Appendix 5-8: STA Herbicide Application Summary for Water Year 2010

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This appendix summarizes the herbicides applied to the Everglades Stormwater Treatment Areas 1 West, 1 East, 2, 3/4, 5, and 6 (STA-1E, STA-1W, STA-2, STA-3/4, STA-5, and STA-6) during Water Year 2010 (WY2010) (May 1, 2009–April 30, 2010). [Note that no pesticides were applied within the Everglades STAs during WY2010].

Floating aquatic vegetation in the STAs consists of water hyacinth (*Eichhornia crassipes*) and water lettuce (*Pistia stratiotes*) and is controlled using Reward®, a contact herbicide with diquat dibromide as the active ingredient.

Application Rate: Reward® is applied to floating aquatic vegetation at a rate of 1 quart per acre. The active ingredient, diquat dibromide, is approximately 37.3 percent of the pre-mixed solution of Reward®.

Application Certification Statement: The South Florida Water Management District ensures that all herbicide applications are carried out in accordance with the manufacturer's guidelines. **Table 1** summarizes the total number of acres of vegetation treated and the volume of Reward® applied in each STA cell during WY2010.

Table 1. Floating aquatic vegetation in the Stormwater Treatment Areas (STAs) (in acres) treated with Reward® during Water Year 2010 (WY2010) (May 1, 2009–April 30, 2010).

Cell	Number of Acres	Diquat (gallons)
	STA-1W	
1A	150	37
1B	13	3.25
2A	13	3
2B	47	12
3	19	5
4	45	11.5
5A	194	48
5B	368	92
	STA-1E	
1	0	0
2	0	0
3	14.5	3.5
4N	180	45
4S	34	8.5
5	111	28
6	305	77
7	119	30
	STA-2	
1	29	7
2	315	78
3	267	66.75
4	0	0
	STA-3/4	
1A	305.5	76
1B	0	0
2A	103	25
2B	5.2	1.5
3A	63.5	16
3B	0	0

Table 1. Continued.

Cell	Number of Acres	Diquat (gallons)
	STA-5	
1A	15	4
1B	325	81
2A	5.8	1
2B	312	78
3A	0	0
3B	0	0
	STA-6	
1	0	0
2	51.5	13
3	2	0.5

Undesirable emergent vegetation found within the STAs consists of numerous species including cattail (*Typha* spp.), torpedograss (*Panicum repens*), paragrass (*Brachiaria mutica*), primrose willow (*Ludwigia peruviana*), banana waterlily (*Nymphaea mexicana Zucc.*), Brazilian pepper (*Schinus terebinthifolius*), Carolina willow (*Salix caroliniana*), and other species.

Application Rate: Cattails and grasses are most often controlled using the herbicide glyphosate at a rate of 6 pints to7.5 pints per acre. Glyphosate represents 53.8 percent of the pre-mix solution. Carolina willow and banana lily are commonly controlled using imazapyr at a rate of 1 pint to 1 quart per acre. The active ingredient in the imazapyr herbicide represents 28.7 percent of the pre-mix solution. Brazilian pepper is controlled by basal bark treatment using a 10 percent triclopyr solution.

Hydrilla (*Hydrilla verticillata*) was treated in STA-5 in areas where it has colonized (mainly near boat ramps and inflow structures) to prevent it from spreading farther into the treatment cells. Treatments were carried out using granular pellets of Aquathol K, with endothal as the active ingredient.

Application Certification Statement: The South Florida Water Management District ensures that all herbicide applications are carried out in accordance with the manufacturer's guidelines. **Tables 2** through **7** summarize the total number of acres of vegetation treated and the volume of each herbicide applied in each STA cell during WY2010.

Table 2. Acres of emergent vegetation treated in STA-1W during WY2010.

STA-1W	Acres	Glyphosate (gallons)	Imazapyr (gallons)	Triclopyr (gallons)
Cell1A	7.2	9	1.5	0
Cell 1B	143	205	0	0
Cell 2A	0	0	0	0
Cell 2B	0	0	0	0
Cell 3	78	0	20	0
Cell 4	472	605	0	0
Cell 5A	7.6	9	0	1
Cell 5B	196	31	41	0.6

Table 3. Acres of emergent vegetation treated in STA-1E during WY2010.

STA-1E	Acres	Glyphosate (gallons)	Imazapyr (gallons)	Triclopyr (gallons)
Cell1	0	0	0	0
Cell 2	0	0	0	0
Cell 3	187.8	243	0	0
Cell 4N	56	0	18	0
Cell 4S	36	0	4.8	0.5
Cell 5	0	0	0	0
Cell 6	61	77	0	0
Cell 7	0	0	0	0

Table 4. Acres of emergent vegetation treated in STA-2 during WY2010.

STA-2	Acres	Glyphosate (gallons)	Imazapyr (gallons)	Triclopyr (gallons)
Cell1	0	0	0	0
Cell 2	10	0	0	1.5
Cell 3	3.25	0	0	0.5
Cell 4	141	64.5	14	0

Table 5. Acres of emergent vegetation treated in STA-3/4 during WY2010.

STA-3/4	Acres	Glyphosate (gallons)	Imazapyr (gallons)
Cell1A	8	0	1
Cell 1B	195	251	0
Cell 2A	0	0	0
Cell 2B	168	245	77.3
Cell 3A	34	0	8.2
Cell 3B	247	0	58

Table 6. Acres of emergent vegetation treated in STA-5 during WY2010.

STA-5	Acres	Glyphosate (gallons)	Imazapyr (gallons)	Aquathol K (lbs)
Cell1A	327	6	82	0
Cell 1B	46	33	5.5	0
Cell 2A	22	0	5	0
Cell 2B	97	141	0	3.5
Cell 3A	0	0	0	0
Cell 3B	0	0	0	0

Table 7. Acres of emergent vegetation treated in STA-6 during WY2010.

STA-6	Acres	Glyphosate (gallons)	Imazapyr (gallons)	Triclopyr (gallons)
Section 2	9	0	2	1.5
Cell 3	21.5	0	4.5	0
Cell 5	22.8	0	4.8	0