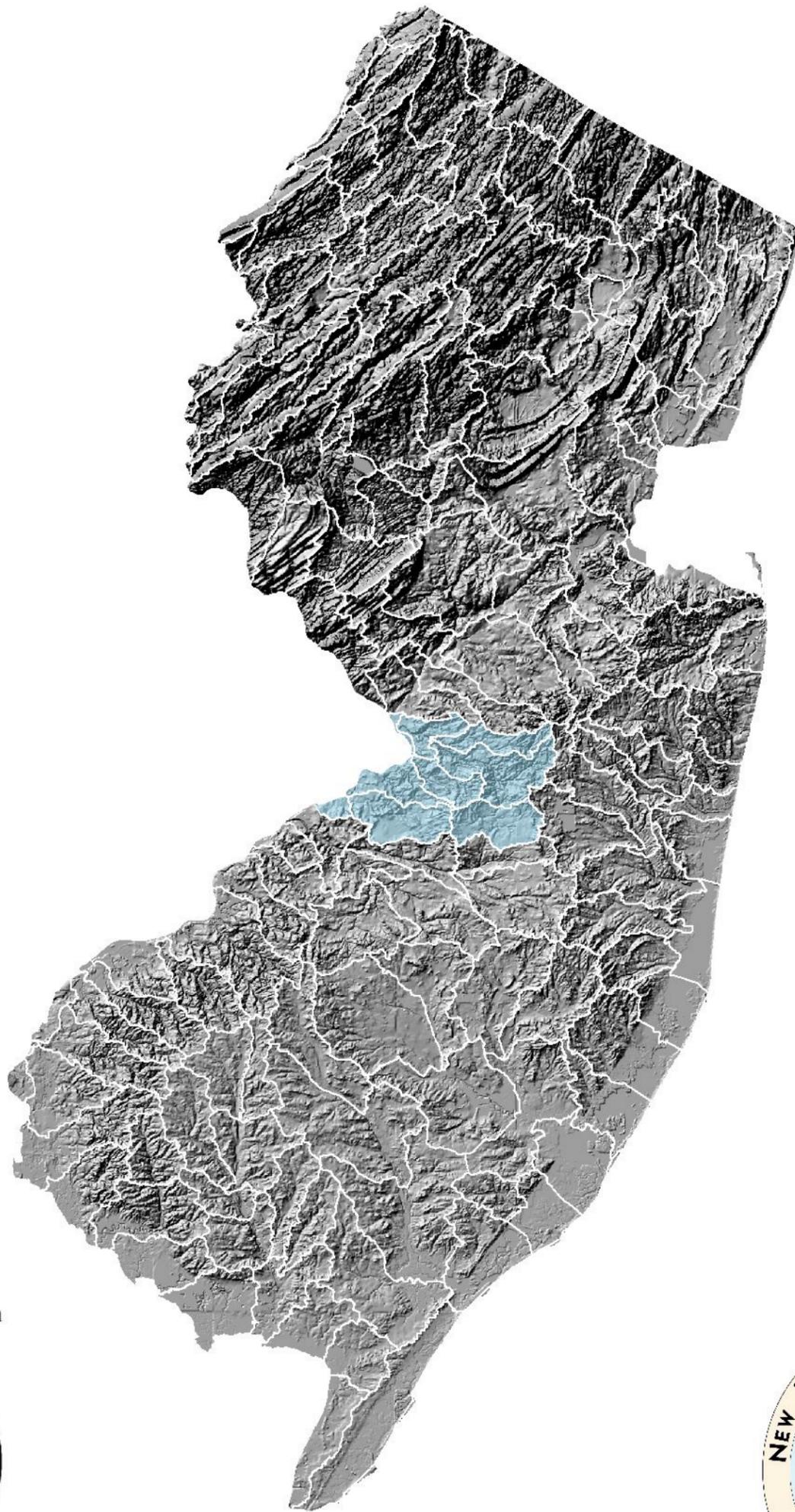


New Jersey Water Withdrawals, Uses, Transfers, and Discharges by HUC11, 1990 to 1999

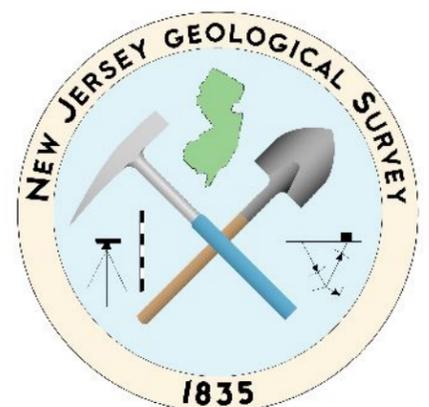
Appendix 20: HUC11 Tables, Figures and Maps WMA 20 - Assiscunk, Crosswicks and Doctors



Let's protect our earth



NEW JERSEY DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Water Withdrawals, Transfers and Discharges for DUCK CREEK AND UDRV TO ASSUNPINK CK --- 02040201030

WMA:	Crosswicks	20
HUC11:	Duck Creek & Upper Delaware River tribs to Assunpink Ck	02040201030

Table 1. Freshwater¹ Withdrawals in the HUC11 (millions of gallons)

Withdrawals (Q)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
surface water:²											
Delaware River	194,600	164,306	179,864	182,407	177,185	168,422	161,790	222,273	220,574	231,335	190,276
other	0	0	0	0	0	0	0	0	0	0	0
sum	194,600	164,306	179,864	182,407	177,185	168,422	161,790	222,273	220,574	231,335	190,276
ground-water:³											
confined	0	0	0	0	0	0	0	0	0	0	0
unconfined	6	0	0	0	0	0	0	0	0	0	1
sum	6	0	0	0	0	0	0	0	0	0	1
total withdrawals:	194,606	164,306	179,864	182,407	177,185	168,422	161,790	222,273	220,574	231,335	190,276

Table 2. Freshwater Imports To & Exports From the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
imports ¹¹	672	739	653	700	700	694	659	612	601	607	664
exports ¹¹	0	0	0	0	0	0	0	0	0	0	0
net	672	739	653	700	700	694	659	612	601	607	664

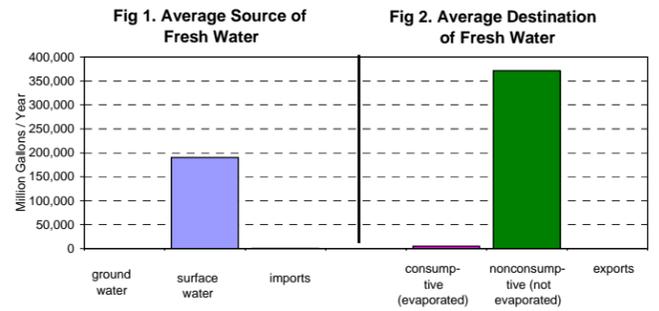


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	190,143	160,693	175,772	178,290	173,206	164,664	158,174	217,040	215,367	225,863	185,921
consumptive	70	80	69	74	72	73	68	66	73	65	71
domestic wells											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
industrial & commercial & mining											
nonconsumptive	6	0	0	0	0	0	0	0	0	0	1
consumptive	1	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrigation											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
power generation											
nonconsumptive	189,540	160,034	175,188	177,664	172,578	164,043	157,583	216,494	214,839	225,320	185,328
consumptive	5,060	4,272	4,676	4,743	4,607	4,379	4,207	5,779	5,735	6,015	4,947
SUM:											
nonconsumptive	379,689	320,727	350,959	355,954	345,784	328,707	315,758	433,534	430,206	451,183	371,250
consumptive	5,130	4,352	4,746	4,817	4,679	4,452	4,274	5,845	5,808	6,080	5,018
PERCENTAGES:											
nonconsumptive	98.7%	98.7%	98.7%	98.7%	98.7%	98.7%	98.7%	98.7%	98.7%	98.7%	98.7%
consumptive	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%

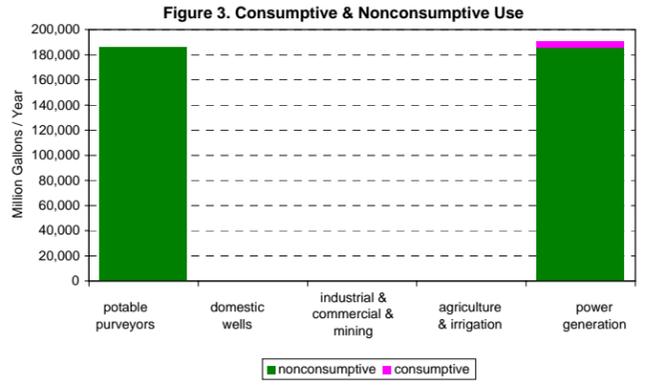


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon-sumptive	Consumptive								
potable purveyors	155	0	147	10	139	48	152	13	593	71
domestic wells	0	0	0	0	0	0	0	0	0	0
industrial & commercial & mining	0	0	0	0	0	0	0	0	1	0
agricultural & non-agricultural irrig.	0	0	0	0	0	0	0	0	0	0
power generation	52,846	1,411	52,496	1,401	41,107	1,097	38,878	1,038	185,328	4,947
SUM:	53,001	1,411	52,643	1,411	41,247	1,146	39,030	1,051	185,922	5,018

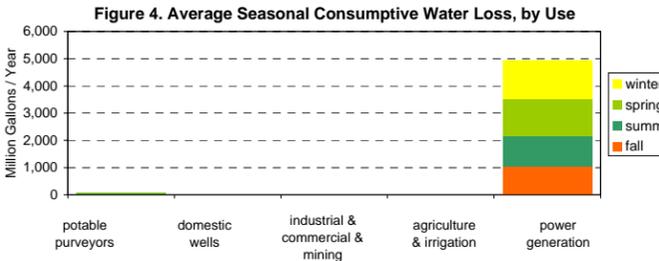


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	5,689	5,318	5,006	5,607	5,765	5,016	5,619	5,012	5,156	5,480	5,367
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	88	120	116	134	134	115	128	122	125	125	121

Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	5,601	5,198	4,890	5,473	5,630	4,901	5,491	4,890	5,030	5,356	5,246
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	5,601	5,198	4,890	5,473	5,630	4,901	5,491	4,890	5,030	5,356	5,246

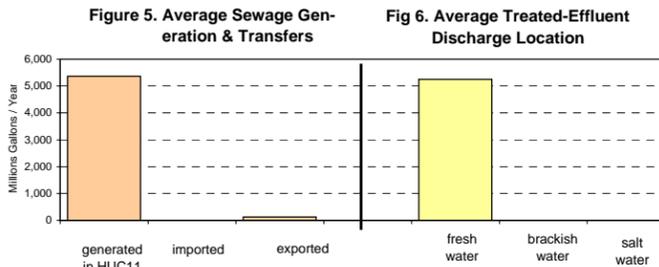


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	100,000
ground water	0
total	100,000

Table 8. 1999 Water Allocations¹⁰ in HUC11 by Water Use Group

Use Group	MGY
agricultural	0
commercial	0
industrial	0
irrigation	0
mining	0
potable supply	0
power generation	100,000
total	100,000

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	3.3	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	3.3	sq. mi.

(this HUC11 onshore area: 2.7 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	27,059	-
1950	28,108	3.9%
1960	25,823	-8.1%
1970	24,225	-6.2%
1980	21,664	-10.6%
1990	21,038	-2.9%
2000	20,350	-3.3%
2010	20,766	2.0% est. ¹²
2020	21,104	1.6% est. ¹²
2030	21,442	1.6% est. ¹²

--- Land Use of this HUC11:

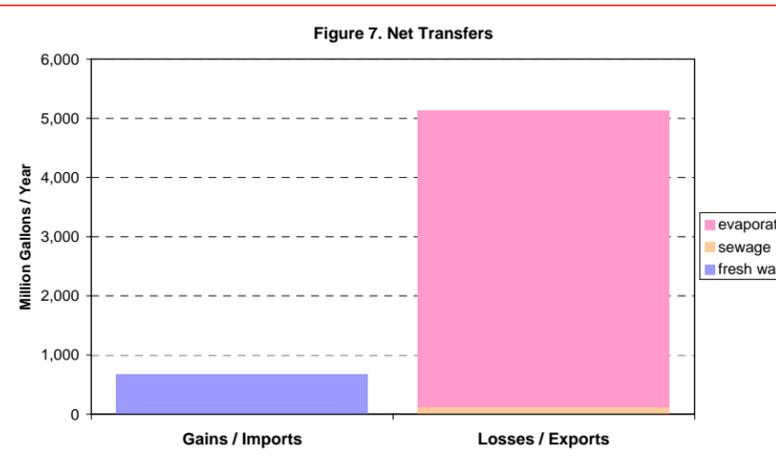
Type	1986	1995	Change
ag.	0.0%	0.0%	0.0%
barren	0.2%	1.1%	0.9%
forest	17.0%	8.5%	-8.5%
urban	52.9%	57.5%	4.6%
water	21.2%	20.7%	-0.5%
wetlands	8.7%	12.2%	3.5%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

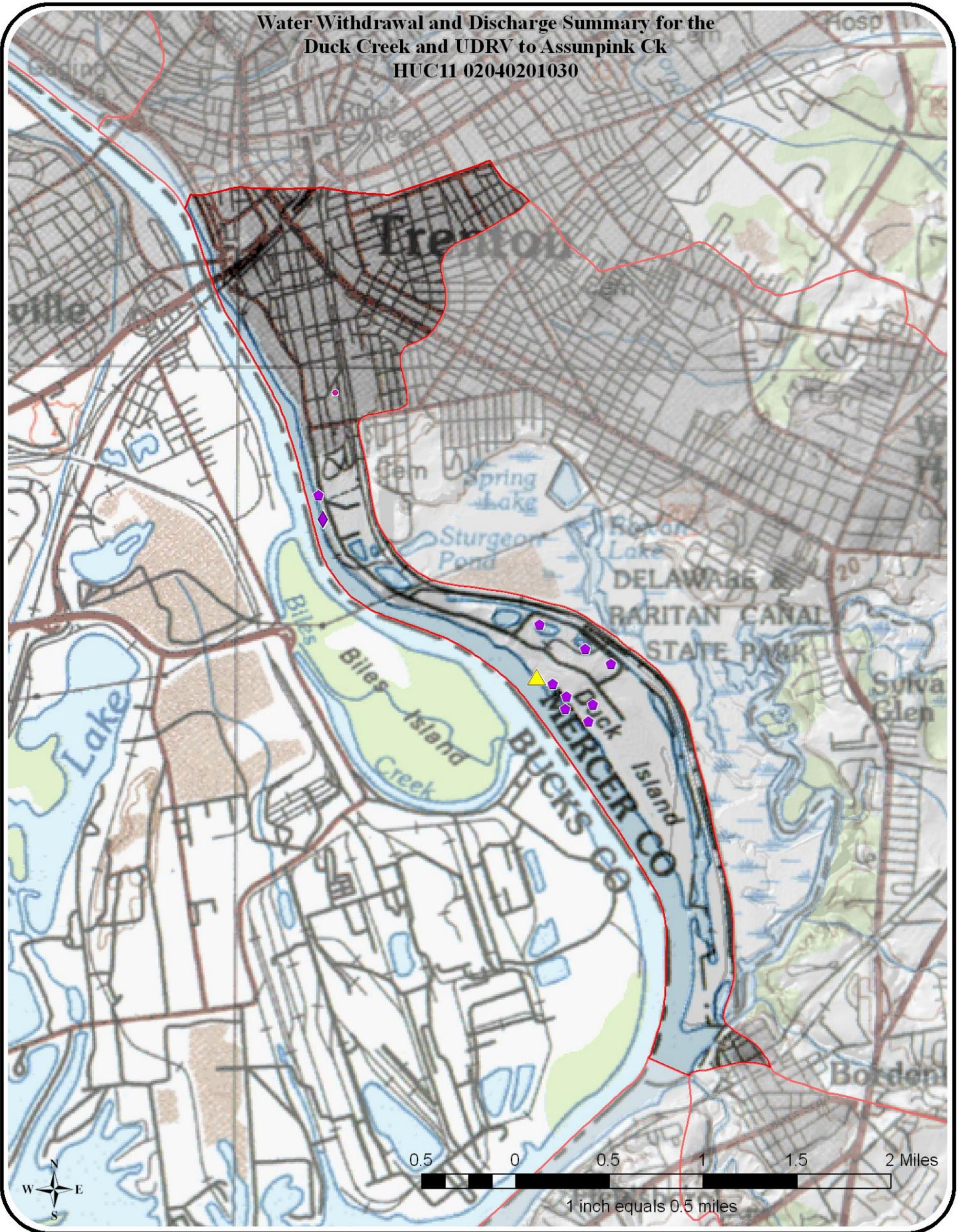
location	#	name
downstream:	02040201090	Crafts Creek
(if any)	--	--
upstream:	--	--
(if any)	--	--



NOTES:

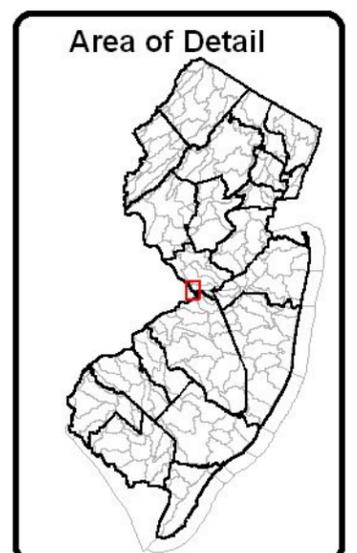
- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers to water used in the watershed but not evaporated.
- 5 Consumptive water use refers to water evaporated in the watershed. It does not include exports.
- 6 Use refers only to water actually used in that HUC11. It is equal to freshwater withdrawals + imports - exports.
- 7 Winter is Jan, Feb, Dec of the same year; spring is March-May; summer is June-Aug; fall is Sept-Nov.
- 8 Sewage generation and transfers are based on intersection of sewer service areas with HUC11s.
- 9 Based on discharge volumes reported under NJPDES program.
- 10 The allocated volume is calculated from allocation permits on file with the Bureau of Water Allocation, NJDEP, as of 1999.
- 11 Import and export volumes based on reported transfers between purveyors and on intersection of purveyor service areas with HUC11s.
- 12 Projected population estimates based on NJ Metropolitan Planning Organization estimates.
- 13 Subject to revision.
- 14 Withdrawals for offstream reservoirs are problematic and complicate Figures 1 and 2.

**Water Withdrawal and Discharge Summary for the
Duck Creek and UDRV to Assumpink Ck
HUC11 02040201030**



Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	◆

Key for Withdrawal Data	
Source	1999 Withdrawal
GW Confined □	No 1999 Use ■●▲
GW Unconfined ○	1 - 50 MGY ■●▲
SW △	51 - 100 MGY ■●▲
	101 - 500 MGY ■●▲
	> 500 MGY ■●▲
	MGY = millions of gallons per year
	Use Group
	Agricultural ●
	Commercial ●
	Industrial ●
	Irrigation ●
	Mining ●
	Not Classified ●
	Potable Supply ●
	Power Generation ●



Water Withdrawals, Transfers and Discharges for CROSSWICKS CK (ABOVE NEW EGYPT) --- 02040201040

WMA:	Crosswicks	20
HUC11:	Crosswicks Ck (above New Egypt)	02040201040

Table 1. Freshwater¹ Withdrawals in the HUC11 (millions of gallons)

Withdrawals (Q)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
surface water:²											
Delaware River	0	0	0	0	0	0	0	0	0	0	0
other	97	107	102	45	71	87	225	270	288	301	159
sum	97	107	102	45	71	87	225	270	288	301	159
ground-water:³											
confined	942	848	941	1,041	960	909	888	949	867	832	918
unconfined	157	164	150	171	178	157	167	165	174	177	166
sum	1,100	1,012	1,091	1,212	1,138	1,067	1,055	1,114	1,041	1,009	1,084
total withdrawals:	1,197	1,118	1,192	1,256	1,209	1,153	1,280	1,384	1,330	1,311	1,243

Table 2. Freshwater Imports To & Exports From the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
imports ¹¹	332	441	297	131	256	227	244	219	104	159	241
exports ¹¹	164	56	108	112	79	77	78	148	131	138	109
net	167	385	188	19	177	150	166	70	(27)	21	132

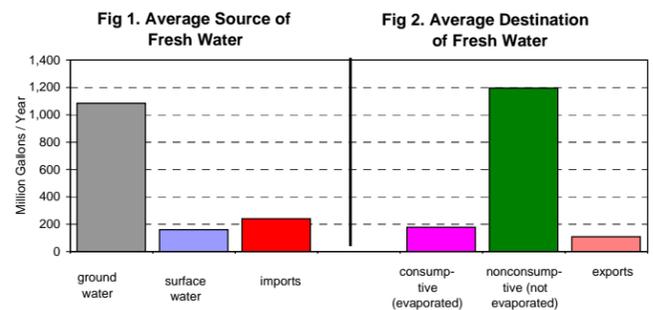


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	995	1,098	1,010	937	1,020	944	939	905	737	745	933
consumptive	115	135	120	123	118	115	111	109	105	103	115
domestic wells											
nonconsumptive	125	127	130	133	135	138	140	142	145	149	136
consumptive	18	18	18	19	19	19	20	20	20	21	19
industrial & commercial & mining											
nonconsumptive	0	0	0	0	0	0	4	5	5	10	2
consumptive	0	0	0	0	0	0	0	1	1	1	0
agricultural & non-agricultural irrigation											
nonconsumptive	91	90	76	28	50	38	188	211	230	229	123
consumptive	18	37	26	35	41	48	41	59	59	72	44
power generation											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
SUM:											
nonconsumptive	1,211	1,314	1,216	1,097	1,206	1,121	1,271	1,263	1,116	1,133	1,195
consumptive	151	190	164	176	178	183	173	189	184	197	178
PERCENTAGES:											
nonconsumptive	88.9%	87.4%	88.1%	86.2%	87.1%	86.0%	88.0%	87.0%	85.8%	85.2%	87.0%
consumptive	11.1%	12.6%	11.9%	13.8%	12.9%	14.0%	12.0%	13.0%	14.2%	14.8%	13.0%

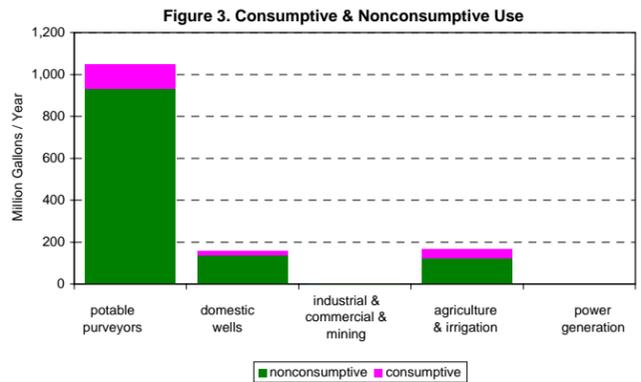


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive								
potable purveyors	238	0	232	15	230	80	234	20	935	115
domestic wells	31	0	32	2	40	14	33	3	136	19
industrial & commercial & mining	0	0	1	0	1	0	1	0	2	0
agricultural & non-agricultural irrig.	40	0	23	9	20	26	40	9	123	44
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	310	0	288	26	290	120	309	32	1,196	178

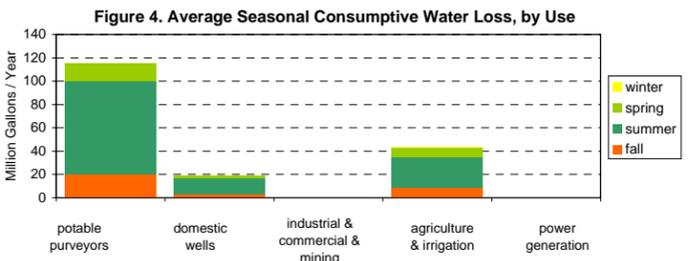


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	742	745	993	987	918	43	48	45	48	41	461
imported to HUC11	0	12	11	9	10	9	10	9	9	8	9
exported from HUC11	0	0	0	0	0	0	0	0	0	0	0

Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	742	757	1,004	996	927	51	59	54	57	49	470
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	742	757	1,004	996	927	51	59	54	57	49	470

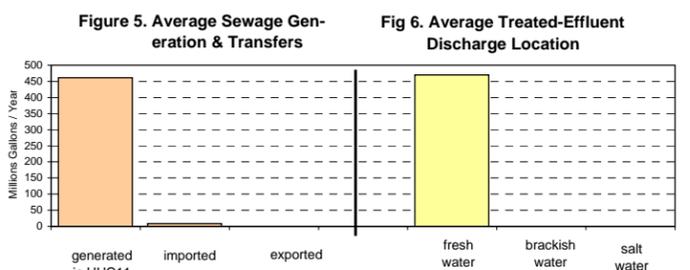


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	918
ground water	866
total	1,784

Table 8. 1999 Water Allocations¹⁰ in HUC11 by Water Use Group

Use Group	MGY
agricultural	918
commercial	0
industrial	50
irrigation	0
mining	0
potable supply	816
power generation	0
total	1,784

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	41.2	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	41.2	sq. mi.

(this HUC11 onshore area: 41.2 sq. mi.)

--- **Population of this HUC11:**

Year	Population	Change
1940	1,820	-
1950	12,980	613.2%
1960	22,564	73.8%
1970	24,124	6.9%
1980	16,458	-31.8%
1990	15,195	-7.7%
2000	12,867	-15.3%
2010	14,220	10.5% est. ¹²
2020	15,523	9.2% est. ¹²
2030	17,234	11.0% est. ¹²

--- **Land Use of this HUC11:**

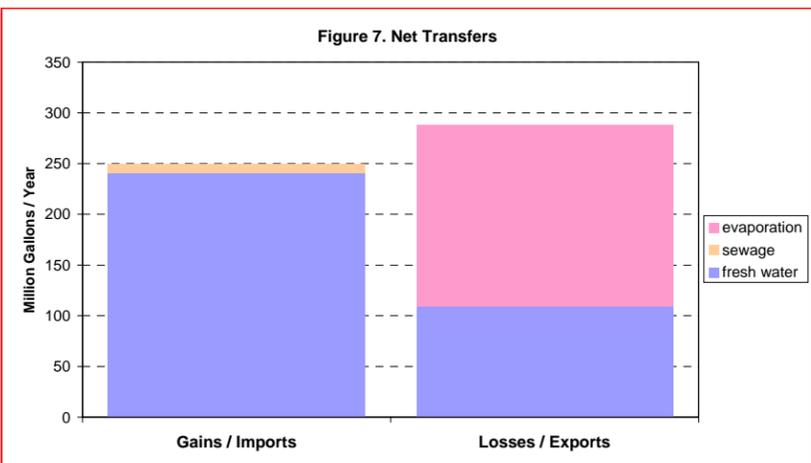
Type	Year		Change
	1986	1995	
ag.	19.6%	17.2%	-2.3%
barren	0.6%	1.0%	0.4%
forest	23.0%	23.1%	0.1%
urban	20.8%	23.1%	2.3%
water	1.1%	1.2%	0.1%
wetlands	34.9%	34.4%	-0.5%

--- **% of this HUC11 in:**

Pinelands:	54.7%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

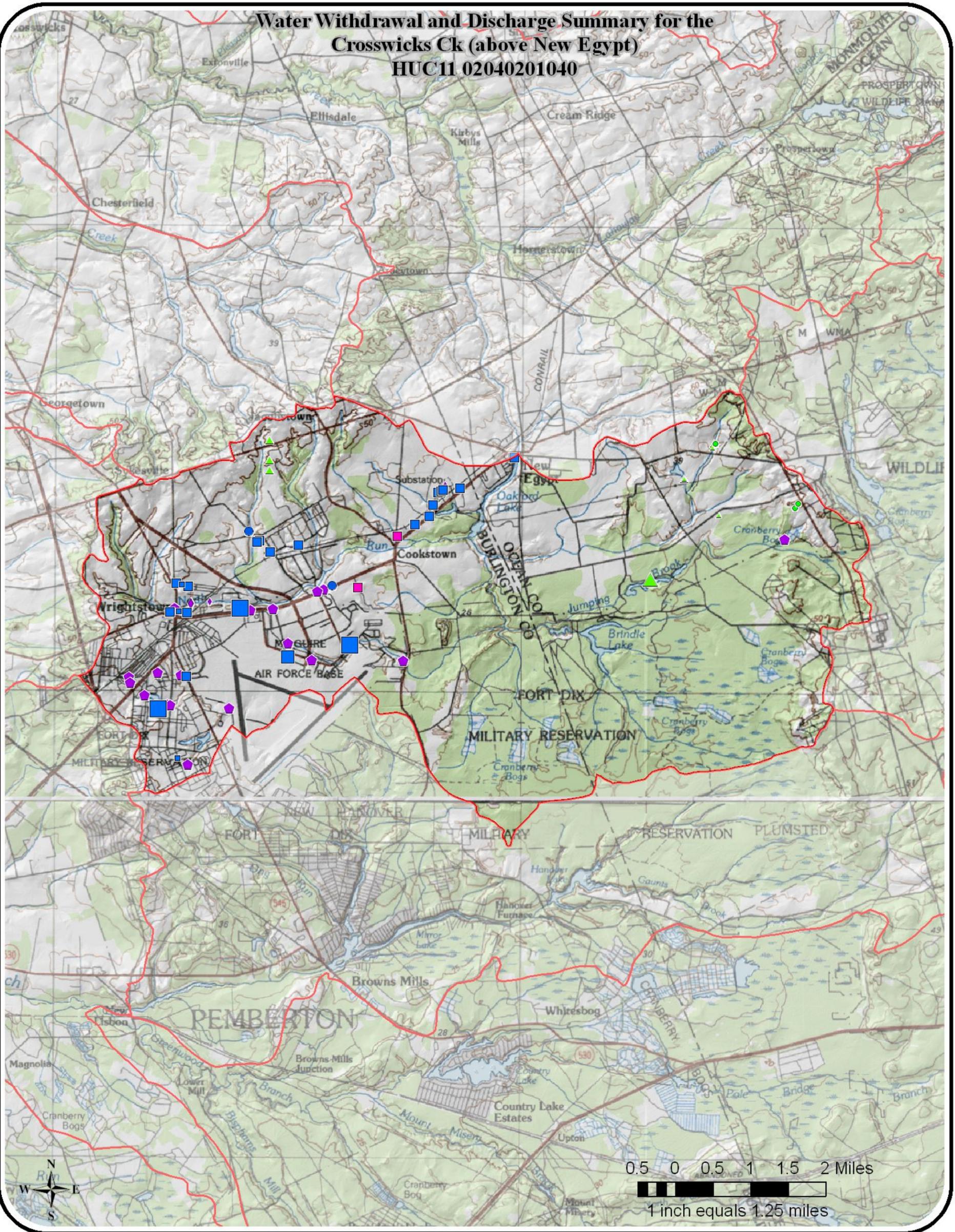
location	#	name
downstream:	02040201050	Crosswicks Ck (Doctors Ck to New Egypt)
(if any)	--	--
upstream:	--	--
(if any)	--	--



NOTES:

- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers to water used in the watershed but not evaporated.
- 5 Consumptive water use refers to water evaporated in the watershed. It does not include exports.
- 6 Use refers only to water actually used in that HUC11. It is equal to freshwater withdrawals + imports - exports.
- 7 Winter is Jan, Feb, Dec of the same year; spring is March-May; summer is June-Aug; fall is Sept-Nov.
- 8 Sewage generation and transfers are based on intersection of sewer service areas with HUC11s.
- 9 Based on discharge volumes reported under NJPDES program.
- 10 The allocated volume is calculated from allocation permits on file with the Bureau of Water Allocation, NJDEP, as of 1999.
- 11 Import and export volumes based on reported transfers between purveyors and on intersection of purveyor service areas with HUC11s.
- 12 Projected population estimates based on NJ Metropolitan Planning Organization estimates.
- 13 Subject to revision.
- 14 Withdrawals for offstream reservoirs are problematic and complicate Figures 1 and 2.

**Water Withdrawal and Discharge Summary for the
Crosswicks Ck (above New Egypt)
HUC11 02040201040**

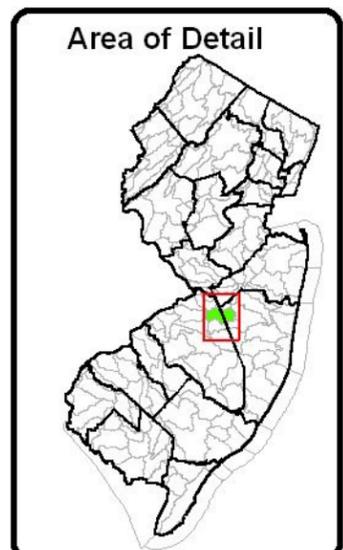


Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	◆

Key for Withdrawal Data	
Source	1999 Withdrawal
GW Confined □	No 1999 Use ■●▲
GW Unconfined ○	1 - 50 MGY ■●▲
SW △	51 - 100 MGY ■●▲
	101 - 500 MGY ■●▲
	> 500 MGY ■●▲

Use Group	
Agricultural	●
Commercial	●
Industrial	●
Irrigation	●
Mining	●
Not Classified	●
Potable Supply	●
Power Generation	●

MGY = millions of gallons per year



Water Withdrawals, Transfers and Discharges for CROSSWICKS CK (DOCTORS CK TO NEW EGYPT) --- 02040201050

WMA:	Crosswicks	20
HUC11:	Crosswicks Ck (Doctors Ck to New Egypt)	02040201050

Table 1. Freshwater¹ Withdrawals in the HUC11 (millions of gallons)

Withdrawals (Q)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>surface water:</i> ²											
Delaware River	0	0	0	0	0	0	0	0	0	0	0
other	243	161	291	525	166	496	245	314	369	831	364
sum	243	161	291	525	166	496	245	314	369	831	364
<i>ground-water:</i> ³											
confined	370	385	398	361	372	381	362	366	366	363	372
unconfined	228	254	233	260	285	345	279	283	309	282	276
sum	598	639	631	621	657	727	641	649	676	644	648
total withdrawals:	841	800	923	1,146	823	1,222	885	963	1,044	1,475	1,012

Table 2. Freshwater Imports To & Exports From the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
imports ¹¹	118	133	140	144	149	152	144	151	154	154	144
exports ¹¹	161	165	198	159	158	156	167	160	138	147	161
net	(43)	(33)	(58)	(15)	(9)	(3)	(23)	(8)	16	7	(17)

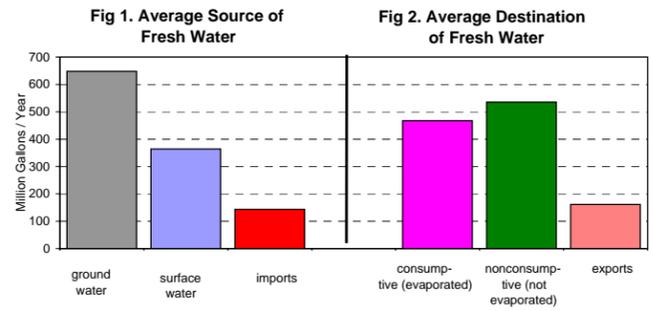


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	270	285	276	278	295	304	303	314	315	309	295
consumptive	31	34	32	34	35	38	35	38	40	40	36
<i>domestic wells</i>											
nonconsumptive	177	179	183	188	192	196	200	206	211	219	195
consumptive	25	25	26	26	27	28	28	29	30	31	28
<i>industrial & commercial & mining</i>											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
<i>agricultural & non-agricultural irrigation</i>											
nonconsumptive	30	24	34	60	26	65	29	37	55	88	45
consumptive	266	220	310	541	237	585	265	330	499	793	405
<i>power generation</i>											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
SUM:											
nonconsumptive	476	489	494	526	513	566	533	556	582	617	535
consumptive	322	279	368	602	299	651	327	397	568	864	468
PERCENTAGES:											
nonconsumptive	59.7%	63.7%	57.3%	46.6%	63.2%	46.5%	61.9%	58.3%	50.6%	41.7%	53.4%
consumptive	40.3%	36.3%	42.7%	53.4%	36.8%	53.5%	38.1%	41.7%	49.4%	58.3%	46.6%

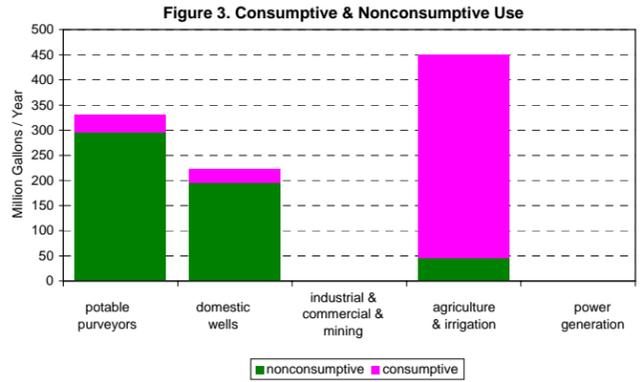


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon-sumptive	Consumptive								
potable purveyors	76	0	76	5	70	24	75	6	297	36
domestic wells	45	0	46	3	57	20	48	4	195	28
industrial & commercial & mining	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrig.	0	1	4	38	33	293	8	73	45	405
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	121	1	126	47	159	337	131	84	537	468

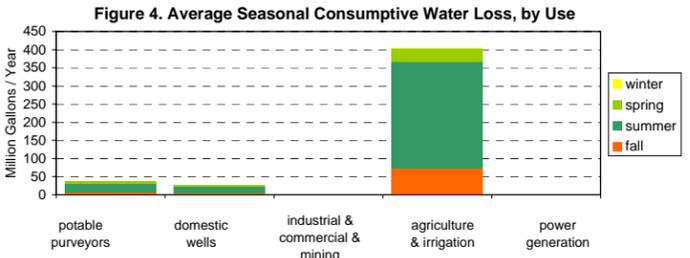


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	143	141	316	341	324	265	296	271	289	303	269
imported to HUC11	8	3	43	45	41	29	32	29	31	37	30
exported from HUC11	112	128	137	150	150	142	159	147	157	145	143

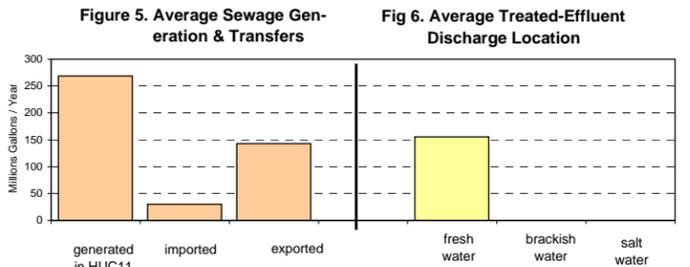


Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	38	16	222	235	215	152	168	153	163	195	156
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	38	16	222	235	215	152	168	153	163	195	156

Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	1,645
ground water	954
total	2,599

Table 8. 1999 Water Allocations¹⁰ in HUC11 by Water Use Group

Use Group	MGY
agricultural	1,698
commercial	0
industrial	0
irrigation	50
mining	0
potable supply	851
power generation	0
total	2,599

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	57.0	sq. mi.
upstream HUC11s	41.2	sq. mi.
total watershed	98.3	sq. mi.

(this HUC11 onshore area: 57.0 sq. mi.)

--- **Population of this HUC11:**

Year	Population	Change
1940	4,595	-
1950	6,031	31.3%
1960	8,938	48.2%
1970	12,747	42.6%
1980	13,847	8.6%
1990	15,940	15.1%
2000	17,456	9.5%
2010	20,188	15.6% est. ¹²
2020	22,725	12.6% est. ¹²
2030	25,916	14.0% est. ¹²

--- **Land Use of this HUC11:**

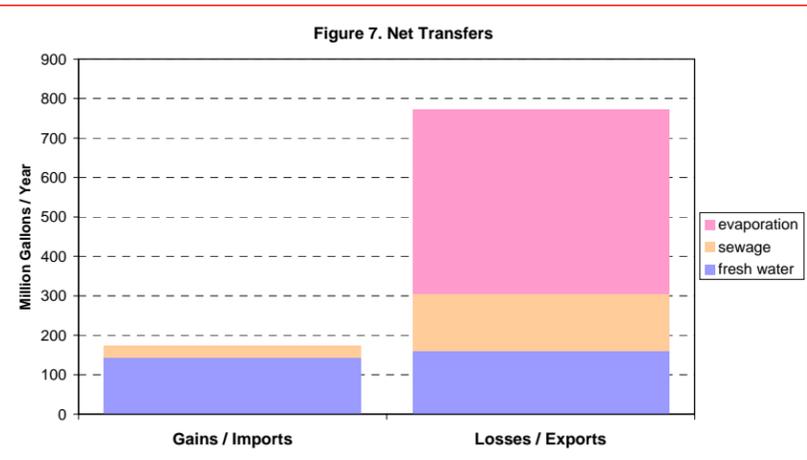
Type	Year		Change
	1986	1995	
ag.	43.2%	40.4%	-2.8%
barren	0.3%	0.3%	0.0%
forest	23.8%	23.7%	-0.1%
urban	10.8%	13.8%	3.1%
water	1.1%	1.2%	0.0%
wetlands	20.8%	20.6%	-0.2%

--- **% of this HUC11 in:**

Pinelands:	0.1%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

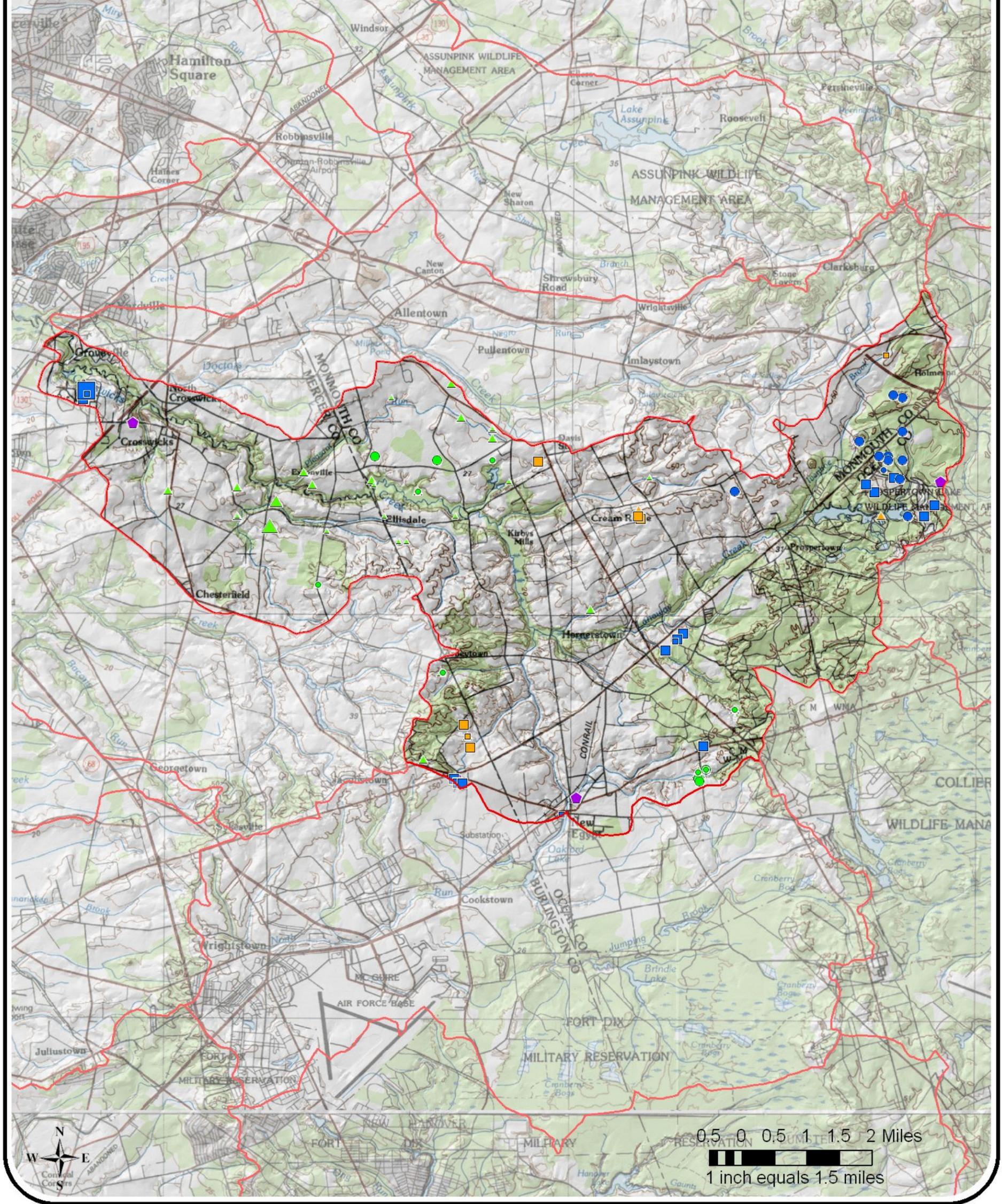
location	#	name
downstream:	02040201070	Crosswicks Ck (below Doctors Creek)
(if any)		
upstream:	02040201040	Crosswicks Ck (above New Egypt)
(if any)		
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NOTES:

- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers to water used in the watershed but not evaporated.
- 5 Consumptive water use refers to water evaporated in the watershed. It does not include exports.
- 6 Use refers only to water actually used in that HUC11. It is equal to freshwater withdrawals + imports - exports.
- 7 Winter is Jan, Feb, Dec of the same year; spring is March-May; summer is June-Aug; fall is Sept-Nov.
- 8 Sewage generation and transfers are based on intersection of sewer service areas with HUC11s.
- 9 Based on discharge volumes reported under NJPDES program.
- 10 The allocated volume is calculated from allocation permits on file with the Bureau of Water Allocation, NJDEP, as of 1999.
- 11 Import and export volumes based on reported transfers between purveyors and on intersection of purveyor service areas with HUC11s.
- 12 Projected population estimates based on NJ Metropolitan Planning Organization estimates.
- 13 Subject to revision.
- 14 Withdrawals for offstream reservoirs are problematic and complicate Figures 1 and 2.

Water Withdrawal and Discharge Summary for the Crosswicks Ck (Doctors Ck to New Egypt) HUC11 02040201050

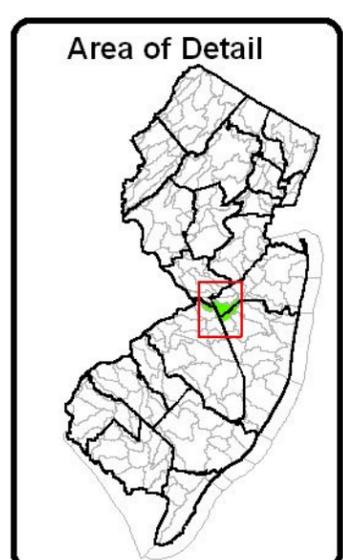


Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	
	◆

Key for Withdrawal Data	
Source	
GW Confined	□
GW Unconfined	○
SW	△
1999 Withdrawal	
No 1999 Use	●▲
1 - 50 MGY	■●▲
51 - 100 MGY	■●▲
101 - 500 MGY	■●▲
> 500 MGY	■●▲

Use Group	
Agricultural	●
Commercial	●
Industrial	●
Irrigation	●
Mining	●
Not Classified	●
Potable Supply	●
Power Generation	●

MGY = millions of gallons per year



Water Withdrawals, Transfers and Discharges for DOCTORS CREEK --- 02040201060

WMA:	Crosswicks	20	
HUC11:	Doctors Creek	02040201060	

Table 1. Freshwater¹ Withdrawals in the HUC11 (millions of gallons)

Withdrawals (Q)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
surface water:²											
Delaware River	0	0	0	0	0	0	0	0	0	0	0
other	64	90	79	119	89	105	44	93	92	123	90
sum	64	90	79	119	89	105	44	93	92	123	90
ground-water:³											
confined	92	87	84	94	101	94	96	99	90	71	91
unconfined	74	78	83	96	89	100	77	93	101	119	91
sum	166	165	167	190	190	194	173	192	191	190	182
total withdrawals:	230	255	245	309	279	299	217	286	283	313	272

Table 2. Freshwater Imports To & Exports From the HUC11 (millions of gallons)

imports ¹¹	35	40	35	38	38	38	36	34	33	34	36
exports ¹¹	0	0	0	0	0	0	0	0	0	0	0
net	35	40	35	38	38	38	36	34	33	34	36

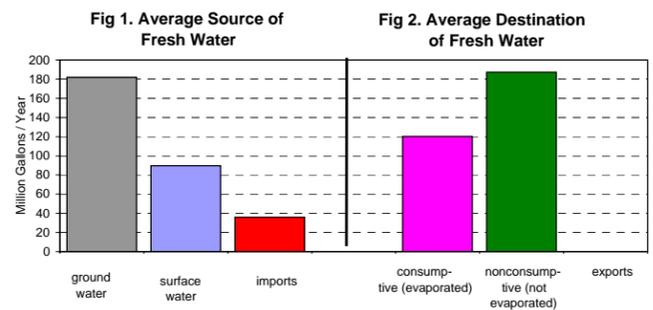


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	114	113	107	118	124	118	118	119	110	91	113
consumptive	13	13	12	14	15	14	13	14	14	14	14
domestic wells											
nonconsumptive	56	57	58	60	62	64	66	68	70	73	63
consumptive	8	8	8	9	9	9	9	10	10	10	9
industrial & commercial & mining											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrigation											
nonconsumptive	7	10	9	15	11	13	5	11	11	16	11
consumptive	67	93	85	131	96	119	42	98	101	143	98
power generation											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
SUM:											
nonconsumptive	177	180	175	193	197	195	189	198	191	180	187
consumptive	88	114	106	154	120	142	64	122	125	167	120
PERCENTAGES:											
nonconsumptive	66.7%	61.2%	62.2%	55.7%	62.2%	57.9%	74.5%	61.9%	60.4%	51.8%	60.9%
consumptive	33.3%	38.8%	37.8%	44.3%	37.8%	42.1%	25.5%	38.1%	39.6%	48.2%	39.1%

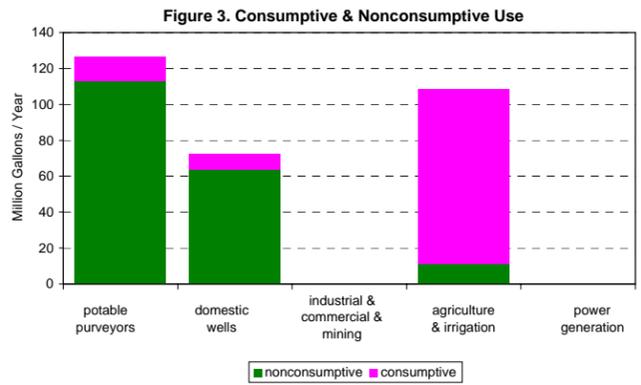


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive								
potable purveyors	29	0	30	2	27	9	28	2	113	14
domestic wells	14	0	15	1	18	6	16	1	63	9
industrial & commercial & mining	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrig.	0	0	1	8	8	71	2	19	11	98
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	44	0	45	11	53	86	45	23	187	120

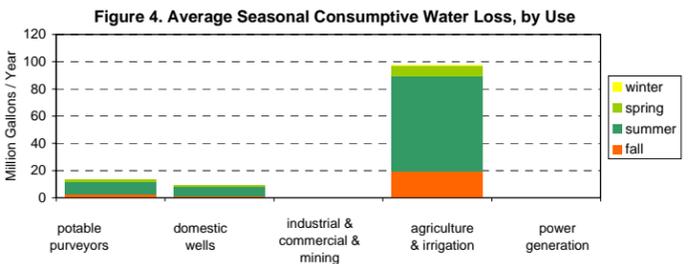


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

generated in HUC11	212	268	264	281	285	260	288	274	284	262	268
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	142	193	184	212	213	182	202	193	199	198	192

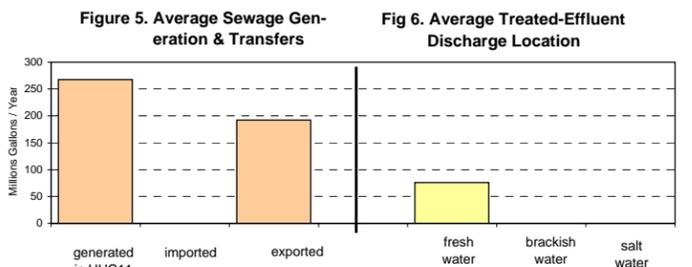


Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	70	75	80	69	72	78	86	81	85	64	76
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	70	75	80	69	72	78	86	81	85	64	76

Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	2,018
ground water	606
total	2,624

Table 8. 1999 Water Allocations¹⁰ in HUC11 by Water Use Group

Use Group	MGY
agricultural	2,524
commercial	0
industrial	0
irrigation	0
mining	0
potable supply	100
power generation	0
total	2,624

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	25.9	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	25.9	sq. mi.

(this HUC11 onshore area: 25.9 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	5,238	-
1950	6,934	32.4%
1960	10,380	49.7%
1970	12,506	20.5%
1980	13,469	7.7%
1990	14,299	6.2%
2000	15,584	9.0%
2010	17,092	9.7% est. ¹²
2020	18,077	5.8% est. ¹²
2030	18,990	5.0% est. ¹²

--- Land Use of this HUC11:

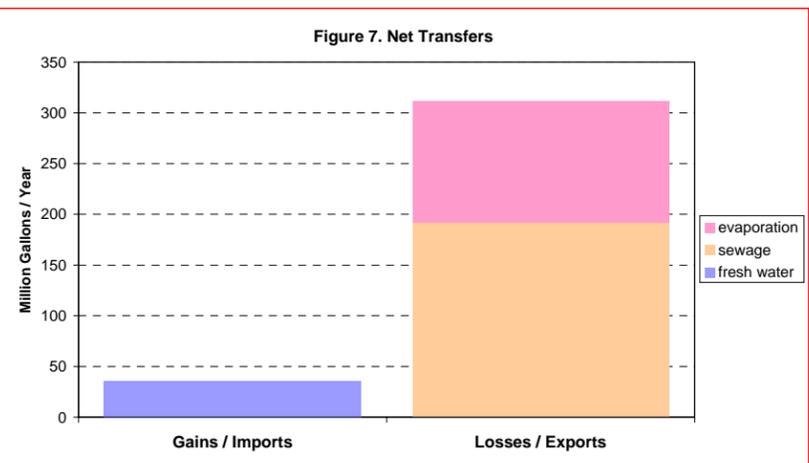
Type	Year		Change
	1986	1995	
ag.	50.8%	48.5%	-2.3%
barren	0.6%	0.7%	0.1%
forest	15.5%	15.3%	-0.2%
urban	11.6%	14.2%	2.6%
water	1.4%	1.5%	0.1%
wetlands	20.1%	19.8%	-0.2%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

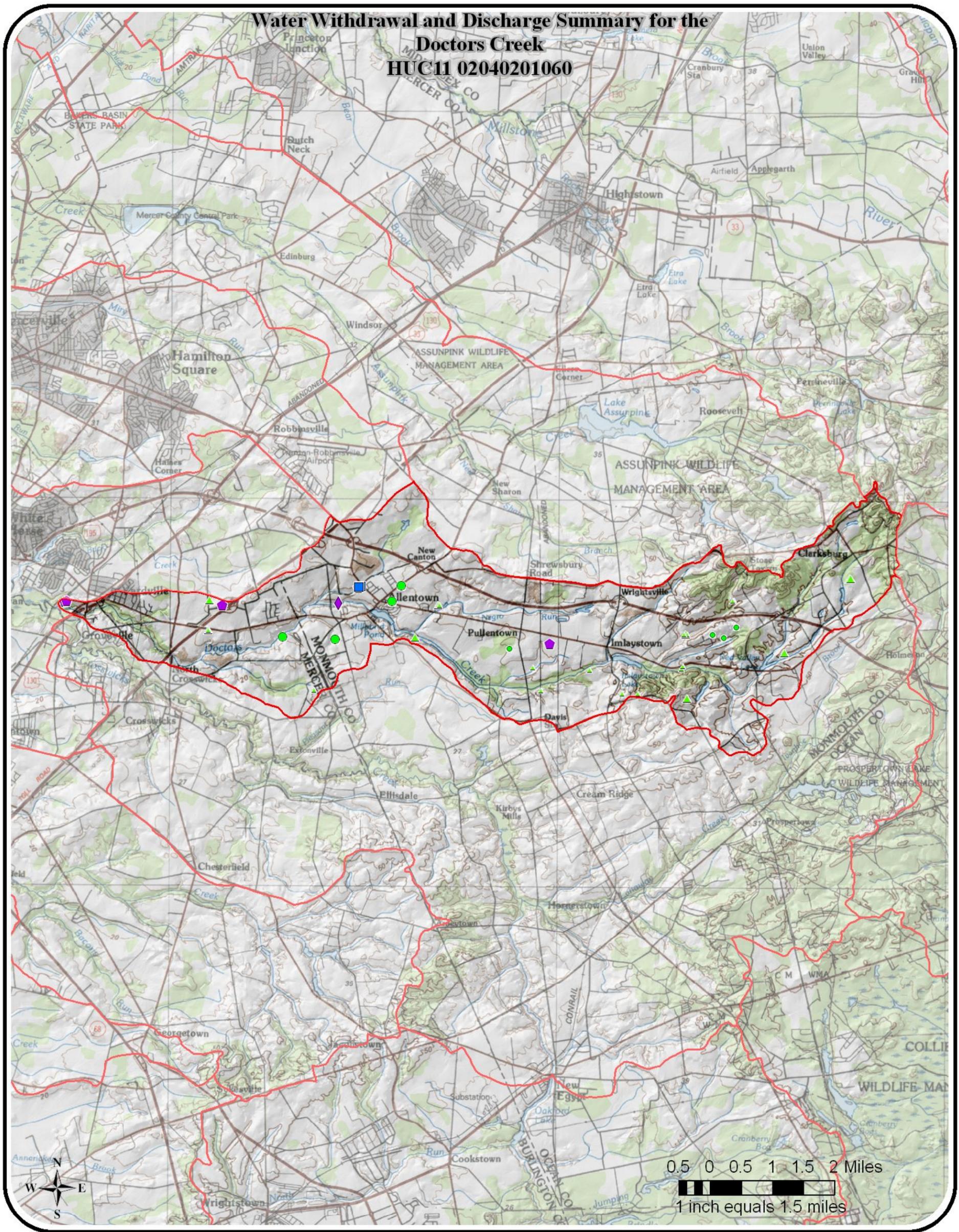
location	#	name
downstream:	02040201070	Crosswicks Ck (below Doctors Creek)
(if any)	--	--
upstream:	--	--
(if any)	--	--
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	--	--
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NOTES:

- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers to water used in the watershed but not evaporated.
- 5 Consumptive water use refers to water evaporated in the watershed. It does not include exports.
- 6 Use refers only to water actually used in that HUC11. It is equal to freshwater withdrawals + imports - exports.
- 7 Winter is Jan, Feb, Dec of the same year; spring is March-May; summer is June-Aug; fall is Sept-Nov.
- 8 Sewage generation and transfers are based on intersection of sewer service areas with HUC11s.
- 9 Based on discharge volumes reported under NJPDES program.
- 10 The allocated volume is calculated from allocation permits on file with the Bureau of Water Allocation, NJDEP, as of 1999.
- 11 Import and export volumes based on reported transfers between purveyors and on intersection of purveyor service areas with HUC11s.
- 12 Projected population estimates based on NJ Metropolitan Planning Organization estimates.
- 13 Subject to revision.
- 14 Withdrawals for offstream reservoirs are problematic and complicate Figures 1 and 2.

Water Withdrawal and Discharge Summary for the Doctors Creek HUC11 02040201060

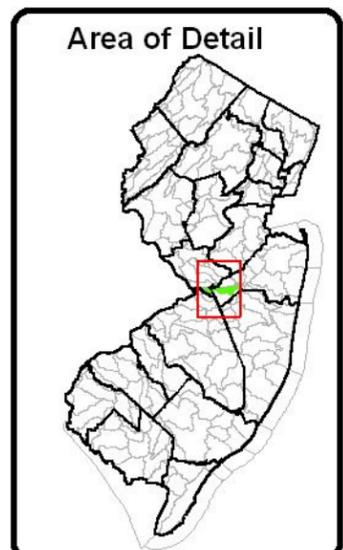


Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	◆

Key for Withdrawal Data	
Source	
GW Confined	□
GW Unconfined	○
SW	△
1999 Withdrawal	
No 1999 Use	●▲
1 - 50 MGY	■●▲
51 - 100 MGY	■●▲
101 - 500 MGY	■●▲
> 500 MGY	■●▲

Use Group	
Agricultural	●
Commercial	●
Industrial	●
Irrigation	●
Mining	●
Not Classified	●
Potable Supply	●
Power Generation	●

MGY = millions of gallons per year



Water Withdrawals, Transfers and Discharges for CROSSWICKS CK (BELOW DOCTORS CREEK) --- 02040201070

WMA:	Crosswicks	20
HUC11:	Crosswicks Ck (below Doctors Creek)	02040201070

Table 1. Freshwater¹ Withdrawals in the HUC11 (millions of gallons)

Withdrawals (Q)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
surface water:²											
Delaware River	0	0	0	0	0	0	0	0	0	0	0
other	2	3	7	10	7	8	5	6	6	6	6
sum	2	3	7	10	7	8	5	6	6	6	6
ground-water:³											
confined	28	17	1	0	33	50	20	11	15	74	25
unconfined	732	702	624	696	738	756	659	650	644	616	682
sum	760	719	625	696	771	805	679	662	659	690	707
total withdrawals:	761	722	632	706	778	814	684	668	665	696	713

Table 2. Freshwater Imports To & Exports From the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
imports ¹¹	454	503	450	477	476	474	457	428	421	422	456
exports ¹¹	201	192	171	191	202	207	180	178	176	186	188
net	253	311	280	287	274	267	277	251	246	236	268

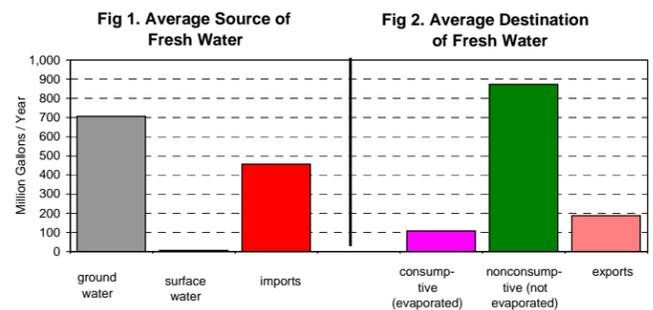


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	875	898	801	871	897	905	832	796	780	807	846
consumptive	101	106	93	102	104	108	93	95	99	99	100
domestic wells											
nonconsumptive	8	8	8	9	9	9	9	9	10	10	9
consumptive	1	1	1	1	1	1	1	1	1	1	1
industrial & commercial & mining											
nonconsumptive	25	15	1	0	30	45	18	10	13	8	17
consumptive	3	2	0	0	3	5	2	1	1	1	2
agricultural & non-agricultural irrigation											
nonconsumptive	0	0	1	1	1	1	0	1	1	1	1
consumptive	1	3	6	9	6	8	4	5	5	5	5
power generation											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
SUM:											
nonconsumptive	908	921	811	881	936	959	859	816	803	826	872
consumptive	107	112	101	113	115	121	101	103	107	106	109
PERCENTAGES:											
nonconsumptive	89.5%	89.2%	88.9%	88.7%	89.1%	88.8%	89.5%	88.8%	88.2%	88.6%	88.9%
consumptive	10.5%	10.8%	11.1%	11.3%	10.9%	11.2%	10.5%	11.2%	11.8%	11.4%	11.1%

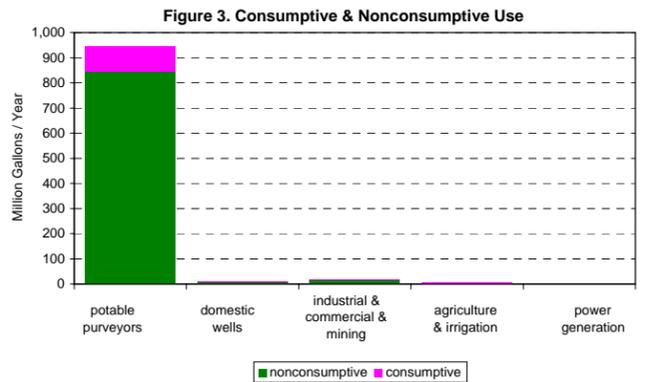


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon-sumptive	Consumptive								
potable purveyors	222	0	213	14	195	68	216	18	846	100
domestic wells	2	0	2	0	3	1	2	0	9	1
industrial & commercial & mining	4	0	4	0	4	0	4	0	17	2
agricultural & non-agricultural irrig.	0	0	0	1	0	3	0	1	1	5
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	227	0	220	16	202	72	223	20	872	109

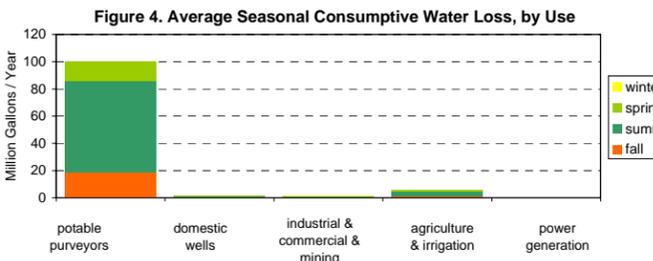


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	635	877	1,114	1,246	1,253	1,086	1,219	1,135	1,151	1,124	1,084
imported to HUC11	1,959	2,658	2,535	2,922	2,932	2,506	2,784	2,658	2,743	2,729	2,643
exported from HUC11	6	23	300	308	312	282	325	282	270	248	236

Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	2,587	3,512	3,349	3,860	3,874	3,311	3,678	3,511	3,624	3,605	3,491
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	2,587	3,512	3,349	3,860	3,874	3,311	3,678	3,511	3,624	3,605	3,491

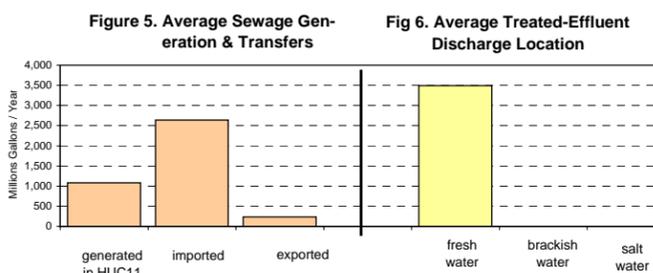


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	225
ground water	1,107
total	1,333

Table 8. 1999 Water Allocations¹⁰ in HUC11 by Water Use Group

Use Group	MGY
agricultural	225
commercial	0
industrial	107
irrigation	0
mining	0
potable supply	1,000
power generation	0
total	1,333

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	20.1	sq. mi.
upstream HUC11s	124.2	sq. mi.
total watershed	144.3	sq. mi.

(this HUC11 onshore area: 20.1 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	21,193	-
1950	26,163	23.5%
1960	34,353	31.3%
1970	38,925	13.3%
1980	39,119	0.5%
1990	40,526	3.6%
2000	40,971	1.1%
2010	44,133	7.7% est. ¹²
2020	45,608	3.3% est. ¹²
2030	46,974	3.0% est. ¹²

--- Land Use of this HUC11:

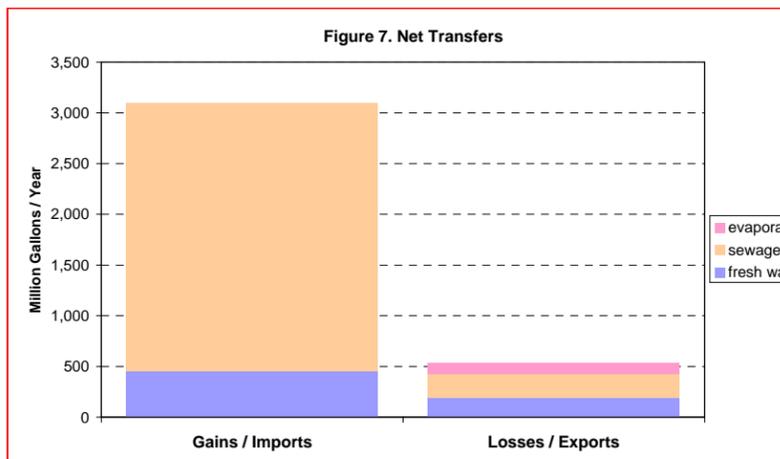
Type	Year		Change
	1986	1995	
ag.	15.4%	11.9%	-3.5%
barren	1.3%	0.9%	-0.4%
forest	9.9%	9.4%	-0.4%
urban	44.0%	49.4%	5.4%
water	1.9%	2.1%	0.2%
wetlands	27.5%	26.3%	-1.3%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

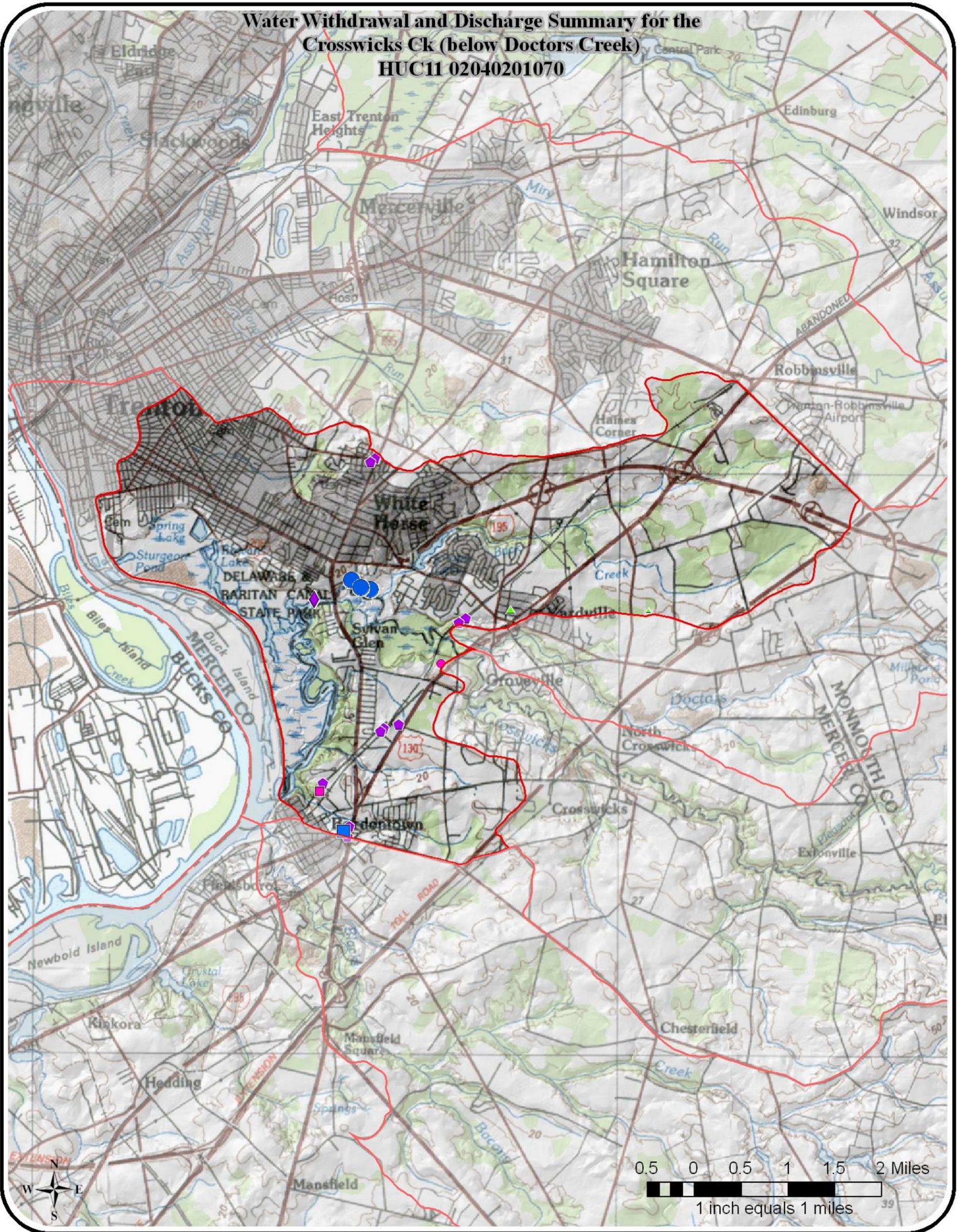
location	#	name
downstream:	02040201090	Crafts Creek
(if any)		
upstream:	02040201040	Crosswicks Ck (above New Egypt)
(if any)	02040201050	Crosswicks Ck (Doctors Ck to New Egypt)
	02040201060	Doctors Creek
	--	--
	--	--
	--	--
	--	--
	--	--
	--	--
	--	--



NOTES:

- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers to water used in the watershed but not evaporated.
- 5 Consumptive water use refers to water evaporated in the watershed. It does not include exports.
- 6 Use refers only to water actually used in that HUC11. It is equal to freshwater withdrawals + imports - exports.
- 7 Winter is Jan, Feb, Dec of the same year; spring is March-May; summer is June-Aug; fall is Sept-Nov.
- 8 Sewage generation and transfers are based on intersection of sewer service areas with HUC11s.
- 9 Based on discharge volumes reported under NJPDES program.
- 10 The allocated volume is calculated from allocation permits on file with the Bureau of Water Allocation, NJDEP, as of 1999.
- 11 Import and export volumes based on reported transfers between purveyors and on intersection of purveyor service areas with HUC11s.
- 12 Projected population estimates based on NJ Metropolitan Planning Organization estimates.
- 13 Subject to revision.
- 14 Withdrawals for offstream reservoirs are problematic and complicate Figures 1 and 2.

**Water Withdrawal and Discharge Summary for the
Crosswicks Ck (below Doctors Creek)
HUC11 02040201070**

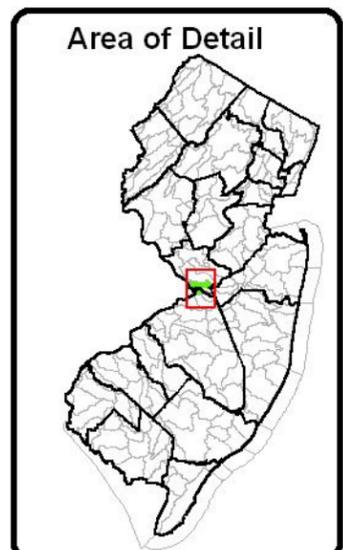


Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	◆

Key for Withdrawal Data	
Source	1999 Withdrawal
GW Confined □	No 1999 Use ■●▲
GW Unconfined ○	1 - 50 MGY ■●▲
SW △	51 - 100 MGY ■●▲
	101 - 500 MGY ■●▲
	> 500 MGY ■●▲

MGY = millions of gallons per year

Use Group	
Agricultural	●
Commercial	●
Industrial	●
Irrigation	●
Mining	●
Not Classified	●
Potable Supply	●
Power Generation	●



Water Withdrawals, Transfers and Discharges for BLACKS CREEK --- 02040201080

WMA:	Crosswicks	20	
HUC11:	Blacks Creek	02040201080	

Table 1. Freshwater¹ Withdrawals in the HUC11 (millions of gallons)

Withdrawals (Q)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>surface water:</i> ²											
Delaware River	0	0	0	0	0	0	0	0	0	0	0
other	171	86	116	91	339	156	69	157	207	133	152
sum	171	86	116	91	339	156	69	157	207	133	152
<i>ground-water:</i> ³											
confined	0	1	1	1	2	8	6	8	4	6	4
unconfined	120	109	121	129	153	222	157	127	129	158	142
sum	120	111	122	130	154	230	163	135	133	164	146
total withdrawals:	291	197	237	221	494	386	232	292	340	297	299

Table 2. Freshwater Imports To & Exports From the HUC11 (millions of gallons)

imports ¹¹	108	103	92	102	109	111	97	96	95	100	101
exports ¹¹	0	0	0	0	0	0	0	0	0	0	0
net	108	103	92	102	109	111	97	96	95	100	101

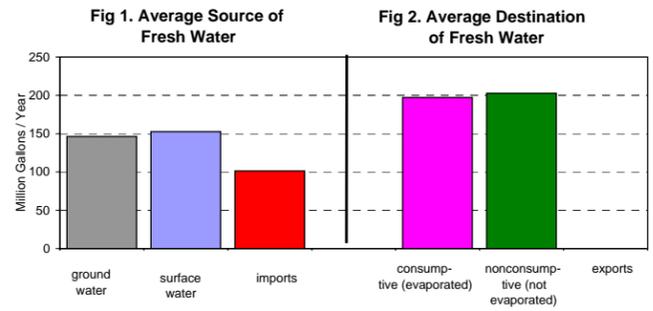


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	97	93	82	92	97	99	87	85	85	89	91
consumptive	11	11	9	11	11	12	10	10	10	11	11
<i>domestic wells</i>											
nonconsumptive	88	89	90	91	92	93	94	95	96	98	93
consumptive	12	12	13	13	13	13	13	13	14	14	13
<i>industrial & commercial & mining</i>											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
<i>agricultural & non-agricultural irrigation</i>											
nonconsumptive	19	10	13	12	39	28	12	18	23	19	19
consumptive	171	86	121	105	350	252	112	165	207	167	174
<i>power generation</i>											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
SUM:											
nonconsumptive	204	191	186	195	229	221	194	199	204	205	203
consumptive	195	109	143	128	374	277	135	188	231	192	197
PERCENTAGES:											
nonconsumptive	51.2%	63.7%	56.5%	60.4%	37.9%	44.4%	58.9%	51.4%	46.9%	51.7%	50.7%
consumptive	48.8%	36.3%	43.5%	39.6%	62.1%	55.6%	41.1%	48.6%	53.1%	48.3%	49.3%

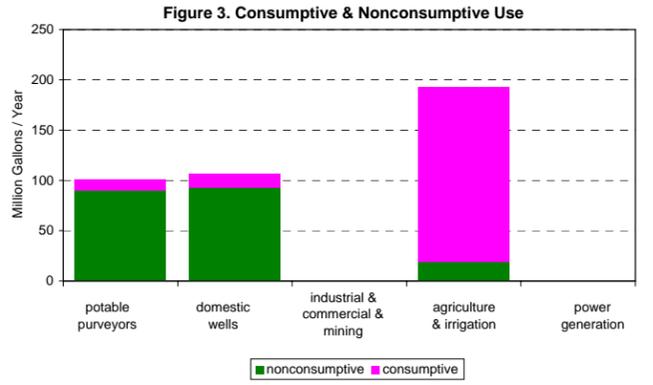


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive								
potable purveyors	24	0	23	2	21	7	23	2	91	11
domestic wells	21	0	22	2	27	9	23	2	93	13
industrial & commercial & mining	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrig.	0	0	1	13	14	129	4	32	19	174
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	45	0	46	16	62	145	49	36	203	197

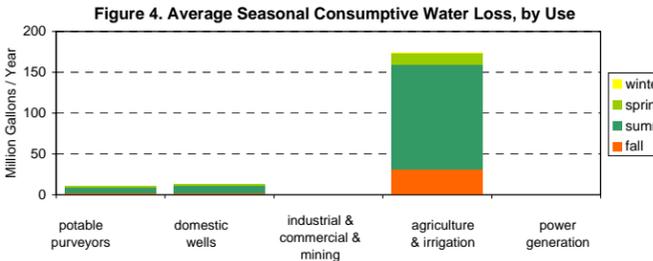


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

generated in HUC11	8	21	219	226	231	212	245	212	202	181	176
imported to HUC11	0	33	410	420	431	400	463	400	379	337	327
exported from HUC11	8	4	8	10	9	6	6	5	5	6	7

Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	1	50	621	637	653	607	703	607	575	511	496
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	1	50	621	637	653	607	703	607	575	511	496

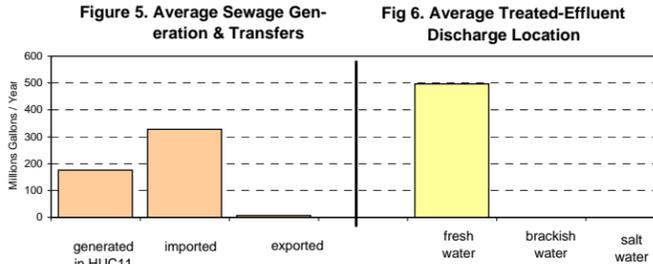


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	768
ground water	798
total	1,566

Table 8. 1999 Water Allocations¹⁰ in HUC11 by Water Use Group

Use Group	MGY
agricultural	1,512
commercial	0
industrial	0
irrigation	53
mining	0
potable supply	0
power generation	0
total	1,566

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	23.4	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	23.4	sq. mi.

(this HUC11 onshore area: 23.4 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	3,315	-
1950	4,380	32.1%
1960	6,172	40.9%
1970	9,293	50.6%
1980	9,319	0.3%
1990	10,623	14.0%
2000	10,334	-2.7%
2010	12,482	20.8% est. ¹²
2020	13,347	6.9% est. ¹²
2030	14,763	10.6% est. ¹²

--- Land Use of this HUC11:

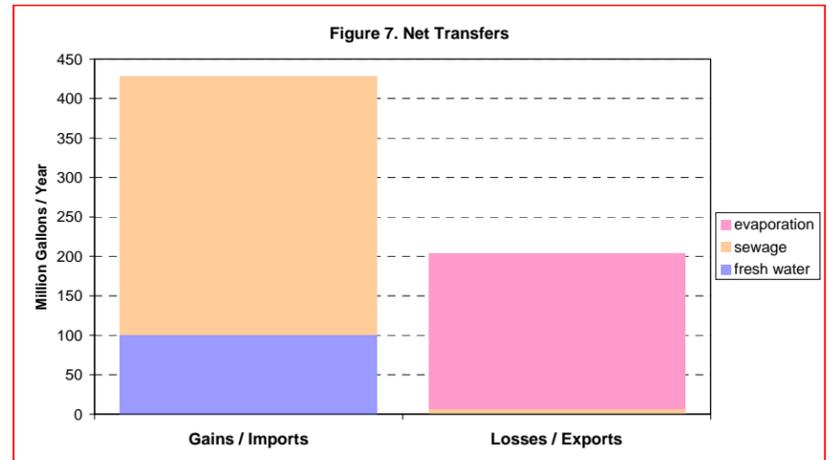
Type	Year		Change
	1986	1995	
ag.	52.8%	48.4%	-4.5%
barren	0.8%	0.9%	0.1%
forest	12.8%	12.7%	-0.1%
urban	10.8%	15.6%	4.8%
water	0.7%	0.9%	0.2%
wetlands	22.1%	21.5%	-0.6%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

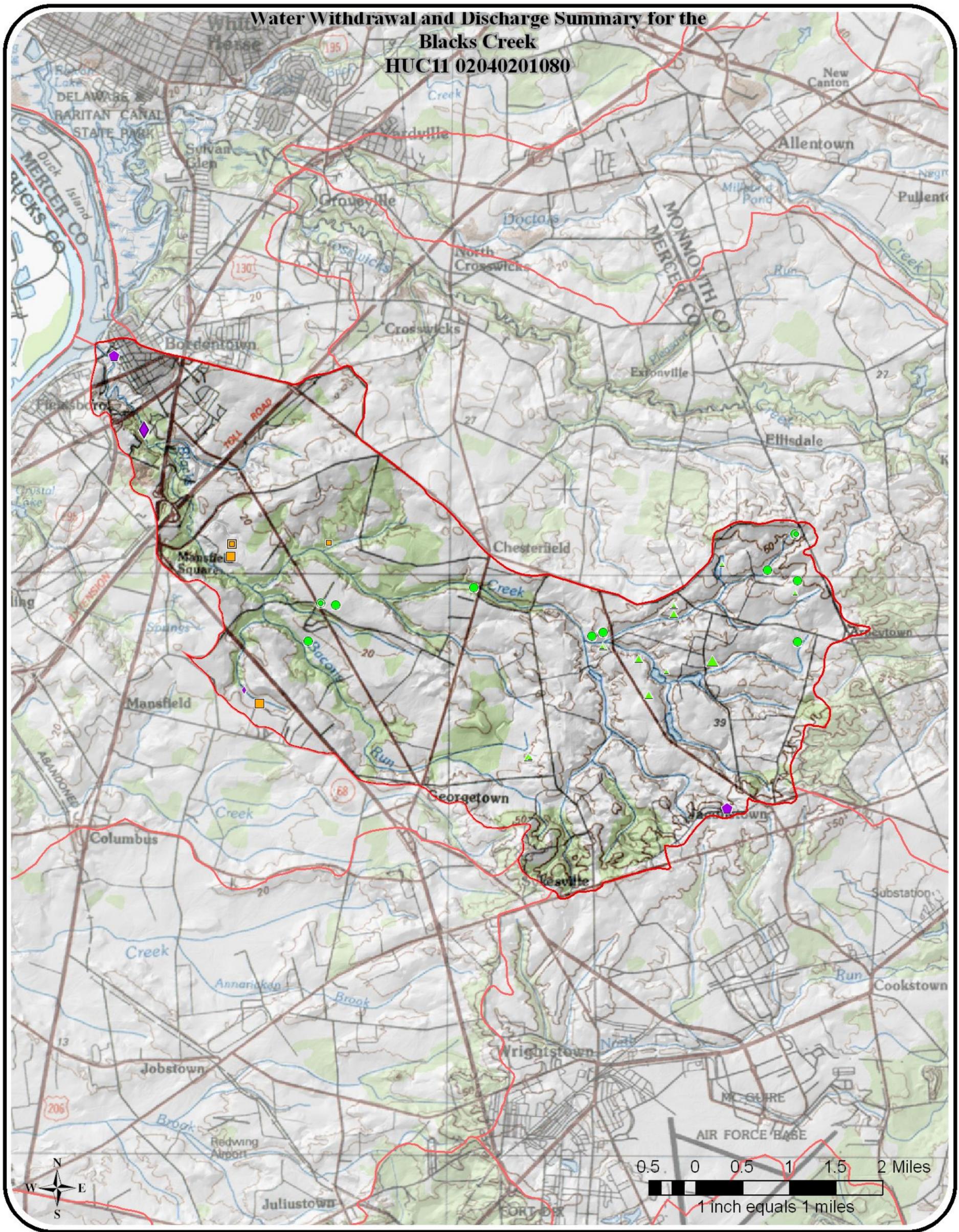
location	#	name
downstream:	02040201090	Crafts Creek
(if any)	--	--
upstream:	--	--
(if any)	--	--



NOTES:

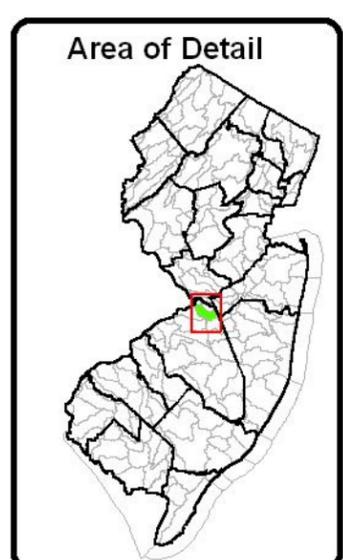
- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers to water used in the watershed but not evaporated.
- 5 Consumptive water use refers to water evaporated in the watershed. It does not include exports.
- 6 Use refers only to water actually used in that HUC11. It is equal to freshwater withdrawals + imports - exports.
- 7 Winter is Jan, Feb, Dec of the same year; spring is March-May; summer is June-Aug; fall is Sept-Nov.
- 8 Sewage generation and transfers are based on intersection of sewer service areas with HUC11s.
- 9 Based on discharge volumes reported under NJPDES program.
- 10 The allocated volume is calculated from allocation permits on file with the Bureau of Water Allocation, NJDEP, as of 1999.
- 11 Import and export volumes based on reported transfers between purveyors and on intersection of purveyor service areas with HUC11s.
- 12 Projected population estimates based on NJ Metropolitan Planning Organization estimates.
- 13 Subject to revision.
- 14 Withdrawals for offstream reservoirs are problematic and complicate Figures 1 and 2.

Water Withdrawal and Discharge Summary for the Blacks Creek HUC11 02040201080



Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	◆

Key for Withdrawal Data	
1999 Withdrawal	
No 1999 Use	●▲
1 - 50 MGY	■●▲
51 - 100 MGY	■●▲
101 - 500 MGY	■●▲
> 500 MGY	■●▲
MGY = millions of gallons per year	
Key for Withdrawal Data	
Source	
GW Confined	□
GW Unconfined	○
SW	△
Use Group	
Agricultural	●
Commercial	●
Industrial	●
Irrigation	●
Mining	●
Not Classified	●
Potable Supply	●
Power Generation	●



Water Withdrawals, Transfers and Discharges for CRAFTS CREEK --- 02040201090

WMA:	Crosswicks	20
HUC11:	Crafts Creek	02040201090

Table 1. Freshwater¹ Withdrawals in the HUC11 (millions of gallons)

Withdrawals (Q)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
surface water:²											
Delaware River	672	602	504	512	494	531	549	507	602	565	554
other	14	15	8	11	7	39	7	11	13	20	14
sum	687	617	512	523	501	570	556	518	615	584	568
ground-water:³											
confined	724	298	257	230	209	141	205	347	271	295	298
unconfined	90	437	405	423	442	460	511	413	473	488	414
sum	814	735	662	653	651	601	716	759	744	783	712
total withdrawals:	1,501	1,352	1,174	1,175	1,151	1,171	1,272	1,277	1,359	1,367	1,280

Table 2. Freshwater Imports To & Exports From the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
imports ¹¹	82	84	82	90	70	96	91	101	82	88	87
exports ¹¹	661	592	495	503	486	522	540	498	592	555	545
net	(579)	(508)	(413)	(414)	(416)	(426)	(449)	(397)	(510)	(467)	(458)

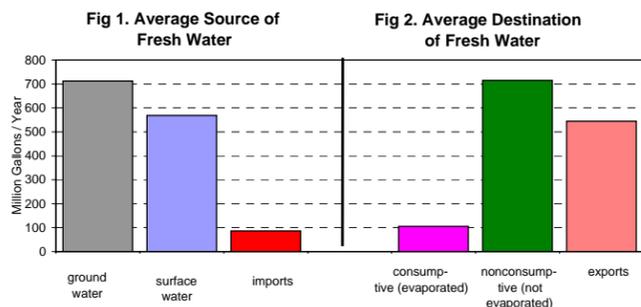


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	398	391	365	381	384	420	465	474	539	518	433
consumptive	48	48	42	47	44	50	54	57	65	64	52
domestic wells											
nonconsumptive	69	69	70	72	73	74	75	78	80	82	74
consumptive	10	10	10	10	10	10	11	11	11	12	10
industrial & commercial & mining											
nonconsumptive	332	266	228	204	185	148	180	212	113	183	205
consumptive	37	30	25	23	21	16	20	23	13	16	22
agricultural & non-agricultural irrigation											
nonconsumptive	3	3	2	2	2	3	2	2	3	2	2
consumptive	25	28	18	22	17	25	16	22	26	15	21
power generation											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
SUM:											
nonconsumptive	801	729	665	660	643	644	722	766	735	784	715
consumptive	120	115	95	102	92	102	101	114	114	106	106
PERCENTAGES:											
nonconsumptive	87.0%	86.4%	87.5%	86.6%	87.4%	86.4%	87.8%	87.1%	86.5%	88.1%	87.1%
consumptive	13.0%	13.6%	12.5%	13.4%	12.6%	13.6%	12.2%	12.9%	13.5%	11.9%	12.9%

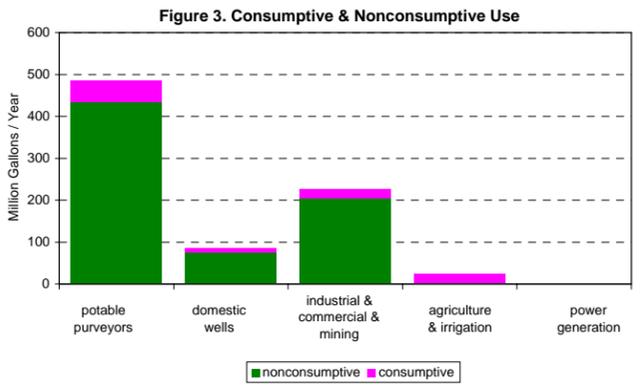


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon-sumptive	Consumptive								
potable purveyors	112	0	109	7	101	35	112	9	434	52
domestic wells	17	0	17	1	22	8	18	2	74	10
industrial & commercial & mining	46	5	51	6	56	6	53	5	205	22
agricultural & non-agricultural irrig.	0	1	0	4	1	13	0	4	2	21
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	175	6	178	18	180	62	183	21	716	106

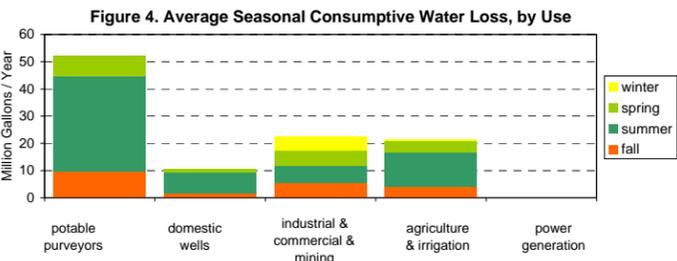


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	431	379	480	534	548	495	568	564	582	524	511
imported to HUC11	6	3	0	2	2	1	0	0	0	0	1
exported from HUC11	18	22	136	143	151	140	164	143	137	122	118

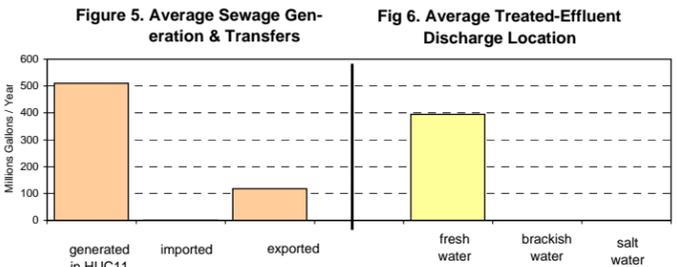


Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	420	360	345	393	398	356	404	421	445	402	394
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	420	360	345	393	398	356	404	421	445	402	394

Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	817
ground water	1,250
total	2,067

Table 8. 1999 Water Allocations¹⁰ in HUC11 by Water Use Group

Use Group	MGY
agricultural	59
commercial	0
industrial	385
irrigation	19
mining	0
potable supply	1,604
power generation	0
total	2,067

Table 9. HUC11 Descriptive Statistics

--- **Area:**
in this HUC11 only 28.9 sq. mi.
upstream HUC11s 0.0 sq. mi.
total watershed 28.9 sq. mi.
(this HUC11 onshore area: 27.3 sq. mi.)

--- **Population of this HUC11:**

Year	Population	Change
1940	9,753	-
1950	10,851	11.3%
1960	13,322	22.8%
1970	15,012	12.7%
1980	15,028	0.1%
1990	16,944	12.8%
2000	19,531	15.3%
2010	25,511	30.6% est. ¹²
2020	27,151	6.4% est. ¹²
2030	31,643	16.5% est. ¹²

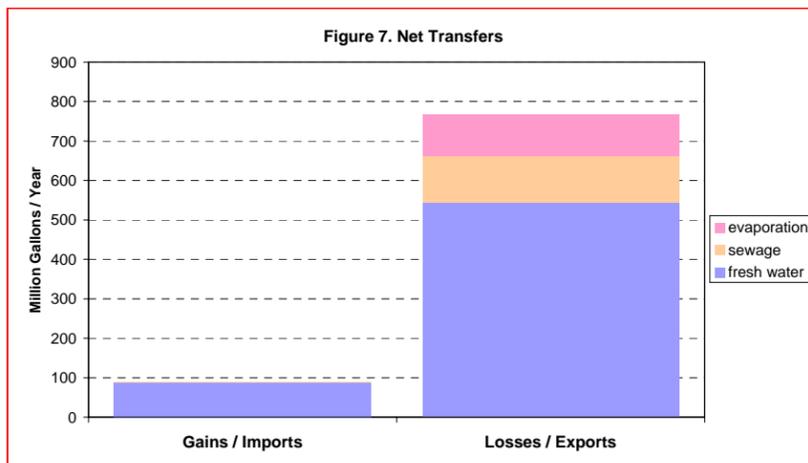
--- **Land Use of this HUC11:**

Type	1986	1995	Change
ag.	35.2%	30.9%	-4.3%
barren	1.3%	1.0%	-0.3%
forest	19.5%	20.1%	0.6%
urban	18.4%	22.6%	4.2%
water	6.5%	6.6%	0.2%
wetlands	19.2%	18.8%	-0.4%

--- **% of this HUC11 in:**
Pinelands: 0.0%
Highlands: 0.0%

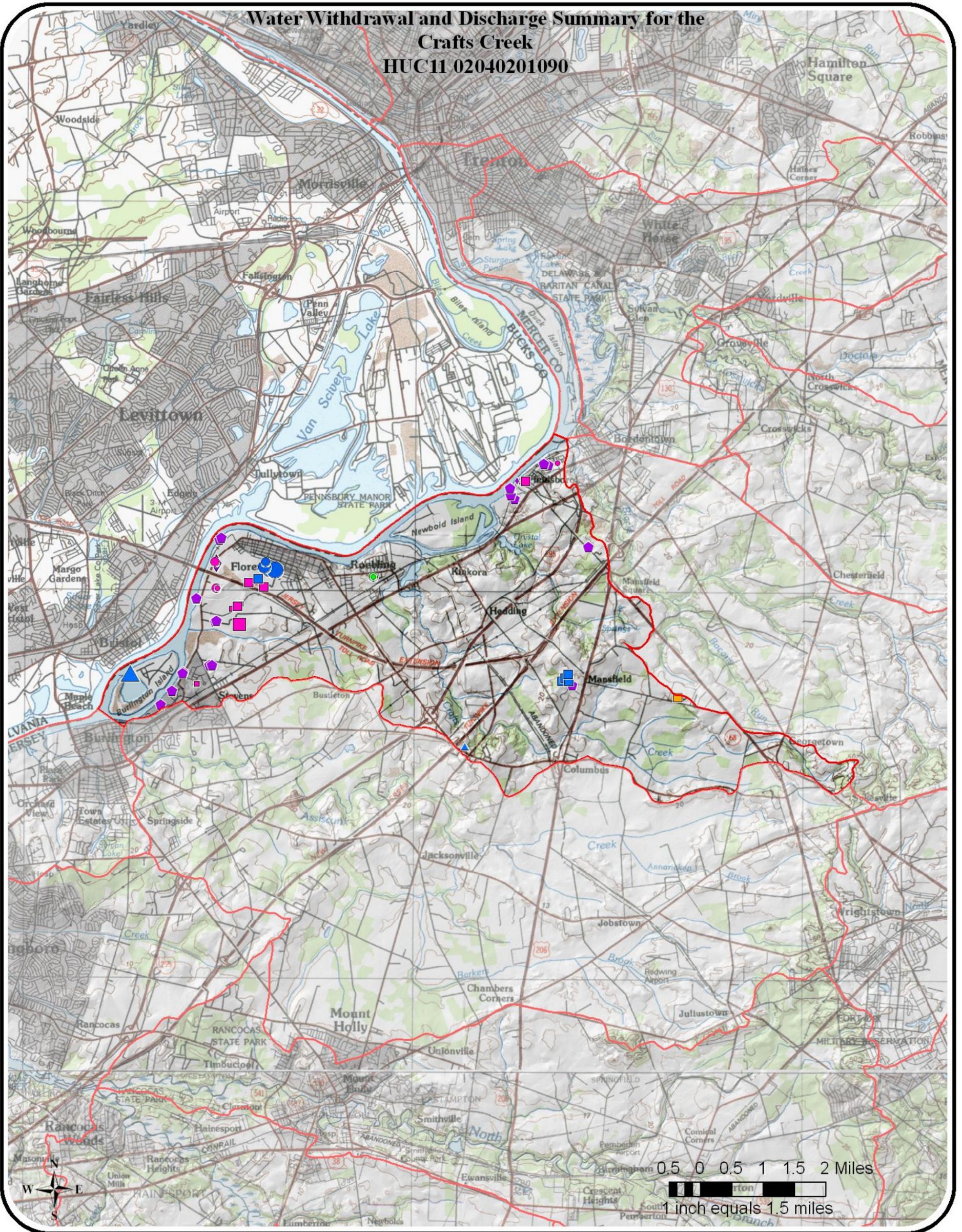
Table 10. Upstream and downstream HUC11s (in NJ)

location	#	name
downstream:	02040201110	Burlington/Edgewater Park Delaware tribs
(if any)	--	--
upstream:	--	--
(if any)	--	--



NOTES:
1 Salt and brackish water withdrawal and use is not included in this data.
2 This does not account for water released from onstream reservoirs for downstream intakes.
3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
4 Nonconsumptive water use refers to water used in the watershed but not evaporated.
5 Consumptive water use refers to water evaporated in the watershed. It does not include exports.
6 Use refers only to water actually used in that HUC11. It is equal to freshwater withdrawals + imports - exports.
7 Winter is Jan, Feb, Dec of the same year; spring is March-May; summer is June-Aug; fall is Sept-Nov.
8 Sewage generation and transfers are based on intersection of sewer service areas with HUC11s.
9 Based on discharge volumes reported under NJPDES program.
10 The allocated volume is calculated from allocation permits on file with the Bureau of Water Allocation, NJDEP, as of 1999.
11 Import and export volumes based on reported transfers between purveyors and on intersection of purveyor service areas with HUC11s.
12 Projected population estimates based on NJ Metropolitan Planning Organization estimates.
13 Subject to revision.
14 Withdrawals for offstream reservoirs are problematic and complicate Figures 1 and 2.

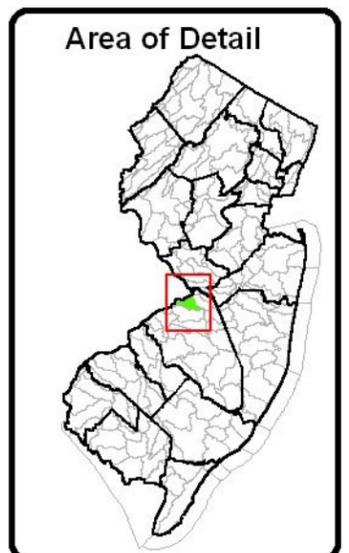
Water Withdrawal and Discharge Summary for the Crafts Creek HUC11 02040201090



Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	◆

Key for Withdrawal Data	
Source	
GW Confined	□
GW Unconfined	○
SW	△
1999 Withdrawal	
No 1999 Use	■●▲
1 - 50 MGY	■●▲
51 - 100 MGY	■●▲
101 - 500 MGY	■●▲
> 500 MGY	■●▲
Use Group	
Agricultural	●
Commercial	●
Industrial	●
Irrigation	●
Mining	●
Not Classified	●
Potable Supply	●
Power Generation	●

MGY = millions of gallons per year



Water Withdrawals, Transfers and Discharges for ASSISCUNK CREEK --- 02040201100

WMA:	Crosswicks	20
HUC11:	Assiscunk Creek	02040201100

Table 1. Freshwater¹ Withdrawals in the HUC11 (millions of gallons)

Withdrawals (Q)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
surface water:²											
Delaware River	0	0	0	0	0	0	0	0	0	0	0
other	12	12	11	12	7	46	16	44	37	45	24
sum	12	12	11	12	7	46	16	44	37	45	24
ground-water:³											
confined	538	1,048	1,042	1,219	884	934	1,046	1,047	864	836	946
unconfined	173	310	238	314	297	385	168	236	354	232	271
sum	711	1,358	1,280	1,533	1,181	1,319	1,214	1,283	1,217	1,068	1,217
total withdrawals:	723	1,370	1,291	1,545	1,189	1,365	1,230	1,327	1,255	1,113	1,241

Table 2. Freshwater Imports To & Exports From the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
imports ¹¹	287	227	198	181	269	276	246	294	284	296	256
exports ¹¹	372	804	801	948	678	700	807	805	638	631	719
net	(85)	(577)	(603)	(767)	(409)	(424)	(561)	(511)	(354)	(335)	(463)

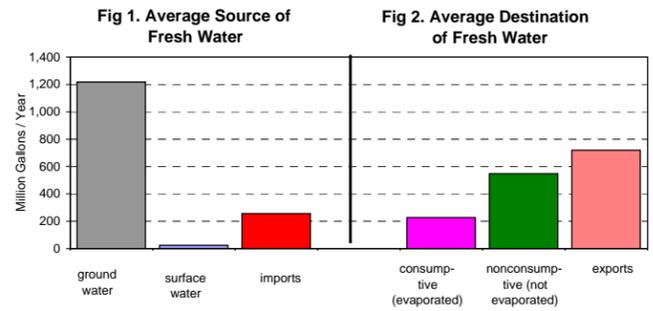


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	394	403	379	388	396	410	410	441	409	410	404
consumptive	47	51	47	51	53	57	52	61	57	57	53
domestic wells											
nonconsumptive	120	120	122	124	125	126	128	130	133	135	126
consumptive	17	17	17	17	18	18	18	18	19	19	18
industrial & commercial & mining											
nonconsumptive	0	0	0	0	0	0	1	1	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrigation											
nonconsumptive	6	20	12	19	18	33	6	16	28	16	17
consumptive	58	183	110	174	158	295	52	148	250	140	157
power generation											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
SUM:											
nonconsumptive	520	543	514	532	538	569	545	588	570	561	548
consumptive	121	251	174	243	229	370	122	227	326	216	228
PERCENTAGES:											
nonconsumptive	81.1%	68.4%	74.7%	68.7%	70.2%	60.6%	81.7%	72.2%	63.6%	72.2%	70.6%
consumptive	18.9%	31.6%	25.3%	31.3%	29.8%	39.4%	18.3%	27.8%	36.4%	27.8%	29.4%

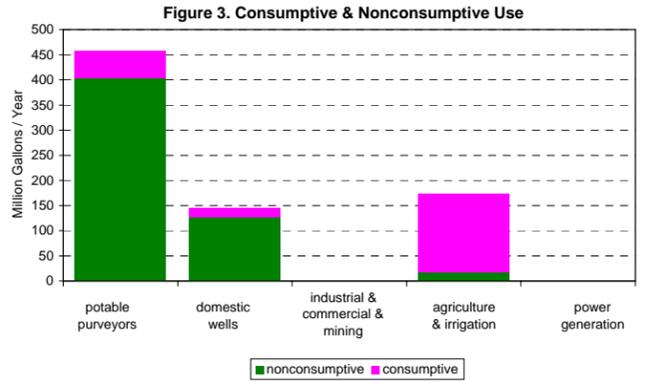


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon-sumptive	Consumptive								
potable purveyors	99	0	105	7	106	37	105	9	415	53
domestic wells	29	0	30	2	37	13	31	3	126	18
industrial & commercial & mining	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrig.	0	1	1	11	13	117	3	29	17	157
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	128	1	136	20	156	166	139	41	559	228

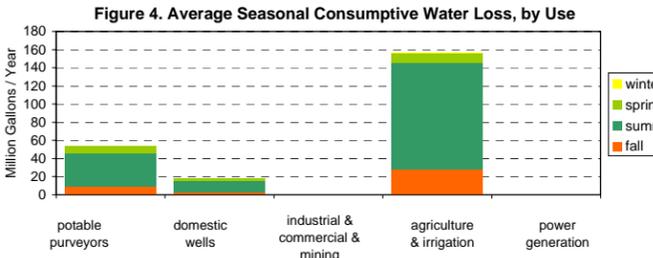


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	167	171	142	170	194	188	212	188	217	221	187
imported to HUC11	64	11	2	5	10	9	12	12	13	12	15
exported from HUC11	114	136	134	154	162	158	175	152	175	184	154

Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	116	46	9	21	42	39	49	48	55	48	47
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	116	46	9	21	42	39	49	48	55	48	47

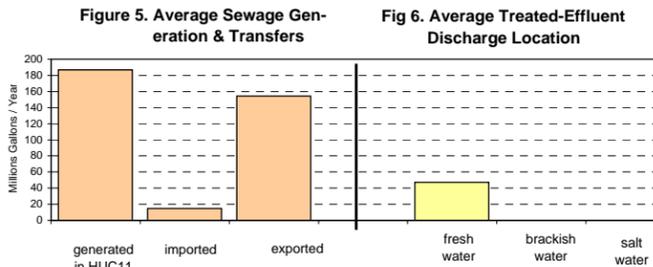


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	235
ground water	2,202
total	2,437

Table 8. 1999 Water Allocations¹⁰ in HUC11 by Water Use Group

Use Group	MGY
agricultural	1,106
commercial	0
industrial	0
irrigation	90
mining	0
potable supply	1,241
power generation	0
total	2,437

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	45.9	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	45.9	sq. mi.

(this HUC11 onshore area: 45.9 sq. mi.)

--- **Population of this HUC11:**

Year	Population	Change
1940	9,426	-
1950	10,808	14.7%
1960	13,763	27.3%
1970	16,408	19.2%
1980	17,214	4.9%
1990	19,635	14.1%
2000	23,996	22.2%
2010	28,346	18.1% est. ¹²
2020	30,748	8.5% est. ¹²
2030	34,620	12.6% est. ¹²

--- **Land Use of this HUC11:**

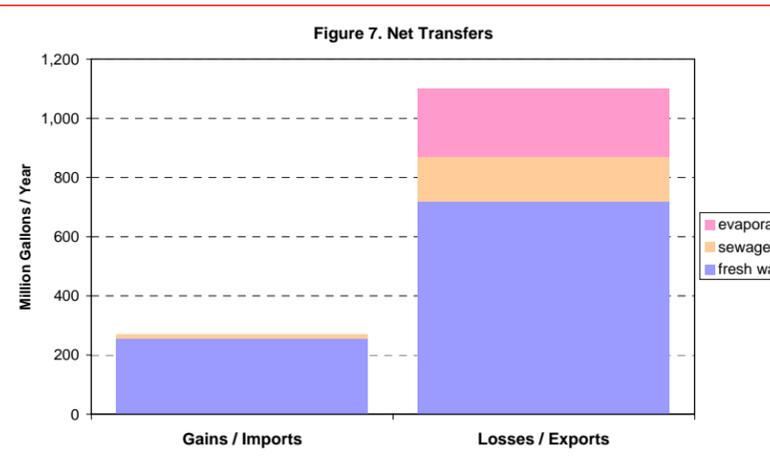
Type	Year		Change
	1986	1995	
ag.	39.8%	33.8%	-6.1%
barren	0.5%	2.0%	1.4%
forest	10.2%	10.7%	0.5%
urban	13.0%	17.5%	4.5%
water	0.5%	0.5%	0.0%
wetlands	36.1%	35.6%	-0.4%

--- **% of this HUC11 in:**

Pinelands:	0.8%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

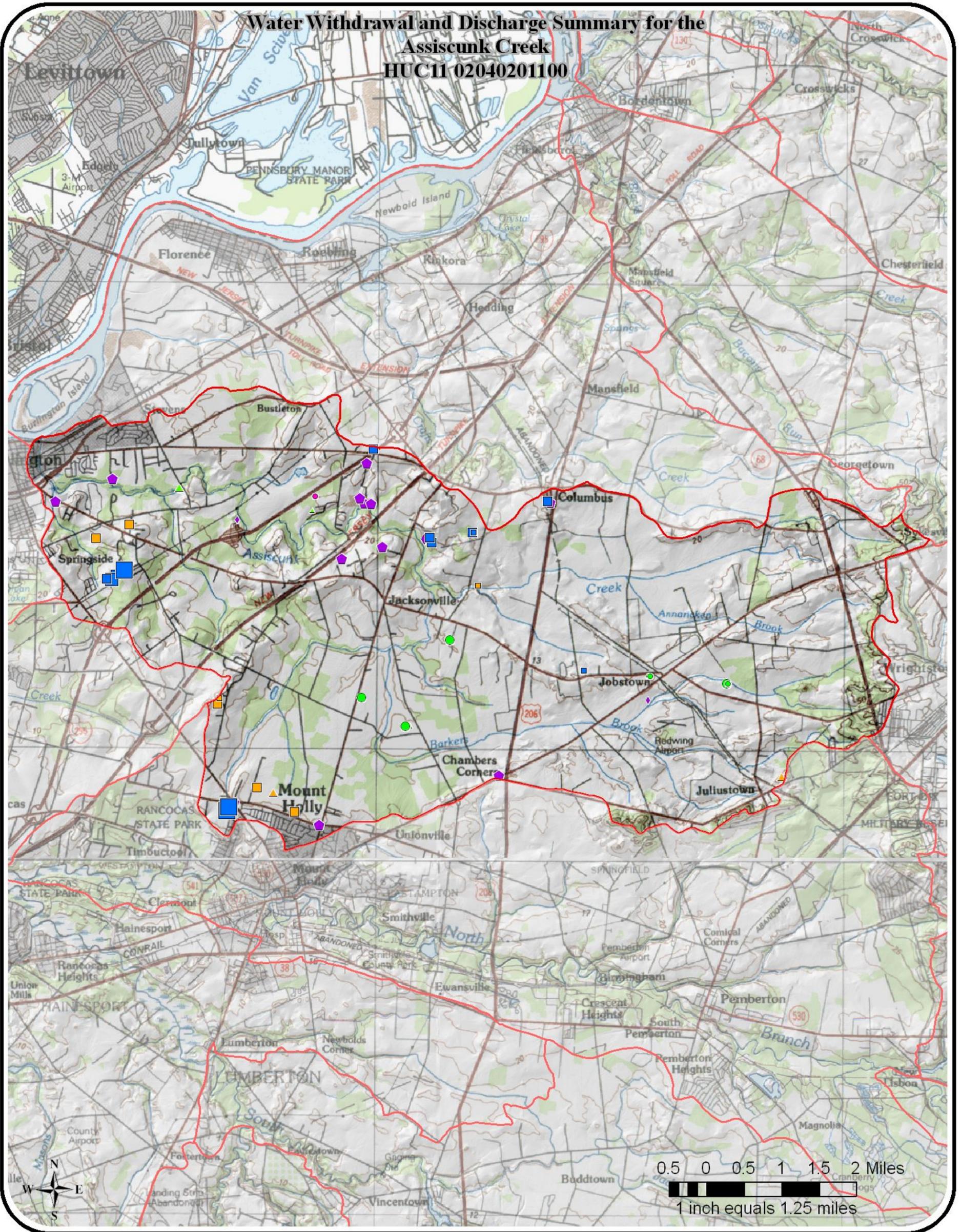
location	#	name
downstream:	02040201110	Burlington/Edgewater Park Delaware tribs
(if any)	--	--
upstream:	--	--
(if any)	--	--



NOTES:

- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers to water used in the watershed but not evaporated.
- 5 Consumptive water use refers to water evaporated in the watershed. It does not include exports.
- 6 Use refers only to water actually used in that HUC11. It is equal to freshwater withdrawals + imports - exports.
- 7 Winter is Jan, Feb, Dec of the same year; spring is March-May; summer is June-Aug; fall is Sept-Nov.
- 8 Sewage generation and transfers are based on intersection of sewer service areas with HUC11s.
- 9 Based on discharge volumes reported under NJPDES program.
- 10 The allocated volume is calculated from allocation permits on file with the Bureau of Water Allocation, NJDEP, as of 1999.
- 11 Import and export volumes based on reported transfers between purveyors and on intersection of purveyor service areas with HUC11s.
- 12 Projected population estimates based on NJ Metropolitan Planning Organization estimates.
- 13 Subject to revision.
- 14 Withdrawals for offstream reservoirs are problematic and complicate Figures 1 and 2.

Water Withdrawal and Discharge Summary for the Assiscunk Creek HUC11 02040201100

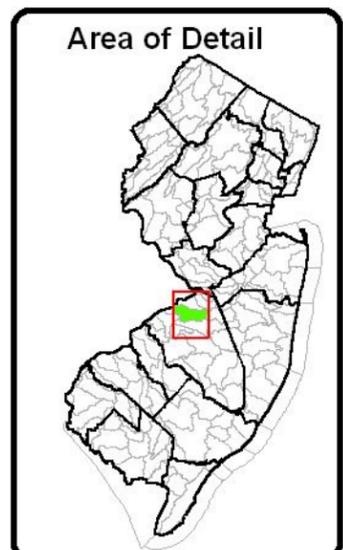


Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	◆

Key for Withdrawal Data	
Source	
GW Confined	□
GW Unconfined	○
SW	△
1999 Withdrawal	
No 1999 Use	●▲
1 - 50 MGY	■●▲
51 - 100 MGY	■●▲
101 - 500 MGY	■●▲
> 500 MGY	■●▲

MGY = millions of gallons per year

Use Group	
Agricultural	●
Commercial	●
Industrial	●
Irrigation	●
Mining	●
Not Classified	●
Potable Supply	●
Power Generation	●



Water Withdrawals, Transfers and Discharges for BURLINGTON/EDGEWATER PARK DELAWARE TRIBS --- 02040201110

WMA:	Crosswicks	20
HUC11:	Burlington/Edgewater Park Delaware tribs	02040201110

Table 1. Freshwater¹ Withdrawals in the HUC11 (millions of gallons)

Withdrawals (Q)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
surface water:²											
Delaware River	12,503	9,489	2,974	13,781	38,027	36,513	34,719	34,209	17,135	111	19,946
other	49	0	0	0	0	0	0	0	0	0	5
sum	12,552	9,489	2,974	13,781	38,027	36,513	34,719	34,209	17,135	111	19,951
ground-water:³											
confined	1,137	1,172	1,205	1,200	1,094	946	1,049	1,019	1,042	1,144	1,101
unconfined	337	417	893	857	891	1,029	765	871	491	720	727
sum	1,474	1,589	2,098	2,057	1,985	1,975	1,814	1,890	1,533	1,864	1,828
total withdrawals:	14,026	11,078	5,072	15,838	40,012	38,488	36,533	36,099	18,668	1,975	21,779

Table 2. Freshwater Imports To & Exports From the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
imports ¹¹	1,308	1,278	1,128	1,196	1,072	1,145	1,400	1,677	1,890	1,741	1,383
exports ¹¹	219	345	768	730	631	763	563	578	242	396	523
net	1,089	933	360	466	441	382	837	1,099	1,648	1,345	860

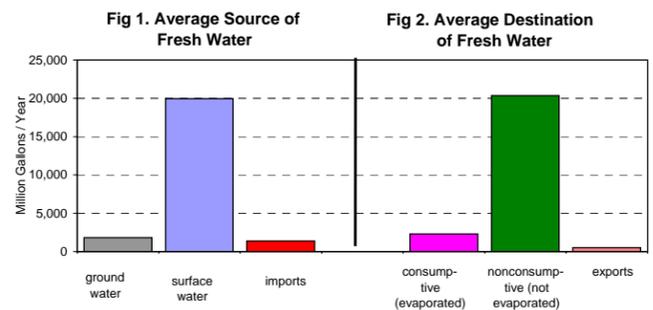


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	1,218	1,195	1,103	1,155	1,174	1,224	1,418	1,736	1,872	1,819	1,391
consumptive	140	144	132	145	143	163	175	225	257	237	176
domestic wells											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
industrial & commercial & mining											
nonconsumptive	12,276	9,595	3,761	13,483	35,209	33,713	32,191	31,705	16,365	1,144	18,944
consumptive	1,364	1,066	418	1,498	3,912	3,746	3,577	3,523	1,812	111	2,103
agricultural & non-agricultural irrigation											
nonconsumptive	12	1	2	2	2	2	1	1	1	1	2
consumptive	105	10	16	21	14	22	8	8	8	8	22
power generation											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
SUM:											
nonconsumptive	13,506	10,791	4,867	14,640	36,384	34,939	33,610	33,442	18,238	2,964	20,338
consumptive	1,609	1,220	566	1,664	4,069	3,931	3,760	3,756	2,078	355	2,301
PERCENTAGES:											
nonconsumptive	89.4%	89.8%	89.6%	89.8%	89.9%	89.9%	89.9%	89.9%	89.8%	89.3%	89.8%
consumptive	10.6%	10.2%	10.4%	10.2%	10.1%	10.1%	10.1%	10.1%	10.2%	10.7%	10.2%

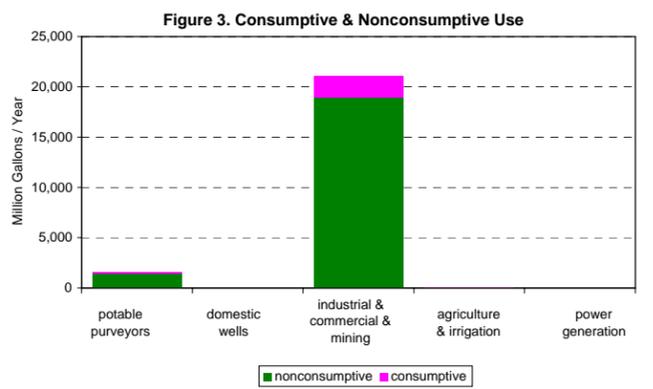


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon-sumptive	Consumptive								
potable purveyors	341	0	347	24	350	121	353	30	1,391	176
domestic wells	0	0	0	0	0	0	0	0	0	0
industrial & commercial & mining	4,685	520	4,489	498	5,448	605	4,322	480	18,944	2,103
agricultural & non-agricultural irrig.	0	0	0	4	2	15	0	3	2	22
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	5,027	520	4,836	526	5,800	741	4,675	514	20,338	2,301

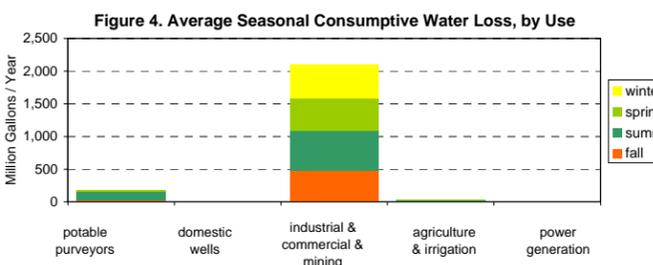


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	872	943	1,110	1,401	1,354	1,240	1,502	1,396	1,367	1,343	1,253
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	250	214	200	222	223	201	234	207	203	196	215

Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	622	730	909	1,180	1,131	1,039	1,268	1,189	1,164	1,147	1,038
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	622	730	909	1,180	1,131	1,039	1,268	1,189	1,164	1,147	1,038

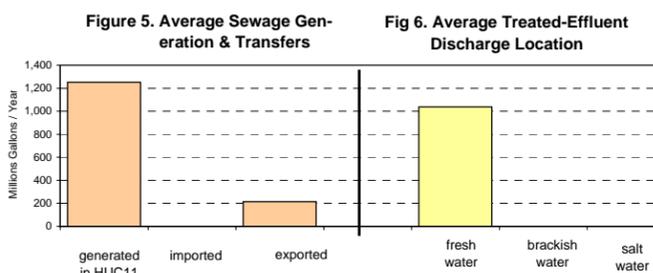


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	71,328
ground water	1,928
total	73,256

Table 8. 1999 Water Allocations¹⁰ in HUC11 by Water Use Group

Use Group	MGY
agricultural	7
commercial	0
industrial	72,216
irrigation	0
mining	0
potable supply	1,033
power generation	0
total	73,256

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	7.2	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	7.2	sq. mi.

(this HUC11 onshore area: 6.6 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	6,744	-
1950	7,643	13.3%
1960	10,050	31.5%
1970	14,577	45.0%
1980	14,446	-0.9%
1990	13,912	-3.7%
2000	15,266	9.7%
2010	16,214	6.2% est. ¹²
2020	17,120	5.6% est. ¹²
2030	17,937	4.8% est. ¹²

--- Land Use of this HUC11:

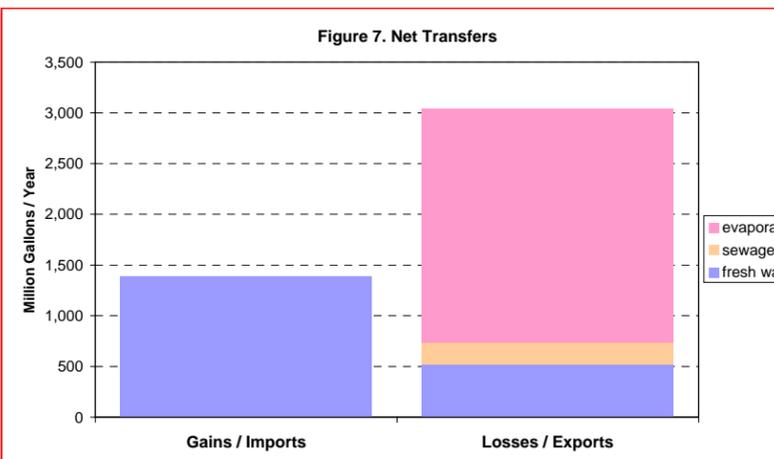
Type	Year		Change
	1986	1995	
ag.	8.7%	2.7%	-6.0%
barren	0.1%	1.3%	1.1%
forest	12.9%	12.4%	-0.6%
urban	65.2%	70.8%	5.5%
water	9.1%	9.1%	0.0%
wetlands	3.9%	3.8%	-0.2%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

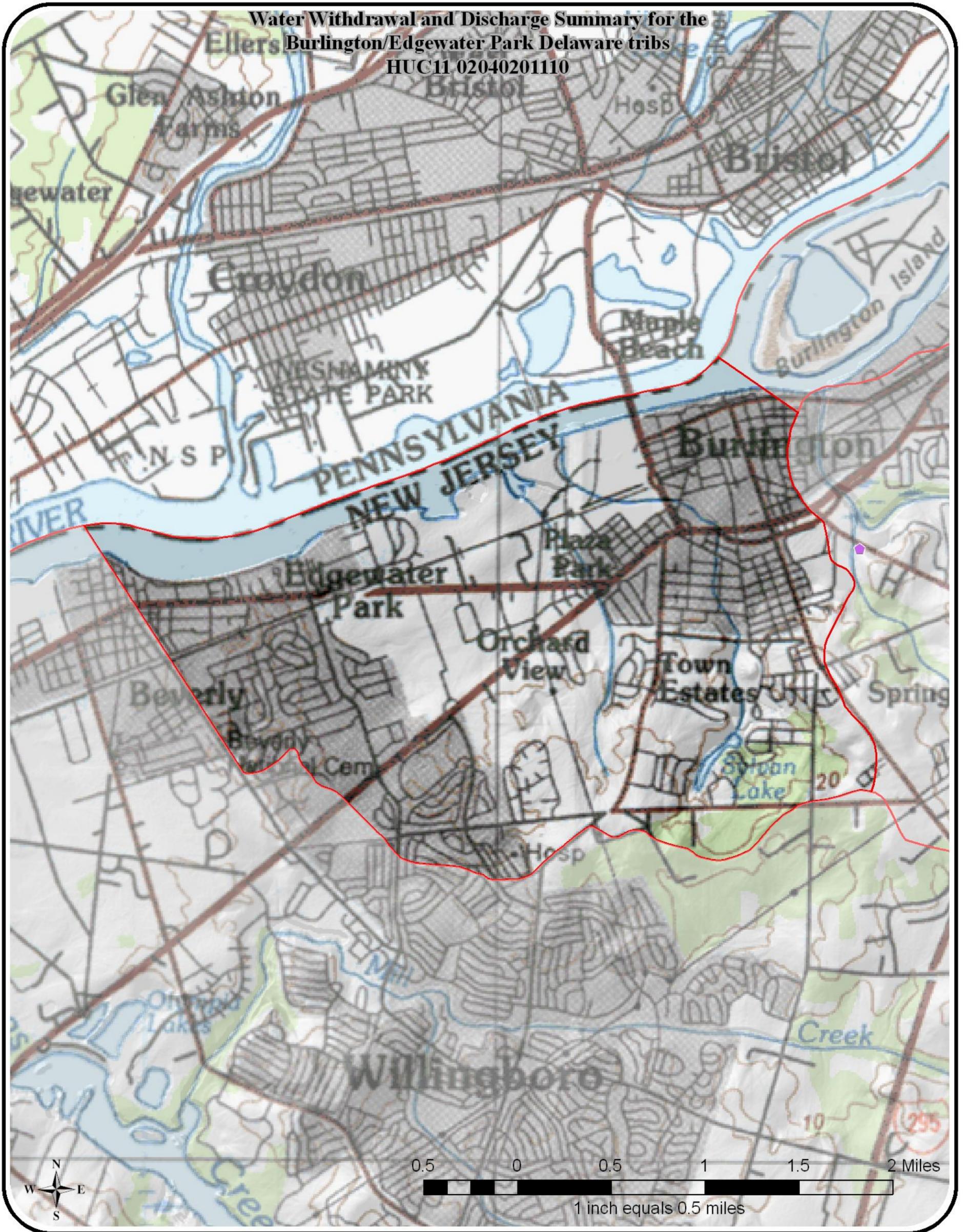
location	#	name
downstream:	02040202080	Rancocas Creek
(if any)	--	--
upstream:	--	--
(if any)	--	--



NOTES:

- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers to water used in the watershed but not evaporated.
- 5 Consumptive water use refers to water evaporated in the watershed. It does not include exports.
- 6 Use refers only to water actually used in that HUC11. It is equal to freshwater withdrawals + imports - exports.
- 7 Winter is Jan, Feb, Dec of the same year; spring is March-May; summer is June-Aug; fall is Sept-Nov.
- 8 Sewage generation and transfers are based on intersection of sewer service areas with HUC11s.
- 9 Based on discharge volumes reported under NJPDES program.
- 10 The allocated volume is calculated from allocation permits on file with the Bureau of Water Allocation, NJDEP, as of 1999.
- 11 Import and export volumes based on reported transfers between purveyors and on intersection of purveyor service areas with HUC11s.
- 12 Projected population estimates based on NJ Metropolitan Planning Organization estimates.
- 13 Subject to revision.
- 14 Withdrawals for offstream reservoirs are problematic and complicate Figures 1 and 2.

**Water Withdrawal and Discharge Summary for the
Burlington/Edgewater Park Delaware tribs
HUC11 02040201110**



Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	◆

Key for Withdrawal Data	
Source	1999 Withdrawal
GW Confined □	No 1999 Use ■●▲
GW Unconfined ○	1 - 50 MGY ■●▲
SW △	51 - 100 MGY ■●▲
	101 - 500 MGY ■●▲
	> 500 MGY ■●▲
	MGY = millions of gallons per year
	Use Group
	Agricultural ●
	Commercial ●
	Industrial ●
	Irrigation ●
	Mining ●
	Not Classified ●
	Potable Supply ●
	Power Generation ●

