Half the Park is after Dark
Night Sky Programming in Urban and Back Country Parks

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Abstract
Dark sky education is as relevant in urban parks as it is in remote parks with pristine skies. Find out about the lessons learned from Lassen's annual Dark Sky Festival and night sky programming begun at Alcatraz plus the resources you can access to start your own dark sky programming. Presenters from each will share their experiences in launching this new programming and the resources that can help make your program.

Keywords
Please separate keywords with commas and lowercase them unless they are proper nouns.

dark sky programming, astronomy, light pollution, professional development

Introduction

The Astronomical Society of the Pacific (ASP) began the Astronomy from the Ground Up (AFGU) program for museums ten years ago and expanded to include Sky Rangers five years ago. In addition to the rangers and educators that we trained, they trained their staff, growing AFGU by 372 members. A partial measure of the success of the training is the increase in programming at their parks, so we surveyed participants about how often they hosted astronomy events before and after their participation. Before, 29.9% of participants never

hosted astronomy events, and only 24.7% reported hosting more than five astronomy events per year. After, only 2.2% of participants never hosted astronomy events, and 64.2% of participants hosted at least five events per year, with 19.4% hosting fifteen or more events per year.

Resources

Although Sky Rangers funding has run out, there are still resources available from those workshops. The Night Sky Network (NSN) is over 450 amateur astronomy clubs across the country dedicated to outreach in their communities. The NSN portal is maintained by NASA, but the ASP populates it with great resources that were central to the Sky Rangers workshops. From the main page, you can “Find a club” to recruit volunteer astronomers to support your programming and you can click “Astronomy Activities” to find engaging astronomy demos and great monthly star charts.

We realize that knowing astronomy and being armed with activities for your visitors is not enough to get dark sky programming started at your park, so those who have successful night sky programs will address some of the challenges that they have overcome related to the logistics, volunteers, location, and sky brightness.

Backcountry Challenges

The remoteness of Lassen Volcanic National Park makes it an attractive location for dark sky programming. The closest big cities are over 50 miles away which minimizes light pollution, and the high elevation of the park lends to clearer night sky viewing opportunities. However, due to its isolated location, dark sky programs at Lassen can suffer from low attendance and the darkness of the park at night can pose certain public safety issues.

A solution to the low attendance issue was developed in 2012 when Lassen organized an annual Lassen Dark Sky Festival. This weekend-long event – focusing on astronomy, astrobiology, and planetary geology – has greatly increased visitor attendance and participation at dark sky programs. Park staff has found that people are more likely to travel the long distance to the park for a multi-day event. The festival celebrates the dark skies of Lassen and creates an opportunity for park visitors to participate in astronomy related activities during the day and connect to their park by hiking, sight-seeing, and camping. Lassen prepares for the third annual Dark Sky Festival this August and anticipates a growing number of visitors interested in astronomy and night sky viewing.

The increase of people attending dark sky programming coupled with the dark nights at Lassen can pose some safety concerns. Flashlights are discouraged at dark sky programs to preserve night vision and it can be difficult to navigate to and around the telescope viewing area without lights. This safety issue has been mitigated by having volunteers and park staff aide visitors from their vehicles to the viewing area using red light lamps. This year the park will use a temporary

barricade that will block headlights and flashlights from the telescope area and hopes to offer red light lamps to visitors to use while attending programs.

Challenges in Urban Parks

On the other hand, providing dark sky astronomy in urban parks such as the Alcatraz Night Tour, presents other types of challenges. While Alcatraz hosts over 1 million visitors a year, the night tour certainly does not struggle for attendees to programs. The 3 biggest obstacles for dark sky astronomy on Alcatraz is the unreliable weather patterns, light pollution, and crowds.

The San Francisco Bay Area is known for it's fog layer. Alcatraz is located right in the mouth of the Golden Gate, an entry point for the famous fog that can billow across the entire bay area. On foggy nights, star viewing is virtually impossible from the Rock. Being flexible in scheduling for the Night Tour and remaining tentative to the changing weather pattern are some ways to overcome this particular obstacle.

The second obstacle, light pollution, truly limits the kinds of celestial objects that can be viewed from Alcatraz. On the Bortle Scale, the dark sky surrounding Alcatraz is between an 8-9. In other words, constellations are visible, but are missing key stars and there is always a washed out glow from the light pollution surrounding the Bay Area. The light pollution is a limiting factor, and allows visitors to mainly see visible planets such as Venus and Jupiter through the telescope. For many, seeing a planet in our solar system is a first, especially with the 'wow' factor of seeing it in such an iconic place such as Alcatraz. Furthermore, light pollution can be used as a great interpretive opportunity to start the conversation with visitors about dark sky conservation and the different ways light pollution affects people, the animal kingdom, and our pockets!

Crowds are the final obstacle. The Alcatraz Night Tour hosts over 600 visitors a night. That can mean a very long line to look through our single telescope or moon binoculars! Training volunteers and interns on how to keep your crowds interested in astronomy while the visitors wait in line can be a great help for crowd control, safety, and ultimately education. Volunteers and interns allow the amateur astronomer to focus on the equipment, while providing great views of the visible planets and moon.

Conclusion

Nightsky programming presents some unique opportunities for cultural, historical, astronomical and scientific connections to your audiences. Assess the challenges at your site and turn these into a new kind of programming opportunity. You will be extending service to your current audience, drawing in new audiences, and even creating new revenue.

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