New Jersey Department of Environmental Protection
Pesticide Control Program
Aquatic Pesticide Permits Unit

AQUATIC PESTICIDE USE IN NEW JERSEY – 2005

In 1983 the NJDEP Pesticide Control Program (PCP) implemented an Aquatic Pesticide Use Permit Program. The specific purpose of this program was to identify and control what pesticides are being applied to New Jersey's waterbodies. Recently, the PCP was able to gather data from Records of Actual Treatment (RATS) and compute the total amount of each aquatic pesticide used during the aquatic permit season, which runs from April to October. Furthermore, this total usage has also been broken down into Active Ingredient by County and by Watershed Management Area.

All aquatic applicators are responsible for submitting their RATS forms to the department by November 15 of each treatment year. These records are then entered into the PCP's database, and checked for any errors or misapplications. Once corrected, these data are analyzed and the pounds of active ingredient used determined for each treatment record. These data are then transposed to display the different permutations listed above.

Table 1 lists the chemicals and their amounts in pounds of active ingredient (A.I.) used during the 2005 Aquatic Pesticide Permit season. The most widely used trade names corresponding with these chemicals are also included.

Table 2 lists the chemicals and their A.I. amounts applied by county for the 2005 season.

Table 3 lists the chemicals and their A.I. amounts applied by Watershed Management Areas for the 2005 season. For more information on Watershed Management areas, please visit http://www.nj.gov/dep/watershedmgt, or contact the NJDEP Division of Watershed Management.

This information will help us address the impacts, if any, of specific aquatic pesticides to the environment in a particular area, as well as track the use of these pesticides. However, we must keep in mind that aquatic ecosystems are extremely dynamic and may change significantly from year to year and thus, may effect the trend of such pesticide usage over time. Another factor is the adoption of IPM (Integrated Pest Management). One of the goals of the Pesticide Control Program is pesticide use reduction, and IPM is a tool that can be used to achieve this. Although aquatic IPM practices are currently few, many lake management associations have already incorporated some techniques into their management programs.

The following data has been gathered and charted for there is a general interest in the trends of aquatic pesticide use for the control of aquatic weeds throughout the state of New Jersey. All information is based on permitted sites only.

Table 1. Compounds used during the 2005 Aquatic Pesticide Permit season and their amounts (pounds of active ingredient). Brand names listed comprise the most widely used products, and are not intended to be comprehensive.

Active Ingredient	Brand Name Products	Total (Lbs. Active Ingredient)
2, 4-D	AquaKleen, Navigate	**919**
Copper	Cutrine Plus, Cutrine Ultra, Captain	**4987**
Copper Sulfate	Chem-One, Phelps-Dodge	**91119**
Diquat	Reward	**5720**
Endothall	Aquathol-K	**2178**
Fluridone	Sonar AS, Avast AS	**1275**
Glyphosate	Glypro, Rodeo, Aquapro, TouchdownPro	**5228**
Hydrogen Dioxide	GreenCleanPro, Pak 27	**124**
Imazapyr	Habitat	**97**
Triclopyr	Renovate3	**57**
Grand Total		**111704**

Table 2. Pesticide amounts (in pounds of active ingredient) used during the 2005 Aquatic Pesticide Permit season by county. *Note: Some records were omitted from this analysis as they incorporated several counties in a single treatment. This omission represents a very small percentage (0.04%) of the overall data set.

County	2, 4-D	Copper	Copper Sulfate	Diquat	Endothall	Fluridone	Glyphosate	Hydrogen Dioxide	Imazapyr	Triclopyr	Pounds of A.I.	Percent
Atlantic	248	29	91	84	-	6	470	-	-	-	**927**	**0.83**
Bergen	-	115	15407	584	102	49	188	-	3	-	**16448**	**14.73**
Burlington	231	354	533	377	16	58	279	-	4	-	**1852**	**1.66**
Camden	-	85	40	60	-	22	15	-	-	-	**222**	**0.20**
Cape May	-	7	-	8	-	4	319	-	-	-	**338**	**0.30**
Cumberland	-	-	-	-	-	-	269	-	5	-	**273**	**0.24**
Essex	-	2033	5982	104	4	1	-	12	-	-	**8136**	**7.29**
Gloucester	-	81	146	64	-	9	264	-	-	-	**563**	**0.50**
Hudson	-	-	-	-	-	-	94	-	38	-	**132**	**0.12**
Hunterdon	-	50	158	167	2	15	1	6	-	-	**398**	**0.36**
Mercer	-	387	1251	31	-	9	3	-	-	-	**1681**	**1.51**
Middlesex	-	69	244	108	-	18	283	-	23	-	**745**	**0.67**
Monmouth	-	333	7506	316	40	8	19	-	4	-	**8226**	**7.37**
Morris	66	726	12535	937	575	284	53	91	-	-	**15267**	**13.67**
Ocean	-	81	460	158	24	105	-	-	9	-	**837**	**0.75**
Passaic	-	84	14389	656	332	148	1	-	-	-	**15609**	**13.98**
Salem	-	-	1818	2	-	-	2719	-	-	-	**4539**	**4.07**
Somerset	-	181	778	533	68	5	1	13	-	-	**1580**	**1.42**
Sussex	-	118	29464	1164	1013	534	170	-	-	57	**32519**	**29.12**
Union	-	94	56	108	-	1	29	2	12	-	**301**	**0.27**
Warren	375	161	261	260	-	2	5	-	-	-	**1064**	**0.95**
Grand Total	**919**	**4987**	**91119**	**5720**	**2178**	**1275**	**5181**	**124**	**97**	**57**	**111659**	

Table 3. Pesticide amounts (in pounds of active ingredient) used during the 2005 Aquatic Pesticide Permit season by Watershed Management Area (WMA). *Note: Some records were omitted from this analysis as they incorporated several WMA's in a single treatment. This omission represents a very small percentage (0.19%) of the overall data set.

WMA	2, 4-D	Copper	Copper Sulfate	Diquat	Endothall	Fluridone	Glyphosate	Hydrogen Dioxide	Imazapyr	Triclopyr	Pounds of A.I.	Percent
1	375	266	6690	1284	742	61	133	-	-	38	**9587**	**8.60**
2	-	25	23842	287	443	477	42	-	-	19	**25136**	**22.55**
3	-	100	17709	379	202	218	16	-	-	-	**18624**	**16.70**
4	-	82	1680	749	264	6	2	-	-	-	**2783**	**2.50**
5	-	92	14347	177	7	7	280	-	40	-	**14949**	**13.41**
6	66	701	7764	629	368	240	40	19	-	-	**9827**	**8.81**
7	-	2105	6104	179	-	1	161	2	13	-	**8564**	**7.68**
8	-	125	697	543	70	24	-	104	-	-	**1563**	**1.40**
9	-	121	150	231	-	17	145	-	-	-	**664**	**0.60**
10	-	331	681	190	-	6	17	-	23	-	**1249**	**1.12**
11	-	161	761	9	-	9	-	-	-	-	**939**	**0.84**
12	-	231	692	281	40	8	9	-	4	-	**1264**	**1.13**
13	-	80	7176	161	24	105	250	-	9	-	**7805**	**7.00**
14	-	12	93	62	-	1	380	-	-	-	**548**	**0.49**
15	248	29	91	84	-	6	126	-	-	-	**583**	**0.52**
16	-	7	-	8	-	4	313	-	-	-	**332**	**0.30**
17	-	41	1958	44	-	-	2990	-	5	-	**5036**	**4.52**
18	99	253	217	177	-	25	272	-	-	-	**1044**	**0.94**
19	132	181	220	213	16	55	4	-	4	-	**826**	**0.74**
20	-	5	148	10	-	5	2	-	-	-	**169**	**0.15**
Grand Total	**919**	**4947**	**91018**	**5696**	**2178**	**1274**	**5181**	**124**	**97**	**57**	**111491**	