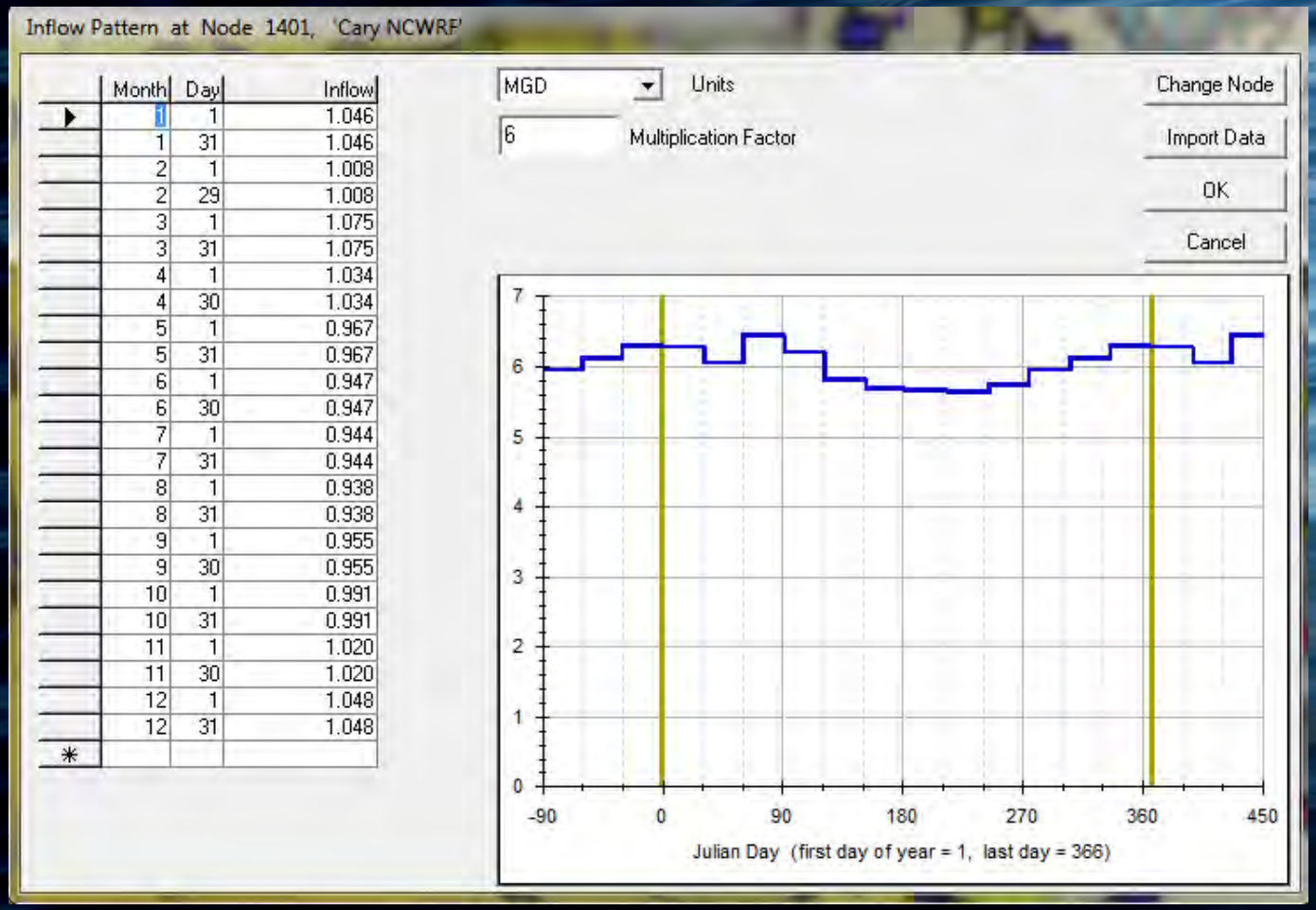
HYDROLOGICS

Cary Demand Pattern



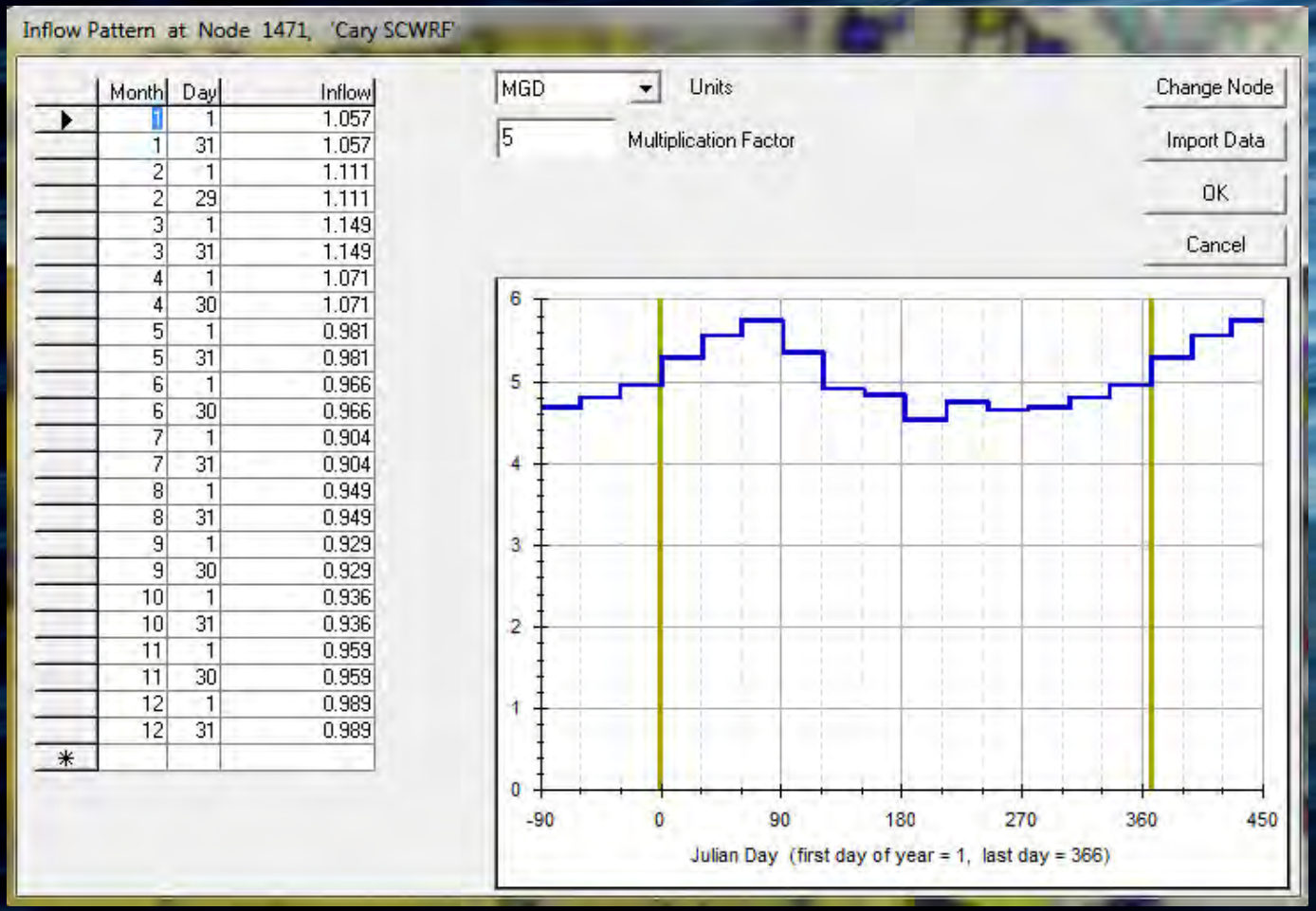
HYDROLOGICS

Cary NWRF Discharge Pattern



Month	Day	Inflow
1	1	1.046
1	31	1.046
2	1	1.008
2	29	1.008
3	1	1.075
3	31	1.075
4	1	1.034
4	30	1.034
5	1	0.967
5	31	0.967
6	1	0.947
6	30	0.947
7	1	0.944
7	31	0.944
8	1	0.938
8	31	0.938
9	1	0.955
9	30	0.955
10	1	0.991
10	31	0.991
11	1	1.020
11	30	1.020
12	1	1.048
12	31	1.048

Cary SWRF Discharge Pattern



Month	Day	Inflow
1	1	1.057
1	31	1.057
2	1	1.111
2	29	1.111
3	1	1.149
3	31	1.149
4	1	1.071
4	30	1.071
5	1	0.981
5	31	0.981
6	1	0.966
6	30	0.966
7	1	0.904
7	31	0.904
8	1	0.949
8	31	0.949
9	1	0.929
9	30	0.929
10	1	0.936
10	31	0.936
11	1	0.959
11	30	0.959
12	1	0.989
12	31	0.989

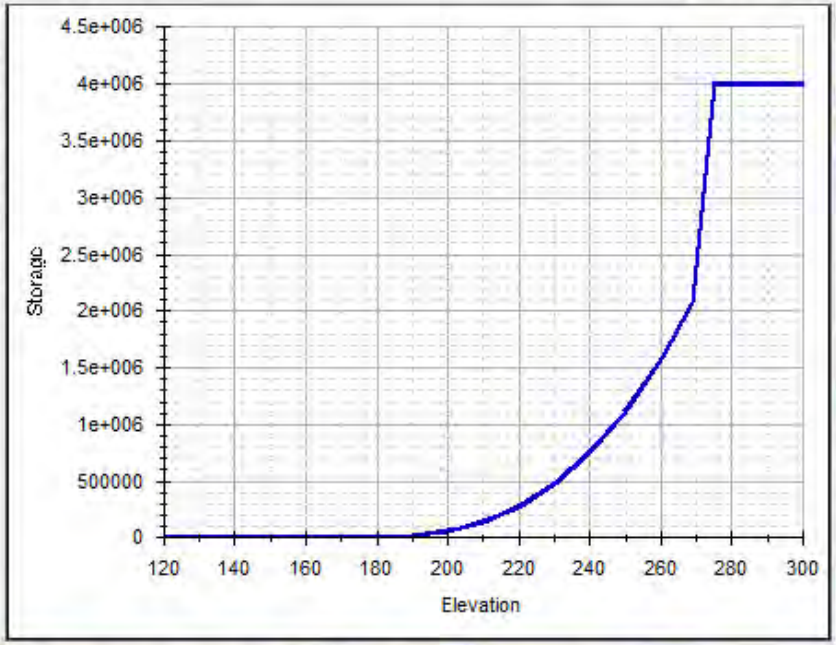
Jordan SAE Curve

Reservoir Storage-Area-Elevation at Node 470, 'Jordan Lake'

	Elevation	Storage	Area
▶	150.000	0.000	0.000
	160.000	90.000	50.000
	170.000	960.000	150.000
	180.000	4700.000	670.000
	190.000	20430.000	2510.000
	200.000	62140.000	5840.000
	202.000	74700.000	6660.000
	210.000	142220.000	10490.000
	216.000	215130.000	13940.000
	220.000	276240.000	16520.000
	230.000	476610.000	23700.000
	240.000	753560.000	31810.000
	250.000	1120000.000	40590.000
	260.000	1570000.000	50290.000
	269.000	2070000.000	59870.000
	275.000	4000000.000	60000.000
*			

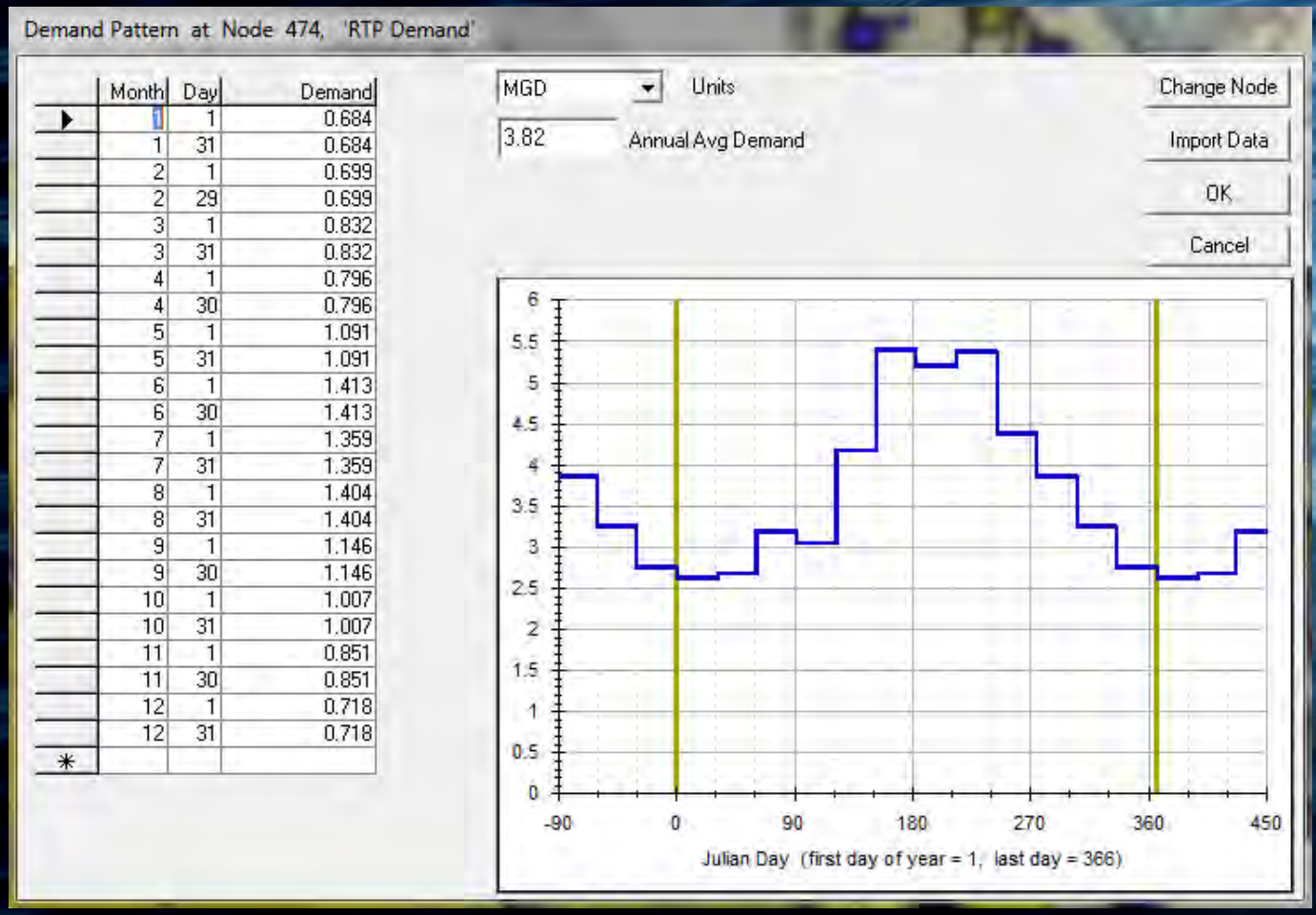
	Units	X-Variable	Y-Variable
Elevation	FT	●	
Storage	AF		●
Area	ACRE	○	○

Change Node | Import Data | OK | Cancel



HYDROLOGICS

RTP Demand Pattern



	Month	Day	Demand
▶	1	1	0.684
	1	31	0.684
	2	1	0.699
	2	29	0.699
	3	1	0.832
	3	31	0.832
	4	1	0.796
	4	30	0.796
	5	1	1.091
	5	31	1.091
	6	1	1.413
	6	30	1.413
	7	1	1.359
	7	31	1.359
	8	1	1.404
	8	31	1.404
	9	1	1.146
	9	30	1.146
	10	1	1.007
	10	31	1.007
	11	1	0.851
	11	30	0.851
	12	1	0.718
	12	31	0.718
*			

HYDROLOGICS

Morrisville Demand Pattern

Demand Pattern at Node 477, 'Morrisville demand'

	Month	Day	Demand
▶	1	1	0.728
	1	31	0.728
	2	1	0.649
	2	29	0.649
	3	1	0.836
	3	31	0.836
	4	1	0.839
	4	30	0.839
	5	1	1.126
	5	31	1.126
	6	1	1.465
	6	30	1.465
	7	1	1.382
	7	31	1.382
	8	1	1.316
	8	31	1.316
	9	1	1.085
	9	30	1.085
	10	1	0.998
	10	31	0.998
	11	1	0.835
	11	30	0.835
	12	1	0.740
	12	31	0.740
*			

MGD Units

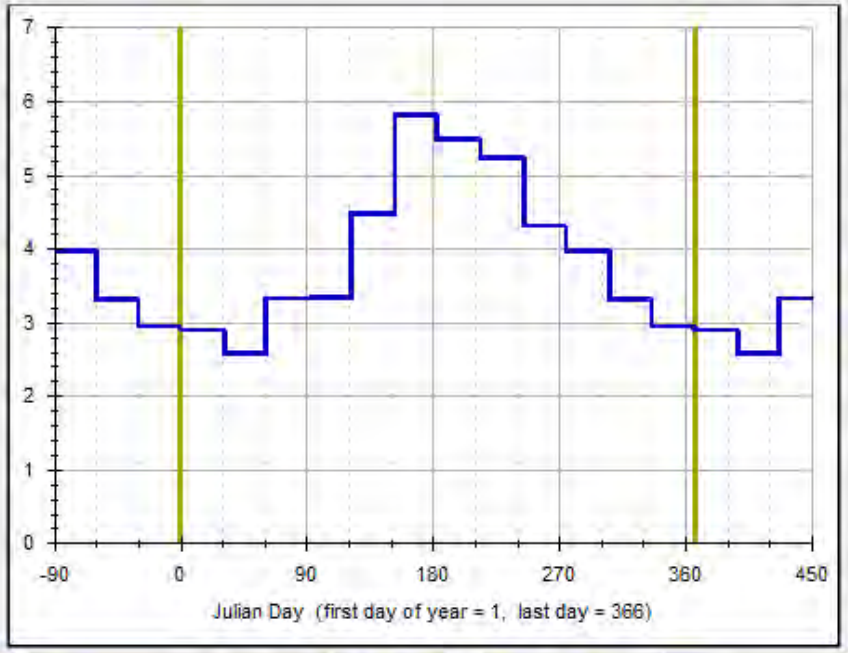
3.97 Annual Avg Demand

Change Node

Import Data

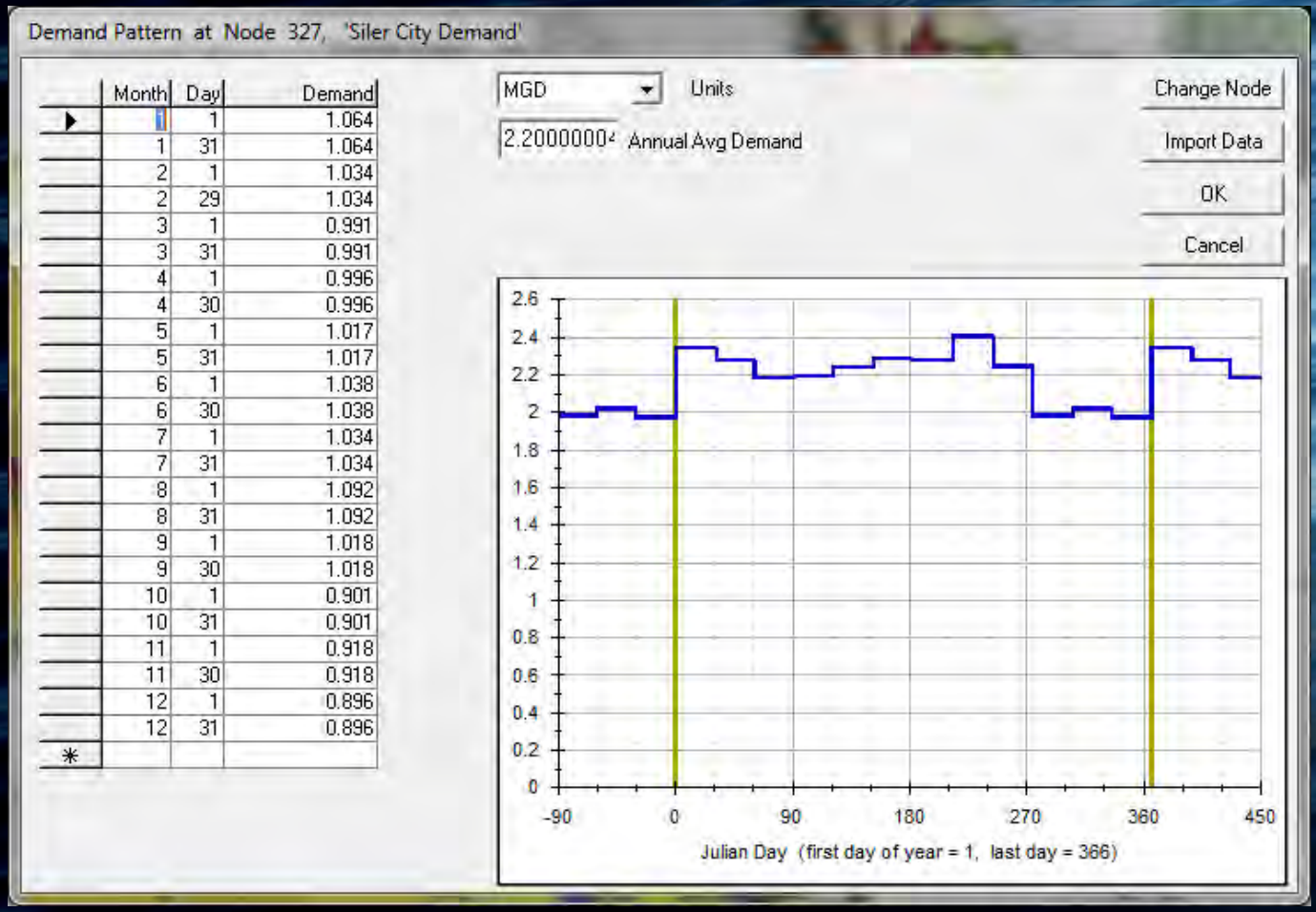
OK

Cancel



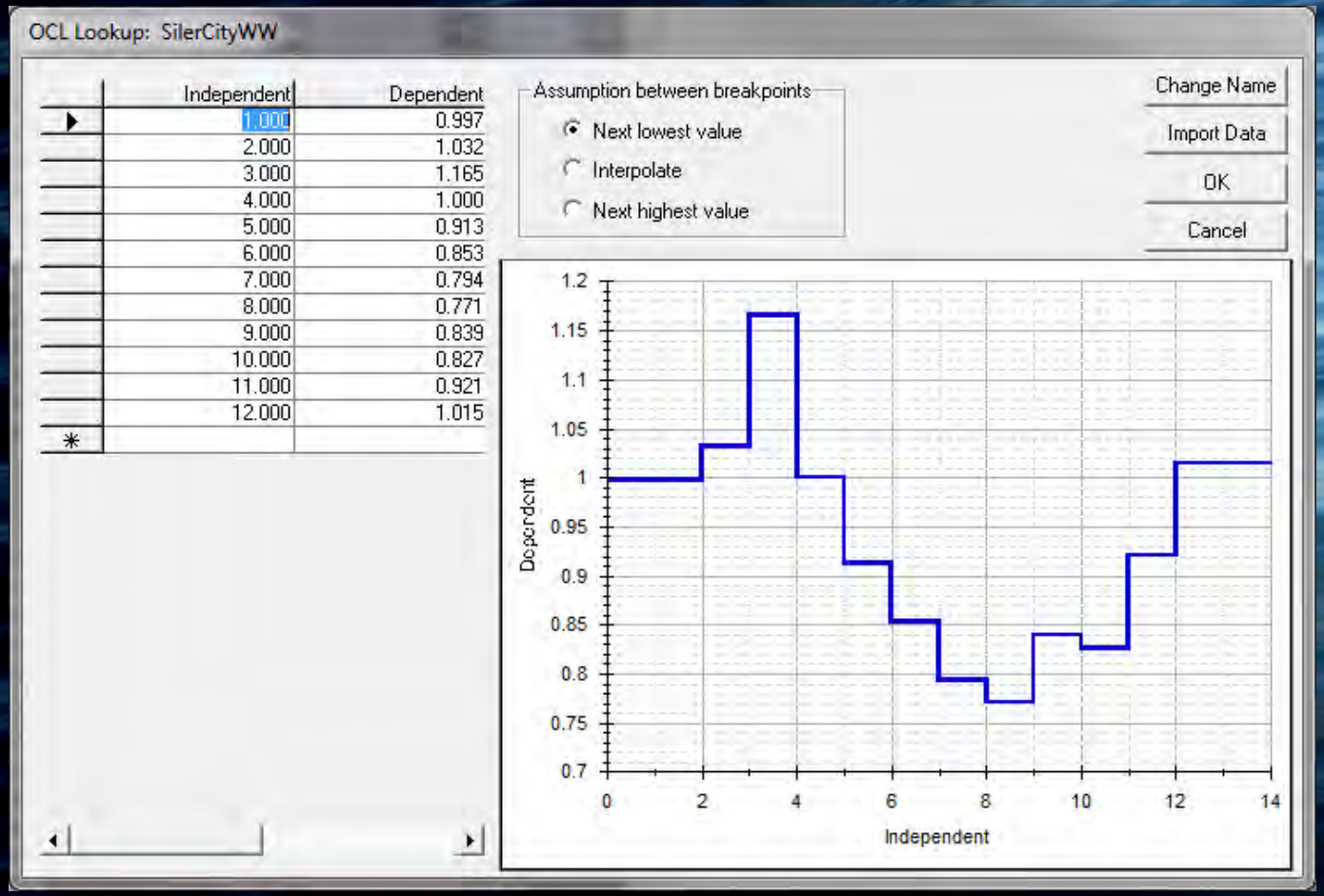
HYDROLOGICS

Siler City Demand Pattern



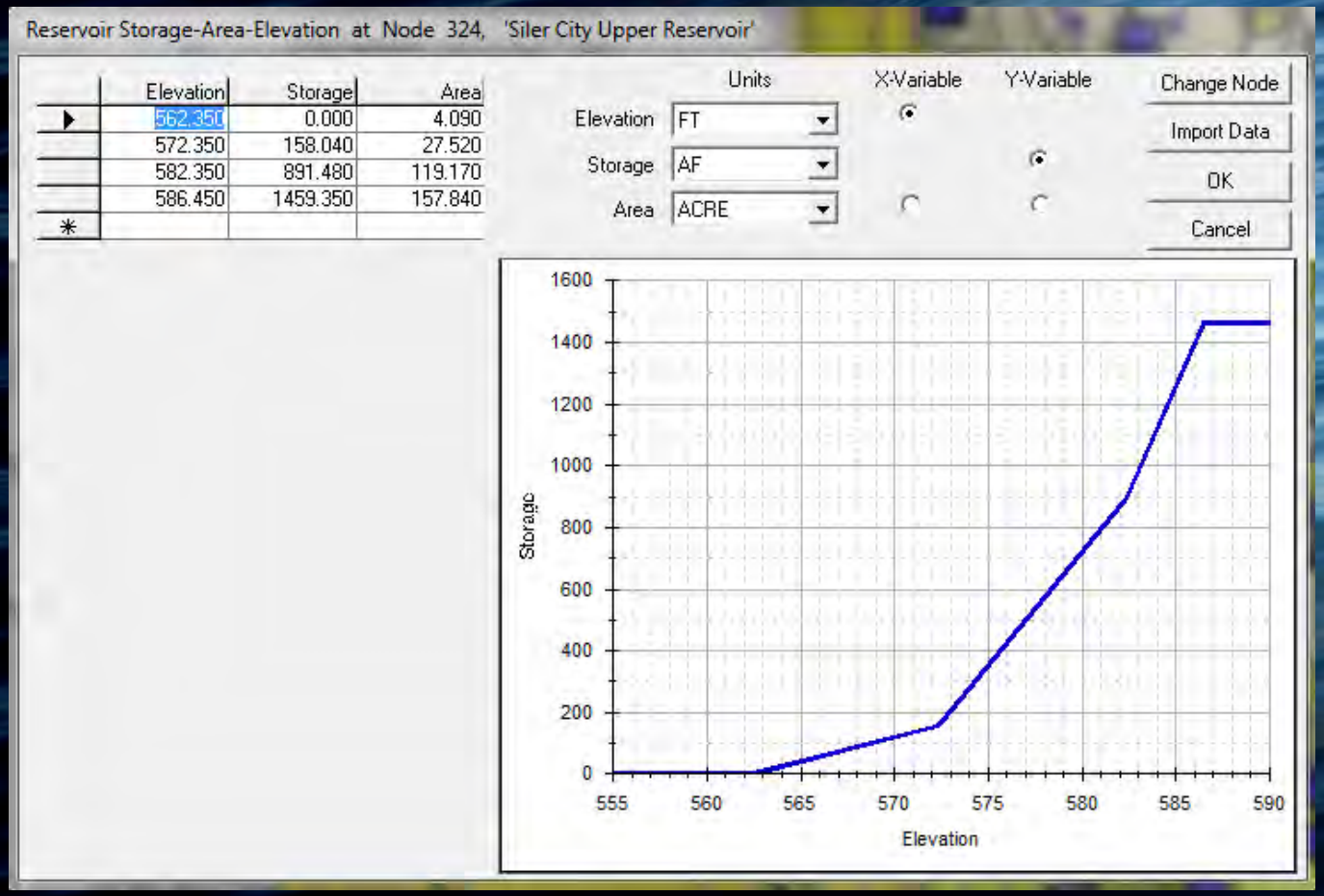
HYDROLOGICS

Siler City Discharge Pattern



HYDROLOGICS

Siler City Upper Res SAE Curve



HYDROLOGICS

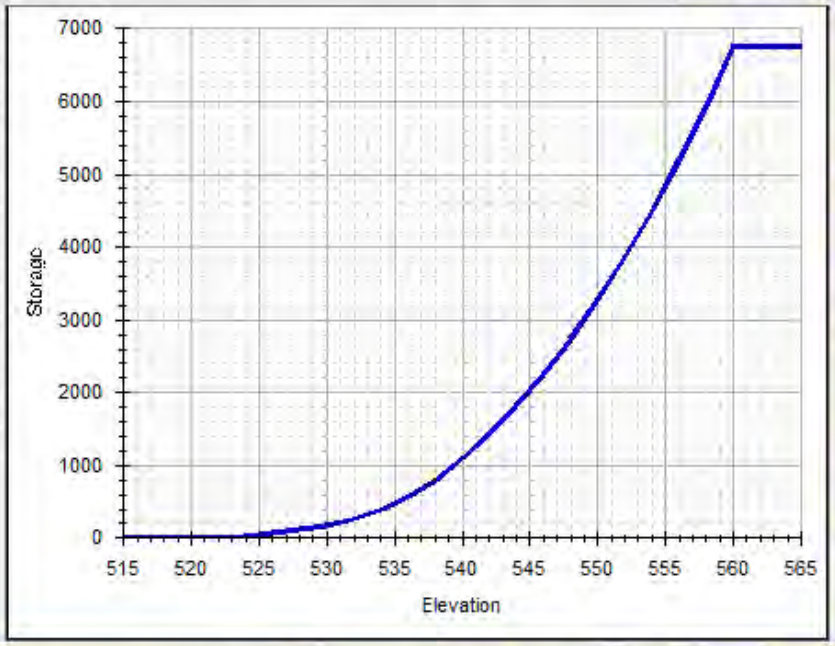
Siler City Lower Res SAE Curve

Reservoir Storage-Area-Elevation at Node 325, 'Siler City Lower Reservoir'

	Elevation	Storage	Area
▶	522.000	0.000	19.010
	523.000	9.870	20.210
	524.000	29.980	21.000
	526.000	72.390	22.530
	528.000	117.740	24.080
	530.000	174.490	33.350
	532.000	260.310	52.470
	534.000	385.830	73.040
	536.000	560.760	101.880
	538.000	794.590	131.940
	540.000	1087.320	160.780
	542.000	1431.110	183.010
	544.000	1820.290	206.170
	546.000	2255.450	228.990
	548.000	2737.770	253.330
	550.000	3271.500	280.390
	552.000	3857.020	305.130
	554.000	4495.030	332.880
	556.000	5188.590	360.690
	558.000	5938.880	388.220
	560.000	6746.190	417.710
*			

	Units	X-Variable	Y-Variable
Elevation	FT	●	
Storage	AF		●
Area	ACRE	○	○

Change Node
Import Data
OK
Cancel



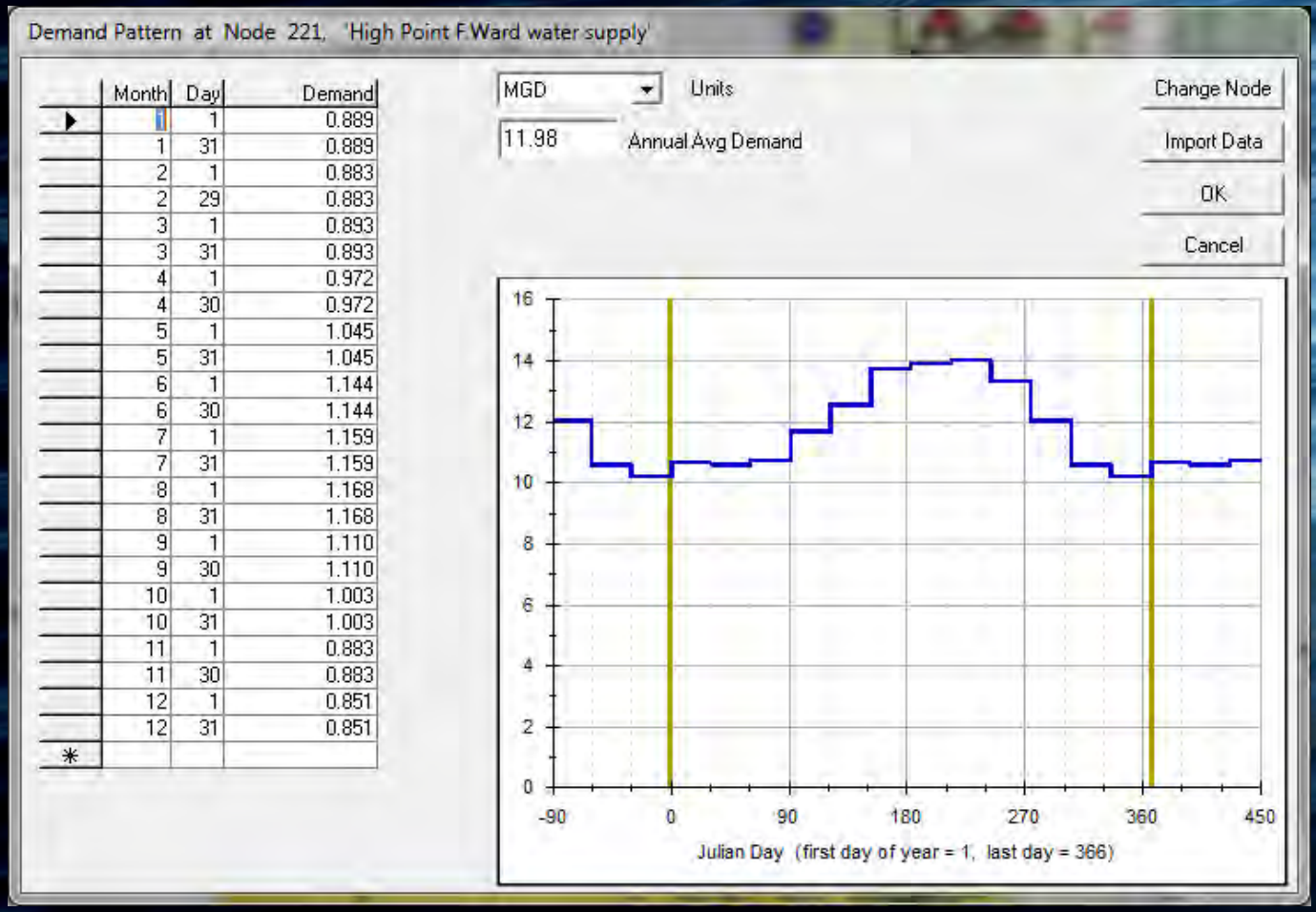
HYDROLOGICS

Siler City Operations

- Draw down the lower reservoir 1 ft
- Then draw down the upper reservoir to the lower rule to meet demand and keep the lower reservoir 1 ft below full
- Draw remaining from lower reservoir if needed

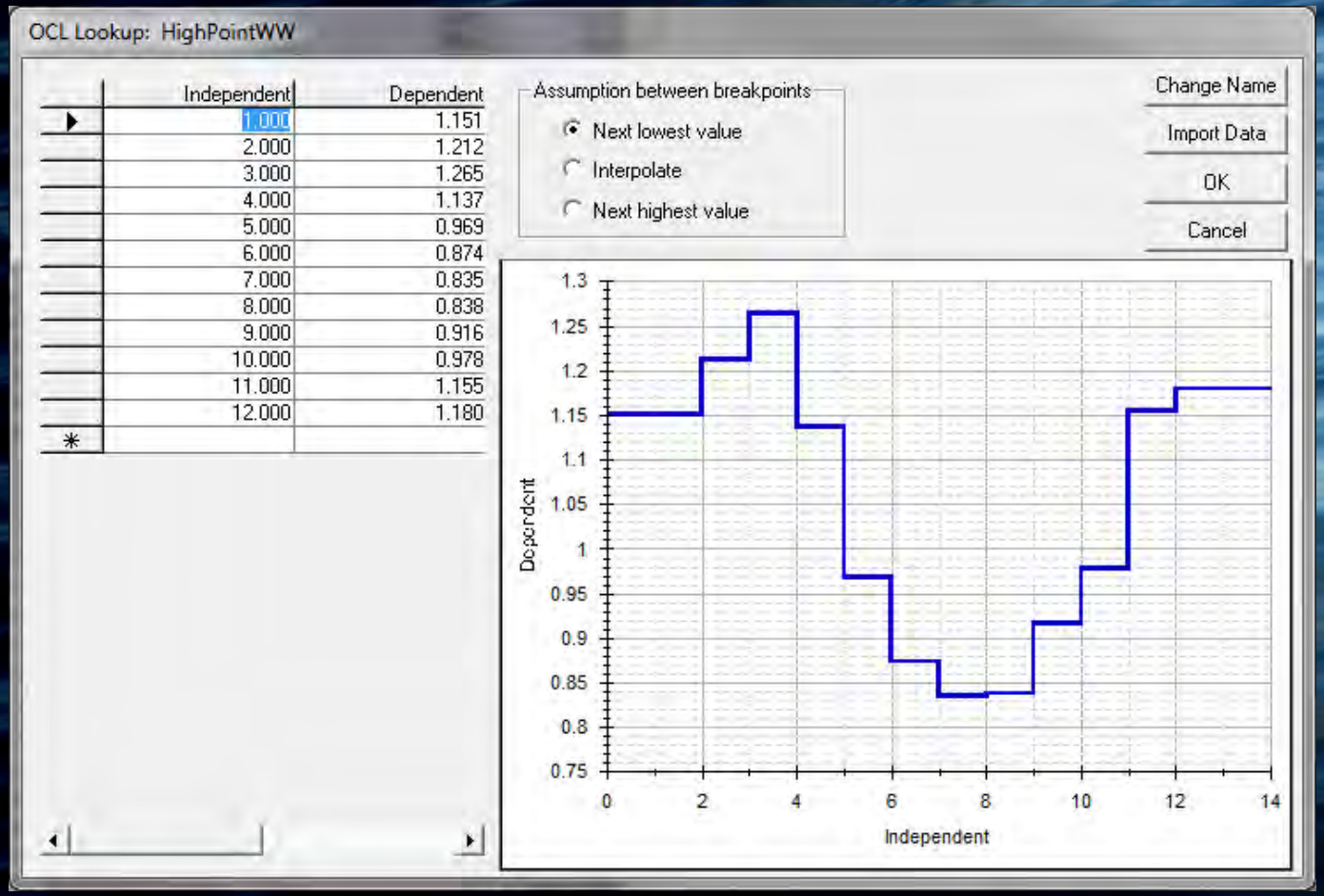
HYDROLOGICS

High Point Demand Pattern



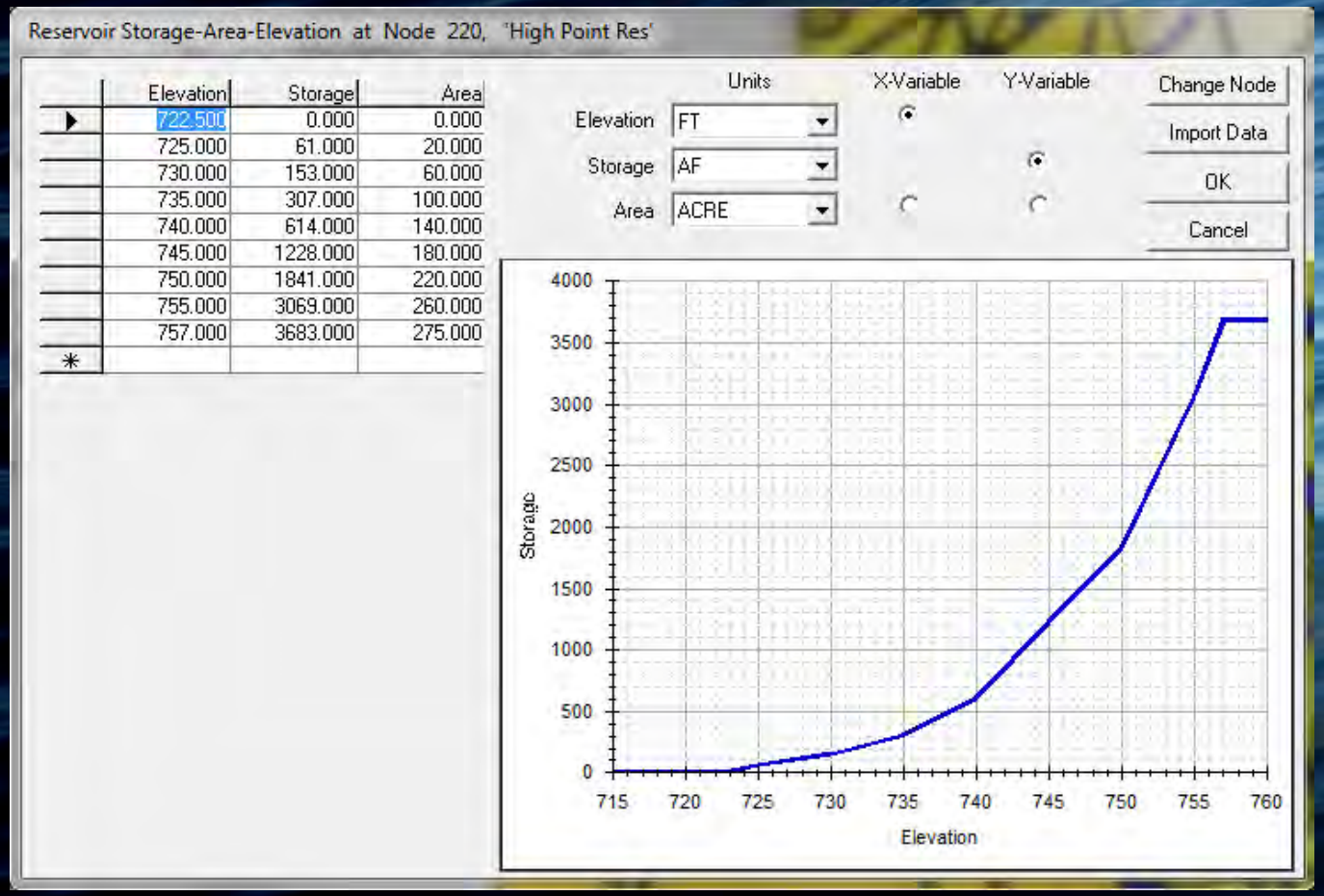
HYDROLOGICS

High Point Discharge Pattern



HYDROLOGICS

High Point SAE Curve

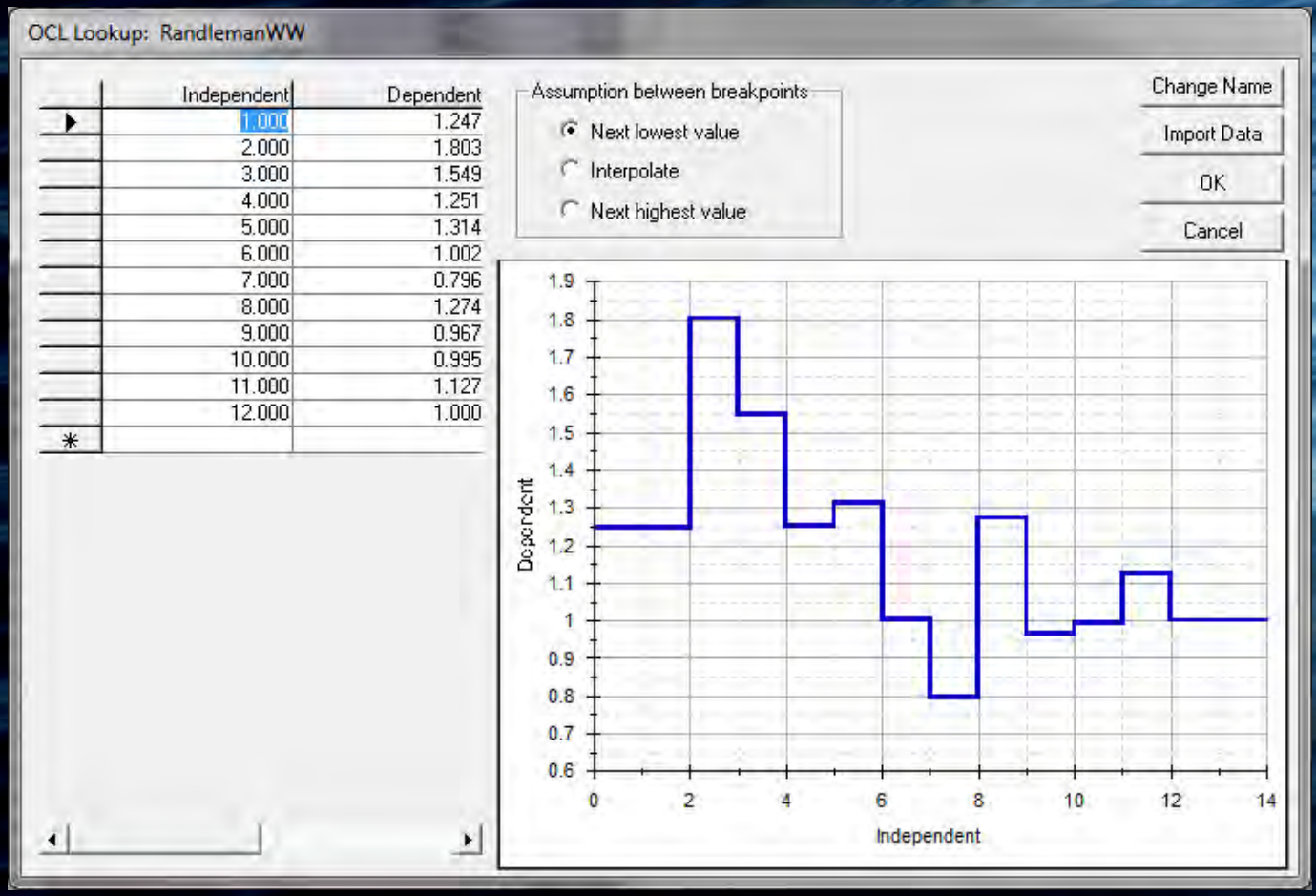


HYDROLOGICS

Randleman Demand Pattern

Month	Day	Demand
1	1	1.040
1	31	1.040
2	1	1.000
2	29	1.000
3	1	0.990
3	31	0.990
4	1	0.970
4	30	0.970
5	1	1.040
5	31	1.040
6	1	0.990
6	30	0.990
7	1	0.980
7	31	0.980
8	1	1.080
8	31	1.080
9	1	1.060
9	30	1.060
10	1	1.010
10	31	1.010
11	1	0.950
11	30	0.950
12	1	0.910
12	31	0.910

Randleman Discharge Pattern



HYDROLOGICS

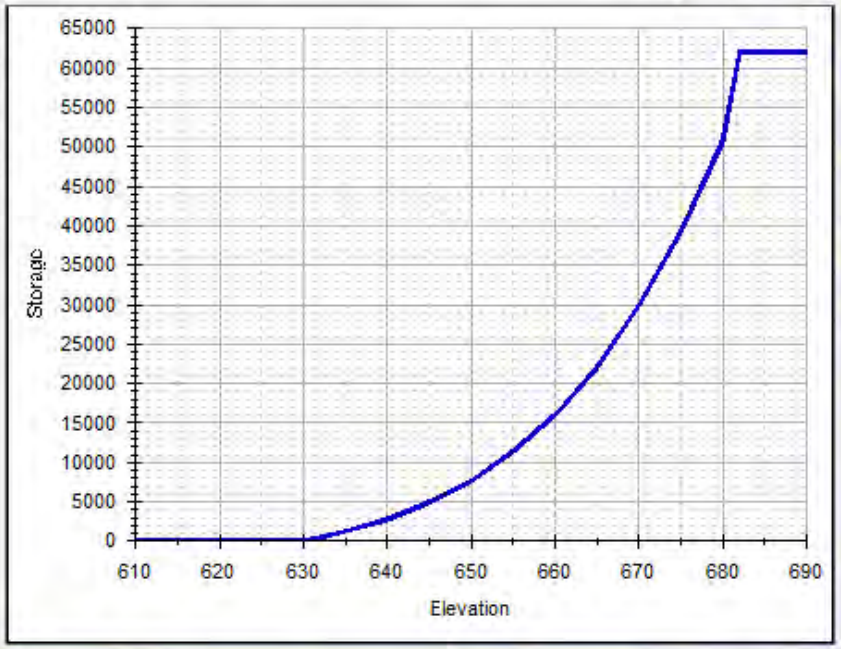
Randleman SAE Curve

Reservoir Storage-Area-Elevation at Node 270, 'Randleman Res'

	Elevation	Storage	Area
▶	630.000	0.000	0.000
	631.000	200.000	50.000
	635.000	1228.000	300.000
	640.000	2762.000	430.000
	645.000	4910.000	550.000
	650.000	7672.000	690.000
	655.000	11355.000	910.000
	660.000	15958.000	1200.000
	665.000	22096.000	1520.000
	670.000	29768.000	1890.000
	675.000	39282.000	2340.000
	680.000	50637.000	2850.000
	682.000	62000.000	3230.000
*			

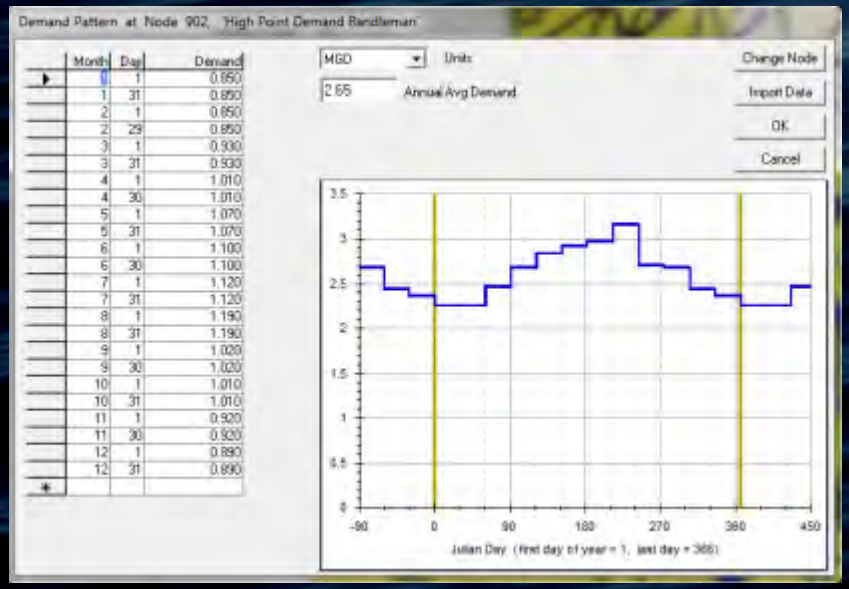
	Units	X-Variable	Y-Variable
Elevation	FT	●	
Storage	AF		●
Area	ACRE	○	○

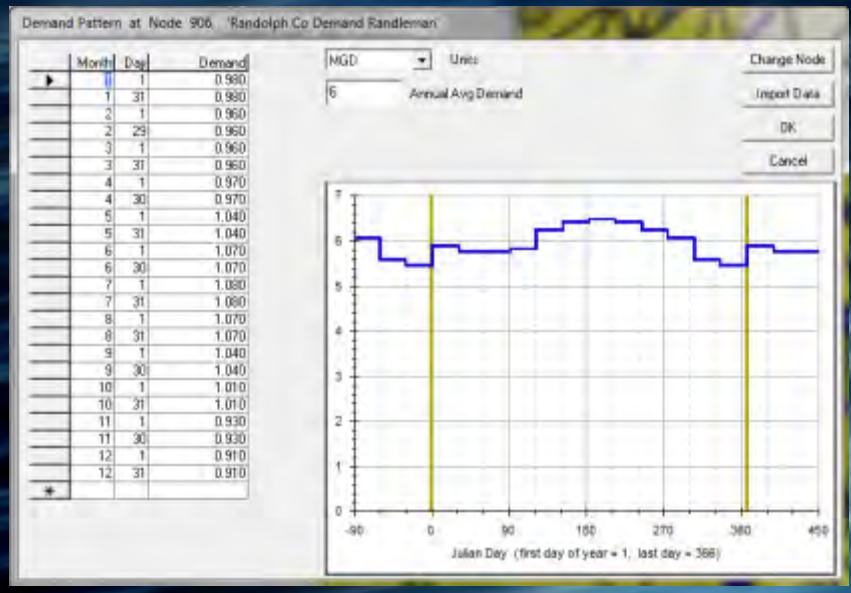
Change Node | Import Data | OK | Cancel

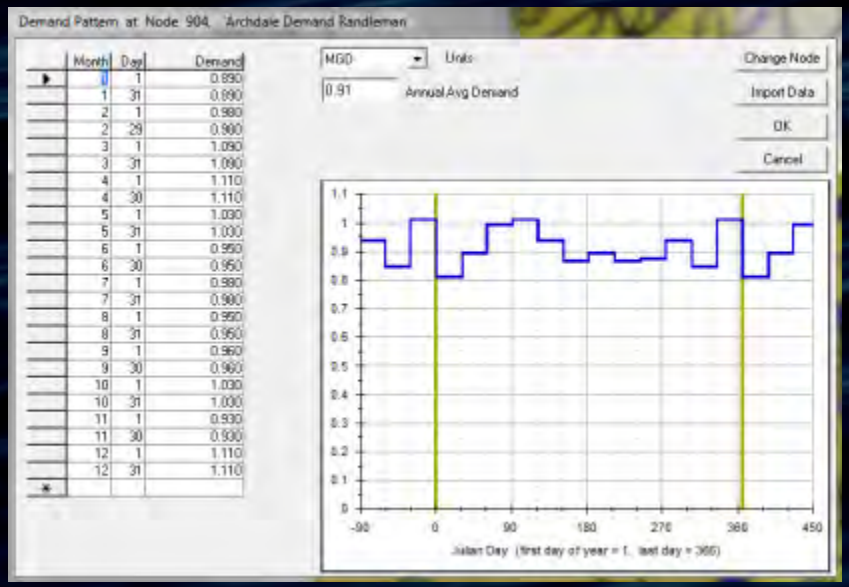


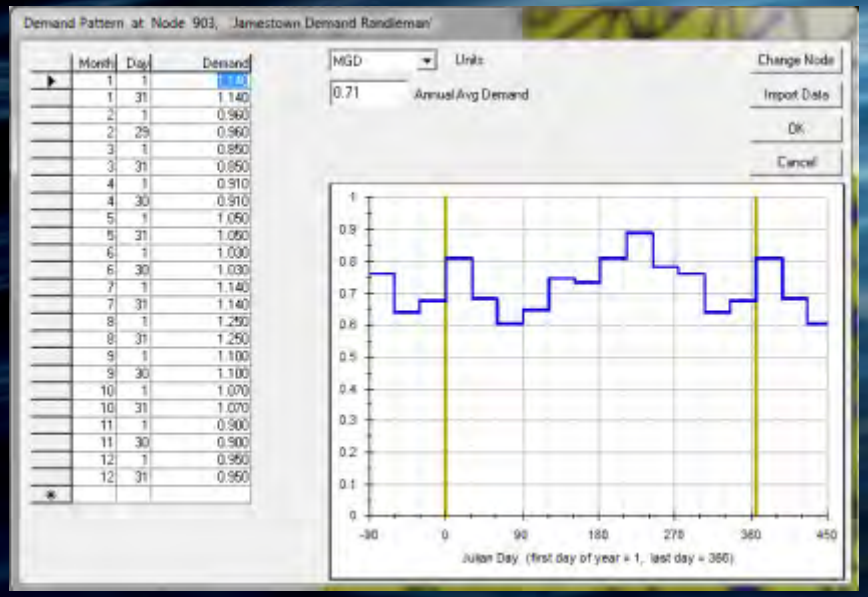
HYDROLOGICS

Randleman Lake Other Demand Patterns









HYDROLOGICS

Ramseur Demand Pattern

Demand Pattern at Node 301, 'Ramseur Water Supply'

	Month	Day	Demand
▶	1	1	0.941
	1	31	0.941
	2	1	0.965
	2	29	0.965
	3	1	0.953
	3	31	0.953
	4	1	1.000
	4	30	1.000
	5	1	1.039
	5	31	1.039
	6	1	1.084
	6	30	1.084
	7	1	1.073
	7	31	1.073
	8	1	1.052
	8	31	1.052
	9	1	1.072
	9	30	1.072
	10	1	0.997
	10	31	0.997
	11	1	0.919
	11	30	0.919
	12	1	0.906
	12	31	0.906
*			

MGD Units

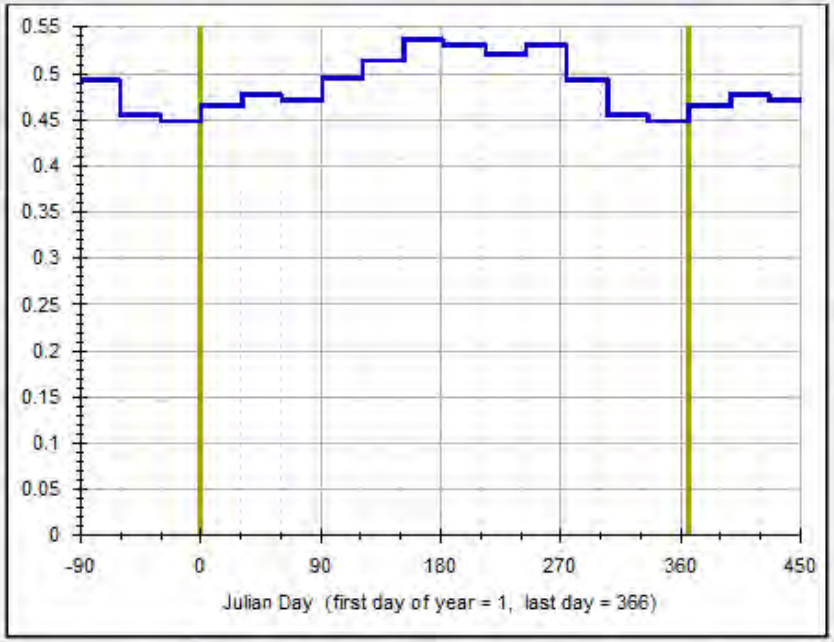
0.494 Annual Avg Demand

Change Node

Import Data

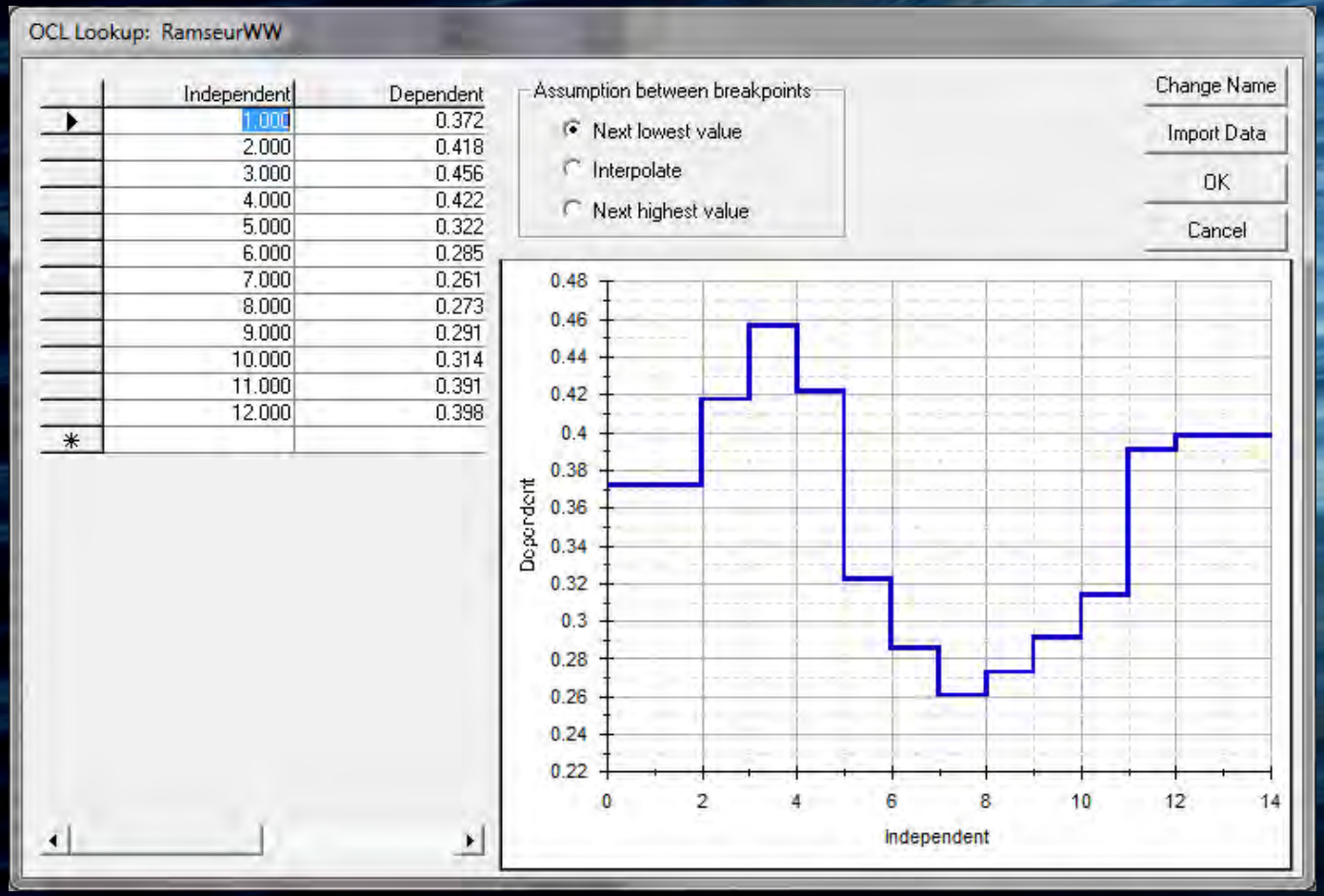
OK

Cancel



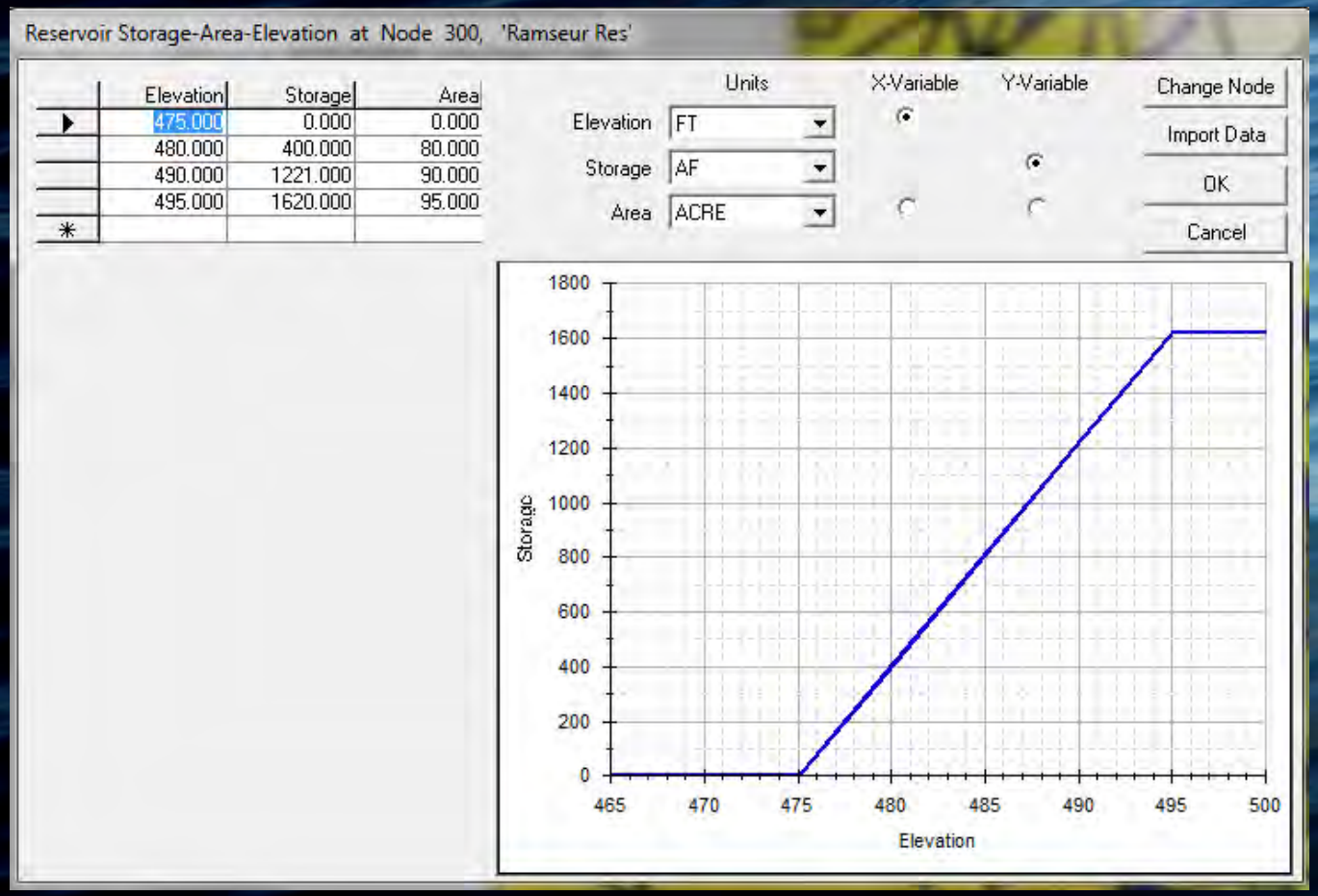
HYDROLOGICS

Ramseur Discharge Pattern



HYDROLOGICS

Ramseur SAE Curve



HYDROLOGICS

Progress CF Demand Pattern

Demand Pattern at Node 487, 'Progress Cape Fear water supply'

	Month	Day	Demand
▶	1	1	0.882
	1	31	0.882
	2	1	0.895
	2	29	0.895
	3	1	0.871
	3	31	0.871
	4	1	0.884
	4	30	0.884
	5	1	0.988
	5	31	0.988
	6	1	1.213
	6	30	1.213
	7	1	1.209
	7	31	1.209
	8	1	1.269
	8	31	1.269
	9	1	1.057
	9	30	1.057
	10	1	0.976
	10	31	0.976
	11	1	0.935
	11	30	0.935
	12	1	0.823
	12	31	0.823
*			

MGD Units

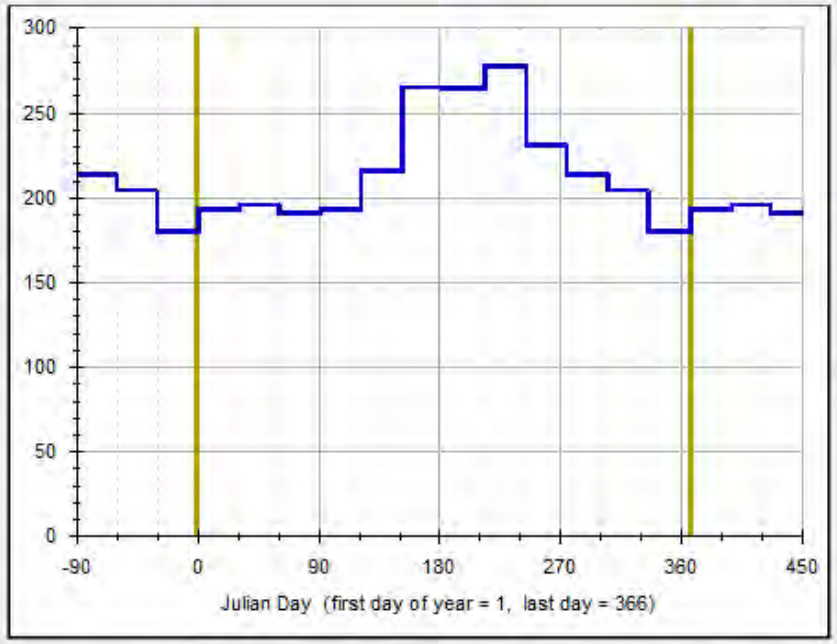
218.3 Annual Avg Demand

Change Node

Import Data

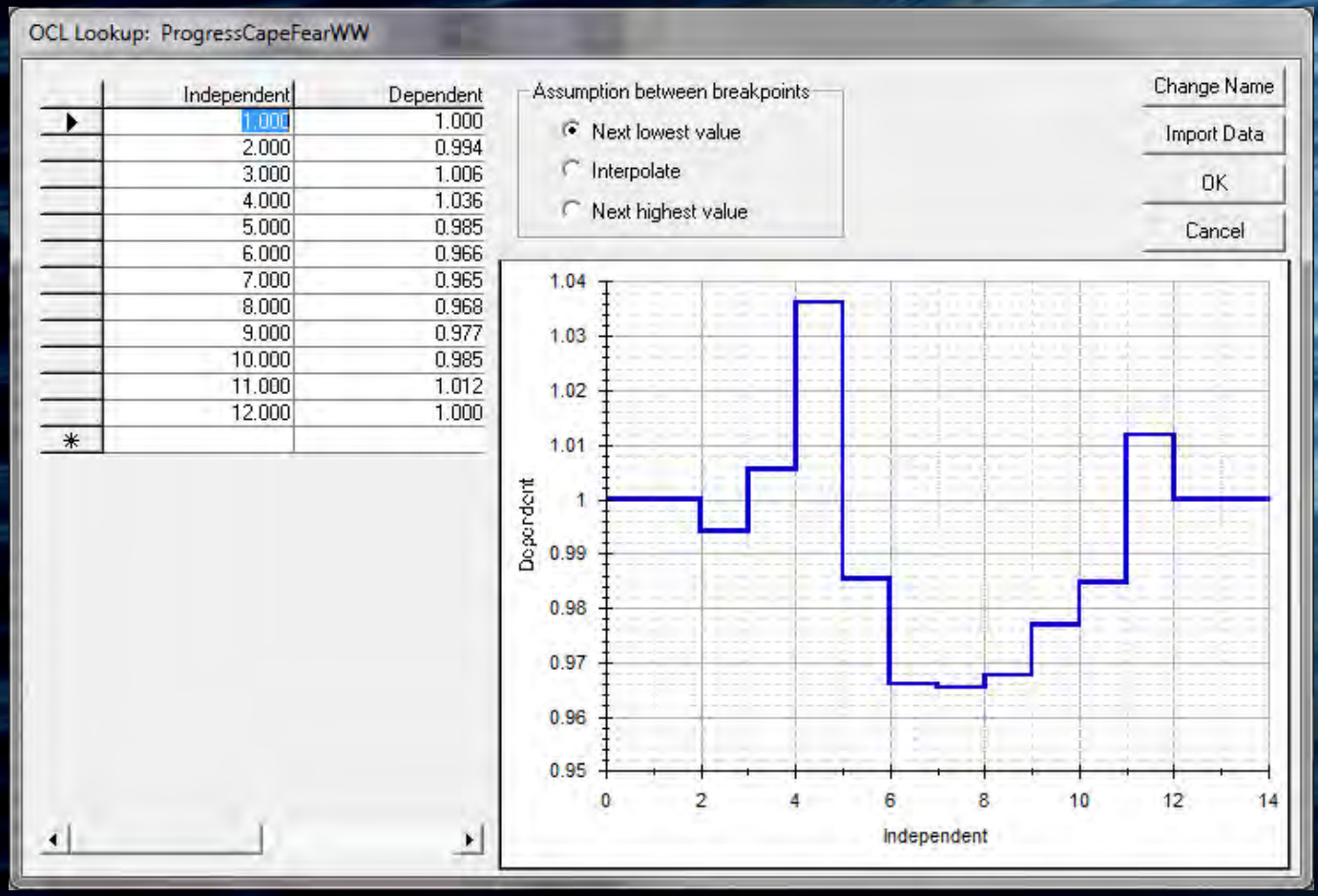
OK

Cancel



HYDROLOGICS

Progress CF Discharge Pattern



HYDROLOGICS

Sanford Demand Pattern

Demand Pattern at Node 491, 'Sanford Water Supply'

	Month	Day	Demand
▶	1	1	0.896
	1	31	0.896
	2	1	0.891
	2	29	0.891
	3	1	0.899
	3	31	0.899
	4	1	0.950
	4	30	0.950
	5	1	1.022
	5	31	1.022
	6	1	1.108
	6	30	1.108
	7	1	1.129
	7	31	1.129
	8	1	1.143
	8	31	1.143
	9	1	1.092
	9	30	1.092
	10	1	1.036
	10	31	1.036
	11	1	0.945
	11	30	0.945
	12	1	0.890
	12	31	0.890
*			

MGD Units

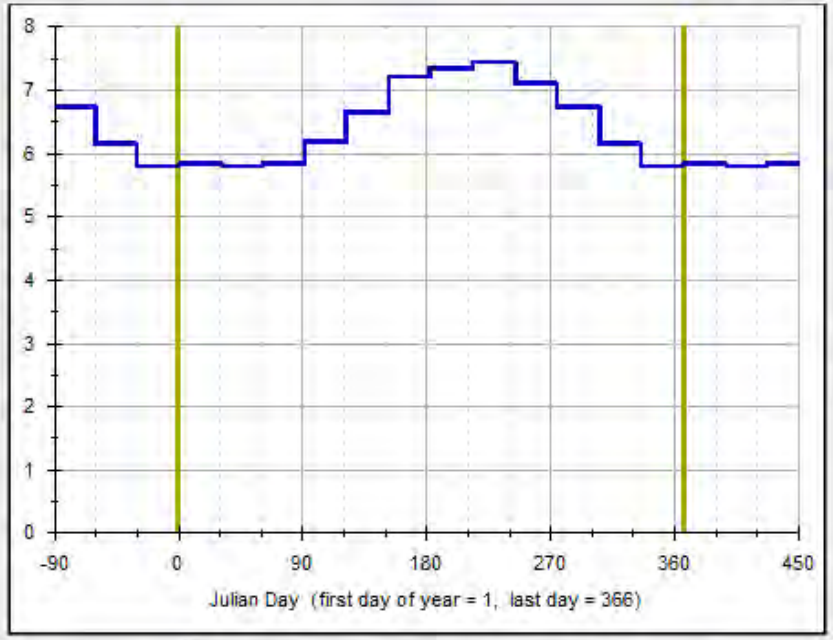
6.5 Annual Avg Demand

Change Node

Import Data

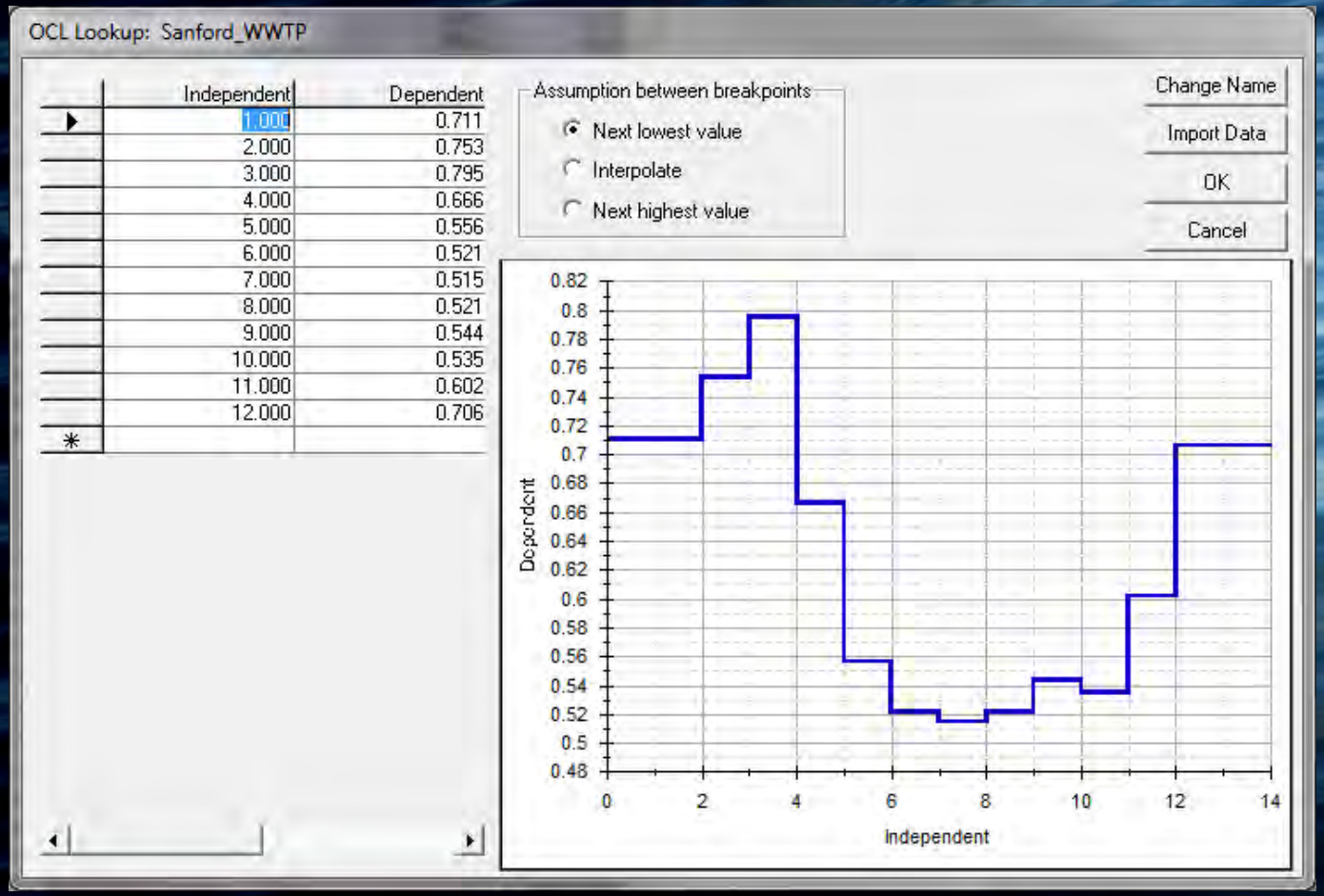
OK

Cancel



HYDROLOGICS

Sanford Discharge Pattern



HYDROLOGICS

Hartnett Co. Demand Pattern

Demand Pattern at Node 551, 'Harnett County water supply'

	Month	Day	Demand
▶	1	1	0.839
	1	31	0.839
	2	1	0.828
	2	29	0.828
	3	1	0.861
	3	31	0.861
	4	1	0.970
	4	30	0.970
	5	1	1.106
	5	31	1.106
	6	1	1.225
	6	30	1.225
	7	1	1.200
	7	31	1.200
	8	1	1.136
	8	31	1.136
	9	1	1.056
	9	30	1.056
	10	1	0.992
	10	31	0.992
	11	1	0.934
	11	30	0.934
	12	1	0.910
	12	31	0.910
*			

MGD Units

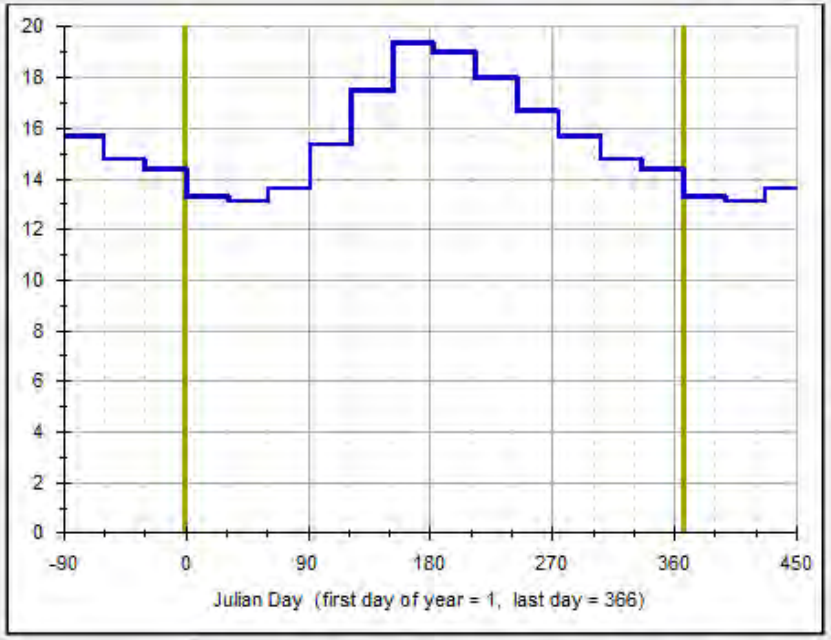
15.8 Annual Avg Demand

Change Node

Import Data

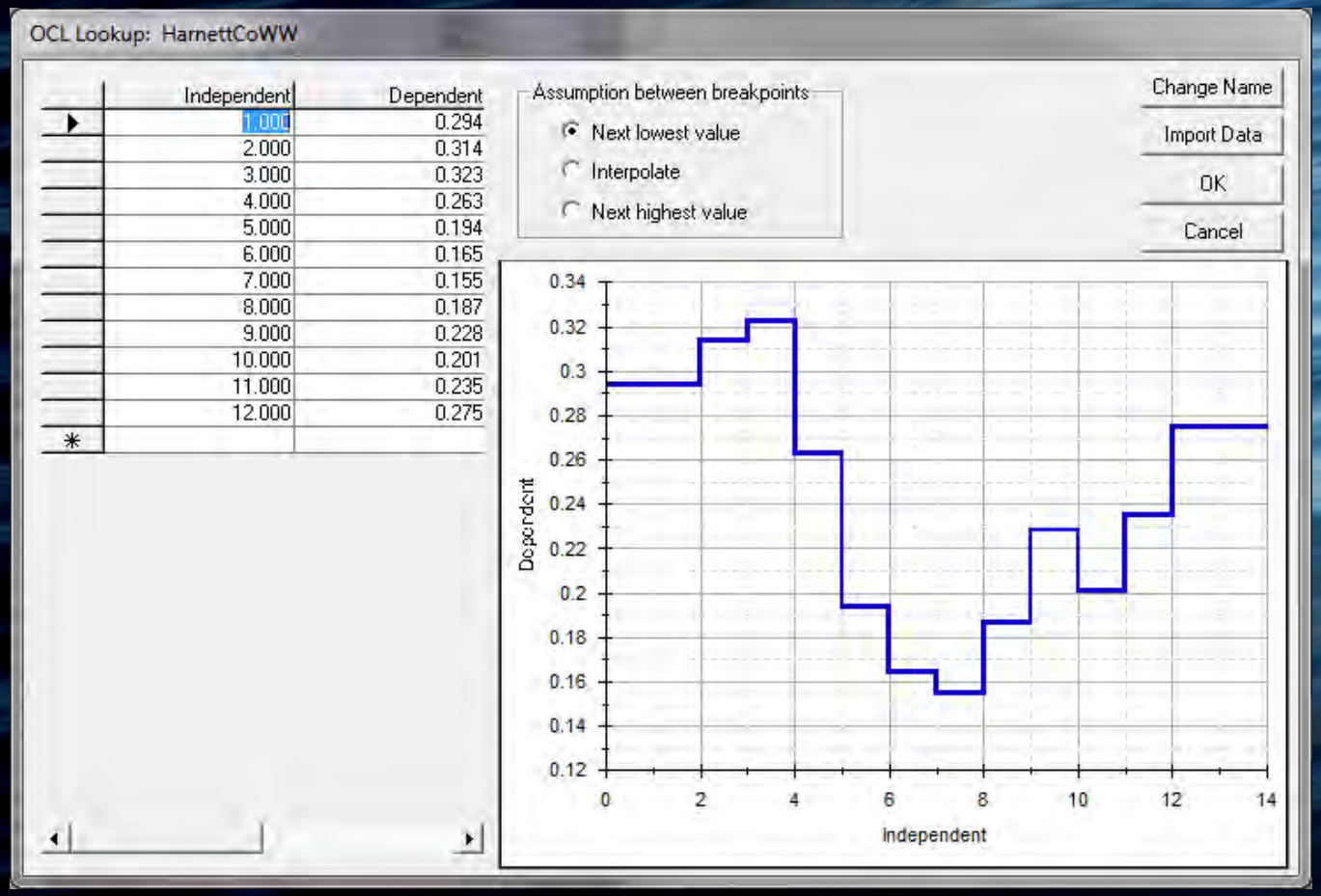
OK

Cancel



HYDROLOGICS

Hartnett Co. Discharge Pattern



HYDROLOGICS

Holly Springs Demand Pattern

Demand Pattern at Node 923, 'Holly Springs Cape Fear Demand'

Month	Day	Demand
1	1	0.760
1	31	0.760
2	1	0.570
2	29	0.570
3	1	0.670
3	31	0.670
4	1	0.800
4	30	0.800
5	1	0.810
5	31	0.810
6	1	1.210
6	30	1.210
7	1	1.390
7	31	1.390
8	1	1.370
8	31	1.370
9	1	1.280
9	30	1.280
10	1	1.280
10	31	1.280
11	1	1.040
11	30	1.040
12	1	0.810
12	31	0.810

MGD Units

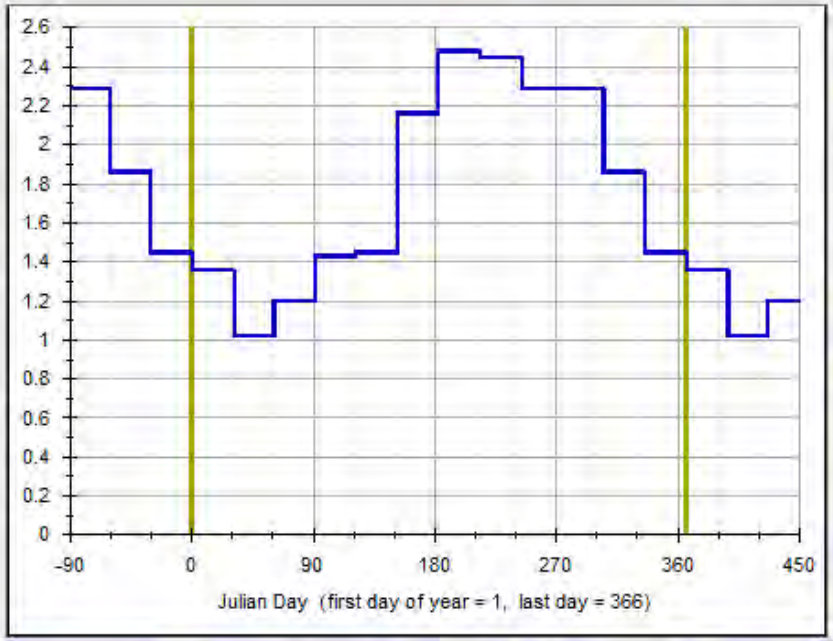
1.78400003 Annual Avg Demand

Change Node

Import Data

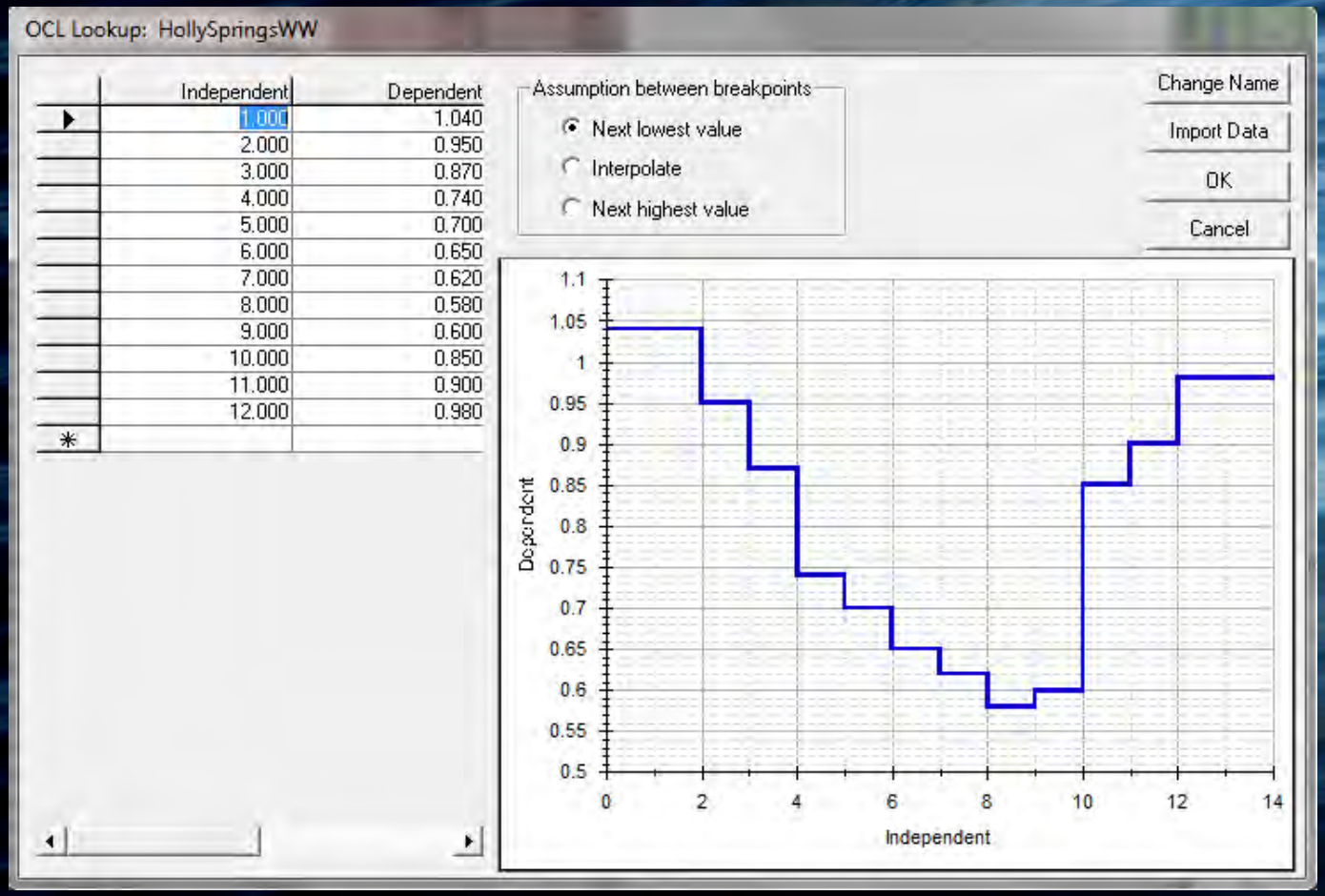
OK

Cancel



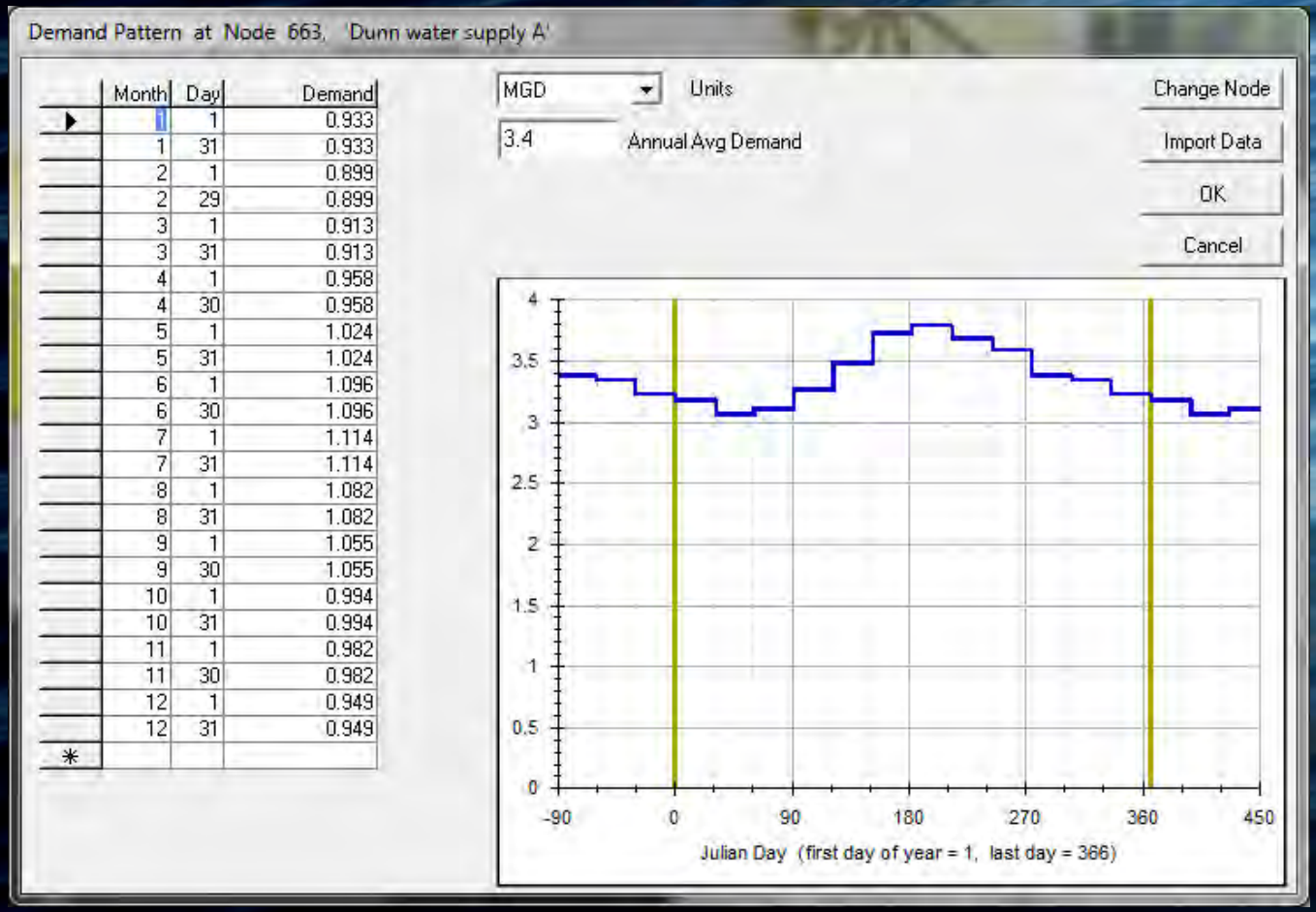
HYDROLOGICS

Holly Springs Discharge Pattern



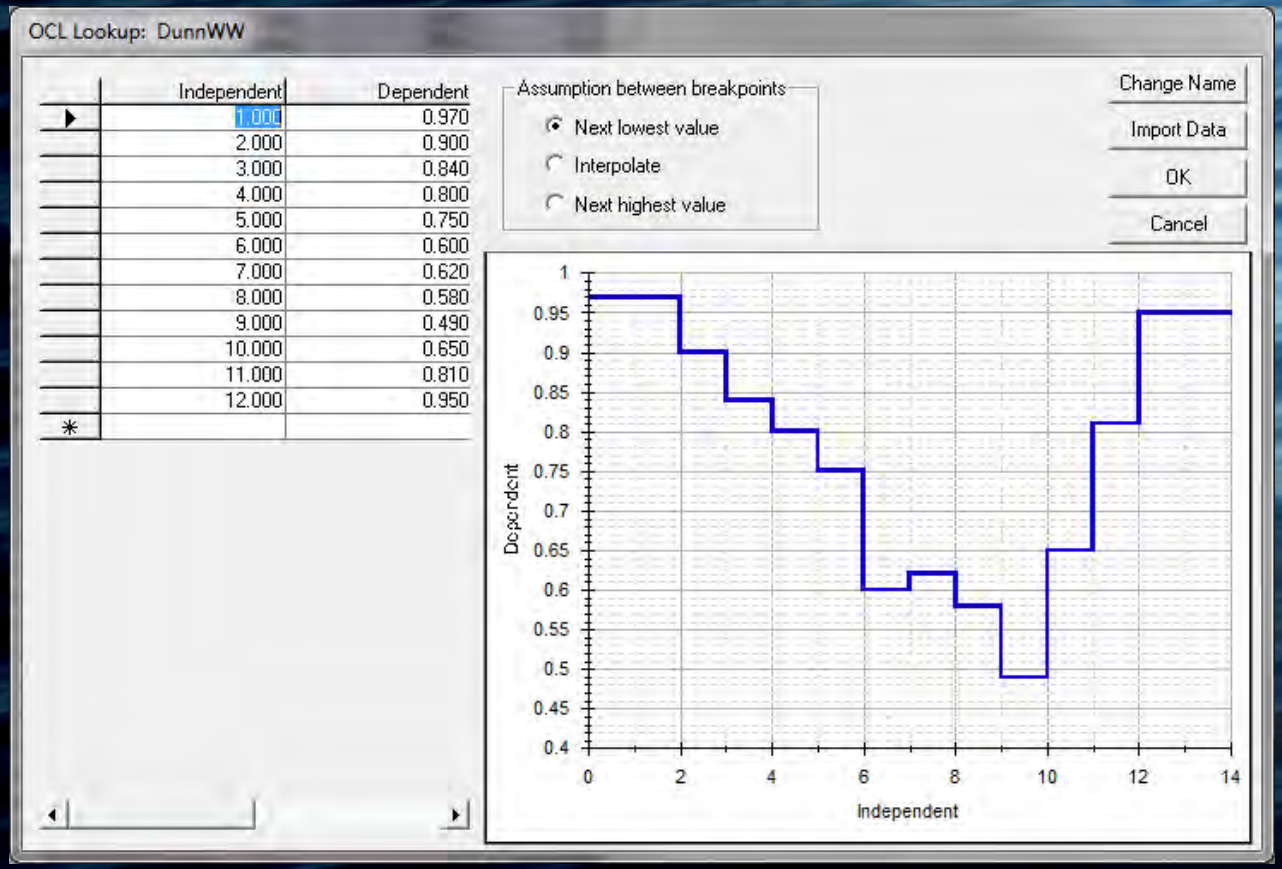
HYDROLOGICS

Dunn Demand Pattern



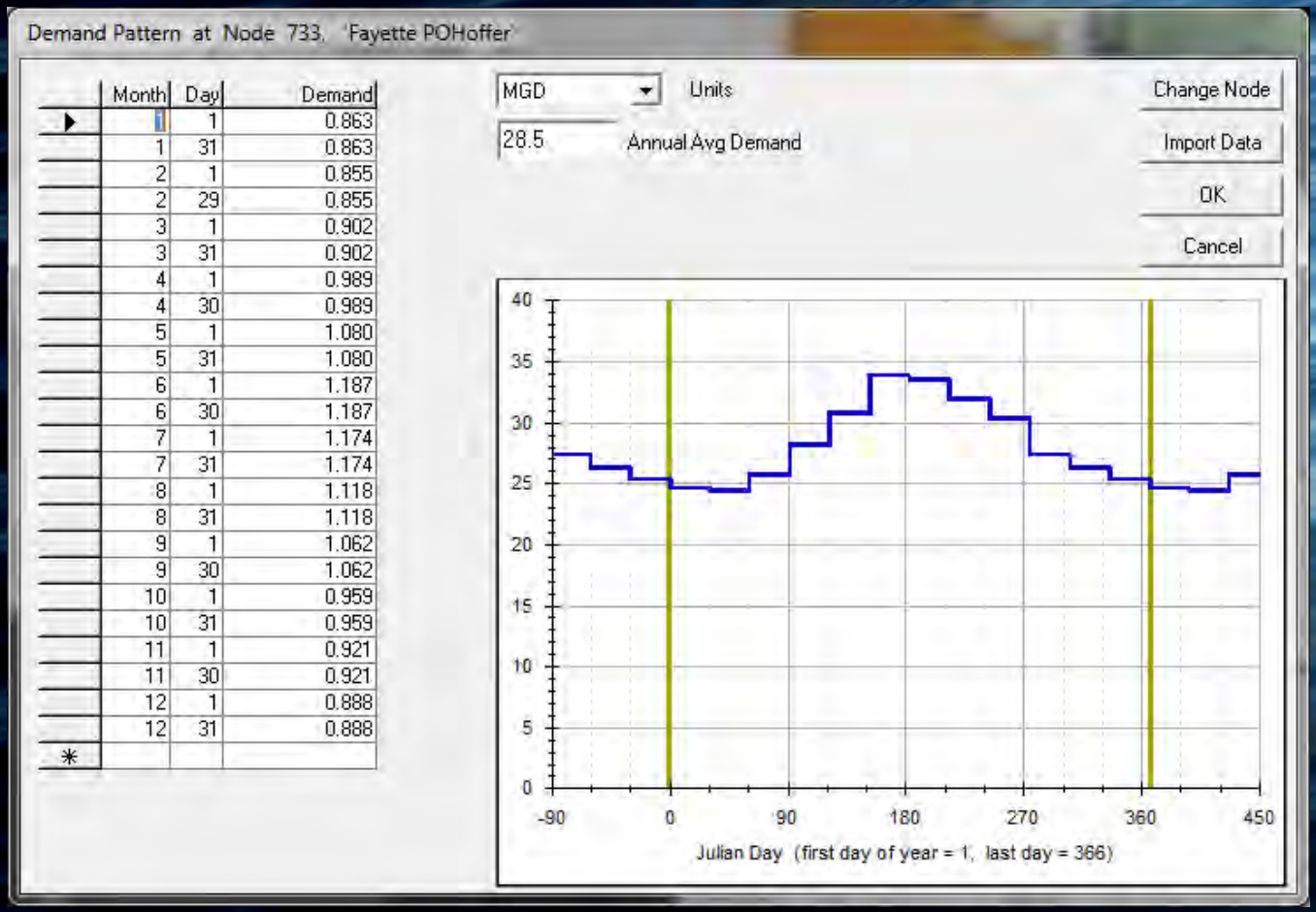
HYDROLOGICS

Dunn Discharge Pattern



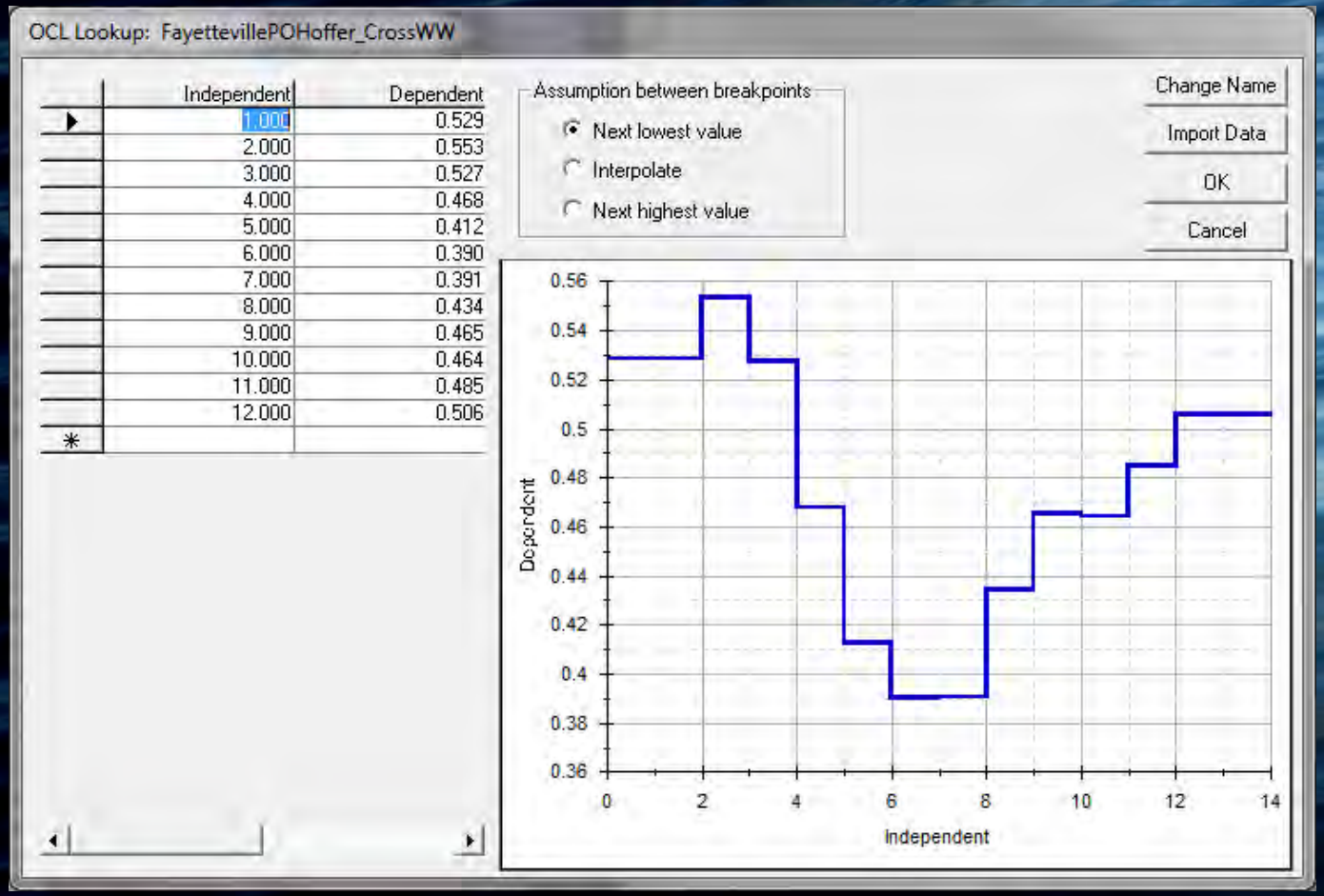
HYDROLOGICS

Fayetteville Demand Pattern



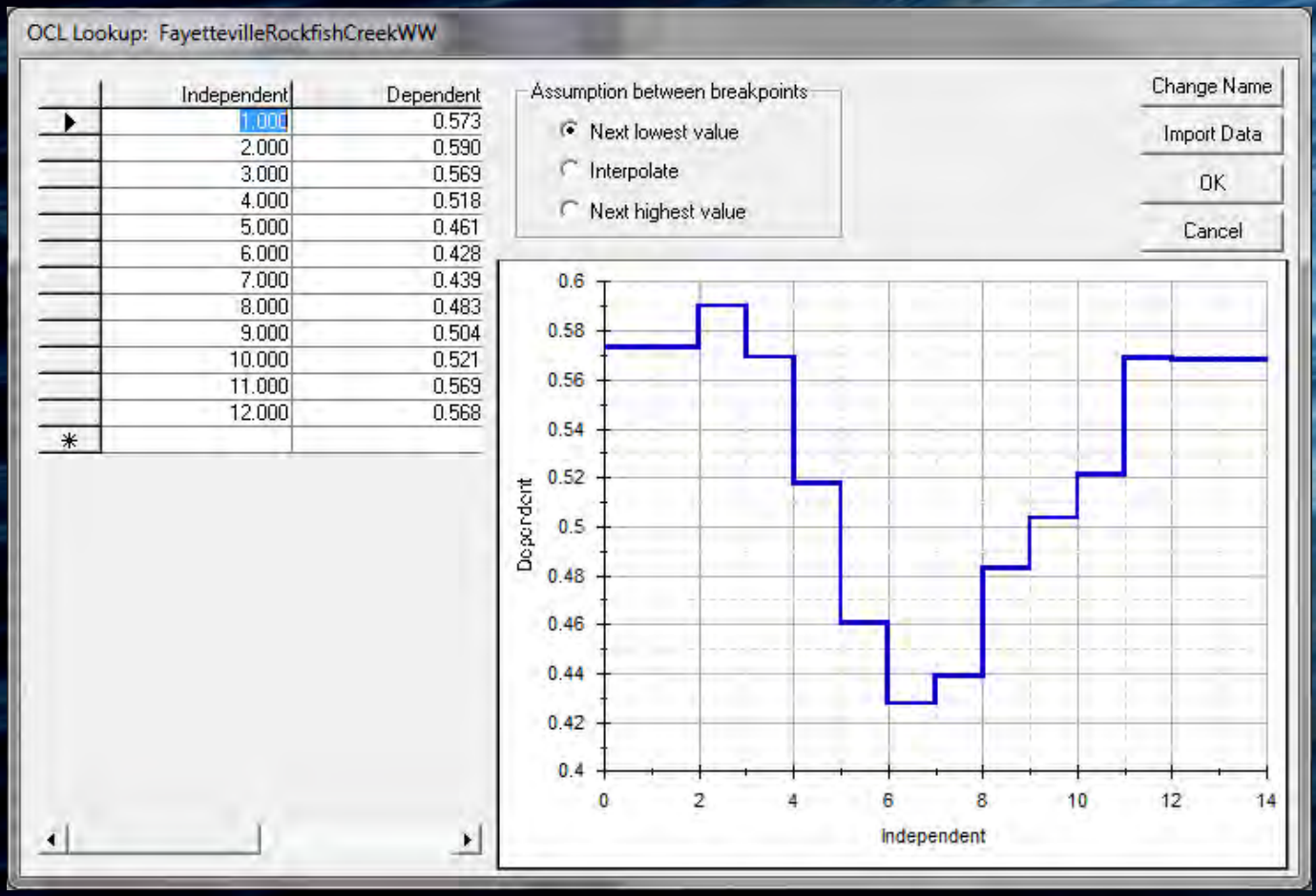
HYDROLOGICS

Fayetteville Cross Ck Discharge Pattern



HYDROLOGICS

Fayetteville Rockfish Ck Discharge Pattern



HYDROLOGICS

Fayetteville Operations

- Withdraw an average of 4.5 MGD from Glenville; drawing Glenville down to 112.2 ft
  - 4 cfs min release from Glenville
- Withdraw the rest of demand from the Cape Fear

HYDROLOGICS

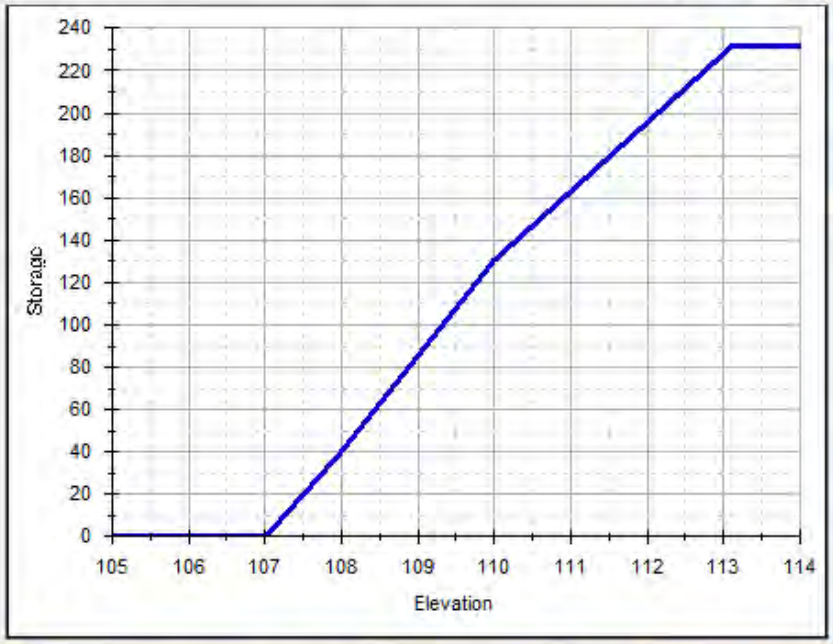
Glenville Res SAE Curve

Reservoir Storage-Area-Elevation at Node 760, 'Glenville Res'

	Elevation	Storage	Area
▶	107.000	0.000	0.000
	108.000	40.000	0.000
	110.000	130.000	19.000
	113.100	231.000	37.000
	113.200	231.000	40.000
*			

	Units	X-Variable	Y-Variable
Elevation	FT	●	
Storage	AF		●
Area	ACRE	○	○

Change Node
Import Data
OK
Cancel



HYDROLOGICS

Lower CF WASA Demand Pattern

Demand Pattern at Node 825, 'Lower Cape Fear WSA water supply'

	Month	Day	Demand
▶	1	1	0.860
	1	31	0.860
	2	1	0.820
	2	29	0.820
	3	1	0.860
	3	31	0.860
	4	1	0.810
	4	30	0.810
	5	1	0.930
	5	31	0.930
	6	1	1.290
	6	30	1.290
	7	1	1.290
	7	31	1.290
	8	1	1.200
	8	31	1.200
	9	1	1.220
	9	30	1.220
	10	1	1.140
	10	31	1.140
	11	1	0.840
	11	30	0.840
	12	1	0.730
	12	31	0.730
*			

MGD Units

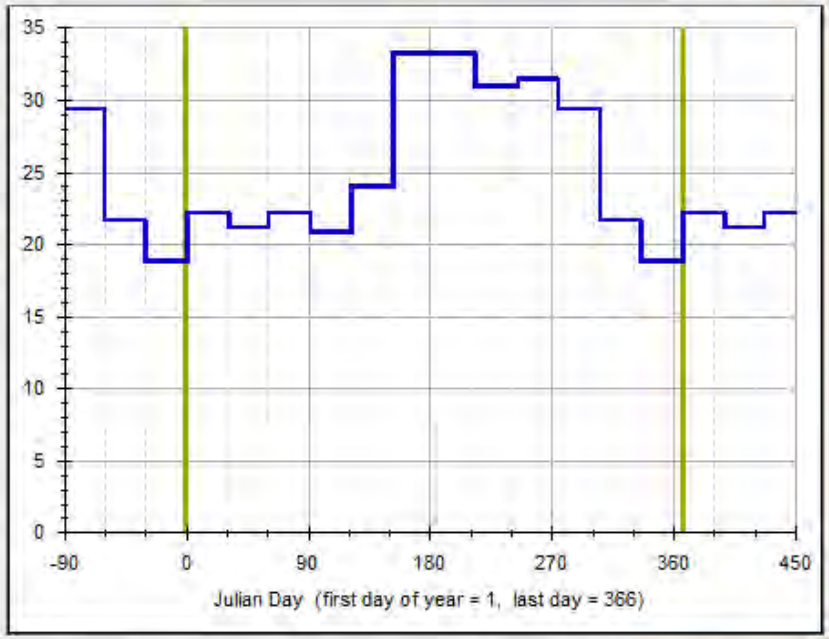
25.770000 Annual Avg Demand

Change Node

Import Data

OK

Cancel



HYDROLOGICS

Wilmington Demand Pattern

Demand Pattern at Node 823, 'Wilmington water supply'

	Month	Day	Demand
▶	1	1	0.850
	1	31	0.850
	2	1	0.850
	2	29	0.850
	3	1	0.880
	3	31	0.880
	4	1	1.070
	4	30	1.070
	5	1	1.180
	5	31	1.180
	6	1	1.230
	6	30	1.230
	7	1	1.320
	7	31	1.320
	8	1	1.120
	8	31	1.120
	9	1	0.980
	9	30	0.980
	10	1	0.920
	10	31	0.920
	11	1	0.830
	11	30	0.830
	12	1	0.780
	12	31	0.780
*			

MGD Units

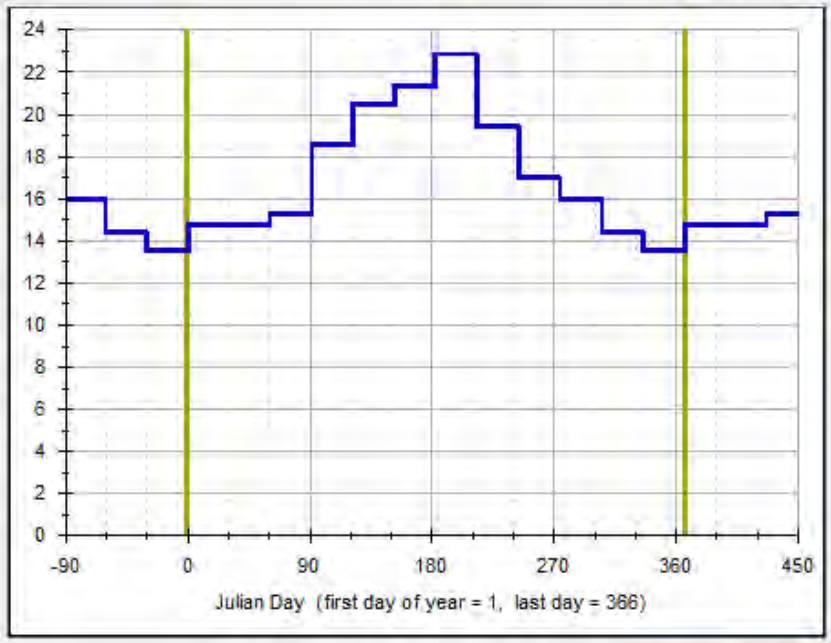
17.3 Annual Avg Demand

Change Node

Import Data

OK

Cancel



HYDROLOGICS

Cape Fear Reservoirs

Reservoir

Node Number	Node Name	Dead Storage	Dead Stor Units	Lower Rule	Upper Rule	Max Storage	Max Stor Units
30	Reidsville Dam	667.0	FT	Pattern	Pattern	695.0	FT
70	Old Stony Creek Res	520.3	FT	Pattern	Pattern	535.8	FT
120	Brandt Res	743.0	FT	Pattern	Pattern	751.4	FT
140	G/T Lake	717.0	FT	Pattern	Pattern	727.0	FT
220	High Point Res	725.0	FT	Pattern	Pattern	757.0	FT
270	Randleman Res	630.0	FT	Pattern	Pattern	682.0	FT
300	Ramseur Res	480.0	FT	Pattern	Pattern	491.0	FT
320	Graham Mebane Res	510.0	FT	Pattern	Pattern	540.0	FT
324	Siler City Upper Reservoir	566.35	FT	Pattern	Pattern	586.35	FT
325	Siler City Lower Reservoir	546.5	FT	Pattern	Pattern	559.0	FT
340	Mackintosh Res	500.0	FT	Pattern	Pattern	560.0	FT
390	Cane Creek Res	442.0	FT	Pattern	Pattern	505.0	FT
395	Stone Quarry	0.0	MG	Pattern	Pattern	200.0	MG
430	Univ Lake	336.6	FT	Pattern	Pattern	348.7	FT
470	Jordan Lake	150.0	FT	Pattern	Pattern	275.0	FT
520	Harris Lake	191.0	FT	Pattern	Pattern	250.0	FT
528	Aux Reservoir	210.0	FT	None	None	252.0	FT
555	Lillington Routing	0.0	AF	None	None	999.0	KAF
739	Fayetteville_Routing	0.0	AF	None	None	999.0	KAF
760	Glenville Res	107.0	FT	Pattern	Pattern	113.1	FT

HYDROLOGICS

Cape Fear Reservoir Rules

Reservoir Rules

Node Number	Node Name	Units	Month	Day	Lower Rule	Upper Rule
30	Reidsville Dam	ft	1	1	679.0	691.0
30	Reidsville Dam	ft	12	31	679.0	691.0
70	Old Stony Creek Res	ft	1	1	525.5	535.8
70	Old Stony Creek Res	ft	12	31	525.5	535.8
120	Brandt Res	ft	1	1	743.0	751.4
120	Brandt Res	ft	12	31	743.0	751.4
140	G/T Lake	ft	1	1	717.0	727.0
140	G/T Lake	ft	12	31	717.0	727.0
220	High Point Res	ft	1	1	740.0	756.0
220	High Point Res	ft	12	31	740.0	756.0
270	Randleman Res	ft	1	1	647.0	682.0
270	Randleman Res	ft	12	31	647.0	682.0
300	Ramseur Res	ft	1	1	480.0	491.0
300	Ramseur Res	ft	12	31	480.0	491.0
320	Graham Mebane Res	ft	1	1	510.0	530.0
320	Graham Mebane Res	ft	12	31	510.0	530.0
324	Siler City Upper Reservoir	FT	1	1	566.35	586.35
324	Siler City Upper Reservoir	FT	12	31	566.35	586.35
325	Siler City Lower Reservoir	FT	1	1	558.0	559.0
325	Siler City Lower Reservoir	FT	12	31	558.0	559.0
340	Mackintosh Res	ft	1	1	505.0	551.5
340	Mackintosh Res	ft	12	31	505.0	551.5
390	Cane Creek Res	FT	1	1	460.0	500.0
390	Cane Creek Res	FT	12	31	460.0	500.0
395	Stone Quarry	MG	1	1	0.0	200.0
395	Stone Quarry	MG	12	31	0.0	200.0
430	Univ Lake	FT	1	1	336.6	348.7
430	Univ Lake	FT	12	31	336.6	348.7
470	Jordan Lake	ft	1	1	202.0	216.0
470	Jordan Lake	ft	12	31	202.0	216.0
520	Harris Lake	FT	1	1	195.0	240.0
520	Harris Lake	FT	12	31	195.0	240.0
760	Glenville Res	FT	1	1	112.2	113.0
760	Glenville Res	FT	12	31	112.2	113.0

HYDROLOGICS

Drought Plans

- Included drought plans when the triggers allowed them to be modeled
  - Triggers such as stage/storage or flow can be modeled
  - Demand based triggers such as peak day demand compared to plant capacity cannot be modeled

HYDROLOGICS

Cape Fear Drought Plans

	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5	
	Trigger	**Response**	**Trigger**	**Response**	**Trigger**	**Response**	**Trigger**	**Response**	**Trigger**	**Response**
Burlington	75% Res. Capacity	Voluntary	60% Res. Capacity	Moderate Mandatory - 30%	45% Res. Capacity	Severe mandatory	30% Res. Capacity	Stringent mandatory	15% Res. Capacity	Rationing
Greensboro	D > 95% capacity	Stage 1 alert	150 days supply remaining	Shortage Level I warning	125 dsr	Shortage Level II warning	100 dsr	Shortage Danger Level III	75 dsr	Shortage Emergency Level IV
High Point	< 80% capacity	Shortage Alert	< 60% capacity	Mand.	< 50% capacity	Stringent Consv.	< 40% capacity	Rationing		
Reidsville	150 dsr	5%	125 dsr	10%	100 dsr	20%	75 dsr	25%	50 dsr	rationing
Ramseur	< 91% (-1 ft)	5%	< 83% (-2ft)	10%	<75% (-3 ft)	20%	< 67% (-4 ft)	25%	< 0% (-6 ft)	50%
Graham & Mebane	150 dsr	Vol 1	120 dsr	Mand 2	90 dsr	Mand 3	60 dsr	Emer 4	30 dsr	Rationing 5
Siler City	< 70% combined usable stor	Vol 10%	< 40%	Mand I 10%	< 20	Emer 20%	< 10%	Crisis		
Pittsboro	25% at intake	5%	20% at intake	10%	15% at intake	20%	10% at intake	25%	5% at intake	50%
OWASA	2% chance of 20% stor in 12 months	10%	10% chance of 20% stor in 12 months	15%	20% chance of 20% stor in 12 months	20%	<= 20% stor	TBD		

Note: Some plans are based on peak demands and cannot be modeled and Are not included in these tables.

HYDROLOGICS

Cape Fear Drought Plans (cont'd)

	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5	
	Trigger	**Response**	**Trigger**	**Response**	**Trigger**	**Response**	**Trigger**	**Response**	**Trigger**	**Response**
Cary Apex	120 dsr	May-Oct: 13%, Nov-Apr: 6%	90 dsr & 28 days in Stage 1	May-Oct: 32%, Nov-Apr: 10%	60 dsr	May-Oct: 38%, Nov-Apr: 17%	30 dsr	May-Oct: 46%, Nov-Apr: 29%		
Chatham North	< 75% (-7 ft)	5%	< 65% (-18 ft)	10%	< 50% (-33 ft)	20%	< 30% (-50 ft)	25%	< 0% (below top of intake)	
Sanford	Demand > 25% of supply 14days	5%	Demand 50% of supply 14days	10%	Demand 75% of supply 14days	20%				
Dunn	Lillington < 225 cfs for 5 days	Vol	Lillington < 200 cfs for 5 days	Mand	Lillington < 175 cfs for 5 days	Mand II	Lillington < 150 cfs for 5 days	Mand III	Lillington < 125 cfs for 5 days	Mand IV
Carthage	Nicks creek < 3 cfs for 7 days	5%	Nicks Creek < 2.4 cfs 3 days	20%	Nicks Creek < 1.5 cfs 3 days	25%	Nicks Creek < 0.50 cfs	Rationing		
Fayetteville	Unusually dry conditions	5%	Lillington <= 250 cfs	10%	demand > 50% flow	20%	demand > 75% flow	25%		

HYDROLOGICS