Lamprey Annual Water Use versus Stream Flow – Calendar Year 2006

Water use was reported by 16 sources, one transfer of water, and one return in the Lamprey Water Management Planning Area. Water use in the Water Management Planning Area is predominately for municipal, community or institutional water supplies including Raymond Water Works, Epping Water Works, Newmarket Water Works, and the University of NH (Durham) Water Works. Pennichuck Water Works' Green Hills Community Water Supply transfers water from the Raymond water system. Scenic Nursery used water seasonally from March through October and Fernald Lumber used water seasonally from April through October. The only registered, measured return was the Epping Waste Water Treatment Facility.

Four sources, Pennichuck Water Works' Great Bay Water Company and three wells for the Leisure Village, were not included in this assessment because they did not meet the definition of an Affected Water User under the Instream Flow Rules. The rules require the user to have a source or withdrawal within 500 feet of a tributary to the Designated River.

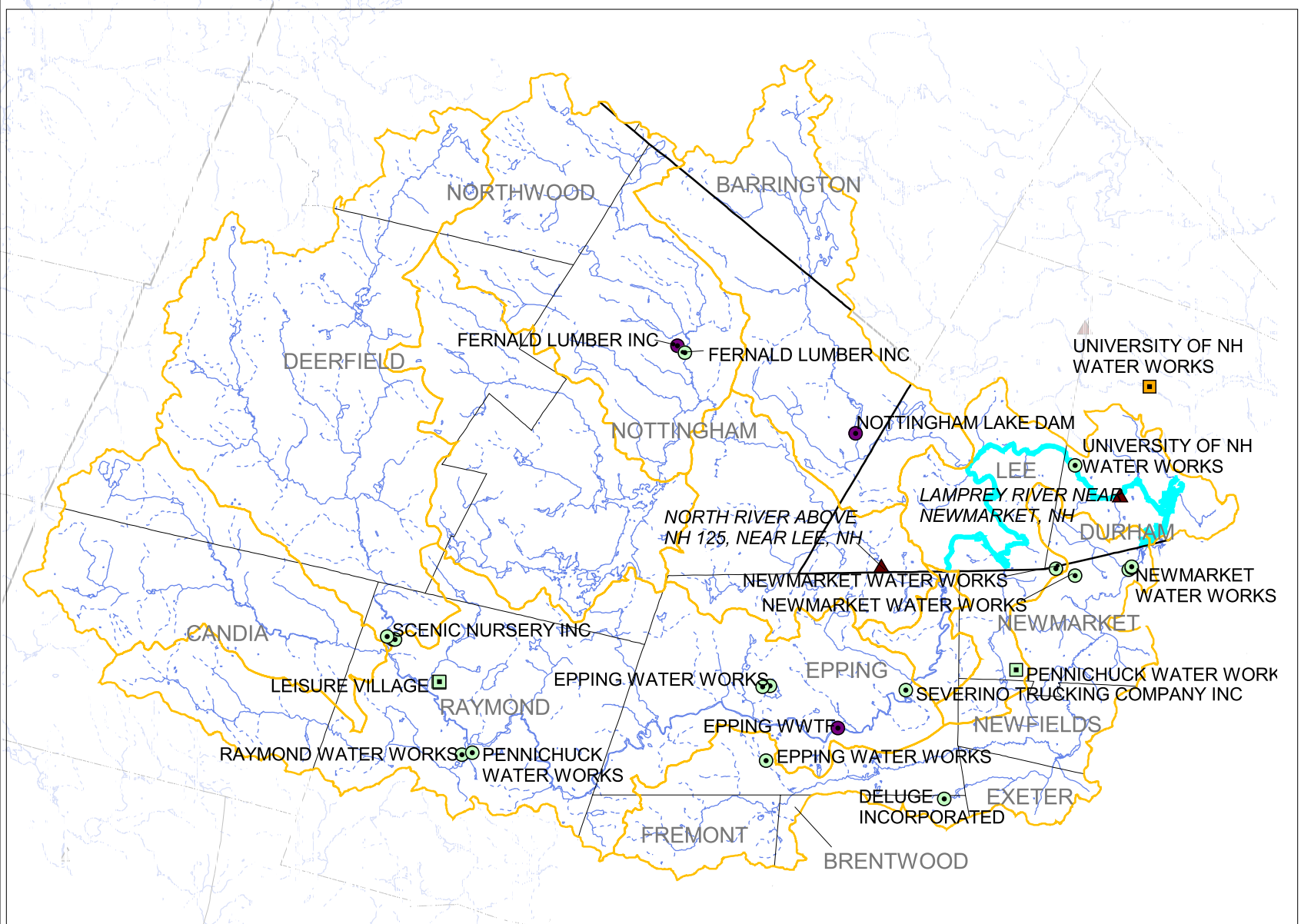
Unassessed Water User (Source > 500 feet from perennial stream)	Unassessed Annual Water Use (gallons)
Leisure Village	8,400,000
Great Bay Water Co.	5,095,626
Total	13,495,626

The Lamprey Designated River is about 12 miles long consisting of the main stem of the Lamprey from the Epping-Lee town line to the Durham-Newmarket town line. The Lamprey Water Management Planning Area covers 212 square miles and includes a stream flow gage in Durham (USGS 01073500 LAMPREY RIVER NEAR NEWMARKET, NH) measuring 183 square miles of the WMPA. For this report, the stream flow was transposed areally from this gage to all impact points on the Designated River. The 2006 assessment resulted in one month, September, not in compliance with the General Standard.

Lamprey Designated River	River Miles not in Compliance with General Standard (0 at the D/S end of the DR)	Length of River Miles not in Compliance with General Standard	Maximum value of Aggregate WU /Stream flow	Previously not in Compliance with the General Standard (since 2003)
January	--	--	0.12%	
February	--	--	0.16%	2004
March	--	--	0.46%	
April	--	--	0.41%	
May	--	--	0.03%	
June	--	--	0.09%	
July	--	--	0.49%	2003, 2004
August	--	--	0.76%	2003, 2004, 2005
September	9.1 to 0.0	9.1	1.33%	2003, 2005

October	--	--	0.26%	
November	--	--	0.10%	
December	--	--	0.20%	

Lamprey River Affected Water User Facilities: Source and Discharge Locations



The coverages presented are under constant revision as new sites or facilities are added. They may not contain all of the potential or existing sites or facilities. NHDES is not responsible for the use or interpretation of this information. Not intended for legal purposes. Water users database last updated January 2007.

Map produced January 16, 2007.

Legend

Affected Water Users
- Source
- Discharge

Affected Water Users (outside WMPA)
- Source

Water Users (outside 500 feet)
- Source
- Discharge

Stream Gages
- Active
- Inactive

- Designated Reach
- Rivers/ Streams
- Rivers/ Streams
- State boundary
- Town boundary
- WMPA

N

0 1 2 Miles

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2006 Lamprey Water Use in CFS

WU_NAME	FACILITY	WUSD_ID	DA on DR (SQ MILE)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SEVERINO TRUCKING COMPAN	SEVERINO CONSTRUCTION	20751 20751-S03	152.49	0.00	0.00	0.00020	0.00041	0.00040	0.00062	0.00060	0.00070	0.00052	0.00060	0.00083	0.00020
SCENIC NURSERY INC	SCENIC NURSERY INC	20747 20747-S03	152.49	0.00	0.00	0.00	0.00	0.00	0.00371	0.00719	0.00719	0.00371	0.00	0.00	0.00
SCENIC NURSERY INC	SCENIC NURSERY INC	20747 20747-S02	152.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCENIC NURSERY INC	SCENIC NURSERY INC	20747 20747-S01	152.49	0.00	0.00	0.000225	0.000464	0.000449	0.00186	0.00359	0.00359	0.00371	0.00110	0.00	0.00
FERNALD LUMBER INC	SAWMILL	20557 20557-S01	152.49	0.00	0.00	0.00	0.008122	0.0232	0.0077	0.0082	0.0082	0.0077	0.0183	0.00	0.00
FERNALD LUMBER INC	SAWMILL	20557 20557-D01	152.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EPPING WWTF	WASTE WATER TREAT PLANT	20389 20389-D01	152.49	(0.443)	(0.398)	(0.295)	(0.388)	(0.958)	(0.572)	(0.610)	(0.488)	(0.504)	(0.290)	(0.436)	(0.372)
PENNICHUCK WATER WORKS	GREEN HILLS COMM WS	20351 20061-S01	152.49	0.058	0.065	0.058	0.060	0.006	0.060	0.054	0.054	0.056	0.047	0.049	0.047
RAYMOND WATER DEPARTME	WATER WORKS	20061 20061-S01	152.49	0.390	0.384	0.404	0.463	0.428	0.473	0.528	0.535	0.454	0.409	0.367	0.387
EPPING WATER WORKS	EPPING WATER WORKS	20045 20045-S04	152.49	0.060	0.070	0.070	0.078	0.079	0.081	0.088	0.077	0.078	0.075	0.063	0.063
EPPING WATER WORKS	EPPING WATER WORKS	20045 20045-S02	152.49	0.059	0.064	0.048	0.062	0.076	0.071	0.073	0.079	0.066	0.062	0.061	0.061
End of Designated Reach			152.49												
NEWMARKET WATER WORKS	NEWMARKET WATER WORKS	20057 20057-S02	178.03	0.294	0.302	0.292	0.308	0.312	0.324	0.344	0.317	0.332	0.320	0.312	0.297
UNIVERSITY OF NH	WATER WORKS	20066 20066-S02	183.88	0.00	0.00	0.00	0.00	0.00	0.00194	0.00	0.00	0.00279	0.00	0.00	0.00276
EPPING WATER WORKS	EPPING WATER WORKS	20045 20045-S01	211.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DELUGE INCORPORATED	BRENTWOOD SPRINGS	20679 20679-S01	211.54	0.0689	0.0627	0.0676	0.0644	0.0723	0.0844	0.1027	0.144	0.0654	0.0581	0.0643	0.0653
NEWMARKET WATER WORKS	NEWMARKET WATER WORKS	20057 20057-S05	211.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEWMARKET WATER WORKS	NEWMARKET WATER WORKS	20057 20057-S04	211.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEWMARKET WATER WORKS	NEWMARKET WATER WORKS	20057 20057-S03	211.54	0.379	0.391	0.396	0.404	0.412	0.431	0.427	0.417	0.452	0.418	0.461	0.391
NEWMARKET WATER WORKS	NEWMARKET WATER WORKS	20057 20057-S01	211.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EPPING WATER WORKS	EPPING WATER WORKS	20045 20045-S03	211.54	0.0437	0.0418	0.0416	0.0603	0.0452	0.0424	0.0400	0.0459	0.0428	0.0426	0.0387	0.0406
Start of Designated Reach			211.54												
Tributaries and DR endpoints	Water transfers														

2006 Lamprey Aggregate Water Use in CFS

WU_NAME	FACILITY	WUSD_ID	DA on DR (SQ MILE)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
End of Designated Reach	Water use U/S of Designated River		152.49	0.067	0.120	0.228	0.224	(0.351)	0.068	0.098	0.222	0.109	0.275	0.056	0.139
NEWMARKET WATER WORKS	NEWMARKET WATER WORKS	20057 20057-S02	178.03	0.361	0.422	0.520	0.532	(0.039)	0.392	0.442	0.540	0.441	0.595	0.368	0.436
UNIVERSITY OF NH	WATER WORKS	20066 20066-S02	183.88	0.361	0.422	0.520	0.532	(0.039)	0.394	0.442	0.540	0.444	0.595	0.368	0.439
Piscassic River	Water use in Piscassic watershed		211.54	0.852	0.918	1.026	1.060	0.491	0.952	1.012	1.147	1.004	1.114	0.932	0.935
Start of Designated Reach			211.54	0.852	0.918	1.026	1.060	0.491	0.952	1.012	1.147	1.004	1.114	0.932	0.935

2006 Lamprey Estimated Monthly Stream Flow at Each Impact Point in CFS

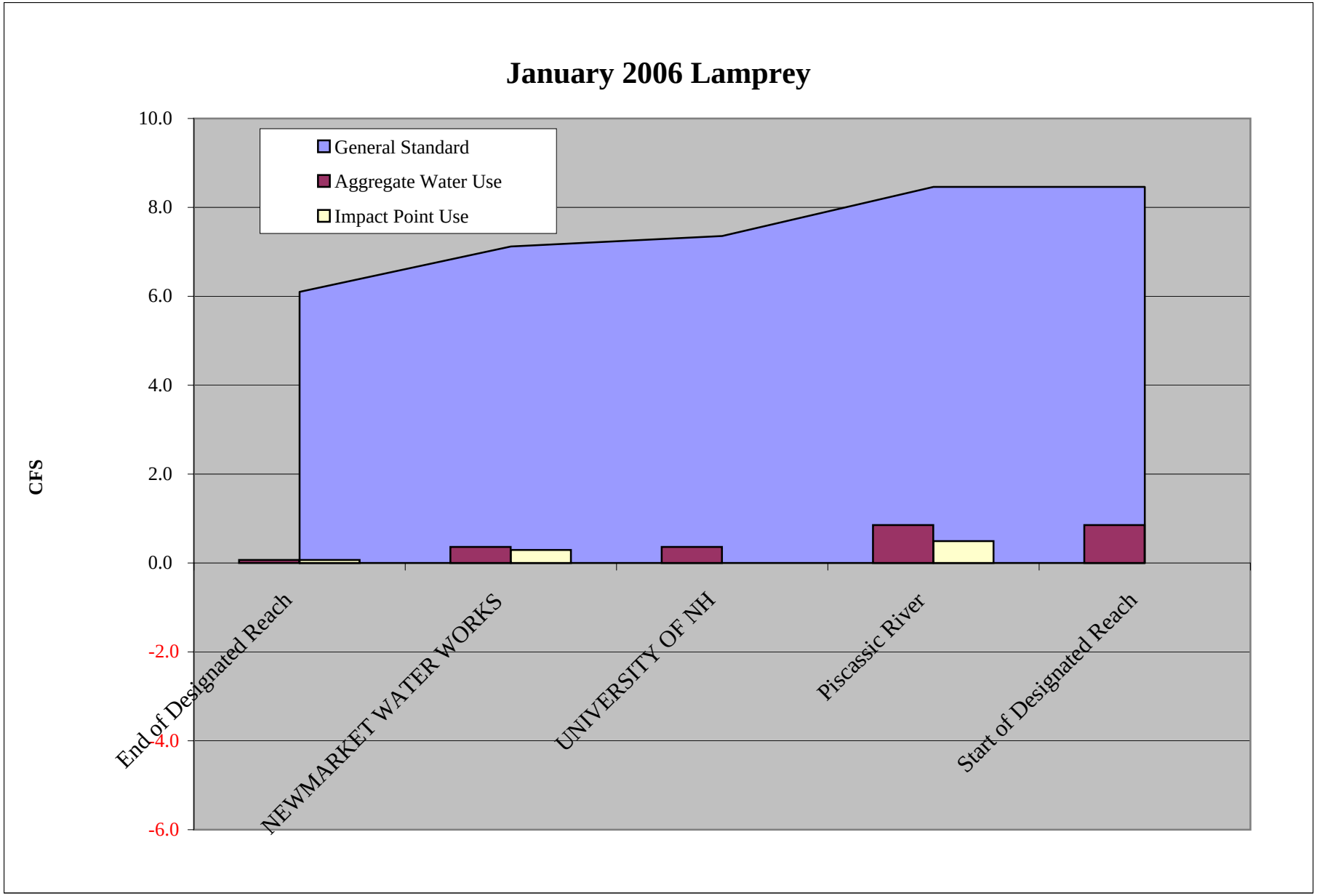
USGS 01073500 LAMPREY RIVER NEAR NEWMARKET, NH			Estimated monthly mean streamflow in CFSM	3.81	3.01	1.18	1.38	8.25	5.36	1.10	0.80	0.40	2.29	5.11	2.52
WU_NAME	FACILITY	WUSD_ID	DA on DR (SQ MILE)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
End of Designated Reach	Water use U/S of Designated River		152.49	581	459	180	210	1257	817	168	122	61	349	779	385
NEWMARKET WATER WORKS	NEWMARKET WATER WORKS	20057 20057-S02	178.03	678	536	211	245	1468	954	196	142	71	407	910	449
UNIVERSITY OF NH	WATER WORKS	20066 20066-S02	183.88	701	554	218	253	1516	985	202	147	73	421	940	464
Piscassic River	Water use in Piscassic watershed		211.54	806	637	250	291	1744	1133	233	169	84	484	1081	533
Start of Designated Reach			211.54	806	637	250	291	1744	1133	233	169	84	484	1081	533

2006 Lamprey Estimated Monthly General Standard at Each Impact Point in CFS

	USGS 01073500 LAMPREY RIVER NEAR NEWMARKET, NH		General Standard in cfsm	0.04	0.04	0.04	0.04	0.16	0.16	0.04	0.02	0.0013	0.04	0.16	0.04
WU_NAME	FACILITY	WUSD_ID	DA on DR (SQ MILE)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
End of Designated Reach	Water use U/S of Designated River		152.49	6.1	6.1	6.1	6.1	24	24	6.1	3.0	0.20	6.1	24	6.1
NEWMARKET WATER WORKS	NEWMARKET WATER WORKS	20057 20057-S02	178.03	7.1	7.1	7.1	7.1	28	28	7.1	3.6	0.23	7.1	28	7.1
UNIVERSITY OF NH	WATER WORKS	20066 20066-S02	183.88	7.4	7.4	7.4	7.4	29	29	7.4	3.7	0.24	7.4	29	7.4
Piscassic River	Water use in Piscassic watershed		211.54	8.5	8.5	8.5	8.5	34	34	8.5	4.2	0.28	8.5	34	8.5
Start of Designated Reach			211.54	8.5	8.5	8.5	8.5	34	34	8.5	4.2	0.28	8.5	34	8.5

2006 Lamprey Estimated Monthly Margin of the Aggregate Water Use Below the General Standard

WU_NAME	FACILITY	WUSD_ID	DA on DR (SQ MILE)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
End of Designated Reach	Water use U/S of Designated River		152.49	6.0	6.0	5.9	5.9	25	24	6.0	2.8	0.091	5.8	24	6.0
NEWMARKET WATER WORKS	NEWMARKET WATER WORKS	20057 20057-S02	178.03	6.8	6.7	6.6	6.6	29	28	6.7	3.0	(0.21)	6.5	28	6.7
UNIVERSITY OF NH	WATER WORKS	20066 20066-S02	183.88	7.0	6.9	6.8	6.8	29	29	6.9	3.1	(0.20)	6.8	29	6.9
Piscassic River	Water use in Piscassic watershed		211.54	7.6	7.5	7.4	7.4	33	33	7.4	3.1	(0.73)	7.3	33	7.5
Start of Designated Reach			211.54	7.6	7.5	7.4	7.4	33	33	7.4	3.1	(0.73)	7.3	33	7.5


January 2006 Lamprey
CFS
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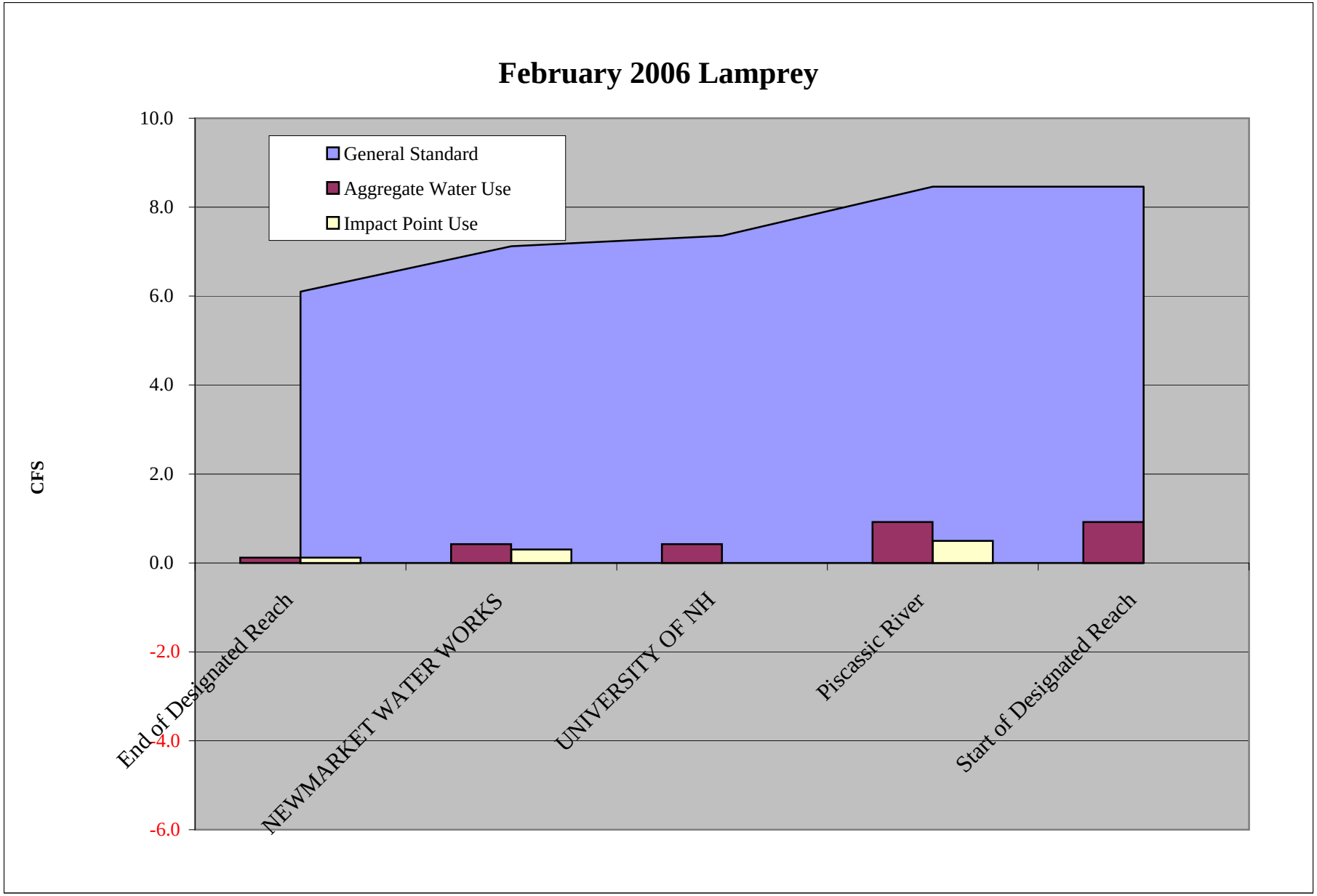
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
General Standard
Aggregate Water Use
Impact Point Use
End of Designated Reach
NEWMARKET WATER WORKS
UNIVERSITY OF NH
Piscassic River
Start of Designated Reach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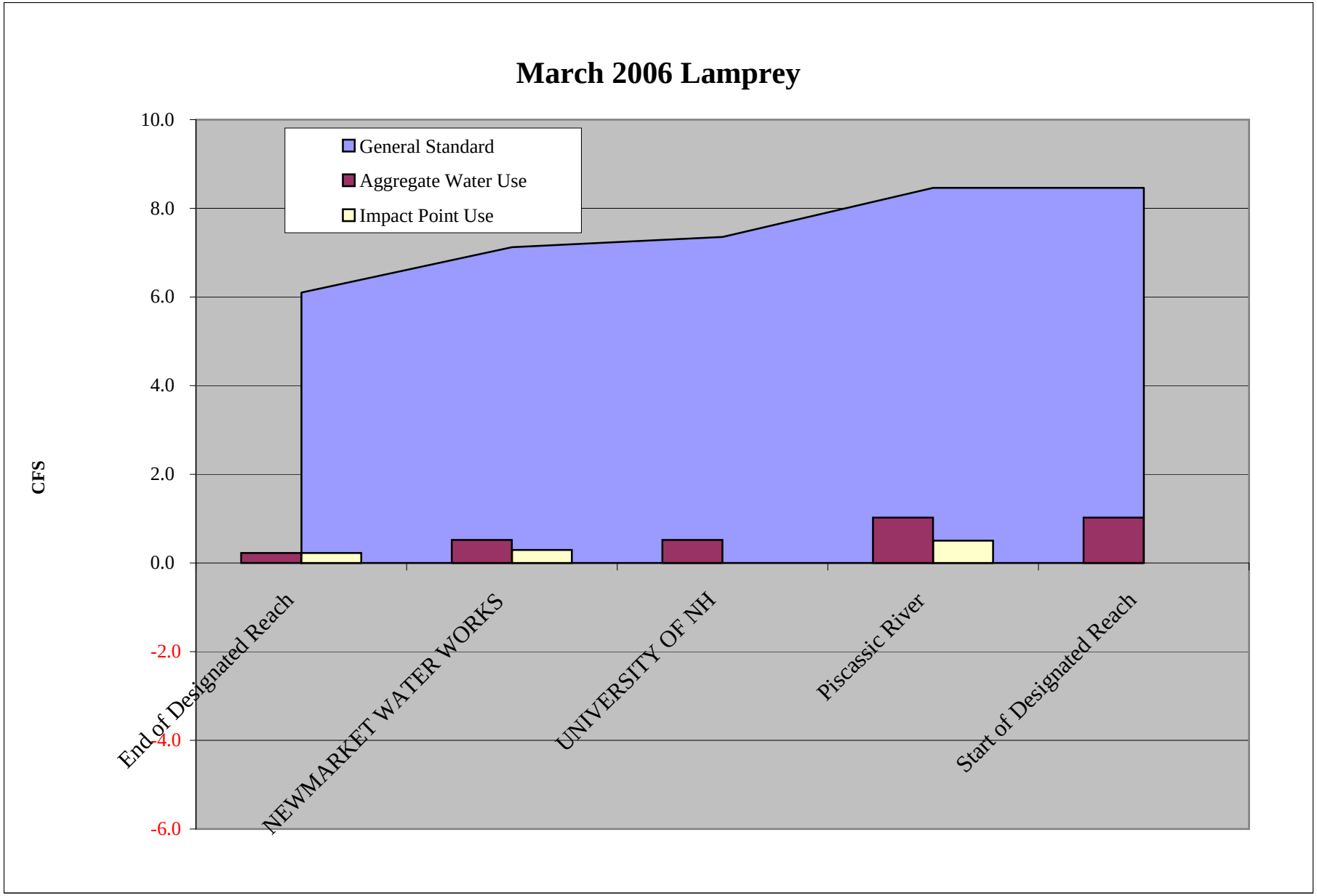
General Standard
Aggregate Water Use
Impact Point Use
End of Designated Reach
NEWMARKET WATER WORKS
UNIVERSITY OF NH
Piscassic River
Start of Designated Reach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-4.0
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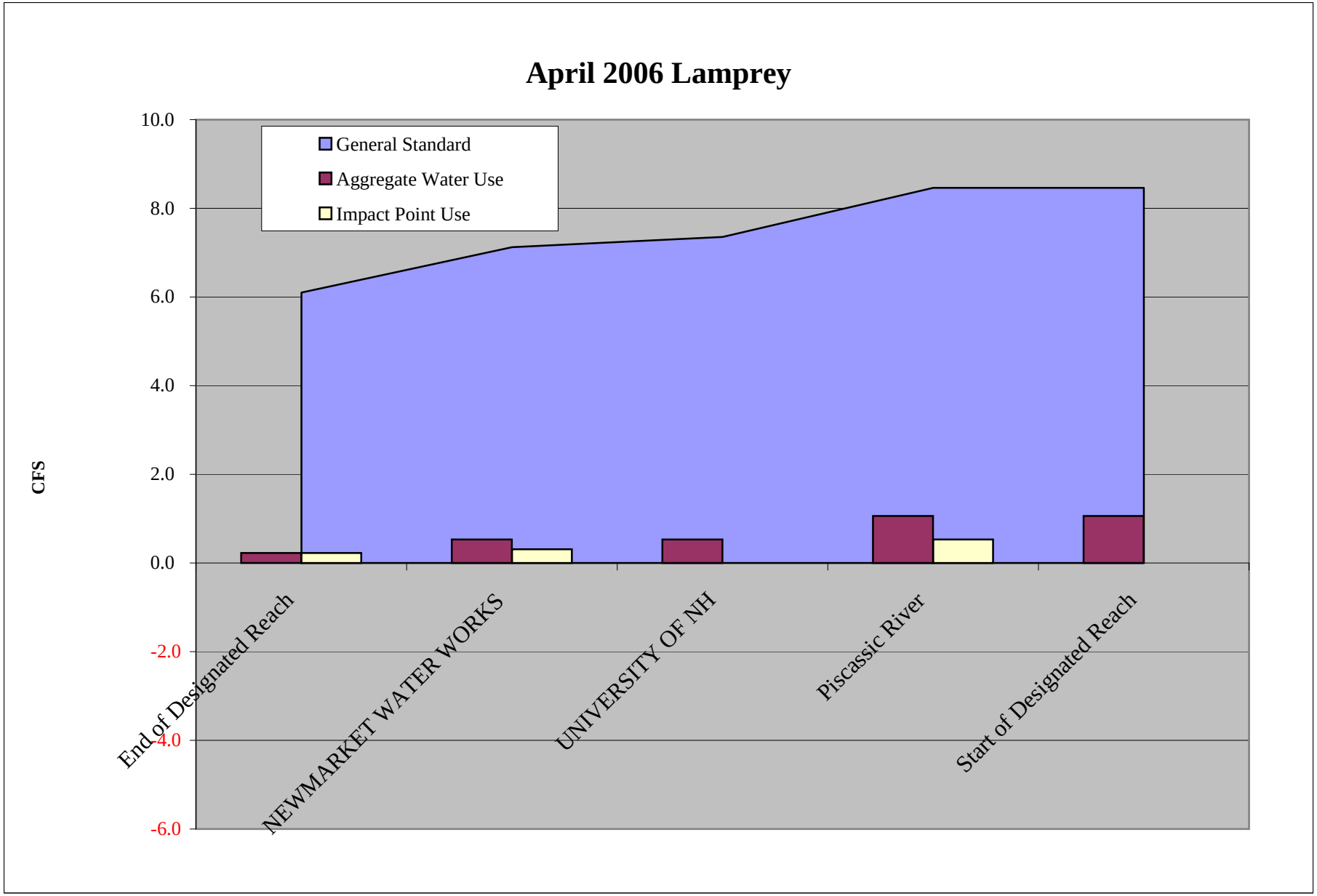
General Standard
Aggregate Water Use
Impact Point Use
End of Designated Reach
NEWMARKET WATER WORKS
UNIVERSITY OF NH
Piscassic River
Start of Designated Reach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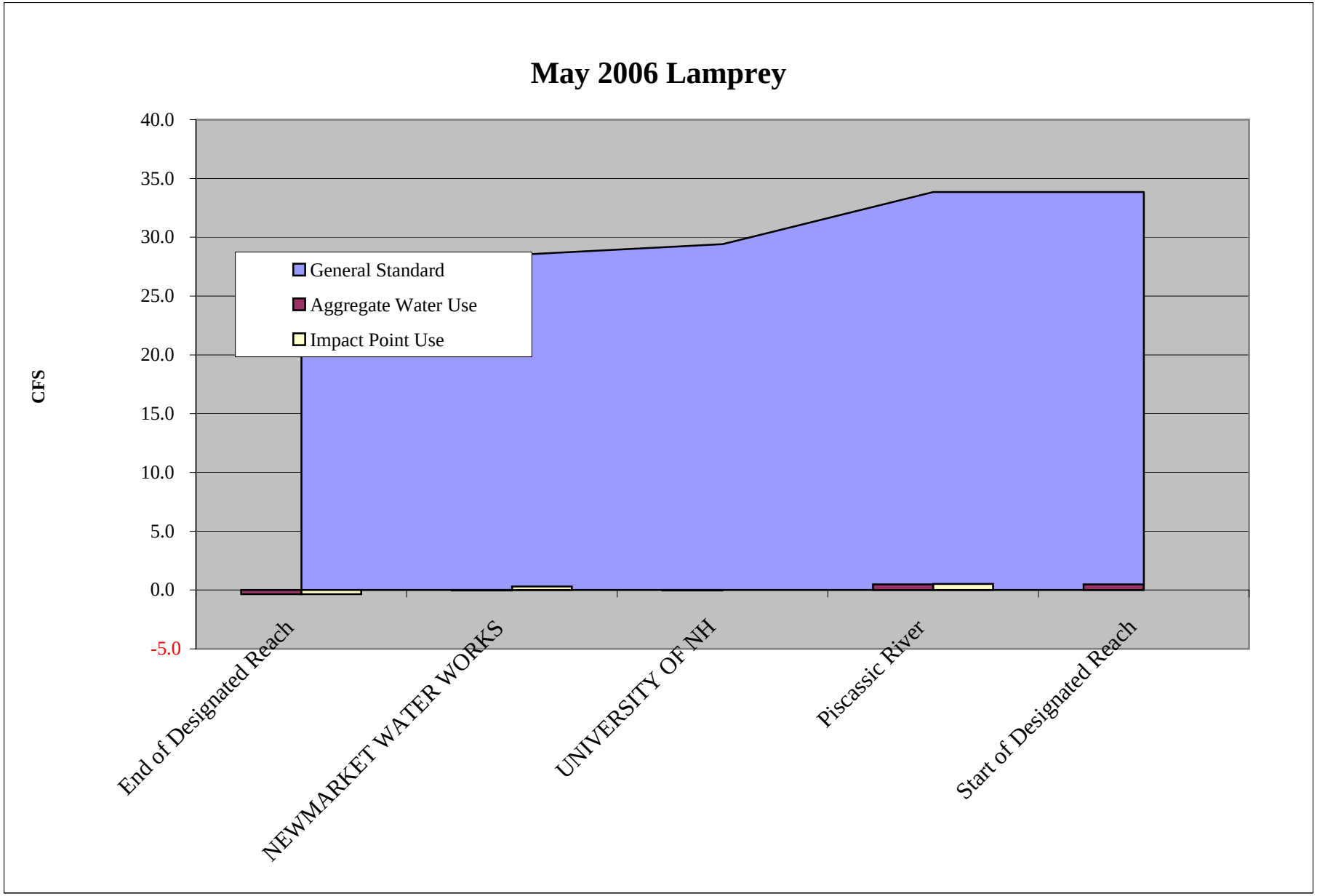
-4.0
-6.0
General Standard
Aggregate Water Use
Impact Point Use
End of Designated Reach
NEWMARKET WATER WORKS
UNIVERSITY OF NH
Piscassic River
Start of Designated Reach


May 2006 Lamprey
CFS
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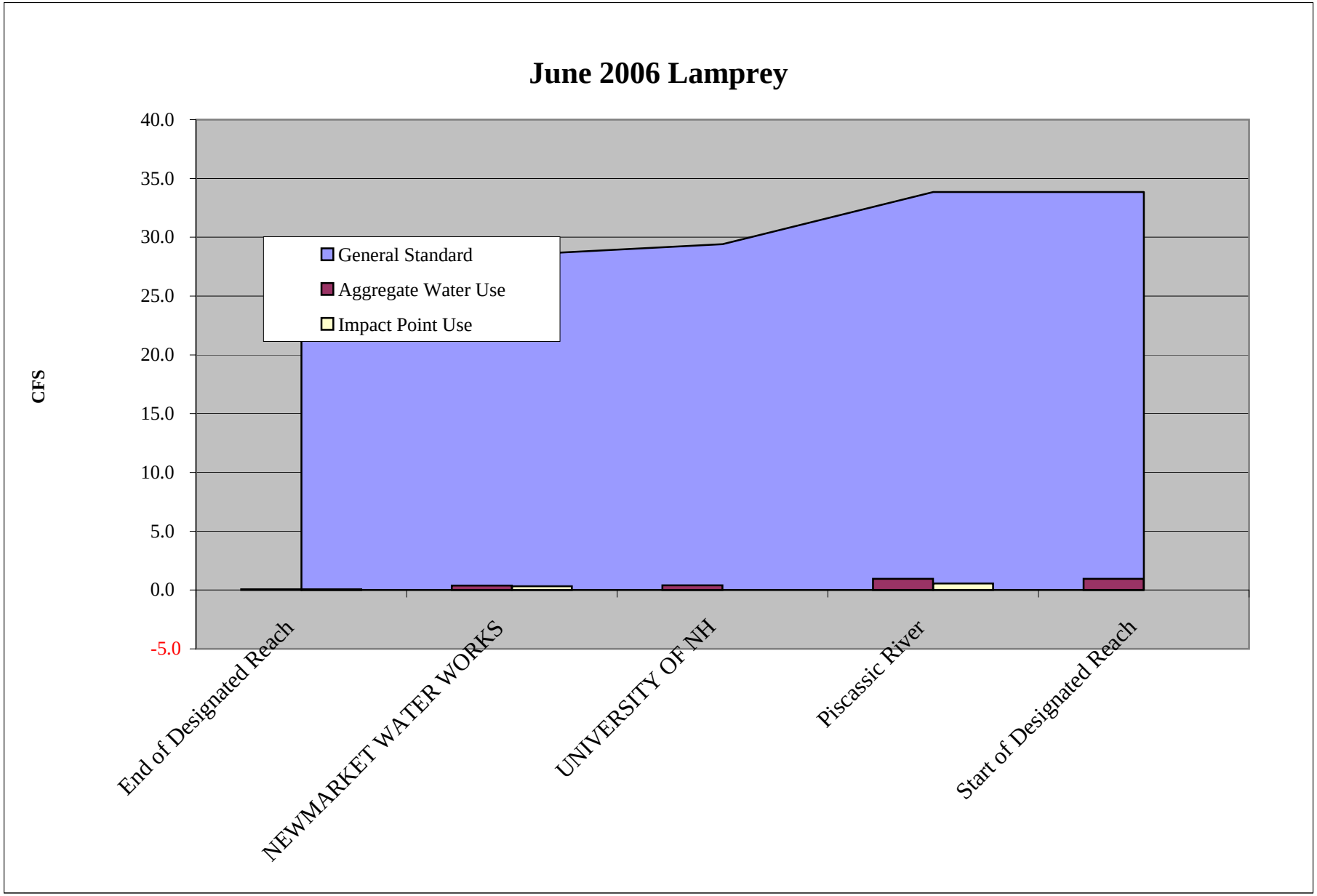
30.0
25.0
20.0
15.0
10.0
5.0
0.0
-5.0
General Standard
Aggregate Water Use
Impact Point Use
End of Designated Reach
NEWMARKET WATER WORKS
UNIVERSITY OF NH
Piscassic River
Start of Designated Reach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15.0
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-5.0
General Standard
Aggregate Water Use
Impact Point Use
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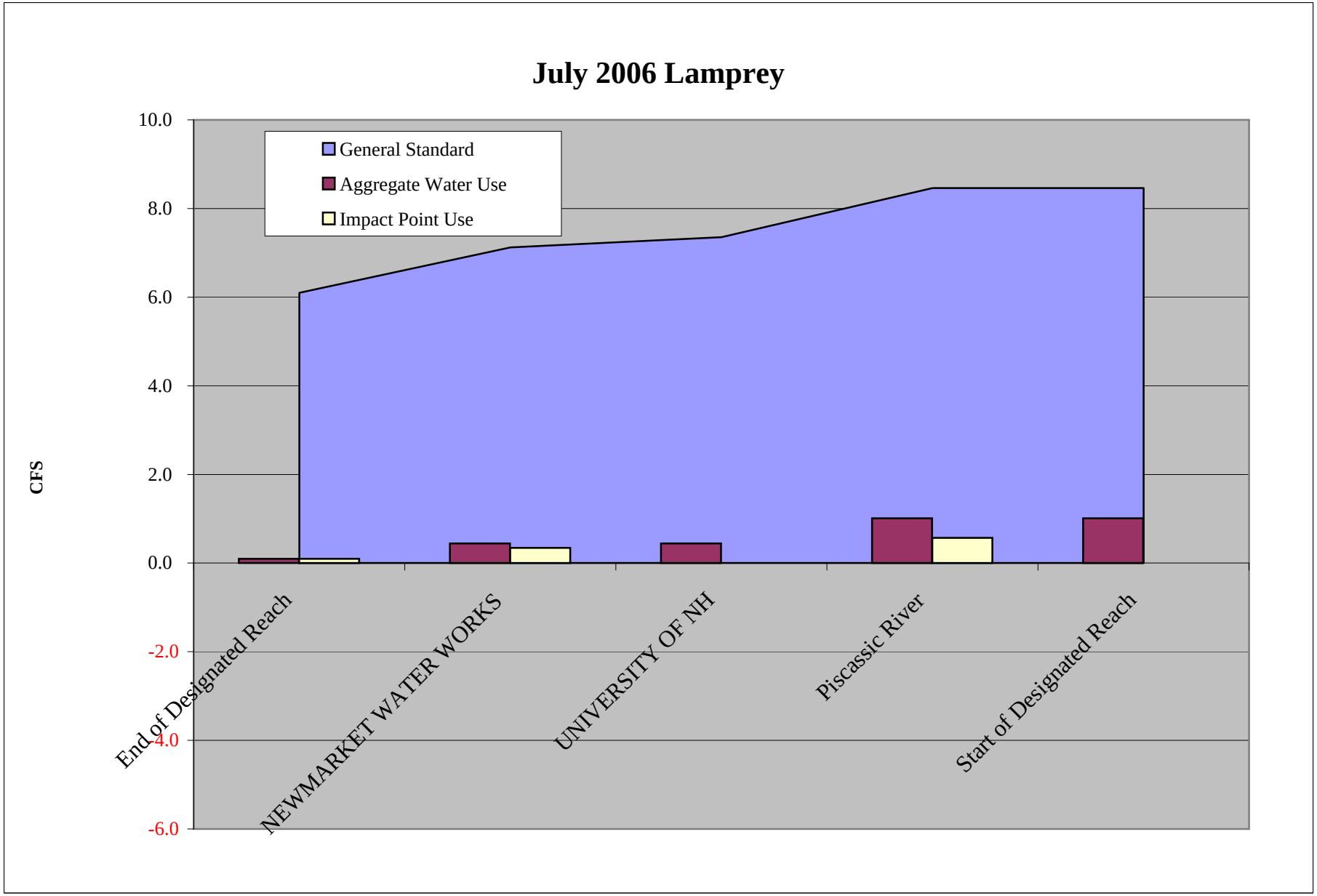
July 2006 Lamprey
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2.0
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-2.0
-4.0
-6.0
General Standard
Aggregate Water Use
Impact Point Use
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NEWMARKET WATER WORKS
UNIVERSITY OF NH
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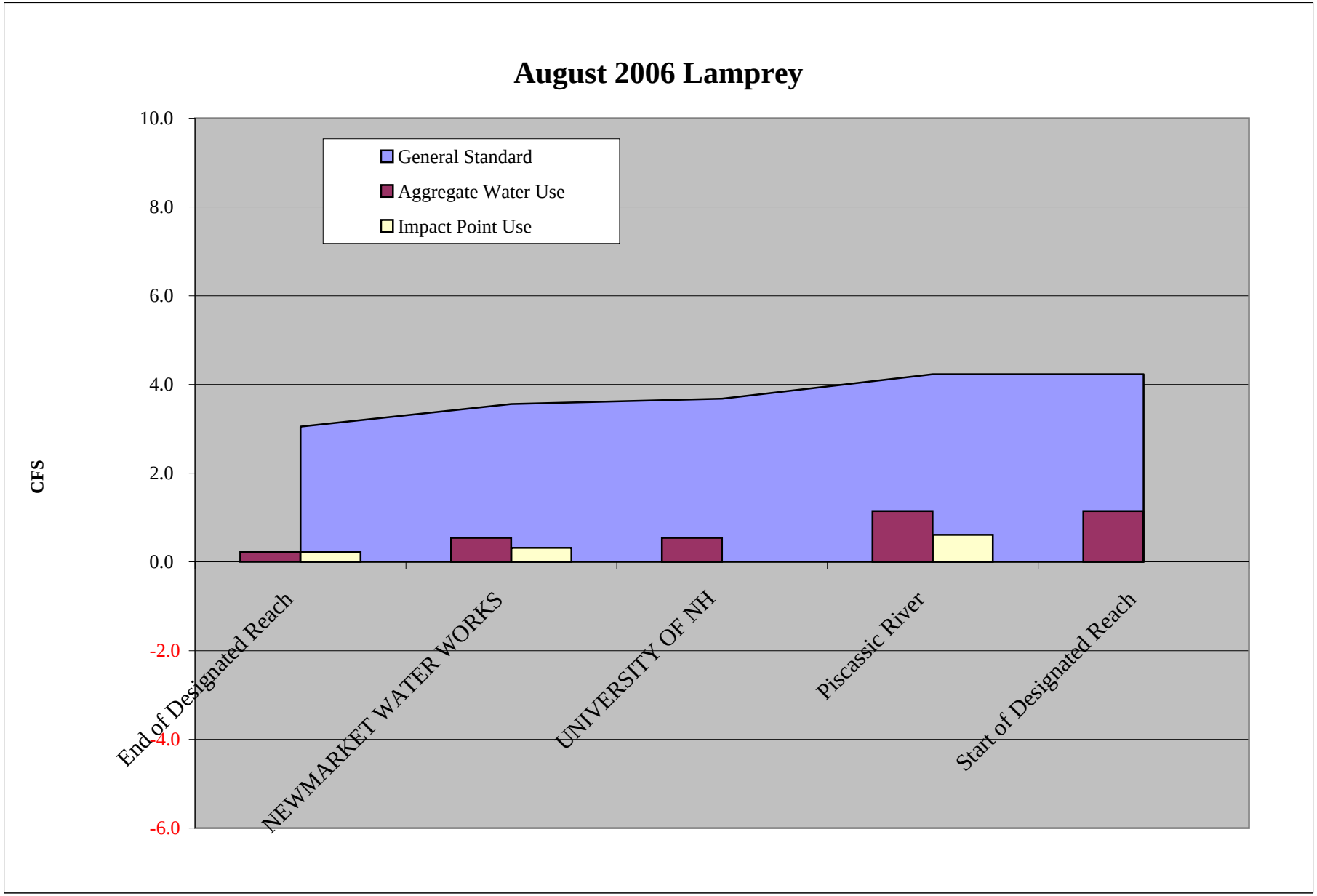
August 2006 Lamprey
CFS
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4.0
2.0
0.0
-2.0
-4.0
-6.0
General Standard
Aggregate Water Use
Impact Point Use
End of Designated Reach
NEWMARKET WATER WORKS
UNIVERSITY OF NH
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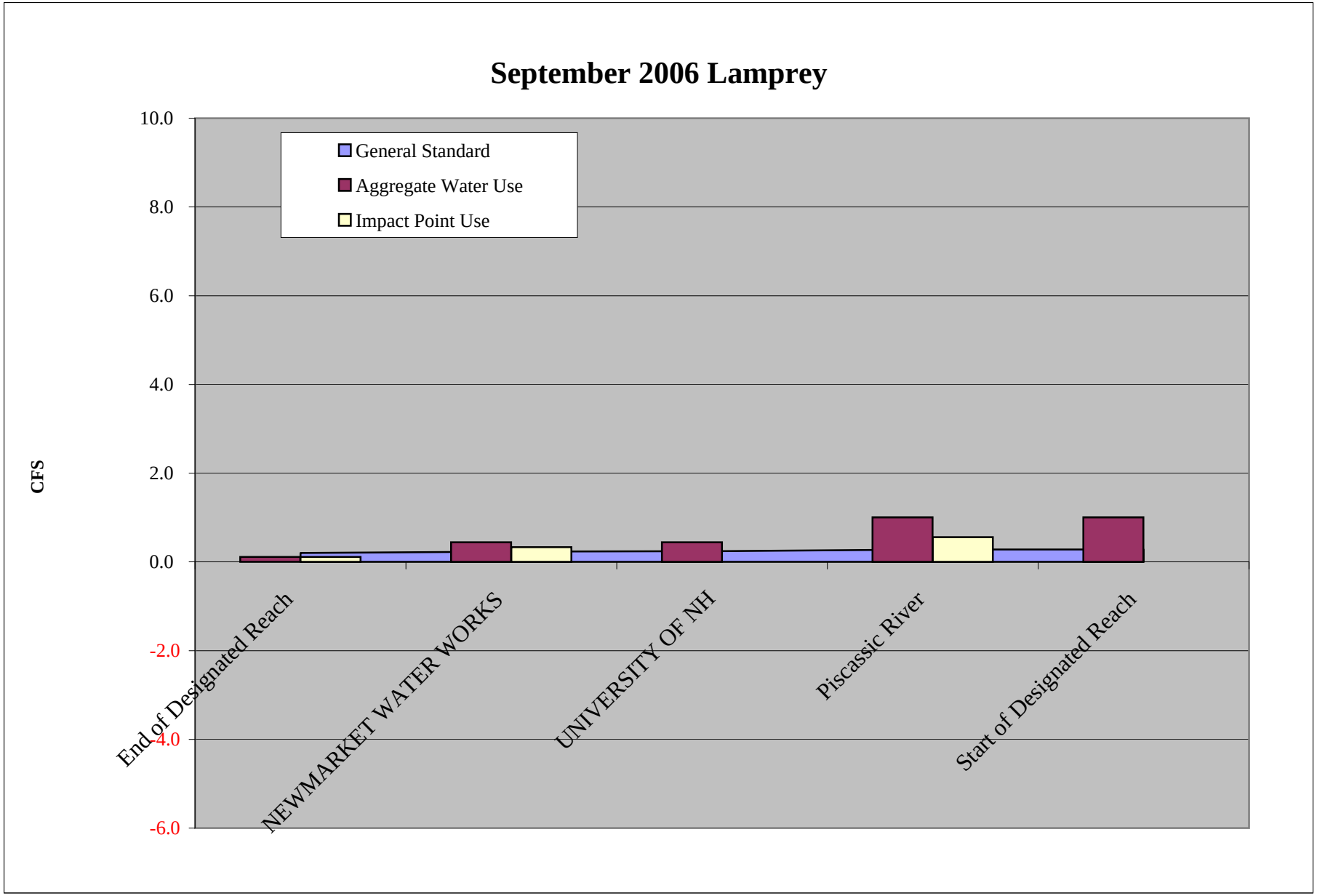
Start of Designated Reach


September 2006 Lamprey
CFS
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4.0
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0.0
-2.0
-4.0
-6.0
General Standard
Aggregate Water Use
Impact Point Use
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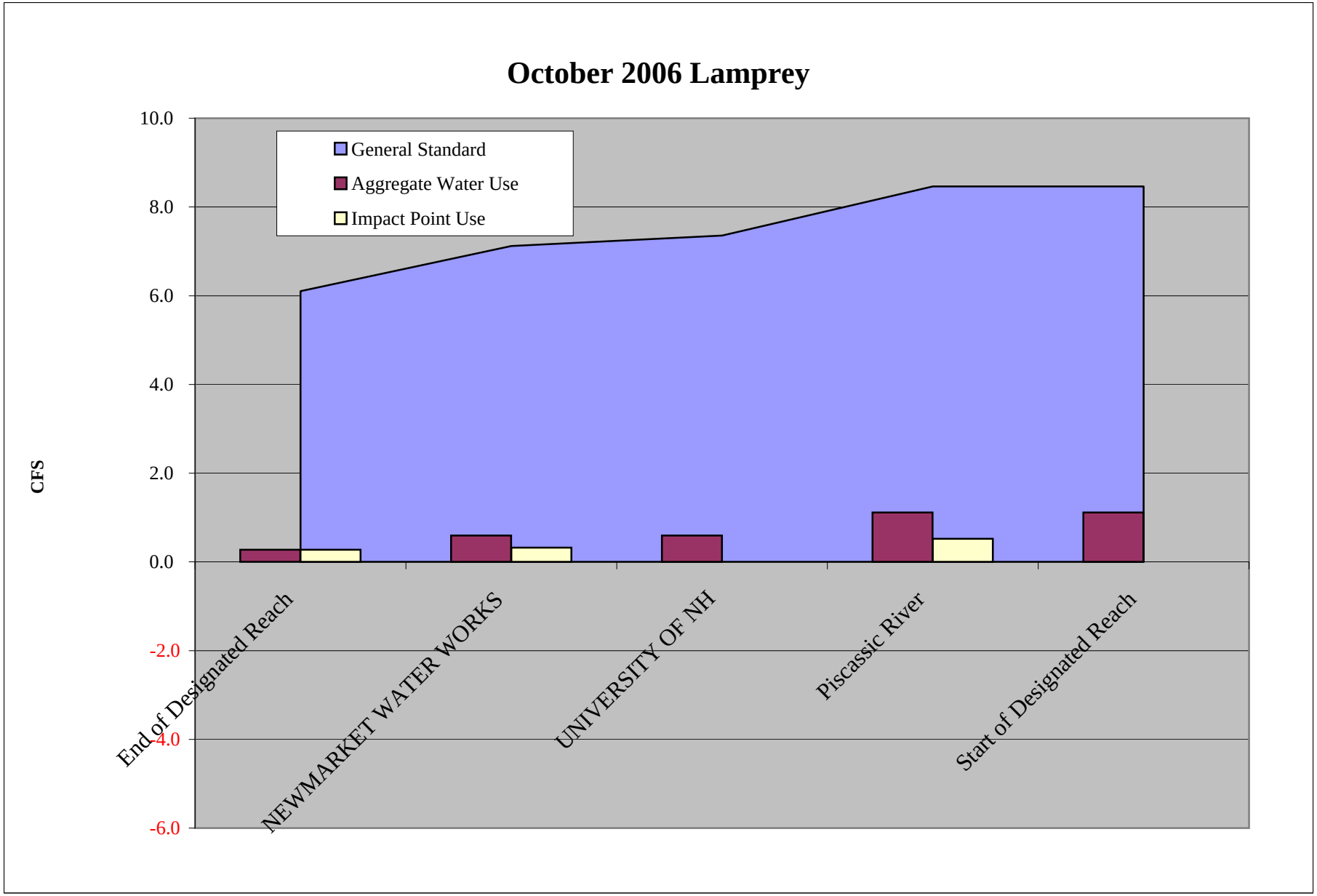
October 2006 Lamprey
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4.0
2.0
0.0
-2.0
-4.0
-6.0
General Standard
Aggregate Water Use
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NEWMARKET WATER WORKS
UNIVERSITY OF NH
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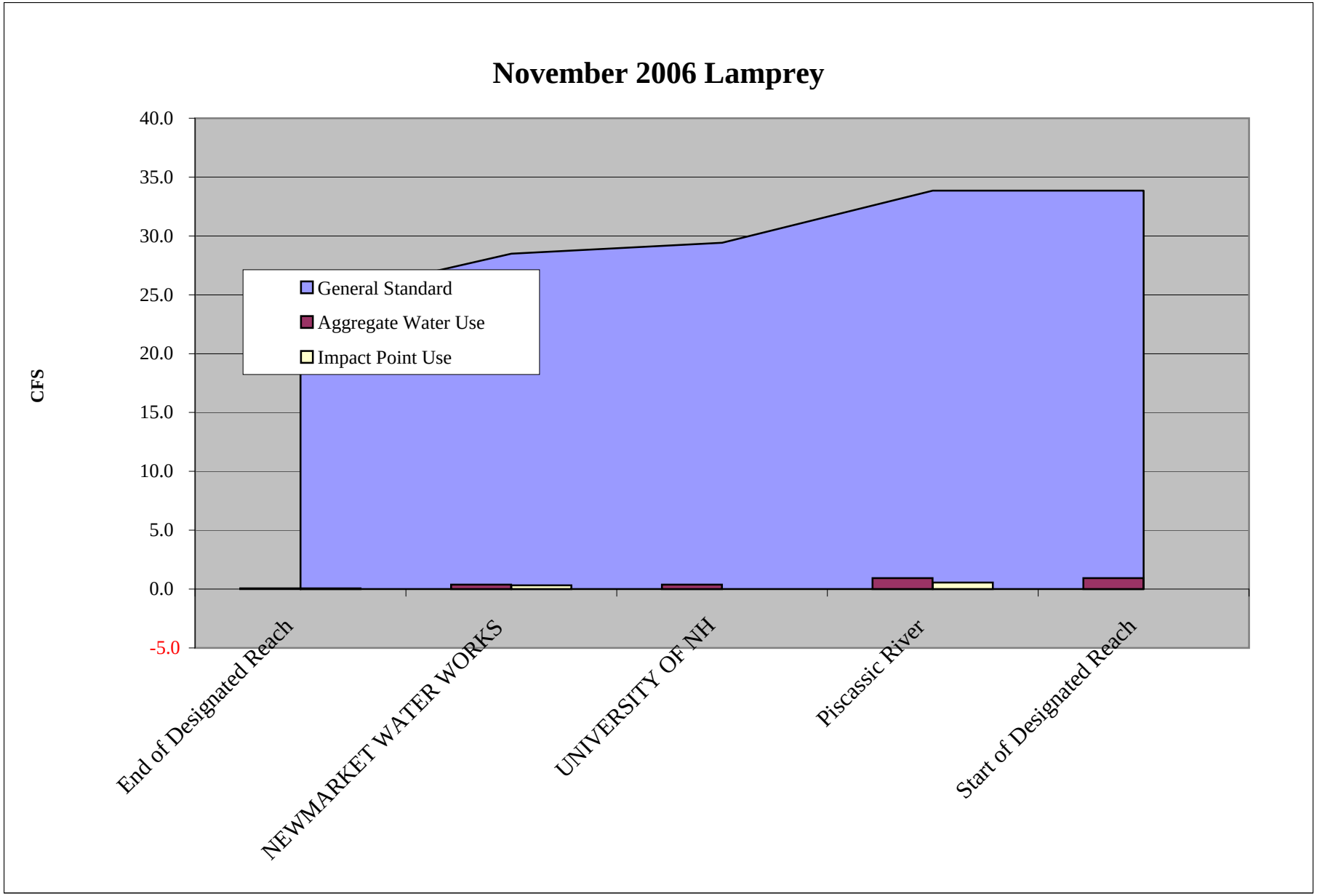
November 2006 Lamprey
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25.0
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15.0
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5.0
0.0
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General Standard
Aggregate Water Use
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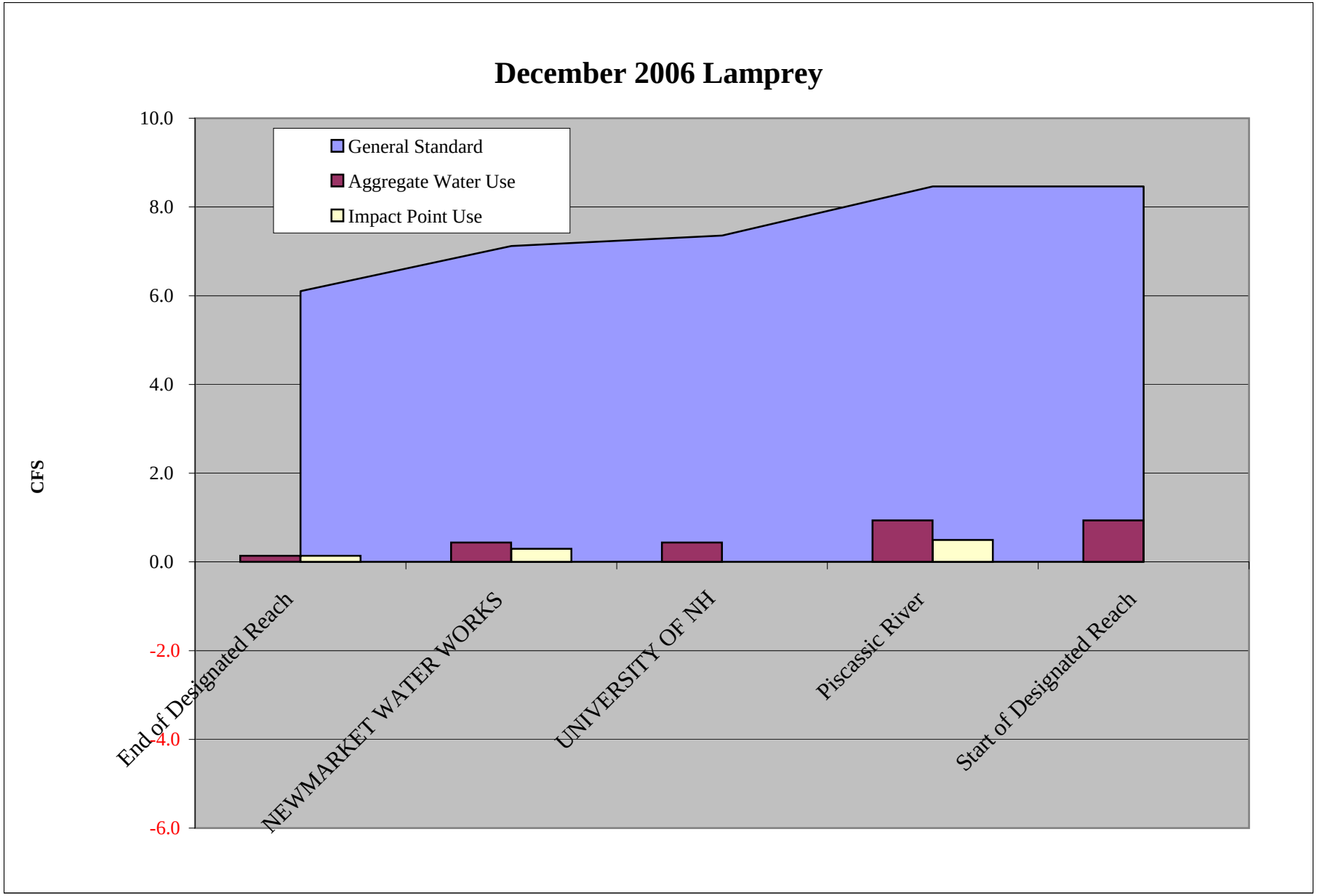
December 2006 Lamprey
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6.0
4.0
2.0
0.0
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-4.0
-6.0
General Standard
Aggregate Water Use
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