

Updated Draft 1990-2015 Loading Estimates at Ambient Stations J1890000, J8690000 and J7850000
(Falls Lake Dam, Trent River near Trenton, and Fort Barnwell)

This draft document provides total nitrogen (TN), nitrate + nitrite (NO_x), total Kjeldahl nitrogen (TKN), and total phosphorus (TP) annual load estimates using data collected at the Falls Lake Dam, Trent River, and Fort Barnwell ambient monitoring stations for the 1990-2015 time period using the USGS LOADEST method.

Data Preparation

- All 2015 ambient monitoring data from each station is provisional and has not been through a QA process by DEQ. This document will be finalized when data have been through the QA process and loaded to STORET.
- USGS gage 02087183 is co-located with Ambient Monitoring Station J1890000 and daily average flows were used from this station for loading estimates.
- USGS gage 02092500 is co-located with Ambient Monitoring Station J8690000 and daily average flows were used from this station for loading estimates.
- USGS gage 02091814 is co-located with Ambient Monitoring Station J7850000 and daily average flows were used from this station for the loading estimate beginning on October 1, 1996. Flows prior to this date were estimated using a linear regression model. Flows from October 1st, through December 31st, 2015 are provisional and are subject to revision by USGS.
- Two or more sampling events per day were averaged to have one value per day.
- Any non-detect values were changed to ½ the practical quantitation limit of 0.01 mg/L for NO_x, TKN, and phosphorus. Data availability is shown in Table 1.

Reporting

The USGS LOADEST estimates monthly loading include upper (UCL) and lower (LCL) 95% confidence limits. The annual loading is calculated from the daily loads estimated by LOADEST and reported in pounds per year. Figure 1 shows a map of the project area and sampling locations. The following figures and tables show the annual estimated loadings and flow for each station.

It should be noted that these are only estimates and all the methods used for load estimation have associated errors in their estimates; therefore, caution should be exercised when interpreting the results. All the results should be interpreted in light of the limitations of the approaches and the existing data.

Table 1 - Ambient Monitoring Data Availability by Year

Number of Months with Data									
Year	J1890000 - Falls Lake Dam			J8690000 Trent River near Trenton			J7850000 Fort Barnwell		
	TKN	NO _x	P	TKN	NO _x	P	TKN	NO _x	P
1990	11	11	11	12	12	12	12	12	12
1991	9	9	9	10	10	10	10	10	10
1992	11	11	11	12	12	12	12	12	12
1993	11	11	11	11	11	11	11	11	11
1994	10	10	10	11	11	11	11	11	11
1995	11	11	11	12	12	12	12	12	12
1996	11	11	11	12	12	12	12	12	12
1997	12	12	12	12	12	12	12	12	12
1998	12	12	12	12	12	12	12	12	12
1999	12	12	12	12	12	12	12	12	12
2000	12	12	12	7	7	7	12	12	12
2001	4	4	5	9	9	9	12	12	12
2002	0	0	0	12	12	12	12	12	12
2003	7	7	7	12	12	12	12	12	12
2004	12	12	12	12	12	12	12	12	12
2005	12	12	12	11	11	11	12	12	12
2006	12	12	12	12	12	12	12	12	12
2007	10	10	10	12	12	12	12	12	12
2008	10	10	10	12	12	12	12	12	12
2009	8	8	8	12	12	12	12	12	12
2010	4	4	4	12	12	12	12	12	12
2011	4	4	4	12	12	12	12	12	12
2012	8	8	8	12	12	12	12	12	12
2013	12	12	12	12	12	12	12	12	12
2014	9	9	9	12	12	12	12	12	12
2015	10	10	10	10	10	10	10	10	10

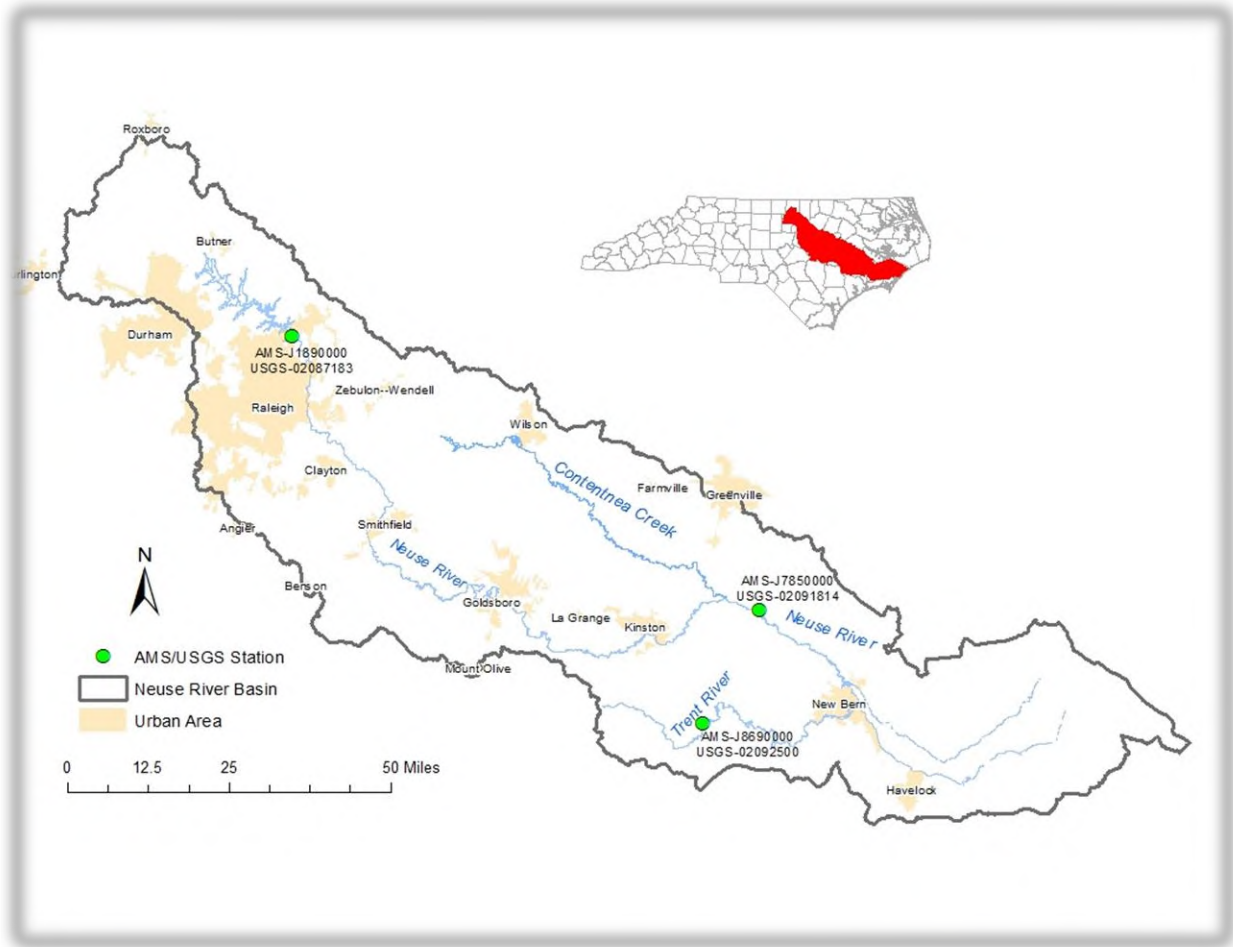
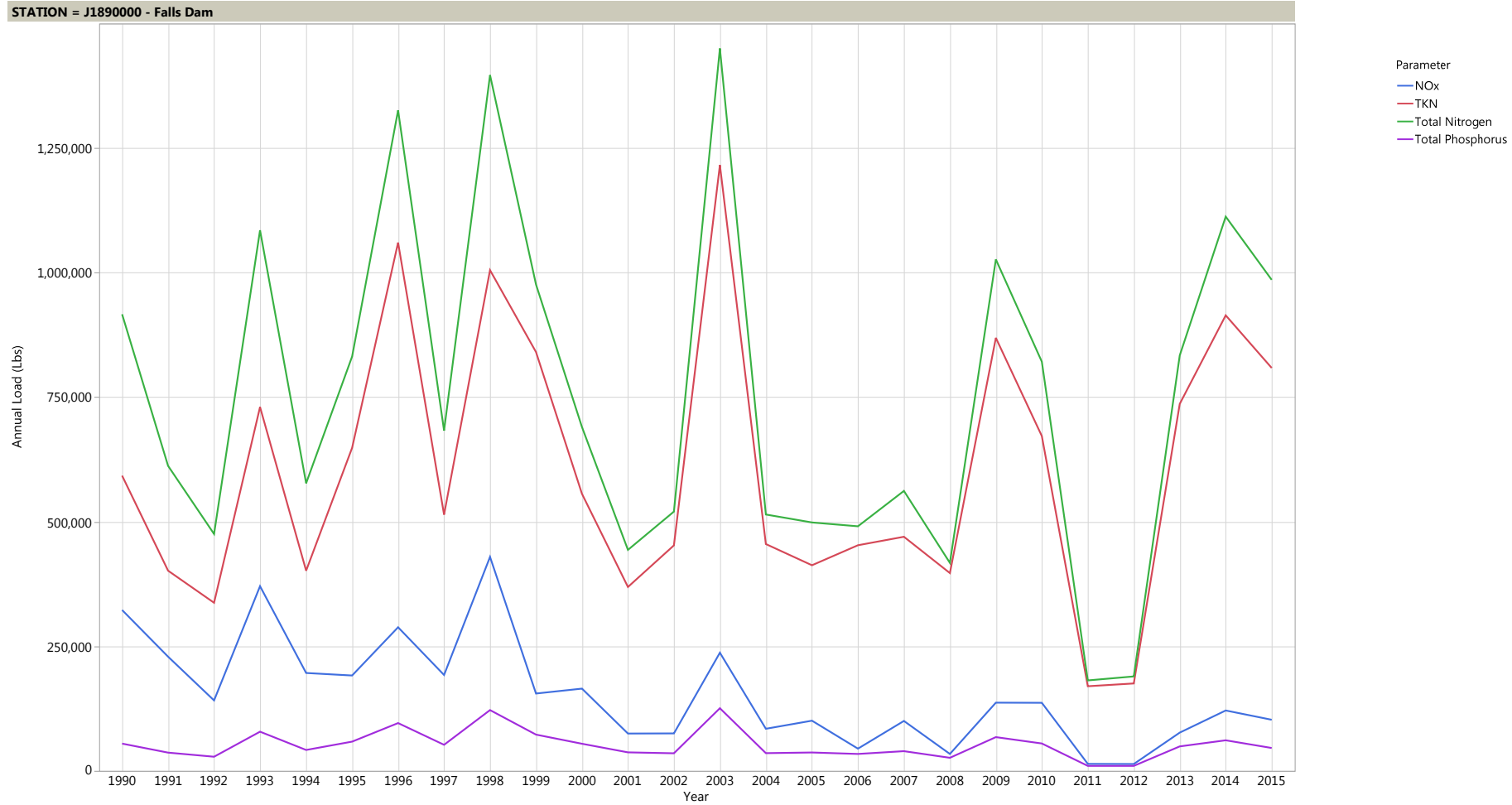
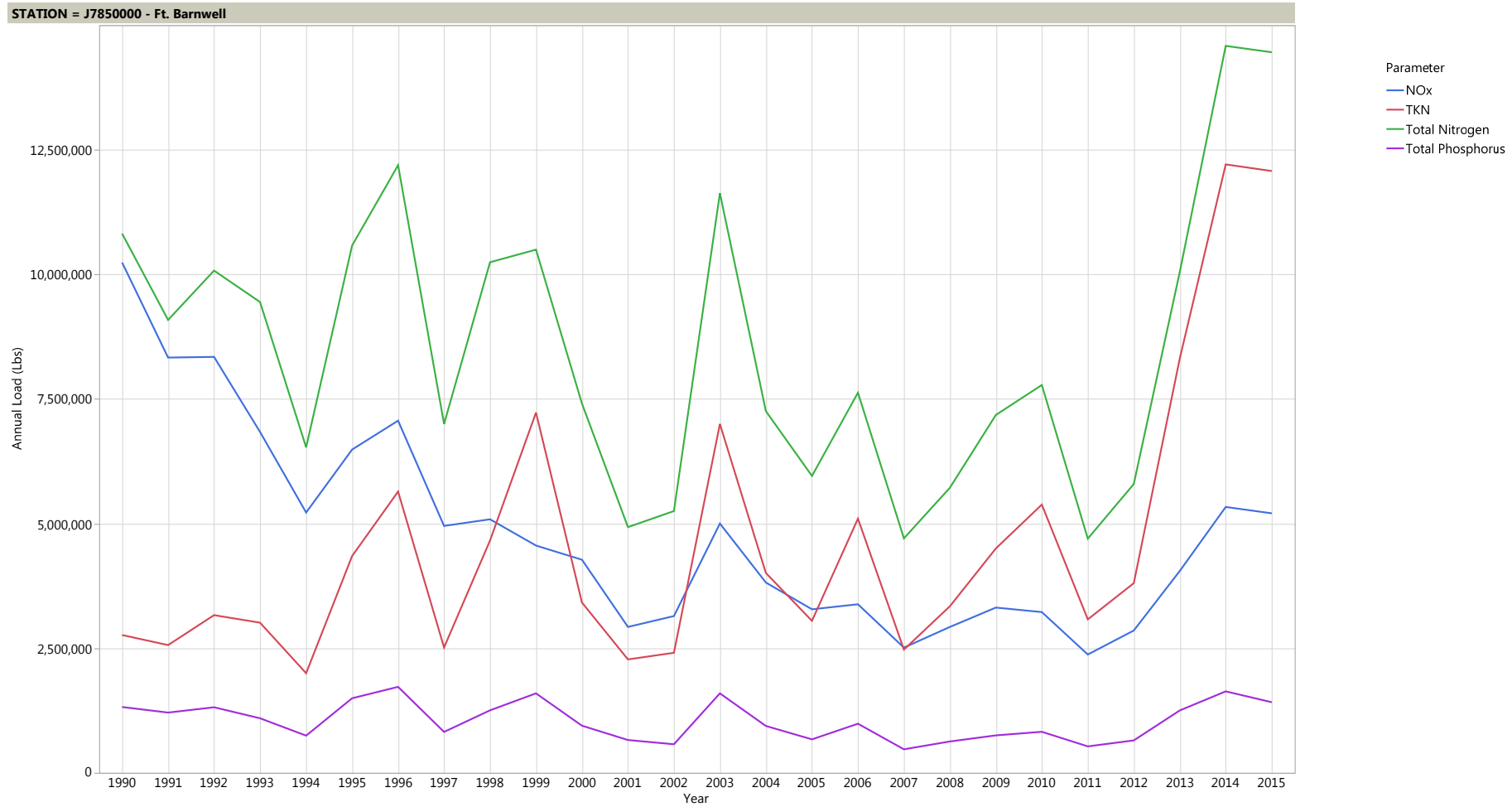


Figure 1 - Sampling Locations

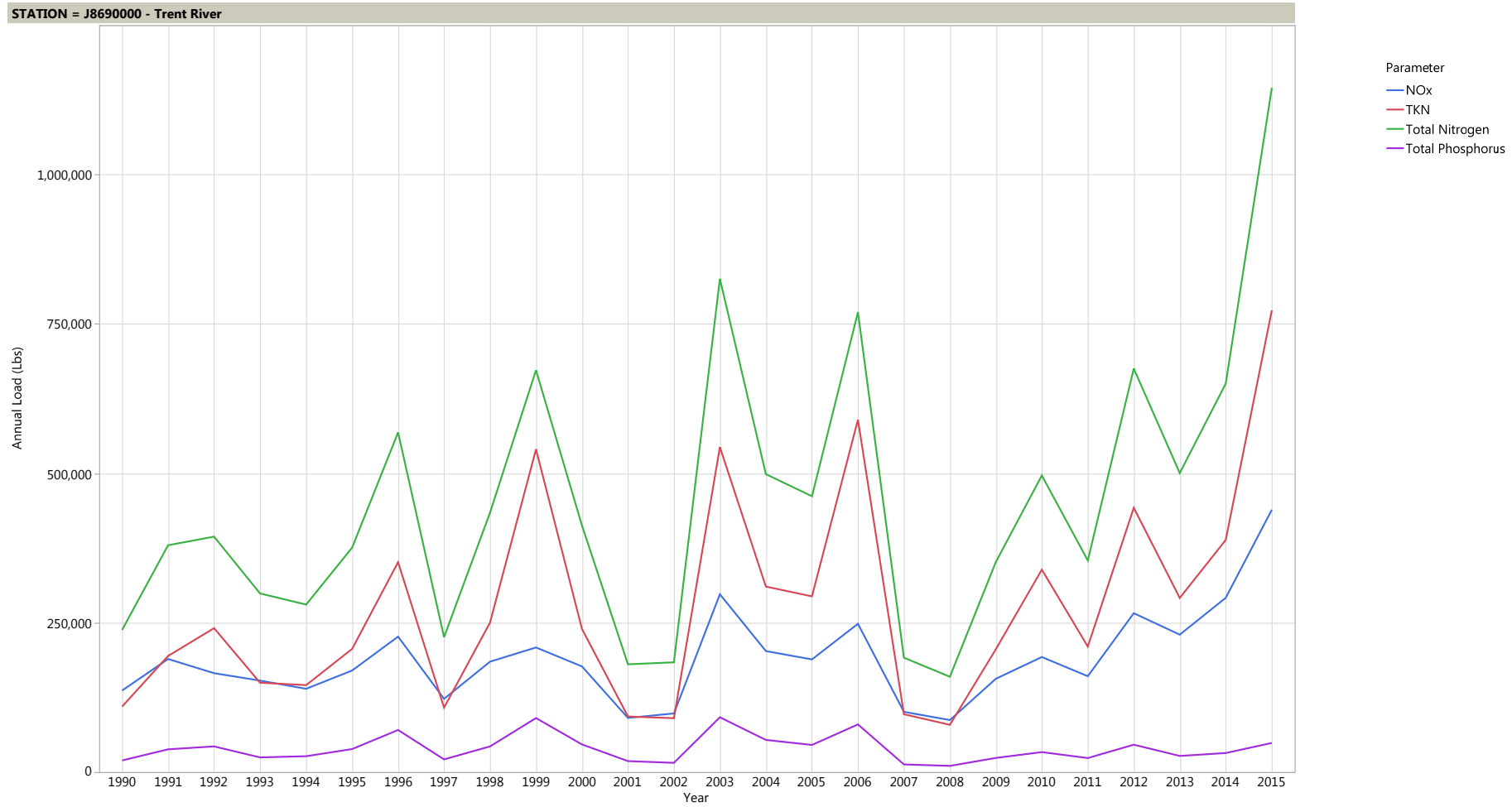
Annual Nutrient Loading Estimates for J1890000 – Falls Dam



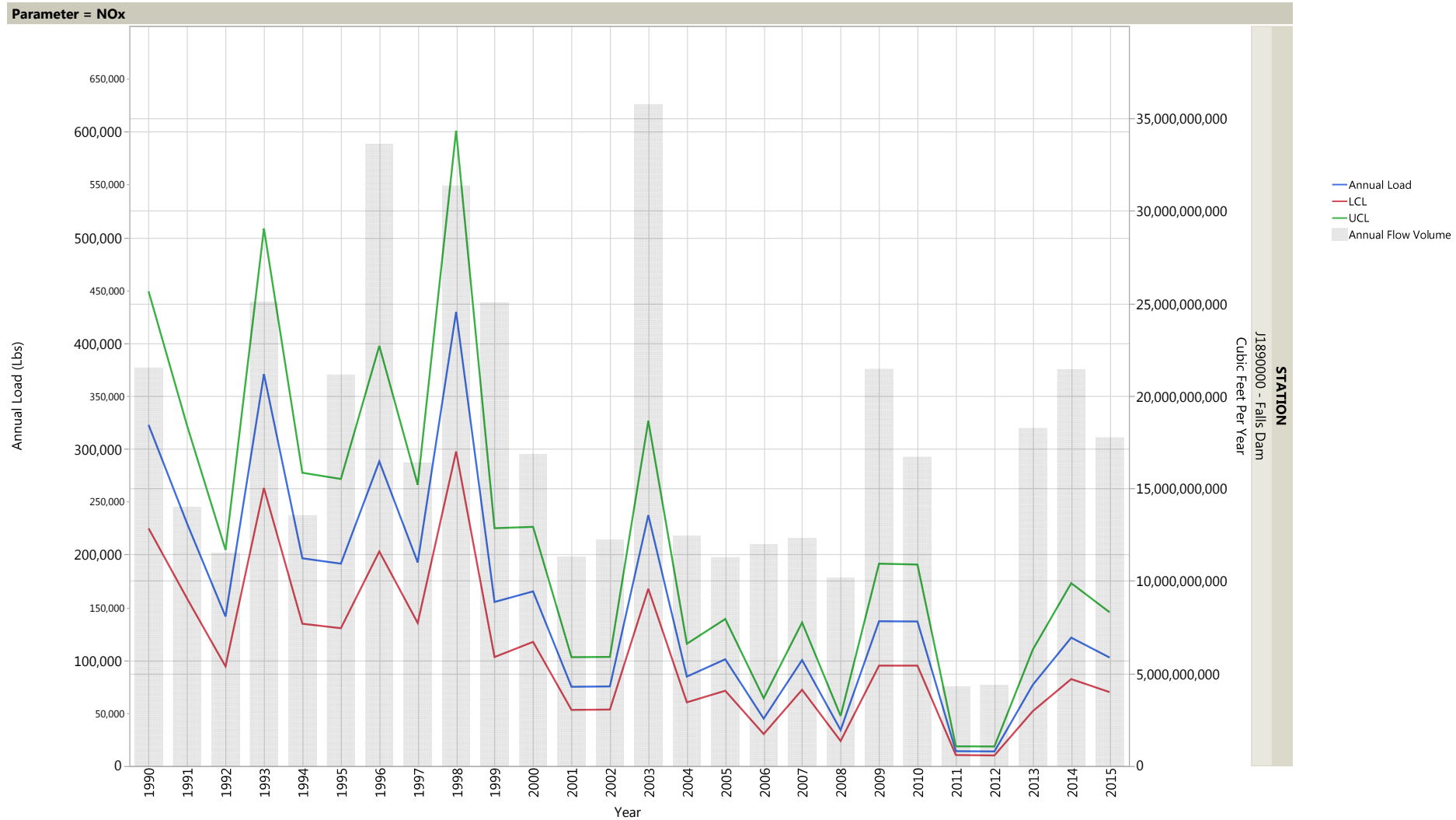
Annual Nutrient Loading Estimates for J7850000 – Ft. Barnwell



Annual Nutrient Loading Estimates for J8690000 – Trent River

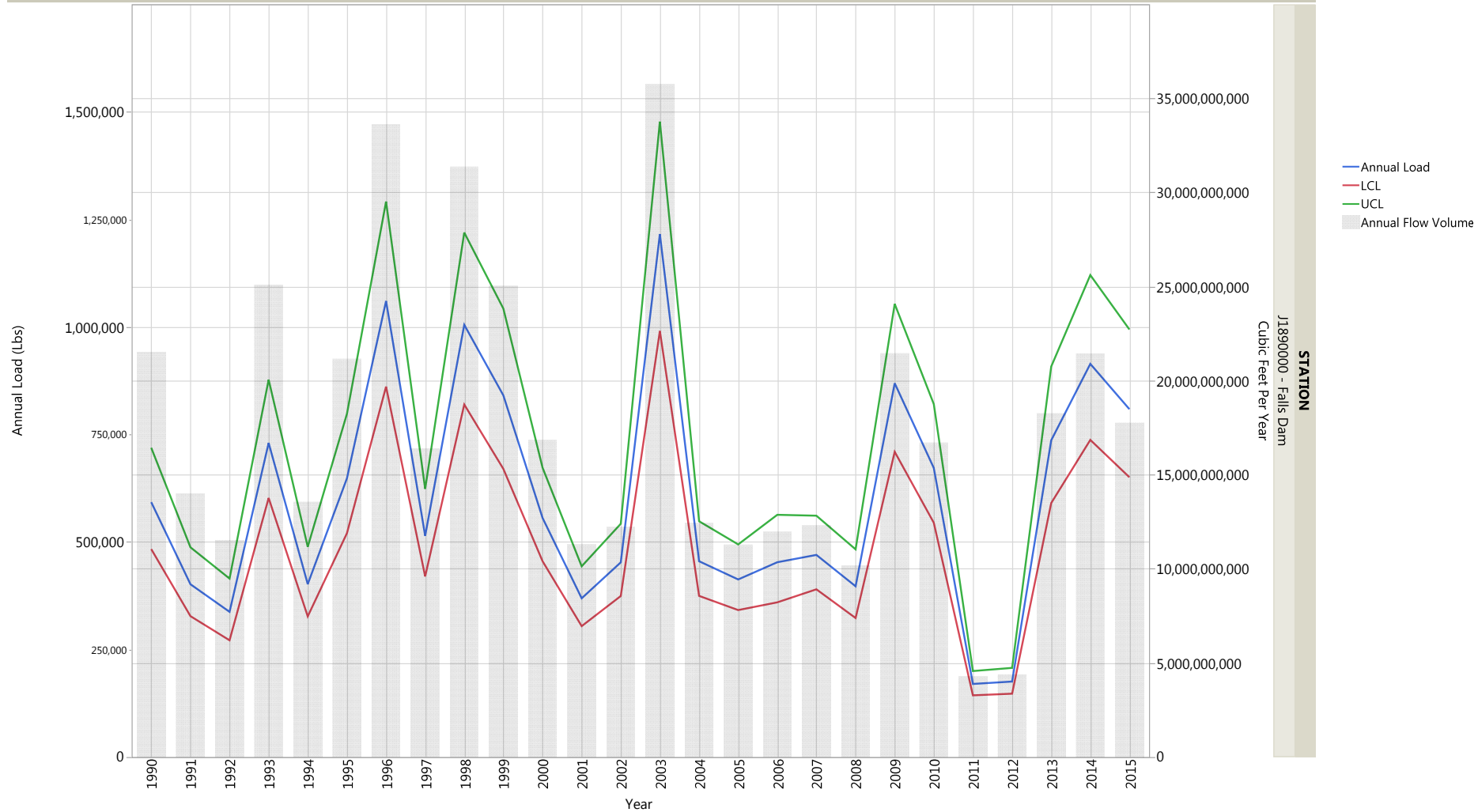


Annual Loading Estimates by Parameter for J1890000 - Falls Dam

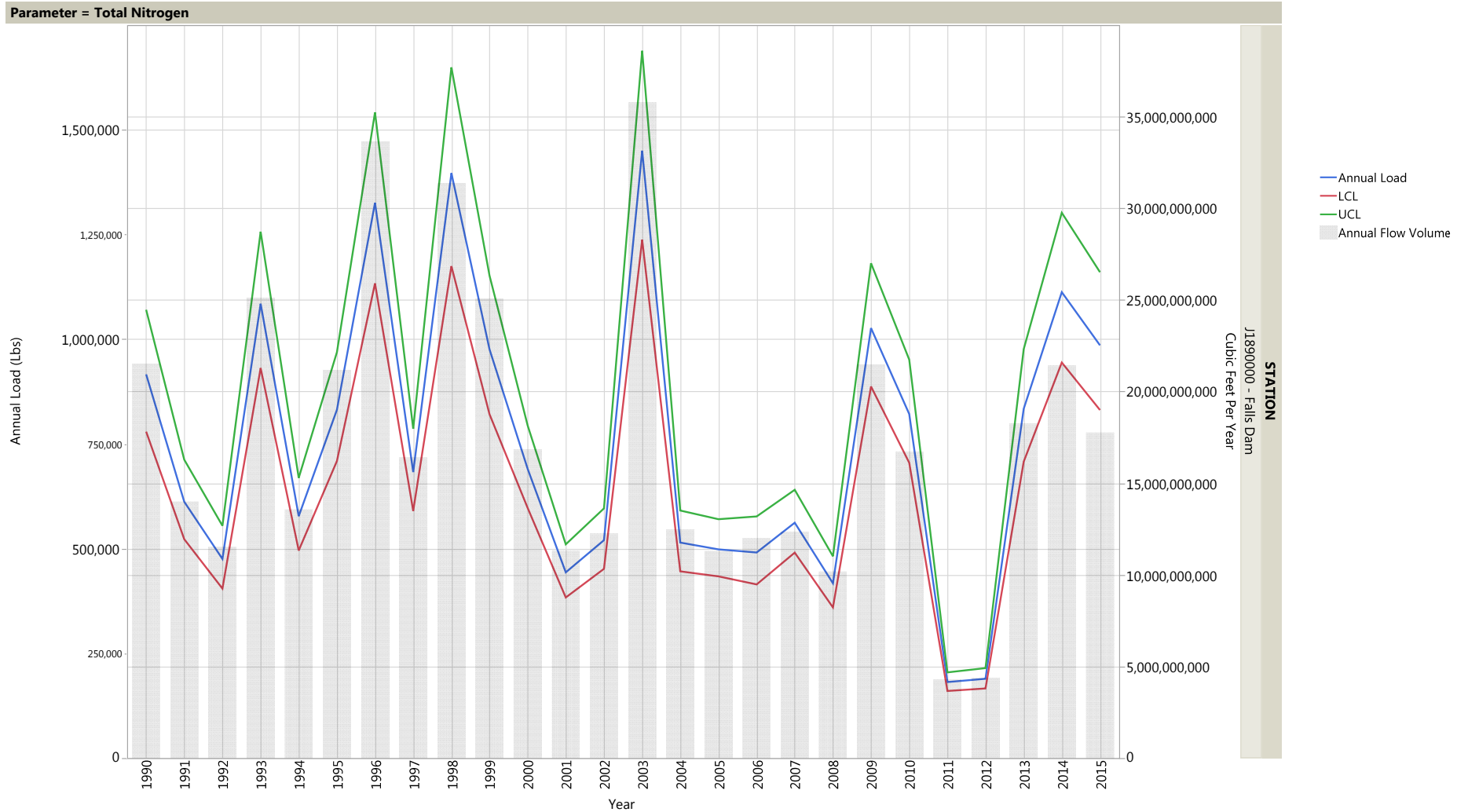


Annual Loading Estimates by Parameter for J1890000 - Falls Dam

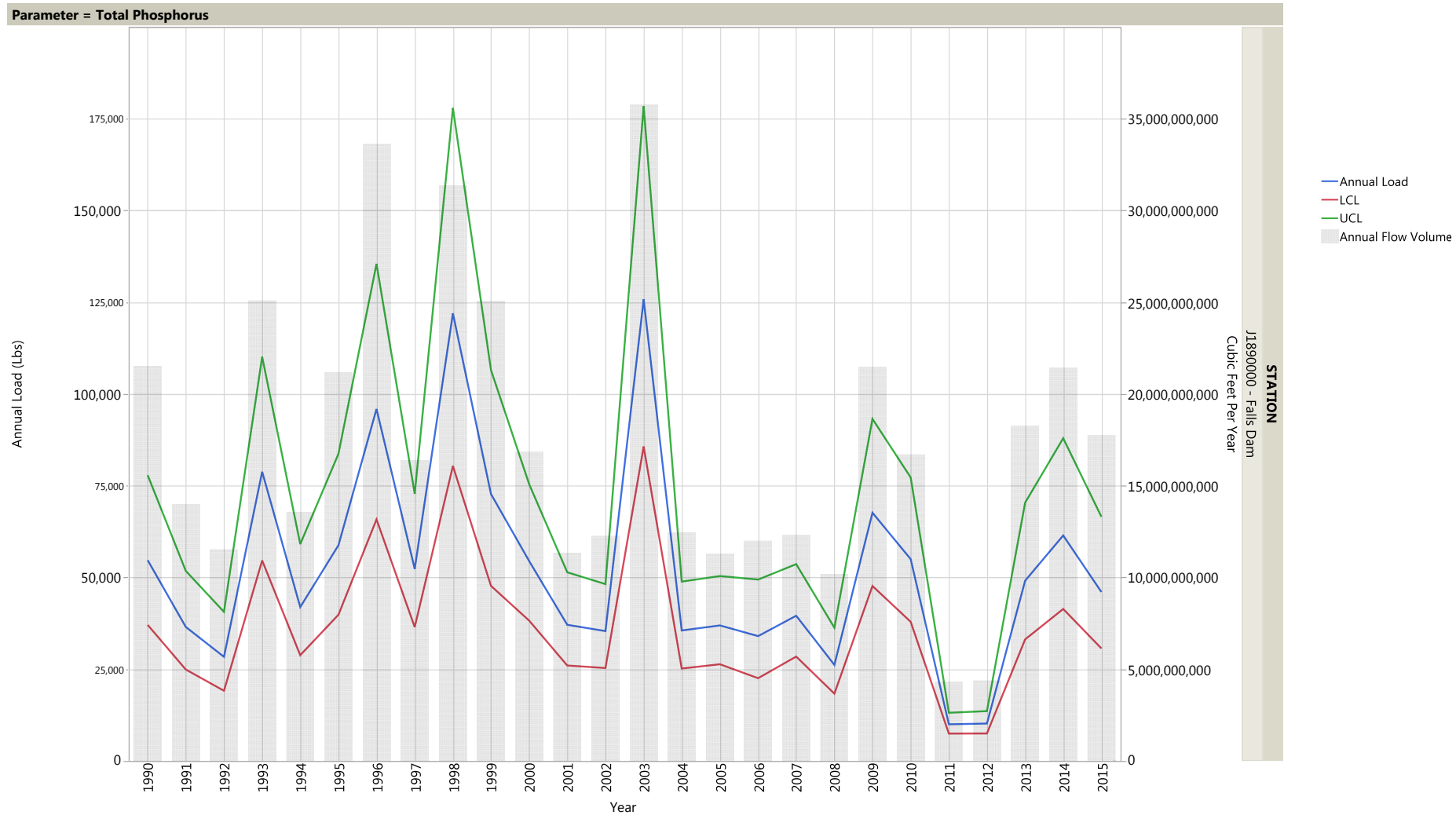
Parameter = TKN



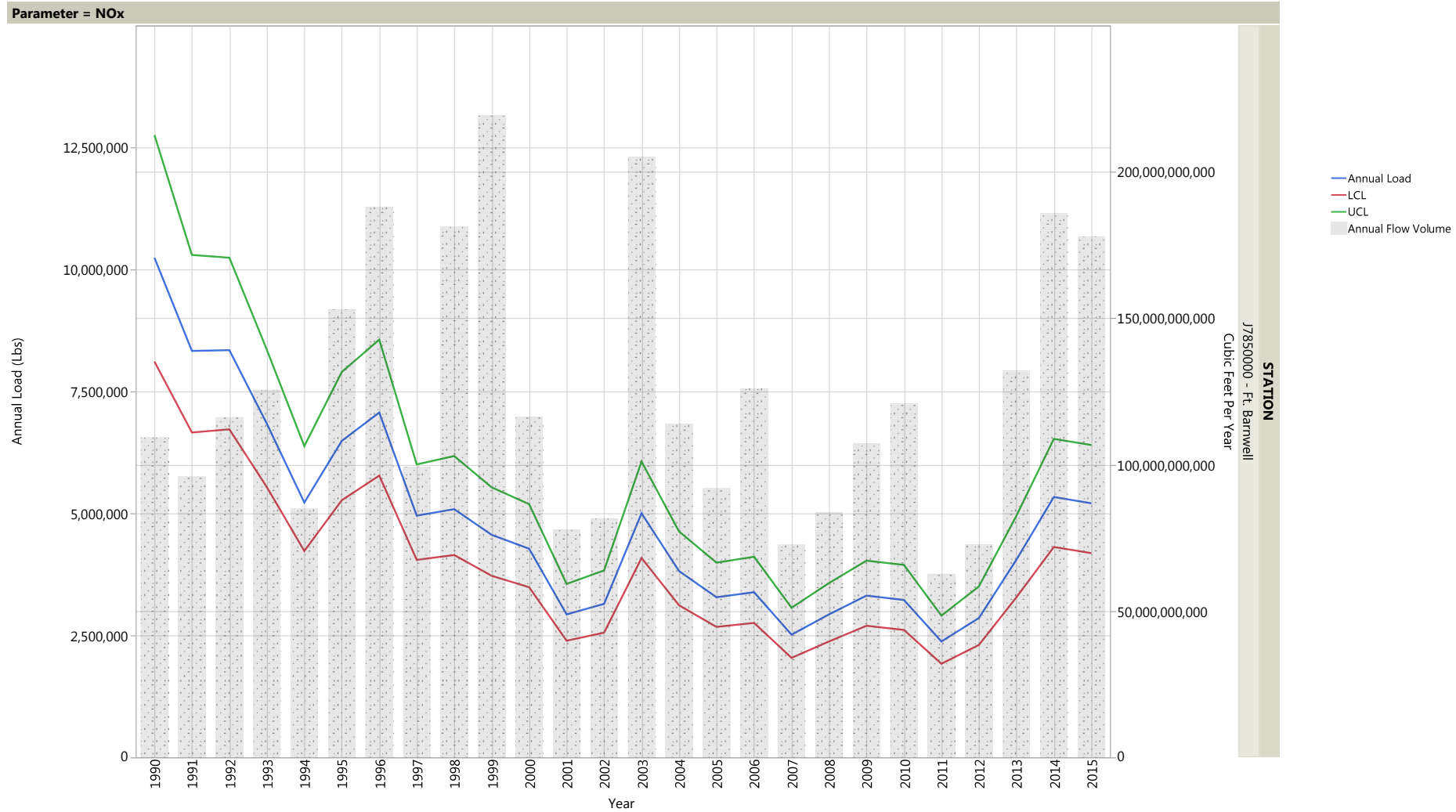
Annual Loading Estimates by Parameter for J1890000 - Falls Dam



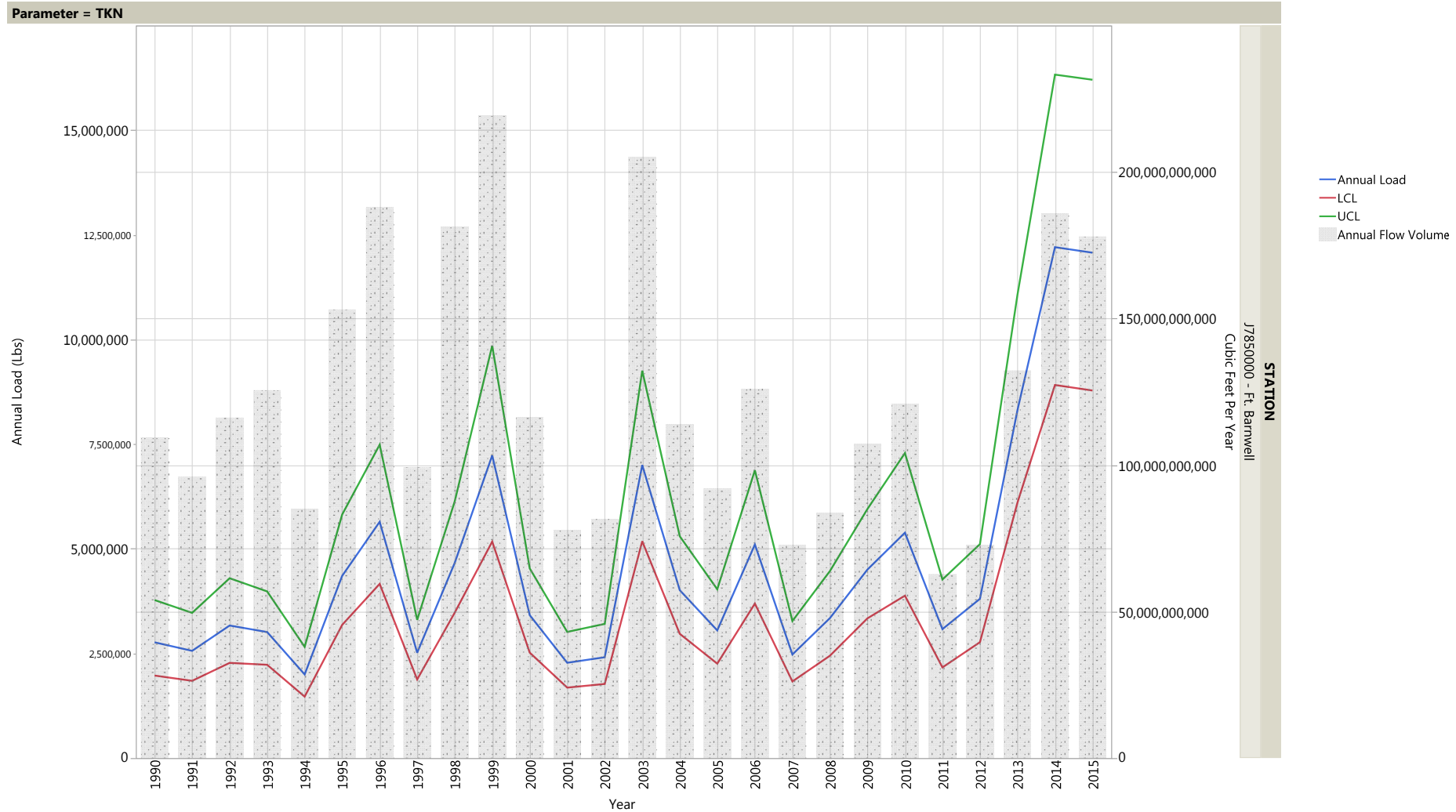
Annual Loading Estimates by Parameter for J1890000 - Falls Dam



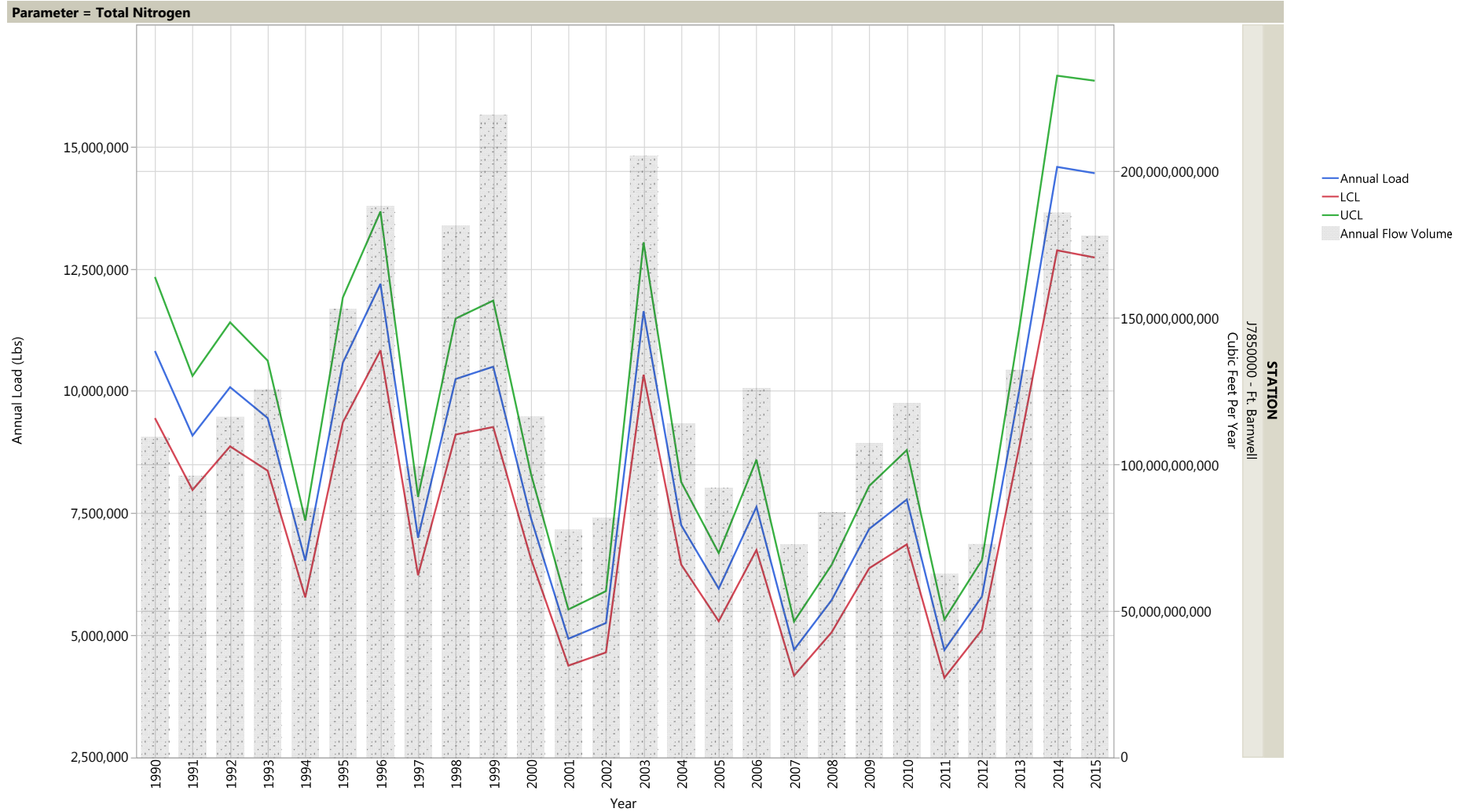
Annual Loading Estimates by Parameter for J7850000 - Ft. Barnwell



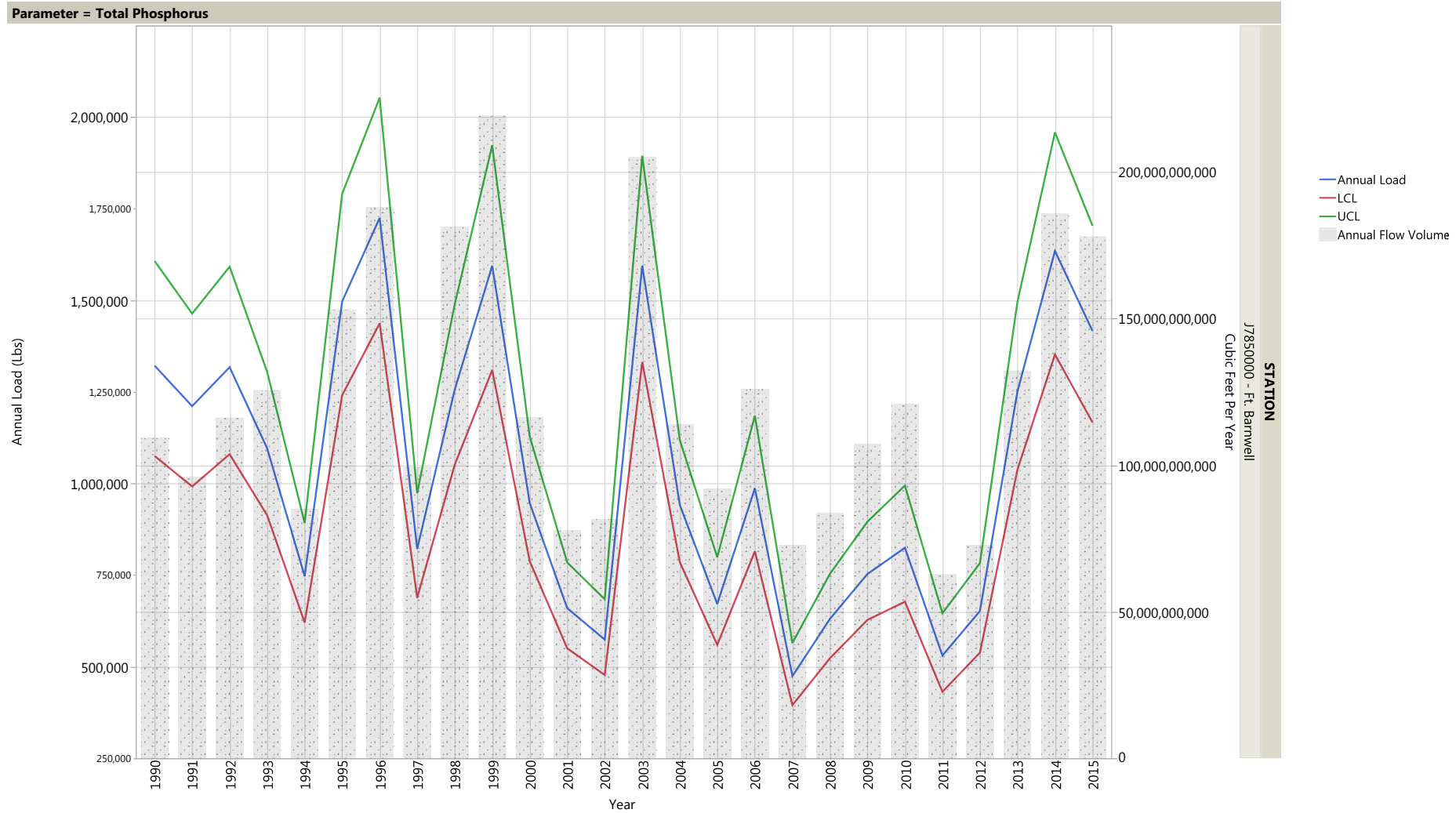
Annual Loading Estimates by Parameter for J7850000 - Ft. Barnwell



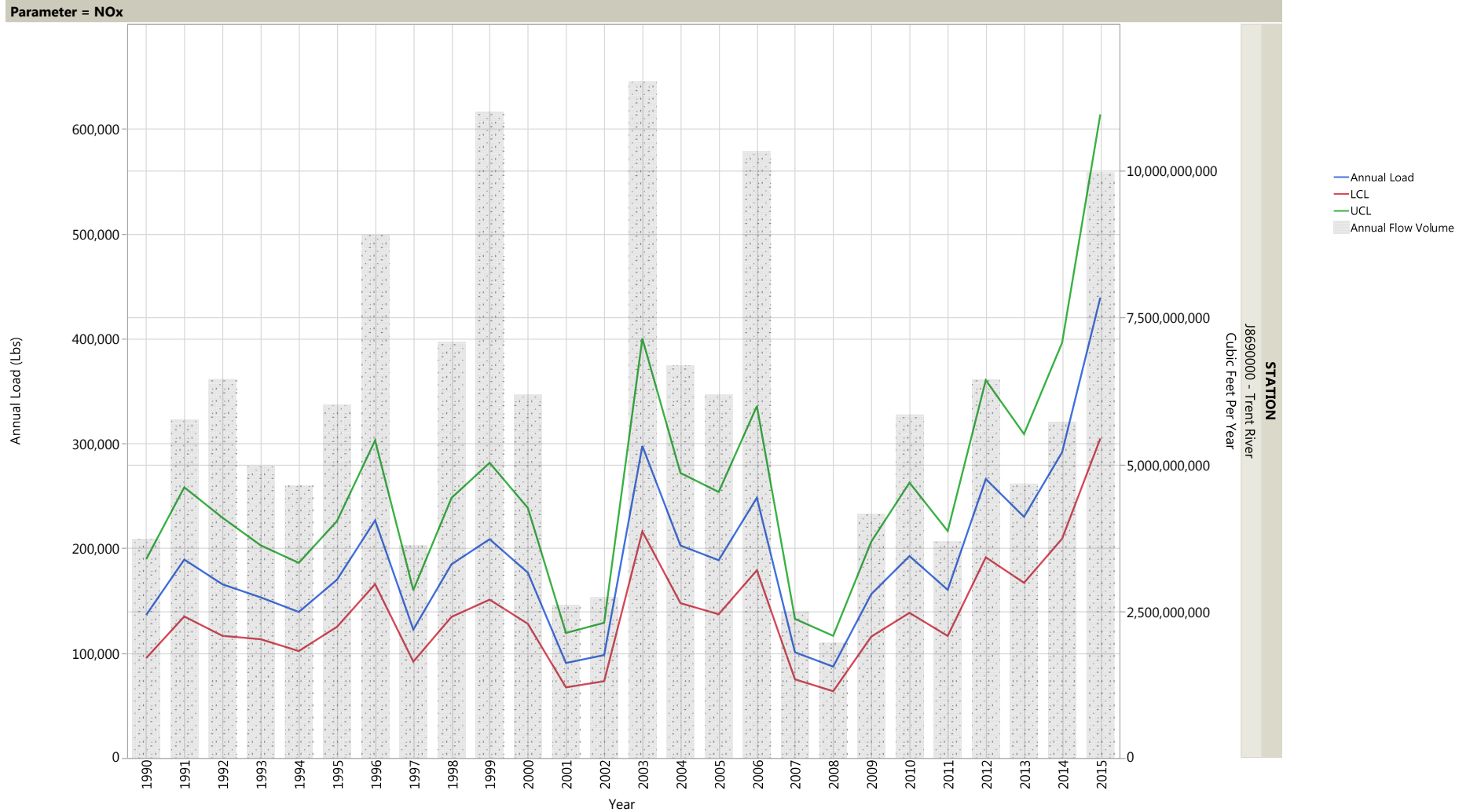
Annual Loading Estimates by Parameter for J7850000 - Ft. Barnwell



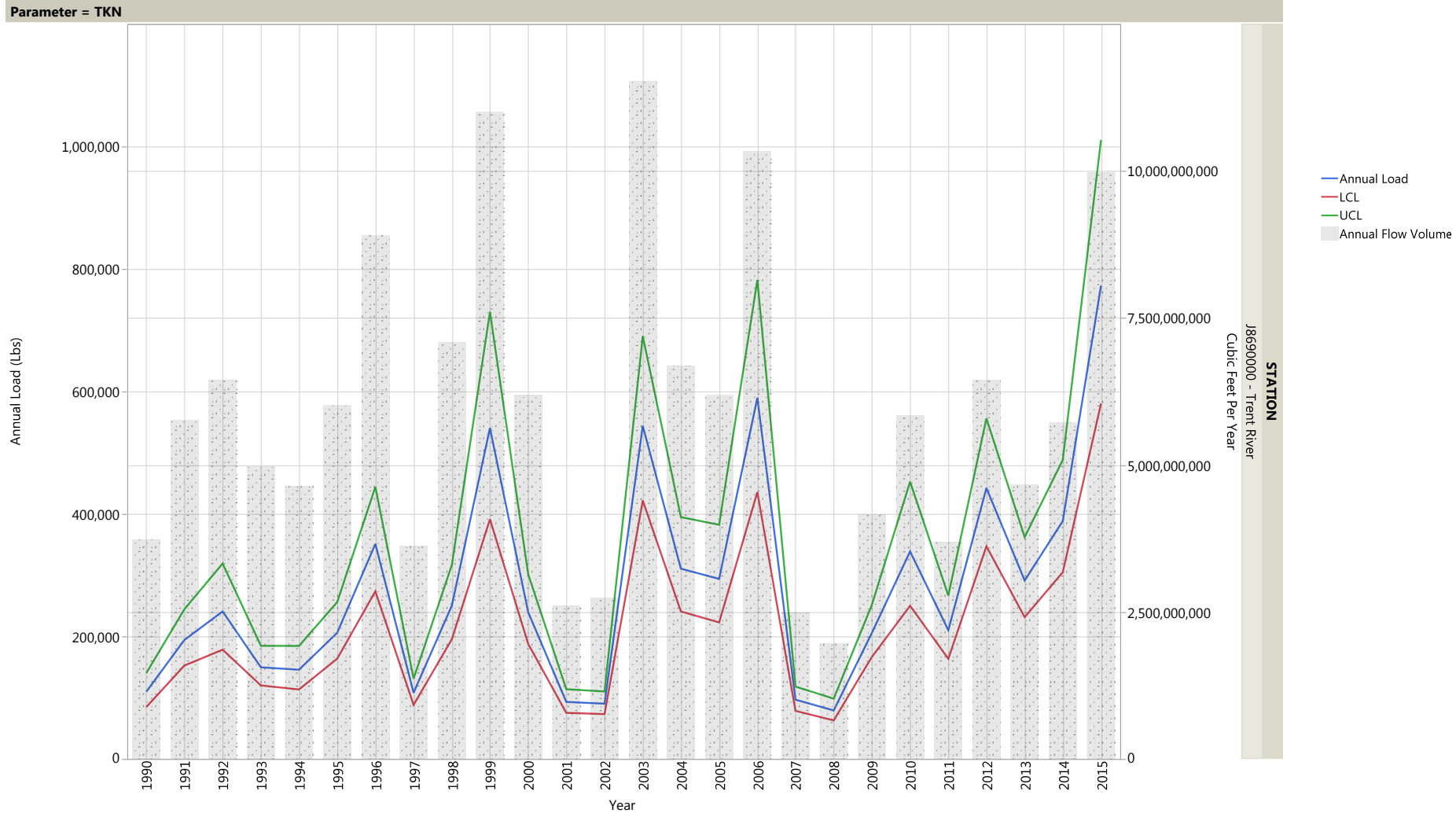
Annual Loading Estimates by Parameter for J7850000 - Ft. Barnwell



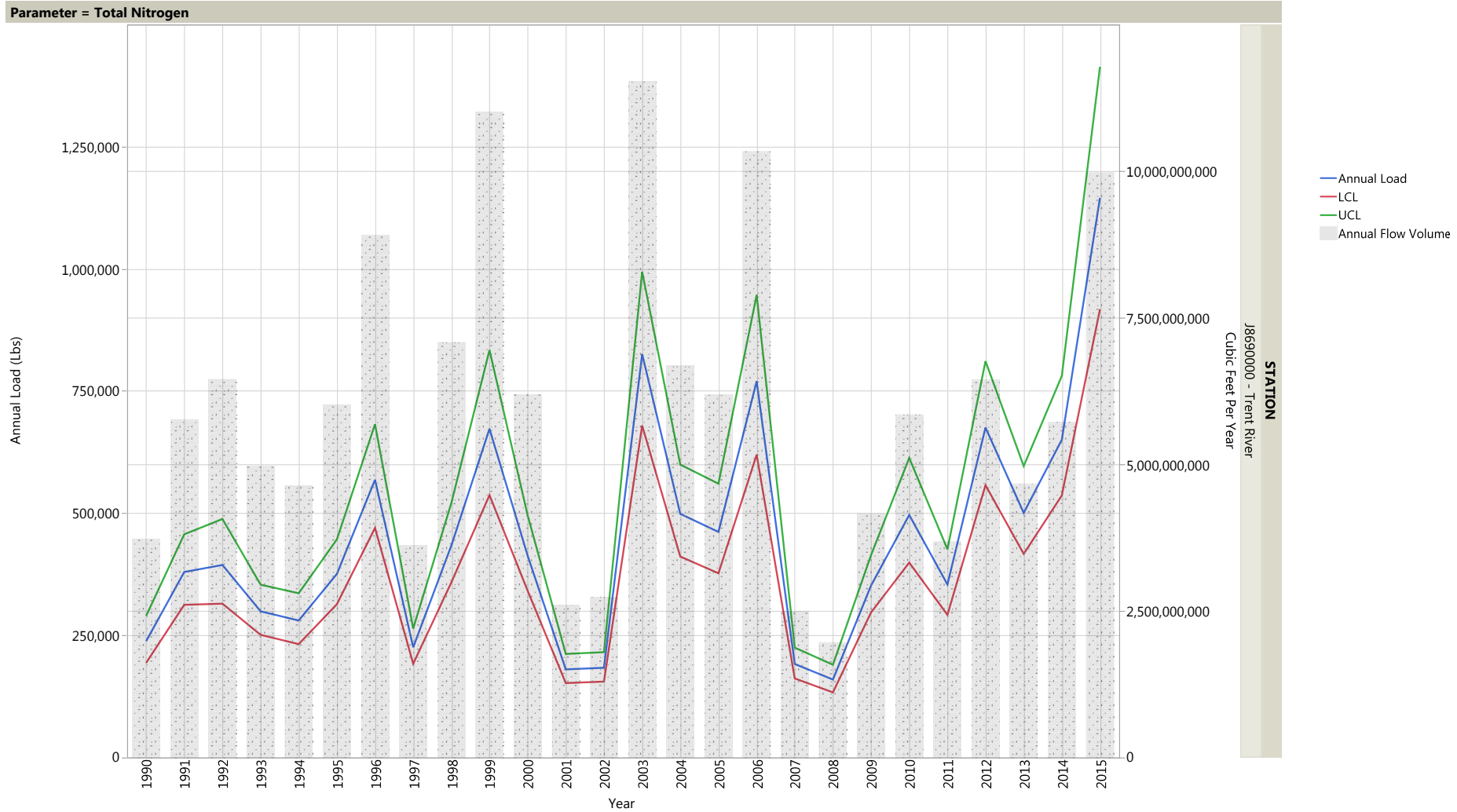
Annual Loading Estimates by Parameter for J8690000 – Trent River



Annual Loading Estimates by Parameter for J8690000 – Trent River

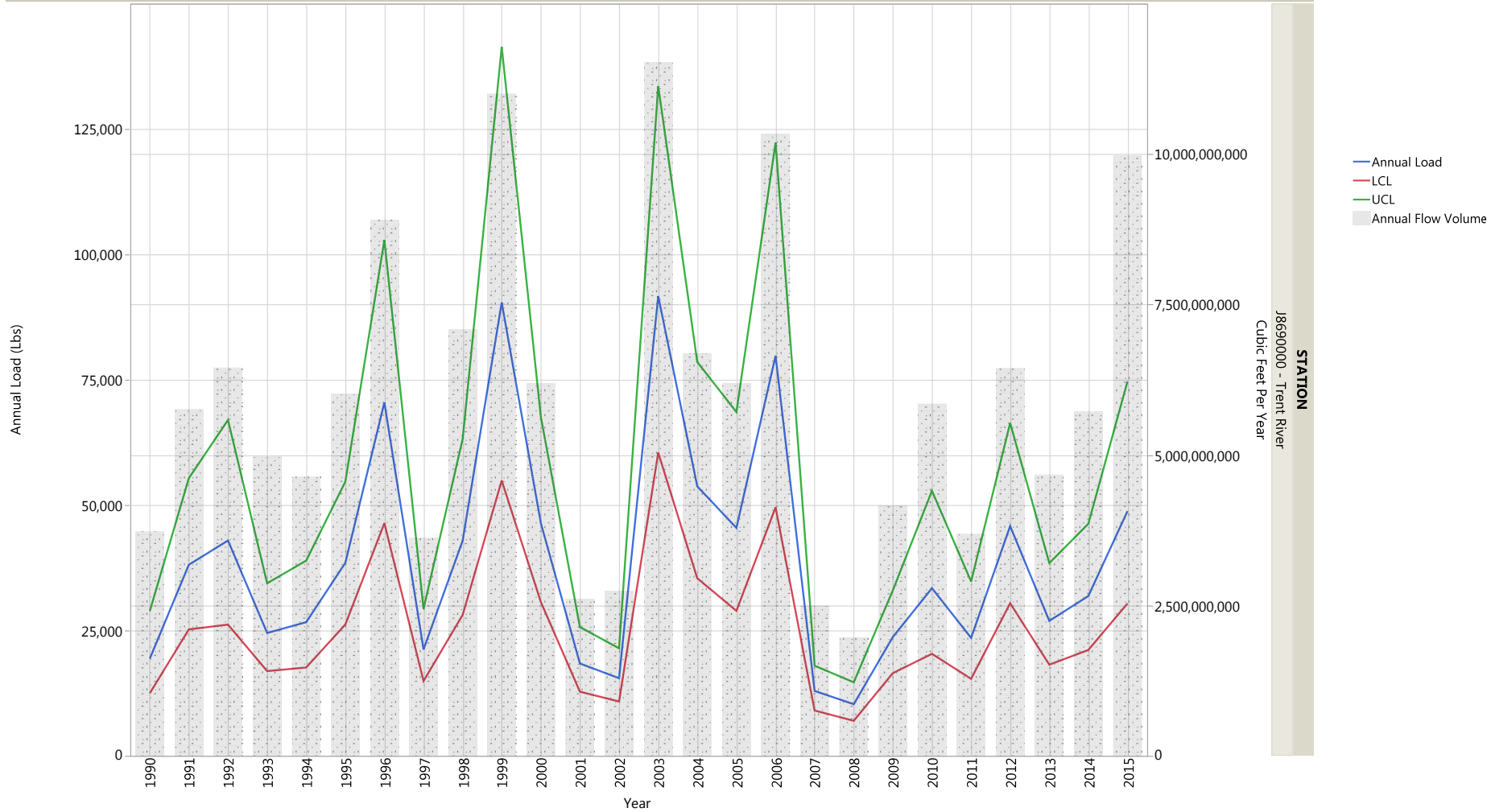


Annual Loading Estimates by Parameter for J8690000 – Trent River



Annual Loading Estimates by Parameter for J8690000 – Trent River

Parameter = Total Phosphorus



STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J1890000 - Falls Dam	NOx	1990	322,702	224,785	448,983	21,521,462,400
J1890000 - Falls Dam	NOx	1991	229,280	158,304	321,887	13,990,406,400
J1890000 - Falls Dam	NOx	1992	141,416	94,201	204,485	11,521,353,600
J1890000 - Falls Dam	NOx	1993	370,728	262,904	508,411	25,092,720,000
J1890000 - Falls Dam	NOx	1994	196,455	134,554	277,418	13,557,369,600
J1890000 - Falls Dam	NOx	1995	191,373	130,287	271,484	21,164,284,800
J1890000 - Falls Dam	NOx	1996	288,132	202,965	397,399	33,627,484,800
J1890000 - Falls Dam	NOx	1997	192,544	135,294	265,998	16,400,448,000
J1890000 - Falls Dam	NOx	1998	429,553	297,455	600,968	31,372,617,600
J1890000 - Falls Dam	NOx	1999	155,157	103,004	224,859	25,060,924,800
J1890000 - Falls Dam	NOx	2000	165,184	117,411	226,168	16,855,776,000
J1890000 - Falls Dam	NOx	2001	74,884	53,000	102,893	11,322,115,200
J1890000 - Falls Dam	NOx	2002	75,247	53,424	103,088	12,248,928,000
J1890000 - Falls Dam	NOx	2003	237,254	167,562	326,451	35,764,675,200
J1890000 - Falls Dam	NOx	2004	84,513	60,164	115,587	12,450,844,800
J1890000 - Falls Dam	NOx	2005	100,851	71,135	138,996	11,285,308,800
J1890000 - Falls Dam	NOx	2006	44,762	30,218	64,035	11,993,702,400
J1890000 - Falls Dam	NOx	2007	100,223	72,140	135,695	12,329,107,200
J1890000 - Falls Dam	NOx	2008	33,995	23,649	47,393	10,174,723,200
J1890000 - Falls Dam	NOx	2009	136,933	94,929	191,414	21,457,699,200
J1890000 - Falls Dam	NOx	2010	136,639	94,950	190,530	16,702,329,600
J1890000 - Falls Dam	NOx	2011	13,959	10,264	18,554	4,298,832,000
J1890000 - Falls Dam	NOx	2012	13,755	10,018	18,438	4,381,776,000
J1890000 - Falls Dam	NOx	2013	76,789	51,797	110,036	18,258,825,600
J1890000 - Falls Dam	NOx	2014	121,355	82,189	172,899	21,417,436,800
J1890000 - Falls Dam	NOx	2015	102,552	69,883	145,394	17,755,718,400

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J1890000 - Falls Dam	TKN	1990	592,486	483,480	718,915	21,521,462,400
J1890000 - Falls Dam	TKN	1991	401,677	327,545	487,709	13,990,406,400
J1890000 - Falls Dam	TKN	1992	337,515	271,437	415,026	11,521,353,600
J1890000 - Falls Dam	TKN	1993	730,145	602,306	877,189	25,092,720,000
J1890000 - Falls Dam	TKN	1994	401,909	327,056	488,875	13,557,369,600
J1890000 - Falls Dam	TKN	1995	648,216	520,423	798,107	21,164,284,800
J1890000 - Falls Dam	TKN	1996	1,060,114	861,147	1,291,433	33,627,484,800
J1890000 - Falls Dam	TKN	1997	514,283	420,021	623,382	16,400,448,000
J1890000 - Falls Dam	TKN	1998	1,004,855	819,742	1,219,373	31,372,617,600
J1890000 - Falls Dam	TKN	1999	840,688	669,771	1,042,433	25,060,924,800
J1890000 - Falls Dam	TKN	2000	555,907	455,080	672,702	16,855,776,000
J1890000 - Falls Dam	TKN	2001	369,088	304,458	443,523	11,322,115,200
J1890000 - Falls Dam	TKN	2002	452,484	374,203	542,311	12,248,928,000
J1890000 - Falls Dam	TKN	2003	1,215,818	990,559	1,477,219	35,764,675,200
J1890000 - Falls Dam	TKN	2004	455,152	374,702	548,053	12,450,844,800
J1890000 - Falls Dam	TKN	2005	412,760	341,710	494,268	11,285,308,800
J1890000 - Falls Dam	TKN	2006	452,769	359,579	563,100	11,993,702,400
J1890000 - Falls Dam	TKN	2007	469,777	390,041	561,040	12,329,107,200
J1890000 - Falls Dam	TKN	2008	396,889	323,008	482,767	10,174,723,200
J1890000 - Falls Dam	TKN	2009	868,920	709,516	1,053,580	21,457,699,200
J1890000 - Falls Dam	TKN	2010	672,052	544,603	820,648	16,702,329,600
J1890000 - Falls Dam	TKN	2011	169,829	143,322	199,806	4,298,832,000
J1890000 - Falls Dam	TKN	2012	175,380	147,209	207,358	4,381,776,000
J1890000 - Falls Dam	TKN	2013	736,469	590,522	907,934	18,258,825,600
J1890000 - Falls Dam	TKN	2014	914,104	737,207	1,120,517	21,417,436,800
J1890000 - Falls Dam	TKN	2015	808,737	650,502	994,161	17,755,718,400

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J1890000 - Falls Dam	Total Nitrogen	1990	916,244	779,387	1,070,384	21,521,462,400
J1890000 - Falls Dam	Total Nitrogen	1991	612,020	522,625	712,420	13,990,406,400
J1890000 - Falls Dam	Total Nitrogen	1992	475,388	404,816	554,825	11,521,353,600
J1890000 - Falls Dam	Total Nitrogen	1993	1,084,832	931,254	1,256,546	25,092,720,000
J1890000 - Falls Dam	Total Nitrogen	1994	577,404	495,484	669,025	13,557,369,600
J1890000 - Falls Dam	Total Nitrogen	1995	831,579	709,274	968,831	21,164,284,800
J1890000 - Falls Dam	Total Nitrogen	1996	1,325,576	1,133,228	1,541,629	33,627,484,800
J1890000 - Falls Dam	Total Nitrogen	1997	682,843	590,104	786,245	16,400,448,000
J1890000 - Falls Dam	Total Nitrogen	1998	1,396,449	1,174,250	1,648,901	31,372,617,600
J1890000 - Falls Dam	Total Nitrogen	1999	976,236	821,174	1,152,313	25,060,924,800
J1890000 - Falls Dam	Total Nitrogen	2000	690,159	597,028	793,784	16,855,776,000
J1890000 - Falls Dam	Total Nitrogen	2001	443,445	383,408	510,205	11,322,115,200
J1890000 - Falls Dam	Total Nitrogen	2002	520,291	451,835	596,169	12,248,928,000
J1890000 - Falls Dam	Total Nitrogen	2003	1,449,878	1,237,504	1,688,401	35,764,675,200
J1890000 - Falls Dam	Total Nitrogen	2004	514,493	445,777	590,869	12,450,844,800
J1890000 - Falls Dam	Total Nitrogen	2005	498,443	433,773	570,181	11,285,308,800
J1890000 - Falls Dam	Total Nitrogen	2006	490,741	414,688	576,931	11,993,702,400
J1890000 - Falls Dam	Total Nitrogen	2007	561,921	490,650	640,615	12,329,107,200
J1890000 - Falls Dam	Total Nitrogen	2008	417,415	359,713	481,724	10,174,723,200
J1890000 - Falls Dam	Total Nitrogen	2009	1,026,472	887,115	1,181,333	21,457,699,200
J1890000 - Falls Dam	Total Nitrogen	2010	821,209	704,897	951,292	16,702,329,600
J1890000 - Falls Dam	Total Nitrogen	2011	181,469	160,339	204,598	4,298,832,000
J1890000 - Falls Dam	Total Nitrogen	2012	189,444	166,249	214,955	4,381,776,000
J1890000 - Falls Dam	Total Nitrogen	2013	833,836	707,710	976,305	18,258,825,600
J1890000 - Falls Dam	Total Nitrogen	2014	1,112,296	944,254	1,301,788	21,417,436,800
J1890000 - Falls Dam	Total Nitrogen	2015	985,428	831,087	1,160,100	17,755,718,400

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J1890000 - Falls Dam	Total Phosphorus	1990	54,706	37,084	77,898	21,521,462,400
J1890000 - Falls Dam	Total Phosphorus	1991	36,542	24,938	51,803	13,990,406,400
J1890000 - Falls Dam	Total Phosphorus	1992	28,372	19,135	40,645	11,521,353,600
J1890000 - Falls Dam	Total Phosphorus	1993	78,795	54,647	110,125	25,092,720,000
J1890000 - Falls Dam	Total Phosphorus	1994	41,945	28,842	59,080	13,557,369,600
J1890000 - Falls Dam	Total Phosphorus	1995	58,779	39,861	83,704	21,164,284,800
J1890000 - Falls Dam	Total Phosphorus	1996	95,945	65,828	135,477	33,627,484,800
J1890000 - Falls Dam	Total Phosphorus	1997	52,336	36,489	72,832	16,400,448,000
J1890000 - Falls Dam	Total Phosphorus	1998	121,967	80,379	177,954	31,372,617,600
J1890000 - Falls Dam	Total Phosphorus	1999	72,764	47,713	106,526	25,060,924,800
J1890000 - Falls Dam	Total Phosphorus	2000	54,470	38,226	75,407	16,855,776,000
J1890000 - Falls Dam	Total Phosphorus	2001	37,101	26,008	51,416	11,322,115,200
J1890000 - Falls Dam	Total Phosphorus	2002	35,405	25,342	48,186	12,248,928,000
J1890000 - Falls Dam	Total Phosphorus	2003	125,778	85,684	178,403	35,764,675,200
J1890000 - Falls Dam	Total Phosphorus	2004	35,577	25,195	48,876	12,450,844,800
J1890000 - Falls Dam	Total Phosphorus	2005	36,939	26,374	50,395	11,285,308,800
J1890000 - Falls Dam	Total Phosphorus	2006	34,040	22,566	49,419	11,993,702,400
J1890000 - Falls Dam	Total Phosphorus	2007	39,577	28,466	53,641	12,329,107,200
J1890000 - Falls Dam	Total Phosphorus	2008	26,194	18,354	36,318	10,174,723,200
J1890000 - Falls Dam	Total Phosphorus	2009	67,644	47,691	93,240	21,457,699,200
J1890000 - Falls Dam	Total Phosphorus	2010	55,000	37,919	77,275	16,702,329,600
J1890000 - Falls Dam	Total Phosphorus	2011	10,009	7,471	13,137	4,298,832,000
J1890000 - Falls Dam	Total Phosphorus	2012	10,196	7,481	13,577	4,381,776,000
J1890000 - Falls Dam	Total Phosphorus	2013	49,144	33,140	70,372	18,258,825,600
J1890000 - Falls Dam	Total Phosphorus	2014	61,467	41,423	87,935	21,417,436,800
J1890000 - Falls Dam	Total Phosphorus	2015	46,053	30,672	66,547	17,755,718,400

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J7850000 - Ft. Barnwell	NOx	1990	10,238,989	8,112,076	12,752,849	109,293,408,000
J7850000 - Ft. Barnwell	NOx	1991	8,330,033	6,657,013	10,295,423	96,065,136,000
J7850000 - Ft. Barnwell	NOx	1992	8,343,744	6,721,439	10,239,298	116,199,792,000
J7850000 - Ft. Barnwell	NOx	1993	6,838,401	5,538,656	8,351,394	125,507,750,400
J7850000 - Ft. Barnwell	NOx	1994	5,221,530	4,229,138	6,376,914	85,093,632,000
J7850000 - Ft. Barnwell	NOx	1995	6,485,558	5,269,549	7,897,837	153,064,512,000
J7850000 - Ft. Barnwell	NOx	1996	7,065,739	5,773,382	8,560,639	188,006,227,200
J7850000 - Ft. Barnwell	NOx	1997	4,953,384	4,046,481	6,002,777	99,294,768,000
J7850000 - Ft. Barnwell	NOx	1998	5,085,576	4,146,253	6,174,391	181,320,076,800
J7850000 - Ft. Barnwell	NOx	1999	4,559,721	3,719,311	5,533,197	219,198,268,800
J7850000 - Ft. Barnwell	NOx	2000	4,275,534	3,485,875	5,190,246	116,339,760,000
J7850000 - Ft. Barnwell	NOx	2001	2,928,756	2,389,316	3,553,292	77,718,096,000
J7850000 - Ft. Barnwell	NOx	2002	3,144,440	2,553,918	3,830,793	81,622,684,800
J7850000 - Ft. Barnwell	NOx	2003	5,001,242	4,084,921	6,061,360	205,202,592,000
J7850000 - Ft. Barnwell	NOx	2004	3,818,367	3,117,081	4,630,055	113,779,987,200
J7850000 - Ft. Barnwell	NOx	2005	3,281,846	2,671,977	3,989,072	91,959,840,000
J7850000 - Ft. Barnwell	NOx	2006	3,383,558	2,755,956	4,111,374	126,007,660,800
J7850000 - Ft. Barnwell	NOx	2007	2,512,548	2,038,705	3,064,593	72,707,500,800
J7850000 - Ft. Barnwell	NOx	2008	2,928,726	2,375,750	3,571,849	83,691,446,400
J7850000 - Ft. Barnwell	NOx	2009	3,314,559	2,696,480	4,031,819	107,188,185,600
J7850000 - Ft. Barnwell	NOx	2010	3,225,994	2,610,017	3,944,051	120,751,344,000
J7850000 - Ft. Barnwell	NOx	2011	2,373,970	1,918,672	2,905,239	62,639,654,400
J7850000 - Ft. Barnwell	NOx	2012	2,856,268	2,304,066	3,501,426	72,758,044,800
J7850000 - Ft. Barnwell	NOx	2013	4,050,021	3,278,329	4,948,874	132,236,409,600
J7850000 - Ft. Barnwell	NOx	2014	5,334,920	4,312,089	6,527,468	185,793,436,800
J7850000 - Ft. Barnwell	NOx	2015	5,206,133	4,185,165	6,400,797	177,958,857,600

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J7850000 - Ft. Barnwell	TKN	1990	2,764,649	1,971,711	3,772,987	109,293,408,000
J7850000 - Ft. Barnwell	TKN	1991	2,562,192	1,845,344	3,467,541	96,065,136,000
J7850000 - Ft. Barnwell	TKN	1992	3,165,151	2,273,805	4,294,820	116,199,792,000
J7850000 - Ft. Barnwell	TKN	1993	3,011,677	2,230,059	3,979,732	125,507,750,400
J7850000 - Ft. Barnwell	TKN	1994	1,998,672	1,469,163	2,658,468	85,093,632,000
J7850000 - Ft. Barnwell	TKN	1995	4,351,552	3,179,805	5,817,214	153,064,512,000
J7850000 - Ft. Barnwell	TKN	1996	5,642,862	4,160,636	7,486,164	188,006,227,200
J7850000 - Ft. Barnwell	TKN	1997	2,515,046	1,877,360	3,300,618	99,294,768,000
J7850000 - Ft. Barnwell	TKN	1998	4,661,169	3,471,783	6,128,535	181,320,076,800
J7850000 - Ft. Barnwell	TKN	1999	7,228,318	5,169,384	9,848,838	219,198,268,800
J7850000 - Ft. Barnwell	TKN	2000	3,416,129	2,518,776	4,532,919	116,339,760,000
J7850000 - Ft. Barnwell	TKN	2001	2,275,947	1,682,126	3,012,621	77,718,096,000
J7850000 - Ft. Barnwell	TKN	2002	2,408,005	1,768,858	3,204,677	81,622,684,800
J7850000 - Ft. Barnwell	TKN	2003	6,998,648	5,179,393	9,253,070	205,202,592,000
J7850000 - Ft. Barnwell	TKN	2004	4,009,933	2,969,998	5,297,832	113,779,987,200
J7850000 - Ft. Barnwell	TKN	2005	3,048,937	2,256,528	4,031,496	91,959,840,000
J7850000 - Ft. Barnwell	TKN	2006	5,100,265	3,691,041	6,875,760	126,007,660,800
J7850000 - Ft. Barnwell	TKN	2007	2,473,277	1,829,391	3,273,799	72,707,500,800
J7850000 - Ft. Barnwell	TKN	2008	3,343,112	2,445,109	4,465,665	83,691,446,400
J7850000 - Ft. Barnwell	TKN	2009	4,502,767	3,335,914	5,949,268	107,188,185,600
J7850000 - Ft. Barnwell	TKN	2010	5,382,031	3,879,752	7,285,689	120,751,344,000
J7850000 - Ft. Barnwell	TKN	2011	3,078,000	2,165,325	4,264,458	62,639,654,400
J7850000 - Ft. Barnwell	TKN	2012	3,805,820	2,768,011	5,110,280	72,758,044,800
J7850000 - Ft. Barnwell	TKN	2013	8,310,844	6,100,920	11,064,503	132,236,409,600
J7850000 - Ft. Barnwell	TKN	2014	12,204,278	8,911,385	16,325,471	185,793,436,800
J7850000 - Ft. Barnwell	TKN	2015	12,072,254	8,780,250	16,203,955	177,958,857,600

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J7850000 - Ft. Barnwell	Total Nitrogen	1990	10,818,048	9,446,027	12,332,755	109,293,408,000
J7850000 - Ft. Barnwell	Total Nitrogen	1991	9,086,650	7,975,550	10,308,505	96,065,136,000
J7850000 - Ft. Barnwell	Total Nitrogen	1992	10,076,632	8,867,173	11,404,473	116,199,792,000
J7850000 - Ft. Barnwell	Total Nitrogen	1993	9,444,762	8,368,982	10,619,701	125,507,750,400
J7850000 - Ft. Barnwell	Total Nitrogen	1994	6,529,802	5,779,312	7,350,088	85,093,632,000
J7850000 - Ft. Barnwell	Total Nitrogen	1995	10,577,747	9,356,974	11,912,818	153,064,512,000
J7850000 - Ft. Barnwell	Total Nitrogen	1996	12,189,968	10,830,196	13,672,266	188,006,227,200
J7850000 - Ft. Barnwell	Total Nitrogen	1997	6,999,990	6,232,214	7,835,932	99,294,768,000
J7850000 - Ft. Barnwell	Total Nitrogen	1998	10,243,906	9,108,471	11,480,980	181,320,076,800
J7850000 - Ft. Barnwell	Total Nitrogen	1999	10,496,379	9,262,669	11,848,503	219,198,268,800
J7850000 - Ft. Barnwell	Total Nitrogen	2000	7,407,772	6,576,373	8,315,207	116,339,760,000
J7850000 - Ft. Barnwell	Total Nitrogen	2001	4,930,353	4,380,022	5,530,732	77,718,096,000
J7850000 - Ft. Barnwell	Total Nitrogen	2002	5,250,953	4,651,182	5,906,157	81,622,684,800
J7850000 - Ft. Barnwell	Total Nitrogen	2003	11,627,640	10,331,462	13,040,325	205,202,592,000
J7850000 - Ft. Barnwell	Total Nitrogen	2004	7,257,164	6,449,325	8,137,718	113,779,987,200
J7850000 - Ft. Barnwell	Total Nitrogen	2005	5,955,702	5,289,293	6,682,743	91,959,840,000
J7850000 - Ft. Barnwell	Total Nitrogen	2006	7,626,455	6,744,766	8,590,992	126,007,660,800
J7850000 - Ft. Barnwell	Total Nitrogen	2007	4,704,703	4,174,832	5,283,167	72,707,500,800
J7850000 - Ft. Barnwell	Total Nitrogen	2008	5,720,947	5,062,024	6,441,761	83,691,446,400
J7850000 - Ft. Barnwell	Total Nitrogen	2009	7,178,525	6,372,697	8,057,644	107,188,185,600
J7850000 - Ft. Barnwell	Total Nitrogen	2010	7,780,331	6,860,211	8,789,853	120,751,344,000
J7850000 - Ft. Barnwell	Total Nitrogen	2011	4,698,782	4,130,905	5,323,364	62,639,654,400
J7850000 - Ft. Barnwell	Total Nitrogen	2012	5,793,719	5,112,071	6,540,922	72,758,044,800
J7850000 - Ft. Barnwell	Total Nitrogen	2013	10,046,336	8,882,809	11,319,002	132,236,409,600
J7850000 - Ft. Barnwell	Total Nitrogen	2014	14,583,067	12,877,900	16,450,301	185,793,436,800
J7850000 - Ft. Barnwell	Total Nitrogen	2015	14,455,290	12,731,326	16,346,909	177,958,857,600

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J7850000 - Ft. Barnwell	Total Phosphorus	1990	1,321,435	1,075,157	1,607,262	109,293,408,000
J7850000 - Ft. Barnwell	Total Phosphorus	1991	1,210,938	992,039	1,463,737	96,065,136,000
J7850000 - Ft. Barnwell	Total Phosphorus	1992	1,317,301	1,079,813	1,591,655	116,199,792,000
J7850000 - Ft. Barnwell	Total Phosphorus	1993	1,096,054	913,025	1,304,775	125,507,750,400
J7850000 - Ft. Barnwell	Total Phosphorus	1994	747,174	620,552	892,300	85,093,632,000
J7850000 - Ft. Barnwell	Total Phosphorus	1995	1,496,845	1,240,740	1,790,480	153,064,512,000
J7850000 - Ft. Barnwell	Total Phosphorus	1996	1,724,749	1,437,375	2,052,883	188,006,227,200
J7850000 - Ft. Barnwell	Total Phosphorus	1997	821,459	688,048	973,378	99,294,768,000
J7850000 - Ft. Barnwell	Total Phosphorus	1998	1,255,710	1,050,888	1,488,671	181,320,076,800
J7850000 - Ft. Barnwell	Total Phosphorus	1999	1,594,243	1,309,590	1,922,892	219,198,268,800
J7850000 - Ft. Barnwell	Total Phosphorus	2000	946,692	787,824	1,128,179	116,339,760,000
J7850000 - Ft. Barnwell	Total Phosphorus	2001	659,657	550,136	784,488	77,718,096,000
J7850000 - Ft. Barnwell	Total Phosphorus	2002	573,795	477,253	684,057	81,622,684,800
J7850000 - Ft. Barnwell	Total Phosphorus	2003	1,594,430	1,331,401	1,894,218	205,202,592,000
J7850000 - Ft. Barnwell	Total Phosphorus	2004	941,783	785,944	1,119,400	113,779,987,200
J7850000 - Ft. Barnwell	Total Phosphorus	2005	671,233	559,378	798,740	91,959,840,000
J7850000 - Ft. Barnwell	Total Phosphorus	2006	987,166	814,778	1,185,121	126,007,660,800
J7850000 - Ft. Barnwell	Total Phosphorus	2007	474,268	395,176	564,648	72,707,500,800
J7850000 - Ft. Barnwell	Total Phosphorus	2008	630,370	522,934	753,203	83,691,446,400
J7850000 - Ft. Barnwell	Total Phosphorus	2009	752,867	627,781	895,585	107,188,185,600
J7850000 - Ft. Barnwell	Total Phosphorus	2010	824,365	677,198	994,411	120,751,344,000
J7850000 - Ft. Barnwell	Total Phosphorus	2011	530,422	431,468	645,782	62,639,654,400
J7850000 - Ft. Barnwell	Total Phosphorus	2012	651,947	538,229	782,572	72,758,044,800
J7850000 - Ft. Barnwell	Total Phosphorus	2013	1,251,241	1,037,795	1,495,703	132,236,409,600
J7850000 - Ft. Barnwell	Total Phosphorus	2014	1,634,592	1,352,208	1,958,406	185,793,436,800
J7850000 - Ft. Barnwell	Total Phosphorus	2015	1,416,373	1,166,759	1,703,640	177,958,857,600

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J8690000 - Trent River	NOx	1990	136,414	95,296	189,551	3,731,469,120
J8690000 - Trent River	NOx	1991	189,142	134,923	258,078	5,767,459,200
J8690000 - Trent River	NOx	1992	165,569	116,440	229,119	6,449,379,840
J8690000 - Trent River	NOx	1993	153,166	113,222	202,768	4,970,066,688
J8690000 - Trent River	NOx	1994	139,260	101,912	186,075	4,640,181,120
J8690000 - Trent River	NOx	1995	170,018	125,073	225,996	6,012,066,240
J8690000 - Trent River	NOx	1996	226,593	165,740	302,790	8,908,012,800
J8690000 - Trent River	NOx	1997	122,475	91,880	160,096	3,621,983,040
J8690000 - Trent River	NOx	1998	184,740	134,614	247,990	7,079,616,000
J8690000 - Trent River	NOx	1999	208,590	151,007	281,492	11,006,029,440
J8690000 - Trent River	NOx	2000	176,742	127,947	238,435	6,191,017,920
J8690000 - Trent River	NOx	2001	90,526	67,313	119,208	2,604,450,240
J8690000 - Trent River	NOx	2002	98,088	73,152	128,880	2,736,122,112
J8690000 - Trent River	NOx	2003	297,507	216,002	400,008	11,527,228,800
J8690000 - Trent River	NOx	2004	202,608	147,574	271,757	6,686,668,800
J8690000 - Trent River	NOx	2005	188,641	137,130	253,628	6,185,220,480
J8690000 - Trent River	NOx	2006	248,099	179,021	335,448	10,334,304,000
J8690000 - Trent River	NOx	2007	100,805	75,047	132,657	2,491,253,280
J8690000 - Trent River	NOx	2008	87,073	63,644	116,409	1,962,972,576
J8690000 - Trent River	NOx	2009	156,227	115,765	206,336	4,162,000,320
J8690000 - Trent River	NOx	2010	192,588	138,372	262,540	5,848,355,520
J8690000 - Trent River	NOx	2011	160,353	116,291	216,391	3,689,207,424
J8690000 - Trent River	NOx	2012	265,971	191,416	360,306	6,439,633,920
J8690000 - Trent River	NOx	2013	229,984	167,083	308,952	4,669,928,640
J8690000 - Trent River	NOx	2014	291,510	209,119	395,964	5,725,252,800
J8690000 - Trent River	NOx	2015	439,039	304,582	613,781	9,976,495,680

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J8690000 - Trent River	TKN	1990	109,731	84,660	140,004	3,731,469,120
J8690000 - Trent River	TKN	1991	194,386	152,419	244,476	5,767,459,200
J8690000 - Trent River	TKN	1992	240,749	178,281	318,914	6,449,379,840
J8690000 - Trent River	TKN	1993	149,626	119,886	184,693	4,970,066,688
J8690000 - Trent River	TKN	1994	145,590	113,400	184,435	4,640,181,120
J8690000 - Trent River	TKN	1995	206,022	163,689	256,059	6,012,066,240
J8690000 - Trent River	TKN	1996	351,112	273,598	444,143	8,908,012,800
J8690000 - Trent River	TKN	1997	107,969	88,054	131,093	3,621,983,040
J8690000 - Trent River	TKN	1998	250,271	195,390	316,443	7,079,616,000
J8690000 - Trent River	TKN	1999	540,202	391,303	729,840	11,006,029,440
J8690000 - Trent River	TKN	2000	239,569	187,742	301,623	6,191,017,920
J8690000 - Trent River	TKN	2001	93,018	75,186	113,812	2,604,450,240
J8690000 - Trent River	TKN	2002	90,179	73,118	110,060	2,736,122,112
J8690000 - Trent River	TKN	2003	543,707	421,946	690,095	11,527,228,800
J8690000 - Trent River	TKN	2004	310,514	240,752	394,751	6,686,668,800
J8690000 - Trent River	TKN	2005	294,045	222,818	382,238	6,185,220,480
J8690000 - Trent River	TKN	2006	589,629	435,742	782,054	10,334,304,000
J8690000 - Trent River	TKN	2007	96,759	78,464	118,106	2,491,253,280
J8690000 - Trent River	TKN	2008	79,121	62,864	98,368	1,962,972,576
J8690000 - Trent River	TKN	2009	205,651	166,450	251,373	4,162,000,320
J8690000 - Trent River	TKN	2010	338,821	249,920	452,504	5,848,355,520
J8690000 - Trent River	TKN	2011	210,084	163,496	266,831	3,689,207,424
J8690000 - Trent River	TKN	2012	442,223	347,086	555,843	6,439,633,920
J8690000 - Trent River	TKN	2013	291,358	231,413	362,119	4,669,928,640
J8690000 - Trent River	TKN	2014	388,503	304,794	488,360	5,725,252,800
J8690000 - Trent River	TKN	2015	772,787	580,321	1,010,599	9,976,495,680

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J8690000 - Trent River	Total Nitrogen	1990	238,079	193,608	289,803	3,731,469,120
J8690000 - Trent River	Total Nitrogen	1991	379,492	312,501	456,746	5,767,459,200
J8690000 - Trent River	Total Nitrogen	1992	394,088	314,766	488,043	6,449,379,840
J8690000 - Trent River	Total Nitrogen	1993	298,994	251,059	353,534	4,970,066,688
J8690000 - Trent River	Total Nitrogen	1994	280,412	232,003	336,247	4,640,181,120
J8690000 - Trent River	Total Nitrogen	1995	375,693	313,659	446,372	6,012,066,240
J8690000 - Trent River	Total Nitrogen	1996	568,340	469,697	681,853	8,908,012,800
J8690000 - Trent River	Total Nitrogen	1997	225,689	191,790	263,888	3,621,983,040
J8690000 - Trent River	Total Nitrogen	1998	434,077	358,609	521,173	7,079,616,000
J8690000 - Trent River	Total Nitrogen	1999	672,524	537,004	833,547	11,006,029,440
J8690000 - Trent River	Total Nitrogen	2000	412,605	340,941	495,220	6,191,017,920
J8690000 - Trent River	Total Nitrogen	2001	180,364	152,269	212,037	2,604,450,240
J8690000 - Trent River	Total Nitrogen	2002	183,729	155,513	215,607	2,736,122,112
J8690000 - Trent River	Total Nitrogen	2003	825,488	679,268	994,092	11,527,228,800
J8690000 - Trent River	Total Nitrogen	2004	498,502	411,188	599,301	6,686,668,800
J8690000 - Trent River	Total Nitrogen	2005	461,594	377,106	560,246	6,185,220,480
J8690000 - Trent River	Total Nitrogen	2006	769,704	619,613	946,333	10,334,304,000
J8690000 - Trent River	Total Nitrogen	2007	191,400	161,884	224,734	2,491,253,280
J8690000 - Trent River	Total Nitrogen	2008	159,625	133,205	189,800	1,962,972,576
J8690000 - Trent River	Total Nitrogen	2009	351,763	296,853	413,909	4,162,000,320
J8690000 - Trent River	Total Nitrogen	2010	496,354	398,723	613,051	5,848,355,520
J8690000 - Trent River	Total Nitrogen	2011	354,002	291,975	426,050	3,689,207,424
J8690000 - Trent River	Total Nitrogen	2012	675,169	557,317	810,858	6,439,633,920
J8690000 - Trent River	Total Nitrogen	2013	500,367	416,508	596,328	4,669,928,640
J8690000 - Trent River	Total Nitrogen	2014	649,981	536,259	780,727	5,725,252,800
J8690000 - Trent River	Total Nitrogen	2015	1,145,078	917,513	1,413,308	9,976,495,680

STATION	Parameter	Year	LOADEST Annual Load	LOADEST Annual Load (LCL)	LOADEST Annual Load (UCL)	USGS Flow (cubic feet per year)
J8690000 - Trent River	Total Phosphorus	1990	19,390	12,470	28,854	3,731,469,120
J8690000 - Trent River	Total Phosphorus	1991	38,104	25,225	55,366	5,767,459,200
J8690000 - Trent River	Total Phosphorus	1992	42,942	26,155	66,966	6,449,379,840
J8690000 - Trent River	Total Phosphorus	1993	24,500	16,902	34,419	4,970,066,688
J8690000 - Trent River	Total Phosphorus	1994	26,664	17,609	38,937	4,640,181,120
J8690000 - Trent River	Total Phosphorus	1995	38,486	26,185	54,659	6,012,066,240
J8690000 - Trent River	Total Phosphorus	1996	70,445	46,404	102,847	8,908,012,800
J8690000 - Trent River	Total Phosphorus	1997	21,220	14,928	29,324	3,621,983,040
J8690000 - Trent River	Total Phosphorus	1998	42,921	28,115	63,226	7,079,616,000
J8690000 - Trent River	Total Phosphorus	1999	90,411	54,904	141,372	11,006,029,440
J8690000 - Trent River	Total Phosphorus	2000	46,363	30,667	67,554	6,191,017,920
J8690000 - Trent River	Total Phosphorus	2001	18,417	12,799	25,688	2,604,450,240
J8690000 - Trent River	Total Phosphorus	2002	15,474	10,846	21,449	2,736,122,112
J8690000 - Trent River	Total Phosphorus	2003	91,654	60,472	133,574	11,527,228,800
J8690000 - Trent River	Total Phosphorus	2004	53,747	35,396	78,540	6,686,668,800
J8690000 - Trent River	Total Phosphorus	2005	45,453	28,907	68,565	6,185,220,480
J8690000 - Trent River	Total Phosphorus	2006	79,773	49,565	122,289	10,334,304,000
J8690000 - Trent River	Total Phosphorus	2007	12,929	9,032	17,972	2,491,253,280
J8690000 - Trent River	Total Phosphorus	2008	10,298	6,990	14,668	1,962,972,576
J8690000 - Trent River	Total Phosphorus	2009	23,680	16,486	32,981	4,162,000,320
J8690000 - Trent River	Total Phosphorus	2010	33,435	20,335	52,834	5,848,355,520
J8690000 - Trent River	Total Phosphorus	2011	23,509	15,366	34,769	3,689,207,424
J8690000 - Trent River	Total Phosphorus	2012	45,818	30,436	66,378	6,439,633,920
J8690000 - Trent River	Total Phosphorus	2013	26,916	18,182	38,440	4,669,928,640
J8690000 - Trent River	Total Phosphorus	2014	31,863	21,109	46,258	5,725,252,800
J8690000 - Trent River	Total Phosphorus	2015	48,792	30,378	74,665	9,976,495,680