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Summary of SAV Monitoring from 4/25/13 through 2/3/20

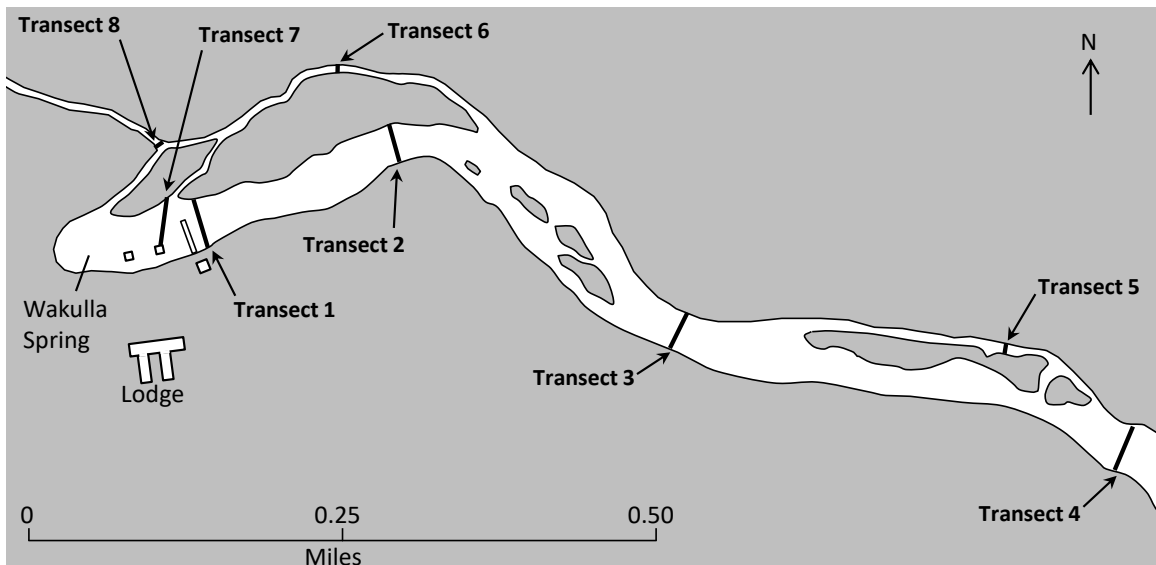
This Summary by Bob Thompson

Revised February 10, 2020

Filename: 2020 02 03 SAV Monitoring Summary Revised 2020 02 10.docx

This is a summary of monitoring results from April 25, 2013 through February 3, 2020 of the submerged aquatic vegetation (SAV) in the Wakulla River along the boat tour route of the Wakulla Springs State Park. Patty Wilbur, Park Biologist, is coordinating this monitoring project.

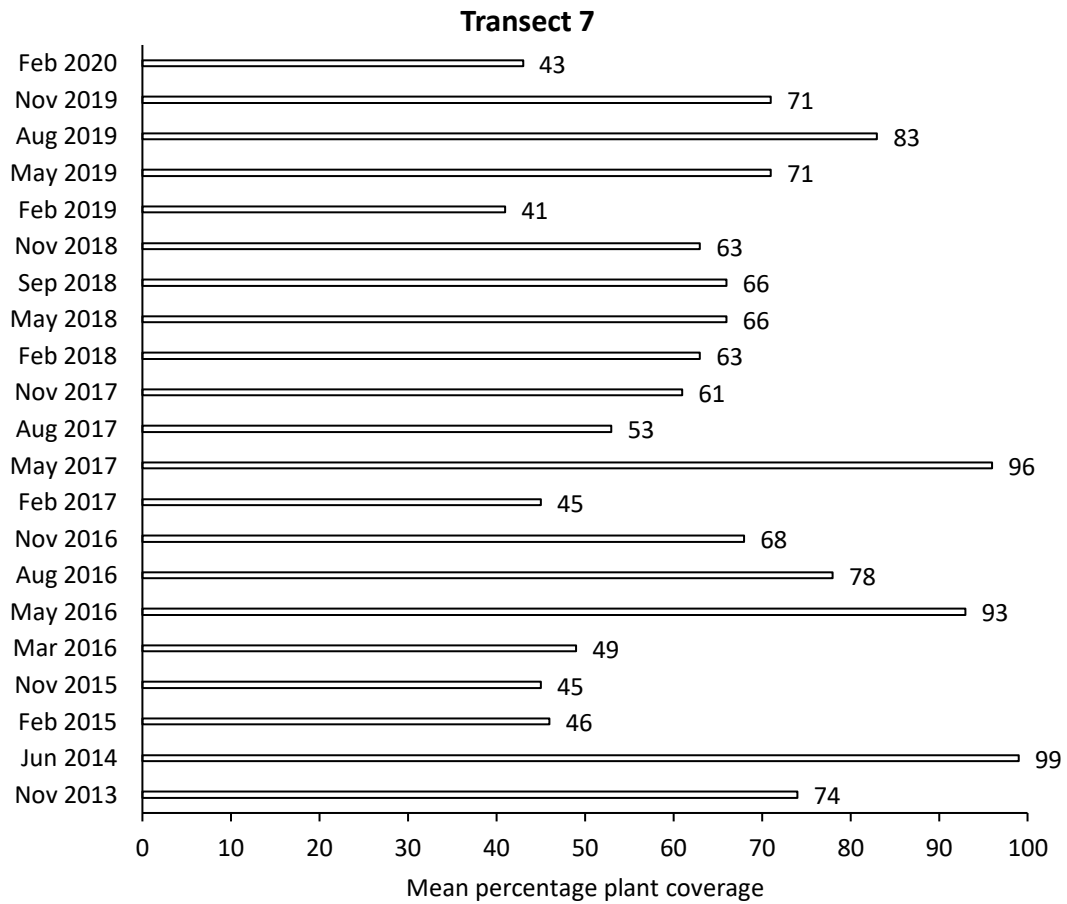
The locations of the eight transects are presented in the following figure. During monitoring on February 20, 2017, a monitoring transect consisting of one plot was established in the middle of the Sally Ward Spring Run at its confluence with the Back Channel.



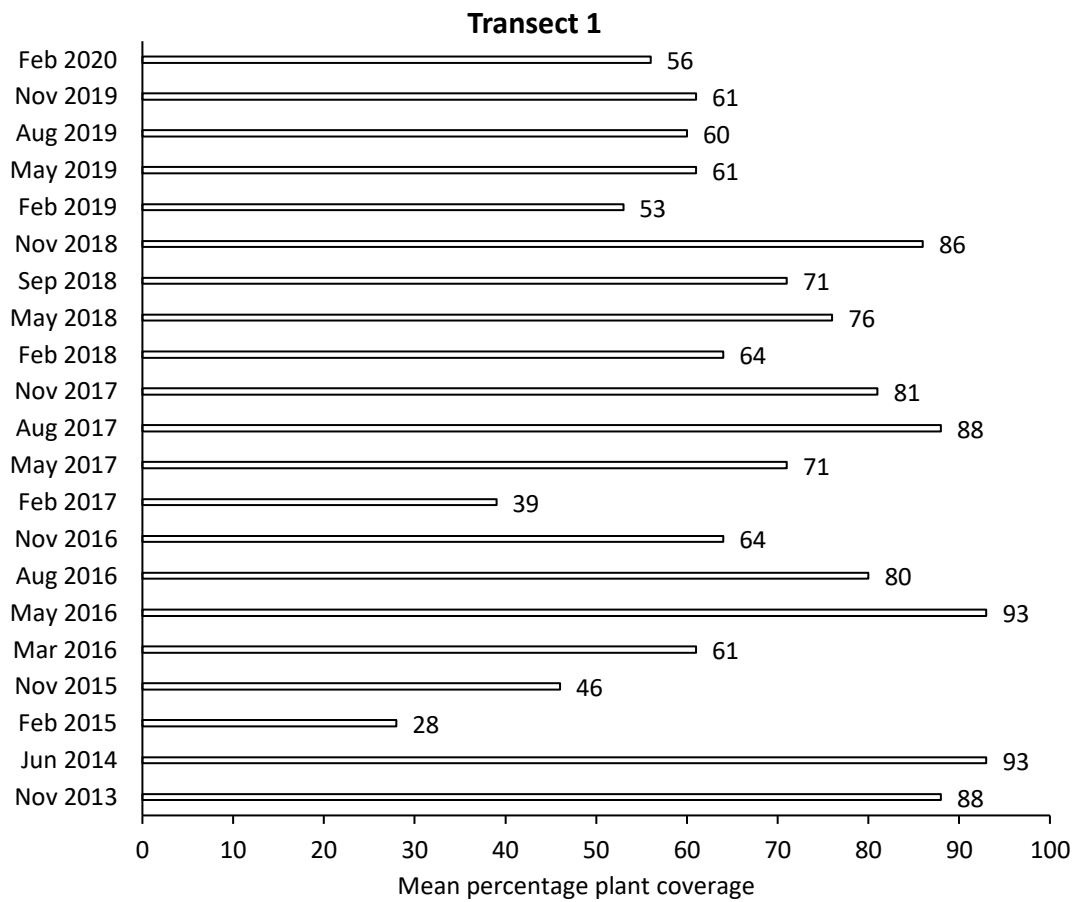
The width of river channels at the transect locations 1 through 7 varied from as narrow as 30 feet to as wide as 310 feet. SAV was monitored at equally distant locations along each transect with as many as 8 plots spaced 40 feet apart, and as few as 3 plots spaced 10 feet apart. A Bushnell handheld digital rangefinder was used to determine the locations of plots. Sally Ward Spring Run at transect 8 is 52 feet wide. A square meter PVC weighted frame was placed on the bottom and visual estimates of plant coverage was recorded at each plot. At each plot for the bottom with plants, the percentage coverage by plants in the following five categories was also visually estimated and recorded: Hydrilla, algae, Sagittaria, Vallisneria, and Southern Naiad. On rare occasions, very low densities of other types of SAV were recorded, mostly in shallow water. Water depth and the height of the dominant plant were recorded.

1. SUMMARY OF SAV PLANT COVERAGE FOR TRANSECTS 1-7 IN THE WAKULLA RIVER The mean percentage SAV plant coverage of all plots was calculated for the seven transects and eleven monitoring dates.

These are presented below for five of the seven transects in the order of the downstream flow of the main channel of the Wakulla River.

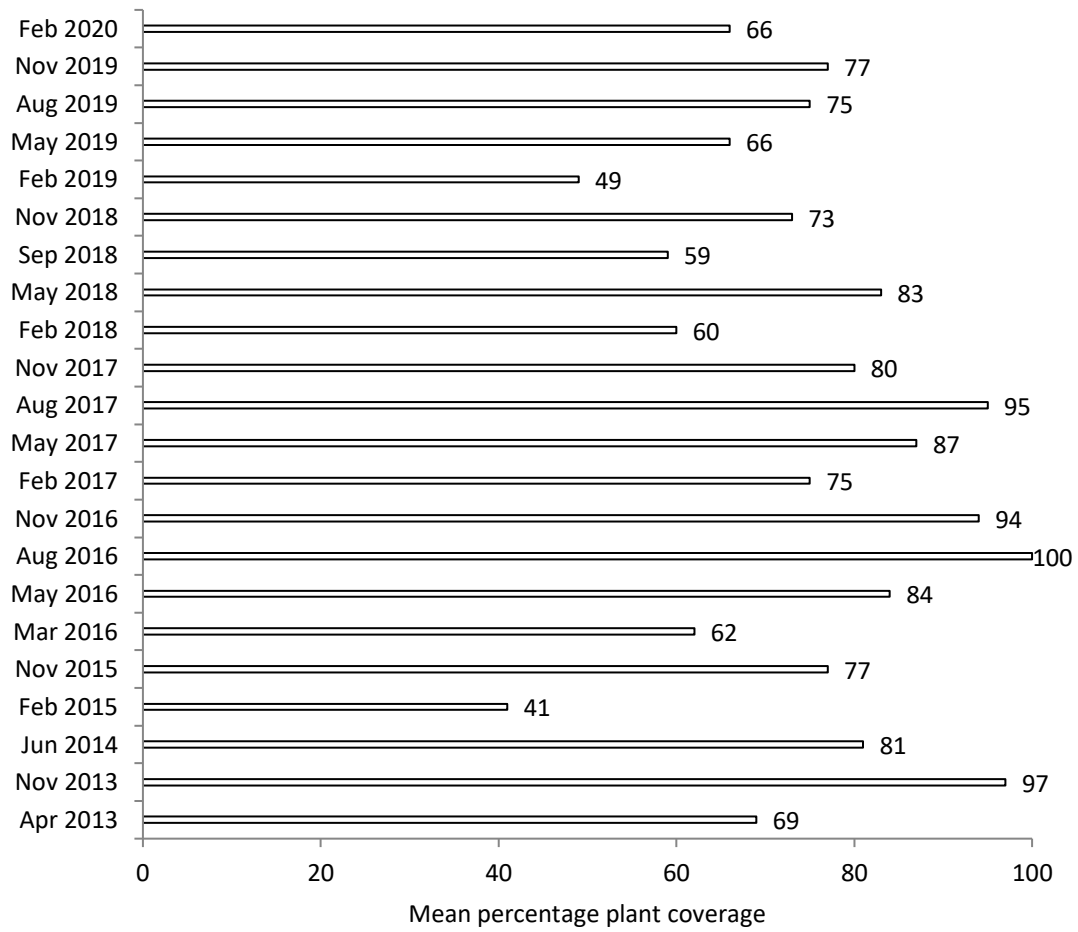


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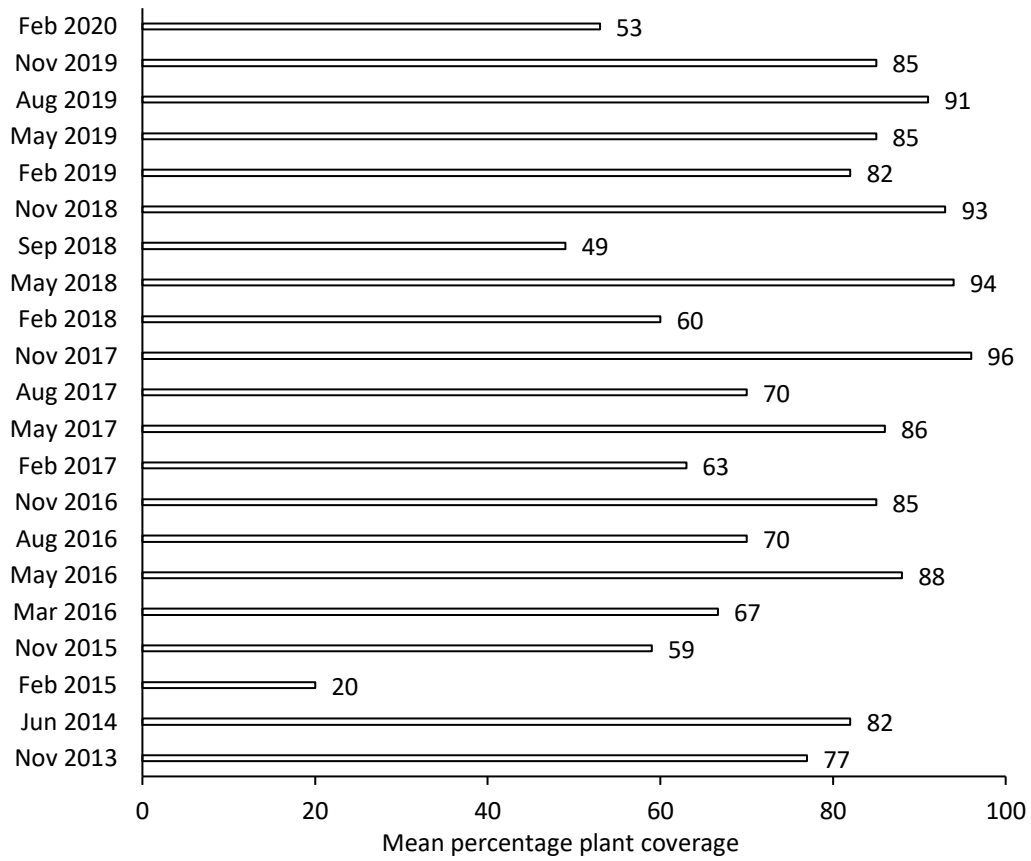
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Transect 2



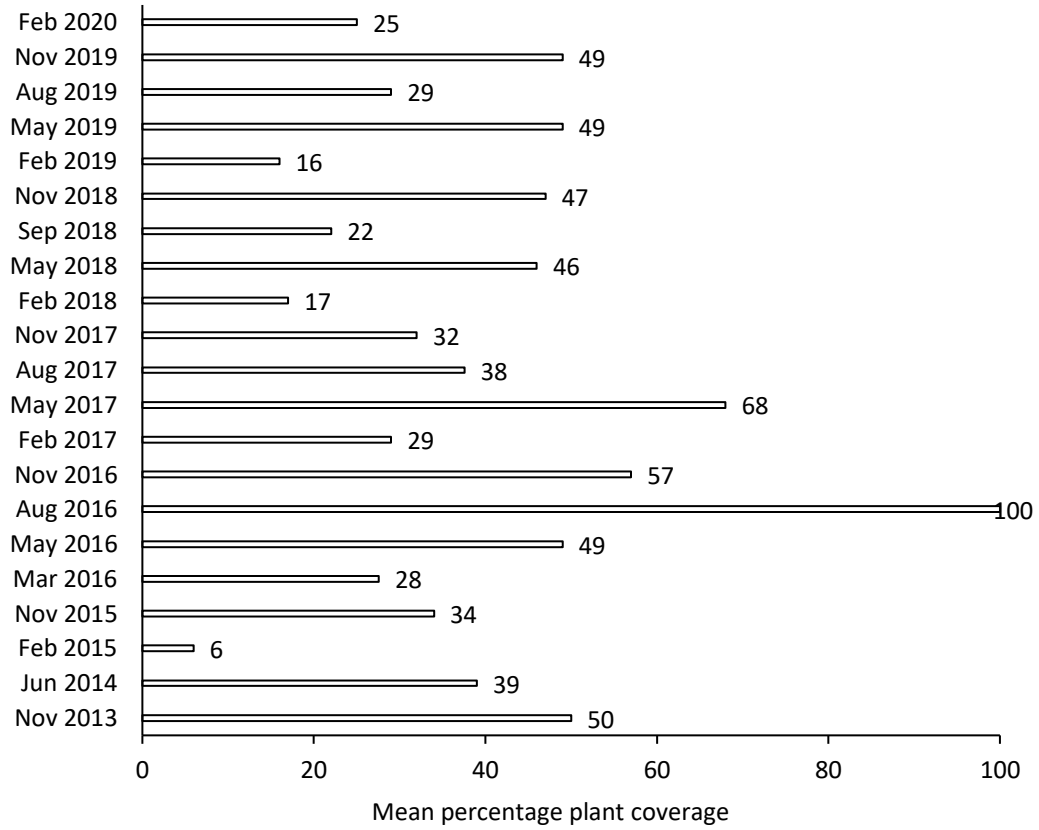
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Transect 3



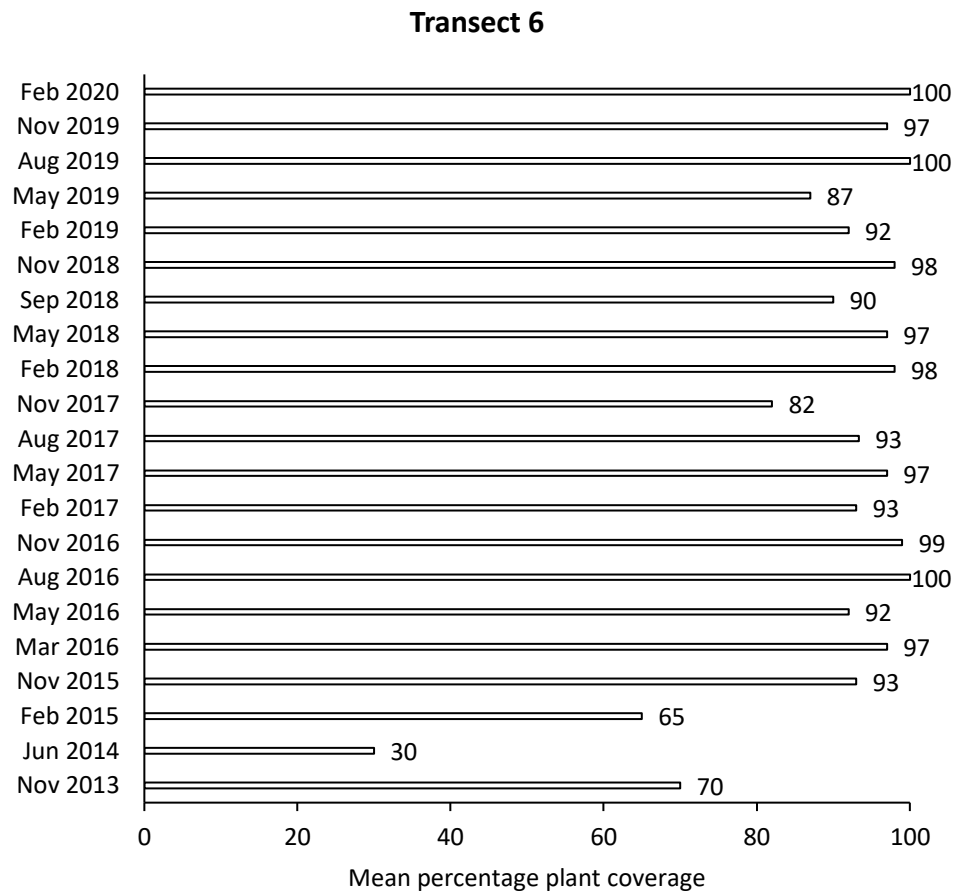
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Transect 4



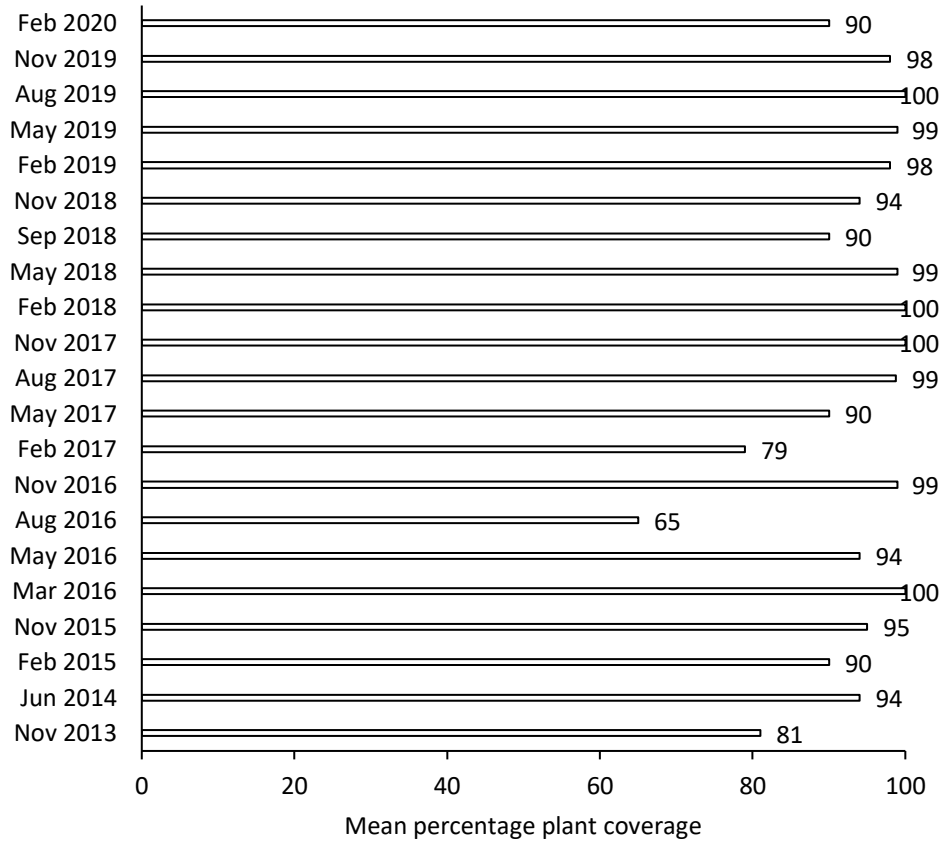
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The mean percentage SAV plant coverage is presented below for the remaining two transects in the order of flow of the smaller river channels downstream along the northern and eastern shorelines of the Wakulla River.



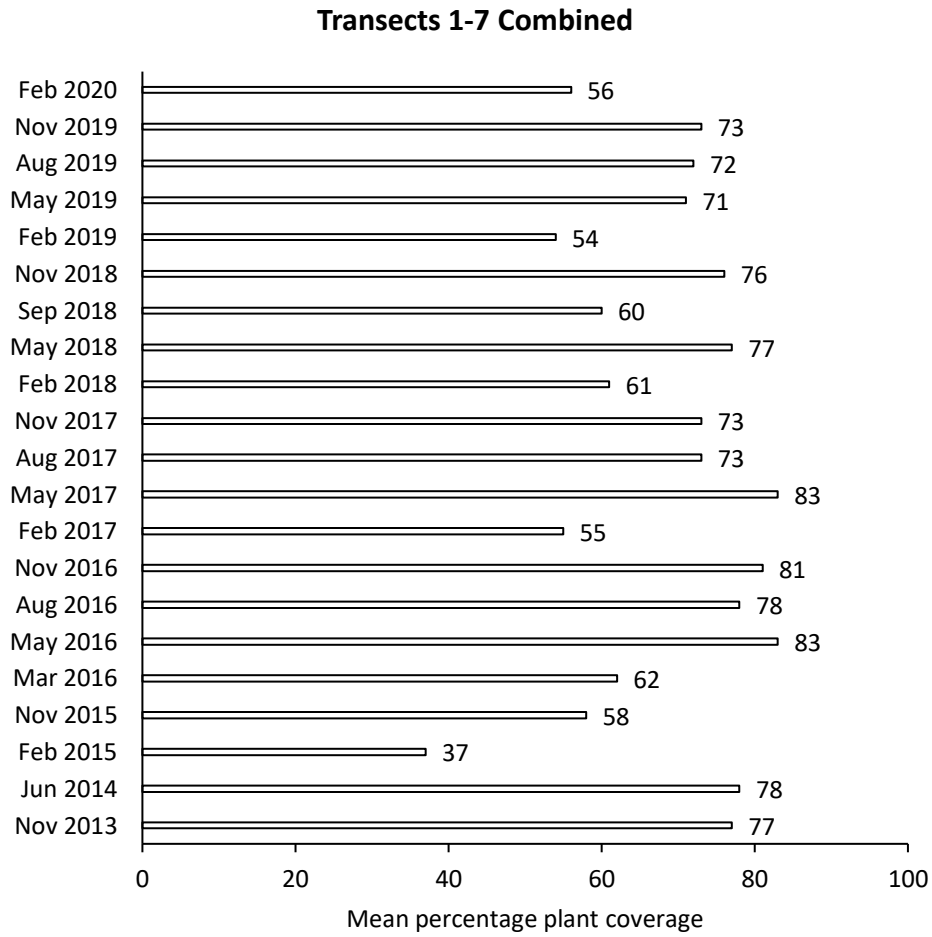
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Transect 5



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The mean percentage SAV plant coverage is presented below for transects 1 through 7 combined for the eleven monitoring dates.



2. SUMMARY OF MEAN PERCENTAGE ALGAE, HYDRILLA, AND SAGITTARIA SAV COVERAGE FOR TRANSECTS 1-7 IN THE WAKULLA RIVER

Transect 7

Date	Algae	Hydrilla	Sagittaria
02/03/20	91	1	8
11/04/19	69	4	15
08/02/19	54	20	14
05/15/19	54	22	13
02/20/19	76	8	15
11/09/18	75	8	16
09/10/18	65	23	12
05/04/18	78	2	8
02/05/18	89	2	9
11/20/17	58	21	4
08/15/17	39	17	31
05/08/17	33	55	5
02/20/17	39	51	6
11/15/16	84	12	3
08/12/16	38	54	1
05/25/16	81	19	0
03/08/16	62	38	0
11/16/15	38	38	0
02/24/15	66	6	5
06/11/14	63	33	3
11/21/13	55	24	3
05/01/13	49	50	1

Transect 1

Date	Algae	Hydrilla	Sagittaria
02/03/20	74	0	13
11/04/19	81	5	15
08/02/19	46	0	42
05/15/19	73	0	27
02/20/19	59	0	41
11/09/18	43	0	80
09/10/18	20	0	80
05/04/18	83	1	17
02/05/18	48	0	53
11/20/17	40	3	58
08/15/17	36	4	61
05/08/17	42	39	19
02/20/17	44	6	44
11/15/16	78	2	20
08/12/16	41	22	37
05/25/16	81	5	14
03/08/16	87	6	7
11/16/15	43	36	8
02/24/15	59	0	16
06/11/14	11	0	17
11/21/13	49	26	26
04/25/13	67	19	13

Transect 2

Date	Algae	Hydrilla	Sagittaria
02/03/20	26	0	60
11/04/19	24	0	76
08/02/19	29	0	71
05/15/19	33	0	67
02/20/19	18	0	67
11/09/18	10	5	53
09/10/18	10	0	76
05/04/18	63	0	41
02/05/18	16	0	84
11/20/17	19	0	81
08/15/17	4	0	96
05/08/17	13	3	85
02/20/17	7	0	93
11/15/16	13	0	78
08/12/16	1	0	99
05/25/16	28	0	72
03/08/16	29	0	71
11/16/15	26	9	53
02/24/15	41	0	59
06/11/14	10	0	64
11/21/13	14	4	83
05/01/13	46	4	51

Transect 3

Date	Algae	Hydrilla	Sagittaria
02/03/20	0	0	83
11/04/19	0	0	100
08/02/19	3	0	97
05/15/19	38	0	63
02/20/19	1	0	99
11/09/18	17	3	77
09/10/18	33	0	67
05/04/18	45	0	55
02/05/18	33	1	67
11/20/17	3	0	97
08/15/17	23	0	78
05/08/17	48	5	47
02/20/17	10	1	89
11/15/16	26	3	71
08/12/16	17	9	67
05/25/16	45	2	53
03/08/16	44	4	52
11/16/15	28	23	48
02/24/15	48	0	33
06/11/14	42	13	46
11/21/13	36	8	41
04/25/13	32	20	28

Transect 4

Date	Algae	Hydrilla	Sagittaria
02/03/20	40	1	14
11/04/19	59	40	1
08/02/19	61	16	14
05/15/19	58	22	14
02/20/19	66	9	11
11/09/18	24	41	20
09/10/18	1	66	19
05/04/18	49	29	0
02/05/18	43	1	28
11/20/17	56	15	14
08/15/17	54	13	19
05/08/17	47	27	20
02/20/17	39	36	11
11/15/16	45	26	0
08/12/16	15	64	7
05/25/16	74	4	8
03/08/16	44	4	52
11/16/15	28	23	48
02/24/15	48	0	35
06/11/14	42	13	46
11/21/13	14	11	0
04/25/13	60	3	0

Transect 6

Date	Algae	Hydrilla	Sagittaria
02/03/20	0	0	100
11/04/19	0	0	100
08/02/19	0	0	100
05/15/19	0	0	100
02/20/19	0	0	100
11/09/18	0	0	100
09/10/18	0	0	100
05/04/18	0	0	100
02/05/18	0	0	100
11/20/17	0	0	100
08/15/17	3	0	97
05/08/17	9	0	91
02/20/17	0	0	100
11/15/16	0	0	100
08/12/16	0	0	100
05/25/16	2	0	98
03/08/16	0	0	100
11/16/15	0	0	100
02/24/15	27	0	73
06/11/14	23	0	77
11/21/13	3	0	97
04/25/13	33	0	67

Transect 5

Date	Algae	Hydrilla	Sagittaria
02/03/20	0	0	100
11/04/19	0	0	100
08/02/19	0	0	100
05/15/19	0	0	100
02/20/19	0	0	100
11/09/18	4	0	96
09/10/18	8	0	93
05/04/18	5	3	91
02/05/18	0	0	100
11/20/17	0	0	100
08/15/17	6	9	94
05/08/17	10	0	90
02/20/17	0	1	99
11/15/16	4	0	96
08/12/16	0	0	100
05/25/16	3	0	98
03/08/16	4	0	96
11/16/15	5	10	85
02/24/15	8	0	90
06/11/14	22	0	78
11/21/13	8	1	89
04/25/13	5	0	48

Transects 1 - 7 Combined

Date	Algae	Hydrilla	Sagittaria
02/03/20	41	0	44
11/04/19	41	8	48
08/02/19	34	6	54
05/15/19	44	8	46
02/20/19	39	3	51
11/09/18	31	10	57
09/10/18	23	15	57
05/04/18	55	5	35
02/05/18	40	1	55
11/20/17	32	7	55
08/15/17	27	6	62
05/08/17	32	23	43
02/20/17	24	17	55
11/15/16	43	8	43
08/12/16	20	26	50
05/25/16	54	5	39
03/08/16	54	9	36
11/16/15	33	23	33
02/24/15	51	1	32
06/11/14	34	9	35
11/21/13	30	13	39
04/25/13	46	17	20

**3. MONITORING RESULTS FOR TRANSECT 8 WITH A SINGLE MONITORING PLOT
IN SALLY WARD SPRING RUN**

Date	% Plant Coverage	% Algae	% Hydrilla	% Sagittaria
02/03/20	10	20	0	80
11/04/19	3	0	0	100
08/02/19	80	90	10	0
05/15/19	50	0	80	20
02/20/19	5	0	50	50
11/09/18	70	0	80	20
09/10/18	10	50	0	50
05/04/18	20	0	0	100
02/05/18	10	100	0	0
11/20/17	10	0	0	100
08/15/17	60	3	0	97
05/08/17	100	0	95	5
02/20/17	5	950	80	20