

Rappahannock County Park
International Dark Sky Park – Annual Report - 2020



© Joyce Harman

[this page intentionally left blank]

Table of Contents

Welcome to Rappahannock County Park	1
Programming	1
Sky Quality	5
Lighting Plan.....	6
Dark Sky Protocol	6
COVID-19 Impact.....	6
Community Outreach.....	7
Conservation and Research	8
Funding	8
Key Achievements.....	8
Contact Information.....	9

Welcome to Rappahannock County Park

The Rappahannock County Park is a 7.3-acre (0.03 km²) park situated centrally in Rappahannock County near the town of “little” Washington, Virginia. It includes woodlands, open areas, wooded nature trails to the Rush River, a covered pavilion with picnic tables for seating up to 100 people, public restrooms, two tennis courts (with equipment and markings to modify one for two pickle ball courts), a basketball court, swings, a climbing wall, a playground area for children, a skateboard park, horseshoe pits, a shuffleboard court, a 3-hole frisbee golf course and a corn hole court. The Park also offers two native pollinator gardens, a bluebird trail, and a bluebell flower trail along the river. The Park is also an official Audubon Wildlife Sanctuary.



Park entrance sign



Aerial view of the Park

The Park is located just a few miles east of the Shenandoah National Park. It offers a quiet area for picnicking, hiking, observing the night skies and outdoor activities such as butterfly counting, birding and trout fishing. The Park is used regularly for educational outdoor experiences and learning events by a number of community organizations. Environmental stewardship is a key goal of the Park. The pavilion can be reserved for activities such as church picnics, family reunions, company events and other group functions.

The Park was notified of its Silver Tier Dark Sky Park designation on February 21, 2019. This award was celebrated at a special Dark Sky event held May 4, 2019. Our site was the third county park in the US to receive a Dark Sky Park designation. It is also the smallest Dark Sky Park in the world. The International Dark Sky Park sign was installed Dec. 6, 2019. No additional territory has been added to the park since the land was granted to the County in 1974.

The Park is open after dusk for astronomical observations and photography only on Friday and Saturday evenings and then only with advance authorization. There is no fee to use the Park. Refer to Dark Sky Protocol section of this report.

Programming

The following is a listing of the events held (or planned) as part of our Dark Sky Initiative since receiving the Dark Sky Park designation.

- May 4, 2019: Over 50 people gathered to celebrate the certification of the Park as an International Dark Sky Park. The welcome address was jointly given by Park board Mike Del Grosso (Park Board chairman) and Rick Kohler (Rappahannock League for

Rappahannock County Park – Dark Sky Park – Annual Report - 2020

Environmental Protection) followed by congratulatory remarks from Laura Greenleaf, Co-chair of the Virginia chapter of the International Dark Sky Association (IDA). She noted that the Park was the third county park in the US to receive this designation.



Audience listening to introductory remarks



Showing off some telescopes

Next came a talk “The Dark Sky Park Journey” by Torney Van Acker (Dark Sky Coordinator) outlining the milestones in the year-long journey to receive the designation. Subsequently, the Fred Catlin (Mayor the town of Washington) and Christine Smith (member of the Board of Supervisors) offered their congratulations and thanks for contributions to the community.



Fred Catlin (Washington Mayor) thanks the Park for their contributions to the community.



Laura Greenleaf (IDA) offers congratulations to the Park staff for their achievement.



Chris Kagy (NOVAC) and Mike Del Grosso (Park) signing a Memorandum of Agreement



Celebratory Cake – Saving Dark Skies

Rappahannock County Park – Dark Sky Park – Annual Report - 2020

Next on the program was the signing of a Memorandum of Agreement between the Park and the Northern Virginia Astronomy Club (NOVAC) allowing NOVAC privileged access to the Park for dark sky activities.

The last presentation was led by NOVAC's Milt Roney, explaining to the public what there would be to see in the skies that evening. The ceremony concluded with a toast and cutting of a celebratory cake. Then the star gazing began.

- June 15, 2019: The Rappahannock League for Environmental protection (RLEP) and the Park jointly hosted the second dark sky event of the season with about 30 people in attendance. A local county-resident astrophotographer Joyce Harman spoke about her recent visit to a Dark Sky Park in Utah and brought her spotting scope to allow people to take their own pictures of the full moon with their smartphones. NOVAC member Milt Roney also shared a presentation on lunar features and other objects visible in the full moon sky.



Milt Roney demonstrating phases of the moon.



Joyce Harman discusses light trespass.

- August 3, 2019: Following introductory remarks about preserving our view of the star-filled skies, a local astronomer shared a colorful presentation about the planets and what the public could see that evening. Following the presentation, visitors migrated to telescopes set up for viewing Jupiter and its four moons and Saturn with its unique ring system. About 60 people attended. The evening concluded with surprise 40th anniversary party for the Park's Dark Sky Coordinator and his wife.



Milt Roney and replica of Galileo's telescope



Listening to a presentation about Jupiter and Saturn

Rappahannock County Park – Dark Sky Park – Annual Report - 2020

- September 27, 2019: With the sponsorship of RLEP, a Sky Dome Planetarium by MobileEd Productions was set up in the Rappahannock County Elementary School gymnasium to encourage students and the public to learn about the universe. A short presentation on the value of preserving the night skies prefaced the event. An estimated 570 people attended.



Sky Dome in the gymnasium



Inside the Sky Dome

- September 28, 2019: Local astrophotographer Joyce Harman led a discussion on the importance of maintaining the light-pollution-free skies of the County. She pointed to ten examples of her night sky photography on display showing the beauty of the Milky Way over various Rappahannock County landmarks. This was followed by a presentation by the Park titled “Brighter Does Not Mean Safer - Outdoor Lighting and Security”. The third presentation, by an astronomy club member, provided the audience with a vivid display of most interesting of the 79 moons of Jupiter. Over 30 people were in attendance.



A sampling of night photos on display



Audience in rapt attention

- October 11, 2019: Greg Redfern, NASA’s Solar System Ambassador delivered a presentation at the Rappahannock County High School titled “This Isn’t Your Granddaddy’s Moon!” celebrating 50 years of lunar exploration. The event was co-sponsored by the Rappahannock League for Environmental Protection as part of their Dark Skies Initiative. A discussion on preserving the County’s night skies preceded Redfern’s presentation. About 50 people were in attendance.
- April 25, 2020: planned event cancelled due to COVID-19 pandemic.
- May 16, 2020: planned event cancelled due to COVID-19 pandemic.
- June 6, 2020: planned event cancelled due to COVID-19 pandemic.

Rappahannock County Park – Dark Sky Park – Annual Report - 2020

- July 18, 2020: First face-to-face event of the year under revised COVID-19 guidelines. Event consisted of two presentations followed by two hours of astronomical observations using loaner telescopes. The first presentation was titled “5 Principles for Responsible Outdoor Lighting”. The second presentation by an astronomy club member highlighted the objects that would be seen that evening using binoculars and loaner telescopes. Observations included comet NEOWISE, planets Jupiter and Saturn and selected galaxies and globular clusters. Over 100 people were in attendance.



Keith Brescia shows off his 17.5” telescope



Comet NEOWISE on display

- August 22, 2020: This event consisted of three presentations and a Q&A session. No observations were possible due to overcast skies. The first presentation titled “Under the Same Sky - Worldwide Local Action for Night Sky Conservation” was delivered by IDA’s Virginia volunteer representative Laura Greenleaf. The second presentation by an astronomy club member discussed the ‘cosmic ladder’ – how distances to planets, stars and galaxies are determined. The third presentation, a video clip “Powers of Ten”, portrayed the vastness of the universe. About 30 people attended.
- September 19, 2020: A fall chill was definitely in the air as two NOVAC members shared presentations with over 65 members of the public. One covered an introduction to light pollution for those unfamiliar with the topic. The second described how to do star-hopping to find dimmer objects such as the Andromeda galaxy. Almost everyone stayed on to view the crescent moon, Jupiter, Saturn, Mars and several galaxies and globular clusters through several loaner telescopes.
- October 17, 2020: final planned dark sky event for 2020 before winterizing the Park.
- December 21, 2020: special winter event to observe the conjunction of Jupiter and Saturn, an event that happens once every 20 years.

Sky Quality

Sky quality readings have been taken using a portable Unihedron SQM (with no lens) beginning in April 2018. Readings are in magnitudes per square arcsecond. The first table shows measurements taken prior to submitting our application. The second table contain data during

Rappahannock County Park – Dark Sky Park – Annual Report - 2020

2019 and 2020 after receiving the Dark Sky Park designation. Comparing the two data sets, we believe there is neither degradation nor improvement in sky quality.

Date	Average SQM
April 14, 2018	21.14
June 14, 2018	21.29
June 15, 2018	21.47
July 8, 2018	21.39
August 10, 2018	21.06
September 2, 2018	21.31
October 6, 2018	21.33
October 29, 2018	21.13
November 3, 2018	21.16
November 10, 2018	21.10
November 10, 2018	21.16
Median	21.3 ± 0.1

Date	Average SQM
July 21, 2019	21.39
July 29, 2019	21.40
August 28, 2019	21.23
August 30, 2019	21.24
September 20, 2019	21.17
September 25, 2019	21.24
November 20, 2019	21.31
January 18, 2020	21.50
February 19, 2020	21.26
July 11, 2020	21.44
July 18, 2020	21.38
August 10, 2020	21.39
September 20, 2020	21.40
Median	21.38 ± 0.1

Lighting Plan

There are only eight outdoor light fixtures in the Park. Since all lights are fully-shielded and compliant, no further conversions are required to meet the acceptance criteria of our Lightscape Management Plan. The Park Board has also adopted a formal resolution that defines how future decisions will be made about any potential outdoor lighting changes at the Park.

Dark Sky Protocol

Normal park hours are dawn to dusk except for authorized dark-sky-related activities. These activities include both formal events organized by the Park and informal visits by individuals or astronomy clubs desiring to use the Park after normal hours for astronomical observations or photography.

To visit the park after dusk, users must request authorization in advance from the Park's Dark Sky Coordinator. The Coordinator requests personal information which is included in an authorization email that would be presented to the relevant authorities at the Park if requested.

Due to the COVID-19 pandemic and feedback from Park neighbors, the Park modified its Dark Sky Protocol in July 2020 to limit unsupervised access after dusk to only Friday and Saturday evenings. For the other five days of the week, the Park remains closed after dusk to unsupervised visitors.

On a typical weekend, between one and five cars with stargazers may be found at the Park.

COVID-19 Impact

The COVID-19 pandemic had a significant impact on our dark sky efforts. On March 11, 2020 the World Health Organization (WHO) characterized the COVID-19 outbreak as a pandemic. On March 12, the Governor of Virginia issued Executive Order 51 declaring a state of emergency.

Rappahannock County Park – Dark Sky Park – Annual Report - 2020

On March 23, Executive Order 53 closed schools, churches, non-essential businesses and prohibited all public and private gatherings of more than 10 people.

In response, the Park board established a COVID-19 policy that outlined how the restrictions would be implemented at the Park. This policy postponed all scheduled events until May 15 and limited gatherings to 10 people. Due to this policy, the dark event scheduled for April 25 had to be canceled. As the pandemic evolved and the restrictions were not being lifted, the policy was updated to extend the postponing of events until June 10. This forced the cancellation of the scheduled May 16 and June 6 events. On April 22, this policy was further revised to prohibit individual visitors from using the Park at night for astronomical observations. This was due to complaints by Park neighbors about county residents abusing the night-time use provision during the pandemic. After Virginia entered Phase 2 re-opening on June 5, the policy was updated at the June 10 board meeting to permit organized events as long as the participants were limited to 50. On July 1, Virginia entered Phase 3 and raised the cap on participants to 250. The Park held its first dark sky event on July 18 with over 100 in attendance.

The concerns raised by the Park neighbors about unsupervised night visitors during the pandemic was resolved at the July 9, 2020 board meeting with the adoption of a revised dark sky protocol. Please refer to the Dark Sky Protocol section.

The Park looked into ways to conduct on-line events via the internet, however the lack of internet infrastructure at the Park and in the County made it impractical.

Although many restrictions have been lifted, requirements for social distancing, wearing masks and sanitizing surfaces will remain in place for some time. This has, and will impact our work in the foreseeable future in the following ways.

- We believe that attendance levels will be attenuated, especially by families with school-age children and seniors, both population groups who fear the risk of infection.
- Although wearing masks is not strictly required outdoors, the difficulty of respecting social distancing in the dark or while observing through telescopes has led us to require the wearing of masks after dusk.
- The need to sanitize surfaces has required us to ask those with telescopes to wipe their eyepieces and other components between each use.
- The need to maintain social distancing during large events makes it more difficult for the dispersed participants to see the projection screen or hear the speaker.

Community Outreach

Besides the dark sky events described in the Programming section, the Rappahannock County Park has reached out to the community and surrounding counties through various means. A number of them are listed below.

- Articles were submitted to local hardcopy and online newspapers about dark sky events and other dark sky initiatives (Rappahannock News, Blue Ridge Independent, MadRapp Recorder).
- Recognition by national media outlets: On July 28, 2020, the Washington (DC) Post newspaper published an article titled “For the best stargazing, head to a patch of dark sky”. The article highlighted the International Dark Sky Association’s efforts and recognized the Rappahannock County Park near Washington, Virginia as one of the noteworthy spots to visit on the east coast to view the night skies.

Rappahannock County Park – Dark Sky Park – Annual Report - 2020

- Website: Rappahannock County Park: announcements, articles and photos of events at the Park. <https://rappahannockcountypark.weebly.com/>
- Website: Rappahannock League for Environmental Protection (RLEP): postings about Dark Skies Initiative program, announcements and articles about dark sky events. <http://rlep.org/>
- Website: Experience Rappahannock (XRAP): notification of dark sky events: <https://xrap.org/>
- Facebook page: Rappahannock County Park: announcements and photos of events, discussions on relevant topics. <https://www.facebook.com/Rappahannock-County-Park-2076555502416964/?ref=bookmarks>
- Information display case at the Park: the public can read bulletins about the latest dark sky topic or upcoming events.
- Partnership with RLEP: working with RLEP to implement their outdoor lighting replacement project, updating an educational trifold Saving Dark Skies, co-sponsoring dark sky events and presenting relevant topics.
- Partnership with NOVAC: The Park gives preferential treatment per a Memorandum of Agreement and NOVAC supplies volunteers to staff and present topics at dark sky events.
- Rappahannock Public Schools: co-sponsoring events at the school, sending flyers home with students inviting families to attend dark sky events.
- Presentations to various groups inside and outside the county to spread the message about what is responsible lighting, what are the undesirable effects of poor lighting choices and what people can do locally to promote reform in outdoor lighting. IDA brochures and physical examples of desirable and undesirable lighting fixtures are part of the presentations. (Rappahannock Garden Club, Rappahannock Lions Club, Rapp at Home, Blue Ridge Flower Club, Ruritans of Fauquier County, Front Royal Ladies Club)
- Town of Washington: collaborated with the town administration on a suitable choice for replacing aging and failing street lights. Since this village is adjacent to the Park, this effort was key to minimizing the impact on the night skies at the Park.
- Issued a Letter of Concern to the Culpeper County Development Manager about the impact of lighting from an 800-home development being planned at Clevengers Corner just outside Rappahannock County This development would be about 15 miles from the Park.

Conservation and Research

No research involving night skies was conducted during this reporting period.

Funding

Night sky programs and outreach activities continue through the Park's volunteer board members in collaboration with RLEP. No special funding is required.

Key Achievements

Besides raising dark sky awareness in the community and student population, the single most important dark sky achievement during this reporting period is working with local government to include verbiage in the County's Comprehensive Plan about protecting the night skies.

Rappahannock County Park – Dark Sky Park – Annual Report - 2020

The Comprehensive Plan is a written document that sets forth the characteristics of Rappahannock County in general terms. The plan is the County's statement of its aspirations and goals for future growth, and is a tool by which County citizens in conjunction with the local governing body ask, "Where are we; where do we go from here; what do we become?"

The Plan was issued in September 2020, being a major update of the 2004 Plan. It consists of eight chapters. Chapter 6 covers the goals, principles and policies for land use. Goal 5 was added stating: "Preserve air quality and limit noise and light pollution". "Night skies" was added to Principle 3: "Protect natural resources, including soil, water, air, view-sheds, scenery, night skies, national park access, and fragile ecosystems." The issue of light pollution was again addressed in Policy 6 under Principle 7. Principle 7 calls for promoting only economic growth that assists in maintaining the existing balance between development and the County's environmental quality and rural character. Policy 6 under this principle states: "Ensure that standards for site plans and planned development of business and industry include landscaping requirements and encourage conditional zoning proffers for such development to include landscaping plans that minimize outdoor light pollution."

While the Plan itself is not law, it is the blueprint for all land use policy which is typically implemented through legislation adopted by the Board of Supervisors. It may also be used as the basis for creating or modifying various ordinances.

Contact Information

Rappahannock County Park – physical address

7 Park Lane
Washington, VA 22747

Rappahannock County Park – mailing address

Rappahannock County Recreational Facilities Authority
P. O. Box 172
Washington, VA 22747

Park website: <https://rappahannockcountypark.weebly.com/>

Park Facebook page: search for "Rappahannock County Park"

https://www.facebook.com/Rappahannock-County-Park-2076555502416964/?ref=page_internal

Dark Sky Coordinator: Mr. Torney Van Acker

Email: torney630@gmail.com

Text/Cell: 703-250-7943