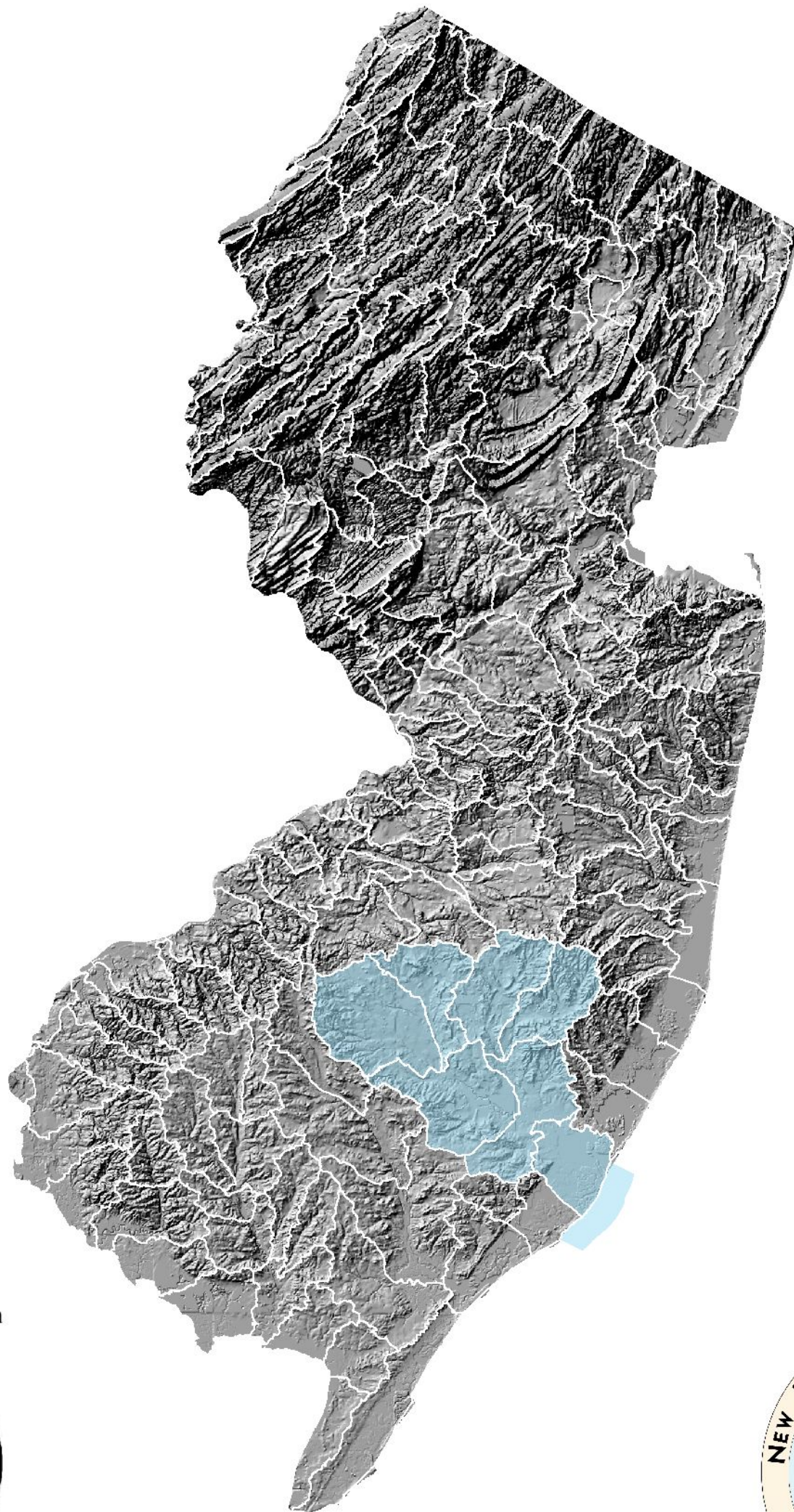


New Jersey Water Withdrawals, Uses, Transfers, and Discharges by HUC11, 1990 to 1999

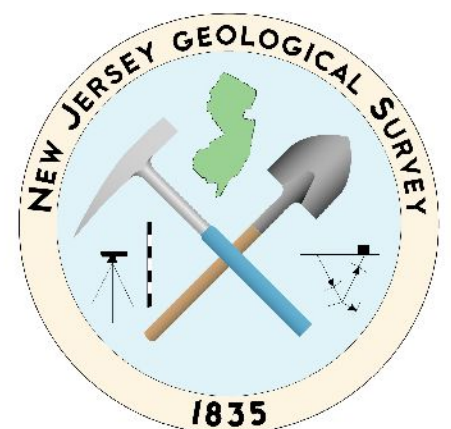
Appendix 14: HUC11 Tables, Figures and Maps WMA 14 - Mullica



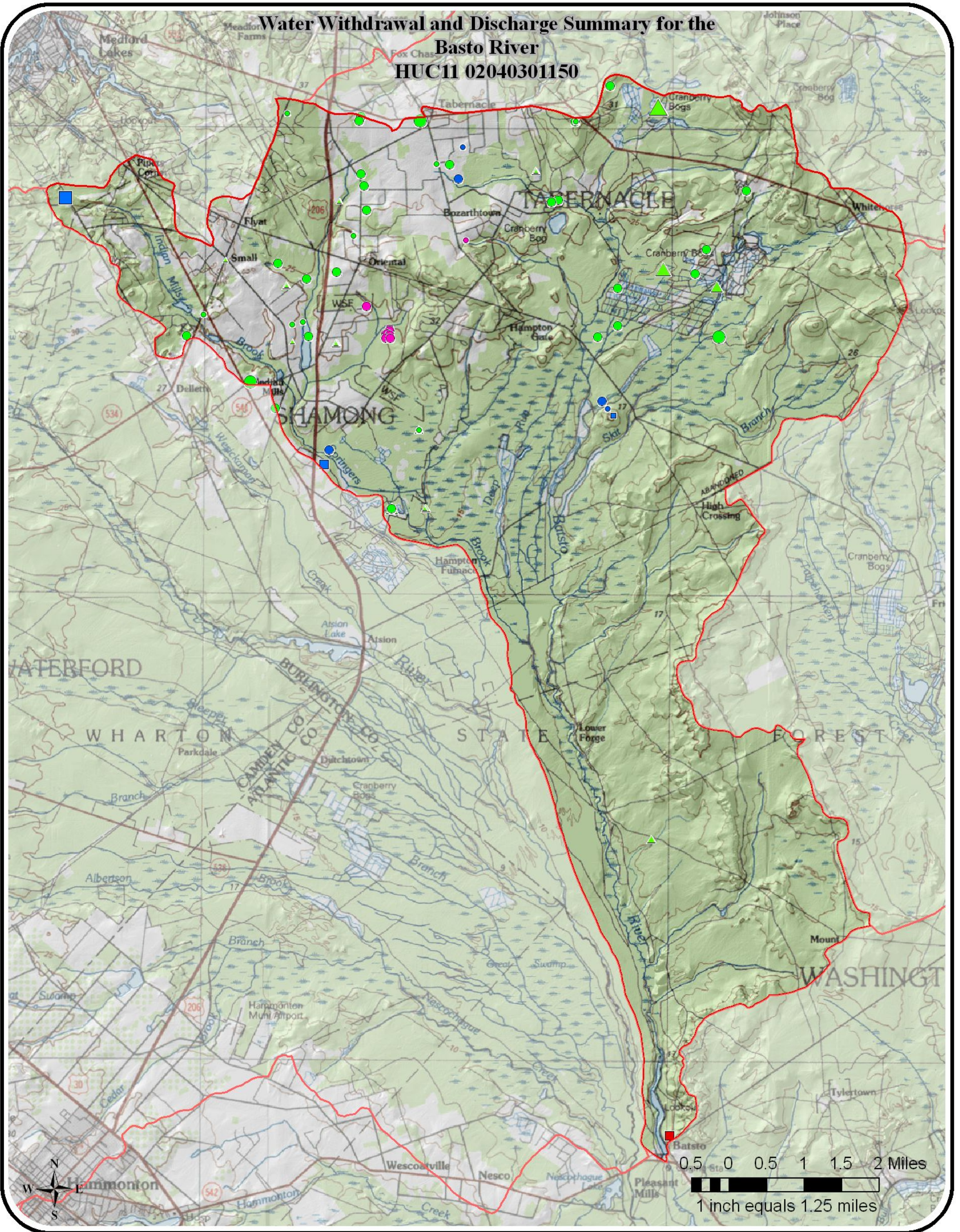
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NEW JERSEY DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Water Withdrawal and Discharge Summary for the Basto River HUC11 02040301150

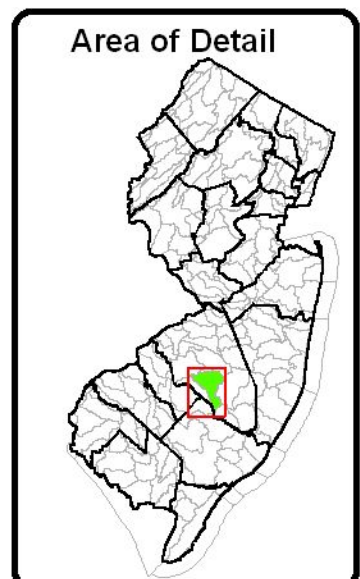


Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	◆

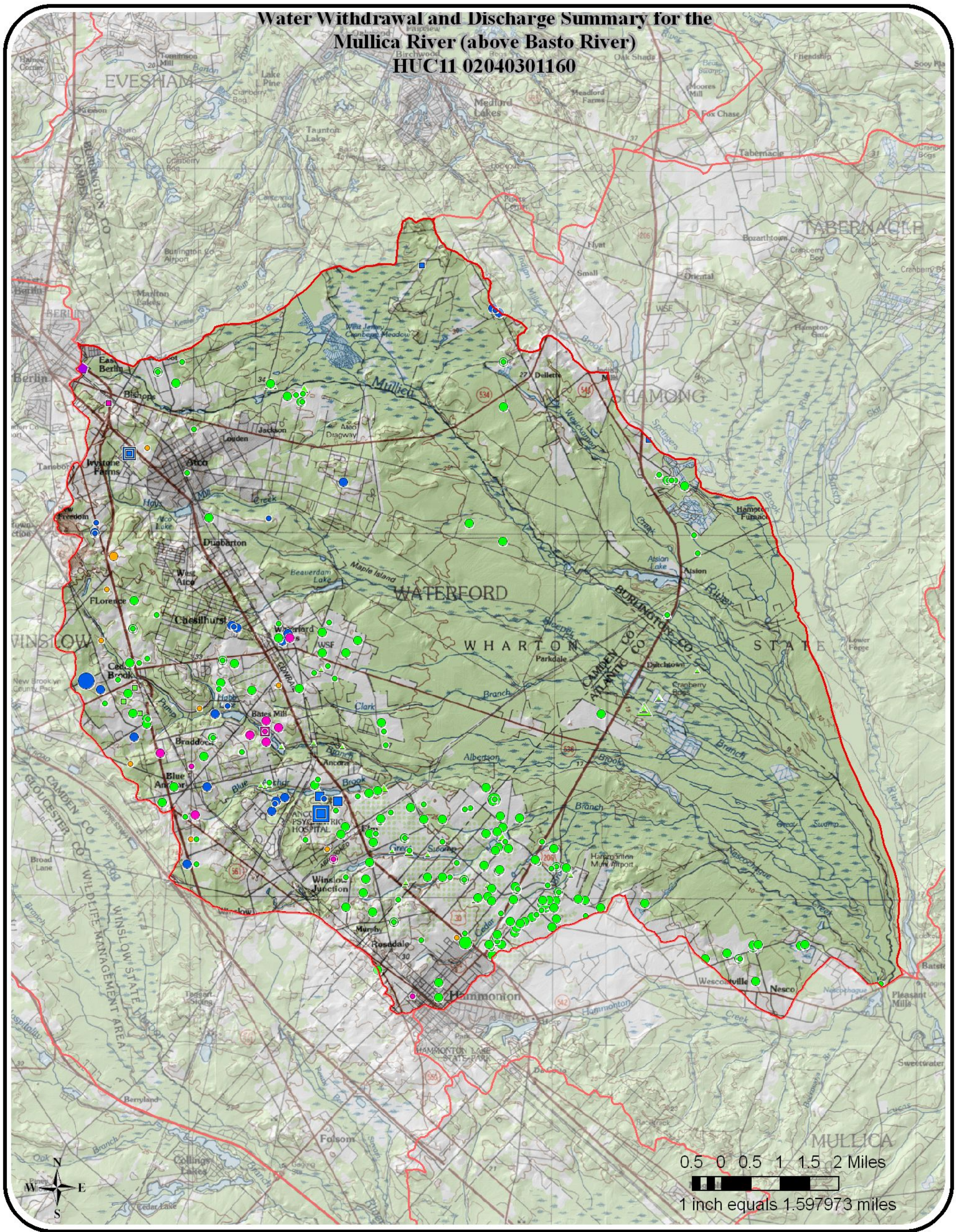
Key for Withdrawal Data	
Source	
GW Confined	□
GW Unconfined	○
SW	△
1999 Withdrawal	
No 1999 Use	●▲
1 - 50 MGY	■●▲
51 - 100 MGY	■●▲
101 - 500 MGY	■●▲
> 500 MGY	■●▲

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

MGY = millions of gallons per year



Water Withdrawal and Discharge Summary for the Mullica River (above Basto River) HUC11 02040301160

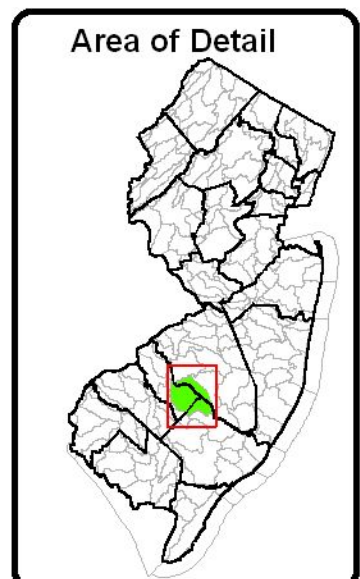


Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	◆

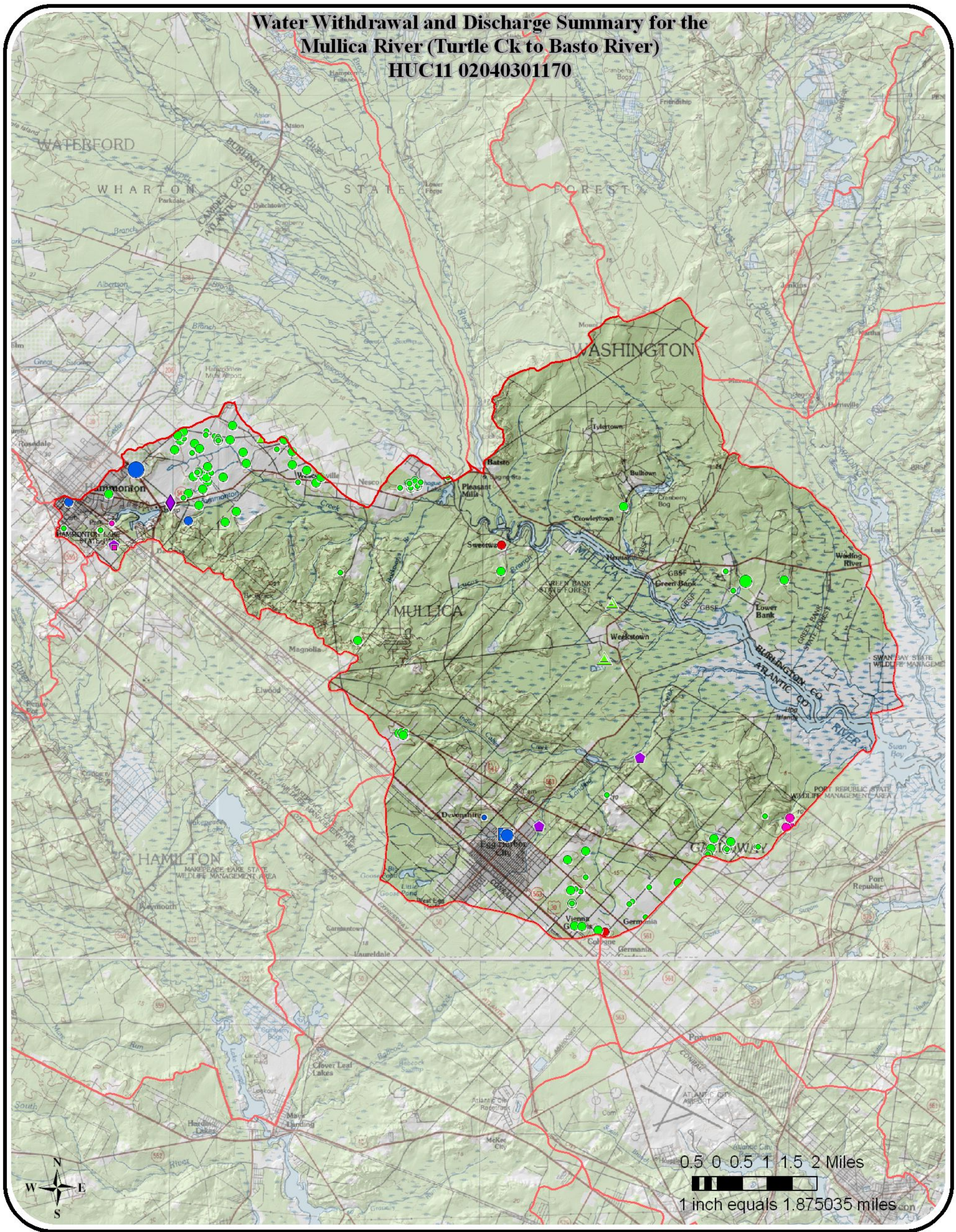
Key for Withdrawal Data	
Source	
GW Confined	□
GW Unconfined	○
SW	△
1999 Withdrawal	
No 1999 Use	●▲
1 - 50 MGY	■●▲
51 - 100 MGY	■●▲
101 - 500 MGY	■●▲
> 500 MGY	■●▲

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

MGY = millions of gallons per year



Water Withdrawal and Discharge Summary for the Mullica River (Turtle Ck to Basto River) HUC11 02040301170



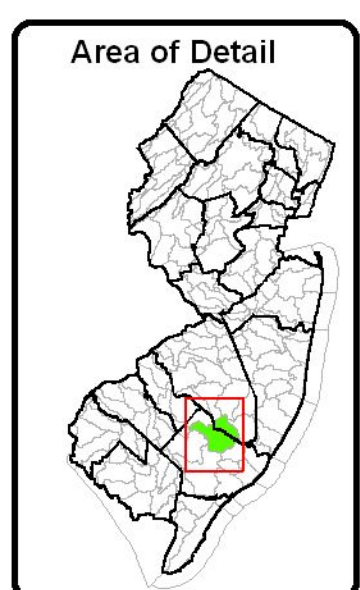
Key for Discharge Data

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

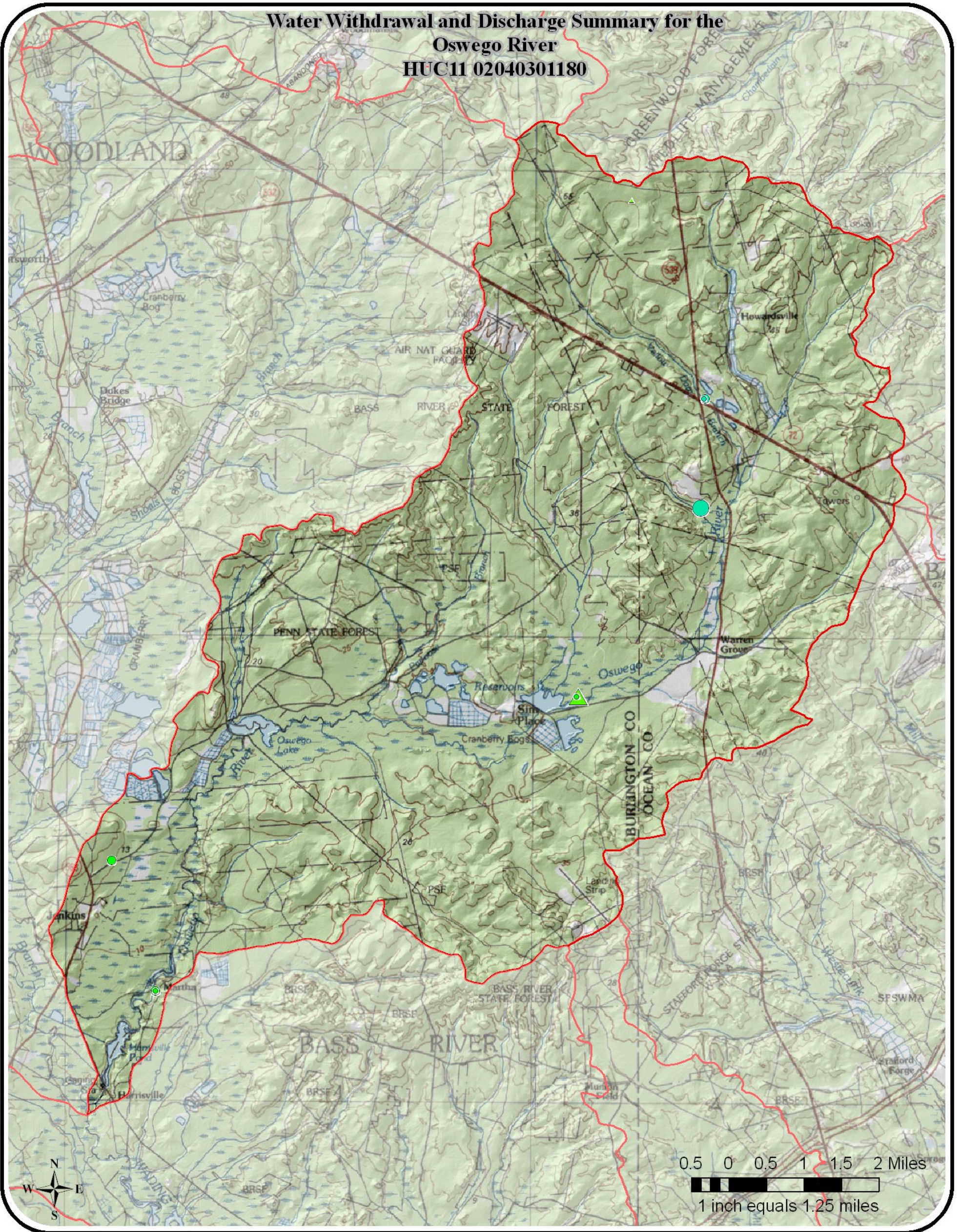
Key for Withdrawal Data

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

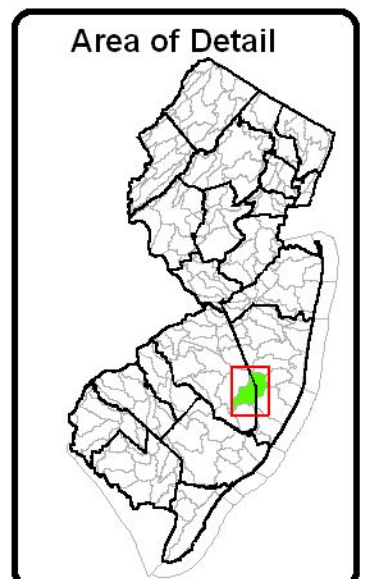


**Water Withdrawal and Discharge Summary for the
Oswego River
HUC11 02040301180**



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 WEST BRANCH WADING RIVER --- 02040301190

WMA:	Mullica and Wading	14
HUC11:	West Branch Wading River	02040301190

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	14,286	14,663	17,411	17,098	17,227	25,124	15,992	17,028	16,224	16,651	17,170
sum	14,286	14,663	17,411	17,098	17,227	25,124	15,992	17,028	16,224	16,651	17,170
ground-water:³											
confined	0	0	0	0	0	0	0	0	0	0	0
unconfined	600	740	334	753	752	1,807	1,246	3,247	3,164	3,034	1,568
sum	600	740	334	753	752	1,807	1,246	3,247	3,164	3,034	1,568
total withdrawals:	14,886	15,403	17,745	17,851	17,979	26,931	17,238	20,275	19,388	19,685	18,738

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	0	0	0	0	0	0	0	0	0	0
exports ¹¹	0	0	0	0	0	0	0	0	0	0	0
net	0	0	0	0	0	0	0	0	0	0	0

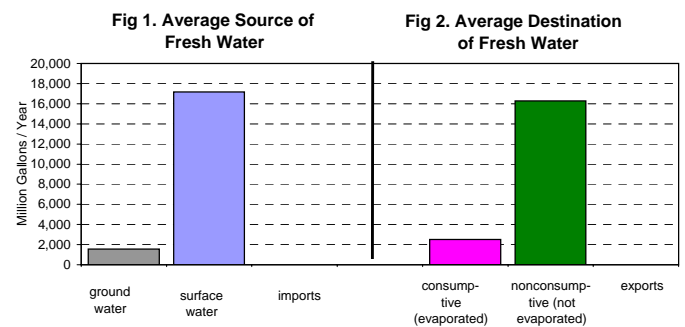


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
domestic wells											
nonconsumptive	73	73	74	74	75	75	76	76	77	77	75
consumptive	10	10	10	10	11	11	11	11	11	11	11
industrial & commercial & mining											
nonconsumptive	3	5	3	4	5	5	3	4	5	7	4
consumptive	1	3	1	3	3	3	1	1	2	4	2
agricultural & non-agricultural irrigation											
nonconsumptive	12,260	12,666	14,403	14,526	14,577	23,754	15,012	18,683	18,084	17,931	16,190
consumptive	2,539	2,646	3,254	3,233	3,308	3,083	2,136	1,500	1,377	1,779	2,485
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	12,336	12,744	14,479	14,604	14,658	23,835	15,091	18,763	18,166	18,015	16,269
consumptive	2,550	2,658	3,266	3,246	3,321	3,096	2,148	1,512	1,390	1,794	2,498
PERCENTAGES:											
nonconsumptive	82.9%	82.7%	81.6%	81.8%	81.5%	88.5%	87.5%	92.5%	92.9%	90.9%	86.7%
consumptive	17.1%	17.3%	18.4%	18.2%	18.5%	11.5%	12.5%	7.5%	7.1%	9.1%	13.3%

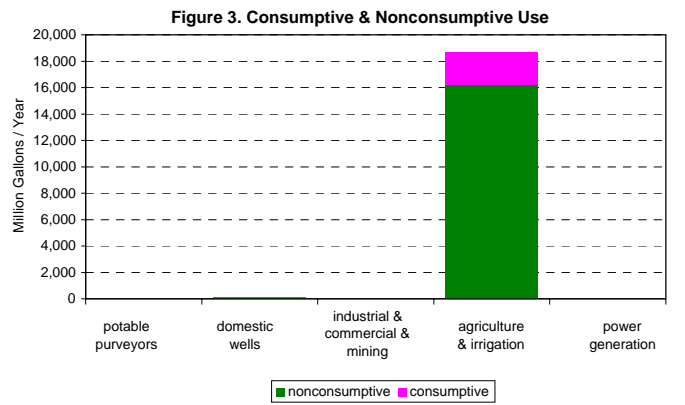


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

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	0	0	0	0	0	0	0	0	0	0
domestic wells	17	0	18	1	22	8	18	2	75	11
industrial & commercial & mining	0	0	0	0	2	2	2	1	4	2
agricultural & non-agricultural irrig.	4,353	230	4,318	595	3,954	1,428	3,565	233	16,190	2,485
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	4,370	230	4,336	596	3,978	1,437	3,585	235	16,269	2,498

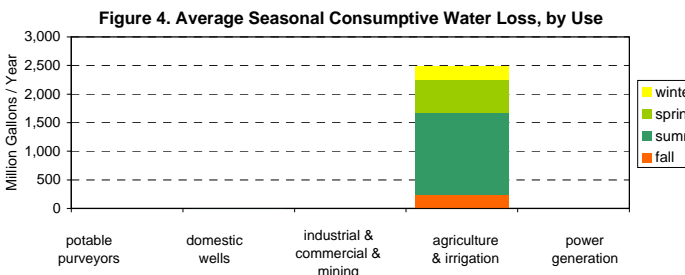


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	0	0	0	0	0	0	0	0	0	0	0
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0
sum:	0	0	0	0	0	0	0	0	0	0	0

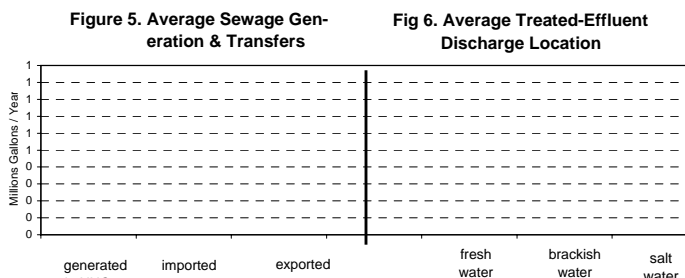


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	29,213
ground water	29,089
total	58,303

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

Use Group	MGY
agricultural	58,228
commercial	37
industrial	0
irrigation	37
mining	0
potable supply	0
power generation	0
total	58,303

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	87.1	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	87.1	sq. mi.

(this HUC11 onshore area: 87.1 sq. mi.)

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

Year	Population	Change
1940	916	-
1950	1,114	21.7%
1960	1,411	26.6%
1970	1,625	15.2%
1980	2,686	65.3%
1990	2,850	6.1%
2000	2,350	-17.6%
2010	2,656	13.0% est. ¹²
2020	2,940	10.7% est. ¹²
2030	3,284	11.7% est. ¹²

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

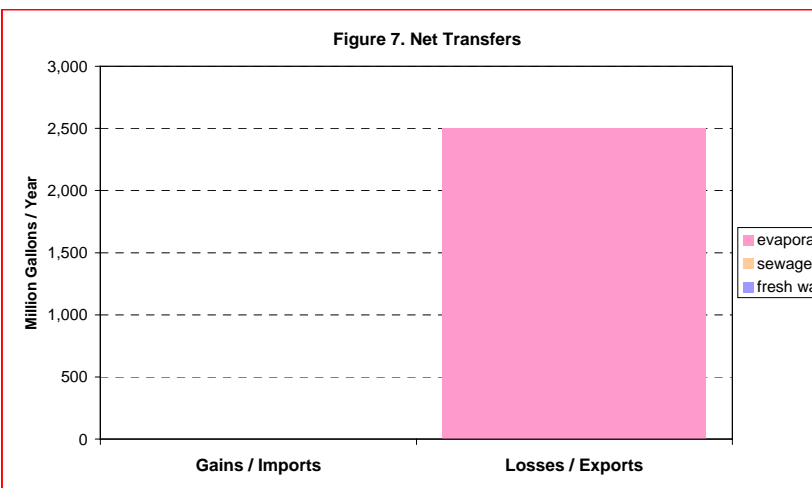
Type	Year		Change
	1986	1995	
ag.	1.6%	1.8%	0.2%
barren	0.3%	0.4%	0.1%
forest	61.0%	60.6%	-0.4%
urban	0.8%	0.9%	0.1%
water	2.3%	2.3%	0.0%
wetlands	34.0%	34.1%	0.1%

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

Pinelands:	100.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

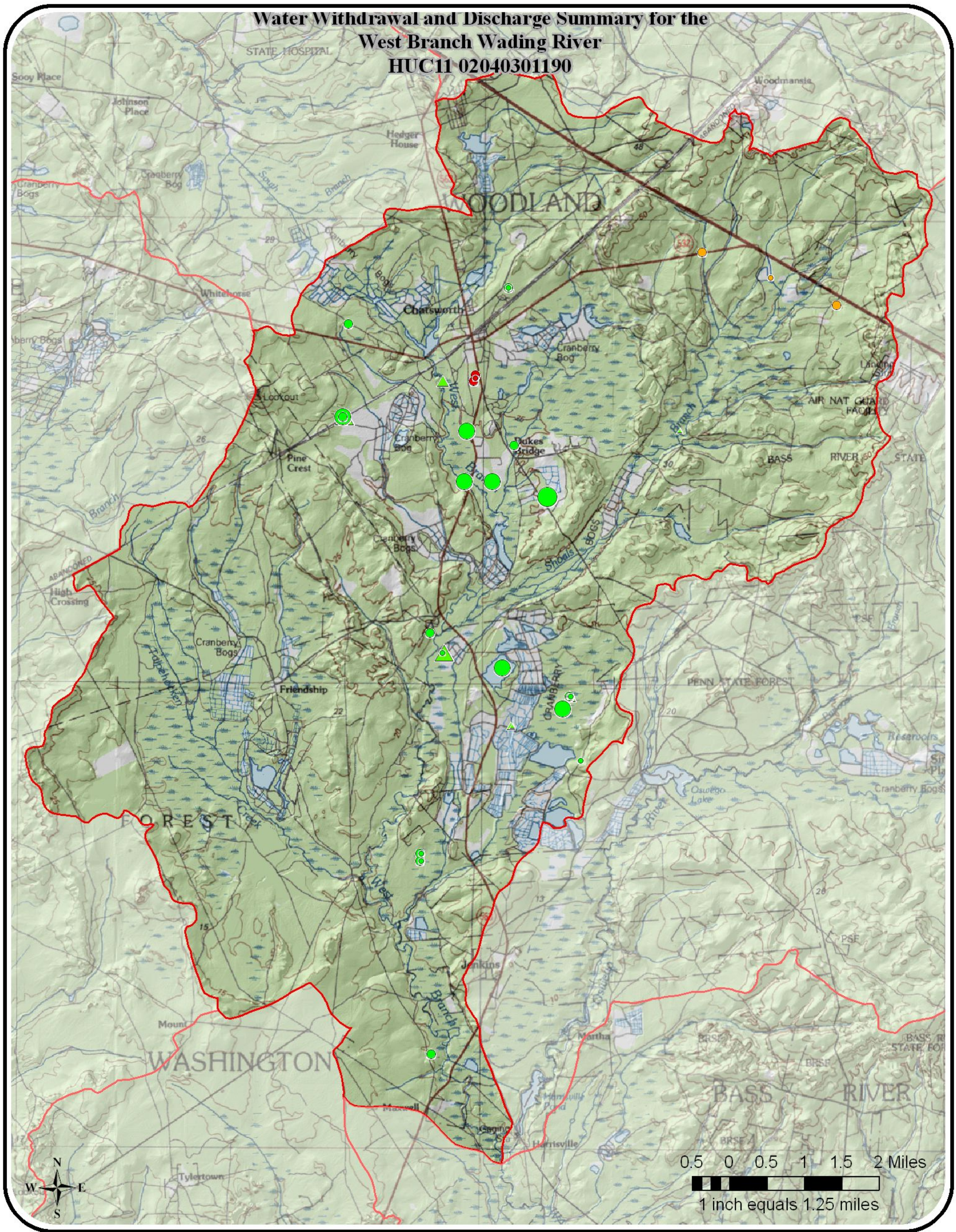
location	#	name
downstream:	02040301200	Mullica River (GSP bridge to Turtle Ck)
(if any)	--	--
upstream:	--	--
(if any)	--	--



NOTES:

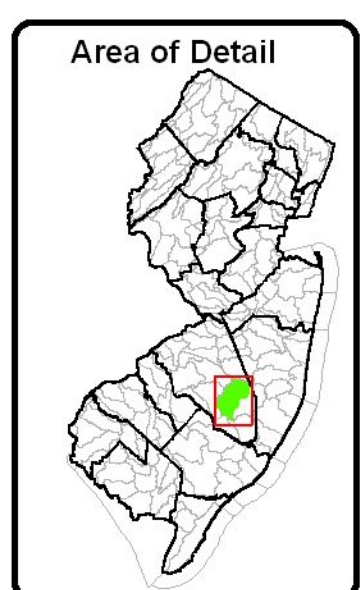
- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers 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
West Branch Wading River
HUC11 02040301190**



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 MULLICA RIVER (GSP BRIDGE TO TURTLE CK) --- 02040301200

WMA:	Mullica and Wading	14
HUC11:	Mullica River (GSP bridge to Turtle Ck)	02040301200

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	1,709	1,689	1,689	1,938	1,606	1,237	1,079	979	449	239	1,261
sum	1,709	1,689	1,689	1,938	1,606	1,237	1,079	979	449	239	1,261
<i>ground-water:</i> ³											
confined	0	0	0	0	0	0	0	0	0	0	0
unconfined	856	886	942	1,200	1,209	1,385	1,149	1,075	1,191	1,125	1,102
sum	856	886	942	1,200	1,209	1,385	1,149	1,075	1,191	1,125	1,102
total withdrawals:	2,564	2,575	2,630	3,138	2,815	2,622	2,228	2,054	1,640	1,364	2,363

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	67	75	68	68	73	77	79	84	91	90	77
exports ¹¹	434	501	532	677	703	810	666	643	611	633	621
net	(367)	(426)	(465)	(608)	(630)	(732)	(587)	(559)	(520)	(543)	(544)

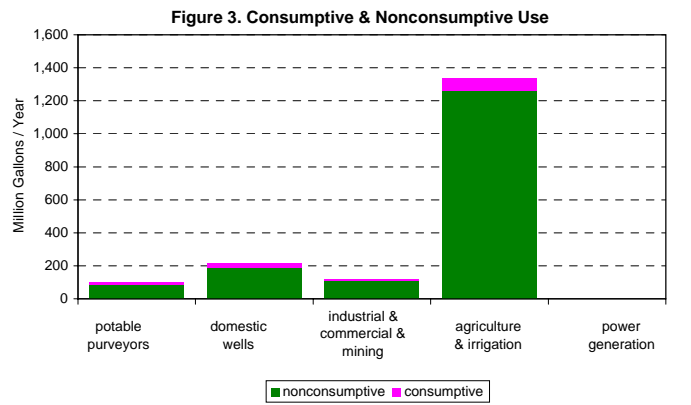
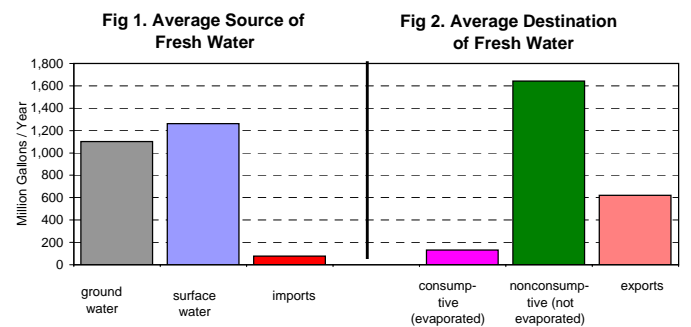


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	70	78	73	76	82	88	86	90	95	94	83
consumptive	9	17	14	17	17	16	15	16	18	18	16
<i>domestic wells</i>											
nonconsumptive	184	185	187	189	191	192	193	195	196	198	191
consumptive	26	26	26	27	27	27	27	27	28	28	27
<i>industrial & commercial & mining</i>											
nonconsumptive	51	20	61	174	170	158	112	116	112	89	106
consumptive	6	2	6	19	19	17	12	13	12	10	12
<i>agricultural & non-agricultural irrigation</i>											
nonconsumptive	1,708	1,674	1,651	1,865	1,538	1,264	1,094	962	582	285	1,262
consumptive	87	94	100	124	97	90	63	41	36	54	79
<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	2,014	1,957	1,973	2,304	1,981	1,702	1,485	1,363	985	666	1,643
consumptive	128	140	148	187	159	150	118	97	94	110	133
PERCENTAGES:											
nonconsumptive	94.0%	93.3%	93.0%	92.5%	92.6%	91.9%	92.7%	93.4%	91.3%	85.9%	92.5%
consumptive	6.0%	6.7%	7.0%	7.5%	7.4%	8.1%	7.3%	6.6%	8.7%	14.1%	7.5%

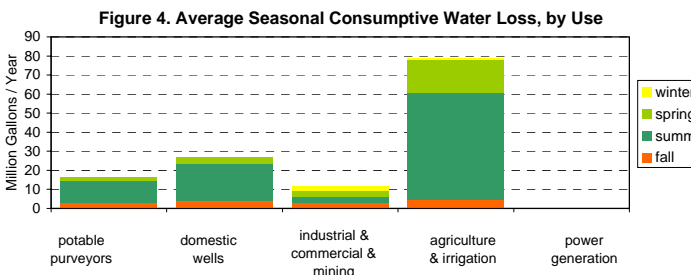


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

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	29	0	31	2	32	11	35	3	126	16
domestic wells	44	0	45	3	56	19	47	4	191	27
industrial & commercial & mining	24	3	27	3	28	3	28	3	106	12
agricultural & non-agricultural irrig.	431	1	308	17	116	56	407	4	1,262	79
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	528	3	410	25	231	90	516	15	1,686	133

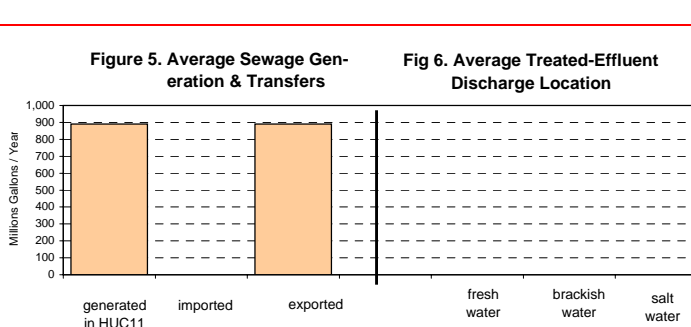


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	756	840	858	900	908	874	950	933	976	901	890
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	756	840	858	900	908	874	950	933	976	901	890

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

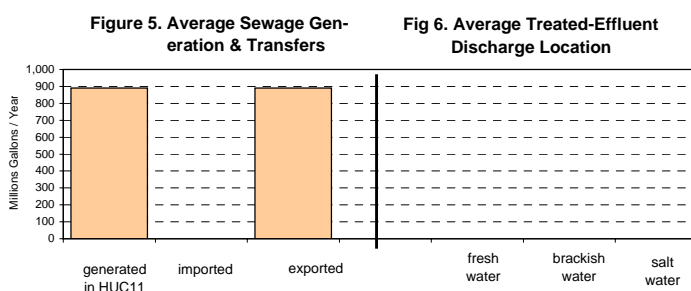


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	1,187
ground water	2,952
total	4,139

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

Use Group	MGY
agricultural	2,258
commercial	37
industrial	562
irrigation	99
mining	0
potable supply	1,184
power generation	0
total	4,139

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	95.7	sq. mi.
upstream HUC11s	464.8	sq. mi.
total watershed	560.5	sq. mi.

(this HUC11 onshore area: 93.7 sq. mi.)

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

Year	Population	Change
1940	1,885	-
1950	2,177	15.5%
1960	2,806	28.9%
1970	3,863	37.7%
1980	6,072	57.2%
1990	10,151	67.2%
2000	12,744	25.6%
2010	15,537	21.9% est. ¹²
2020	18,862	21.4% est. ¹²
2030	23,237	23.2% est. ¹²

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

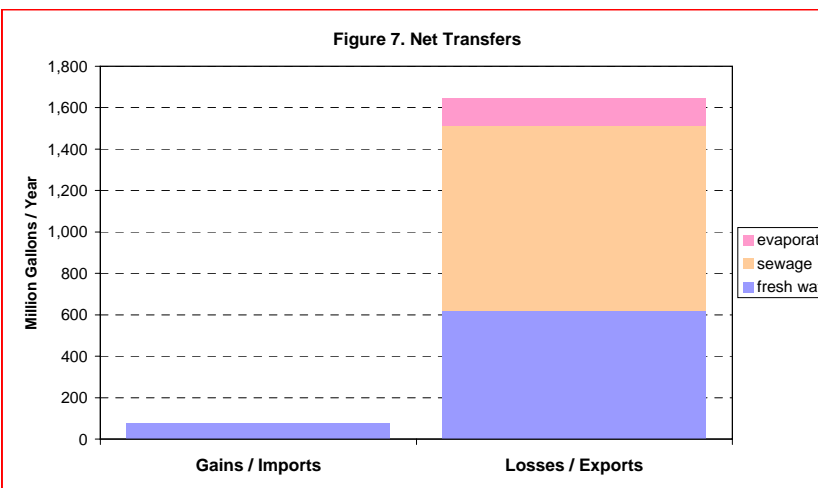
Type	Year		Change
	1986	1995	
ag.	3.5%	3.2%	-0.3%
barren	0.6%	0.4%	-0.2%
forest	47.3%	46.4%	-0.8%
urban	5.5%	6.8%	1.4%
water	4.0%	4.0%	0.0%
wetlands	39.3%	39.1%	-0.1%

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

Pinelands:	72.4%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

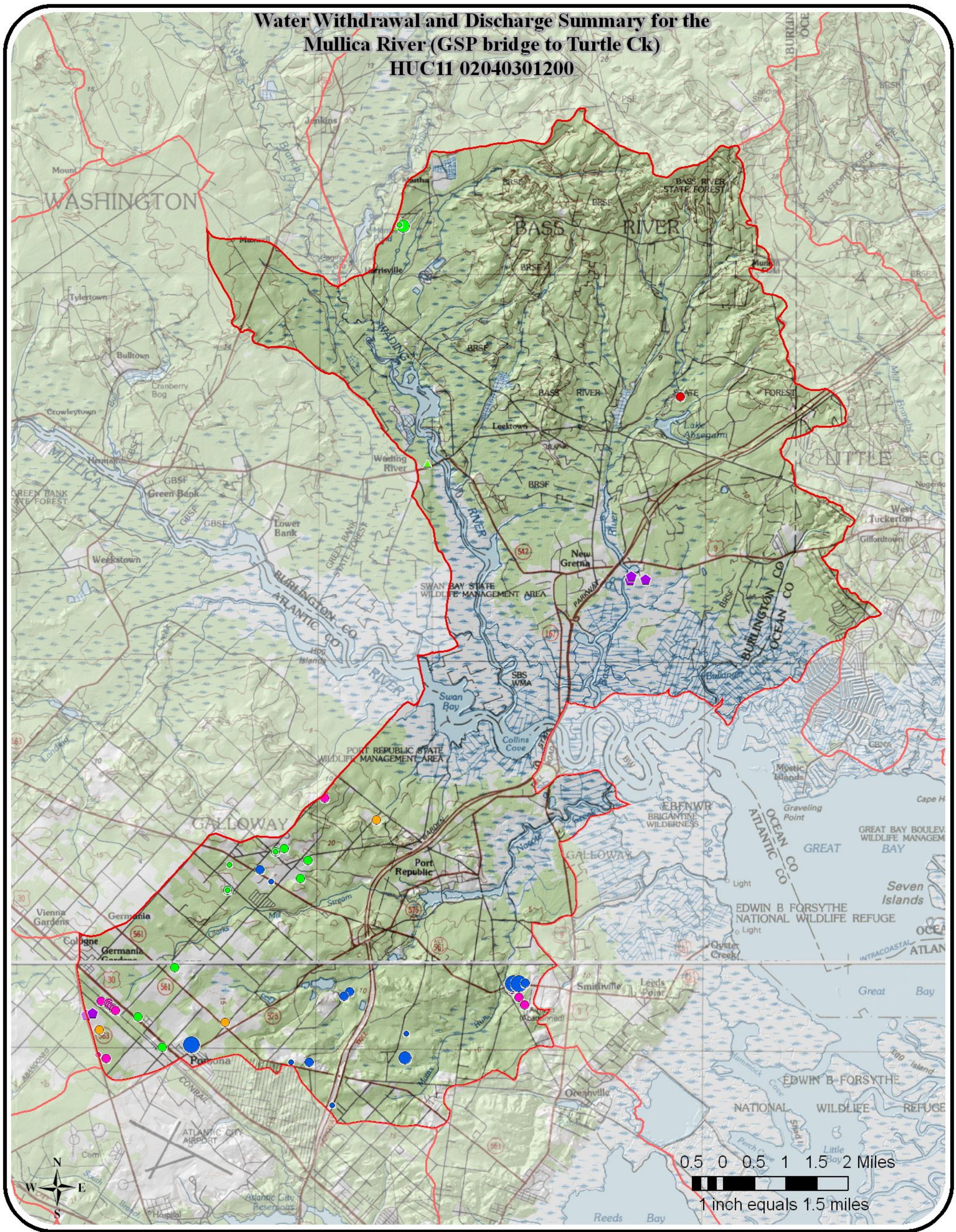
location	#	name
downstream:	02040301210	Great Bay / Mullica R (below GSP bridge)
(if any)		
upstream:	02040301150	Batsto River
(if any)	02040301160	Mullica River (above Basto River)
	02040301170	Mullica River (Turtle Ck to Basto River)
	02040301180	Oswego River
	02040301190	West Branch Wading River
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NOTES:

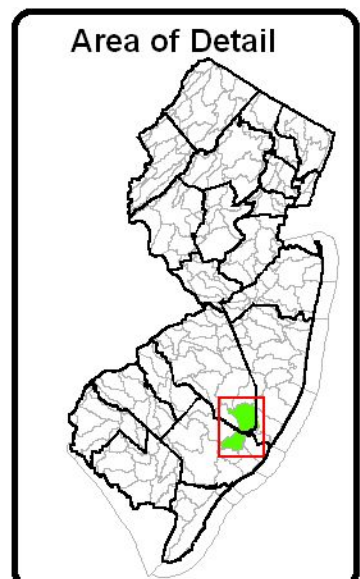
- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers 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 Mullica River (GSP bridge to Turtle Ck) HUC11 02040301200



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 GREAT BAY / MULLICA R (BELOW GSP BRIDGE) --- 02040301210

WMA:	Mullica and Wading	14
HUC11:	Great Bay / Mullica R (below GSP bridge)	02040301210

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	181	456	413	383	325	345	276	274	370	368	339
unconfined	139	140	141	143	144	146	147	148	149	168	146
sum	320	596	555	526	469	490	422	421	519	536	485
total withdrawals:	320	596	555	526	469	490	422	421	519	536	485

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	75	66	62	77	79	79	74	82	79	73	75
exports ¹¹	164	420	381	355	301	319	256	254	344	341	314
net	(88)	(354)	(319)	(278)	(222)	(240)	(182)	(172)	(265)	(268)	(239)

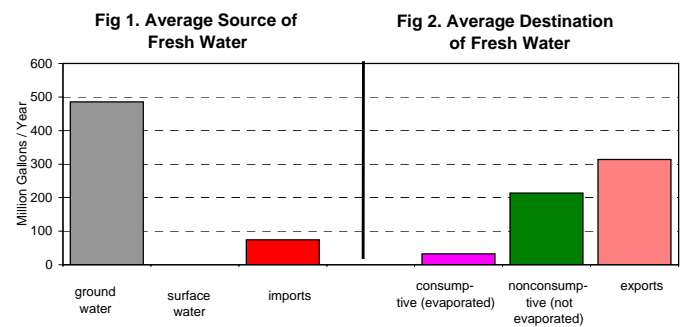


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
<i>potable purveyors</i>											
nonconsumptive	81	89	82	91	90	91	82	88	91	86	87
consumptive	12	13	12	14	13	13	12	13	14	14	13
<i>domestic wells</i>											
nonconsumptive	122	123	124	125	127	128	129	129	130	132	127
consumptive	17	17	17	18	18	18	18	18	18	19	18
<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	2	0
consumptive	0	0	0	0	0	0	0	0	0	16	2
<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	203	211	206	217	216	219	211	218	221	220	214
consumptive	29	31	29	32	31	31	30	32	32	48	33
PERCENTAGES:											
nonconsumptive	87.4%	87.4%	87.5%	87.2%	87.5%	87.4%	87.6%	87.3%	87.2%	82.0%	86.8%
consumptive	12.6%	12.6%	12.5%	12.8%	12.5%	12.6%	12.4%	12.7%	12.8%	18.0%	13.2%

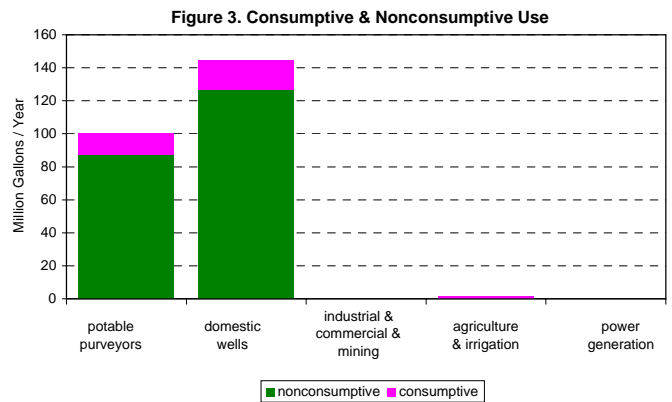


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

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	18	0	20	2	27	9	22	2	87	13
domestic wells	29	0	30	2	37	13	31	3	127	18
industrial & commercial & mining	0	0	0	0	0	0	0	0	0	0
agricultural & non-agricultural irrig.	0	0	0	0	0	1	0	0	0	2
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	47	0	50	4	64	23	53	5	214	33

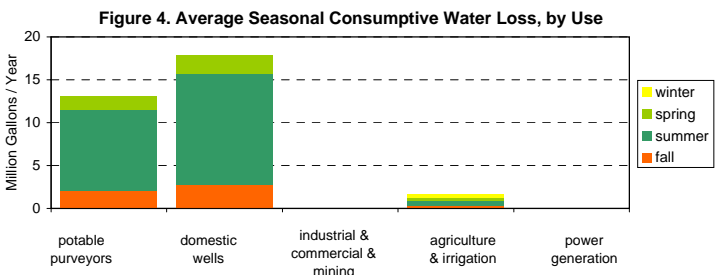


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	349	386	393	412	416	401	436	428	448	414	408
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	349	386	393	412	416	401	436	428	448	414	408

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

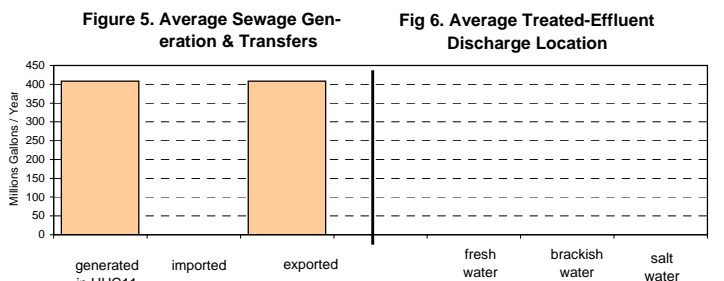


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	0
ground water	527
total	527

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

Use Group	MGY
agricultural	0
commercial	0
industrial	33
irrigation	37
mining	0
potable supply	457
power generation	0
total	527

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	64.6	sq. mi.
upstream HUC11s	560.5	sq. mi.
total watershed	625.2	sq. mi.

(this HUC11 onshore area: 37.0 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	1,282	-
1950	1,872	46.0%
1960	3,637	94.3%
1970	5,809	59.7%
1980	8,395	44.5%
1990	13,609	62.1%
2000	16,775	23.3%
2010	19,669	17.2% est. ¹²
2020	23,018	17.0% est. ¹²
2030	27,494	19.4% est. ¹²

--- Land Use of this HUC11:

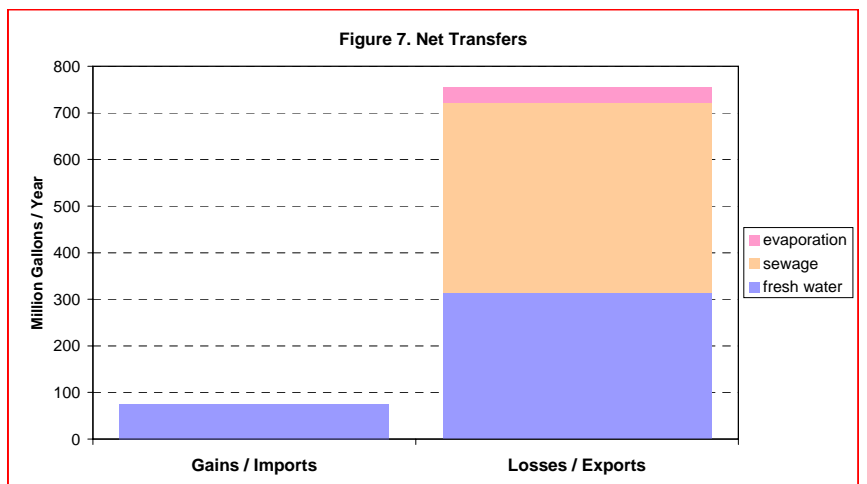
Type	Year		Change
	1986	1995	
ag.	0.3%	0.2%	-0.1%
barren	0.9%	1.2%	0.3%
forest	4.4%	4.0%	-0.3%
urban	3.0%	3.2%	0.3%
water	46.3%	46.4%	0.1%
wetlands	45.2%	44.9%	-0.3%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

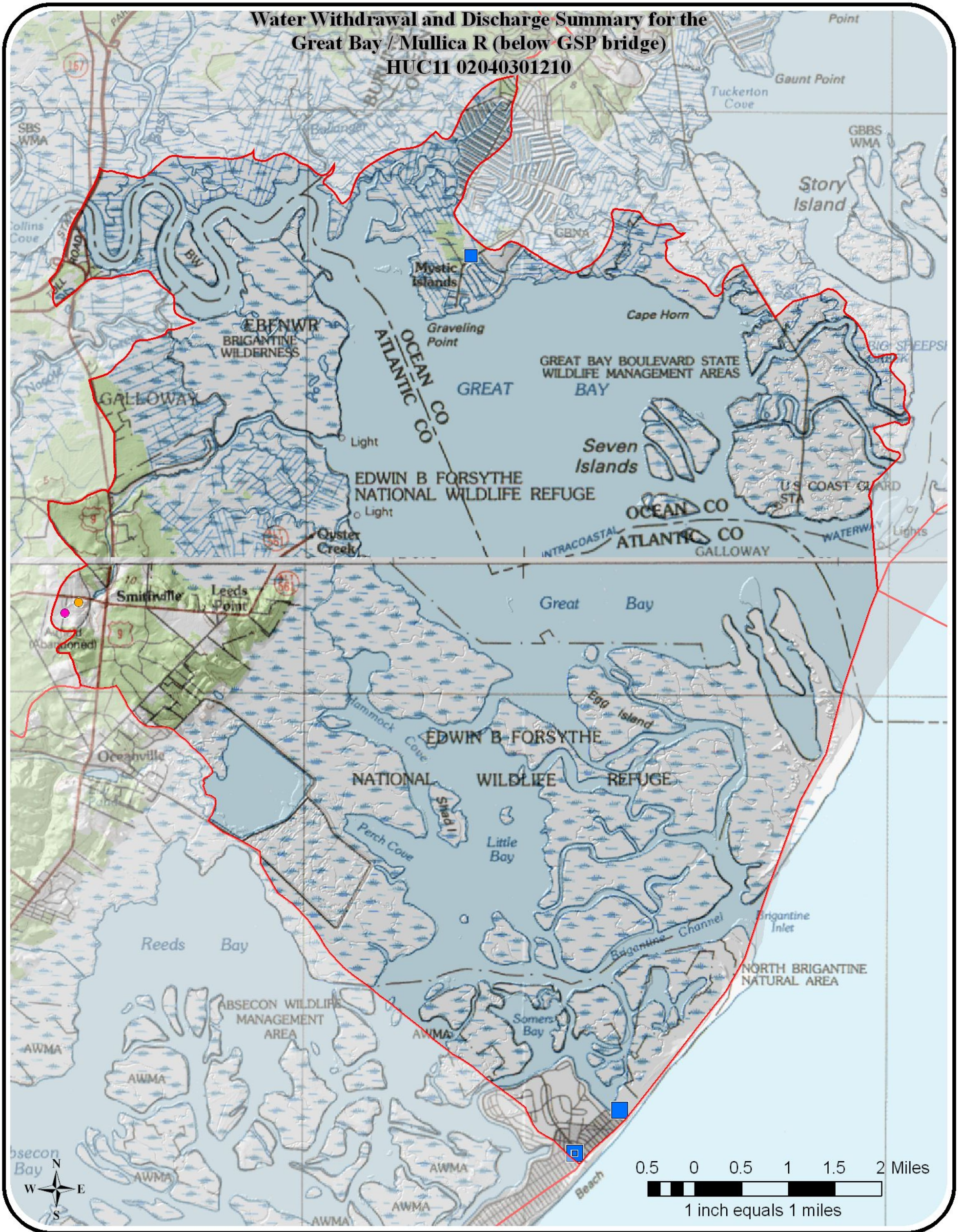
location	#	name
downstream:	02040302910	Atlantic Coast (Little Egg to Absecon)
(if any)		
upstream:	02040301150	Batsto River
(if any)	02040301160	Mullica River (above Basto River)
	02040301170	Mullica River (Turtle Ck to Basto River)
	02040301180	Oswego River
	02040301190	West Branch Wading River
	02040301200	Mullica River (GSP bridge to Turtle Ck)
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NOTES:

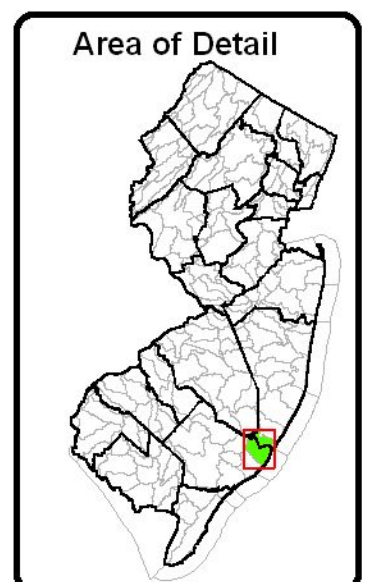
- 1 Salt and brackish water withdrawal and use is not included in this data.
- 2 This does not account for water released from onstream reservoirs for downstream intakes.
- 3 Includes both permitted ground-water withdrawals and estimated domestic well withdrawals.
- 4 Nonconsumptive water use refers 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
Great Bay / Mullica R (below GSP bridge)
HUC11 02040301210**



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																			
<table border="0"> <thead> <tr> <th>Source</th> <th>Use Group</th> </tr> </thead> <tbody> <tr> <td>GW Confined □</td> <td>Agricultural ●</td> </tr> <tr> <td>GW Unconfined ○</td> <td>Commercial ●</td> </tr> <tr> <td>SW △</td> <td>Industrial ●</td> </tr> <tr> <td></td> <td>Irrigation ●</td> </tr> <tr> <td></td> <td>Mining ●</td> </tr> <tr> <td></td> <td>Not Classified ●</td> </tr> <tr> <td></td> <td>Potable Supply ●</td> </tr> <tr> <td></td> <td>Power Generation ●</td> </tr> </tbody> </table>		Source	Use Group	GW Confined □	Agricultural ●	GW Unconfined ○	Commercial ●	SW △	Industrial ●		Irrigation ●		Mining ●		Not Classified ●		Potable Supply ●		Power Generation ●
Source	Use Group																		
GW Confined □	Agricultural ●																		
GW Unconfined ○	Commercial ●																		
SW △	Industrial ●																		
	Irrigation ●																		
	Mining ●																		
	Not Classified ●																		
	Potable Supply ●																		
	Power Generation ●																		



Water Withdrawals, Transfers and Discharges for ATLANTIC COAST (LITTLE EGG TO ABSECON) --- 02040302910

WMA:	Mullica and Wading	14
HUC11:	Atlantic Coast (Little Egg to Absecon)	02040302910

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	1	1	1	1	1	1	1	1	1	1	1
sum	1	1	1	1	1	1	1	1	1	1	1
total withdrawals:	1	1	1	1	1	1	1	1	1	1	1

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	11	12	11	12	12	13	11	12	12	12	12
exports ¹¹	0	0	0	0	0	0	0	0	0	0	0
net	11	12	11	12	12	13	11	12	12	12	12

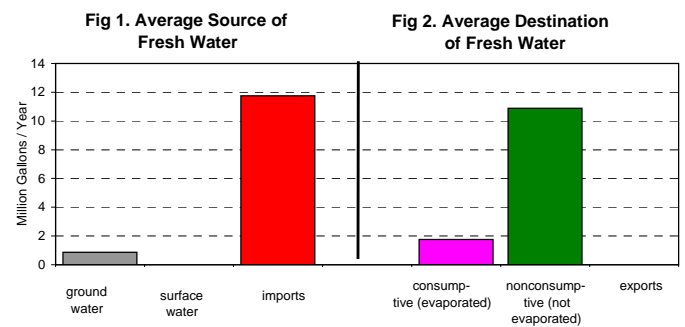


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	10	10	9	10	10	11	9	10	11	10	10
consumptive	2	2	1	2	2	2	1	2	2	2	2
domestic wells											
nonconsumptive	1	1	1	1	1	1	1	1	1	1	1
consumptive	0	0	0	0	0	0	0	0	0	0	0
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	10	11	10	11	11	12	10	11	11	11	11
consumptive	2	2	2	2	2	2	2	2	2	2	2
PERCENTAGES:											
nonconsumptive	86.5%	86.3%	86.2%	85.5%	86.7%	86.4%	86.5%	86.1%	85.6%	85.7%	86.2%
consumptive	13.5%	13.7%	13.8%	14.5%	13.3%	13.6%	13.5%	13.9%	14.4%	14.3%	13.8%

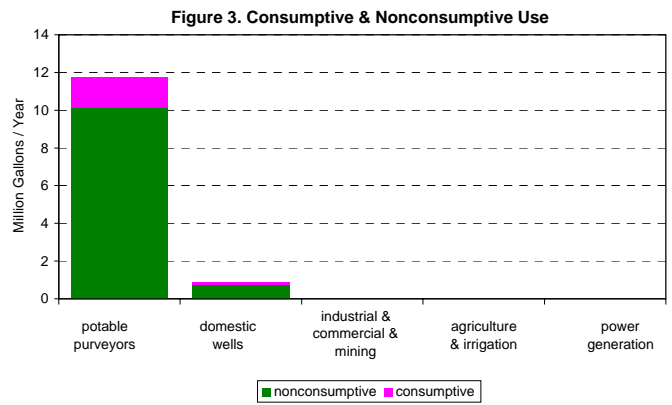


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

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	2	0	2	0	3	1	3	0	10	2
domestic wells	0	0	0	0	0	0	0	0	1	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:	2	0	2	0	4	1	3	0	11	2

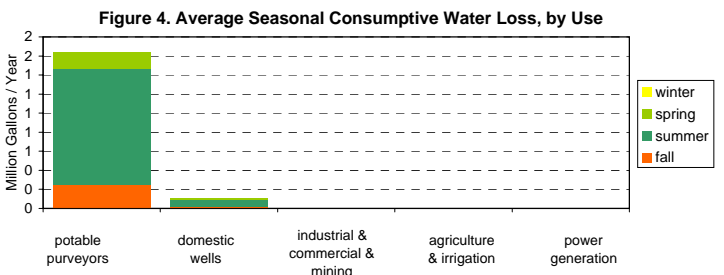


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	70	78	80	84	84	81	88	87	90	83	82
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	70	78	80	84	84	81	88	87	90	83	82

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

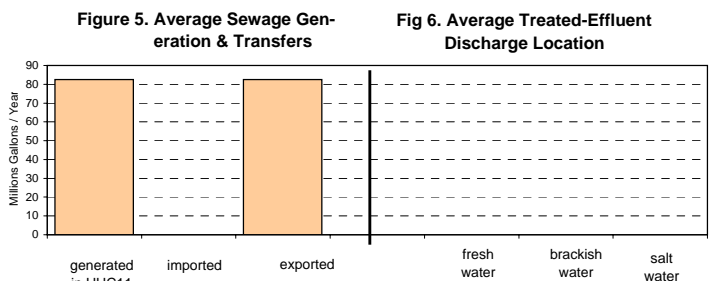


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	0
ground water	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	59.1	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	59.1	sq. mi.

(this HUC11 onshore area: 1.2 sq. mi.)

--- Population of this HUC11:

Year	Population	Change	
1940	63	-	
1950	183	188.8%	
1960	587	220.9%	
1970	940	60.1%	
1980	1,165	23.9%	
1990	1,607	37.9%	
2000	1,795	11.7%	
2010	1,876	4.5%	est. ¹²
2020	1,955	4.2%	est. ¹²
2030	2,042	4.5%	est. ¹²

--- Land Use of this HUC11:

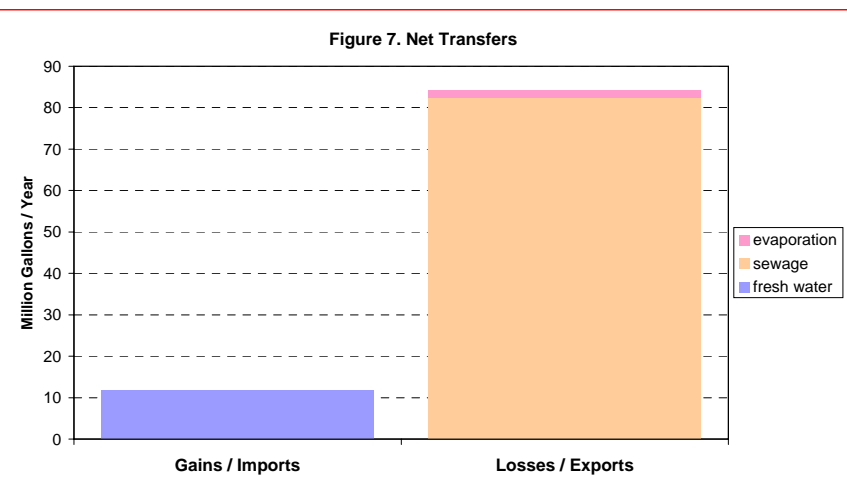
Type	Year		Change
	1986	1995	
ag.	0.0%	0.0%	0.0%
barren	1.5%	1.1%	-0.4%
forest	0.0%	0.0%	0.0%
urban	1.4%	1.4%	0.1%
water	95.9%	96.4%	0.5%
wetlands	1.2%	1.1%	-0.1%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

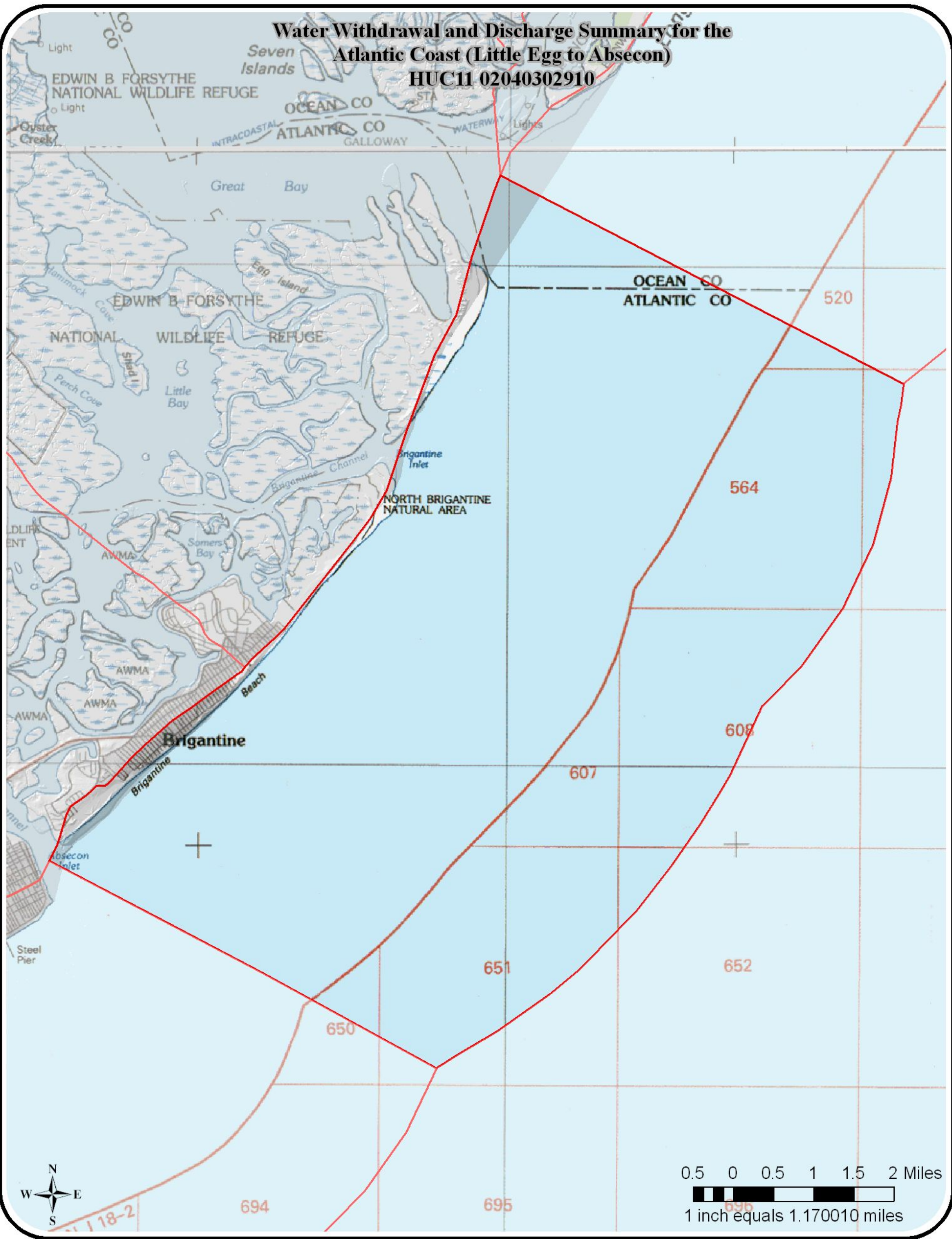
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upstream: (if any)	--	--
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NOTES:

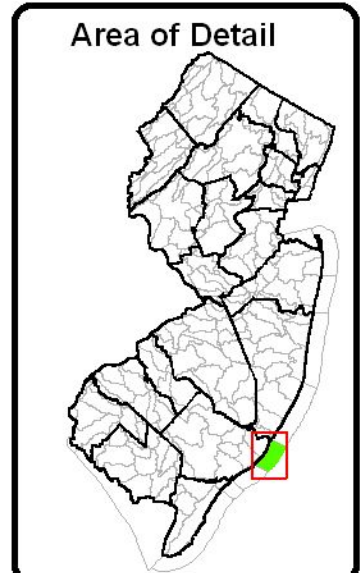
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- 5 Consumptive water use refers to water evaporated in the watershed. It does not include exports.
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- 10 The allocated volume is calculated from allocation permits on file with the Bureau of Water 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 (Little Egg to Absecon) HUC11 02040302910



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	●