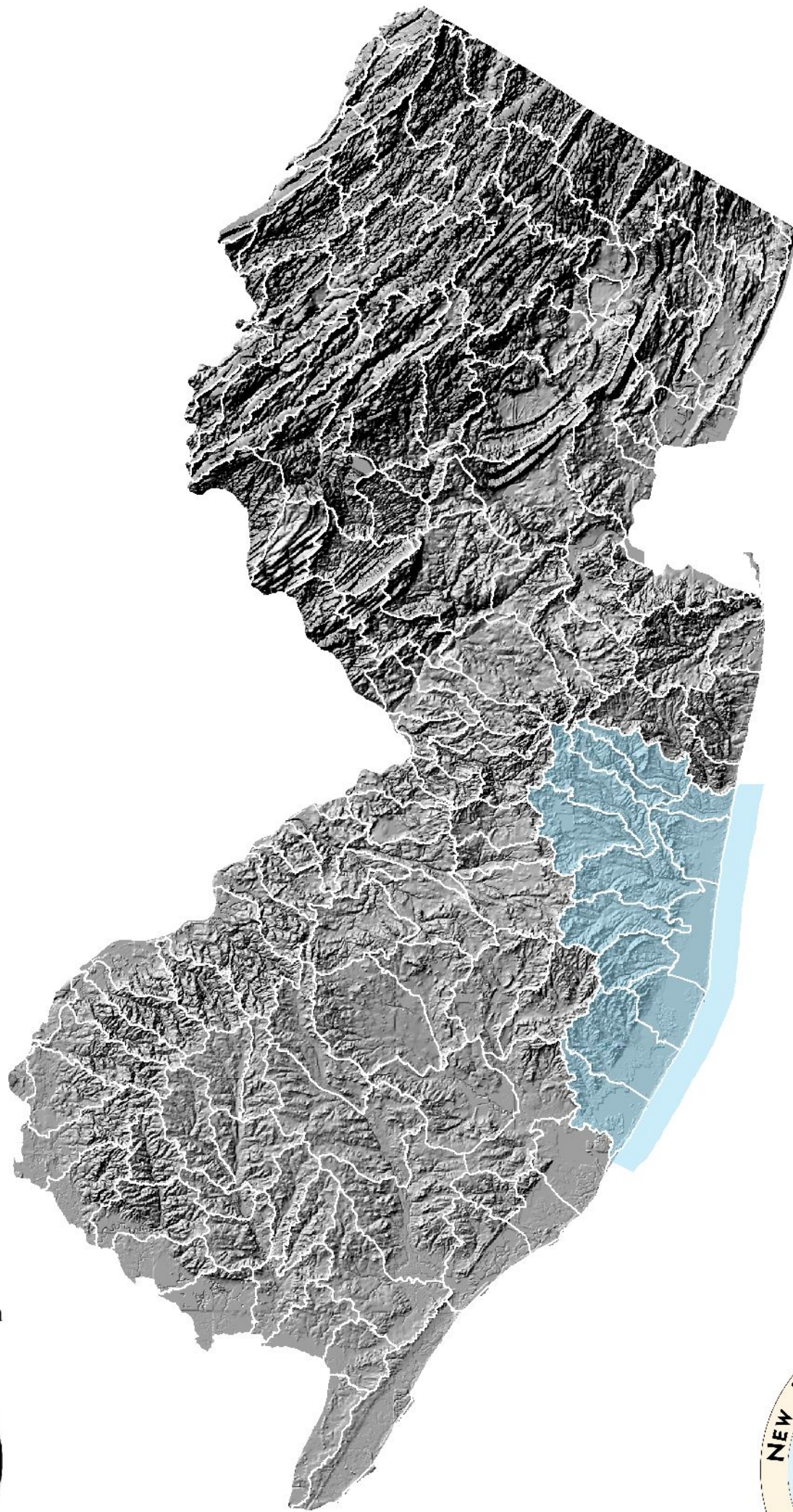


New Jersey Water Withdrawals, Uses, Transfers, and Discharges by HUC11, 1990 to 1999

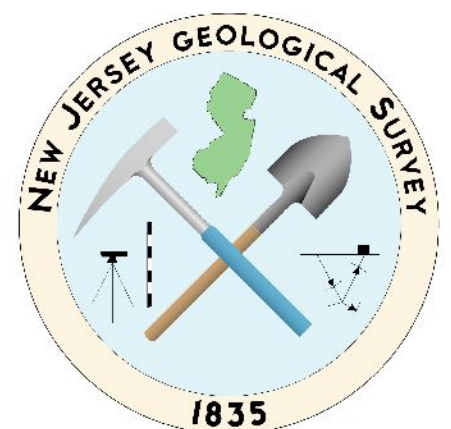
Appendix 13: HUC11 Tables, Figures and Maps WMA 13 - Barnegat Bay



Let's protect our earth



NEW JERSEY DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Water Withdrawals, Transfers and Discharges for NORTH BRANCH METEDECONK RIVER --- 02040301020

WMA:	Barnegat Bay	13
HUC11:	North Branch Metedeconk River	02040301020

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	0	0	0	0	0	0	0	0	18	12	3
sum	0	0	0	0	0	0	0	0	18	12	3
<i>ground-water:</i> ³											
confined	732	1,001	838	907	799	823	916	875	809	811	851
unconfined	417	422	405	449	443	455	412	458	423	423	431
sum	1,149	1,422	1,243	1,356	1,242	1,277	1,328	1,333	1,233	1,235	1,282
total withdrawals:	1,149	1,422	1,243	1,356	1,242	1,277	1,328	1,333	1,251	1,247	1,285

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	789	1,036	1,043	1,089	1,101	1,081	1,015	1,309	1,407	1,506	1,138
exports ¹¹	523	714	606	657	582	596	656	612	564	579	609
net	267	322	437	432	519	484	359	697	844	927	529

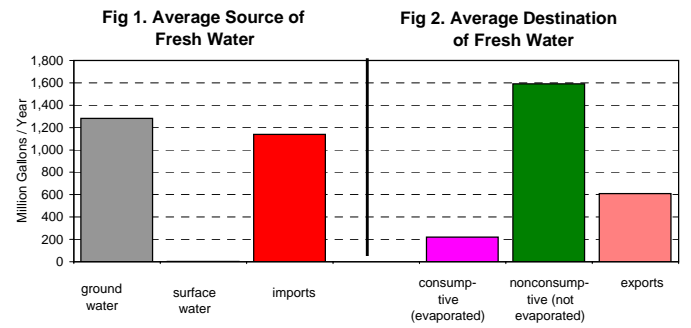


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	1,004	1,292	1,244	1,310	1,294	1,284	1,250	1,503	1,543	1,634	1,336
consumptive	132	178	163	184	172	180	160	204	215	219	181
<i>domestic wells</i>											
nonconsumptive	205	206	207	210	212	214	216	219	222	226	214
consumptive	29	29	29	30	30	30	30	31	31	32	30
<i>industrial & commercial & mining</i>											
nonconsumptive	41	36	33	50	47	45	23	54	44	40	41
consumptive	5	4	4	6	5	5	3	6	5	4	5
<i>agricultural & non-agricultural irrigation</i>											
nonconsumptive	0	0	0	0	0	0	0	1	2	1	0
consumptive	0	0	0	0	0	3	4	12	17	8	4
<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	1,250	1,534	1,484	1,569	1,554	1,544	1,490	1,777	1,811	1,900	1,591
consumptive	165	211	195	219	207	218	197	253	268	264	220
PERCENTAGES:											
nonconsumptive	88.3%	87.9%	88.4%	87.8%	88.2%	87.6%	88.3%	87.5%	87.1%	87.8%	87.9%
consumptive	11.7%	12.1%	11.6%	12.2%	11.8%	12.4%	11.7%	12.5%	12.9%	12.2%	12.1%

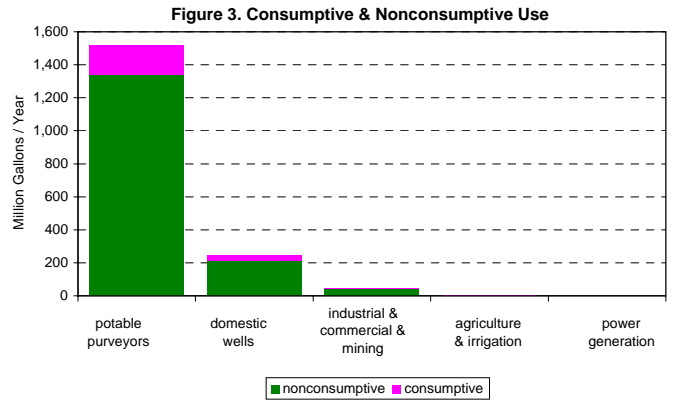


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	308	0	336	25	364	126	331	29	1,338	181
domestic wells	49	0	50	4	62	22	52	5	214	30
industrial & commercial & mining	11	1	10	1	10	1	10	1	41	5
agricultural & non-agricultural irrig.	0	0	0	1	0	3	0	1	0	4
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	367	1	397	31	436	152	394	36	1,594	220

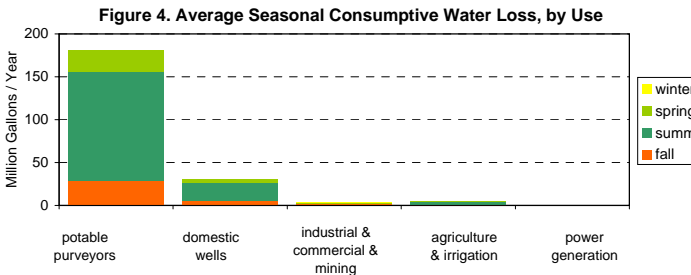


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	1,010	1,106	1,130	1,229	1,221	1,180	1,330	1,224	1,324	1,213	1,197
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	1,010	1,106	1,130	1,229	1,221	1,180	1,330	1,224	1,324	1,213	1,197

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	0	0	0	0	0	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0	0	0

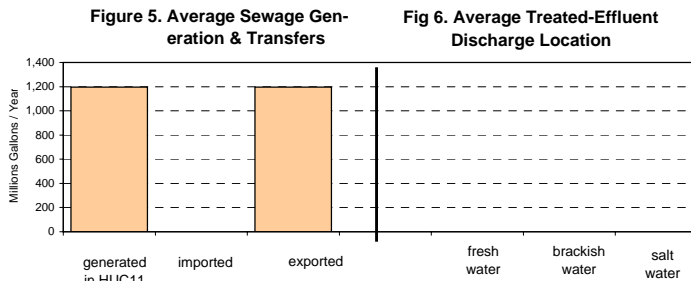


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	37
ground water	1,636
total	1,673

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

Use Group	MGY
agricultural	0
commercial	0
industrial	127
irrigation	55
mining	0
potable supply	1,491
power generation	0
total	1,673

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	38.3	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	38.3	sq. mi.

(this HUC11 onshore area: 38.3 sq. mi.)

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

Year	Population	Change
1940	3,835	-
1950	5,615	46.4%
1960	9,155	63.0%
1970	17,525	91.4%
1980	23,715	35.3%
1990	31,632	33.4%
2000	40,345	27.5%
2010	46,217	14.6% est. ¹²
2020	50,942	10.2% est. ¹²
2030	55,532	9.0% est. ¹²

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

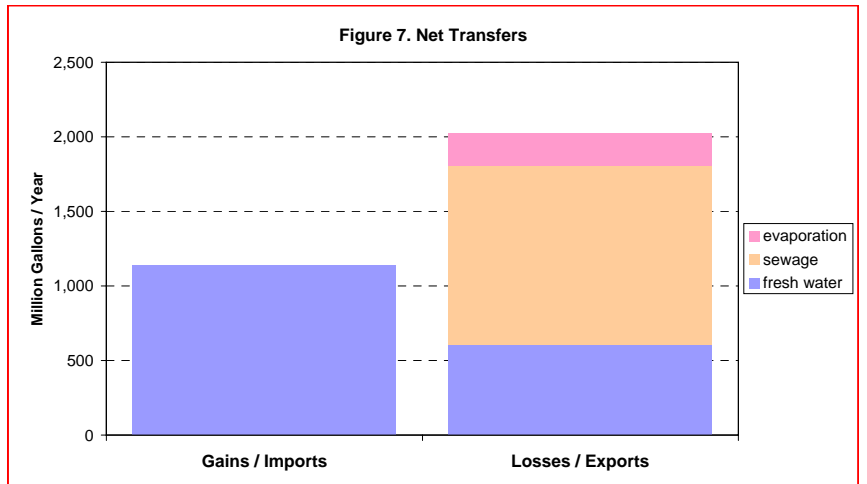
Type	Year		Change
	1986	1995	
ag.	6.0%	5.6%	-0.4%
barren	1.6%	1.2%	-0.4%
forest	27.0%	25.5%	-1.5%
urban	34.0%	37.0%	3.0%
water	0.3%	0.3%	0.0%
wetlands	31.1%	30.3%	-0.8%

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

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

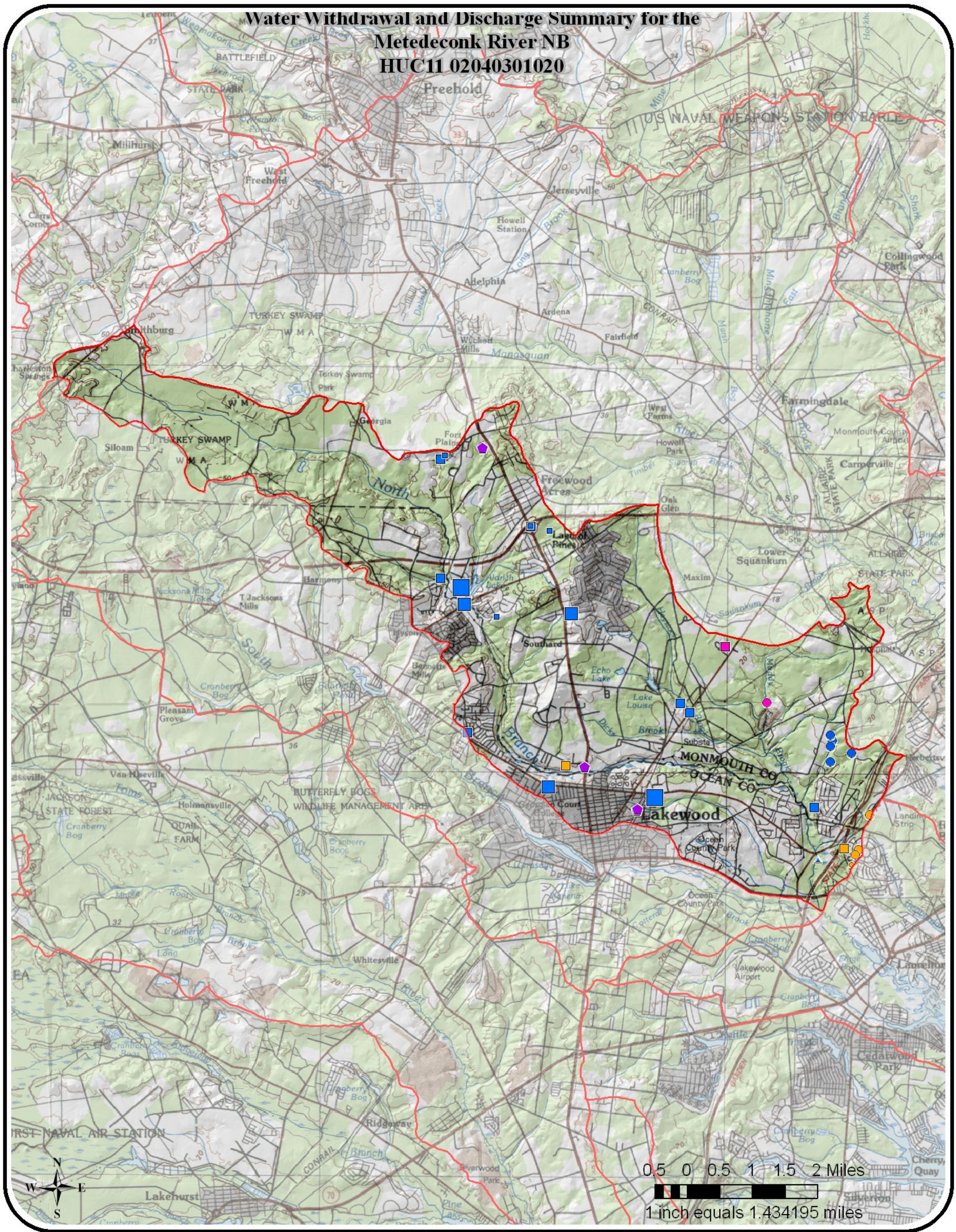
location	#	name
downstream:	02040301040	Metedeconk River
(if any)	--	--
upstream:	--	--
(if any)	--	--



NOTES:

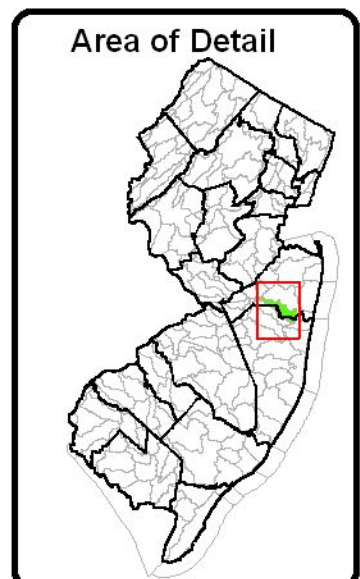
- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers 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 Metedeconk River NB HUC11 02040301020



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 SOUTH BRANCH METEDECONK RIVER --- 02040301030

WMA:	Barnegat Bay	13
HUC11:	South Branch Metedeconk River	02040301030

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	18	40	26	43	26	25	11	30	26	29	27
sum	18	40	26	43	26	25	11	30	26	29	27
ground-water:³											
confined	1,396	1,143	986	991	887	1,011	775	709	779	910	959
unconfined	170	190	205	213	244	229	226	353	339	303	247
sum	1,566	1,333	1,191	1,205	1,131	1,240	1,002	1,062	1,118	1,213	1,206
total withdrawals:	1,584	1,373	1,217	1,248	1,157	1,265	1,012	1,092	1,144	1,242	1,233

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	478	753	773	814	841	811	903	1,176	1,185	1,196	893
exports ¹¹	598	603	530	488	464	514	396	478	553	543	517
net	(119)	150	244	326	377	296	507	698	632	652	376

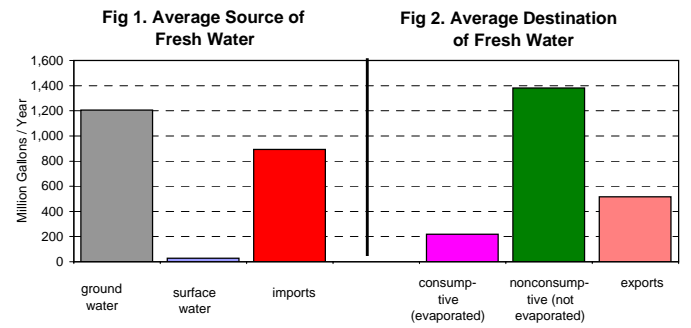


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	1,118	1,150	1,110	1,192	1,164	1,190	1,160	1,353	1,368	1,461	1,227
consumptive	147	163	149	171	157	163	149	190	183	201	167
domestic wells											
nonconsumptive	138	139	141	144	147	150	153	158	162	169	150
consumptive	19	20	20	20	21	21	22	22	23	24	21
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	3	4	3	5	3	3	2	4	4	4	3
consumptive	26	38	26	41	24	29	21	40	34	34	31
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	1,259	1,293	1,254	1,341	1,314	1,343	1,316	1,515	1,534	1,633	1,380
consumptive	193	221	195	231	203	214	191	252	240	259	220
PERCENTAGES:											
nonconsumptive	86.7%	85.4%	86.6%	85.3%	86.6%	86.3%	87.3%	85.8%	86.5%	86.3%	86.3%
consumptive	13.3%	14.6%	13.4%	14.7%	13.4%	13.7%	12.7%	14.2%	13.5%	13.7%	13.7%

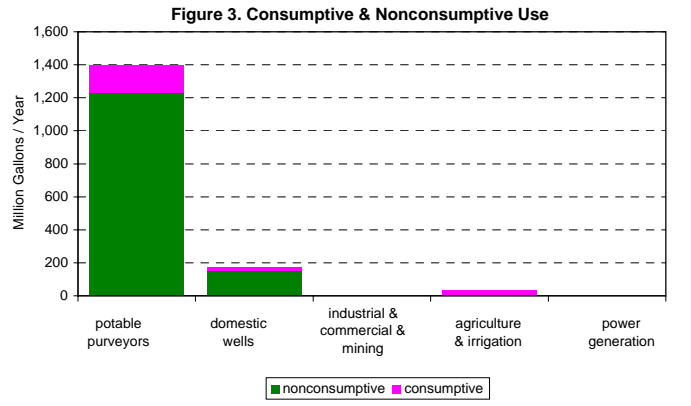


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	279	0	319	24	334	116	304	27	1,236	167
domestic wells	34	0	35	3	44	15	37	3	150	21
industrial & commercial & mining	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrig.	0	0	1	5	2	18	1	7	3	31
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	313	0	355	32	380	149	341	38	1,390	220

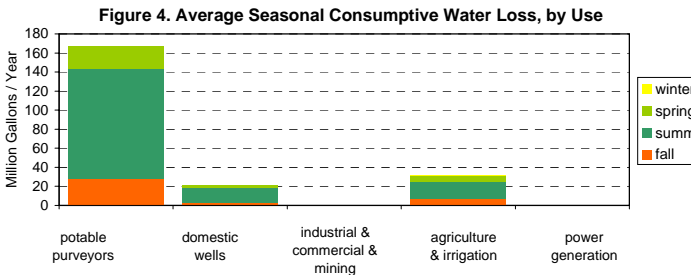


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	743	813	831	904	898	868	978	900	973	892	880
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	741	810	828	901	895	865	975	897	970	889	877

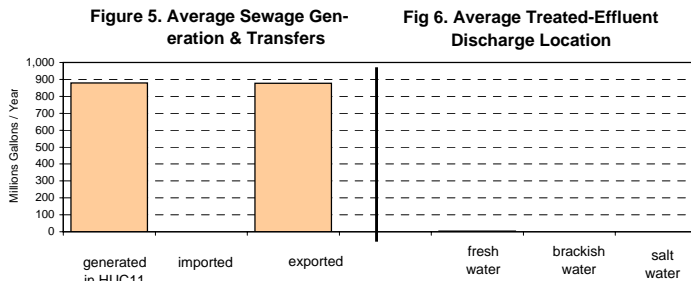


Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	3	2	3	3	3	3	3	3	3	3	3
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:	3	2	3	3	3	3	3	3	3	3	3

Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	60
ground water	930
total	990

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

Use Group	MGY
agricultural	0
commercial	0
industrial	0
irrigation	90
mining	0
potable supply	900
power generation	0
total	990

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	30.8	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	30.8	sq. mi.

(this HUC11 onshore area: 30.8 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	3,812	-
1950	5,018	31.6%
1960	7,554	50.5%
1970	14,030	85.7%
1980	20,913	49.1%
1990	25,277	20.9%
2000	33,386	32.1%
2010	40,273	20.6% est. ¹²
2020	45,466	12.9% est. ¹²
2030	52,871	16.3% est. ¹²

--- Land Use of this HUC11:

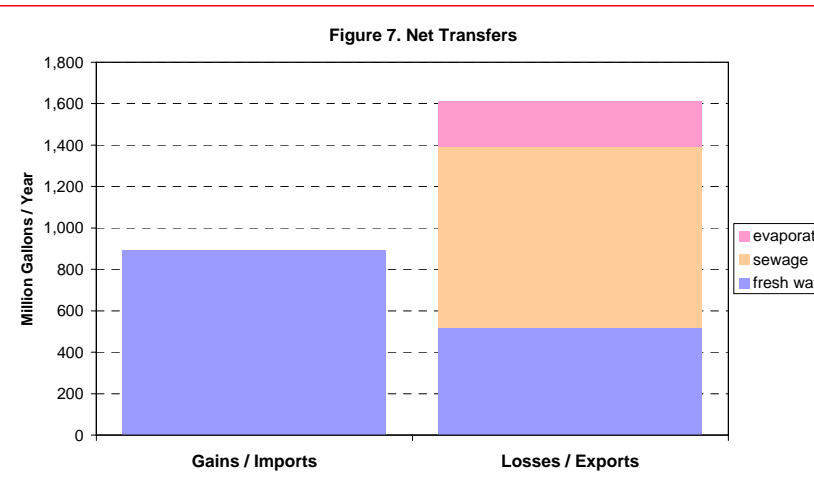
Type	Year		Change
	1986	1995	
ag.	4.5%	3.7%	-0.8%
barren	1.1%	1.2%	0.1%
forest	41.0%	36.8%	-4.2%
urban	25.4%	30.7%	5.3%
water	1.2%	1.2%	0.0%
wetlands	26.9%	26.5%	-0.4%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

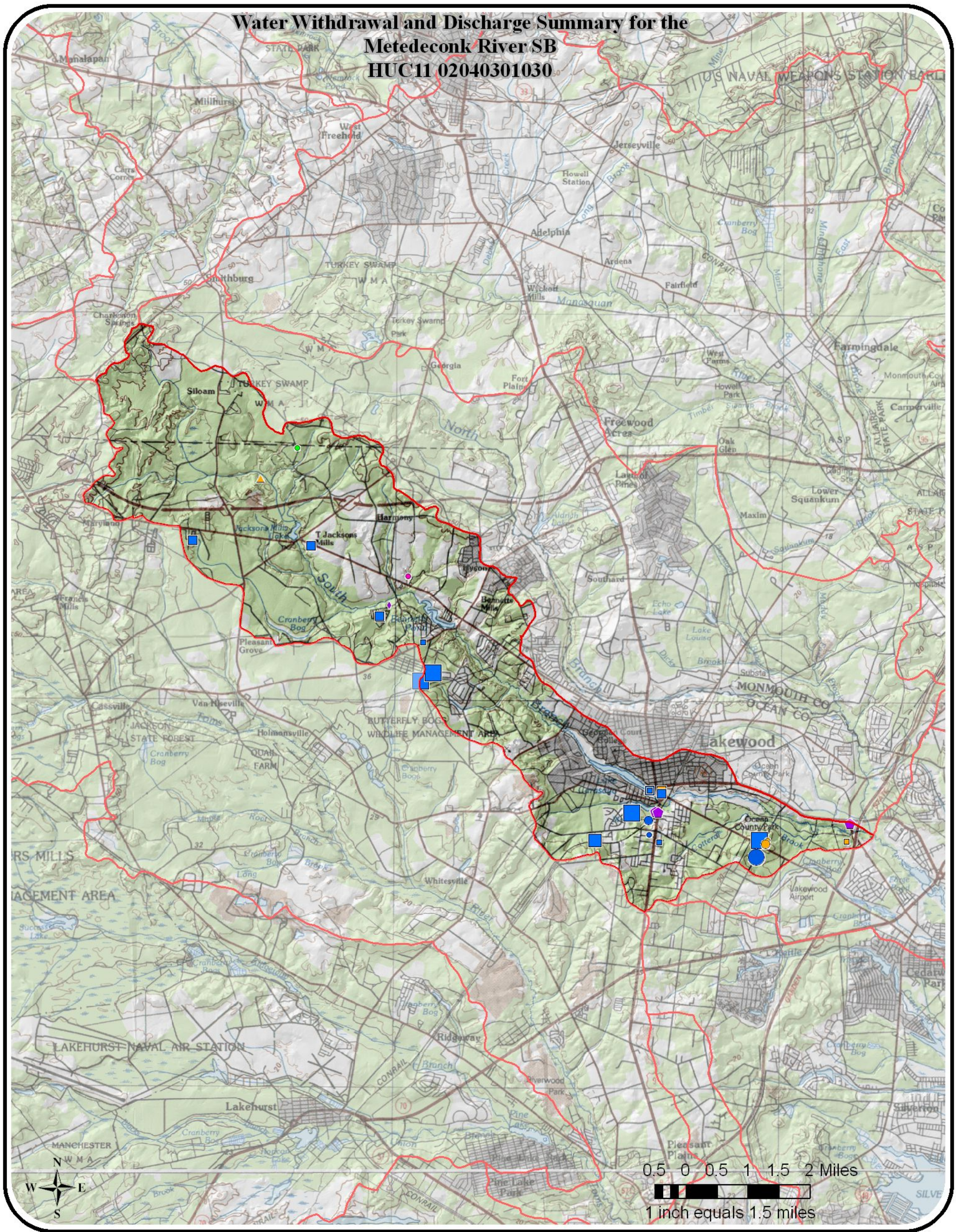
location	#	name
downstream:	02040301040	Metedeconk River
(if any)	--	--
upstream:	--	--
(if any)	--	--



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 Metedeconk River SB HUC11 02040301030

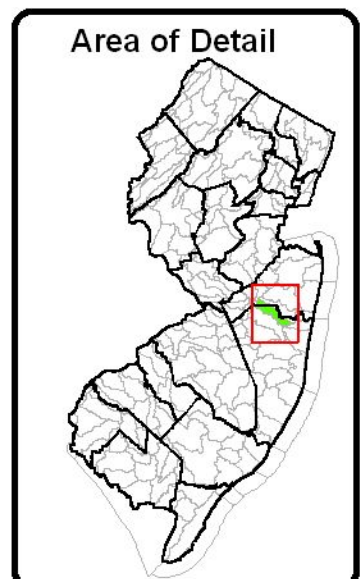


Key for Discharge Data		
1999 Treated Effluent Discharge		
0 - 50	MGY	◆
50 - 100	MGY	◆
100 - 500	MGY	◆
> 500	MGY	◆
Other Permitted Discharge		◆

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

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 METEDECONK RIVER --- 02040301040

WMA:	Barnegat Bay	13
HUC11:	Metedeconk River	02040301040

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	611	906	681	867	1,628	1,811	1,726	2,230	2,028	1,980	1,447
sum	611	906	681	867	1,628	1,811	1,726	2,230	2,028	1,980	1,447
<i>ground-water:</i> ³											
confined	1,054	2,038	2,192	2,061	1,248	1,247	1,209	1,315	1,229	1,265	1,486
unconfined	2,250	699	562	584	680	813	875	656	548	538	821
sum	3,303	2,737	2,754	2,645	1,928	2,060	2,085	1,971	1,777	1,803	2,306
total withdrawals:	3,914	3,642	3,435	3,511	3,556	3,871	3,810	4,201	3,806	3,784	3,753

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	120	109	91	156	178	150	144	145	161	132	139
exports ¹¹	2,393	2,028	1,966	2,012	2,094	2,216	2,114	2,345	2,115	2,118	2,140
net	(2,273)	(1,919)	(1,875)	(1,855)	(1,917)	(2,066)	(1,970)	(2,201)	(1,954)	(1,985)	(2,002)

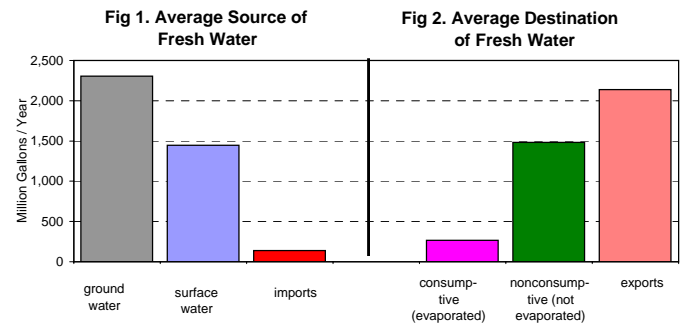


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	1,413	1,476	1,353	1,407	1,416	1,439	1,412	1,568	1,451	1,464	1,440
consumptive	189	209	176	197	190	223	187	215	213	205	201
<i>domestic wells</i>											
nonconsumptive	12	13	13	13	13	13	13	13	13	13	13
consumptive	2	2	2	2	2	2	2	2	2	2	2
<i>industrial & commercial & mining</i>											
nonconsumptive	12	11	10	32	9	30	35	24	37	20	22
consumptive	2	1	1	4	1	4	4	3	4	3	3
<i>agricultural & non-agricultural irrigation</i>											
nonconsumptive	0	0	0	0	1	9	19	18	13	8	7
consumptive	2	4	4	2	7	85	169	158	115	76	62
<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	1,438	1,500	1,376	1,452	1,439	1,491	1,479	1,622	1,514	1,506	1,482
consumptive	195	216	183	204	200	313	361	378	334	285	267
PERCENTAGES:											
nonconsumptive	88.1%	87.4%	88.2%	87.7%	87.8%	82.6%	80.4%	81.1%	81.9%	84.1%	84.7%
consumptive	11.9%	12.6%	11.8%	12.3%	12.2%	17.4%	19.6%	18.9%	18.1%	15.9%	15.3%

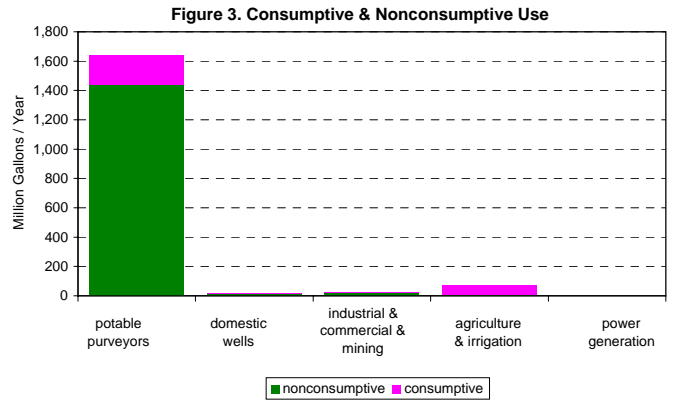


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	335	0	336	25	414	144	358	32	1,442	201
domestic wells	3	0	3	0	4	1	3	0	13	2
industrial & commercial & mining	5	1	5	1	6	1	6	1	22	3
agricultural & non-agricultural irrig.	0	0	1	7	4	38	2	16	7	62
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	343	1	344	33	428	185	368	49	1,484	267

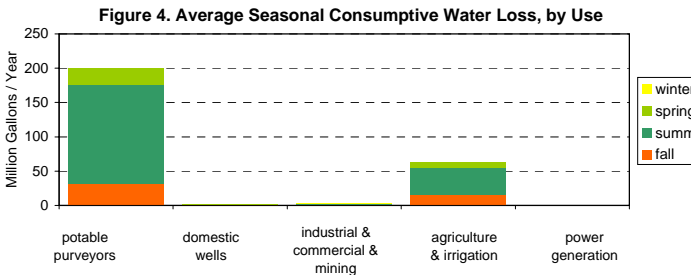


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	603	659	673	733	728	704	793	730	789	724	714
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	603	659	673	733	728	704	793	730	789	724	714

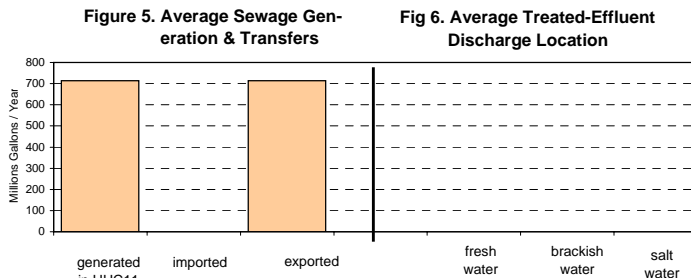


Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	0	0	0	0	0	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0	0	0

Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	269
ground water	4,251
total	4,520

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

Use Group	MGY
agricultural	0
commercial	37
industrial	74
irrigation	478
mining	0
potable supply	3,931
power generation	0
total	4,520

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	20.6	sq. mi.
upstream HUC11s	69.1	sq. mi.
total watershed	89.7	sq. mi.

(this HUC11 onshore area: 18.1 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	4,481	-
1950	8,169	82.3%
1960	19,309	136.4%
1970	33,646	74.2%
1980	44,805	33.2%
1990	51,041	13.9%
2000	57,710	13.1%
2010	61,557	6.7% est. ¹²
2020	66,530	8.1% est. ¹²
2030	69,309	4.2% est. ¹²

--- Land Use of this HUC11:

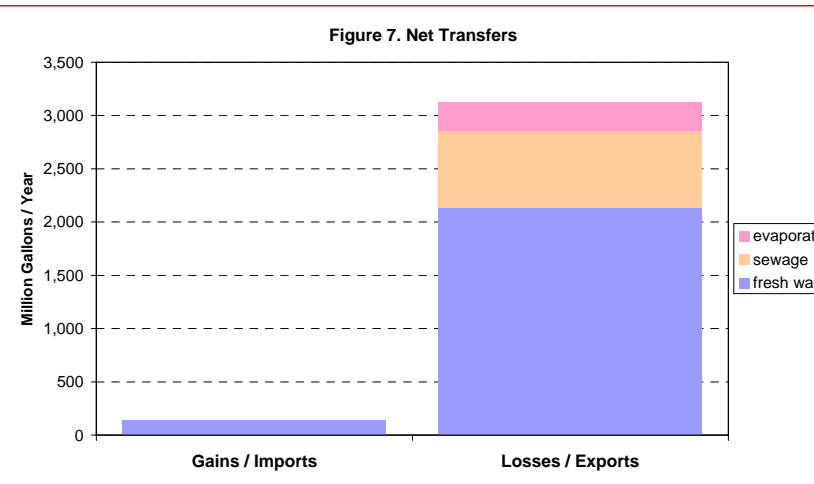
Type	Year		Change
	1986	1995	
ag.	0.4%	0.1%	-0.3%
barren	1.1%	1.6%	0.5%
forest	17.8%	13.8%	-4.0%
urban	52.8%	57.2%	4.4%
water	15.5%	15.5%	0.0%
wetlands	12.3%	11.8%	-0.5%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

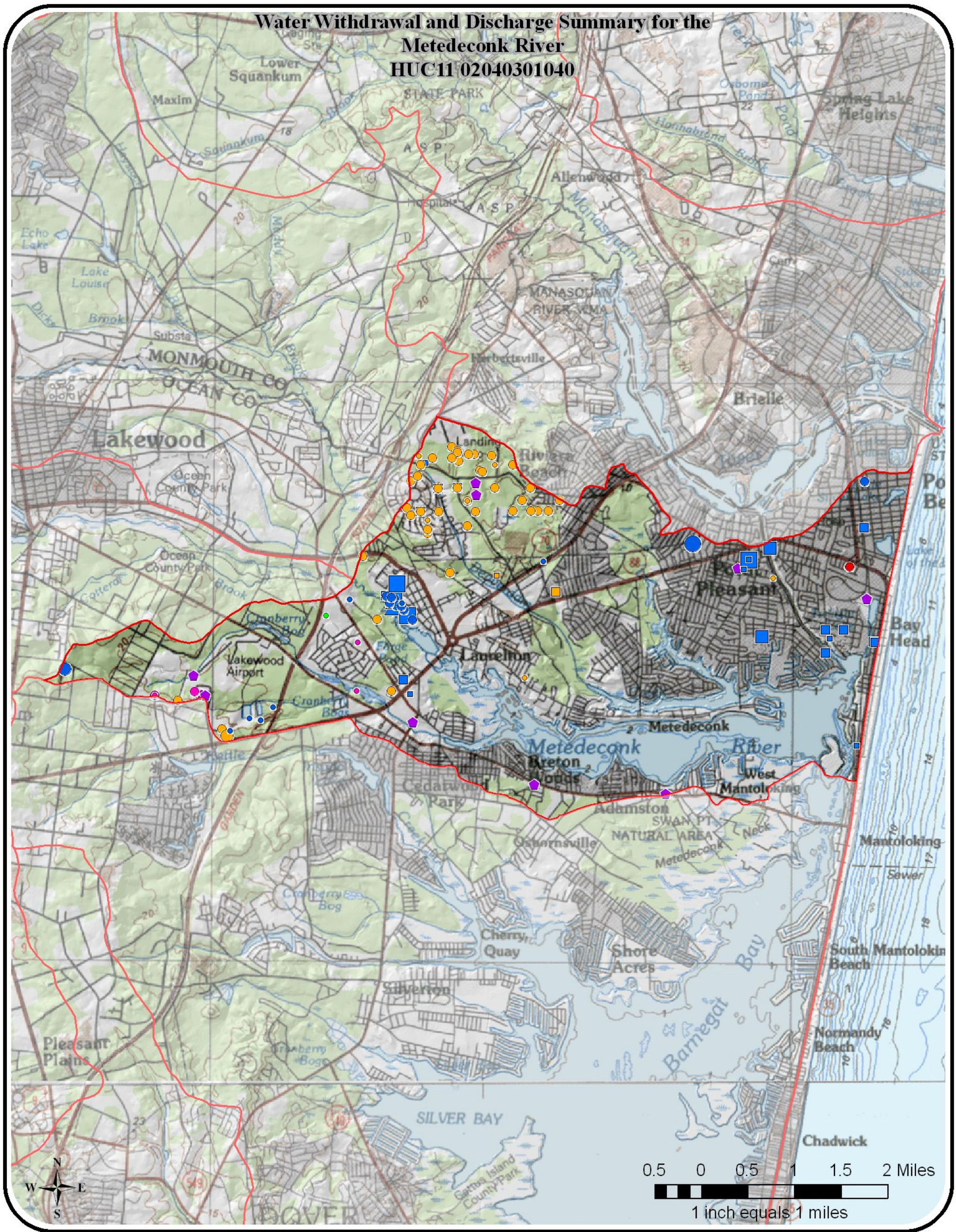
location	#	name
downstream:	02040301910	Atlantic Coast (Manasquan to Barnegat)
(if any)		
upstream:	02040301020	Metedeconk River NB
(if any)	02040301030	Metedeconk River SB
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NOTES:

- 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 Metedeconk River HUC11 02040301040

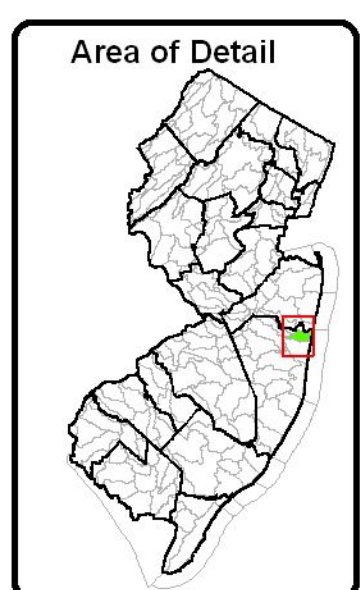


Key for Discharge Data		
1999 Treated Effluent Discharge		
0 - 50	MGY	◆
50 - 100	MGY	◆
100 - 500	MGY	◆
> 500	MGY	◆
Other Permitted Discharge		◆

Key for Withdrawal Data		
1999 Withdrawal		
No 1999 Use		■●▲
1 - 50	MGY	■●▲
51 - 100	MGY	■●▲
101 - 500	MGY	■●▲
> 500	MGY	■●▲

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 KETTLE CREEK / BARNEGAT BAY NORTH --- 02040301050

WMA:	Barnegat Bay	13
HUC11:	Kettle Creek / Barnegat Bay North	02040301050

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	15	9	15	6	11	9	17	4	0	9
sum	2	15	9	15	6	11	9	17	4	0	9
ground-water:³											
confined	290	708	533	718	726	658	810	1,281	985	660	737
unconfined	711	703	980	1,303	1,573	1,574	1,609	1,559	1,516	1,539	1,307
sum	1,001	1,410	1,513	2,022	2,299	2,232	2,419	2,840	2,501	2,198	2,043
total withdrawals:	1,003	1,425	1,522	2,037	2,305	2,243	2,428	2,857	2,505	2,198	2,052

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	3,258	3,025	2,922	2,911	3,061	3,341	3,050	3,526	3,790	3,600	3,249
exports ¹¹	83	125	220	409	555	562	675	852	693	537	471
net	3,175	2,900	2,702	2,503	2,506	2,780	2,375	2,674	3,097	3,063	2,777

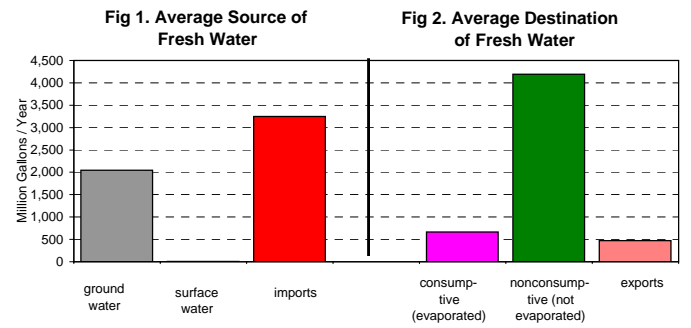


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	3,369	3,546	3,480	3,709	3,944	4,080	3,953	4,537	4,603	4,352	3,957
consumptive	476	529	485	558	563	617	551	661	669	612	572
domestic wells											
nonconsumptive	147	147	148	149	149	150	150	151	152	153	149
consumptive	21	21	21	21	21	21	21	21	21	21	21
industrial & commercial & mining											
nonconsumptive	145	50	60	55	40	26	36	124	152	109	80
consumptive	16	6	7	6	4	3	4	14	17	12	9
agricultural & non-agricultural irrigation											
nonconsumptive	0	3	2	4	9	13	9	12	12	9	7
consumptive	4	24	21	38	80	113	78	109	106	85	66
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	3,661	3,746	3,690	3,917	4,143	4,269	4,147	4,824	4,919	4,623	4,194
consumptive	517	579	534	623	669	754	655	804	813	731	668
PERCENTAGES:											
nonconsumptive	87.6%	86.6%	87.4%	86.3%	86.1%	85.0%	86.4%	85.7%	85.8%	86.3%	86.3%
consumptive	12.4%	13.4%	12.6%	13.7%	13.9%	15.0%	13.6%	14.3%	14.2%	13.7%	13.7%

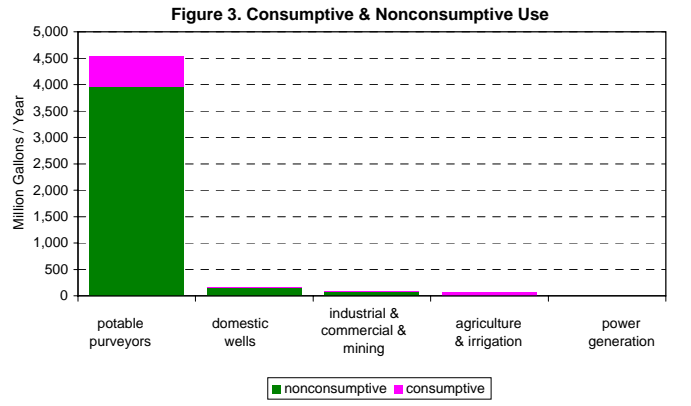


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	858	0	931	69	1,184	412	985	91	3,957	572
domestic wells	34	0	35	3	44	15	36	3	149	21
industrial & commercial & mining	8	1	18	2	33	4	20	2	80	9
agricultural & non-agricultural irrig.	0	0	1	11	4	39	2	15	7	66
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	900	1	985	85	1,265	470	1,043	112	4,194	668

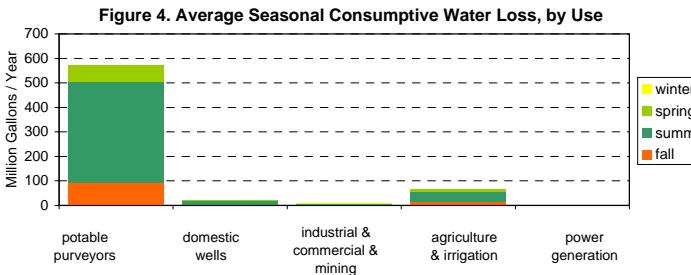


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	1,478	1,606	1,596	1,733	1,792	1,719	1,855	1,796	1,919	1,794	1,729
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	1,478	1,606	1,596	1,733	1,792	1,719	1,855	1,796	1,919	1,794	1,729

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	0	0	0	0	0	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0	0	0

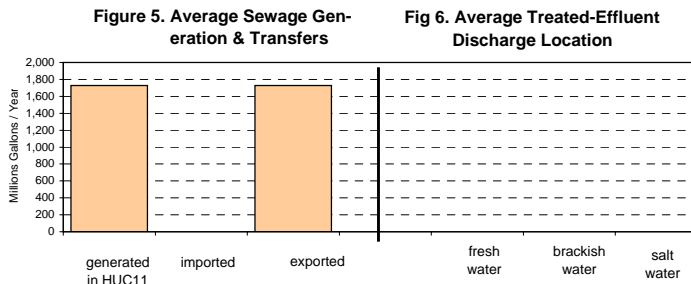


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	0
ground water	2,548
total	2,548

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

Use Group	MGY
agricultural	0
commercial	0
industrial	87
irrigation	356
mining	0
potable supply	2,105
power generation	0
total	2,548

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	46.7	sq. mi.
upstream HUC11s	89.7	sq. mi.
total watershed	136.3	sq. mi.

(this HUC11 onshore area: 33.3 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	4,949	-
1950	7,881	59.2%
1960	17,656	124.0%
1970	38,151	116.1%
1980	57,081	49.6%
1990	68,553	20.1%
2000	81,547	19.0%
2010	88,572	8.6% est. ¹²
2020	97,007	9.5% est. ¹²
2030	104,610	7.8% est. ¹²

--- Land Use of this HUC11:

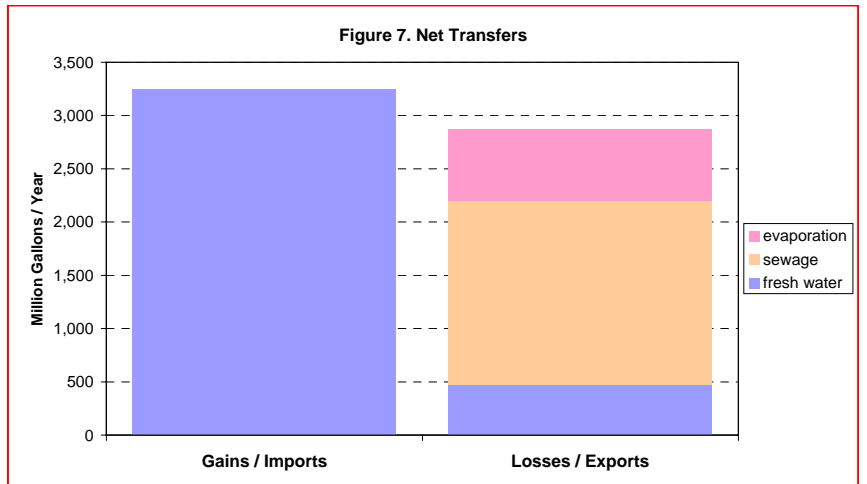
Type	Year		Change
	1986	1995	
ag.	0.8%	0.6%	-0.3%
barren	0.8%	0.9%	0.1%
forest	16.7%	13.1%	-3.6%
urban	34.6%	38.8%	4.2%
water	31.2%	31.2%	0.0%
wetlands	16.0%	15.4%	-0.5%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

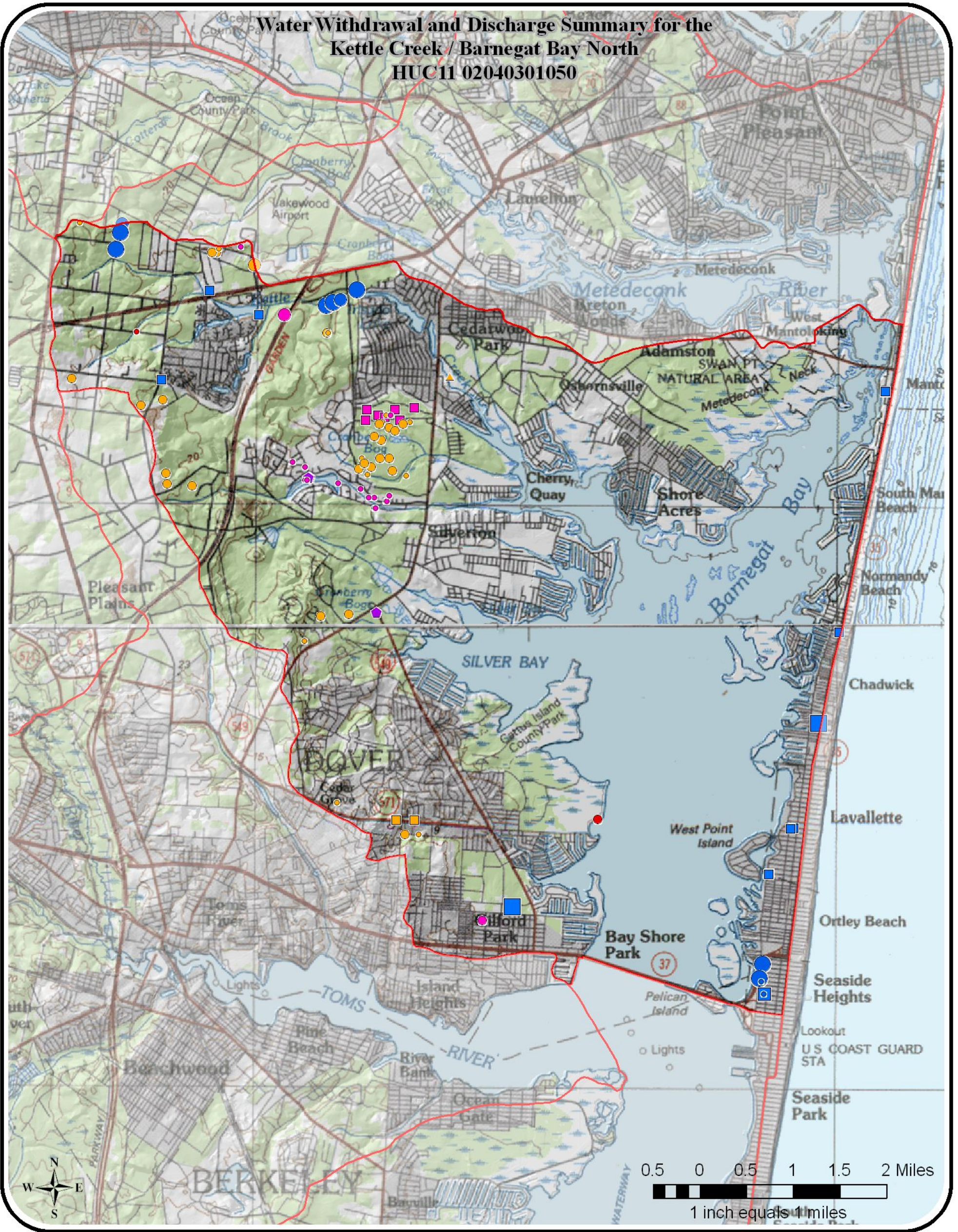
location	#	name
downstream:	02040301910	Atlantic Coast (Manasquan to Barnegat)
(if any)		
upstream:	02040301020	Metedeconk River NB
(if any)	02040301030	Metedeconk River SB
	02040301040	Metedeconk River
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NOTES:

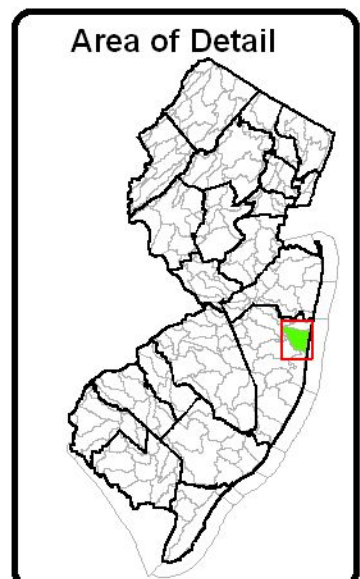
- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers 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 Kettle Creek / Barnegat Bay North HUC11 02040301050



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



Water Withdrawals, Transfers and Discharges for UPPER TOMS RIVER --- 02040301060

WMA:	Barnegat Bay	13
HUC11:	Upper Toms River	02040301060

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	0	0	0	0	0	1	0	0	152	94	25
sum	0	0	0	0	0	1	0	0	152	94	25
<i>ground-water:</i> ³											
confined	21	218	125	85	112	99	97	101	117	113	109
unconfined	3,454	2,677	2,985	2,336	2,514	2,249	2,467	2,911	2,593	2,326	2,651
sum	3,475	2,894	3,110	2,421	2,627	2,348	2,564	3,012	2,711	2,439	2,760
total withdrawals:	3,475	2,894	3,110	2,421	2,627	2,349	2,564	3,012	2,863	2,533	2,785

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	719	778	789	834	866	910	844	1,051	1,103	1,057	895
exports ¹¹	520	603	508	480	547	590	417	395	383	375	482
net	199	175	281	354	319	319	427	657	720	682	413

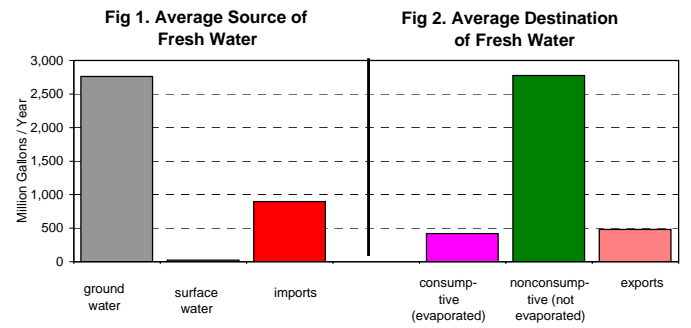


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	761	800	782	826	872	944	838	1,004	1,037	1,026	889
consumptive	109	121	110	126	125	129	115	149	149	148	128
<i>domestic wells</i>											
nonconsumptive	286	289	295	302	309	316	324	335	347	361	316
consumptive	40	41	42	43	44	45	46	47	49	51	45
<i>industrial & commercial & mining</i>											
nonconsumptive	2,180	1,597	1,898	1,289	1,383	1,074	1,456	1,857	1,617	1,304	1,566
consumptive	291	216	258	174	187	145	196	253	220	177	212
<i>agricultural & non-agricultural irrigation</i>											
nonconsumptive	0	1	1	2	2	2	2	2	16	13	4
consumptive	4	5	6	14	22	15	14	21	147	118	37
<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	3,228	2,687	2,975	2,418	2,567	2,336	2,619	3,199	3,017	2,704	2,775
consumptive	445	383	416	357	378	333	371	470	565	494	421
PERCENTAGES:											
nonconsumptive	87.9%	87.5%	87.7%	87.1%	87.2%	87.5%	87.6%	87.2%	84.2%	84.6%	86.8%
consumptive	12.1%	12.5%	12.3%	12.9%	12.8%	12.5%	12.4%	12.8%	15.8%	15.4%	13.2%

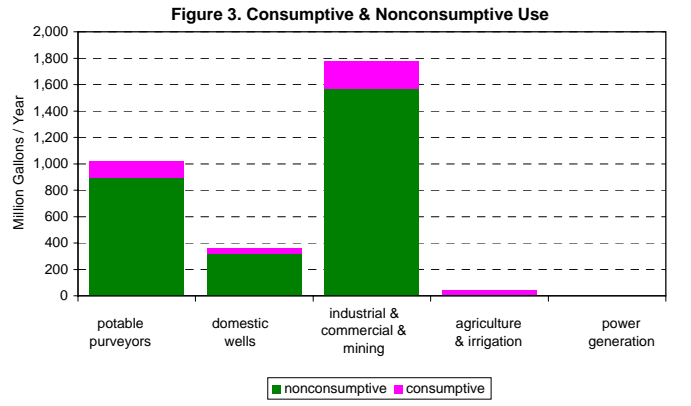


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive
potable purveyors	189	0	214	16	261	91	226	21	891	128
domestic wells	72	0	74	5	92	32	78	7	316	45
industrial & commercial & mining	233	31	422	57	448	60	462	63	1,566	212
agricultural & non-agricultural irrig.	0	1	1	5	3	23	1	8	4	37
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	495	32	711	84	804	206	766	98	2,777	421

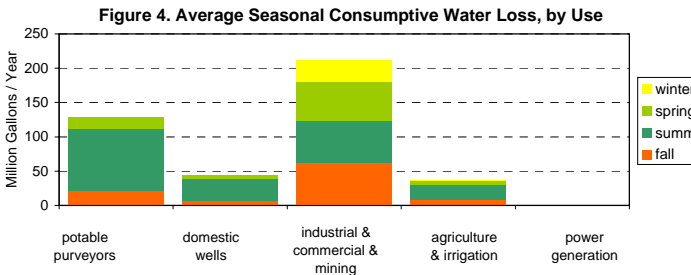


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	1,183	1,287	1,299	1,406	1,424	1,370	1,505	1,428	1,533	1,422	1,386
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	1,169	1,273	1,280	1,391	1,415	1,361	1,495	1,418	1,523	1,412	1,374

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	14	13	19	15	9	9	9	10	10	10	12
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:	14	13	19	15	9	9	9	10	10	10	12

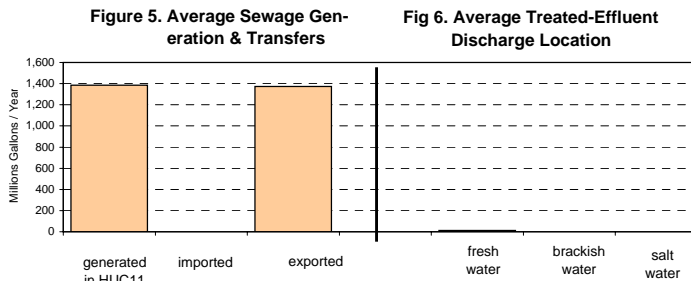


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	141
ground water	3,394
total	3,535

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

Use Group	MGY
agricultural	62
commercial	0
industrial	126
irrigation	159
mining	2,200
potable supply	988
power generation	0
total	3,535

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	60.3	sq. mi.
upstream HUC11s	63.1	sq. mi.
total watershed	123.4	sq. mi.

(this HUC11 onshore area: 60.3 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	2,941	-
1950	4,337	47.5%
1960	7,884	81.8%
1970	19,398	146.1%
1980	28,783	48.4%
1990	35,440	23.1%
2000	44,142	24.6%
2010	52,959	20.0% est. ¹²
2020	61,912	16.9% est. ¹²
2030	73,305	18.4% est. ¹²

--- Land Use of this HUC11:

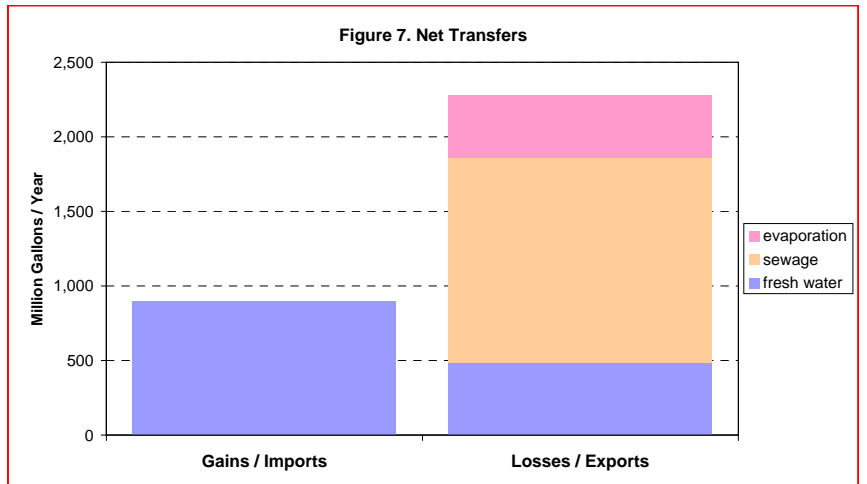
Type	Year		Change
	1986	1995	
ag.	5.3%	3.9%	-1.3%
barren	5.4%	4.6%	-0.8%
forest	51.1%	48.4%	-2.7%
urban	14.2%	19.1%	4.9%
water	0.9%	1.1%	0.2%
wetlands	23.0%	22.8%	-0.2%

--- % of this HUC11 in:

Pinelands:	30.2%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

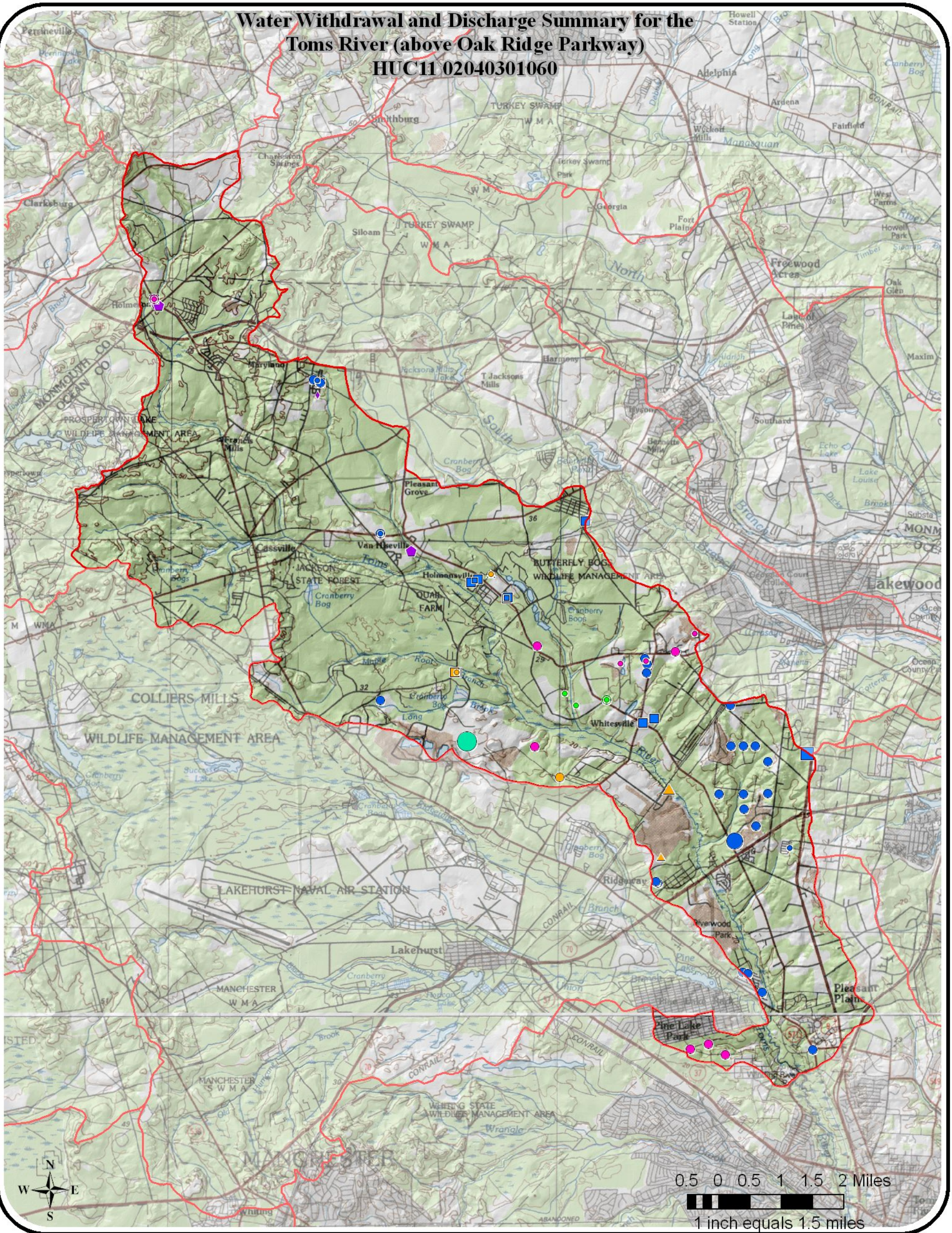
location	#	name
downstream:	02040301080	Toms River (below Oak Ridge Parkway)
(if any)		
upstream:	02040301070	Union/Ridgeway Branch (Toms River)
(if any)		
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NOTES:

- 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 Toms River (above Oak Ridge Parkway) HUC11 02040301060

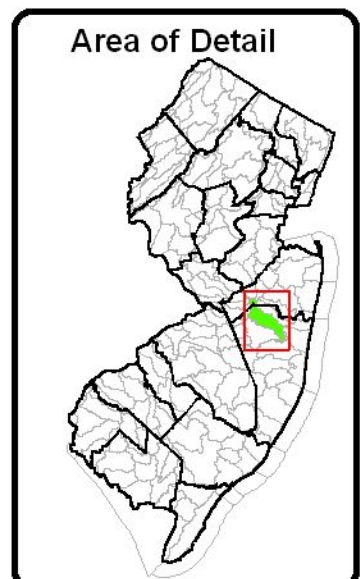


Key for Discharge Data		
1999 Treated Effluent Discharge		
0 - 50	MGY	◆
50 - 100	MGY	◆
100 - 500	MGY	◆
> 500	MGY	◆
Other Permitted Discharge		◆

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

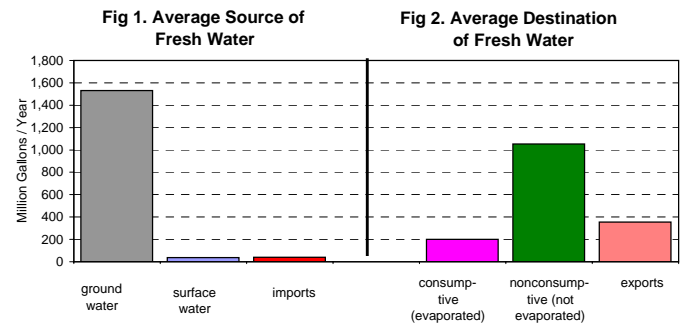


Water Withdrawals, Transfers and Discharges for UNION/RIDGEWAY BRANCH (TOMS RIVER) --- 02040301070

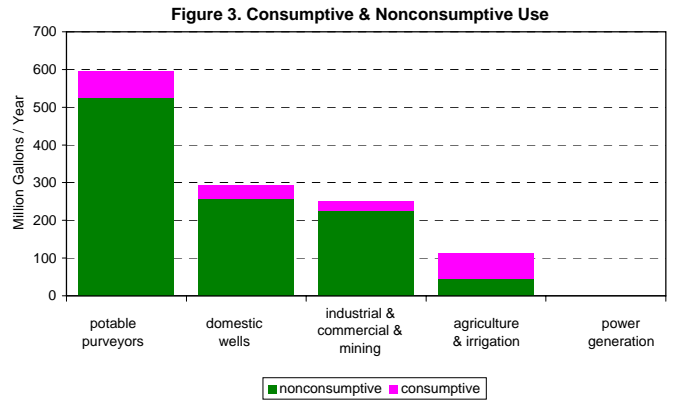
WMA:	Barnegat Bay	13	
HUC11:	Union/Ridgeway Branch (Toms River)	02040301070	

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	95	95	46	44	56	28	16	0	0	0	38
sum	95	95	46	44	56	28	16	0	0	0	38
ground-water:³											
confined	34	169	267	252	369	270	315	332	372	396	278
unconfined	883	1,066	1,090	1,190	1,348	1,540	1,285	1,362	1,377	1,380	1,252
sum	917	1,235	1,356	1,442	1,717	1,810	1,600	1,694	1,749	1,775	1,530
total withdrawals:	1,012	1,330	1,402	1,486	1,774	1,839	1,617	1,694	1,749	1,775	1,568

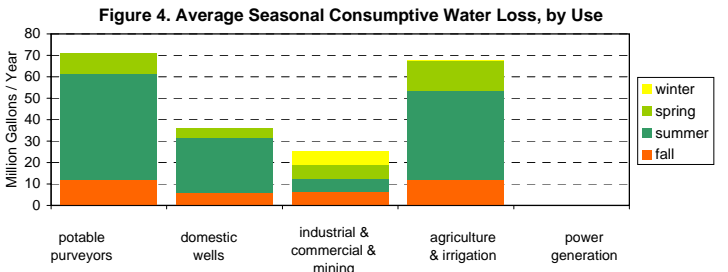
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
imports ¹¹	85	73	18	36	37	55	34	21	17	23	40
exports ¹¹	248	318	342	339	382	403	322	391	405	391	354
net	(164)	(244)	(324)	(304)	(345)	(347)	(288)	(371)	(388)	(367)	(314)



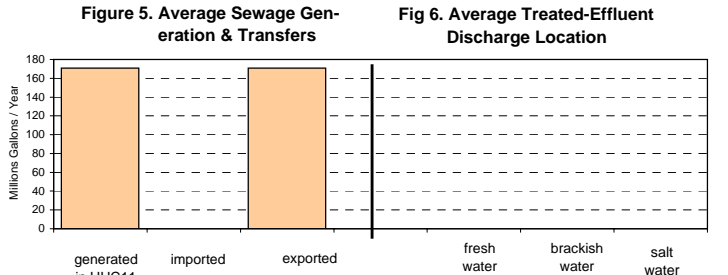
Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	383	557	509	532	564	604	502	534	539	529	525
consumptive	54	78	69	73	73	71	63	78	77	74	71
domestic wells											
nonconsumptive	234	236	240	245	250	255	261	269	278	289	256
consumptive	33	33	34	35	35	36	37	38	39	41	36
industrial & commercial & mining											
nonconsumptive	0	12	87	145	314	355	377	357	283	341	227
consumptive	0	1	10	16	35	39	42	40	31	38	25
agricultural & non-agricultural irrigation											
nonconsumptive	100	103	54	53	66	39	20	1	11	10	46
consumptive	44	66	75	83	91	92	28	9	103	86	68
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	718	907	891	975	1,195	1,253	1,159	1,161	1,111	1,169	1,054
consumptive	131	179	187	207	234	238	170	165	250	239	200
PERCENTAGES:											
nonconsumptive	84.6%	83.6%	82.6%	82.5%	83.6%	84.0%	87.2%	87.6%	81.6%	83.0%	84.1%
consumptive	15.4%	16.4%	17.4%	17.5%	16.4%	16.0%	12.8%	12.4%	18.4%	17.0%	15.9%



Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	123	0	128	9	143	50	132	12	525	71
domestic wells	59	0	60	4	75	26	63	6	256	36
industrial & commercial & mining	57	6	56	6	57	6	57	6	227	25
agricultural & non-agricultural irrig.	26	0	2	14	5	42	14	12	46	68
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	264	7	246	34	279	123	265	36	1,054	200



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	144	158	161	176	174	169	190	175	189	173	171
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	144	158	161	176	174	169	190	175	189	173	171



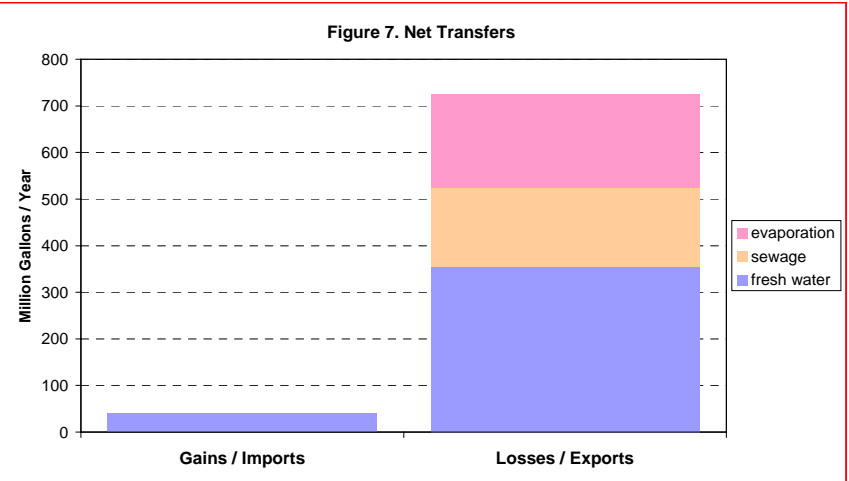
destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	0	0	0	0	0	0	0	0	0	0	0
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	0	0	0	0	0	0	0	0	0	0	0

Water Source	MGY
surface water	0
ground water	11,531
total	11,531

Use Group	MGY
agricultural	0
commercial	15
industrial	681
irrigation	225
mining	9,521
potable supply	1,089
power generation	0
total	11,531

--- Area:			
in this HUC11 only	63.1	sq. mi.	
upstream HUC11s	0.0	sq. mi.	
total watershed	63.1	sq. mi.	
(this HUC11 onshore area: 63.1 sq. mi.)			
--- Population of this HUC11:			
Year	Population	Change	
1940	1,953	-	
1950	3,389	73.5%	
1960	6,182	82.4%	
1970	11,124	80.0%	
1980	20,431	83.7%	
1990	25,684	25.7%	
2000	29,149	13.5%	
2010	36,011	23.5% est. ¹²	
2020	42,392	17.7% est. ¹²	
2030	51,444	21.4% est. ¹²	
--- Land Use of this HUC11:			
Type	1986	1995	Change
ag.	3.2%	2.8%	-0.4%
barren	5.2%	4.2%	-1.1%
forest	52.0%	51.9%	-0.1%
urban	14.1%	15.6%	1.5%
water	1.4%	1.4%	0.0%
wetlands	24.1%	24.1%	0.0%
--- % of this HUC11 in:			
Pinelands:	84.3%		
Highlands:	0.0%		

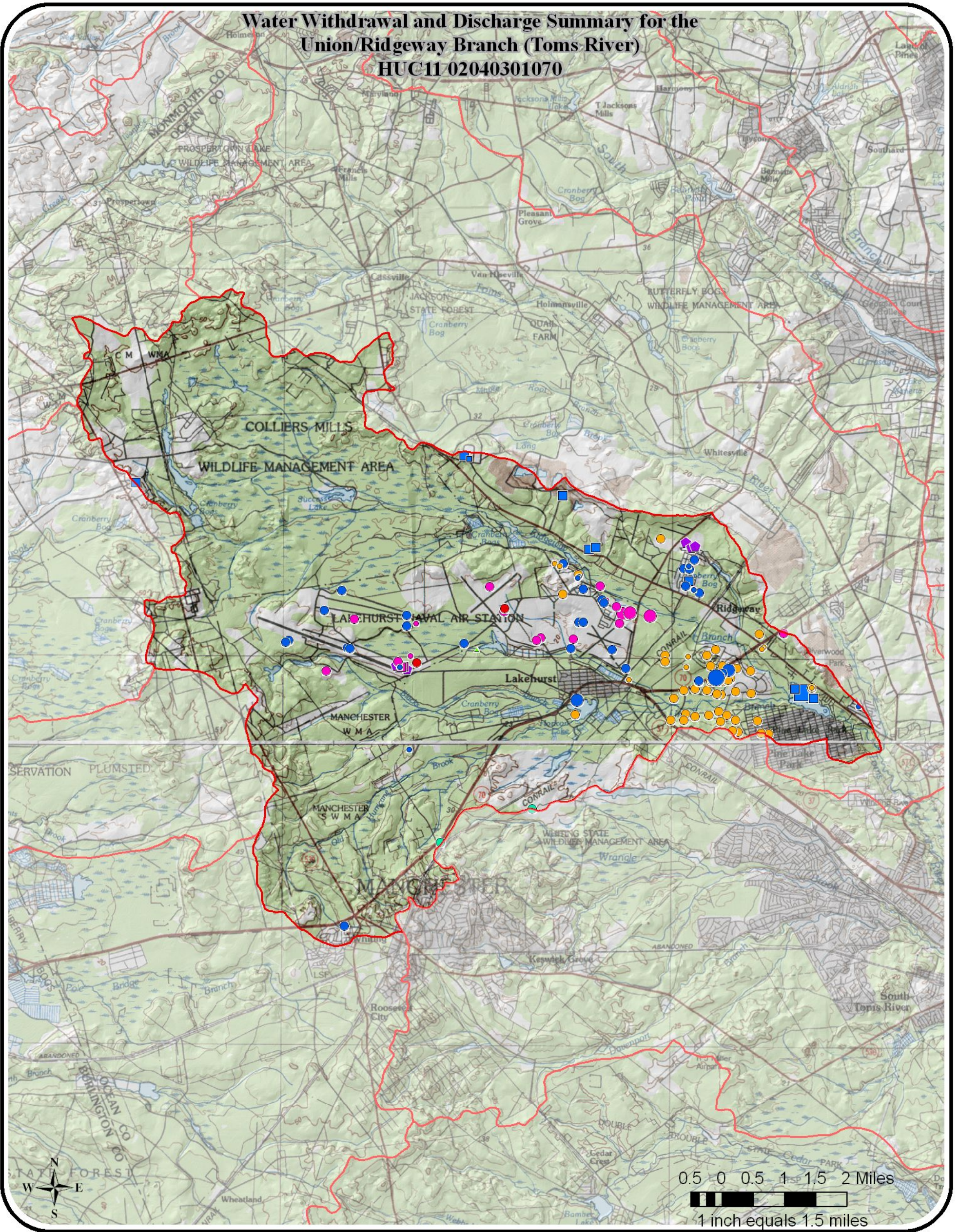
location	#	name
downstream:	02040301060	Toms River (above Oak Ridge Parkway)
(if any)	--	--
upstream:	--	--
(if any)	--	--
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NOTES:

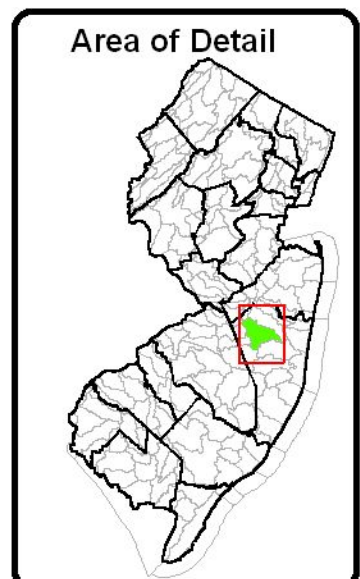
- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers 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 Union/Ridgeway Branch (Toms River) HUC11 02040301070



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 LOWER TOMS RIVER --- 02040301080

WMA:	Barnegat Bay	13
HUC11:	Lower Toms River	02040301080

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	2,208	460	29	28	15	28	56	0	0	0	282
sum	2,208	460	29	28	15	28	56	0	0	0	282
ground-water:³											
confined	1,248	720	797	836	698	783	835	1,462	1,337	1,701	1,042
unconfined	4,145	3,906	3,806	4,059	4,179	4,325	4,543	4,634	5,296	4,714	4,361
sum	5,393	4,626	4,603	4,895	4,878	5,108	5,378	6,096	6,633	6,415	5,402
total withdrawals:	7,601	5,086	4,632	4,923	4,893	5,136	5,434	6,096	6,633	6,415	5,685

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	323	307	314	375	415	463	392	615	489	465	416
exports ¹¹	1,858	2,002	1,970	2,155	2,195	2,331	2,153	2,472	2,811	2,696	2,264
net	(1,534)	(1,695)	(1,656)	(1,781)	(1,780)	(1,868)	(1,760)	(1,856)	(2,322)	(2,232)	(1,849)

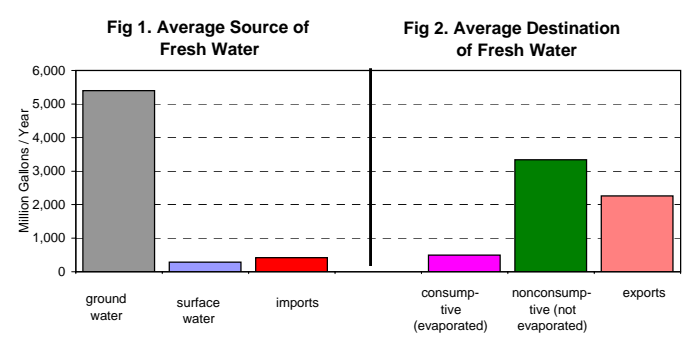


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	1,783	1,896	1,863	1,993	2,073	2,168	2,023	2,415	2,528	2,441	2,118
consumptive	248	272	255	299	296	310	281	354	357	346	302
domestic wells											
nonconsumptive	352	353	355	357	359	361	362	364	366	368	360
consumptive	50	50	50	50	51	51	51	51	52	52	51
industrial & commercial & mining											
nonconsumptive	3,164	622	277	259	247	255	789	923	849	830	822
consumptive	368	70	33	30	29	30	89	104	96	94	94
agricultural & non-agricultural irrigation											
nonconsumptive	64	66	40	40	18	33	58	26	4	3	35
consumptive	39	57	97	103	28	45	14	19	33	25	46
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	5,363	2,938	2,535	2,649	2,697	2,816	3,232	3,727	3,746	3,642	3,335
consumptive	704	450	435	482	403	435	435	529	537	518	493
PERCENTAGES:											
nonconsumptive	88.4%	86.7%	85.4%	84.6%	87.0%	86.6%	88.1%	87.6%	87.5%	87.6%	87.1%
consumptive	11.6%	13.3%	14.6%	15.4%	13.0%	13.4%	11.9%	12.4%	12.5%	12.4%	12.9%

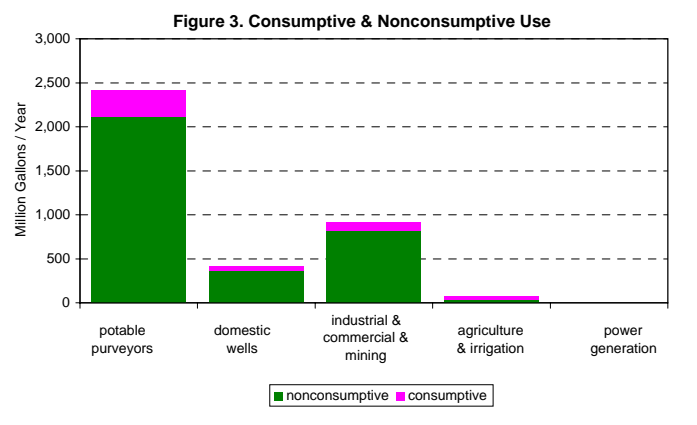


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive
potable purveyors	456	0	520	39	613	213	541	50	2,129	302
domestic wells	83	0	85	6	105	36	88	8	360	51
industrial & commercial & mining	176	20	217	25	233	27	195	22	822	94
agricultural & non-agricultural irrig.	24	0	1	8	3	26	7	12	35	46
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	739	20	823	78	954	302	831	93	3,346	493

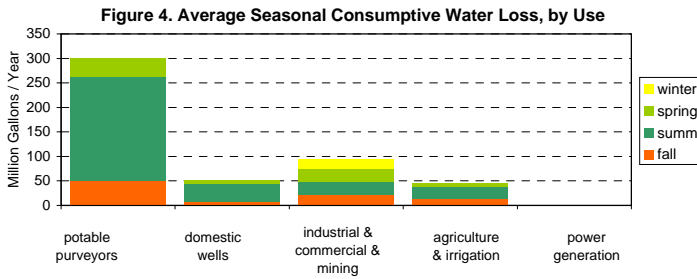


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	2,191	2,374	2,336	2,534	2,659	2,544	2,702	2,665	2,836	2,669	2,551
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	2,191	2,374	2,336	2,534	2,659	2,544	2,702	2,665	2,836	2,669	2,551

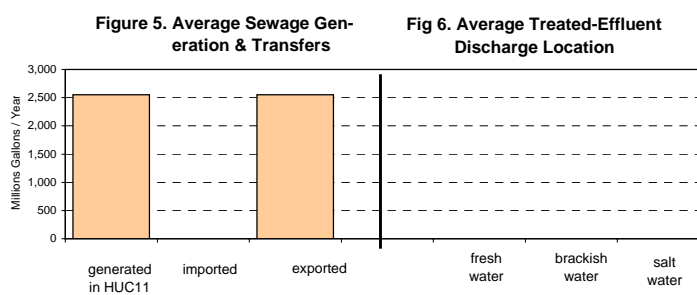


Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	0	0	0	0	0	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0	0	0

Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	0
ground water	10,499
total	10,499

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

Use Group	MGY
agricultural	15
commercial	0
industrial	1,415
irrigation	88
mining	1,872
potable supply	7,108
power generation	0
total	10,499

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	68.4	sq. mi.
upstream HUC11s	123.4	sq. mi.
total watershed	191.8	sq. mi.

(this HUC11 onshore area: 65.7 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	4,575	-
1950	7,455	63.0%
1960	16,708	124.1%
1970	34,341	105.5%
1980	59,491	73.2%
1990	76,023	27.8%
2000	84,313	10.9%
2010	92,548	9.8% est. ¹²
2020	100,646	8.8% est. ¹²
2030	109,757	9.1% est. ¹²

--- Land Use of this HUC11:

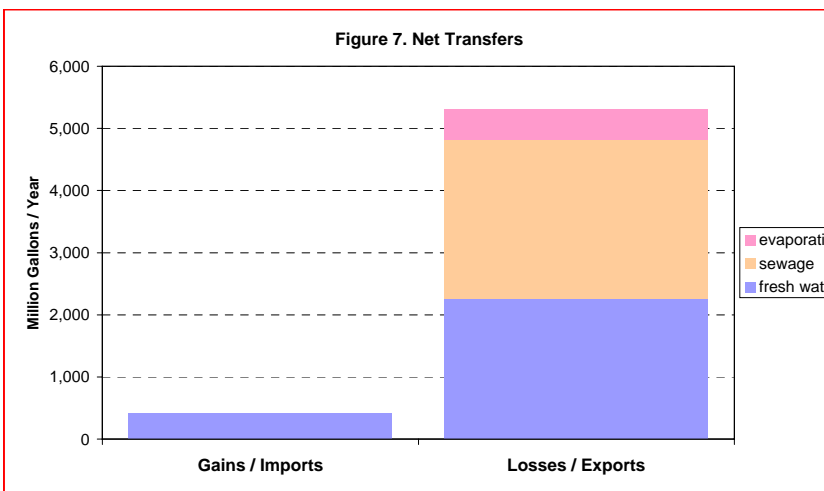
Type	1986	1995	Change
ag.	0.9%	0.7%	-0.2%
barren	3.3%	3.1%	-0.2%
forest	45.7%	42.0%	-3.7%
urban	33.1%	37.3%	4.2%
water	5.3%	5.3%	0.0%
wetlands	11.6%	11.6%	-0.1%

--- % of this HUC11 in:

Pinelands:	32.8%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

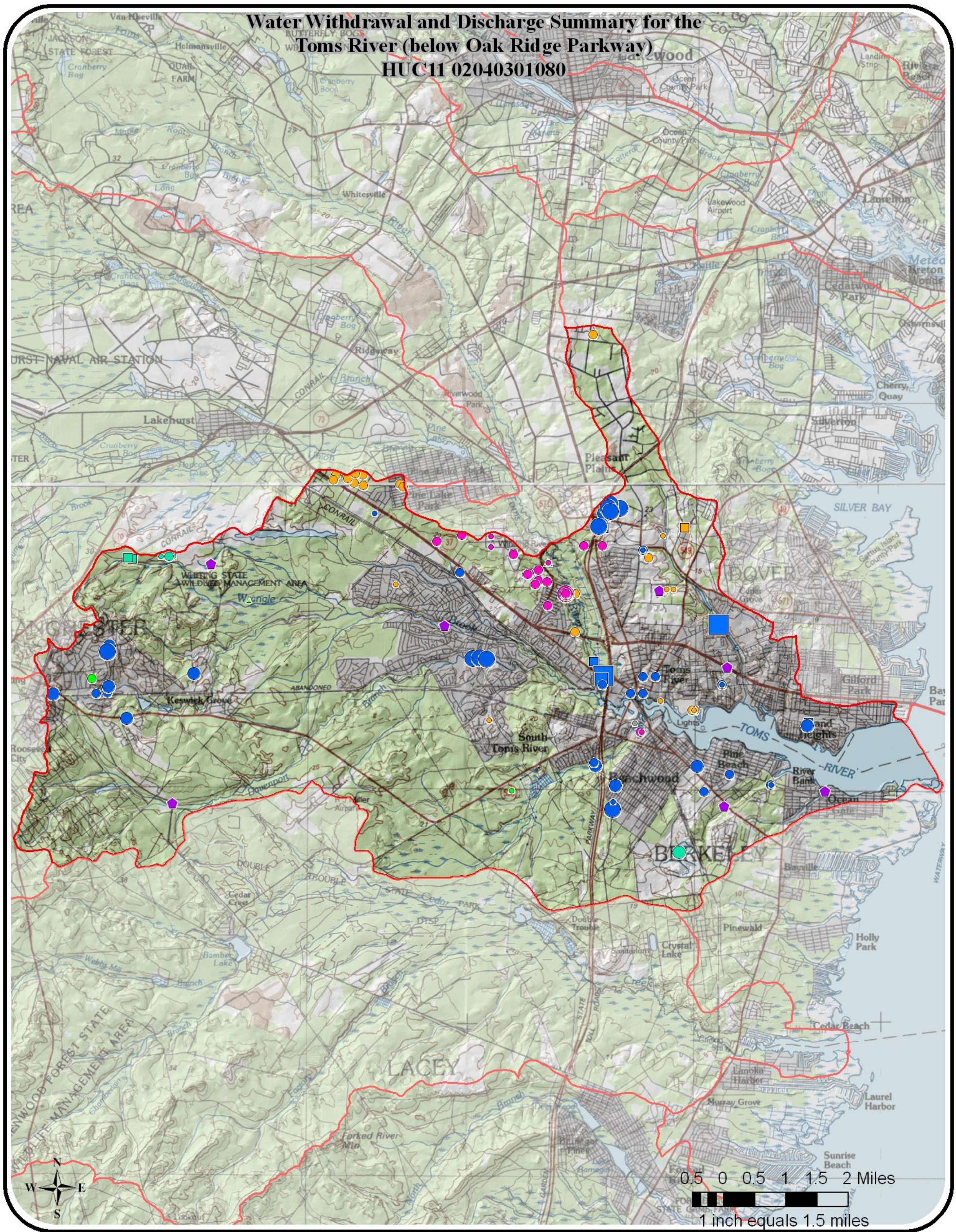
location	#	name
downstream:	02040301100	Barnegat Bay Central & Tribs
(if any)		
upstream:	02040301060	Toms River (above Oak Ridge Parkway)
(if any)	02040301070	Union/Ridgeway Branch (Toms River)
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NOTES:

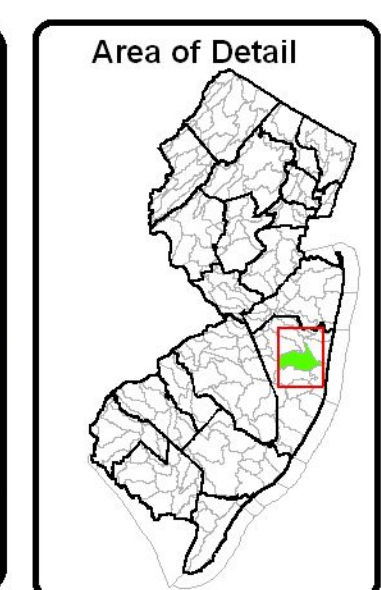
- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers 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 Toms River (below Oak Ridge Parkway) HUC11 02040301080



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 CEDAR CREEK --- 02040301090

WMA:	Barnegat Bay	13
HUC11:	Cedar Creek	02040301090

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	39	38	33	60	44	38	39	53	0	3	35
sum	39	38	33	60	44	38	39	53	0	3	35
ground-water:³											
confined	0	0	0	0	0	0	0	0	0	0	0
unconfined	528	540	558	818	667	671	898	920	943	896	744
sum	528	540	558	818	667	671	898	920	943	896	744
total withdrawals:	567	577	591	877	712	708	937	973	943	900	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	22	126	73	78	123	138	111	119	121	151	106
exports ¹¹	0	0	0	238	114	121	310	314	338	316	175
net	22	126	72	(160)	9	17	(199)	(195)	(217)	(164)	(69)

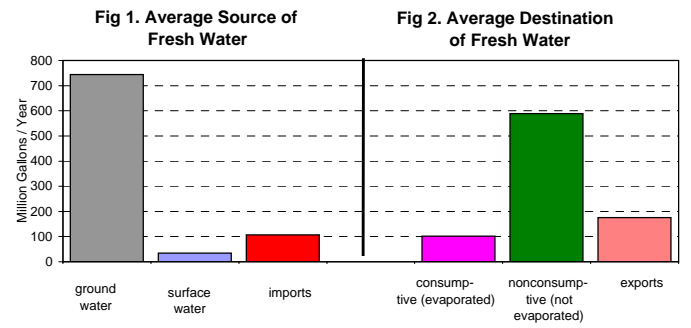


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	20	104	64	98	110	122	144	154	152	161	113
consumptive	2	24	13	12	16	17	19	22	21	23	17
domestic wells											
nonconsumptive	434	436	438	439	440	441	442	442	443	443	440
consumptive	61	61	62	62	62	62	62	62	62	62	62
industrial & commercial & mining											
nonconsumptive	3	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	40	40	33	59	45	40	40	50	3	6	36
consumptive	17	26	22	25	27	24	15	30	25	20	23
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	497	579	534	596	596	604	626	647	598	610	589
consumptive	81	111	96	99	104	104	96	114	109	106	102
PERCENTAGES:											
nonconsumptive	86.0%	83.9%	84.7%	85.8%	85.1%	85.3%	86.7%	85.0%	84.6%	85.2%	85.2%
consumptive	14.0%	16.1%	15.3%	14.2%	14.9%	14.7%	13.3%	15.0%	15.4%	14.8%	14.8%

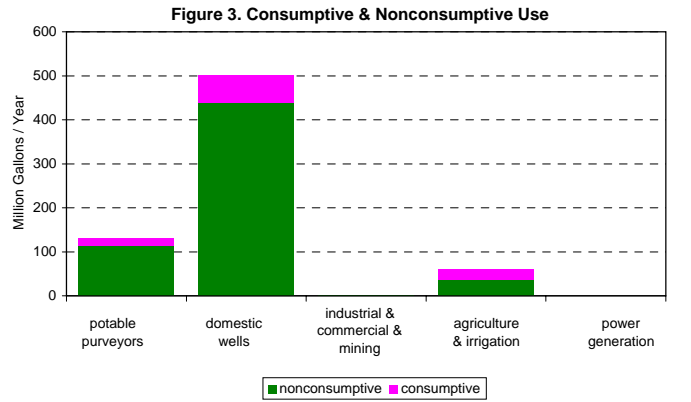


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive
potable purveyors	31	0	32	2	32	11	36	3	132	17
domestic wells	101	0	104	8	128	45	107	10	440	62
industrial & commercial & mining	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrig.	14	0	3	5	4	13	14	5	36	23
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	147	0	139	15	164	69	158	18	608	102

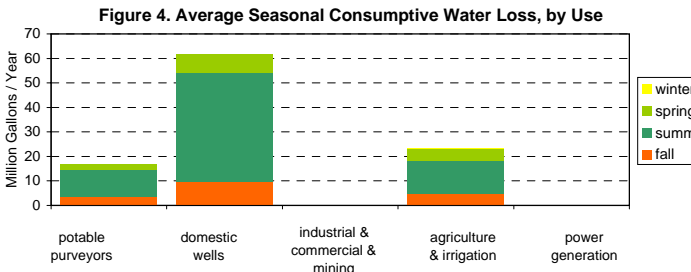


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	414	449	441	479	503	481	511	504	536	504	482
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	414	449	441	479	503	481	511	504	536	504	482

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	0	0	0	0	0	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0	0	0

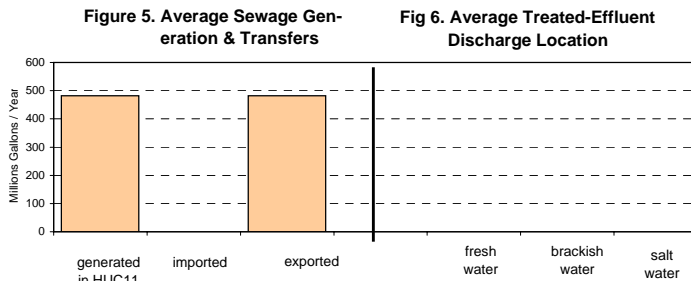


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	342
ground water	502
total	844

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

Use Group	MGY
agricultural	342
commercial	0
industrial	0
irrigation	43
mining	0
potable supply	459
power generation	0
total	844

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	55.0	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	55.0	sq. mi.

(this HUC11 onshore area: 54.7 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	612	-
1950	813	33.0%
1960	1,826	124.4%
1970	3,952	116.5%
1980	12,031	204.4%
1990	18,838	56.6%
2000	21,080	11.9%
2010	23,673	12.3% est. ¹²
2020	26,709	12.8% est. ¹²
2030	30,470	14.1% est. ¹²

--- Land Use of this HUC11:

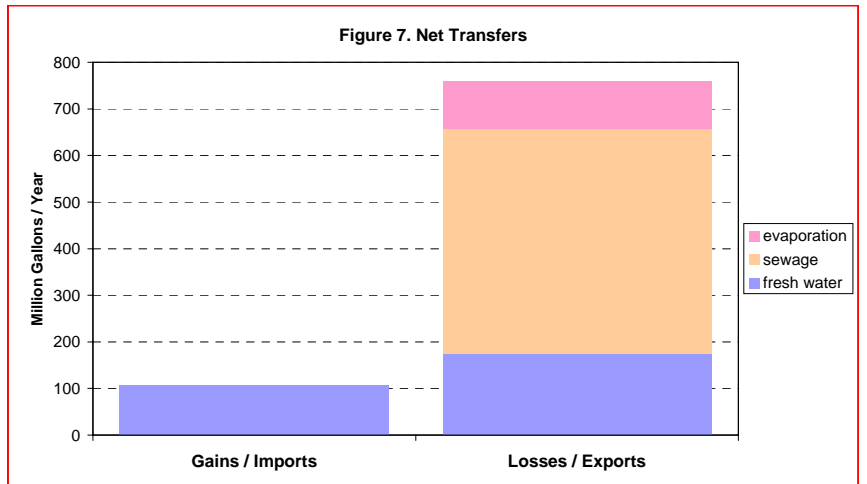
Type	Year		Change
	1986	1995	
ag.	0.5%	0.5%	0.0%
barren	3.2%	3.2%	0.0%
forest	70.1%	69.1%	-1.0%
urban	5.4%	6.5%	1.0%
water	1.2%	1.2%	0.0%
wetlands	19.5%	19.5%	-0.1%

--- % of this HUC11 in:

Pinelands:	85.4%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

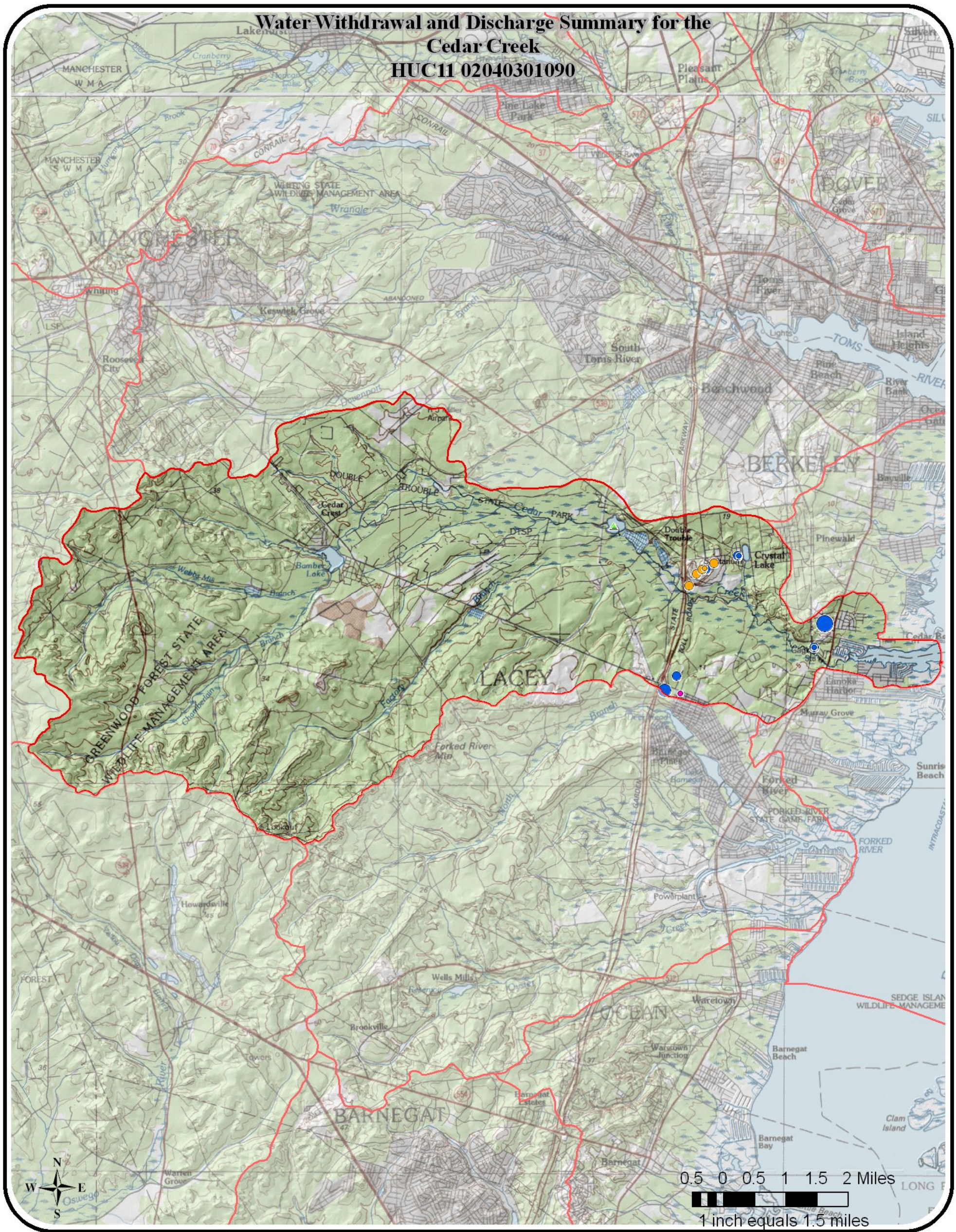
location	#	name
downstream:	02040301100	Barnegat Bay Central & Tribs
(if any)	--	--
upstream:	--	--
(if any)	--	--



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 Cedar Creek HUC11 02040301090

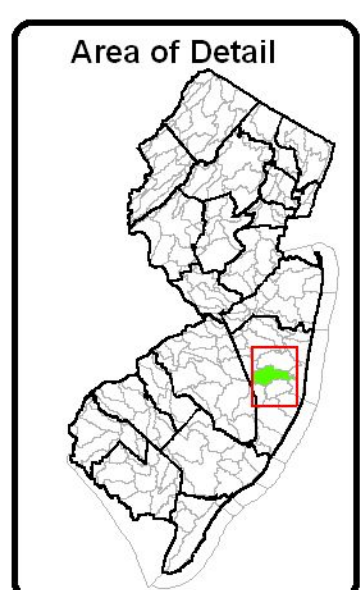


Key for Discharge Data		
1999 Treated Effluent Discharge		
0 - 50	MGY	◆
50 - 100	MGY	◆
100 - 500	MGY	◆
> 500	MGY	◆
Other Permitted Discharge		◆

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

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



Water Withdrawals, Transfers and Discharges for BARNEGAT BAY CENTRAL & TRIBS --- 02040301100

WMA:	Barnegat Bay	13
HUC11:	Barnegat Bay Central & Tribs	02040301100

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	0	0	0	0	0	0	0	0	0	0	0
sum	0	0	0	0	0	0	0	0	0	0	0
ground-water:³											
confined	146	290	329	308	371	378	286	418	336	383	324
unconfined	557	386	389	159	149	145	145	150	151	156	239
sum	703	676	717	467	520	523	431	568	488	540	563
total withdrawals:	703	676	717	467	520	523	431	568	488	540	563

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	60	387	234	601	616	650	676	737	753	787	550
exports ¹¹	135	123	125	133	164	185	131	212	188	218	161
net	(75)	264	109	469	452	465	545	525	565	568	389

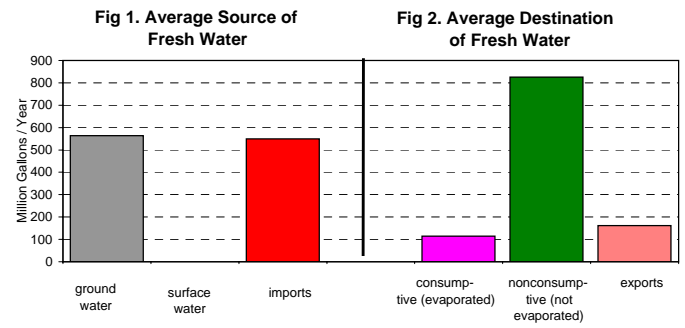


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	441	681	593	698	730	743	732	833	794	840	708
consumptive	57	117	84	89	95	101	100	114	110	115	98
domestic wells											
nonconsumptive	114	115	115	116	116	117	117	118	118	119	117
consumptive	16	16	16	16	16	16	17	17	17	17	16
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	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	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	555	796	709	814	847	860	849	950	912	959	825
consumptive	73	133	101	105	111	117	116	131	127	132	115
PERCENTAGES:											
nonconsumptive	88.3%	85.7%	87.6%	88.5%	88.4%	88.0%	88.0%	87.9%	87.8%	87.9%	87.8%
consumptive	11.7%	14.3%	12.4%	11.5%	11.6%	12.0%	12.0%	12.1%	12.2%	12.1%	12.2%

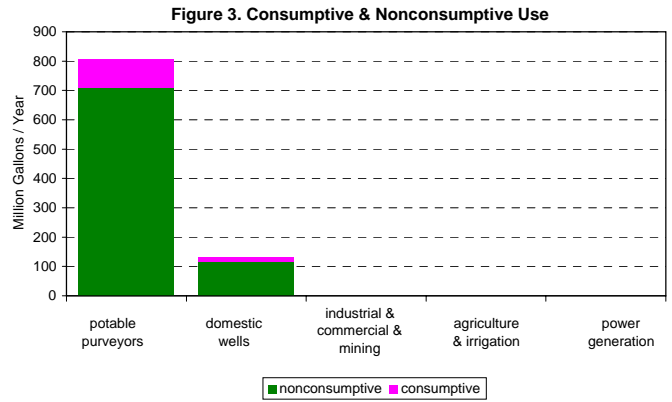


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	167	0	178	13	197	69	179	17	721	98
domestic wells	27	0	27	2	34	12	28	3	117	16
industrial & commercial & mining	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrig.	0	0	0	0	0	0	0	0	0	0
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	194	0	205	15	231	81	207	19	837	115

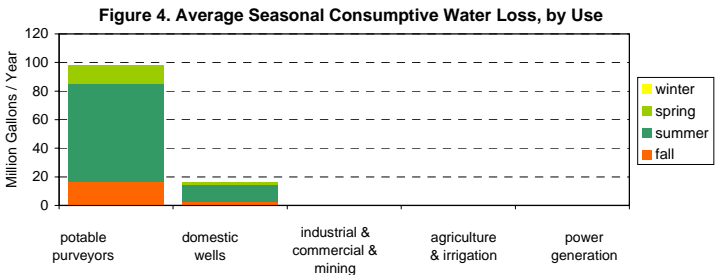


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	592	642	631	685	719	688	731	720	767	722	690
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	592	642	631	685	719	688	731	720	767	722	690

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	0	0	0	0	0	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0	0	0

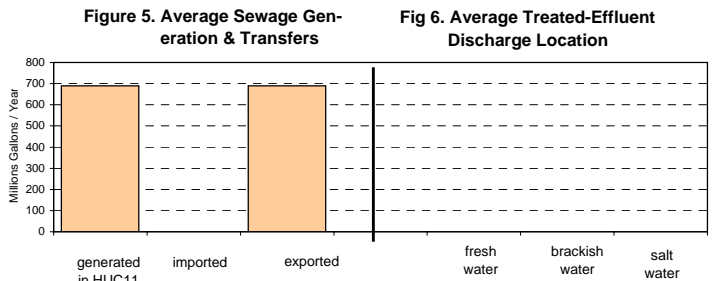


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	0
ground water	755
total	755

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	755
power generation	0
total	755

Table 9. HUC11 Descriptive Statistics

--- Area:

Location	Area (sq. mi.)
in this HUC11 only	45.8
upstream HUC11s	422.1
total watershed	468.0

(this HUC11 onshore area: 16.0 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	827	-
1950	1,241	50.1%
1960	2,070	66.8%
1970	3,482	68.2%
1980	7,865	125.9%
1990	11,947	51.9%
2000	13,096	9.6%
2010	14,937	14.1% est. ¹²
2020	16,394	9.8% est. ¹²
2030	18,404	12.3% est. ¹²

--- Land Use of this HUC11:

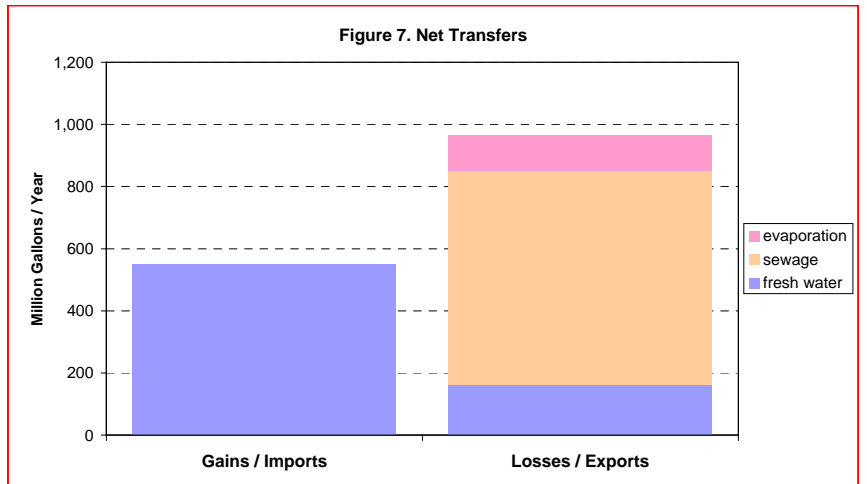
Type	Year		Change
	1986	1995	
ag.	0.4%	0.3%	-0.1%
barren	0.3%	0.3%	-0.1%
forest	5.5%	4.7%	-0.8%
urban	9.7%	10.8%	1.1%
water	67.0%	67.0%	0.0%
wetlands	17.1%	16.9%	-0.2%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

location	#	name
downstream:	02040301910	Atlantic Coast (Manasquan to Barnegat)
(if any)		
upstream:	02040301020	Metedeconk River NB
(if any)	02040301030	Metedeconk River SB
	02040301040	Metedeconk River
	02040301050	Kettle Creek / Barnegat Bay North
	02040301060	Toms River (above Oak Ridge Parkway)
	02040301070	Union/Ridgeway Branch (Toms River)
	02040301080	Toms River (below Oak Ridge Parkway)
	02040301090	Cedar Creek
	02040301110	Forked River / Oyster 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
Barnegat Bay Central & Tribs
HUC11 02040301100**



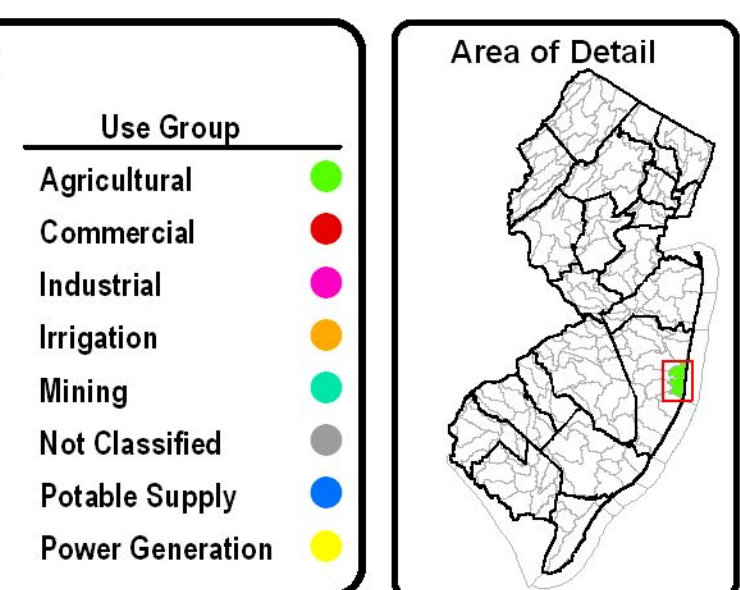
Key for Discharge Data

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

MGY = millions of gallons per year



Water Withdrawals, Transfers and Discharges for FORKED RIVER / OYSTER CREEK --- 02040301110

WMA:	Barnegat Bay	13
HUC11:	Forked River / Oyster Creek	02040301110

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	0	0	0	0	0	0	0	0	0	0	0
sum	0	0	0	0	0	0	0	0	0	0	0
ground-water:³											
confined	0	0	0	0	0	0	0	0	0	0	0
unconfined	459	890	662	678	859	909	796	822	831	957	786
sum	459	890	662	678	859	909	796	822	831	957	786
total withdrawals:	459	890	662	678	859	909	796	822	831	957	786

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	15	15	15	38	18	20	55	57	54	39	32
exports ¹¹	74	424	244	262	415	463	373	401	406	509	357
net	(59)	(410)	(229)	(225)	(397)	(443)	(319)	(343)	(352)	(470)	(325)

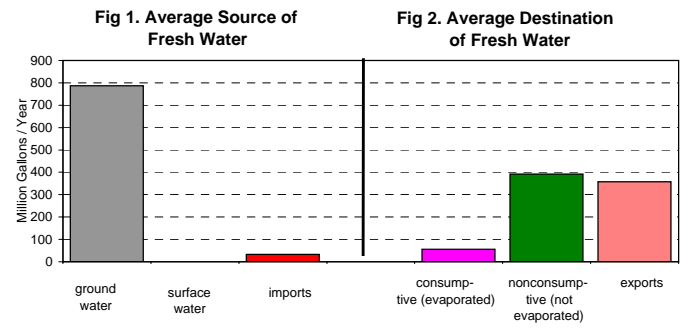


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	27	88	59	85	95	106	120	127	125	131	96
consumptive	3	21	11	10	13	15	16	17	17	18	14
domestic wells											
nonconsumptive	283	284	285	286	287	287	288	288	288	288	286
consumptive	40	40	40	40	40	40	40	41	41	41	40
industrial & commercial & mining											
nonconsumptive	19	12	16	20	15	6	3	1	1	0	9
consumptive	2	1	2	2	2	1	0	0	0	0	1
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	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	329	384	360	392	397	399	410	416	414	420	392
consumptive	45	62	52	52	55	56	56	58	58	59	55
PERCENTAGES:											
nonconsumptive	87.9%	86.1%	87.3%	88.3%	87.9%	87.6%	87.9%	87.8%	87.8%	87.7%	87.6%
consumptive	12.1%	13.9%	12.7%	11.7%	12.1%	12.4%	12.1%	12.2%	12.2%	12.3%	12.4%

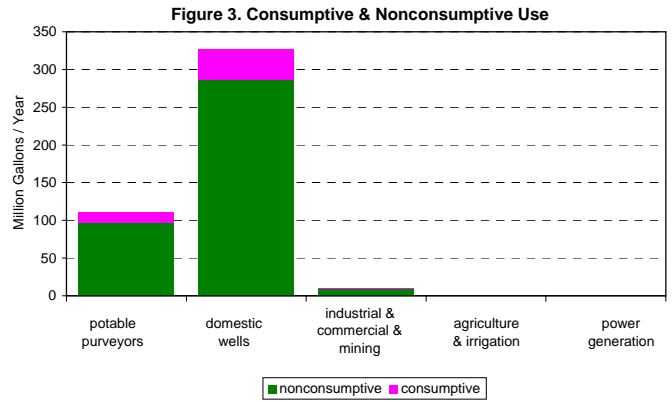


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	26	0	27	2	28	10	30	3	110	14
domestic wells	66	0	67	5	83	29	70	6	286	40
industrial & commercial & mining	2	0	3	0	2	0	2	0	9	1
agricultural & non-agricultural irrig.	0	0	0	0	0	0	0	0	0	0
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	94	0	97	7	113	39	102	9	406	56

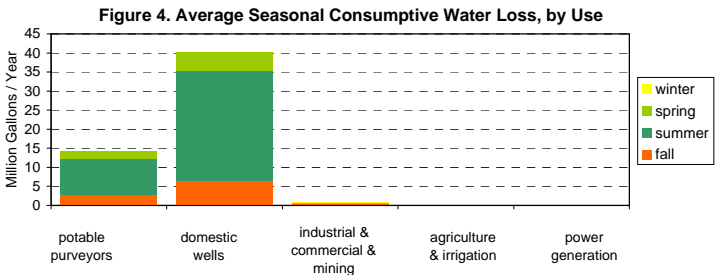


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	484	524	516	560	588	562	597	589	627	590	564
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	484	524	516	560	588	562	597	589	627	590	564

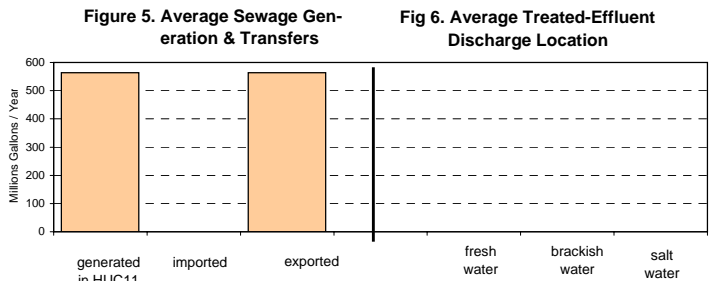


Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	0	0	0	0	0	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0	0	0

Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	0
ground water	700
total	700

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

Use Group	MGY
agricultural	0
commercial	0
industrial	74
irrigation	0
mining	0
potable supply	626
power generation	0
total	700

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	38.9	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	38.9	sq. mi.

(this HUC11 onshore area: 38.7 sq. mi.)

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

Year	Population	Change
1940	505	-
1950	627	24.2%
1960	1,158	84.7%
1970	2,736	136.4%
1980	6,625	142.1%
1990	10,072	52.0%
2000	11,713	16.3%
2010	14,125	20.6% est. ¹²
2020	17,134	21.3% est. ¹²
2030	20,701	20.8% est. ¹²

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

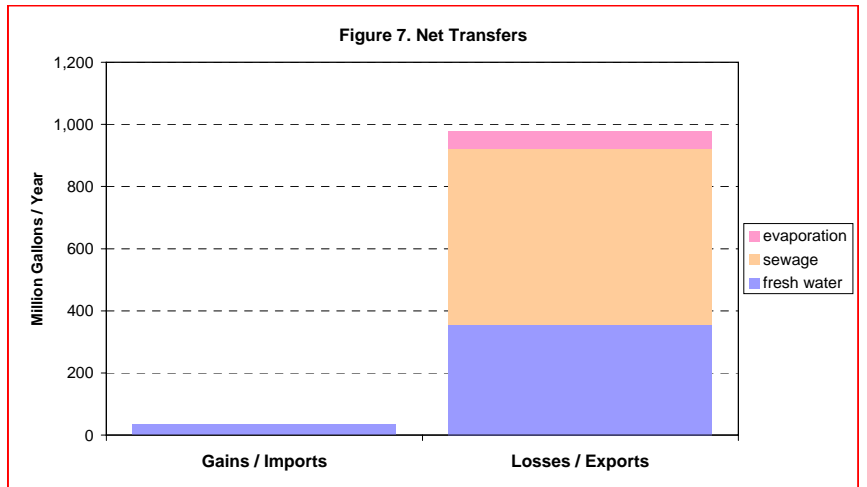
Type	Year		Change
	1986	1995	
ag.	0.1%	0.1%	0.0%
barren	1.3%	1.2%	-0.1%
forest	65.2%	64.9%	-0.3%
urban	10.9%	11.4%	0.5%
water	2.5%	2.6%	0.0%
wetlands	19.9%	19.9%	-0.1%

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

Pinelands:	71.7%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

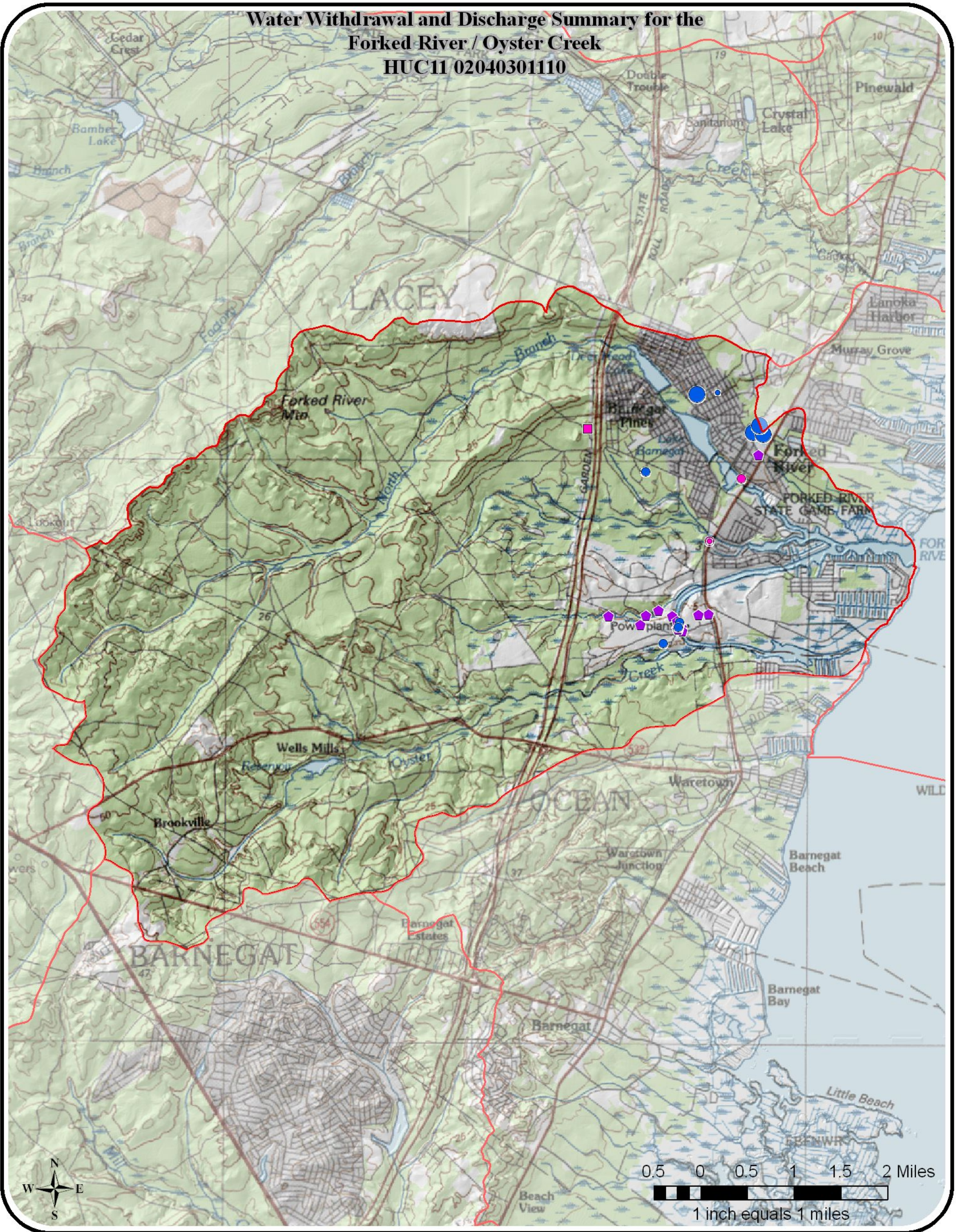
location	#	name
downstream:	02040301100	Barnegat Bay Central & Tribs
(if any)	--	--
upstream:	--	--
(if any)	--	--
	--	--
	--	--
	--	--
	--	--
	--	--
	--	--
	--	--



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.

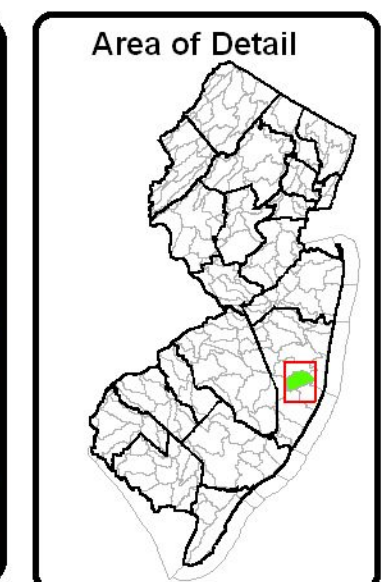
**Water Withdrawal and Discharge Summary for the
Forked River / Oyster Creek
HUC11 02040301110**



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 WARETOWN CK / BARNEGAT BAY SOUTH --- 02040301120

WMA:	Barnegat Bay	13
HUC11:	Waretown Ck / Barnegat Bay South	02040301120

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	9	9	9	9	9	9	9	9	0	9	8
sum	9	9	9	9	9	9	9	9	0	9	8
<i>ground-water:</i> ³											
confined	255	261	240	252	273	284	266	266	282	289	267
unconfined	649	362	340	382	358	395	374	442	373	393	407
sum	904	623	580	634	631	679	641	708	656	682	674
total withdrawals:	913	632	589	643	640	688	650	717	656	691	682

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	0	232	227	262	263	274	253	246	299	291	235
exports ¹¹	132	44	35	42	29	31	29	52	33	38	47
net	(132)	188	192	220	234	243	224	194	266	253	188

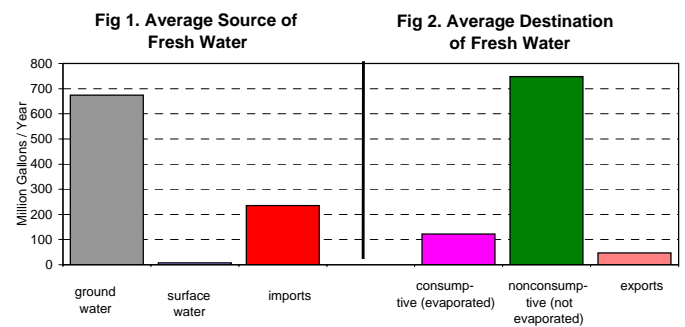


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	587	619	586	648	665	704	657	682	694	698	654
consumptive	86	96	90	107	98	108	98	106	113	116	102
<i>domestic wells</i>											
nonconsumptive	80	81	84	87	90	93	95	98	100	101	91
consumptive	11	11	12	12	13	13	13	14	14	14	13
<i>industrial & commercial & mining</i>											
nonconsumptive	5	3	0	0	0	3	0	2	0	6	2
consumptive	1	0	0	0	0	0	0	0	0	0	0
<i>agricultural & non-agricultural irrigation</i>											
nonconsumptive	1	1	1	1	1	1	1	1	0	1	1
consumptive	8	8	8	8	8	8	8	8	0	8	7
<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	674	705	670	736	756	801	754	783	794	806	748
consumptive	106	116	110	127	119	130	119	128	127	139	122
PERCENTAGES:											
nonconsumptive	86.4%	85.9%	85.9%	85.2%	86.4%	86.1%	86.3%	85.9%	86.2%	85.3%	86.0%
consumptive	13.6%	14.1%	14.1%	14.8%	13.6%	13.9%	13.7%	14.1%	13.8%	14.7%	14.0%

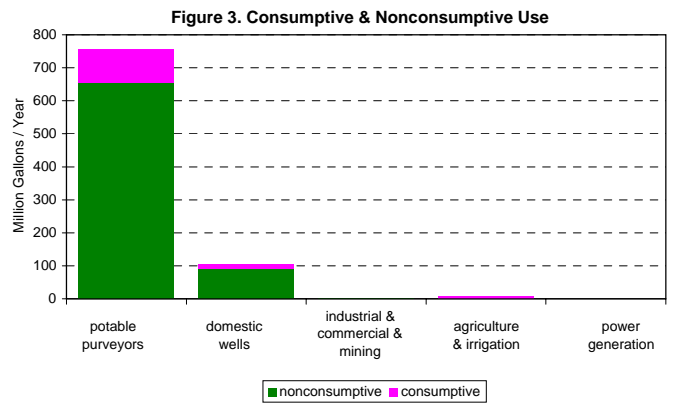


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	132	0	149	12	215	75	159	15	654	102
domestic wells	21	0	21	2	26	9	22	2	91	13
industrial & commercial & mining	0	0	1	0	0	0	1	0	2	0
agricultural & non-agricultural irrig.	0	0	0	1	1	5	0	1	1	7
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	153	0	171	14	242	89	182	19	748	122

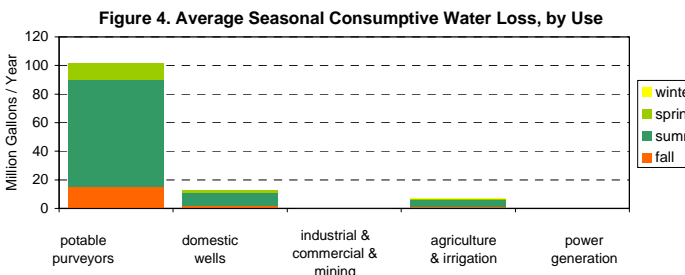


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	796	862	847	915	957	915	975	960	1,023	961	921
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	796	862	847	915	957	915	975	960	1,023	961	921

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	0	0	0	0	0	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0	0	0

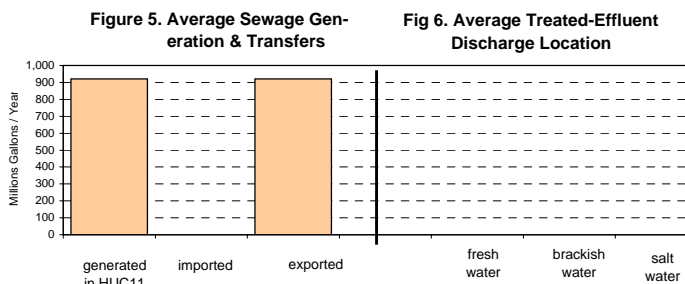


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	36
ground water	928
total	964

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

Use Group	MGY
agricultural	36
commercial	0
industrial	74
irrigation	0
mining	0
potable supply	854
power generation	0
total	964

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	47.0	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	47.0	sq. mi.

(this HUC11 onshore area: 26.5 sq. mi.)

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

Year	Population	Change
1940	933	-
1950	1,169	25.3%
1960	1,668	42.6%
1970	3,029	81.7%
1980	7,008	131.3%
1990	9,103	29.9%
2000	11,518	26.5%
2010	14,026	21.8% est. ¹²
2020	16,516	17.8% est. ¹²
2030	19,958	20.8% est. ¹²

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

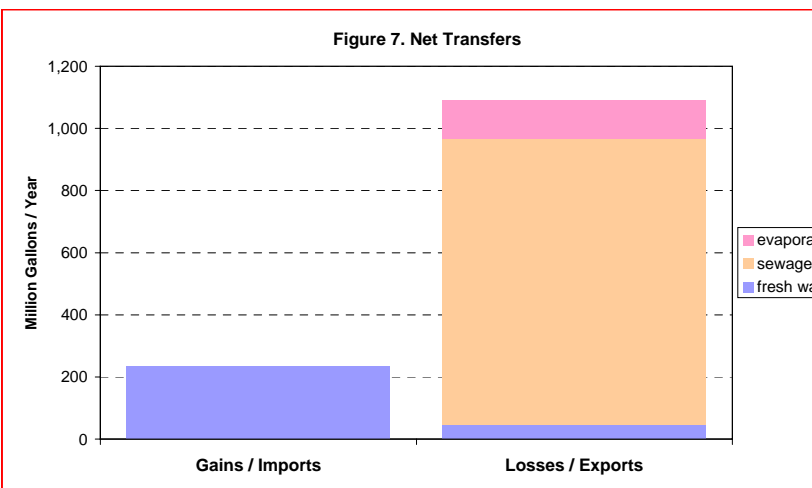
Type	Year		Change
	1986	1995	
ag.	0.2%	0.1%	-0.1%
barren	0.5%	0.3%	-0.2%
forest	13.9%	12.9%	-1.0%
urban	9.5%	11.0%	1.5%
water	46.5%	46.6%	0.1%
wetlands	29.4%	29.1%	-0.3%

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

Pinelands:	2.7%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

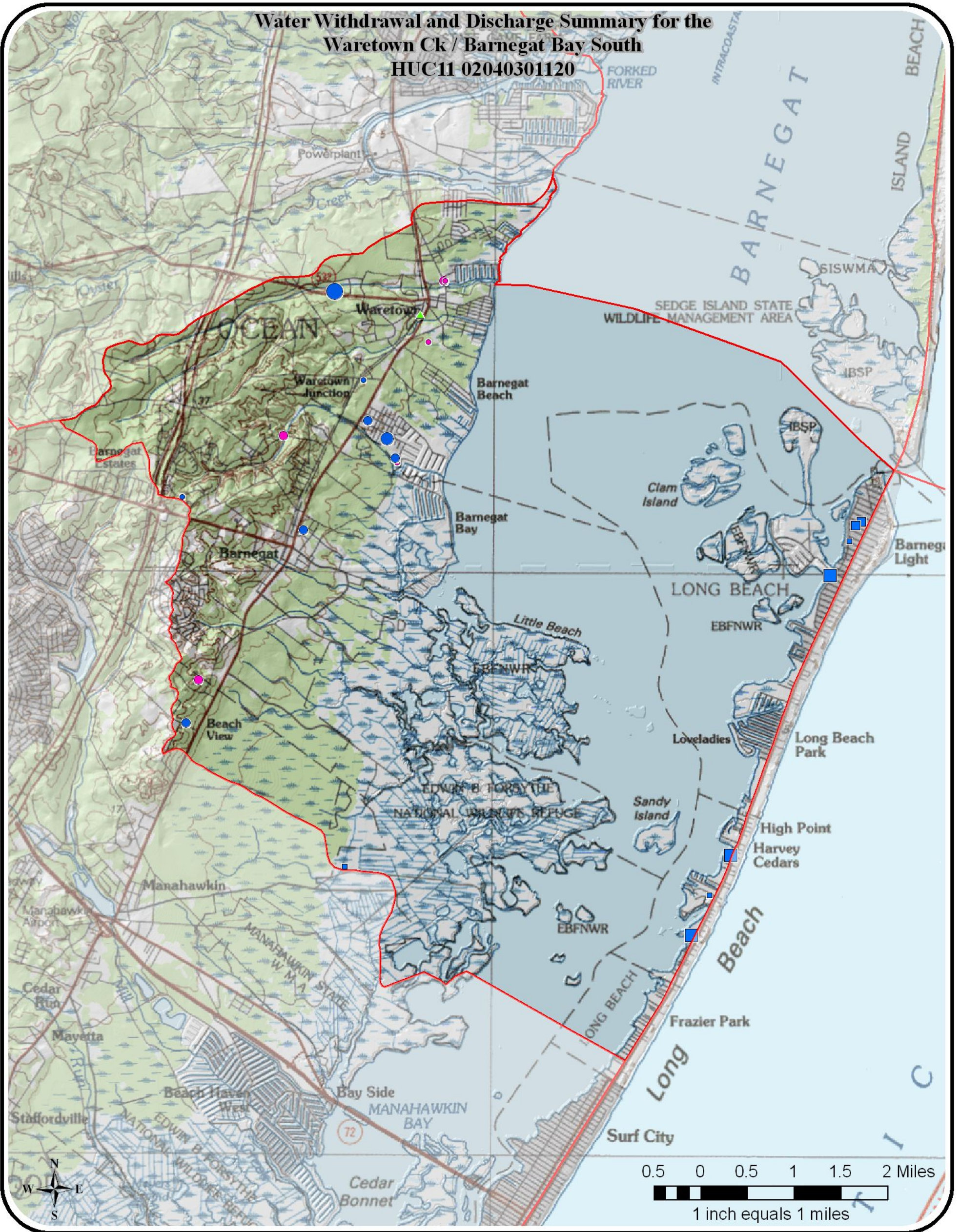
location	#	name
downstream:	02040301920	Atlantic Coast (Barnegat to Little Egg)
(if any)	--	--
upstream:	--	--
(if any)	--	--



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.

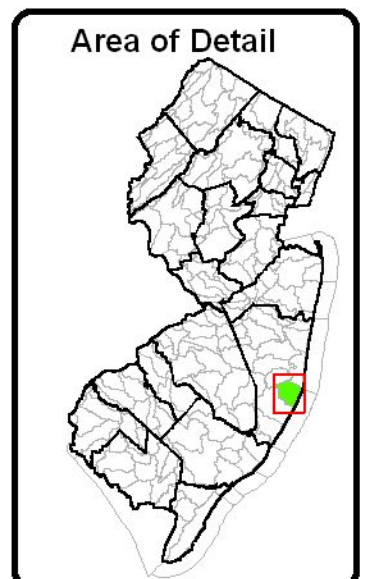
**Water Withdrawal and Discharge Summary for the
Waretown Ck / Barnegat Bay South
HUC11 02040301120**



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

MGY = millions of gallons per year



Water Withdrawals, Transfers and Discharges for MANAHAWKIN/UPPER LITTLE EGG HARBOR TRIBS --- 02040301130

WMA:	Barnegat Bay	13
HUC11:	Manahawkin/Upper Little Egg Harbor tribs	02040301130

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	12	12	1	1	3	5	15	611	68
sum	12	12	12	12	1	1	3	5	15	611	68
ground-water:³											
confined	695	486	637	632	690	636	555	506	838	918	659
unconfined	374	854	854	1,005	1,051	1,046	1,085	1,173	958	1,001	940
sum	1,069	1,340	1,491	1,637	1,741	1,681	1,640	1,679	1,796	1,919	1,599
total withdrawals:	1,081	1,352	1,503	1,649	1,742	1,682	1,643	1,685	1,810	2,531	1,668

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	209	128	105	117	104	113	93	113	94	97	117
exports ¹¹	111	342	342	384	398	385	369	368	435	435	357
net	98	(213)	(238)	(267)	(294)	(272)	(276)	(256)	(341)	(338)	(240)

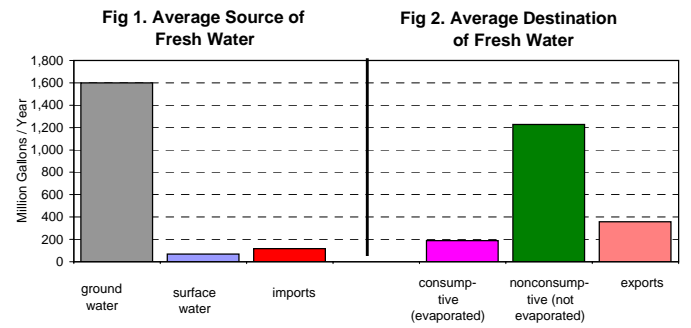


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	738	676	777	847	902	856	807	843	855	919	822
consumptive	120	118	128	144	142	135	127	139	142	153	135
domestic wells											
nonconsumptive	257	264	281	301	322	344	364	380	393	405	331
consumptive	36	37	40	43	45	48	51	54	55	57	47
industrial & commercial & mining											
nonconsumptive	9	17	7	12	14	9	5	2	21	574	67
consumptive	1	2	1	1	2	1	1	0	2	64	7
agricultural & non-agricultural irrigation											
nonconsumptive	12	12	12	12	1	1	2	4	14	15	8
consumptive	0	0	0	0	0	1	1	1	1	0	0
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	1,015	969	1,077	1,171	1,238	1,209	1,178	1,230	1,283	1,913	1,228
consumptive	157	158	168	188	188	185	180	194	200	274	189
PERCENTAGES:											
nonconsumptive	86.6%	86.0%	86.5%	86.2%	86.8%	86.7%	86.7%	86.4%	86.5%	87.5%	86.6%
consumptive	13.4%	14.0%	13.5%	13.8%	13.2%	13.3%	13.3%	13.6%	13.5%	12.5%	13.4%

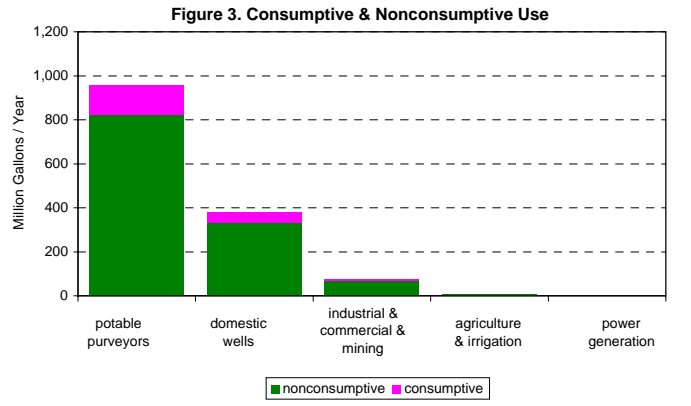


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	165	0	181	14	290	101	198	19	834	135
domestic wells	76	0	77	6	97	34	82	7	331	47
industrial & commercial & mining	16	2	16	2	17	2	17	2	67	7
agricultural & non-agricultural irrig.	6	0	1	0	1	0	1	0	8	0
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	263	2	275	22	405	137	298	29	1,241	189

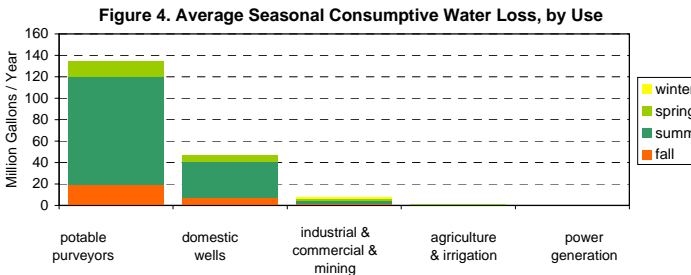


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	1,339	1,437	1,411	1,492	1,532	1,463	1,585	1,547	1,660	1,544	1,501
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	1,339	1,437	1,411	1,492	1,532	1,463	1,585	1,547	1,660	1,544	1,501

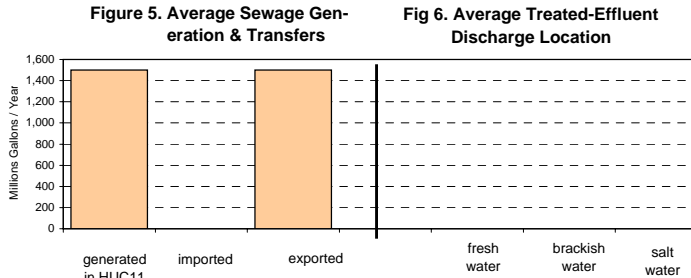


Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	0	0	0	0	0	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0	0	0

Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	1,249
ground water	3,048
total	4,297

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

Use Group	MGY
agricultural	140
commercial	0
industrial	2,255
irrigation	0
mining	0
potable supply	1,902
power generation	0
total	4,297

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	87.9	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	87.9	sq. mi.

(this HUC11 onshore area: 73.7 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	2,258	-
1950	2,701	19.6%
1960	3,677	36.2%
1970	6,636	80.5%
1980	15,400	132.1%
1990	19,810	28.6%
2000	28,352	43.1%
2010	31,793	12.1% est. ¹²
2020	36,267	14.1% est. ¹²
2030	44,134	21.7% est. ¹²

--- Land Use of this HUC11:

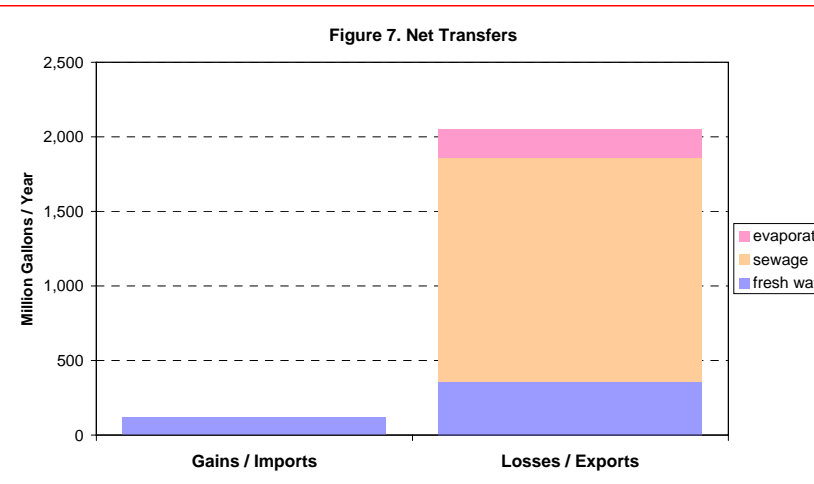
Type	Year		Change
	1986	1995	
ag.	0.5%	0.3%	-0.2%
barren	1.5%	1.3%	-0.2%
forest	45.0%	43.8%	-1.2%
urban	9.6%	11.3%	1.7%
water	17.6%	17.7%	0.0%
wetlands	25.7%	25.6%	-0.1%

--- % of this HUC11 in:

Pinelands:	42.3%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

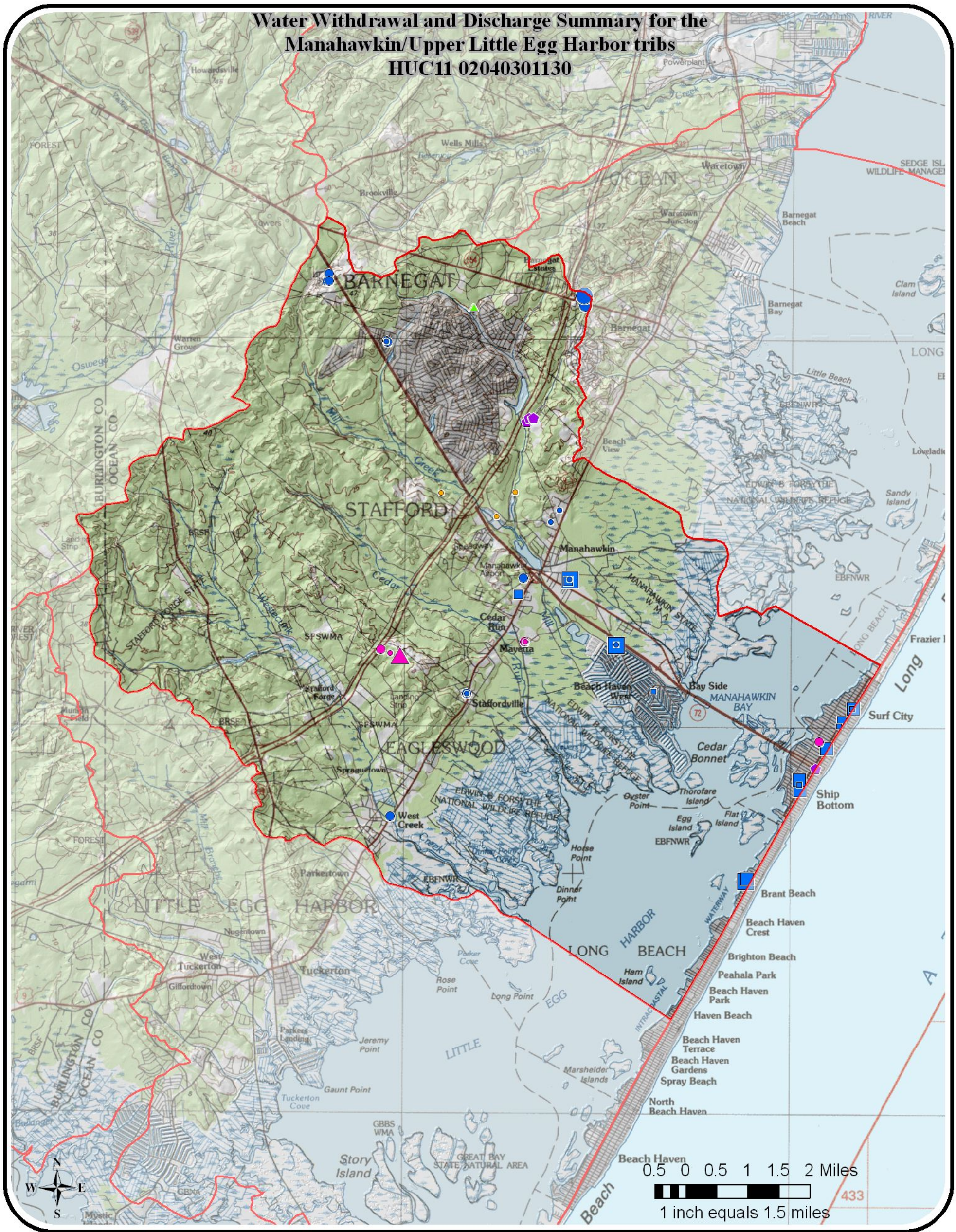
location	#	name
downstream:	02040301140	Lower Little Egg Harbor Bay tribs
(if any)	--	--
upstream:	--	--
(if any)	--	--



NOTES:

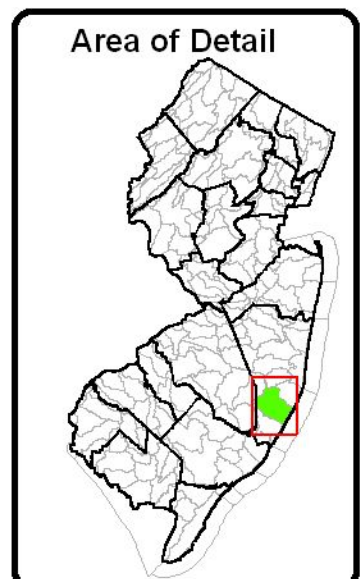
- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers 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 Manahawkin/Upper Little Egg Harbor tribs HUC11 02040301130



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 LOWER LITTLE EGG HARBOR BAY TRIBS --- 02040301140

WMA:	Barnegat Bay	13
HUC11:	Lower Little Egg Harbor Bay tribs	02040301140

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	9	21	22	24	26	22	20	29	21	19	21
sum	9	21	22	24	26	22	20	29	21	19	21
<i>ground-water:</i> ³											
confined	776	797	797	948	985	958	900	905	944	877	889
unconfined	124	124	117	120	112	82	82	84	84	96	102
sum	900	922	914	1,068	1,097	1,041	982	987	1,027	973	991
total withdrawals:	910	942	936	1,092	1,123	1,063	1,002	1,016	1,048	992	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	183	174	157	104	80	85	67	72	63	120	110
exports ¹¹	249	264	238	262	273	281	244	239	244	235	253
net	(67)	(90)	(82)	(157)	(193)	(196)	(176)	(167)	(181)	(115)	(142)

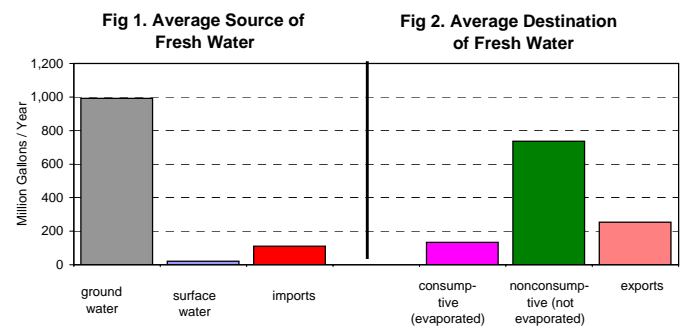


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	616	612	618	684	690	661	631	635	659	654	646
consumptive	94	96	97	107	102	101	93	103	104	107	100
<i>domestic wells</i>											
nonconsumptive	69	69	69	70	70	71	72	72	73	74	71
consumptive	10	10	10	10	10	10	10	10	10	10	10
<i>industrial & commercial & mining</i>											
nonconsumptive	40	40	34	36	28	0	0	0	0	0	18
consumptive	4	4	4	4	3	0	0	0	0	0	2
<i>agricultural & non-agricultural irrigation</i>											
nonconsumptive	1	2	2	2	3	2	2	3	2	3	2
consumptive	9	20	20	22	24	21	18	26	19	28	21
<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	726	723	724	792	792	735	705	710	734	732	737
consumptive	118	129	130	143	139	132	121	139	134	146	133
PERCENTAGES:											
nonconsumptive	86.1%	84.8%	84.7%	84.7%	85.1%	84.8%	85.3%	83.6%	84.6%	83.4%	84.7%
consumptive	13.9%	15.2%	15.3%	15.3%	14.9%	15.2%	14.7%	16.4%	15.4%	16.6%	15.3%

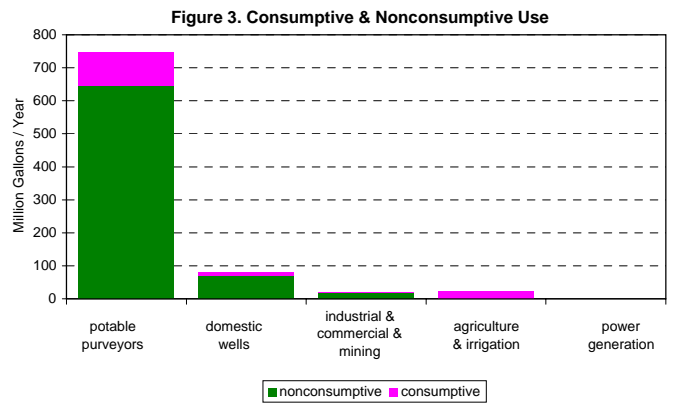


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	133	0	146	11	212	74	155	15	646	100
domestic wells	16	0	17	1	21	7	17	2	71	10
industrial & commercial & mining	4	0	4	0	5	1	4	0	18	2
agricultural & non-agricultural irrig.	0	0	0	4	1	12	1	5	2	21
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	154	0	167	17	238	93	178	22	737	133

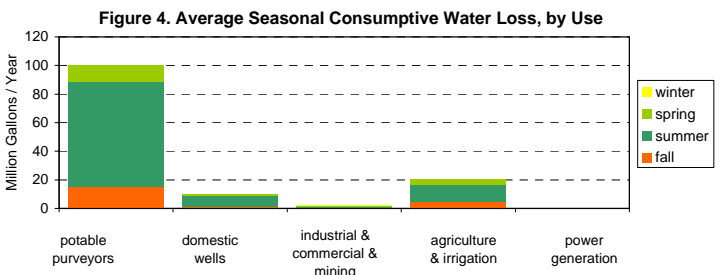


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	731	783	768	806	822	785	855	832	895	829	811
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	731	783	768	806	822	785	855	832	895	829	811

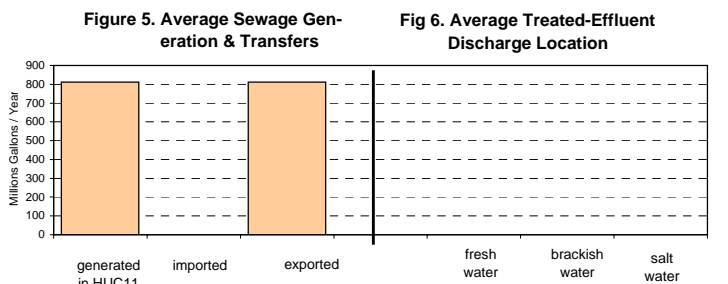


Table 6. Destination of Treated Effluent (Reclaimed-Water) Discharges⁹ in the HUC11 (millions of gallons)

destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
fresh water	0	0	0	0	0	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0	0	0

Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	24
ground water	1,175
total	1,199

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

Use Group	MGY
agricultural	0
commercial	37
industrial	0
irrigation	98
mining	0
potable supply	1,063
power generation	0
total	1,199

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	53.8	sq. mi.
upstream HUC11s	87.9	sq. mi.
total watershed	141.7	sq. mi.

(this HUC11 onshore area: 32.1 sq. mi.)

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

Year	Population	Change
1940	2,163	-
1950	2,479	14.6%
1960	2,958	19.3%
1970	4,932	66.7%
1980	8,397	70.3%
1990	11,181	33.2%
2000	12,766	14.2%
2010	14,924	16.9% est. ¹²
2020	17,857	19.7% est. ¹²
2030	21,684	21.4% est. ¹²

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

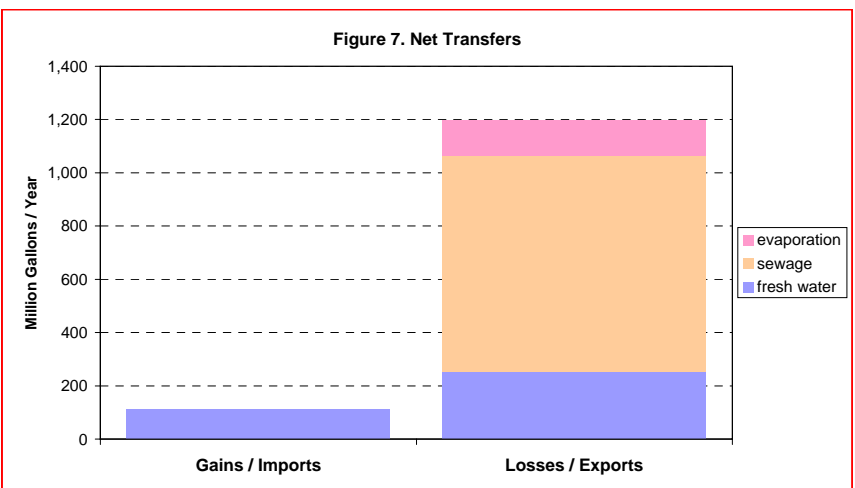
Type	Year		Change
	1986	1995	
ag.	0.2%	0.1%	-0.2%
barren	0.6%	0.9%	0.4%
forest	24.9%	23.7%	-1.1%
urban	8.4%	9.6%	1.3%
water	42.6%	42.4%	-0.3%
wetlands	23.3%	23.3%	0.0%

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

Pinelands:	12.5%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

location	#	name
downstream:	02040301920	Atlantic Coast (Barnegat to Little Egg)
(if any)	--	--
upstream:	02040301130	Manahawkin/Upper Little Egg Harbor tribs
(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.

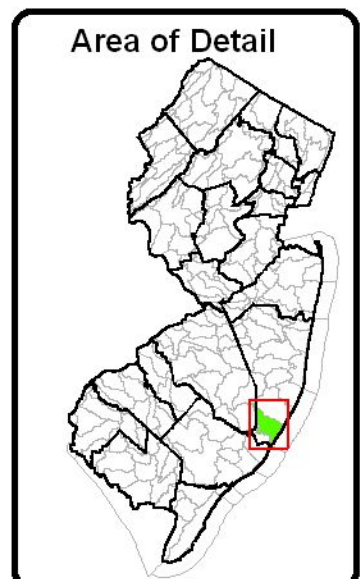
Water Withdrawal and Discharge Summary for the Lower Little Egg Harbor Bay tribs HUC11 02040301140



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		■●▲
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 ATLANTIC COAST (MANASQUAN TO BARNEGAT) --- 02040301910

WMA:	Barnegat Bay	13
HUC11:	Atlantic Coast (Manasquan to Barnegat)	02040301910

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	0	0	0	0	0	0	0	0	0	0	0
sum	0	0	0	0	0	0	0	0	0	0	0
<i>ground-water:</i> ³											
confined	0	99	67	103	90	80	60	72	120	104	80
unconfined	21	22	22	22	22	21	21	20	20	18	21
sum	21	121	88	125	112	102	81	92	141	122	100
total withdrawals:	21	121	88	125	112	102	81	92	141	122	100

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	83	66	72	67	75	67	60	72	58	56	67
exports ¹¹	0	81	55	84	73	65	49	59	98	84	65
net	83	(15)	17	(16)	1	2	11	13	(40)	(29)	3

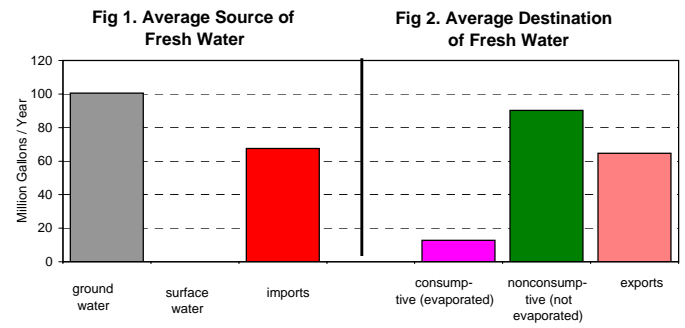


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	72	73	73	75	80	71	61	74	69	66	72
consumptive	10	11	11	11	11	11	10	11	11	9	11
<i>domestic wells</i>											
nonconsumptive	15	15	15	15	15	15	15	15	16	16	15
consumptive	2	2	2	2	2	2	2	2	2	2	2
<i>industrial & commercial & mining</i>											
nonconsumptive	4	5	4	5	5	4	4	3	3	0	4
consumptive	0	0	0	0	0	0	0	0	0	0	0
<i>agricultural & non-agricultural irrigation</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>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	92	93	93	95	100	90	80	92	88	81	90
consumptive	12	13	13	13	13	13	12	13	13	12	13
PERCENTAGES:											
nonconsumptive	88.1%	87.4%	87.7%	87.6%	88.2%	87.5%	86.5%	87.6%	87.2%	87.6%	87.6%
consumptive	11.9%	12.6%	12.3%	12.4%	11.8%	12.5%	13.5%	12.4%	12.8%	12.4%	12.4%

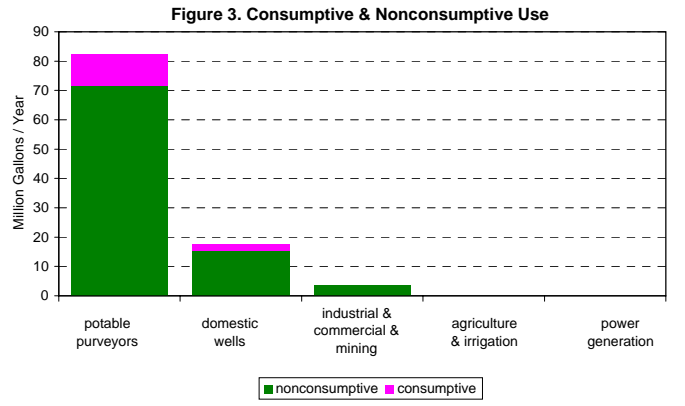


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive	Noncon-sumptive	Consumptive
potable purveyors	16	0	17	1	23	8	16	1	72	11
domestic wells	3	0	4	0	4	2	4	0	15	2
industrial & commercial & mining	0	0	0	0	2	0	0	0	4	0
agricultural & non-agricultural irrig.	0	0	0	0	0	0	0	0	0	0
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	20	0	21	2	30	9	20	2	90	13

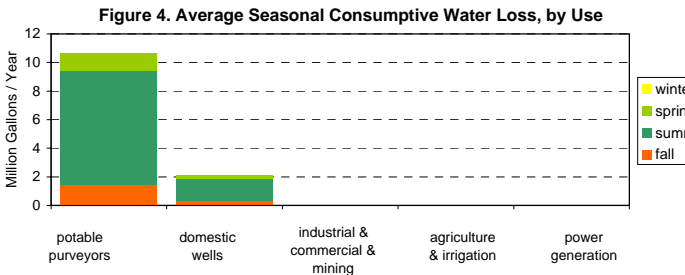


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	108	117	116	126	131	126	134	131	140	131	126
imported to HUC11	12,537	13,651	13,690	14,876	15,182	14,600	15,981	15,220	16,325	15,164	14,723
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	0	0	0	0	0	0	0	0	0	0	0
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	12,645	13,768	13,806	15,002	15,313	14,726	16,115	15,351	16,465	15,295	14,849
sum:	12,645	13,768	13,806	15,002	15,313	14,726	16,115	15,351	16,465	15,295	14,849

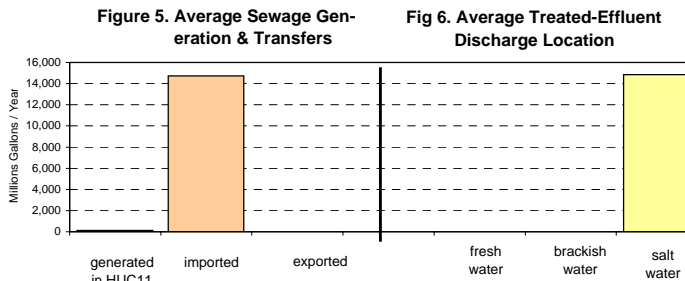


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	0
ground water	72
total	72

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	72
power generation	0
total	72

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	139.0	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	139.0	sq. mi.

(this HUC11 onshore area: 3.6 sq. mi.)

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

Year	Population	Change
1940	1,157	-
1950	1,788	54.5%
1960	2,435	36.1%
1970	3,840	57.7%
1980	5,583	45.4%
1990	6,573	17.7%
2000	7,592	15.5%
2010	8,224	8.3% est. ¹²
2020	9,072	10.3% est. ¹²
2030	9,974	9.9% est. ¹²

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

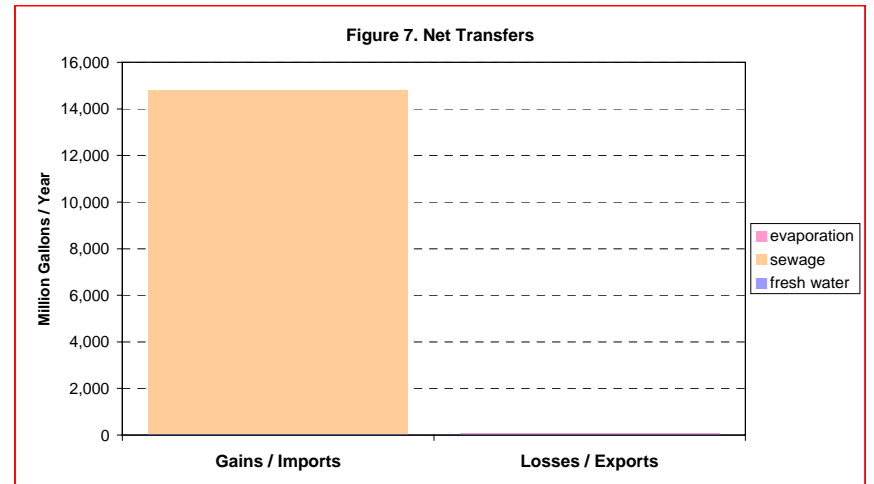
Type	Year		Change
	1986	1995	
ag.	0.0%	0.0%	0.0%
barren	1.3%	1.3%	0.0%
forest	0.0%	0.0%	0.0%
urban	2.1%	2.1%	0.0%
water	95.0%	95.0%	0.0%
wetlands	1.6%	1.6%	0.0%

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

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

location	#	name
downstream:	#N/A	#N/A
(if any)	--	--
upstream:	--	--
(if any)	--	--

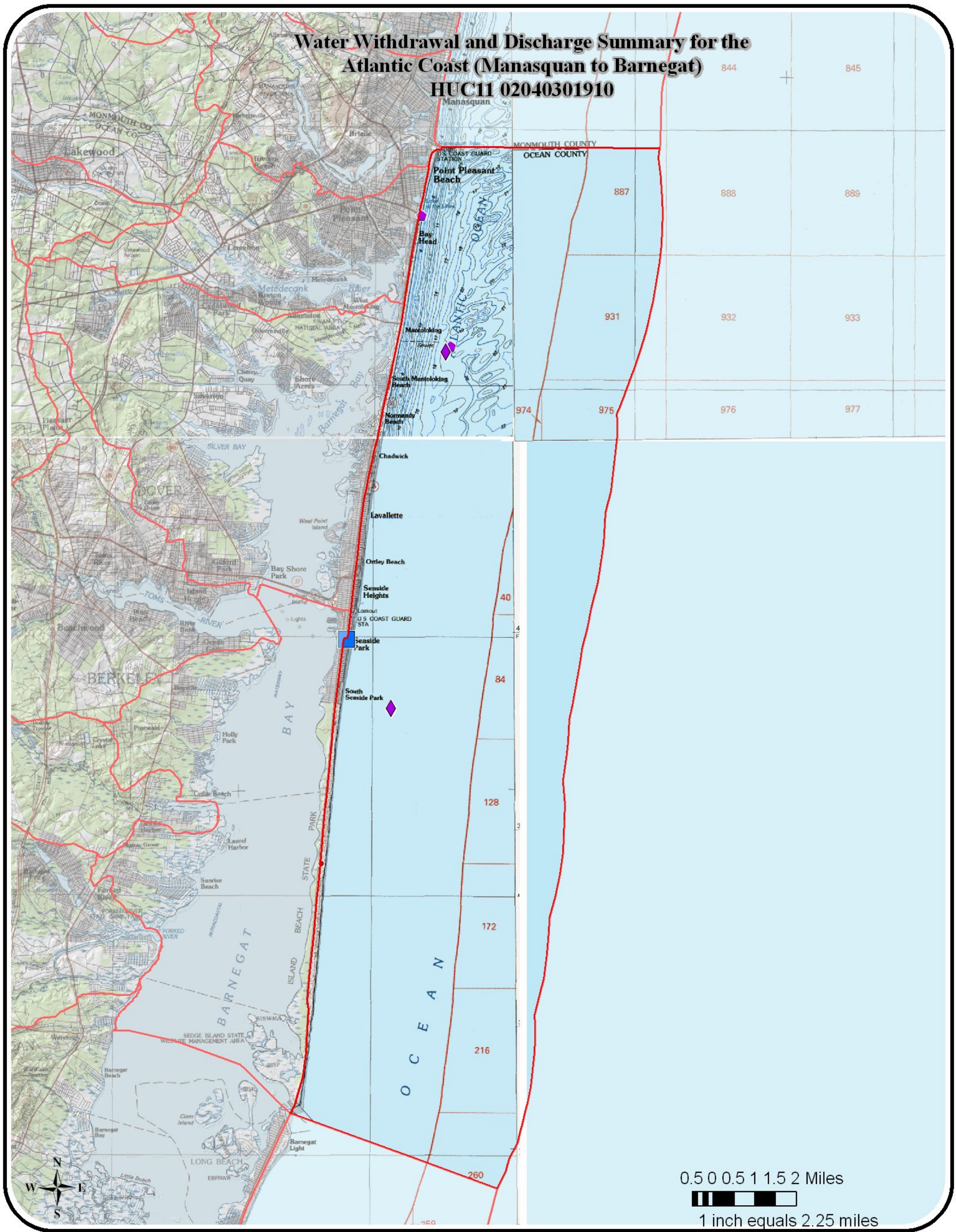


NOTES:

- 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 Atlantic Coast (Manasquan to Barnegat)

HUC11 02040301910



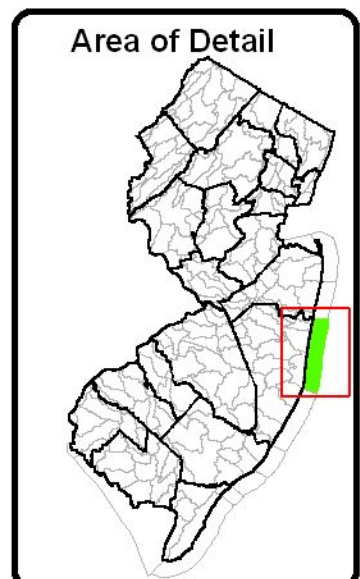
0.5 0 0.5 1 1.5 2 Miles
1 inch equals 2.25 miles

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 ATLANTIC COAST (BARNEGAT TO LITTLE EGG) --- 02040301920

WMA:	Barnegat Bay	13
HUC11:	Atlantic Coast (Barnegat to Little Egg)	02040301920

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	0	0	0	0	0	0	0	0	0	0	0
sum	0	0	0	0	0	0	0	0	0	0	0
<i>ground-water:</i> ³											
confined	0	0	0	0	0	0	0	0	0	0	0
unconfined	0	0	0	0	0	0	0	0	0	0	0
sum	0	0	0	0	0	0	0	0	0	0	0
total withdrawals:	#N/A	#N/A	0	0	0	0	0	0	0	0	0

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	226	227	219	228	248	232	217	221	233	238	229
exports ¹¹	0	0	0	0	0	0	0	0	0	0	0
net	226	227	219	228	248	232	217	221	233	238	229

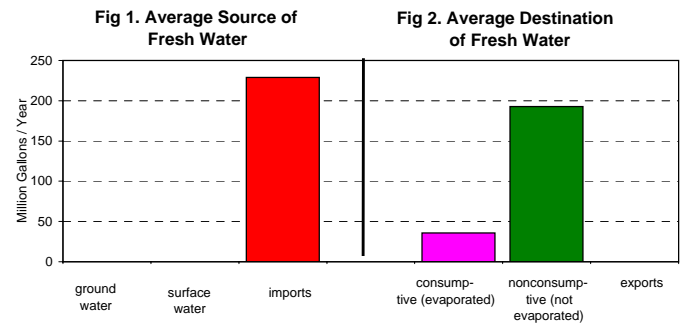


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	191	191	184	191	211	196	183	185	195	201	193
consumptive	35	36	35	36	37	36	33	35	38	37	36
<i>domestic wells</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>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	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
<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	191	191	184	191	211	196	183	185	195	201	193
consumptive	35	36	35	36	37	36	33	35	38	37	36
PERCENTAGES:											
nonconsumptive	84.6%	84.2%	84.2%	84.0%	85.3%	84.4%	84.6%	83.9%	83.7%	84.5%	84.3%
consumptive	15.4%	15.8%	15.8%	16.0%	14.7%	15.6%	15.4%	16.1%	16.3%	15.5%	15.7%

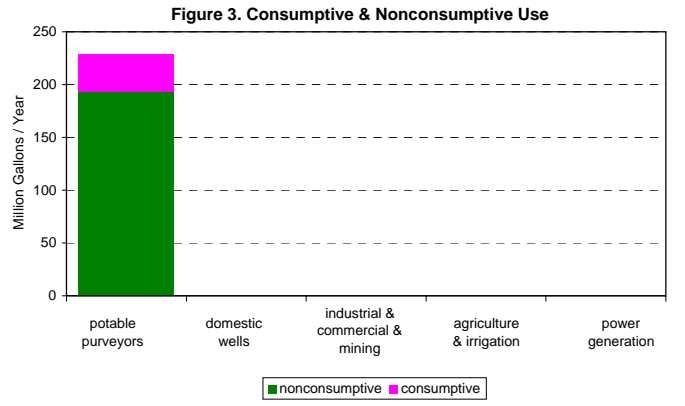


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive	Non-consumptive	Consumptive
potable purveyors	32	0	37	3	81	28	43	5	193	36
domestic wells	0	0	0	0	0	0	0	0	0	0
industrial & commercial & mining	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrig.	0	0	0	0	0	0	0	0	0	0
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	32	0	37	3	81	28	43	5	193	36

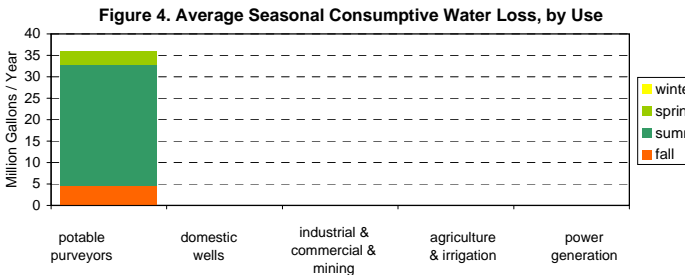


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	174	186	182	191	195	186	203	198	212	197	192
imported to HUC11	1,997	2,137	2,098	2,200	2,244	2,142	2,335	2,273	2,444	2,264	2,213
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	0	0	0	0	0	0	0	0	0	0	0
brackish water	0	0	0	0	0	0	0	0	0	0	0
salt water	2,170	2,323	2,280	2,392	2,439	2,328	2,538	2,470	2,656	2,461	2,406
sum:	2,170	2,323	2,280	2,392	2,439	2,328	2,538	2,470	2,656	2,461	2,406

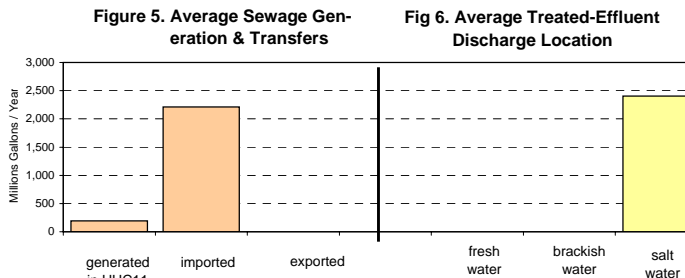


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	0
ground water	0
total	0

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	0
total	0

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	121.6	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	121.6	sq. mi.

(this HUC11 onshore area: 3.3 sq. mi.)

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

Year	Population	Change
1940	772	-
1950	1,146	48.4%
1960	1,507	31.5%
1970	2,665	76.9%
1980	3,241	21.6%
1990	3,053	-5.8%
2000	3,011	-1.4%
2010	3,117	3.5% est. ¹²
2020	3,497	12.2% est. ¹²
2030	3,832	9.6% est. ¹²

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

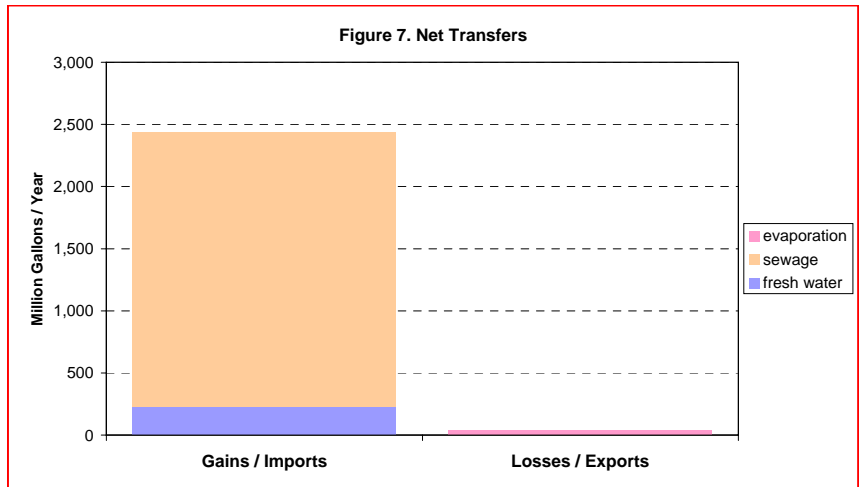
Type	Year		Change
	1986	1995	
ag.	0.0%	0.0%	0.0%
barren	1.1%	1.3%	0.2%
forest	0.0%	0.0%	0.0%
urban	3.4%	3.4%	0.1%
water	95.0%	94.7%	-0.4%
wetlands	0.4%	0.5%	0.1%

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

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

location	#	name
downstream: (if any)	#N/A	#N/A
upstream: (if any)	--	--
	--	--
	--	--
	--	--
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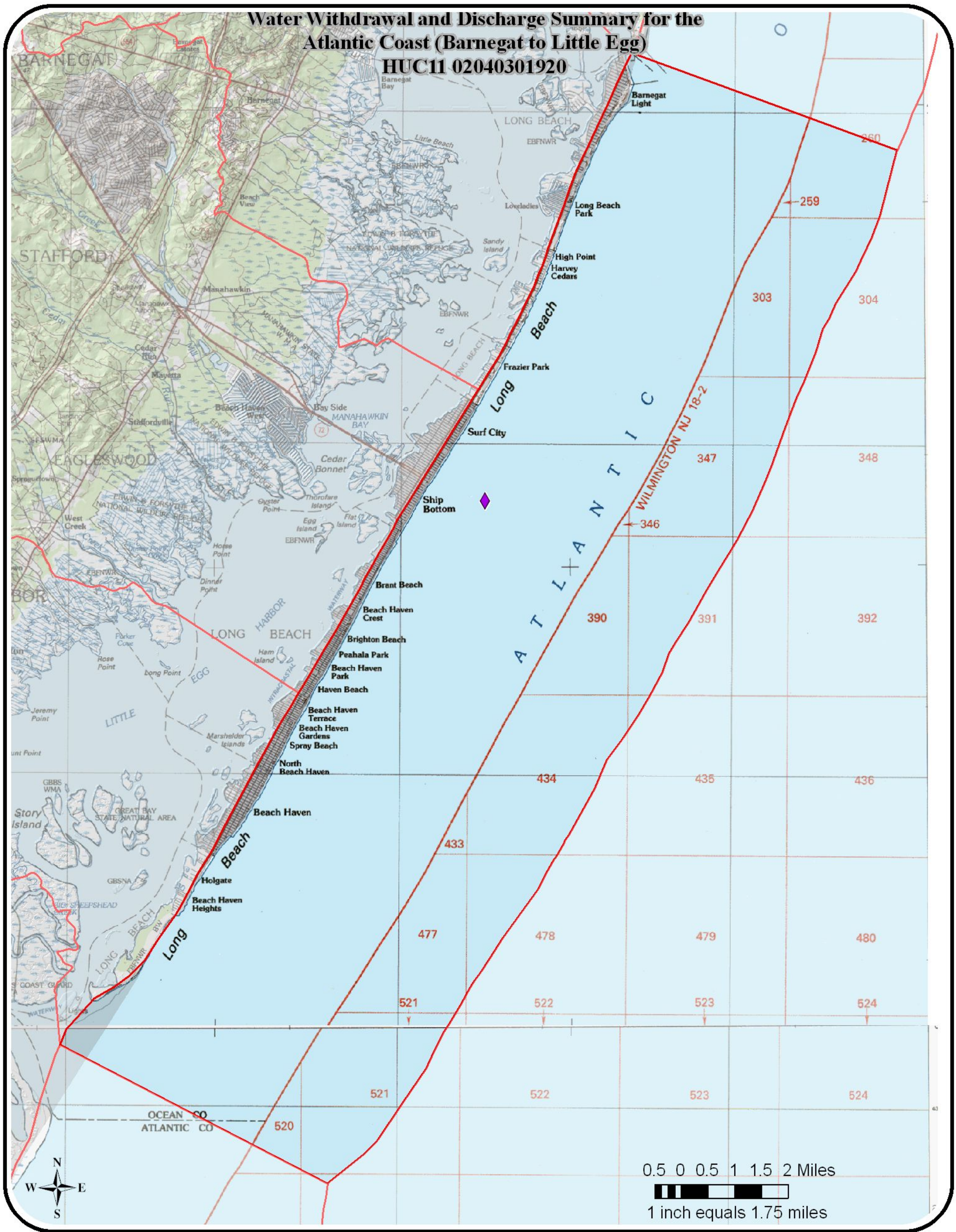


NOTES:

- 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 Atlantic Coast (Barnegat to Little Egg)

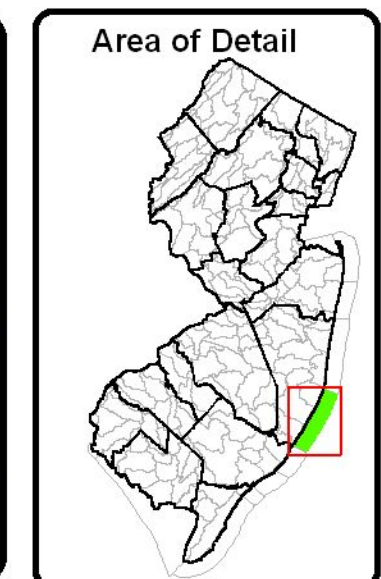
HUC11 02040301920



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	●