SPRINGS WATCH

2024 SILVER RIVER SPRINGSWATCH MONITORING SUMMARY

PREPARED FOR

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF PARKS AND RECREATION

Howard T. Odum FLORIDA SPRINGS INSTITUTE

Photo by John Moran

Volunteer and Staff Acknowledgments

This report was prepared by the Howard T. Odum Florida Springs Institute (FSI). Ecological monitoring was conducted by FSI staff and the Florida SpringsWatch volunteers under the Florida Department of Environmental Protection (FDEP) Division of Recreation and Parks Research/Collection Permit Number 07012340 and 09132401. The Silver River Museum generously donated use of their staff and volunteer time to SpringsWatch to support water quality sampling on the Silver River. We would like to specifically recognize the efforts of Silver Springs boat captains and first mates.

Our Silver River SpringsWatch program would not be possible without the hard work of our group leader, Edward Camilleri, whose recent passing is a loss to our community. We are grateful for his dedication to springs protection and contributions to this program. Silver River SpringsWatch continues to be supported by a dedicated team of volunteers: Kathy Bailey, Alice Clardy, Mo Driggers, Sandra Fernandez, Carole Leslie, Dawn Randall, Flo Rexin, Jack Frost, Robby Minton, and Pat Russett. Collectively they put in 185 volunteer hours over nine monitoring sessions in 2024. We would like to thank Isaac Szabo for his underwater fish photography utilized in this report.

We would also like to recognize FSI's SpringsWatch Coordinator, Emanuela Torres-Marquis, and Environmental Scientists Bill Hawthorne, Thomas "TJ" Comer, and Sky Notestein for their support, working under the direction of FSI Director Haley Moody. Finally, we acknowledge the ongoing guidance and vision of FSI founder, Dr. Robert Knight.

Section 1.0 Introduction

1.1 Site Overview

Located six miles east of Ocala in central Marion County, the Silver River begins at Silver Springs, a group of artesian springs that comprise a first magnitude spring group. The river flows for approximately 4.5 miles to its confluence with the Ocklawaha River. Mammoth Spring is the largest of the Silver Springs group and is surrounded by Silver Springs State Park. In 2013, the former Silver Springs attraction property was combined with the 4,418-acre Silver River State Park to become the 4,660-acre Silver Springs State Park (Figure 1).

FSI's SpringsWatch volunteer citizen-science program has provided enhanced monitoring of the Silver River and Springs system's ecological health since 2011. The resulting data are provided in annual reports and via the SpringsWatch website (floridaspringsinstitute.org/springswatch) to inform the state's environmental agencies and educate the public about the springs and river health.

This report was prepared by the Howard T. Odum Florida Springs Institute (FSI) and is focused on 2024 ecological monitoring on the Silver River and springs conducted by SpringsWatch volunteers.

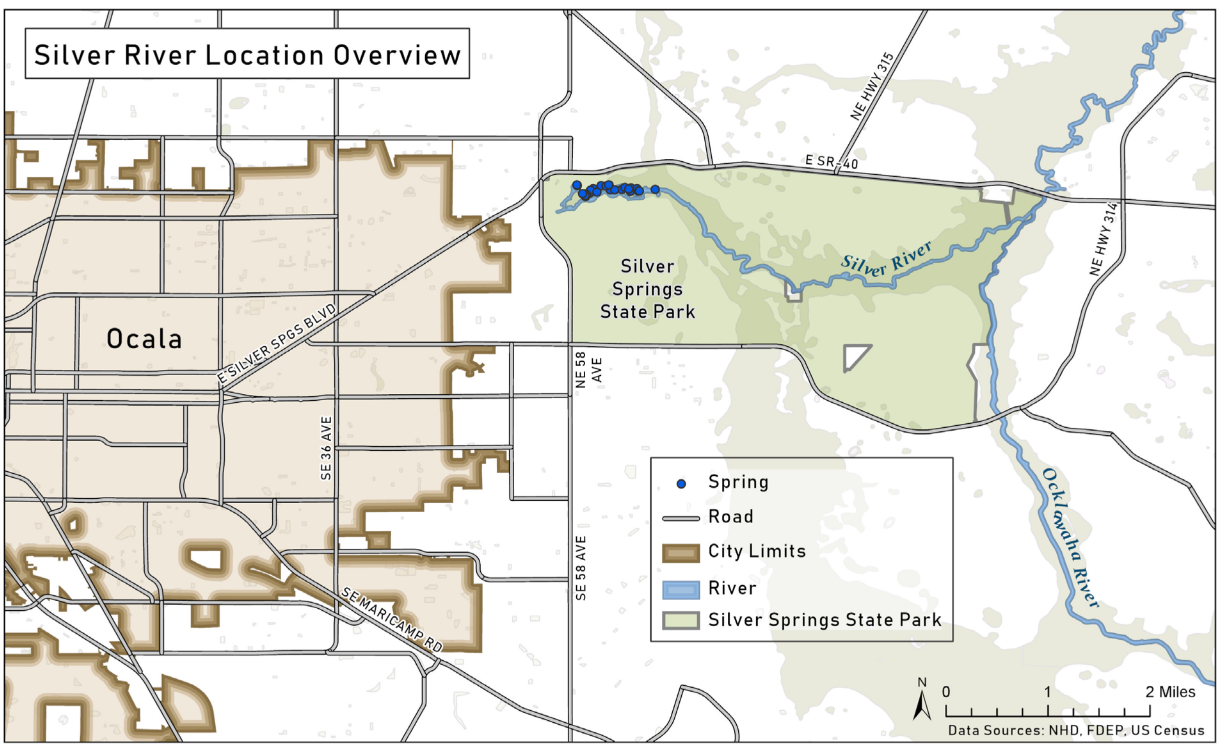


Figure 1. Silver Springs and River location.

1.2 Monitoring Stations

Figure 2 identifies the sixteen stations monitored by SpringsWatch volunteers from January through December 2024. The monitoring stations cover the upper 2,200 meters of the river, including the boat basin, main boil (Mammoth Spring), and numerous other springs. A summary of all sampling sites, their station names, latitude, and longitude used within the Silver River SpringsWatch groups can be viewed in Table 1. An update from prior years' SpringsWatch monitoring reports is that Station Code SR-3's station name is now Silver River Main Boil (SRMB).

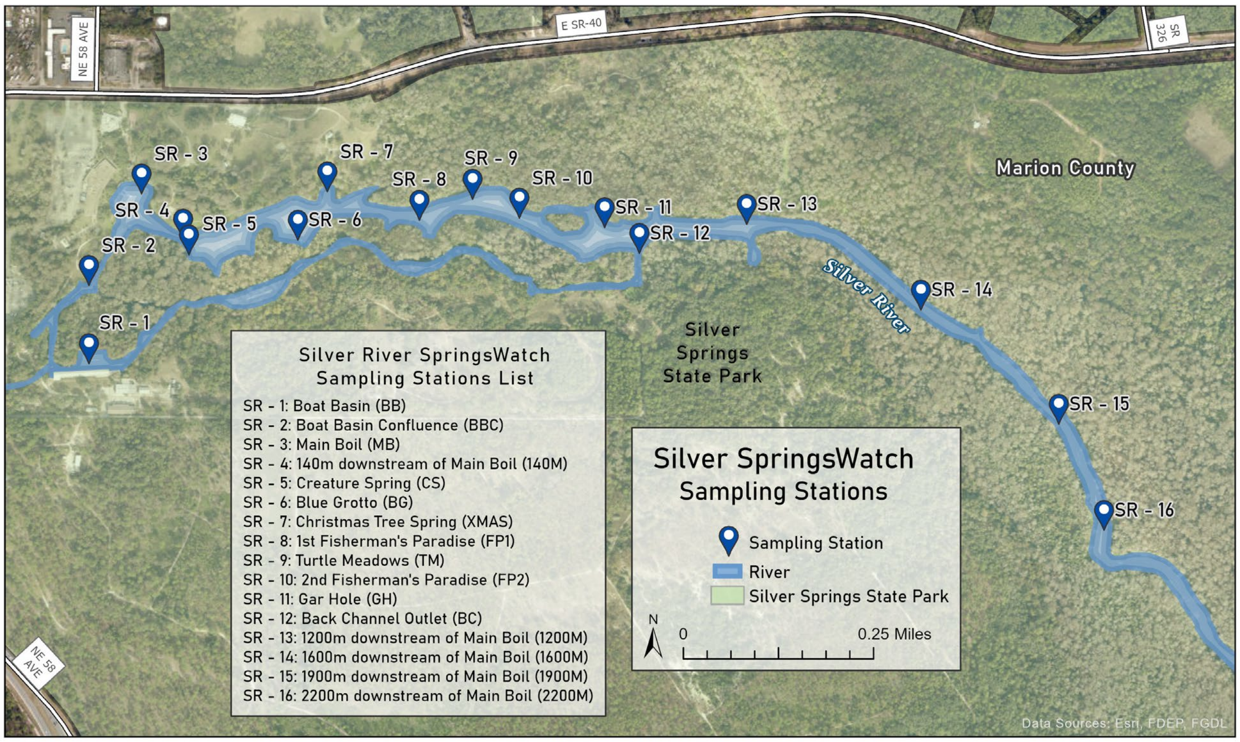


Figure 2. SpringsWatch monitoring stations along the Silver River.

Table 1 . Coordinates for Silver River SpringsWatch monitoring sites

Station Code	Station Name	Latitude	Longitude
SR-1	Boat Basin (BB)	29.21292	-82.0538
SR-2	Boat Basin Confluence (BBC)	29.21438893	-82.05382863
SR-3	Silver River Main Boil (SRMB)	29.21615	-82.0528
SR-4	140m Downstream of Main Boil (140M)	29.21529	-82.05201
SR-5	Creature Spring (CS)	29.21499	-82.0519
SR-6	Blue Grotto (BG)	29.21527	-82.04983
SR-7	Christmas Tree Spring (XMAS)	29.21620969	-82.0492197
SR-8	1st Fisherman's Paradise (FP1)	29.21564766	-82.04752536
SR-9	Turtle Meadows Spring	29.21605	-82.04651
SR-10	2nd Fisherman's Paradise (FP2)	29.21569	-82.04562
SR-11	Gar Hole (GH)	29.21513889	-82.0509167
SR-12	Back Channel Outlet (BC)	29.21502	-82.04334
SR-13	1200m Downstream of Main Boil (1200M)	29.21557	-82.0413
SR-14	1600m Downstream of Main Boil (1600M)	29.21392361	-82.03799
SR-15	1900m Downstream of Main Boil (1900M)	29.21177	-82.03537
SR-16	2200m Downstream of Main Boil (2200M)	29.20974766	-82.03453146

Section 2.0 Methods

SpringsWatch volunteers conducted ecological monitoring on the Silver River from January through December 2024. Data collection included water quality field parameters, light attenuation measurements, aquatic vegetation surveys, and bird counts.

2.1 Sampling Events

Table 2 summarizes the nine sampling events conducted in 2024 by Silver River SpringsWatch volunteers, with assistance from FSI.

Table 1. Silver River sampling events (January-December 2024).

Month	Temperature	Dissolved Oxygen	Specific Conductance	PAR	Vegetation	Birds
1/30/2024	X	X	X	X	X	X
2/13/2024	X	X	X	X	X	X
2/27/2024	X	X	X	X		
3/26/2024	X	X	X	X		
6/11/2024	X	X	X	X	X	
9/10/2024	X	X	X	X		
10/22/2024	X	X	X	X		
11/19/2024	X	X	X	X	X	X
12/17/2024	X	X	X	X	X	X

2.2 Water Quality

2.2.1 Dissolved Oxygen and Temperature

SpringsWatch volunteers used a handheld YSI ProODO meter at each of the monitoring stations in the Silver River System to collect monthly measurements of water temperature and dissolved oxygen at each of the sixteen monitoring stations. Lead volunteers calibrated and maintained water quality meters according to manufacturer instructions and Florida Department of Environmental Protection Standard Operating Procedures (FDEP, 2017). If either the initial or post-sampling calibration failed, the associated data were excluded from this report and subsequent analyses.

2.2.2 Specific Conductance

SpringsWatch volunteers used a handheld YSI EcoSense EC300A meter at each of the monitoring stations in Silver River System to collect monthly specific conductivity readings at each of the sixteen stations along the Silver River. Team leaders calibrated and maintained water quality meters according to manufacturer instructions and Florida Department of Environmental Protection Standard Operating Procedures (FDEP, 2017). If either the initial or post-sampling calibration failed, the associated data were excluded from this report and subsequent analyses.

2.3 Light Measurements

Photosynthetically Active Radiation (PAR) underwater light transmission and attenuation coefficients were measured monthly with a submersible photometer at the two monitoring sites. Volunteers used an Apogee brand MQ-200 underwater quantum sensor to measure PAR energy reaching the water surface and at intervals of one foot and two feet of depth. The meter provides an image of the Apogee MQ-200 PAR light sensor. Figures and results are from collections where percent transmittance is greater than 10% and less than 100% due to near-zero or above one hundred values; all other values were flagged and omitted from this report and analyses. Figure 3 provides an image of the Apogee PAR meter.

Light extinction (attenuation) coefficients will be calculated from this data using the Lambert-Beer equation (Wetzel 2001):

$Iz = Io(e-kz)$

Where:

Iz = PAR at depth z

Io = PAR at the water surface

k = diffuse attenuation coefficient, m-1

z = water depth, m

Figure 3. Apogee MQ-200 PAR meter.

2.4 Vegetation

Submerged aquatic vegetation (SAV) was monitored at all sixteen stations during five monitoring sessions in 2024. SpringsWatch volunteers took two photographs at each station in two different locations, which they sent to FSI for analysis. This data presents an ongoing record of conditions in the river and spring and will be useful for comparison to future evaluations of the ecological health of the Silver River system.

2.5 Birds

SpringsWatch volunteers conducted visual bird surveys during four sampling sessions in 2024. They identified bird species to the lowest taxonomic group possible and recorded their quantities. Observations were recorded in one direction from SR-16 to SR-1 to ensure no duplication of observations.

Section 3.0 Results

This section summarizes field measurements collected by Silver River SpringsWatch volunteers from January through December 2024. Data collected included water quality field parameters, light measurements, aquatic vegetation surveys, and visual bird surveys.

3.1 Water Quality

Figure 4 through Figure 9 present field parameter results collected from the sixteen stations along the Silver River as part of the Florida SpringsWatch program.

3.1.1 Dissolved Oxygen

A healthy aquatic ecosystem tends to have higher concentrations of DO from atmospheric diffusion and from photosynthesizing SAV and algae, resulting in more oxygen available for uptake by fish and other living organisms. Groundwater typically contains less free oxygen, depending on the duration of time the water has spent underground before emerging from a spring vent.

Groundwater typically exhibits a lower DO concentration and saturation and differs depending on the duration of time the water has spent underground before emerging from a spring vent. At the Silver River Main Boil (SRMB) and Christmas Tree Spring (XMAS) stations, DO saturation is lower as these are spring vent stations where water emerges from the ground that could be older than that of the other surrounding springs. As surface water interacts with photosynthesizing SAV and the atmosphere, more free oxygen is absorbed into the water. Higher DO levels exhibited at the seven downstream stations reflect atmospheric diffusion of oxygen into the low-oxygen water as well as the release of oxygen by the photosynthetic submerged aquatic plant community.

Figure 4 presents dissolved oxygen results measured in percent saturation (DO%). Figure 5 shows DO results measured in milligrams per liter (mg/L), or parts per million (ppm).

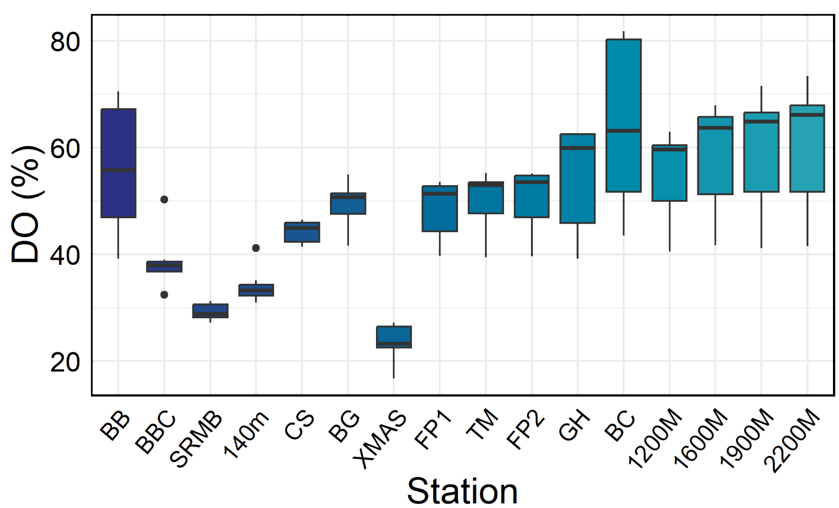


Figure 4. Dissolved oxygen (mg/L) by Silver River SpringsWatch station (January-December 2024).

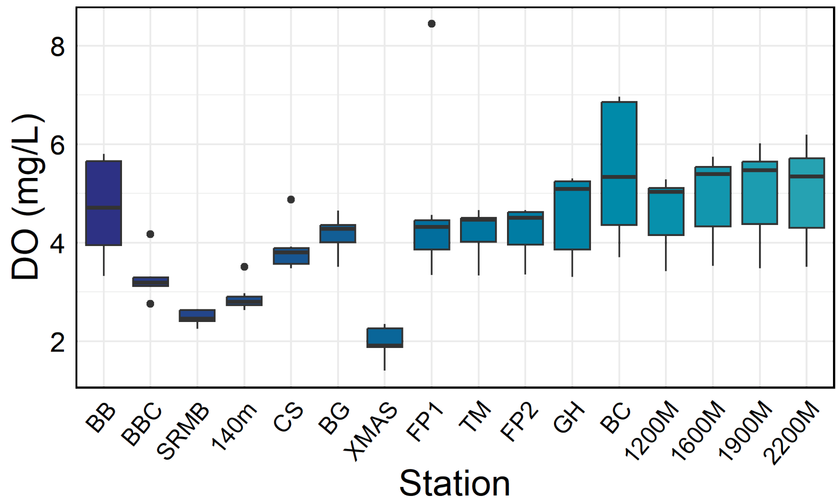


Figure 5. Dissolved oxygen (mg/L) by Silver River SpringsWatch station (January-December 2024).

3.1.2 Temperature

Water temperature is relatively constant in Florida springs. However, heavy rain, runoff from land, river flooding, and spring reversals (when surface water flows back into the spring) can disrupt this stability and cause the temperature to fluctuate along the spring run. In Florida, the average temperature from the spring vent is determined by the annual average air temperature and depth of the groundwater source.

Temperature directly affects how much dissolved oxygen the water can hold and how fast plants and animals use energy, their metabolism (Stevens et al., 2002; Hawkins, 1995; Gillooly et al., 2001; Short et al., 2016). The purpose of monitoring water temperature is to indicate any significant changes that may have large effects on other biological and chemical processes in the spring system. Figure 6 present data for water temperature (°C) field measurements. Temperature in the Silver River remains constant year-round since it is primarily fed by spring water (typically ~ 23°C).

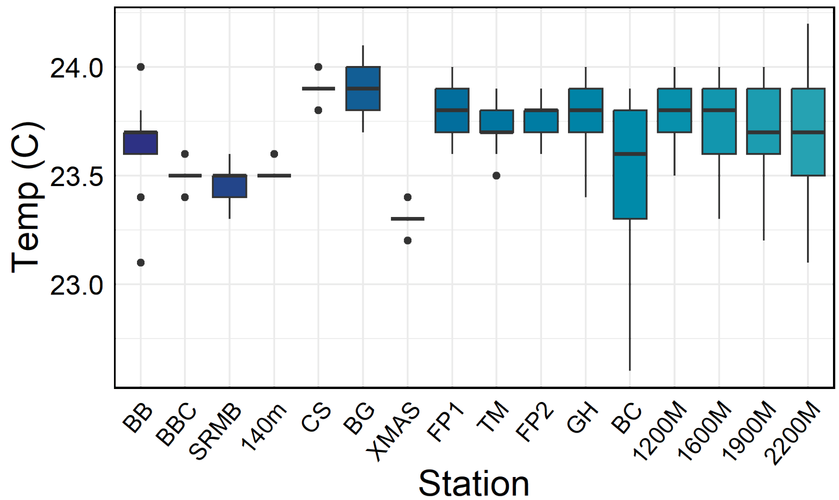


Figure 6. Water temperature (°C) by Silver River SpringsWatch station (January-December 2024).

3.1.3 Specific Conductivity

Figure 7 presents the results for specific conductance (uS/cm) field measurements by station.

Specific conductance levels can be influenced by naturally occurring ions present in spring water, but also from ions present due to higher levels of nitrate/nitrite, phosphorous, saltwater, and other compounds. Higher specific conductance values suggest a higher concentration of these ions in the water. The results presented in Figure 7 shows varying levels of specific conductance, differing most among the spring stations. This could suggest variable levels of nitrate/nitrite influence on the groundwater coming out of the spring stations, mixing with water downriver where specific conductance levels are relatively stable.

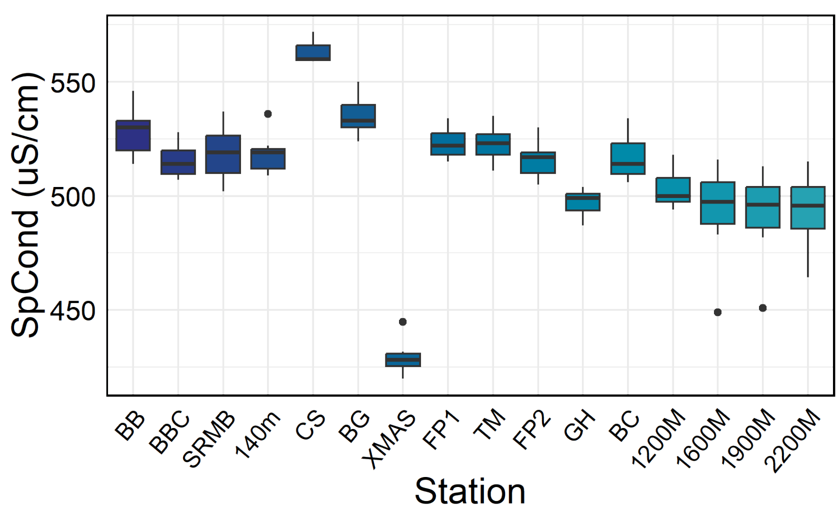


Figure 7. Specific conductance (uS/cm) by Silver River SpringsWatch station (January-December 2024).

3.2 Light Measurements

Figure 8 presents the percent transmittance estimates collected by Silver River SpringsWatch volunteers from January through December 2024. Figure 9 presents the k (diffuse attenuation coefficient) calculated by Silver River SpringsWatch data calculated by FSI staff by station (January – December 2024).

Percent transmittance refers to the amount of light that can pass through the water column to a depth of one foot below the surface. Figure 9 presents the k (diffuse light attenuation) calculated average per Silver River SpringsWatch monitoring session (January to December 2024). The diffuse attenuation coefficient (k) is calculated via the Lambert-Beer equation (Wetzel 2001) to measure how readily light dissipates throughout the water column. Higher attenuation values correspond to less water clarity. Higher values of percent transmittance tend to correspond with lower values of coefficient k. Higher k values, or lower percent transmittance values, can indicate poor water clarity since light cannot pass as easily through the water column, often due to increases in dissolved substances such as tannins (color) and suspended solids (turbidity) in the water.

In aquatic ecosystems, the diffusion attenuation coefficient can have a significant impact on the biota that inhabit the water. For example, in shallow, clear water with a low diffusion attenuation coefficient and high percent transmittance, light can easily reach the bottom of the water column, enabling the growth of aquatic plants and phytoplankton. This, in turn, can support the entire food web, from primary producers to top predators. On the other hand, in deep, turbid water with a high diffusion attenuation coefficient and low percent transmittance, light is unable to penetrate as far, limiting the growth of aquatic plants and phytoplankton. This can have cascading effects on the entire ecosystem, potentially reducing the population size and diversity of biota that depend on these primary producers. Thus, the diffusion attenuation coefficient is an important factor to consider when evaluating the health and productivity of aquatic ecosystems.

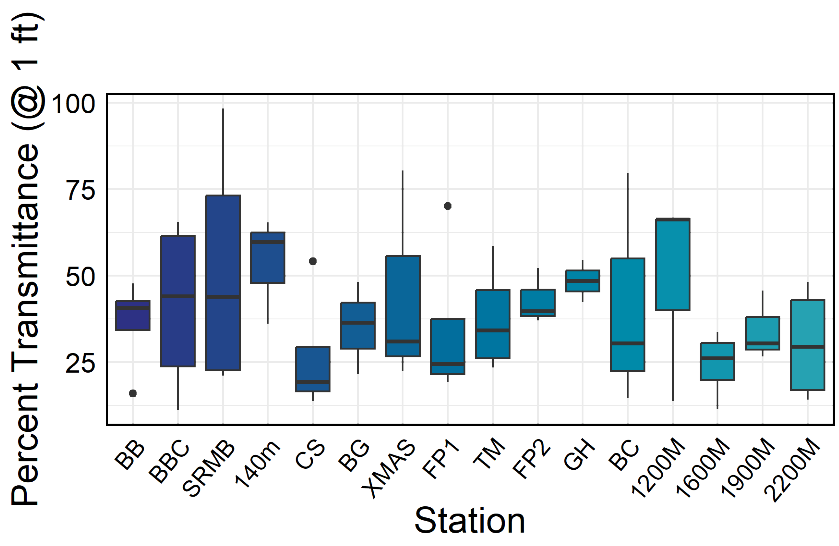


Figure 8. Percent transmittance (% at 1ft) by station for Silver River SpringsWatch (January – December 2024).

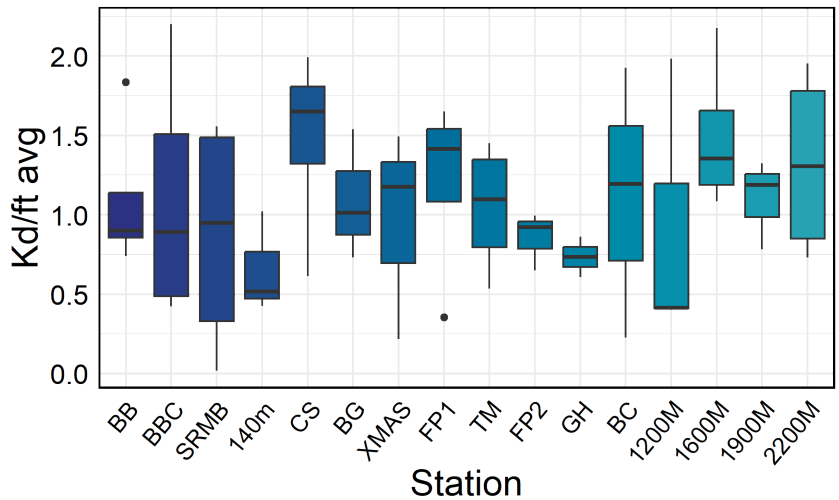


Figure 9. k (diffuse attenuation coefficient) by station for Silver River SpringsWatch (January - December 2024).

3.3 Aquatic Vegetation Survey

Submerged aquatic vegetation plays an important ecological role within a springs system. It provides habitat and food for fish and other wildlife, increases water clarity, affects nutrient cycles, and stabilizes shorelines and sediments. This data presents an ongoing record of conditions in the river and spring and will be useful for comparison to future evaluations of the ecological health. Vegetation photos were taken five times in 2024: January, February, June, October, November, and December.

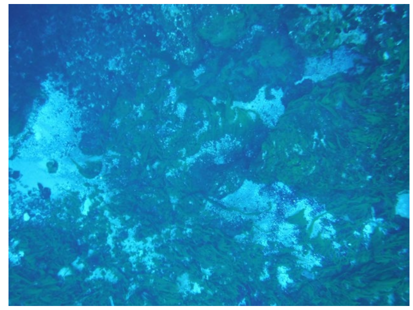
Pictured below station photos taken by Silver River SpringsWatch volunteers between SR-1 and SR-16 (Figure 2) in June 2024 which feature the SAV of the river and its springs. No photo was taken in June 2024 at station SR-6 (Figure 2).

Submerged aquatic vegetation (SAV) included six species/types with Strap-leaf sagittaria (*Sagittaria kurziana*) being observed in most photo stations. Eelgrass (*Vallisneria americana*) was present in five photo stations, while Southern naiad (*Najas guadalupensis*), Hydrilla (*Hydrilla verticillata*), Coontail (*Ceratophyllum demersum*) were each observed in only one photo station. Filamentous algae (multiple types) were observed in about half of the photo stations at variable amounts.

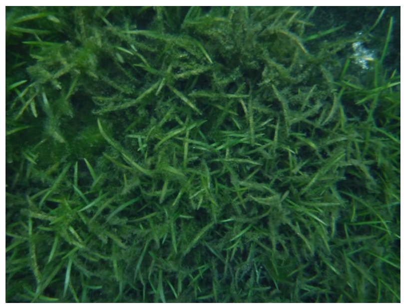
Vegetation at Silver River SpringsWatch stations during the June 2024 sampling session:


SR-1: Sagittaria, Najas, filamentous algae


SR-2: Sagittaria, filamentous algae

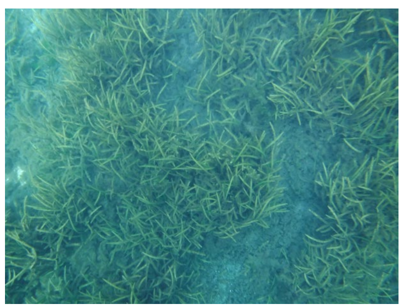

SR-3: Filamentous algae, shell, sand


SR-4: Sagittaria, Vallisneria, filamentous algae


SR-5: Sagittaria, filamentous algae


SR-7: Hydrilla, woody debris, shell

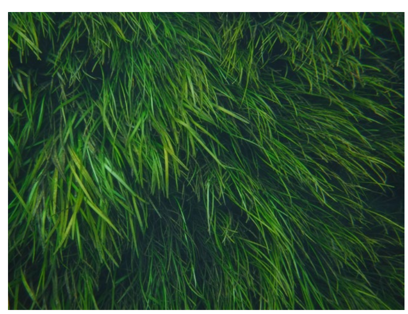

SR-8: Vallisneria, Sagittaria, filamentous algae


SR-9: Sagittaria, Ceratophyllum

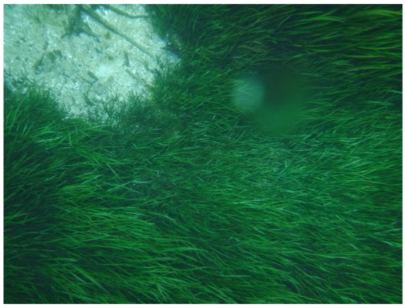

SR-10: Sagittaria


SR-11: Sagittaria, algae


SR-12: Vallisneria, Sagittaria


SR-13: Sagittaria

Vegetation at Silver River SpringsWatch stations during the June 2024 sampling session: Continued



SR-14: Sagittaria, sand, shell

SR-15: Sagittaria, Vallisneria

SR-16: Sagittaria, Vallisneria

3.3 Bird Survey

Silver River SpringsWatch volunteers conducted visual bird surveys during four sampling sessions in 2024. Table 2 presents a summary of birds observed during January, February, November, and December SpringsWatch sessions. In total, twenty-six species were observed. The most observed species were White Ibis, followed by Anhinga, and Double Crested Cormorants.

Table 2. Summary of birds observed during four Silver River SpringsWatch sessions 2024

Common Name	Scientific Name	Average of Count
Anhinga	*Anhinga anhinga*	30
Barred Owl	*Strix varia*	1
Belted Kingfisher	*Megaceryle alcyon*	2
Black Crowned Night Heron	*Nycticorax nycticorax*	2
Black Vulture	*Coragyps atratus*	3
Carolina Wren	*Thryothorus ludovicianus*	2
Chickadee sp.	*Poecile sp.*	1
Common Moorhen	*Gallinula chloropus*	5
Double Crested Cormorant	*Phalacrocorax auritus*	12
Great Blue Heron	*Ardea herodias*	1
Great Crested Flycatcher	*Myiarchus crinitus*	5
Great Egret	*Ardea alba*	3
Green Heron	*Butorides virenscens*	2
Limpkin	*Aramus guarauna*	2
Little Blue Heron	*Egretta caerulea*	7
Northern Cardinal	*Cardinalis cardinalis*	1
Pied Billed Grebe	*Podilymbus podiceps*	6
Pileated woodpecker	*Dryocopus pileatus*	2
Red Bellied Woodpecker	*Melanerpes carolinus*	2
Red Shouldered Hawk	*Buteo lineatus*	2
Snowy Egret	*Egretta thula*	2
Summer Tanager	*Piranga rubra*	1
Tricolored Heron	*Egretta tricolo*	1
Turkey Vulture	*Cathartes aura*	1
White Ibis	*Eudocimus albus*	51
Wood Duck	*Aix sponsa*	3
Yellow-Crowned Night Heron	*Nyctanassa violacea*	6

Section 4.0 References

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Section 5.0 Appendix

Table A.1. Annual averages for Silver River SpringsWatch sessions (January to December 2024).

Station	Parameter Name	Average	Number of Samples	Maximum	Minimum	Standard Deviation
SR-1 (BB)	Dissolved Oxygen (%)	56.2	7	70.5	39.2	12.4
	Dissolved Oxygen (mg/L)	4.7	7	5.8	3.3	1.0
	Specific Conductance (µS/cm)	528.0	7	546.0	514.0	10.9
	Temperature (°C)	23.6	9	24.0	23.1	0.3
	k (diffuse attenuation coefficient)	1.1	4	1.8	0.7	0.5
	Percent Transmittance (@ 1 ft)	36.2	4	47.7	16.0	13.9
SR-2 (BBC)	Dissolved Oxygen (%)	38.7	7	50.2	32.4	5.5
	Dissolved Oxygen (mg/L)	3.3	7	4.2	2.8	0.4
	Specific Conductance (µS/cm)	515.4	7	528.0	507.0	7.6
	Temperature (°C)	23.5	9	23.6	23.4	0.1
	k (diffuse attenuation coefficient)	1.1	4	2.2	0.4	0.8
	Percent Transmittance (@ 1 ft)	41.2	4	65.5	11.1	26.1
SR-3 (SRMB)	Dissolved Oxygen (%)	29.3	7	31.2	27.2	1.6
	Dissolved Oxygen (mg/L)	2.5	7	2.6	2.3	0.2
	Specific Conductance (µS/cm)	518.7	7	537.0	502.0	13.0
	Temperature (°C)	23.4	9	23.6	23.3	0.1
	k (diffuse attenuation coefficient)	0.9	4	1.6	0.0	0.8
	Percent Transmittance (@ 1 ft)	51.8	4	98.3	21.1	37.0
SR-4 (140M)	Dissolved Oxygen (%)	34.1	7	41.1	31.0	3.4
	Dissolved Oxygen (mg/L)	2.9	7	3.5	2.6	0.3
	Specific Conductance (µS/cm)	518.4	7	536.0	509.0	9.2
	Temperature (°C)	23.5	9	23.6	23.5	0.0
	k (diffuse attenuation coefficient)	0.7	3	1.0	0.4	0.3
	Percent Transmittance (@ 1 ft)	53.7	3	65.3	36.0	15.6
SR-5 (CS)	Dissolved Oxygen (%)	44.2	7	46.5	41.4	2.1
	Dissolved Oxygen (mg/L)	3.9	7	4.9	3.5	0.5
	Specific Conductance (µS/cm)	563.1	7	572.0	559.0	5.8
	Temperature (°C)	23.9	9	24.0	23.8	0.1
	k (diffuse attenuation coefficient)	1.5	4	2.0	0.6	0.6
	Percent Transmittance (@ 1 ft)	26.6	4	54.2	13.7	18.6
SR-6 (BG)	Dissolved Oxygen (%)	49.3	7	54.9	41.6	4.6
	Dissolved Oxygen (mg/L)	4.2	7	4.7	3.5	0.4
	Specific Conductance (µS/cm)	535.3	7	550.0	524.0	8.7
	Temperature (°C)	23.9	9	24.1	23.7	0.1
	k (diffuse attenuation coefficient)	1.1	3	1.5	0.7	0.4
	Percent Transmittance (@ 1 ft)	35.3	3	48.1	21.4	13.4

Table A.1. Continued

Station	Parameter Name	Average	Number of Samples	Maximum	Minimum	Standard Deviation
SR-7 (XMAS)	Dissolved Oxygen (%)	23.6	7	27.2	16.7	3.7
	Dissolved Oxygen (mg/L)	2.0	7	2.4	1.4	0.3
	Specific Conductance (µS/cm)	429.3	7	444.7	419.8	7.8
	Temperature (°C)	23.3	9	23.4	23.2	0.1
	k (diffuse attenuation coefficient)	1.0	3	1.5	0.2	0.7
	Percent Transmittance (@ 1 ft)	44.6	3	80.5	22.4	31.3
SR-8 (FP1)	Dissolved Oxygen (%)	48.5	6	53.6	39.7	6.1
	Dissolved Oxygen (mg/L)	4.7	7	8.5	3.4	1.7
	Specific Conductance (µS/cm)	523.1	7	534.0	515.0	7.0
	Temperature (°C)	23.8	9	24.0	23.6	0.1
	k (diffuse attenuation coefficient)	1.2	4	1.6	0.4	0.6
	Percent Transmittance (@ 1 ft)	34.5	4	70.2	19.2	23.9
SR-9 (TM)	Dissolved Oxygen (%)	50.0	7	55.2	39.4	6.0
	Dissolved Oxygen (mg/L)	4.2	7	4.7	3.3	0.5
	Specific Conductance (µS/cm)	522.7	7	535.0	511.0	8.1
	Temperature (°C)	23.7	9	23.9	23.5	0.1
	k (diffuse attenuation coefficient)	1.0	4	1.4	0.5	0.4
	Percent Transmittance (@ 1 ft)	37.6	4	58.6	23.5	16.1
SR-10 (FB2)	Dissolved Oxygen (%)	50.2	7	55.1	39.6	7.0
	Dissolved Oxygen (mg/L)	4.2	7	4.7	3.4	0.6
	Specific Conductance (µS/cm)	515.7	7	530.0	505.0	8.6
	Temperature (°C)	23.8	9	23.9	23.6	0.1
	k (diffuse attenuation coefficient)	0.9	3	1.0	0.7	0.2
	Percent Transmittance (@ 1 ft)	43.0	3	52.2	37.0	8.1
SR-11 (GH)	Dissolved Oxygen (%)	54.0	7	62.7	39.2	62.7
	Dissolved Oxygen (mg/L)	4.6	7	5.3	3.3	5.3
	Specific Conductance (µS/cm)	497.0	7	504.0	487.0	504.0
	Temperature (°C)	23.8	9	24.0	23.4	24.0
	k (diffuse attenuation coefficient)	0.7	2	0.9	0.6	0.9
	Percent Transmittance (@ 1 ft)	48.4	2	54.5	42.3	54.5
SR-12 (BC)	Dissolved Oxygen (%)	64.6	7	81.8	43.5	16.6
	Dissolved Oxygen (mg/L)	5.5	7	7.0	3.7	1.4
	Specific Conductance (µS/cm)	517.0	7	534.0	506.0	10.5
	Temperature (°C)	23.5	9	23.9	22.6	0.4
	k (diffuse attenuation coefficient)	1.1	3	1.9	0.2	0.9
	Percent Transmittance (@ 1 ft)	41.5	3	79.6	14.6	33.9

Table A.1. Continued

Station	Parameter Name	Average	Number of Samples	Maximum	Minimum	Standard Deviation
SR-13 (1200M)	Dissolved Oxygen (%)	54.8	7	62.9	40.5	9.0
	Dissolved Oxygen (mg/L)	4.6	7	5.3	3.4	0.8
	Specific Conductance (µS/cm)	503.3	7	518.0	494.0	8.6
	Temperature (°C)	23.8	9	24.0	23.5	0.2
	k (diffuse attenuation coefficient)	0.9	3	2.0	0.4	0.9
	Percent Transmittance (@ 1 ft)	48.8	3	66.6	13.7	30.4
SR-14 (1600M)	Dissolved Oxygen (%)	58.2	7	67.9	41.7	11.2
	Dissolved Oxygen (mg/L)	4.9	7	5.8	3.5	0.9
	Specific Conductance (µS/cm)	492.8	7	516.0	448.9	22.2
	Temperature (°C)	23.7	9	24.0	23.3	0.2
	k (diffuse attenuation coefficient)	1.5	4	2.2	1.1	0.5
	Percent Transmittance (@ 1 ft)	24.3	4	33.7	11.4	9.8
SR-15 (1900M)	Dissolved Oxygen (%)	59.1	7	71.5	41.1	12.1
	Dissolved Oxygen (mg/L)	5.0	7	6.0	3.5	1.0
	Specific Conductance (µS/cm)	491.4	7	513.0	450.8	20.7
	Temperature (°C)	23.7	9	24.0	23.2	0.3
	k (diffuse attenuation coefficient)	1.1	3	1.3	0.8	0.3
	Percent Transmittance (@ 1 ft)	34.3	3	45.7	26.6	10.1
SR-16 (2200M)	Dissolved Oxygen (%)	60.0	7	73.4	41.5	12.8
	Dissolved Oxygen (mg/L)	5.0	8	6.2	3.5	1.0
	Specific Conductance (µS/cm)	493.5	7	515.0	464.3	16.9
	Temperature (°C)	23.7	9	24.2	23.1	0.3
	k (diffuse attenuation coefficient)	1.3	4	2.0	0.7	0.6
	Percent Transmittance (@ 1 ft)	30.3	4	48.1	14.2	16.8