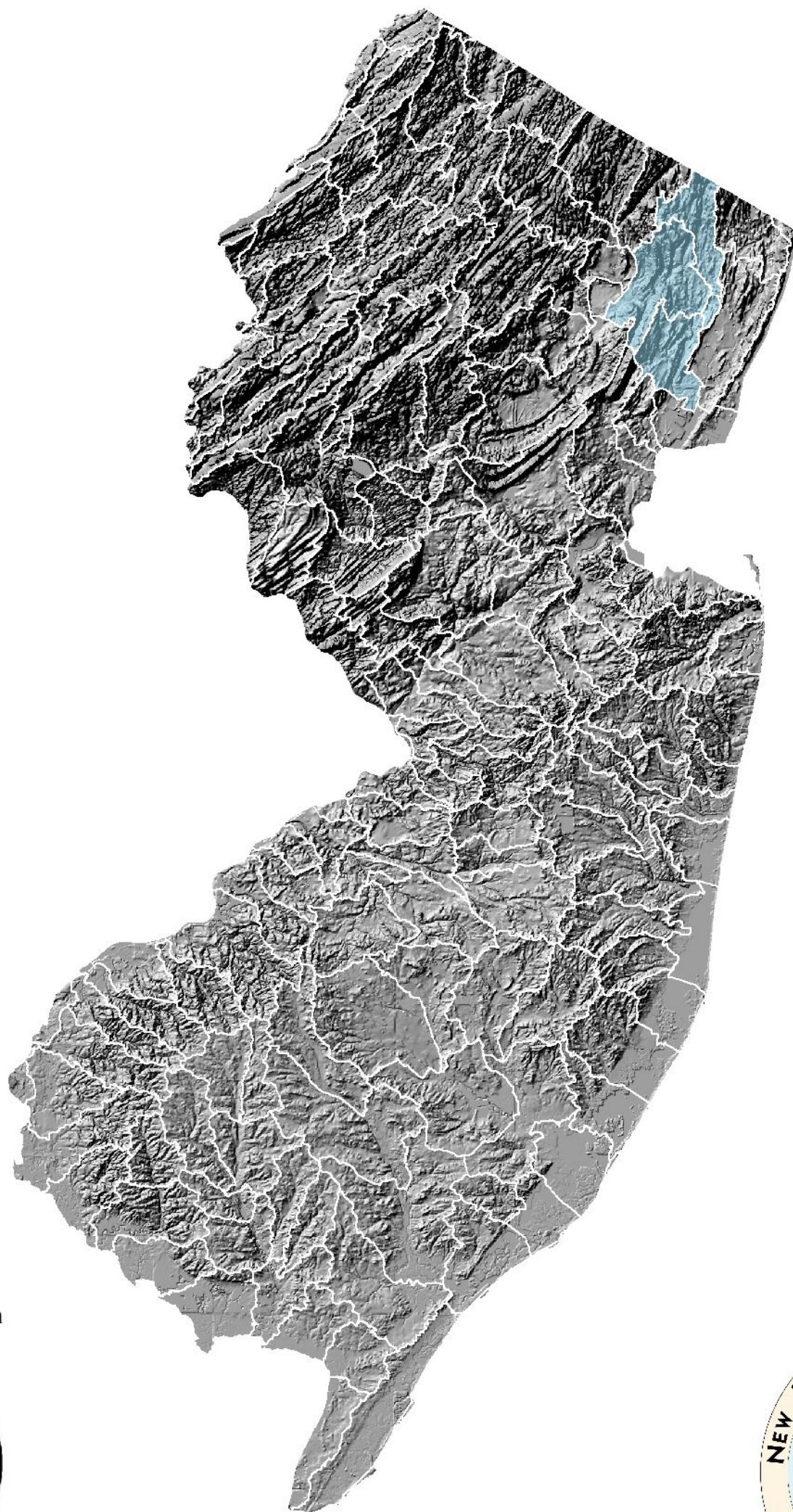


New Jersey Water Withdrawals, Uses, Transfers, and Discharges by HUC11, 1990 to 1999

Appendix 4: HUC11 Tables, Figures and Maps WMA 4 - Lower Passaic and Saddle



Let's protect our earth



NEW JERSEY DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Water Withdrawals, Transfers and Discharges for LOWER PASSAIC RIVER LOWER (SADDLE R. TO POMPTON R.) --- 02030103120

WMA:	Lower Passaic and Saddle	04
HUC11:	Lower Passaic River (Saddle to Pompton)	02030103120

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	186,923	137,406	119,108	123,383	106,713	78,944	79,264	100,937	33,412	36,018	100,211
sum	186,923	137,406	119,108	123,383	106,713	78,944	79,264	100,937	33,412	36,018	100,211
ground-water:³											
confined	0	0	0	0	0	0	0	0	0	0	0
unconfined	3,962	4,099	4,164	4,725	4,507	4,038	4,287	4,576	4,808	4,599	4,377
sum	3,962	4,099	4,164	4,725	4,507	4,038	4,287	4,576	4,808	4,599	4,377
total withdrawals:	190,885	141,505	123,273	128,108	111,220	82,982	83,550	105,514	38,220	40,617	104,587

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	14,069	13,568	14,489	14,704	14,742	14,720	15,788	15,392	15,999	15,861	14,933
exports ¹¹	8,732	8,653	8,294	8,548	8,426	8,848	8,442	8,581	8,609	8,368	8,550
net	5,337	4,915	6,194	6,156	6,316	5,871	7,346	6,810	7,390	7,493	6,383

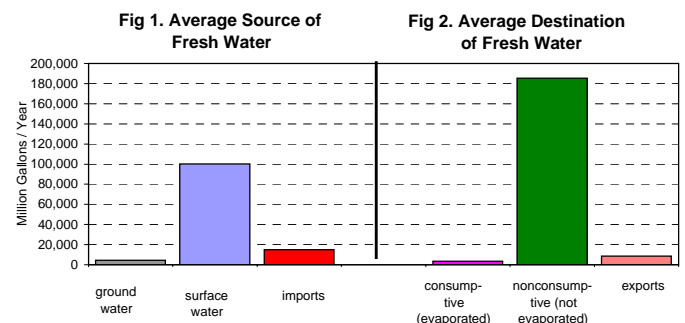


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	187,952	138,157	121,087	126,148	109,573	81,021	82,888	104,088	36,872	39,257	102,704
consumptive	2,928	2,942	2,868	3,126	3,000	2,984	2,895	2,904	3,008	3,365	3,002
domestic wells											
nonconsumptive	222	223	223	224	225	226	227	227	228	229	225
consumptive	31	31	31	31	32	32	32	32	32	32	32
industrial & commercial & mining											
nonconsumptive	4,464	4,417	4,661	4,136	4,113	4,020	4,299	4,409	4,785	4,604	4,391
consumptive	496	490	518	458	455	446	478	488	530	511	487
agricultural & non-agricultural irrigation											
nonconsumptive	13	16	8	14	14	12	8	17	15	11	13
consumptive	114	142	69	124	124	109	68	155	137	97	114
power generation											
nonconsumptive	163,688	114,547	96,736	101,610	85,320	56,954	58,568	79,930	10,558	13,717	78,163
consumptive	0	0	0	0	0	0	0	0	0	0	0
SUM:											
nonconsumptive	356,339	257,360	222,714	232,131	199,245	142,233	145,990	188,672	52,458	57,818	185,496
consumptive	3,568	3,605	3,485	3,740	3,611	3,571	3,472	3,579	3,707	4,006	3,634
PERCENTAGES:											
nonconsumptive	99.0%	98.6%	98.5%	98.4%	98.2%	97.6%	97.7%	98.1%	93.4%	93.5%	98.1%
consumptive	1.0%	1.4%	1.5%	1.6%	1.8%	2.4%	2.3%	1.9%	6.6%	6.5%	1.9%

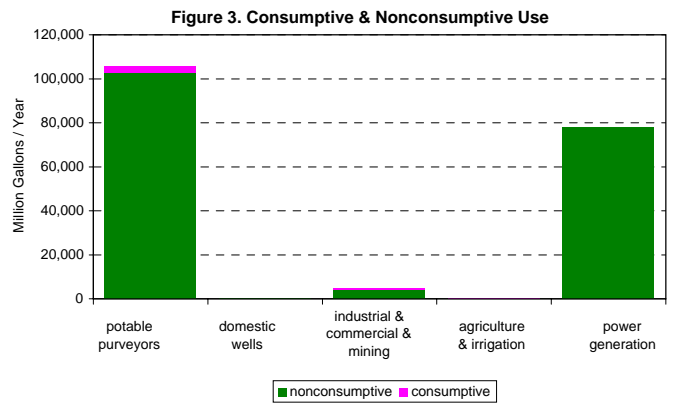


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

Use Group	Winter		Spring		Summer		Fall		Yearly Avg.	
	Noncon- sumptive	Consump- tive	Noncon- sumptive	Consump- tive	Noncon- sumptive	Consump- tive	Noncon- sumptive	Consump- tive	Noncon- sumptive	Consump- tive
potable purveyors	6,278	0	6,147	412	5,922	2,049	6,197	541	24,544	3,002
domestic wells	52	0	53	4	66	23	55	5	225	32
industrial & commercial & mining	1,024	114	1,103	122	1,168	129	1,095	121	4,391	487
agricultural & non-agricultural irrig.	1	8	2	21	7	64	2	21	13	114
power generation	24,385	0	26,510	0	13,972	0	13,296	0	78,163	0
SUM:	31,740	121	33,816	560	21,135	2,265	20,645	688	107,336	3,634

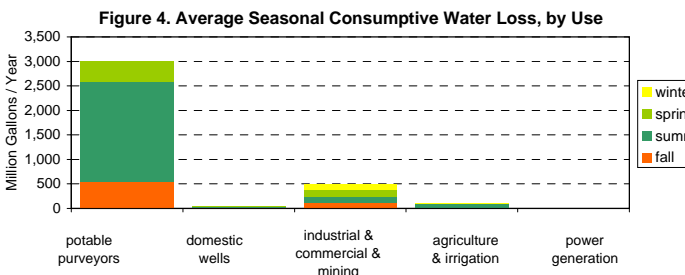


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	37,850	37,451	35,062	36,876	37,148	34,476	38,600	36,029	36,661	34,692	36,485
imported to HUC11	1,053	1,111	1,175	1,222	1,342	1,320	1,466	1,316	1,272	1,210	1,249
exported from HUC11	35,524	35,407	32,836	34,508	34,622	31,849	35,530	33,401	34,113	32,311	34,010

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	3,380	3,155	3,401	3,591	3,868	3,947	4,536	3,945	3,819	3,592	3,723
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:	3,380	3,155	3,401	3,591	3,868	3,947	4,536	3,945	3,819	3,592	3,723

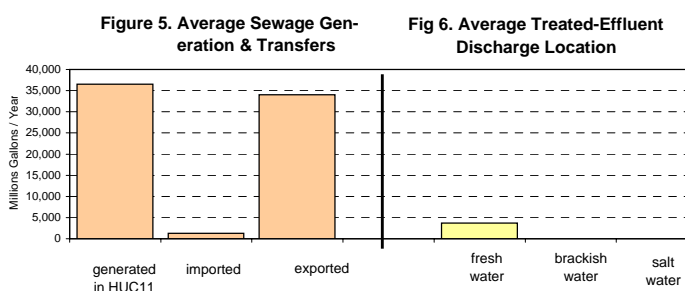


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	1,092,247
ground water	7,392
total	1,099,638

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

Use Group	MGY
agricultural	0
commercial	70
industrial	554,595
irrigation	369
mining	0
potable supply	32,205
power generation	512,400
total	1,099,638

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	83.4	sq. mi.
upstream HUC11s	599.3	sq. mi.
total watershed	682.8	sq. mi.

(this HUC11 onshore area: 83.4 sq. mi.)

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

Year	Population	Change
1940	310,147	-
1950	356,310	14.9%
1960	436,823	22.6%
1970	475,924	9.0%
1980	442,963	-6.9%
1990	440,301	-0.6%
2000	470,696	6.9%
2010	486,071	3.3% est. ¹²
2020	514,915	5.9% est. ¹²
2030	556,494	8.1% est. ¹²

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

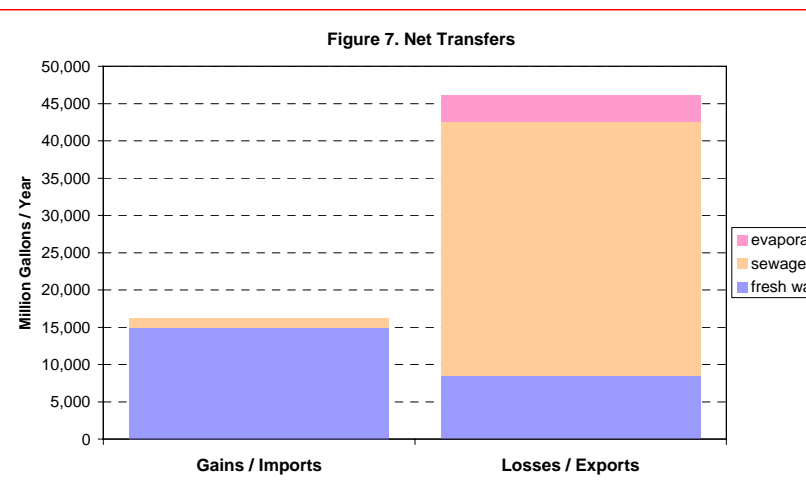
Type	Year		Change
	1986	1995	
ag.	0.2%	0.1%	-0.1%
barren	0.6%	0.8%	0.2%
forest	15.2%	14.0%	-1.2%
urban	78.2%	79.5%	1.3%
water	1.8%	1.9%	0.1%
wetlands	4.0%	3.7%	-0.3%

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

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

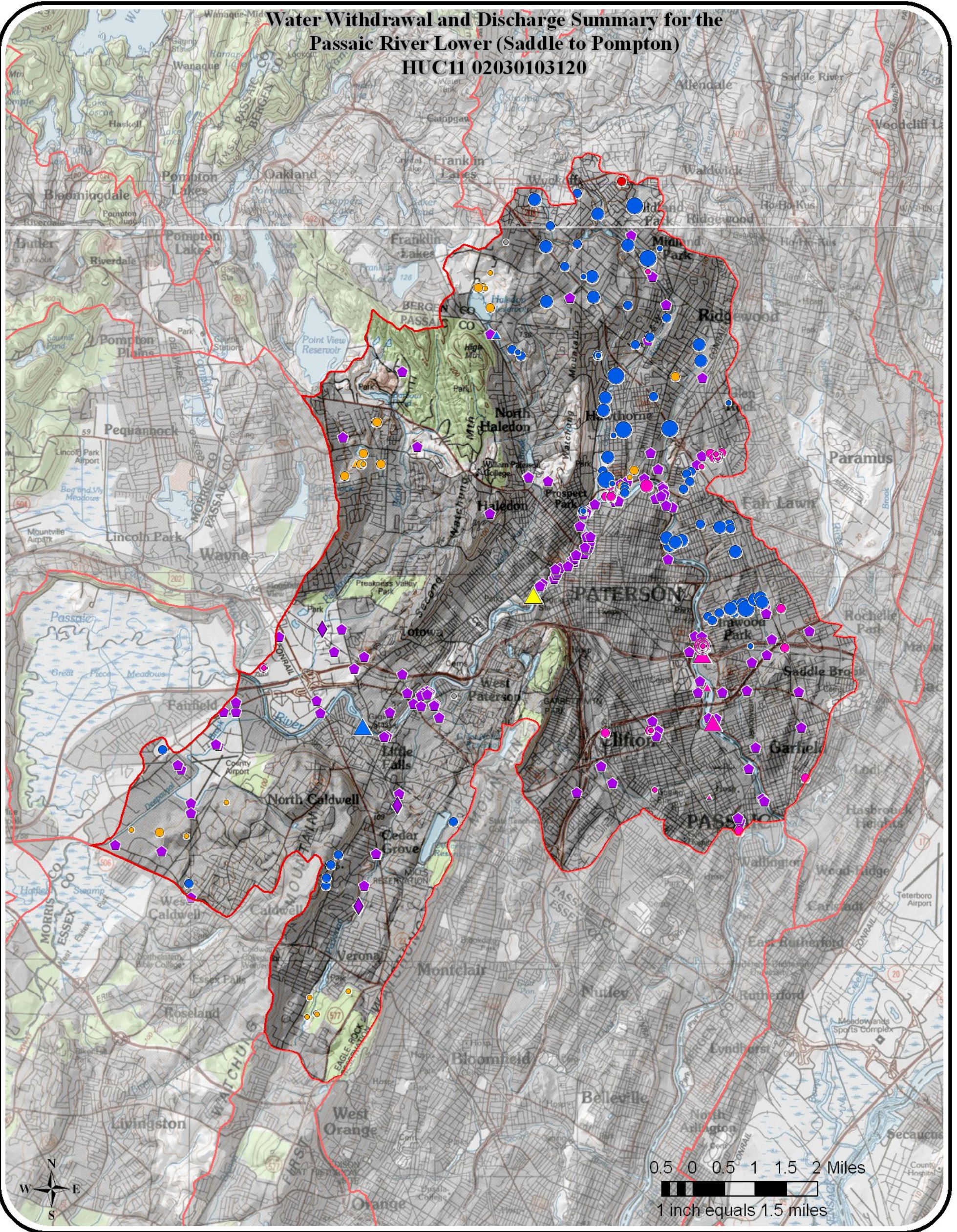
location	#	name
downstream:	02030103150	Passaic River Lower (Nwk Bay to Saddle)
(if any)		
upstream:	02030103010	Passaic River Upr (above Pine Bk)
(if any)	02030103020	Whippany River
	02030103030	Rockaway River
	02030103040	Passaic River Upr (Pompton to Pine Bk)
	02030103050	Pequanock River
	02030103070	Wanaque River
	02030103100	Ramapo River
	02030103110	Pompton 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 Passaic River Lower (Saddle to Pompton) HUC11 02030103120

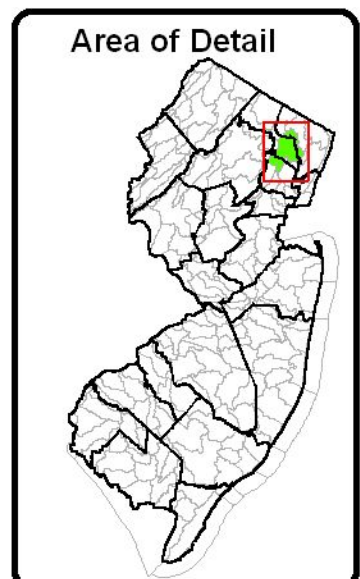


Key for Discharge Data	
1999 Treated Effluent Discharge	
0 - 50 MGY	◆
50 - 100 MGY	◆
100 - 500 MGY	◆
> 500 MGY	◆
Other Permitted Discharge	
	◆

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 SADDLE RIVER --- 02030103140

WMA:	Lower Passaic and Saddle	04
HUC11:	Saddle River	02030103140

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	465	1,433	2,019	1,404	615	1,960	1,071	877	1,086	2,102	1,303
sum	465	1,433	2,019	1,404	615	1,960	1,071	877	1,086	2,102	1,303
ground-water:³											
confined	0	0	0	0	0	0	0	0	0	0	0
unconfined	3,336	3,473	3,242	4,901	3,756	3,685	4,078	3,995	5,650	4,166	4,028
sum	3,336	3,473	3,242	4,901	3,756	3,685	4,078	3,995	5,650	4,166	4,028
total withdrawals:	3,801	4,905	5,261	6,306	4,370	5,645	5,150	4,872	6,736	6,267	5,331

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	5,780	5,706	5,342	5,083	5,951	5,125	5,814	5,258	4,051	4,578	5,269
exports ¹¹	1,670	2,664	2,959	3,534	2,005	3,166	2,772	2,422	3,714	3,728	2,863
net	4,111	3,042	2,383	1,549	3,947	1,959	3,042	2,836	337	850	2,405

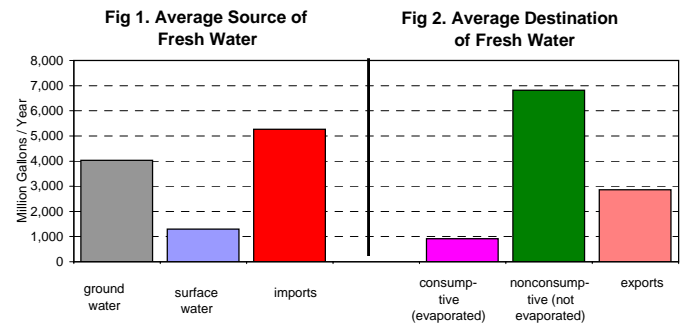


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	6,077	6,102	5,657	5,962	6,357	5,682	6,279	5,815	5,174	5,256	5,836
consumptive	725	732	654	719	795	641	773	715	685	609	705
domestic wells											
nonconsumptive	410	410	411	413	415	417	418	419	421	423	416
consumptive	58	58	58	58	58	59	59	59	59	60	59
industrial & commercial & mining											
nonconsumptive	533	488	716	529	524	592	510	547	523	551	551
consumptive	58	53	78	58	57	65	56	60	57	60	60
agricultural & non-agricultural irrigation											
nonconsumptive	5	10	7	16	15	15	8	8	15	12	11
consumptive	46	90	61	98	95	123	70	71	126	93	87
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	7,025	7,011	6,791	6,920	7,311	6,706	7,215	6,789	6,132	6,242	6,814
consumptive	886	933	851	933	1,005	888	958	905	927	822	911
PERCENTAGES:											
nonconsumptive	88.8%	88.3%	88.9%	88.1%	87.9%	88.3%	88.3%	88.2%	86.9%	88.4%	88.2%
consumptive	11.2%	11.7%	11.1%	11.9%	12.1%	11.7%	11.7%	11.8%	13.1%	11.6%	11.8%

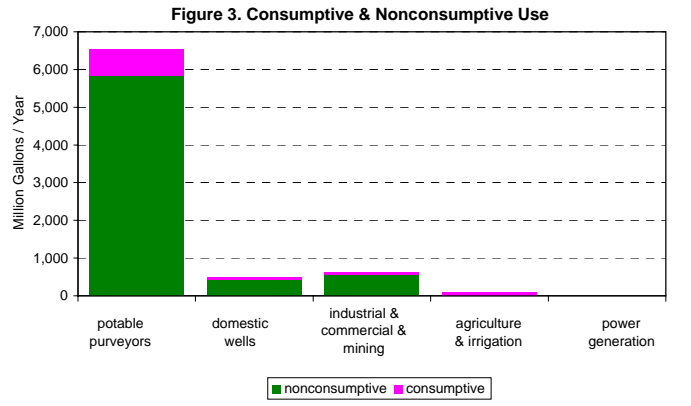


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

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	1,535	0	1,523	102	1,394	483	1,392	120	5,844	705
domestic wells	95	0	98	7	121	42	101	9	416	59
industrial & commercial & mining	125	14	138	15	154	16	135	15	551	60
agricultural & non-agricultural irrig.	0	1	2	14	7	55	2	18	11	87
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	1,755	15	1,760	138	1,676	596	1,630	162	6,822	911

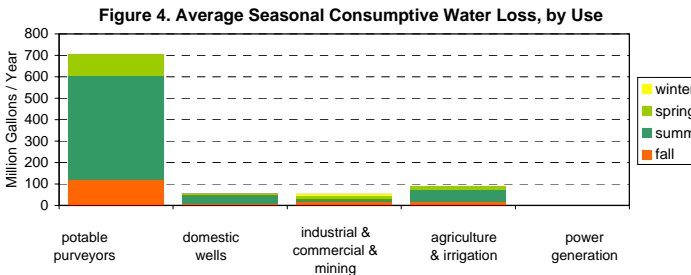


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	8,923	9,685	9,338	9,998	9,961	8,817	10,405	9,504	9,805	9,158	9,559
imported to HUC11	1,437	1,367	1,330	1,428	1,465	1,164	1,533	1,337	1,420	1,315	1,380
exported from HUC11	6,035	6,802	6,460	6,962	7,003	6,233	7,324	6,722	6,966	6,523	6,703

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	4,325	4,250	4,209	4,464	4,423	3,748	4,614	4,120	4,259	3,949	4,236
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:	4,325	4,250	4,209	4,464	4,423	3,748	4,614	4,120	4,259	3,949	4,236

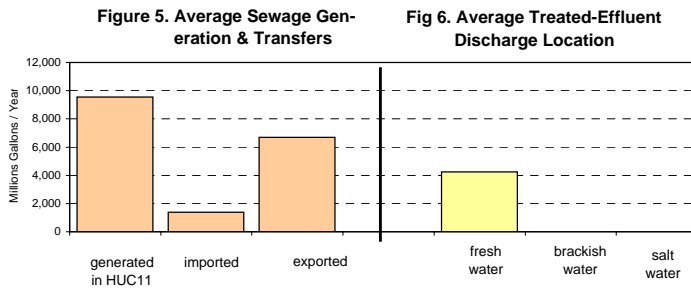


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	7,196
ground water	11,569
total	18,765

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

Use Group	MGY
agricultural	37
commercial	37
industrial	1,211
irrigation	296
mining	0
potable supply	17,183
power generation	0
total	18,765

Table 9. HUC11 Descriptive Statistics

--- **Area:**

in this HUC11 only	51.5	sq. mi.
upstream HUC11s	0.0	sq. mi.
total watershed	51.5	sq. mi.

(this HUC11 onshore area: 51.5 sq. mi.)

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

Year	Population	Change
1940	61,939	-
1950	88,526	42.9%
1960	148,827	68.1%
1970	173,046	16.3%
1980	161,098	-6.9%
1990	155,059	-3.7%
2000	162,667	4.9%
2010	166,374	2.3% est. ¹²
2020	171,944	3.3% est. ¹²
2030	180,377	4.9% est. ¹²

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

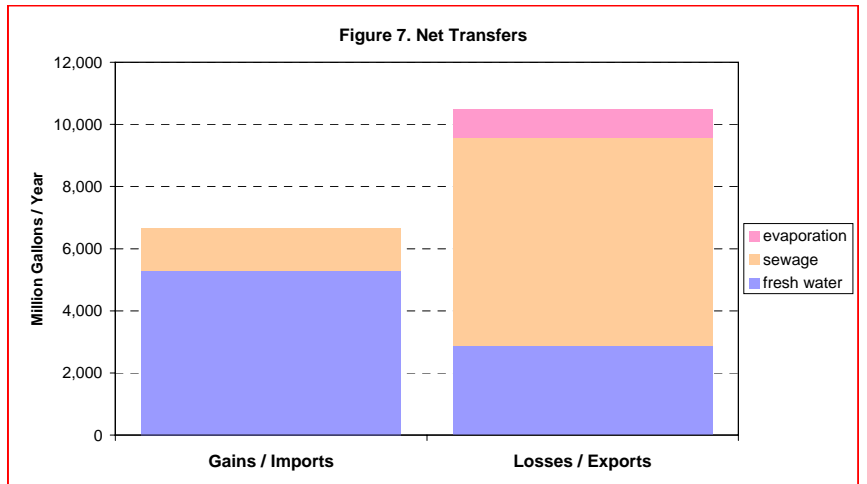
Type	Year		Change
	1986	1995	
ag.	0.9%	0.5%	-0.3%
barren	0.2%	0.2%	0.0%
forest	11.6%	10.6%	-1.0%
urban	80.2%	81.9%	1.7%
water	1.1%	1.1%	0.0%
wetlands	6.0%	5.8%	-0.3%

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

Pinelands:	0.0%
Highlands:	7.3%

Table 10. Upstream and downstream HUC11s (in NJ)

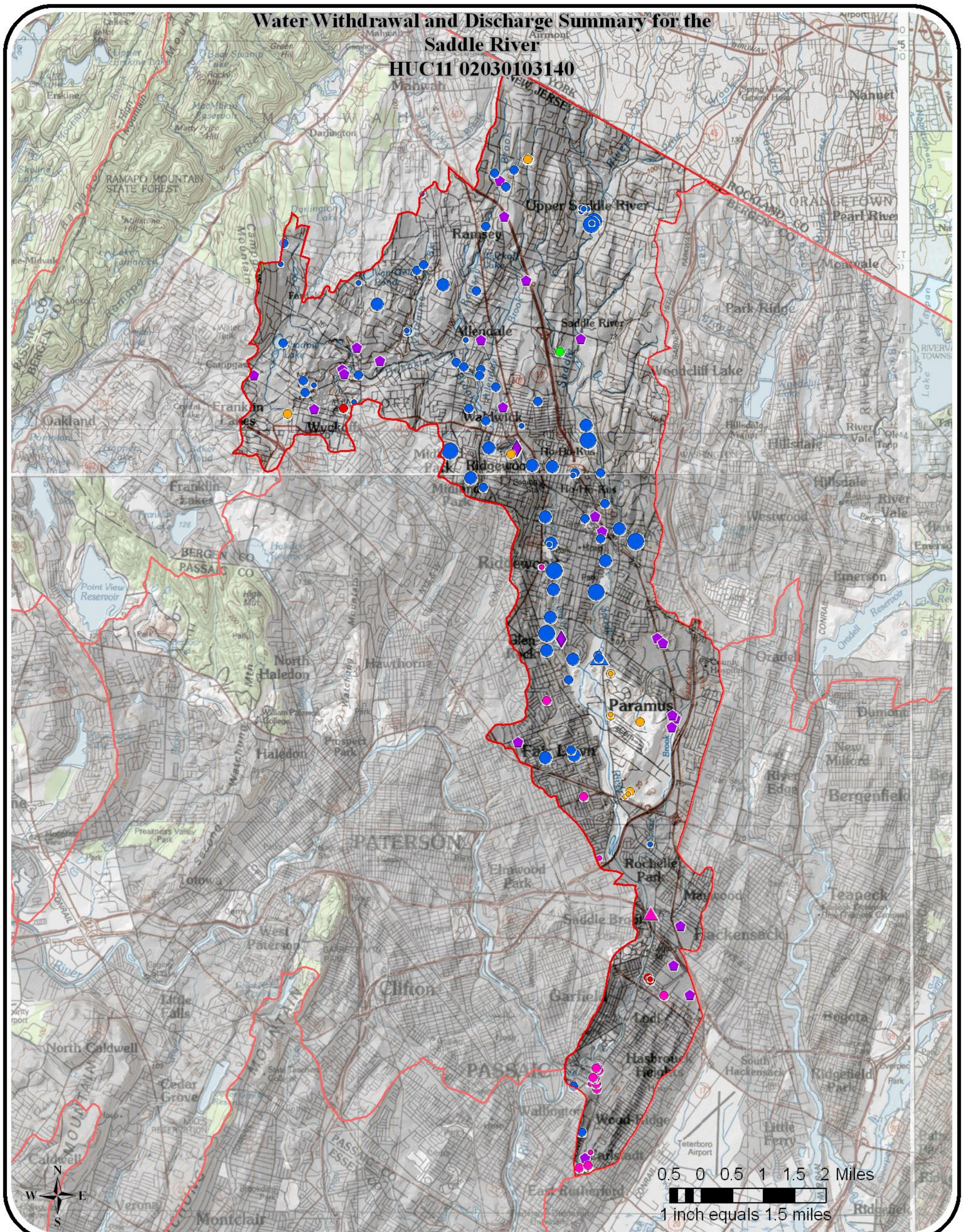
location	#	name
downstream:	02030103150	Passaic River Lower (Nwk Bay to Saddle)
(if any)	--	--
upstream:	--	--
(if any)	--	--



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.

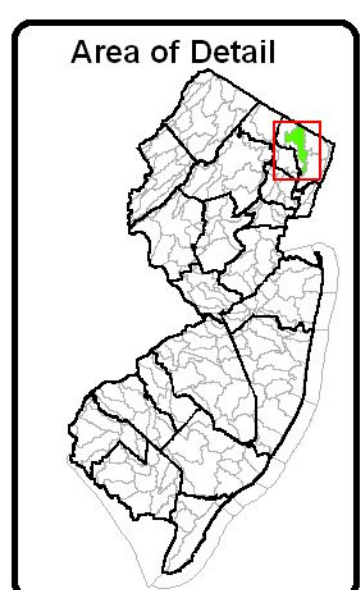
Water Withdrawal and Discharge Summary for the Saddle River HUC11 02030103140



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 LOWER PASSAIC RIVER (NEWARK BAY TO SADDLE R.) --- 02030103150

WMA:	Lower Passaic and Saddle	04
HUC11:	Lower Passaic River (Nwk Bay to Saddle)	02030103150

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	4	16	11	14	14	19	10	13	21	17	14
sum	4	16	11	14	14	19	10	13	21	17	14
ground-water:³											
confined	0	0	0	0	0	0	0	0	0	0	0
unconfined	1,102	1,310	1,392	1,651	1,506	1,161	1,446	726	796	1,172	1,226
sum	1,102	1,310	1,392	1,651	1,506	1,161	1,446	726	796	1,172	1,226
total withdrawals:	1,107	1,326	1,403	1,665	1,520	1,180	1,456	740	817	1,189	1,240

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	28,196	27,468	26,060	26,426	27,446	26,709	26,875	26,161	27,065	26,447	26,885
exports ¹¹	1,900	2,103	1,893	2,027	2,066	2,088	2,087	2,117	2,172	2,310	2,076
net	26,296	25,365	24,167	24,399	25,380	24,621	24,788	24,044	24,893	24,137	24,809

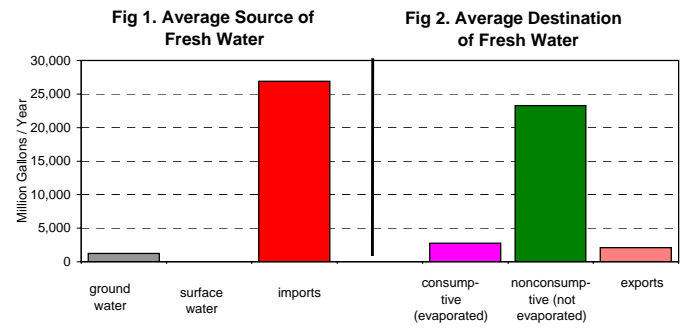


Table 3. Nonconsumptive⁴ & Consumptive⁵ Water Use⁶ in the HUC11, by Use Type (millions of gallons)

Water use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
potable purveyors											
nonconsumptive	23,854	23,177	22,421	22,431	23,266	22,538	22,921	21,929	22,833	22,463	22,783
consumptive	2,744	2,690	2,506	2,606	2,687	2,596	2,586	2,575	2,602	2,631	2,622
domestic wells											
nonconsumptive	0	0	0	0	0	0	0	0	0	0	0
consumptive	0	0	0	0	0	0	0	0	0	0	0
industrial & commercial & mining											
nonconsumptive	629	606	488	832	755	484	552	179	151	130	480
consumptive	76	79	62	92	84	54	61	20	17	14	56
agricultural & non-agricultural irrigation											
nonconsumptive	5	9	5	7	6	11	7	7	9	8	7
consumptive	45	78	46	67	54	97	64	61	79	73	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	24,487	23,792	22,915	23,270	24,027	23,033	23,480	22,115	22,993	22,600	23,271
consumptive	2,864	2,847	2,614	2,766	2,825	2,747	2,712	2,656	2,698	2,718	2,745
PERCENTAGES:											
nonconsumptive	89.5%	89.3%	89.8%	89.4%	89.5%	89.3%	89.6%	89.3%	89.5%	89.3%	89.5%
consumptive	10.5%	10.7%	10.2%	10.6%	10.5%	10.7%	10.4%	10.7%	10.5%	10.7%	10.5%

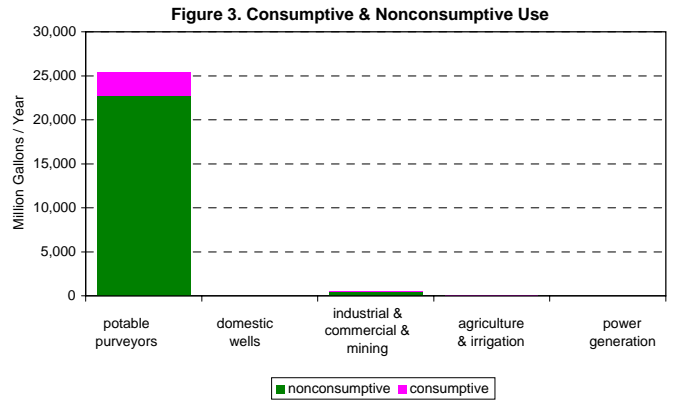


Table 4. Average Seasonal⁷ Use - Nonconsumptive⁴ & Consumptive⁵ (millions of gallons)

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	6,121	0	5,907	381	5,063	1,752	5,725	489	22,816	2,623
domestic wells	0	0	0	0	0	0	0	0	0	0
industrial & commercial & mining	118	13	122	14	124	16	117	13	480	56
agricultural & non-agricultural irrig.	0	4	1	10	4	38	2	15	7	66
power generation	0	0	0	0	0	0	0	0	0	0
SUM:	6,240	17	6,030	405	5,191	1,807	5,843	517	23,304	2,745

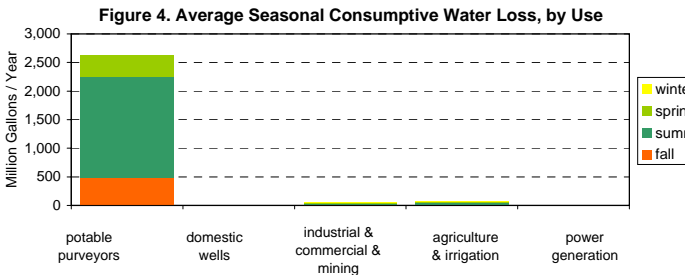


Table 5. Sewage Generation & Transfers⁸ in the HUC11 (millions of gallons)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	average
generated in HUC11	39,628	38,847	35,904	37,772	37,897	34,907	38,865	36,598	37,329	35,387	37,313
imported to HUC11	0	0	0	0	0	0	0	0	0	0	0
exported from HUC11	39,197	38,835	35,893	37,760	37,887	34,894	38,851	36,587	37,321	35,386	37,261

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	432	11	11	13	11	13	14	11	5	0	52
brackish water	0	0	0	0	0	0	0	0	3	1	0
salt water	0	0	0	0	0	0	0	0	0	0	0
sum:	432	11	11	13	11	13	14	11	8	1	52

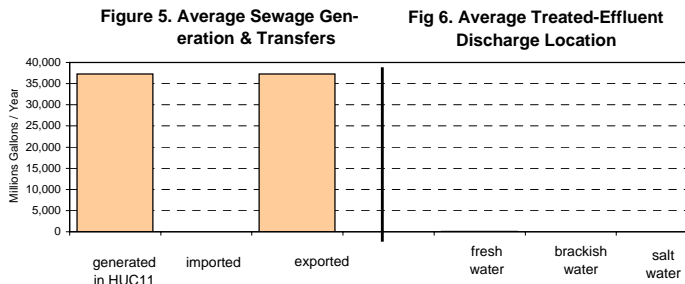


Table 7. 1999 Water Allocations¹⁰ in HUC11 by Water Source

Water Source	MGY
surface water	13
ground water	1,833
total	1,847

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

Use Group	MGY
agricultural	0
commercial	0
industrial	504
irrigation	278
mining	0
potable supply	1,065
power generation	0
total	1,847

Table 9. HUC11 Descriptive Statistics

--- Area:

in this HUC11 only	53.6	sq. mi.
upstream HUC11s	734.2	sq. mi.
total watershed	787.9	sq. mi.

(this HUC11 onshore area: 52.5 sq. mi.)

--- Population of this HUC11:

Year	Population	Change
1940	478,775	-
1950	519,512	8.5%
1960	520,056	0.1%
1970	518,792	-0.2%
1980	477,225	-8.0%
1990	448,044	-6.1%
2000	467,676	4.4%
2010	482,070	3.1% est. ¹²
2020	504,064	4.6% est. ¹²
2030	535,546	6.2% est. ¹²

--- Land Use of this HUC11:

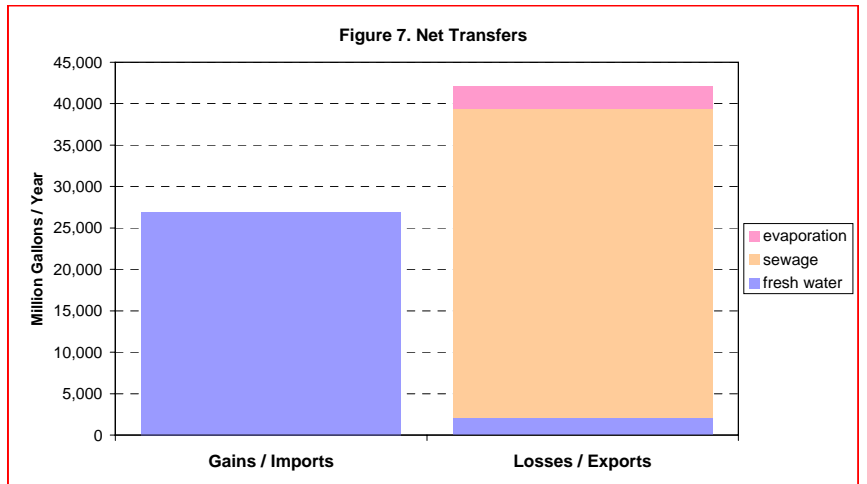
Type	Year		Change
	1986	1995	
ag.	0.0%	0.0%	0.0%
barren	0.9%	1.1%	0.2%
forest	5.3%	5.3%	-0.1%
urban	88.6%	88.5%	-0.1%
water	3.0%	3.0%	0.0%
wetlands	2.1%	2.1%	0.0%

--- % of this HUC11 in:

Pinelands:	0.0%
Highlands:	0.0%

Table 10. Upstream and downstream HUC11s (in NJ)

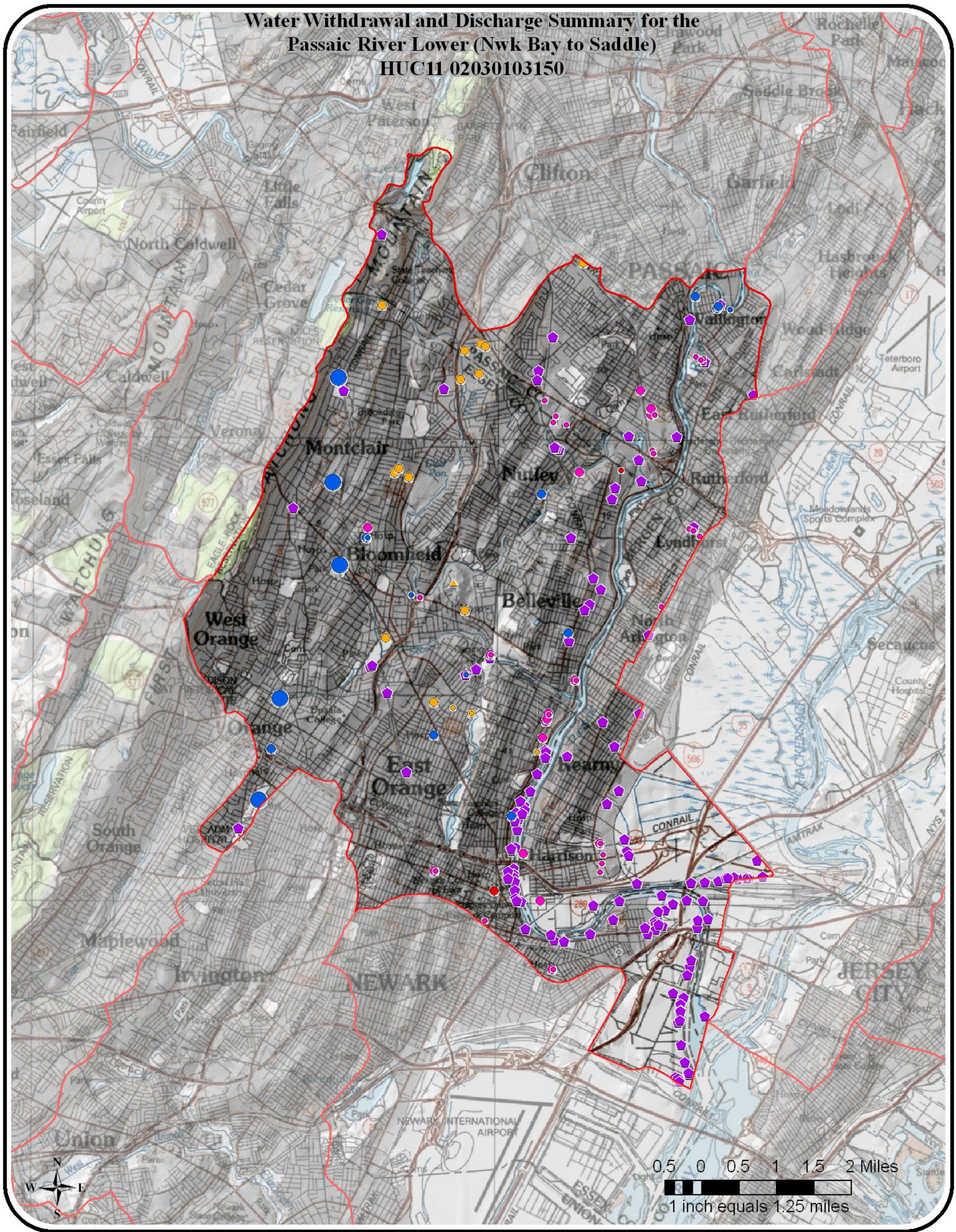
location	#	name
downstream:	02030104010	Newark Bay / Kill Van Kull / Upr NY Bay
(if any)		
upstream:	02030103010	Passaic River Upr (above Pine Bk)
(if any)	02030103020	Whippany River
	02030103030	Rockaway River
	02030103040	Passaic River Upr (Pompton to Pine Bk)
	02030103050	Pequanock River
	02030103070	Wanaque River
	02030103100	Ramapo River
	02030103110	Pompton River
	02030103120	Passaic River Lower (Saddle to Pompton)
	02030103140	Saddle 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
Passaic River Lower (Nwk Bay to Saddle)**
HUC11 02030103150



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 ●

