

Staunton River State Park

Dark Sky Park Annual Report – 2016

Staunton River State Park was designated as a Dark Sky Park in June 2015. Since the designation, and especially in 2016, the popularity of Staunton River State Park as an astro-tourism destination has taken off. We continue to see more guests coming from increasingly further distances just to use the park for astronomical observing, as our signature event, the Staunton River Star Party, continues to grow as well. Overall attendance has also increased in the park, as we are to-date 12% ahead of last year's attendance numbers.

Staff and volunteer guided astronomy and dark-sky related interpretive programming continued to be successful in 2016. Programming will be expanded in the main season of 2017 to include weekly observing sessions, more loaner telescopes for guests, and several new dark sky preservation programs that are in development.

Highlights from 2016 are as follows:

2016 Programming

Dark Sky and astronomy-related programming continue to be highlights for Staunton River State Park, and have continued to become increasingly successful.

- Staunton River Star Party – March 9 – 13, 2016
 - Our spring Star Party was a little slow this year due to forecasts of rain throughout the weekend, but we still had 94 registered participants. Our Public Observation Night had a decent turnout even though it was cloudy, and those that stuck around actually got to see some clear skies later that night. This turnout was considerably more than was expected due to forecasted weather condition.
- Astronomy Nights – June 10 and July 8, 2016
- Astronomy Night and Perseid Meteor Shower Observing – August 12, 2016
 - This was our most successful summer astronomy program of 2016. We hosted over 150 guests for this observing session. We had a beautiful night, even though the moon was in its first quarter, and guests were treated with excellent observing opportunities and some great meteor viewing. Our campground was extremely busy over the entire weekend due to the meteor shower, with guests

coming from as far away as Colorado, Pennsylvania, and New York just to view the meteor shower under our dark skies. The observing field was busy Thursday – Sunday nights.

- Self-Guided Astronomy
 - Our loaner telescopes have been extremely popular this year, with all telescopes having been loaned out to park guests every summer weekend. CHAOS has pledged to purchase two new telescopes to add to our fleet due to the popularity. We have also had a large increase in guests using the observing field when we don't have scheduled astronomy programs throughout the year, and we plan on making upgrades to the observing field to make this more user-friendly.
- Upcoming Events:
 - Staunton River Star Party – October 24 – 30, 2016 (Public Observing Night Oct. 29)
 - Geminid Meteor Shower Observing Party – December, date TBD
- New Programming Events:
 - Park staff will be working on developing both new dark sky programming and astronomy programming over this coming winter. We will host more “off-season” events as well as weekly programming throughout our main summer season in conjunction with our popular Astronomy Nights hosted by CHAOS.

Lighting

At the time of our application, the following light fixtures throughout the park did not conform to our Lightscape Management Plan. Plans to correct these fixtures are listed below:

- Dan River Boat Ramp, 6 fixtures – Requested funding for capital improvement project to replace fixtures altogether – expected partial funding at some point in FY17. If funding is not available, we will begin replacing 2 lights each fiscal year for the next 3 budget cycles so that all lights are compliant prior to the June 2020 deadline

Sky Quality

Sky quality measurements were taken quarterly at 12 permanent locations throughout the park. The tables below show the results of multiple readings at each location throughout the year, as well as an overall park average for 2016.

February 11, 2016							
	Reading						
Site	1	2	3	4	5	6	Average
1	21.32	21.23	21.23	21.20	21.37	21.39	21.29
2	21.39	21.38	21.37	21.36	21.34	21.33	21.36
3	21.39	21.52	21.30	21.34	21.35	21.37	21.38
4	21.35	21.35	21.34	21.33	21.34	21.30	21.34
5	21.38	21.35	21.35	21.37	21.42	21.41	21.38
6	21.35	21.22	21.22	21.33	21.29	21.41	21.3
7	21.28	21.31	21.22	21.37	21.26	21.30	21.29
8	21.40	21.48	21.37	21.39	21.38	21.39	21.4
9	21.39	21.39	21.29	21.25	21.33	21.34	21.33
10	21.42	21.47	21.43	21.43	21.43	21.44	21.44
11	21.34	21.35	21.37	21.33	21.34	21.35	21.35
12	21.49	21.45	21.43	21.44	21.47	21.47	21.46

Park Average - 21.36

June 10, 2016							
	Reading						
Site	1	2	3	4	5	6	Average
1	21.46	21.4	21.4	21.38	21.43	21.36	21.41
2	21.45	21.46	21.49	21.45	21.42	21.45	21.45
3	21.47	21.44	21.47	21.47	21.46	21.45	21.46
4	21.40	21.44	21.41	21.37	21.41	21.38	21.40
5	21.54	21.53	21.55	21.56	21.46	21.47	21.52
6	21.56	21.56	21.51	21.55	21.56	21.55	21.55
7	21.38	21.40	21.45	21.46	21.44	21.43	21.43
8	21.38	21.42	21.43	21.39	21.40	21.39	21.40
9	21.40	21.34	21.44	21.47	21.43	21.43	21.42
10	21.53	21.49	21.49	21.49	21.51	21.51	21.50
11	21.48	21.43	21.46	21.42	21.41	21.42	21.44
12	21.62	21.43	21.46	21.45	21.46	21.48	21.48

Park Average - 21.45

The permanently-mounted sky quality meter on the Visitor Center has recorded data throughout the year until our Visitor Center recently took a direct lighting strike which ruined the meter. A new meter will be installed on the Visitor Center to again record sky quality on a continuous basis.

Community and Media Relations

Several efforts were undertaken this year to increase awareness of dark sky preservation. Presentations on the importance of dark sky preservation and Staunton River's efforts to preserve our dark sky were given at or to:

- Park Manager Adam Layman participated in a Dark Sky Discussion Panel hosted by the Winchester Book Gallery in Winchester, Va on April 7, 2016. The panel consisted of four panelists: Dane Toler, Shenandoah Astronomical Society; Patricia Rostkowski, Northern Virginia Astronomy Club; Laura Greenleaf, Va. Chapter of IDA; and Adam Layman, SRSP. The discussion focused on defining light pollution, ways to mitigate it, volunteer efforts in Northern Virginia to educate citizens and lawmakers on the effects of light pollution, the importance of preserving our dark skies, and how to observe the spring sky.
- Park Manager Adam Layman participated in a joint meeting of the Town of Halifax Council, Town of South Boston Council, and Halifax County Board of Supervisors on May 16, 2016. This meeting was called to discuss tourism efforts in the county, including the rapidly-growing astro-tourism due to SRSP's Dark Sky Park Designation. PM Layman was also asked to give a presentation on light pollution effects and ways to mitigate. This was the first presentation to all 3 councils at the same time to begin discussion between the groups on town and county-wide light pollution ordinances. There is still much work to be done but this effort is finally on the radar of all 3 councils and they continue to discuss options to have more light ordinances similar to the one already enacted by the Town of Halifax.
- Park Manager Adam Layman will present to the Southeastern State Parks Program Seminar at Hungry Mother State Park in Marion, VA on December 6, 2016. The SSPPS is an annual seminar held for interpreters, naturalists, and program managers in southeastern state parks for an exchange of ideas, information, and park management practices. This discussion will focus on the importance of preserving our night skies, ways to mitigate light pollution in state parks, dark sky programming, and our journey to be designated as a Dark Sky Park.
- Park staff continues to work with local tourism offices to promote dark sky and astronomy events in the park. This has been a very successful venture as program attendance continues to grow, allowing us to reach more guests and spread the importance of dark sky preservation.