

What will I get out of this?

Visitor/manager conflict will continue to rise as competition for resources becomes more intense. This poster will explore ways to mitigate these conflicts.

Abstract

Park managers must understand visitor attitudes toward various managerial actions to successfully conserve and protect the resource and the visitor experience. The purpose of this study was to investigate the relationship between horseback riders' level of support for various management actions based on attitudes towards social and resource conditions at Ozark National Scenic Riverways (OZAR). This poster will shed light on the relationship of equestrian recreation users' perceptions of management scenarios and the predicted conflicts between managers and said recreationists while utilizing the Potential for Conflict Index. It is hypothesized that as the level of conflict between users and potential management scenarios increases, the satisfaction at OZAR will decrease if said management scenario is enacted. The trails see use levels as high as 3,000 horseback riders during week-long trail rides (during high-use times in October), thus, the impacts may need to be mitigated regardless of user satisfaction.

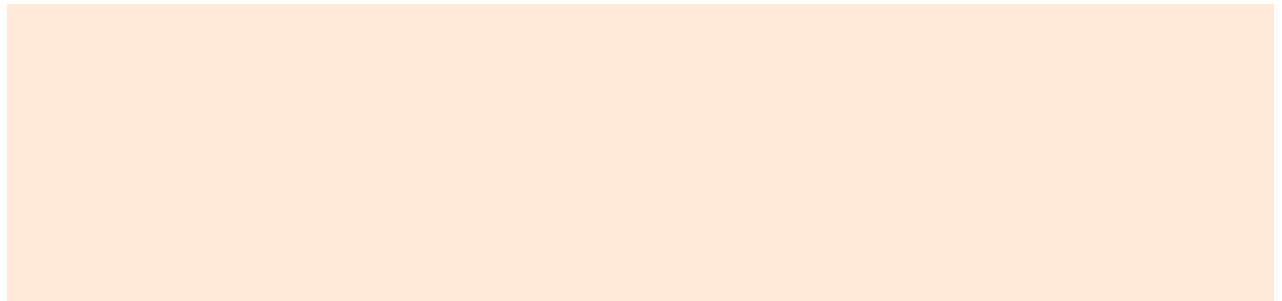
Keywords

potential conflict index

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The Cultural Resource Stewardship Assessment in the National Capital Region of the National Park Service

What will I get out of this?

Conference participants will learn about the piloting of a new initiative of the NPS that will help park managers to establish new resource management priorities.

Abstract

In response to the National Park Service (NPS) Director’s memorandum calling for the development of a new Director’s Order D0-100, Resource Stewardship for the 21st Century, and in support of the NPS Call to Action and Cultural Resource Challenge, the NPS has launched a new Service-wide centennial initiative to assess the status of cultural resource baseline documentation, resource conditions, and overall program health. This effort, the Cultural Resources Stewardship Assessment (CRSA), is presently being piloted in two regions: the National Capitol Region (NCR) and the Mid-West Region. Within each region, individual parks form cultural resource teams to provide input from each program area. Regional staff also provide input to support the park’s CRSA review, leading to a report that will inform park management and help to establish future resource management priorities. The principal author of this poster, Christopher G. Allen-Shinn, is the CRSA Project Coordinator for the National Capital Region.

Keywords

Stewardship, Resource, Management

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Learning while Doing: Cultural Resources Stewardship through Youth and Teacher Engagement

What will I get out of this?

This Depth Session will challenge our understanding of who “does” cultural resources management, and how “we” resource them, by examining successful youth and education programs.

Abstract

Stewarding, protecting, and documenting cultural resources is often the work of “professionals.” This depth session will explore case studies of programs that connect diverse high school students and teachers with cultural resources fields and professionals to engage not just in learning about, but in participating in cultural resources stewardship. This session will challenge our notion of who “does” cultural resources, and asks how “we” can resource, support, and develop this work to meet both community and resource needs. This session will examine several case studies across the National Park Service, including paid youth employment programs, and partnerships with education communities.

Keywords

youth, education, outreach

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- Urban Archaeology Corps**
- Mather High School for Building Arts & Craftsmanship**
- Branching Out Youth Program**
- ArchaeoBlitz**
- Evergreen Cemetery Preservation**

Connecting with Conservation: Youth Urban Archaeology Corps Participants Share their Stories

What will I get out of this?

Instead of talking at youth, this program will create a space for conference participants to listen to them.

Abstract

As cultural resources professionals, teachers, professors, and mentors, we often fall into the trap of talking at young people. This FastTrack will turn this dynamic over, creating a space for the youth to talk to us, and share their experiences as archaeologists and cultural resources stewards through the Richmond National Battlefield Park Urban Archaeology Corps Program. These four participants were part of an 8-week program (for three of the students, for the second time in two years) in 2016, where they conducted archival, archaeological, and oral history research into a community of color within the park boundary. Youth participants will discuss what they learned during the program, what archaeology and cultural resources stewardship means to them, and how participating in a paid youth program to conduct historical and archaeological research has shaped their lives and thinking.

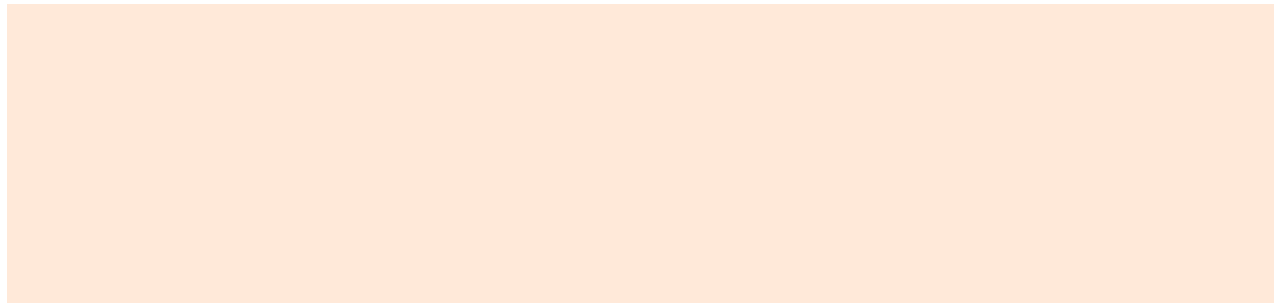
Keywords

youth, archaeology, outreach

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Urban Archaeology Corps
Urban Archaeology Corps
Urban Archaeology Corps
Urban Archaeology Corps

What will I get out of this?

This poster will present a model for engaging urban youth to conduct archaeological research through a Nationwide partnership program model called the Urban Archaeology Corps.

Abstract

This poster will evaluate goals, objectives, and outcomes of five Urban Archaeology Corps programs across the National Park Service. The poster will present the benefits and challenges of the model, summarize successes during the 2016 field season, and outline opportunities for program model development in the future.

Keywords

youth, archaeology, outreach

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Integrating Coastal Climate Adaptation in National Parks: Part 2 of 2

What will I get out of this?

We provide updates on the latest projects and case studies of coastal climate adaptation for national parks integrating across natural resources, cultural resources and facilities.

Abstract

Faced with rising sea level and other climate change impacts to coastal parks, the National Park Service is moving forward with strategies and taking action in parks so that, as the climate changes and affects parks, we can continue to serve visitors and provide stewardship and protection of natural and cultural resources. This session will span updates on guidance to coastal national parks to sharing examples of scenario planning, vulnerability assessment and adaption in progress in parks. It will have examples from natural resources, cultural resources, facilities and integration across them.

Keywords

coastal, climate adaptation

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Scenario Planning to Adaptive Management: A Case Study from Saint Croix Island International Historic Site

Perspectives of place: Stakeholder sentiments about adaptation strategies for historic buildings at CALO

Piloting an Integrated Vulnerability Assessment at Colonial National Historical Park Across Key Resources and

Bringing Historical Perspectives on Climate into Current Adaptation Practices

Developing adaptation planning through detailed, asset-level vulnerability assessment in coastal parks

What will I get out of this?

Share highlights of the extensive research on ecosystem resilience undertaken in parks post-Hurricane Sandy.

Abstract

Following Hurricane Sandy, a broad range of research and monitoring focused on understanding coastal ecosystem resilience was undertaken in parks to help inform restoration and natural resource management, in preparing for future storms and sea level rise. This session shares results from those projects across a range of ecosystems and management questions, from a barrier island breach to urban ecosystems. The goal is to share both the science and park examples of applying the science to inform management decisions. This research directly benefits the management of each of the affected parks, and similarly can improve adaptation planning at other parks facing increased impacts of future storms due to sea level rise.

Keywords

Hurricane Sandy, resilience

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Hurricane Sandy's Silver-lining: Science-based Management for the Wilderness Breach at Fire Island NS

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Toward Understanding Resilience: Measuring and Modeling Hurricane Sandy Impacts and Recovery at Fire Island

Post-Sandy Research Projects to Understand and Manage Social-Ecological Resilience in Jamaica Bay, NY

Lessons learned and generalities from looking across a range of coastal marshes

Tracking Change and Recovery: Metrics of Resilience

Integrating Coastal Climate Adaptation in National Parks: Part 1 of 2

What will I get out of this?

We provide updates on the latest projects and case studies of coastal climate adaptation for national parks integrating across natural resources, cultural resources and facilities.

Abstract

Faced with rising sea level and other climate change impacts to coastal parks, the National Park Service is moving forward with strategies and taking action in parks so that, as the climate changes and affects parks, we can continue to serve visitors and provide stewardship and protection of natural and cultural resources. This session will span updates on guidance to coastal national parks to sharing examples of scenario planning, vulnerability assessment and adaption in progress in parks. It will have examples from natural resources, cultural resources, facilities and integration across them.

Keywords

climate adaptation, coastal

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Sharing NPS guidance, strategies and examples through the Coastal Adaptation Strategies Handbook

Climate Change Adaptation Strategies: Case Studies from Coastal National Parks

Lessons Learned: Evaluating the Effectiveness of Cultural Resource Management Actions

Sea level rise by the numbers

Bringing Back Lost Coastal Habitats for Climate Adaptation

What will I get out of this?

Attendees will gain greater appreciation for the 1868 Treaty of Fort Laramie, and tribal nations/NPS engagement in collaborative planning to commemorate this nationally significant event.

Abstract

This poster illustrates the historical perspective of Treaty Council proceedings at Fort Laramie in 1868, language of the treaty, 'signatures' of the principals, and the aftermath for indigenous lifeways. It also details the collaborative planning process occurring between the Great Plains tribes and the NPS to appropriately commemorate the nationally significant 1868 Treaty of Fort Laramie—the genesis of the reservation system, which has impacted tribal life across the country. American Indian nations—having survived colonization, assimilation, and cultural genocide—are seizing this opportunity to discuss the importance of recognizing, understanding, and celebrating indigenous cultures thriving in the 21st century. This process will result in appropriate commemoration events at and around Fort Laramie National Historic Site and, ultimately, interpretation of the complete story of the Great Plains Indian nations at this crossroads of the West.

Keywords

treaty, indigenous, commemoration

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What will I get out of this?

Participants will learn about the typology of a national forest user in the southeast, and three data collection techniques, a map, questionnaire, photos and interviews

Abstract

This study examined the public perception of the harvesting over a three-year period with the aim of aiding biodiversity. The study site was the Nantahala National Forest, specifically the Fontana area.. Data was collected from two sources: The first were visitors in many different areas of the National Forest, and they were gives a series of three surveys (map and list of activities, questionnaire, and photos of harvests to respond to. The second data source was in-depth interviews with local forest harvesters in an effort to examine harvesting in small patches from their perspective. Results indicate a higher proportion of local users, and a perception of harvesting that is mutable with information about aim. On the other side the greatest barrier for small selective harvesting are the harvesters themselves, many unsure of the effectiveness of this small patch cutting on their business.

Keywords

Forests, public perception

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Natural Sounds Advisory Group organizational meeting

What will I get out of this?

The IUCN Natural Sounds Advisory Group business meeting will build on momentum gained at the 2016 World Conservation Congress, co-create objectives, and identify new leadership.

Abstract

The IUCN Natural Sounds Advisory Group (NSAG), whose mission is to understand and regulate noise as it affects protected areas, and nature and natural soundscapes more generally, was established in 2012 in part by the Natural Sounds and Night Skies Division of NPS, but was never fully populated or operationalized. Since then, rapidly accumulating evidence recommends managing anthropogenic noise to reduce impacts to wildlife, outdoor recreational experience, and human health. The business meeting will provide an update on the state of the soundscape protection within IUCN and build on the momentum gained at the 2016 IUCN World Conservation Congress to co-create draft objectives and action items intended to functionally and realistically elevate its international importance, as well as identify individuals who will take an active role in the next four years and beyond. We invite researchers, practitioners, and spatial planners interested in the noise regulation and soundscape planning to join.

Keywords

soundscapes, noise pollution

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Making a global connection to cultural landscapes

What will I get out of this?

Learn and share international trends in international cultural landscape practice an approach suited to incorporate dynamic processes as well as natural and cultural values.

Abstract

The session will update participants on the innovative US/ ICOMOS Cultural Landscape Knowledge Exchange, a partnership between US/ICOMOS, academia and the National Park Service (NPS) to connect heritage practitioners, particularly in the United States, with the best ideas from around the globe in this dynamic field. Presentations will cover the mission of US/ICOMOS including opportunities for international internships and professional development. An overview of the elements of the Knowledge Exchange, the connections to the cultural landscape work in the NPS, as well as ways to share the best of international research, scholarship, and case studies. Topics will include challenging issues such as the evaluation and management of change in both designed and vernacular landscapes. Participants will also be invited join the newly revitalized US National Committee on Cultural Landscape to both share ideas and to stay connected into the future.

Keywords

Cultural Landscape, International

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WASO Program Manager Park Cultural Landscapes Program

Executive Director, US ICOMOS

Associate Adjunct Professor University of Vermont

Indigenous Cultural Landscapes: From Concept to Research, Results, Rewards, and the Future

What will I get out of this?

Since the concept's 2010 introduction, research on the Indigenous Cultural Landscape has resulted in increased indigenous involvement, intriguing findings, and expanded perspectives. What comes next?

Abstract

The Indigenous Cultural Landscape concept provides a Native perspective on landscapes that contain the natural and cultural relationships that could have supported an indigenous community prior to non-Native contact. First introduced at GWS 2011 from the National Park Service Chesapeake Bay office, this idea has led to research in identification, shared priority modelling, and mapping in the Chesapeake Bay tidal watershed, inspiring opportunities for collaboration, public interpretation, and resource management. This update session aspires to provide an overview of the research history, methodology and results, which include increased indigenous involvement and renewed connections to ancestral places; growing interest from other areas in adapting similar research methodology to their own regional geology and indigenous perspectives; and potentially new theories in pre-Colonial history and archaeological interpretation. Our goals with this panel are to explore new potential uses for this concept and discuss the challenges of its future use.

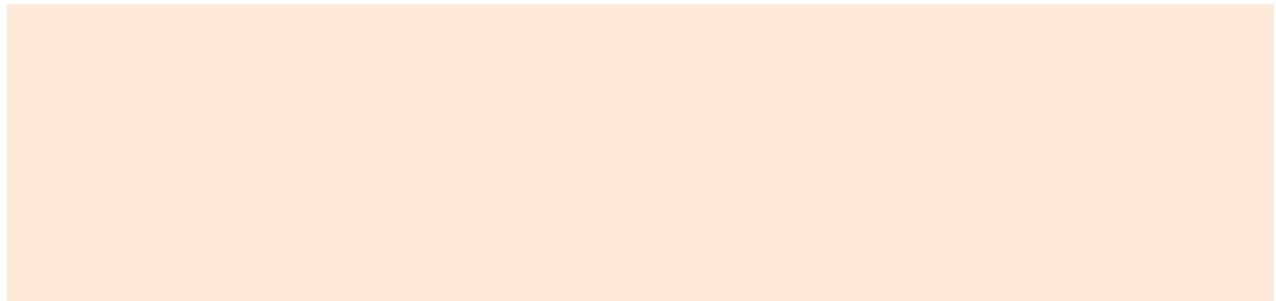
Keywords

indigenous, cultural, landscapes

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Progress of the Indigenous Cultural Landscape in the Chesapeake Bay: 2010-2016

Chesapeake Bay Priorities Research and the Rappahannock River Indigenous Cultural Landscape

Tribal Cultural Landscapes and Studies in the Western United States

Challenges at the Intersection of Indigenous Landscape Perspectives and Established Preservation Practices

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What will I get out of this?

Abstract

In 2016 the author taught a fourth year course on parks and parks policy as a specialized follow-up to a course on Canadian cultural policy. She introduced students to the history of parks in Canada, the U.S. and other countries, and to topics including Indigenous co-management, parks funding trends and the marketing of parks to recent immigrants. The course featured field trips to three parks that are part of municipal, provincial, and federal parks systems, all within a short distance from the downtown Vancouver campus of SFU. In this paper the author assesses her experiment in experiential learning and its relationship to the more conventional aspects of the course. In particular, she focuses on how she and the students responded to, integrated and will carry forward the unanticipated outcomes of their encounters with parks, parks interpreters and managers.

Keywords

pedagogy, parks, policy

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Communicating the Impact of Climate Change: A Partnership for the National Capital Region

What will I get out of this?

Audience members of this presentation will learn about creative ways to communicate about climate change impacts and apply it to their own work.

Abstract

This presentation will provide an overview of the challenges that parks in the United States are facing due to climate change and discuss current NPS standards for communicating the complexities of climate change. This presentation will highlight an internship program that was developed between NPS' Urban Ecology Research Learning Alliance and George Mason University's Center for Climate Change Communication in 2012 in order to help the National Capital Region communicate with their visitors about impacts on natural, cultural, recreational, and historical resources. Undergraduates and graduate students from various disciplines (natural sciences, social sciences, graphic design, and film) develop communication materials discussing the impacts of climate change in their particular assigned park through numerous outlets, such as ranger briefs, guidebooks, social media, web pages, and videos. This presentation will highlight created materials from the past four years and discuss the process of development for interns and parks.

Keywords

Climate change; communication

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The Science and Politics of Restoring the Black Bear in Big South Fork NRRRA

What will I get out of this?

Wildlife restoration involves the science and techniques for restoring wildlife but a successful effort includes working with the public, other agencies and politicians.

Abstract

A bear research project that began in 1997 at the Big South Fork National River and Recreation Area has led to the successful establishment of a black bear population on the Cumberland Plateau of Tennessee and Kentucky. In 2014, the population estimate was 300. The opportunity for visitors to experience a bear sighting and the responsibility of the park to protect visitors and the bears has increased. Proactive bear education; increased coordination with state game departments around the park; installation of wildlife proof trash, recycling and food storage containers; food storage enforcement ; and aversive conditioning of bears has resulted in no bear incidents in the park. Hunting seasons have been established around the park in both Kentucky and Tennessee and to date 81 bears have been legally harvested. Wildlife restoration is more complex than just the science of wildlife biology, it also includes challenging public and political issues.

Keywords

Bear, Restoration, Management

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What will I get out of this?

What makes for a great internship? Come learn about and discuss elements that set interns up for positive experiences.

Abstract

A great many careers are rooted in successful internships. In a time where recruiting young, diverse, motivated students and recent graduates is critical to the future of conservation and preservation organizations, how do you develop internships that help interns grow and produce real work products? Come learn about the elements of being a successful intern host and discuss your experiences with interns and internships. This session will also introduce attendees to ways the NPS is using hiring authorities to retain talented interns.

Keywords

youth, internships

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NPS National Internship Programs

What will I get out of this?

Audience members will learn about the NPS national internship programs, which provide paid work experience to hundreds of college and graduate students each year.

Abstract

This poster will summarize the national internship programs organized by the NPS Washington office. The NPS Youth Programs Division collaborates with the Cultural Resources, Partnerships, and Science and the Natural Resources, Stewardship, and Science directorates to administer several internship programs aimed at introducing diverse undergraduate and graduate students to career fields in the NPS. Learn about how these internship programs work; how they're funded, the types of intern projects, program partnerships, and how parks and programs can become involved.

Keywords

internships, youth, partnerships

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Maintaining ancient forests for viable ecosystems in public places to protect endangered species

What will I get out of this?

Participants will gain a clear understanding of proven methods of maintaining and preserving valuable heritage and wildlife trees across the landscape.

Abstract

Trees throughout North America are host to resident and migratory species depending on elevation and location within a watershed and forest type. Vertical standing structure is required for 33-46% of these species to maintain good habitat, nesting and foraging as well as safety trees for species that have no care for boundaries. Horizontal structure, (downed woody debris,) maintains more life than green trees and logs and transfers nutrients to many stages of the ecosystem. Soils enriched by these decaying trees are the placenta of any ecosystem. This lecture will demonstrate examples of modifying trees from hazards to safe structures to maintain these biodiversity components. With climate change and the rate of extinction it is critical that we maintain safe vertical structures in national parks by trimming hazards to a safe height for personnel as well as visitors to national parks and neighboring lands.

Keywords

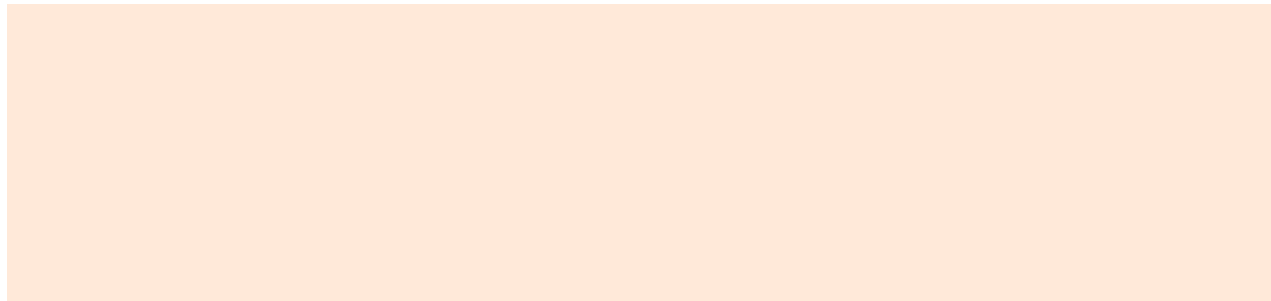
Trees, ecosystem, endangered

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Visitor use management: Innovative approaches that inform management solutions

What will I get out of this?

Audience members will leave this organized session with understanding the innovative approaches being used to confront complex management challenges and inform contemporary management solutions.

Abstract

Planning for, managing, and monitoring visitor use in national parks and other protected areas has long captured the attention of managers and researchers. To effectively manage visitor use in protected areas, information is needed about visitors, such as their temporal-spatial distributions of use, activities, perceptions, and their impact on park resources and experiences. The approaches to gather such information has become increasingly complex, including geo-spatial modeling, visitor simulation modeling, GPS visitor tracking (including cell phone technologies), geo-referenced interviews, web-cams, remote sensing, time-lapsed and motion-activated photography, and social media. Such approaches have provided park managers with novel information leading to innovative solutions to visitor use issues. The presenters in this organized session will highlight many of these approaches and explain how evolving methods translate into clear and measureable management actions.

Keywords

visitor use, monitoring

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Mapping the relationships between trail conditions and experiential elements of long-distance hiking

Exploring new methods and technologies in trail use and impact monitoring for protected areas

Re-Evaluating Carrying Capacity and Visitor Use Management at Waterfall-Based Parks in Tennessee

Monitoring multiple visitor use indicators in diverse recreation settings in the White Mountains National Forest

Implications of webcam viewing for brown bear management at Katmai National Park and Preserve

What will I get out of this?

Biodiversity informatics systems are increasingly critical to managing protected areas on a changing planet, this paper offers a vision for implementation of an NPS-wide system.

Abstract

The Public Lands Flora (<http://symbiota.org/nps>) is a case-study for how to develop biodiversity informatics systems across disciplines to benefit land management in protected areas. The Public Lands Flora links checklist management and occurrence data with identification and analysis tools. The system draws on the NSF-funded open source content management system Symbiota and accesses millions of plant specimens housed in natural history collections. Symbiota is a platform for documenting biodiversity occurrences with a wide range of tools to share, visualize, and synthesize biodiversity data for research and management. Symbiota is a collaborative open-source software framework bringing together biodiversity informaticians and the collection research communities. With more than 30 portals, the Symbiota system access over a hundred million records across all taxa and offers a roadmap for a multi-phyla biodiversity information management system for protected areas globally.

Keywords

Biodiversity, informatics

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Drowning in Controversy: How managing submerged lands promises to be messy, complex, and increasingly important

What will I get out of this?

Participants will leave informed as to the outcome of recent controversies, including Supreme Court decisions, governing access and use of inter tidal and submerged lands

Abstract

The National Park Service (NPS) is one of several entities responsible for managing natural resources in coastal areas. However, the challenges faced by NPS managers are not unique. This forum outlines key topics associated with managing inter tidal and submerged lands. Antiquated legal statutes, changing water levels, and the fluid nature of park boundaries adjacent to water resources converge to make managing inter tidal and submerged resources, regardless of jurisdiction, particularly controversial. Speakers will frame the conversation using real world examples after which the moderator will host a conversation with attendees turned participants to discuss what works and what doesn't when managing public lands along the our nation's coasts, Great Lakes, and inland waters. Presenters are a combination of NPS managers with daily responsibility for managing submerged lands and inter tidal resources and professors from Norte Dame Law School who follow agency actions as they wind through our federal courts.

Keywords

Submerged lands, controversy

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Professor of Law

Bat Associations of Grand Teton National Park: Where Bats Fly

What will I get out of this?

Viewers will learn how bat species and their relative activity are influenced by environmental variables and the built environment in a high elevation mountainous environment.

Abstract

With recent rabies concern from bat-human contact in park housing and the march of the devastating White-nose Syndrome ever closer to Grand Teton National Park, we recently launched a research program to understand better the ecology of park bats.

Bat presence and activity may depend on many variables including habitat, weather, prey availability, proximity to roosts and water, time of day and season, reproductive status, and more generally, the geographic range of individual species. This poster will describe species occurrence and nighttime activity evaluated in the context of environmental variables and the build environment.

Nighttime activity of bats in Grand Teton was documented using acoustic detectors. Bat echolocation

Keywords

bats, echolocation, parks

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Session organizer

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Hunter J. Cole, Middlebury College

Dave Gustine, Grand Teton National Park

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A Framework for Visitor Use Management on Federal Lands and Waters

What will I get out of this?

This session introduces the newly released IVUMC Visitor Use Management Framework, and will discuss framework application by the agencies involved in the council.

Abstract

The Visitor Use Management (VUM) Framework, Edition One provides a flexible process for managing visitor use on federally managed lands and waters that can be incorporated into agency planning and decision-making processes. Visitor use management is fundamental for maximizing benefits to visitors while achieving and maintaining desired conditions on federal lands and waters. The VUM Framework can aid managers in collaboratively developing strategies for providing access, connecting visitors to key visitor experiences, protecting resources, and managing visitor use. The framework builds on lessons learned from previous approaches (e.g., Limits of Acceptable Change and the Visitor Experience and Resource Protection Framework) and will be shared by the six council agencies. The session will provide an overview of the recently released VUM Framework as well as discuss its utility for agency managers and researchers. This session will include case studies to illustrate how the framework is already being applied.

Keywords

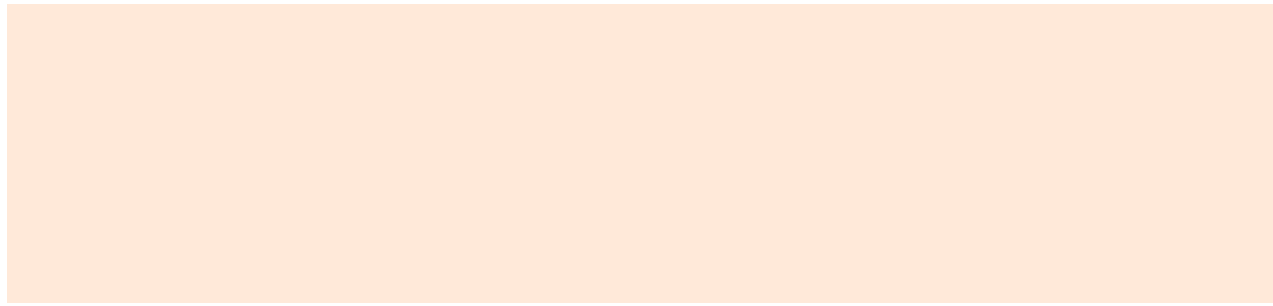
visitor use management

Lead author /
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authors / organizers



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introducing the Visitor Use Management Framework from the Interagency Visitor Use Management Council

Applying the VUM Framework at Zion NP

Applying the VUM Framework to re-envision visitor use at Glacier Bay NP&P

Application of VUM on the Pike National Forest

Applying the VUM Framework to address camping on the Bridger-Teton National Forest

What will I get out of this?

Demonstrate ways Landscape Conservation Cooperatives have supported parks and protected areas to implement the large landscape and longer timeline management needs identified in "Revisiting Leopold".

Abstract

As part of implementing "Revisiting Leopold" and Policy Memo 16-01 "Resource Stewardship for the 21st Century", the NPS has become a key partner within the Landscape Conservation Cooperatives (LCCs), a conservation network established to develop landscape-level strategies for understanding and responding to climate change impacts, and to help managers sustain the continent's natural and cultural resources. The "Revisiting Leopold" report said "Confronted with continuous and dynamic change and the goal of preserving ecological integrity, NPS management strategies must be expanded to encompass a geographic scope beyond park boundaries to larger landscapes and to consider longer time horizons. To meet this charge, resource managers have to innovate and develop new ways to implement conservation. This session provides an introduction to LCCs and examples of the powerful benefits to parks that have embraced LCCs. Attendees will hear examples of large landscape conservation and learn the practical steps that brought them success.

Keywords

Landscape, conservation, adaptation

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Ben Thatcher

Implementing the South Atlantic Landscape Conservation Blueprint

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Envisioning and Developing a Southeast Conservation Adaptation Strategy

Partnering to Develop and Implement a Northwest Boreal Landscape Design

Landscape Conservation Design in the Pacific Northwest

Speakers discuss the emerging role of protected area managers in large landscape conservation.

Preventative Conservation at NPS Museum Resource Center

What will I get out of this?

Audiences will gain perspective of preventative conservation and how staff at the National Park Service Museum Resource Center applies methods to long term care.

Abstract

Proper preventative conservation for museum collections requires effective connections in order to sufficiently protect museum collections on an environmental level. All museum collection storage locations have particular environmental conditions which need to be controlled and monitored in order to maintain optimum preventive conservation standards. At the NPS Museum Resource Center (MRCE), one key objective of preventive conservation is to identify, monitor, document and mitigate agents of deterioration to provide a safe and stable environment for museum collections. Museum staff focuses on managing temperature, relative humidity, visible and ultraviolet light, dust, air pollution, and integrated pest management. Proper oversight and necessary action has proven to prevent potential disaster such as the recent mold outbreak at Harper’s Ferry which required an emergency collections move to MRCE. This poster will demonstrate how MRCE’s implementation of preventative conservation reinforces connections between MRCE staff at the collections storage facility over time.

Keywords

Conservation, Storage

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Lyndon Novotny - Materials Handler, NPS, MRCE

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Bats, White-nose Syndrome, and the Western Maryland Railroad Tunnels

What will I get out of this?

How a study of the rare bats living in the historic railroad tunnels of C&O Canal National Historic Park lead to unique habitat protection measures.

Abstract

Three abandoned railroad tunnels in Chesapeake & Ohio Canal National Historical Park host the largest number of hibernating bats in the state of Maryland. They're also home to 2 federally protected and 1 state endangered bat as well as several other bat species. But conflicts with visitor use and resource protection, as well as the spread of the fatal white nose syndrome (WNS) had park staff. A study of bat populations concluded that the three tunnels provide regionally important hibernation sites for at least five bat species, and that individuals that hibernate in the tunnels and emerge in spring have no obvious signs of white nose syndrome. To protect these bats and the tunnels (included on the National Register of Historic Places as contributing to a historic district), the park commissioned specially designed gates to allow bat passage while preventing park visitors from entering the hibernacula.

Keywords

bats, white-nose, WMRR

Lead author /
Session organizer

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authors / organizers

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Connections Across "Cultures:" National Park Service and Corporate Agriculture

What will I get out of this?

Audience members will come away understanding that "cultural" barriers, in this case federal land managers and corporate agriculture, do not need to prevent partnership success.

Abstract

"Cultural" barriers need not prevent partnership success. For the past decade, the NPS, State of Colorado, and EPA have been collaborating with Colorado agricultural to reduce excess atmospheric nitrogen deposition causing ecological impacts in Rocky Mountain National Park. Studies show that emissions from Colorado agricultural production are a significant contributor to the excess deposition in the park. This project has connected agencies with agriculture for an unconventional partnership to voluntarily reduce and improve management of emissions. Building the partnership required uncomfortable and repetitive exchanges as perspectives of the different "cultures" found ways to agree on a path forward that balances the cost and benefit to both industry and agencies. Obstacles have been overcome through relationships and mutual understanding achieved through regular exchanges, perseverance, and staying current with research and science communication. While greater park protection from this partnership is not certain, future success is significantly more likely than the past.

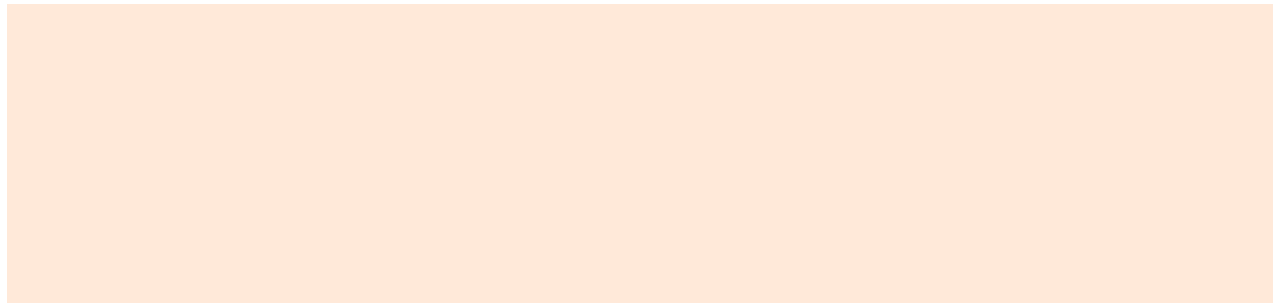
Keywords

cultures, agriculture, air quality

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Session organizer

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"To the memory of their fellow citizens": Preserving multi-scale battlefield landscapes through government-stakeholder collaboration

What will I get out of this?

Attendees will learn how the ABPP provides technical assistance, federal grants, historical advice, and other related services to communities and stakeholders with battlefield preservation objectives.

Abstract

With the first battlefield monument erected in 1799 (Revolutionary Monument, Lexington, Massachusetts) and the first attempts at battlefield preservation initiated in the 1820s (The Bunker Hill Monument Association, 1825), American battlefield memorialization and preservation is as old as the nation itself. However, in contrast to the largely triumphalist monuments of the nation's early decades, current study, commemorative, and preservation practices center on battlefields as common ground which facilitate community heritage engagement and social healing. This poster will introduce the ABPP's place within the NPS; present ABPP battlefield preservation techniques; and demonstrate how the ABPP provides grant support, technical assistance, and historical advice for a diverse range of government organizations and NGOs seeking to better understand, preserve, and interpret our nation's battlefields. Best practice case studies will exhibit recent collaborations including projects involving indigenous sites and peoples, battlefield boundary and content studies, Section 106 compliance, and land acquisition battlefield preservation initiatives.

Keywords

Preservation, Battlefields, Cultural

Lead author /
Session organizer

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The National Park Service's American Battlefield Protection Program and Success Stories at Indigenous Sites

What will I get out of this?

The public learns how a small federal program can provide technical assistance, grants, and other benefits for communities' battlefield preservation needs.

Abstract

The ABPP submits a proposal for an exhibit for the 2017 George Wright Society Conference. Surrounding an image of the National Park Service arrowhead will be photos of battlefields, archeology work, and public activities related to battlefield preservation. The purpose of the exhibit will be to provide an overview of the ABPP program, an explanation of how it fits within the NPS, and how it can help communities. Examples will be displayed focusing on work at indigenous sites (Wood Lake, Honey Springs) or related to indigenous people (Pequot, Pyramid Lake). It will also explain our battlefield preservation techniques, recent best practices and success stories, and opportunities for federal grant money. We will provide handouts and other information to be placed on the table.

Keywords

Preservation, Cultural, Battlefields

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Session organizer

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Utilizing NASA Earth Observations to Enhance Decision Making for the National Park Service

What will I get out of this?

Collaboration between NASA and park managers to foster use of Earth observations while providing unique capacity building opportunities for the future natural resource management workforce.

Abstract

Ecosystem change poses significant risk and cost to the National Park Service (NPS) mission to preserve and educate. To address environmental challenges, the NPS has partnered with the National DEVELOP National Program to leverage NASA’s suite of Earth Observing satellites, characterizing the extent, timing, and determinants of natural and human stressors on our national parks. Under NASA’s Earth Science Division, DEVELOP’s mission is to build the capacity of both participants and project partners to apply Earth observations in their decision making. This session will showcase several projects that DEVELOP participants have completed over the past year, with a focus on partners’ increased awareness of NASA Earth Observing information products and participants’ exposure to NPS decision makers.

Keywords

NASA, decision-making, collaboration

Lead author /
Session organizer

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Reconstructing Algal Productivity and Clarity of Alpine Lakes in Rocky Mountain National Park

Assessing Snow Cover Distribution and Persistence Changes in the Sky Islands of Saguaro National Park

Monitoring Invasives in Big Bend National Park, Valles Caldera National Preserve, and Bandelier National Monument

Monitoring Mangrove Health and Extent in Everglades National Park

What will I get out of this?

Audience members will gain a more nuanced understanding of conflict, out-reach programs, and constituency building between protected spaces and adjacent communities in South Africa.

Abstract

The Kruger to Canyons Biosphere in South Africa includes national, provincial, and private protected areas (PAs), as well as mining operations and over 1.5 million people living in relatively high-density communities. Given the history of removal and exclusion of local black populations from PAs, relationships between them are often fraught with tension. Increased rhinoceros poaching in the region further hardens management borders and is damaging to relationships across them. The primary means of accruing benefits and relationship building across management borders are employment in the eco-tourism sector and any kind of out-reach program established by the parks and reserves. This paper will provide a more nuanced understanding of how relationships across management borders between PAs and communities have been affected by the “war on poaching”, and also what constituency building programs are most effective at reducing conflict, addressing development goals, and fostering conservation support within communities.

Keywords

Constituency building, conflict

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Environmental Literacy: Who will frame it?

What will I get out of this?

Provides definitions of Environmental Education/Environmental Literacy

Abstract

A movement exists to bring the importance of environmental education (EE) to the forefront of leaders worldwide. Richard Louv, who, in 2005, published his book Last Child in the Woods, spearheaded this, pointing to the growing trend of lives focused indoors as Nature Deficit Disorder (NDD). With educational systems evolving in an increasingly virtual pathway (Hooper and Sandborn, 2001), the responsibility for educating the public about the environment now falls on the shoulders of Parks and Recreation Professionals. In addition, research shows that environmental education instills a love for the natural world while encouraging stewardship and conservation (Louv, 2005). The purpose of this poster is to develop a better understanding among parks and recreation professionals of Environmental Literacy (EL) as it relates to the future of public lands; provide resources for EE program development; and promote a call to action for the North American Association for Environmental Education (NAAEE).

Keywords

Environment, Parks, Lands

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authors / organizers

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What will I get out of this?

Presenters will challenge the traditional planning and research paradigms to meet emergent and evolving visitor use management needs in the context of the NPS mission.

Abstract

The National Park Service mission, "...to preserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations", is at the heart of all actions within the agency. As such, it is imperative that all NPS transportation plans, projects, and operations strive to support the enjoyment of visitors. Transportation has the potential to substantially influence visitors' experiences while visiting NPS units. Transportation within the National Park Service is about more than moving people and goods from an origin to a destination. Rather, transportation in the National Park Service facilitates visits to unique destinations by providing the public with both access to and mobility within the nation's natural gems and cultural treasures. Therefore, the goal of this presentation is to challenge participants to think creatively about how visitor experience contributes to transportation planning in the NPS.

Keywords

Transportation, Visitor Experience

Lead author /
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NPS Visitor Experience and Transportation initiatives

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Applying best practices in transportation planning to the NPS context

Visitor use management as a framework to address transportation and resource management challenges, Arapaho-

Simulation modeling to estimate integrated transportation and visitor experience capacities, Cadillac Mountain, Acadia

A stated choice approach to Grand Teton National Park Visitors' Transportation Preferences

Planning for resource protection and visitor use in Brazilian national parks

What will I get out of this?

The USFS and NPS collaboration in Brazil provides a novel approach to efficiently and strategically plan for the future protection and use of conservation areas.

Abstract

The US Forest Service (USFS) invited the US National Park Service (NPS) to assist with recent efforts for general management planning for the conservation system of Brazil, managed by the Instituto Chico Mendes de Conservacao da Biodiversidade (ICMBio). ICMBio identified the NPS planning process to develop “foundation documents” as an excellent starting point for building new management plans and adapting to the Brazilian legal framework in order to meet the needs of federal conservation units. Over the course of the past two years, NPS has assisted the USFS with several organizational and teaching workshops and two pilot projects to apply this new approach to general management planning in two very distinct Brazilian conservation units- Sao Joaquim National Park and Soure Marine Extractive Reserve. Lessons were learned that can be applied to general management planning for land management in the United States and globally.

Keywords

international, conservation, planning

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Session organizer

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Setting the context: Federal land management in Brazil

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Fulfilling the legal requirements of Brazilian conservation unit general management planning

Developing approaches for public use in Brazilian conservation units

Lessons learned from the Brazilian approach to the general management planning process

Putting Culture First: Unpacking Toolkits for Large Landscape Preservation

What will I get out of this?

Participants evaluate large landscape approaches that bound culture, history and community, identify individual takeaways, and a collective charge for advancing cultural preservation at varied scales.

Abstract

What does the “whole ecosystem” approach to landscape conservation look like from the vantage of cultural values? This panel explores large landscape preservation through the lens of human ecology and examines the tools, metrics and relationships that protect and revitalize communities. Case studies feature predictive modeling for identifying indigenous cultural landscapes, story-telling to define and activate landscapes of healing, collaborative stewardship of scenic values, aligning urban organizations around the preservation and use of public spaces, and tools for defining battlefields through community engagement in technology. After lightning presentations by our five panelists, a facilitated discussion among participants will probe strategies that place communities at the center of collaborative conservation projects. Participants will identify tools that can inform their individual work environments, and share thoughts on collective actions to support “scaling up” cultural preservation.

Keywords

landscapes, heritage, engagement

Lead author /
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Christine Arato (will not be attending, but helped organize the session).

Jonathan Doherty, Assistant Superintendent, NPS Chesapeake Bay Office

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Uniting Communities across a Landscape of Divisive History in Freedom’s Frontier National Heritage Area

Engaging Partners in the Use of Visual Resources Assessment Tools to Preserve a Dynamic Landscape

Facilitating Mission Alignment around Regional Conservation among NGOs, Local Government and Conservation

Using Military Terrain Analysis to Support Community Stewardship and Protection of Battlefield Landscapes

What will I get out of this?

Visitors to the museum will learn that Native Nations are not dead restricted only to museums.

Abstract

From the time it opened to the public in 1926, the Yosemite Museum building has experienced many changes. While it started as a true museum housing specimens of flora, fauna and cultural artifacts it is now primarily office space with a small museum. Now, a visitor to the museum can interact with a cultural demonstrator to learn about traditional and contemporary life skills and carry on a conversation about traditional and contemporary native land management practices.

Keywords

Museum, American Indian

Lead author /
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Chanties for Change: The Combustion of Science and Art

What will I get out of this?

Find innovative ways to spread NPS messages and stay current in the global community. Creative platform development keeps our public engaged.

Abstract

Cabrillo National Monument looks to increase educational programming and understandings of natural and cultural significance for our communities (including Baja, Mexico). Pressing the challenge for new audiences to engage in our public lands, we call our rock star alter egos to get the messages across. To strengthen partnerships, CABR has several artistic programs which engage communities and raise scientific/cultural understandings and exposure to the public. We look for open dialogue and audience participation in this session, to assist in our collective strategy and bring together ideas in creative platform development for National Park Service goals. One way we can do so is through music..... and we are ready to perform! Come get creative with us and also enjoy some small tastes of San Diego.

Keywords

music, science, art

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Transmission of environment values: Who are the most influential sources and how effective are they?

What will I get out of this?

Data will be shared on the effectiveness of environmental values transmission from principal sources of influence and the most influential sources in the transmission process.

Abstract

The transmission of values has been well studied, however the transmission of environmental values has received relatively little attention. Given that values are a predictor of attitudes and behavior, it is important to understand from whom they come and to what degree they are transmitted. This presentation examines the consonance and dissonance of environmental values between young adults and their self-identified principal source of influence. It also considers the salience of a variety of sources. Young adults, ages 19 to 21, at Clemson University were solicited to take an online questionnaire. A similar online questionnaire was sent to their principal sources of influence. A total of 93 young adult-principal source of influence pairs provided usable data. The results of the study will be shared to help conservation decision makers understand the effectiveness of environmental values transmission from principal sources of influence and the most influential sources in the transmission process.

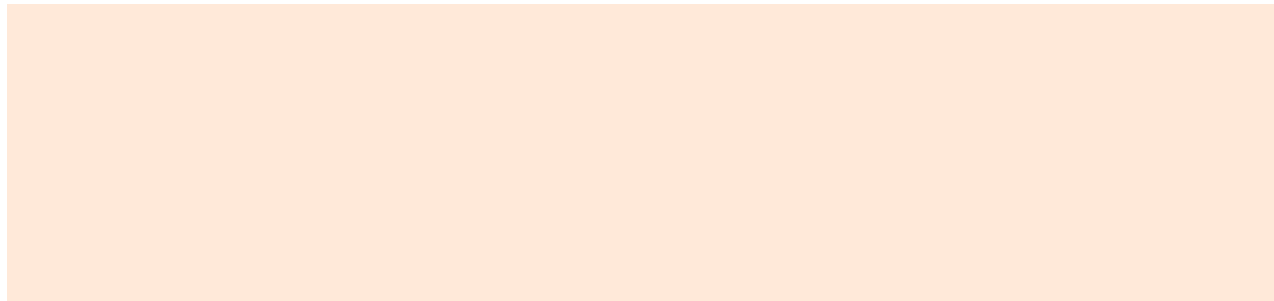
Keywords

values, transmission

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Connecting people, parks, and science: the Desert Research Learning Center

What will I get out of this?

We will present the Desert Research Learning Center in concert with our sister centers across the park system, and how they support the NPS mission.

Abstract

The Desert Research Learning Center supports science and public education for the 11 U.S. national parks in the Sonoran Desert. Located on Saguaro National Park, the center leads citizen science activities in natural and cultural resources, engages local youth from underserved populations in park science, and broadly supports scientific inquiry in the parks. Our approach is collaborative – we extensively partner with academic and non-profit organization, as well as other NPS programs, such as the Inventory and Monitoring Program, Urban Agenda, and Office of International Affairs. We will highlight our flagship education and citizen science programs, synthesize emerging research findings, and propose opportunities for potential collaboration with other parks and partners. Please join us and our sister NPS Research Learning Centers for a discussion of our unique roles in supporting the National Park Service mission.

Keywords

Research, learning, science

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Breakthroughs Bring Bison Restoration a Bit Closer

What will I get out of this?

Important developments in the biological and social science of bison, are both exciting to the public and bring ecological restoration of the species closer.

Abstract

Last year, an Act of Congress made bison the national mammal, and the International Union Conservation of Nature identified only two wild herds in the United States. Important scientific strides also were made in the ecological restoration of bison. 1) A population viability analysis conducted on the of 19 federal herds suggests how the fenced herds could be grouped to increase their effective size. 2) Genetic analysis demonstrates how herds can be monitored to determine when augmentation is necessary. 3) Techniques in embryo transfer showed how the herds with disease can still contribute to the bison gene pool. 4) Human dimensions studies showed how local communities can be directly involved in bison restoration. After the results of each bison study are presented, there will be a discussion of how they can be integrated to develop a full picture of wild bison restoration on several potential sites in the United States.

Keywords

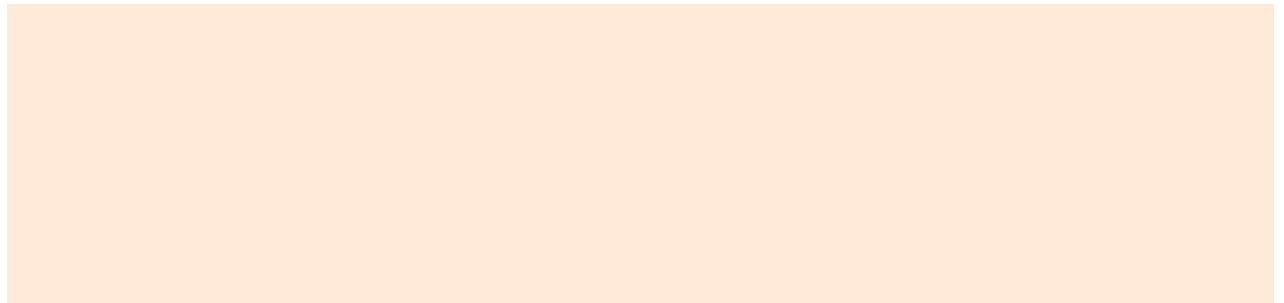
bison, restoration,

Lead author /
Session organizer

Peter Dratch Supervisory Biology, National Wildlife Refuge System

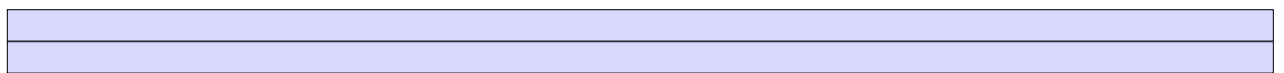
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Looking forward: using population viability analyses to inform science-based bison metapopulation management strategies

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American Icons in Metropolitan Grasslands: Bison Social Science Breakthroughs on Colorado's Front Range and Beyond



Transforming Interior Bison: From Livestock to Wildlife



Effective Intergenerational Approaches for Parks

What will I get out of this?

The audience (especially managers, organizations and Governments) will learn how to provide meaningful opportunities to young people, and how these opportunities will also benefit them.

Abstract

With growing recognition that young people bring valuable ideas, enthusiasm, and first-hand experiences connecting youth to parks, there has been increasing opportunities for them to be involved with the projects and processes of various park-related organizations and institutions. This session will share some of the options and challenges of providing intergenerational opportunities to Young Professionals, including the benefits of doing so. Tips will also be provided on the approaches that young people find most meaningful and engaging within these opportunities. Success stories of various organizations (such as the Canadian Committee for the International Union for the Conservation of Nature (IUCN) and the Global Youth Biodiversity Network) will be highlighted, as examples of ways that effective intergeneration decision-making processes have occurred.

Keywords

Youth, intergeneration, decision-making

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What will I get out of this?

Recent efforts to advance fishing management, wetlands restoration, water resource monitoring, and floodplain management in the face of climate change will be addressed.

Abstract

The Natural Resources Stewardship and Science Directorate provides water resource disciplinary expertise to park units across the Service. The Water Resources Division continues to provide high quality service to park units across the National Park System and has developed new initiatives to support park management needs. Opportunities to support identification of servicewide needs and collection of private company funds for wetlands restoration are in development. Fish and fishing management policy and strategies are evolving to clarify expectations and cooperation with stewardship partners. Water resource monitoring is improving through training opportunities, standardizing monitoring practices, and improved water discipline/inventory and monitoring capacity. Floodplain management and development oversight is improving for parks servicewide to include new climate change standards. Water resource management provides many challenges and opportunities; and the National Park Service is working to ensure we protect our aquatic resources through thoughtful cooperation with our partners over time.

Keywords

water

Lead author /
Session organizer

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Grand Canyon National Park and Neighboring Development: Stakeholder conflict and potential resolutions

What will I get out of this?

Two recent proposed tourist developments near Grand Canyon National Park have sharply divided key stakeholders. I examine these disputes while exploring broader park-wide implications.

Abstract

Grand Canyon National Park (GCNP) is one of the jewels of the National Park System. Yet it suffers from some of the same problems that affect all parks, particularly development of neighboring lands that potentially threatens park resources. Currently, two contentious tourism developments have been proposed at the edge of the GCNP: the Tusayan expansion near the South Rim entrance and the Escalade project on the Navajo Nation. This presentation examines the social and environmental conflicts raised by both projects via an analysis of the interests and interactions of key stakeholders. Focusing on identifying mutually beneficial courses of action, I explore potential resolutions to these complex land use conflicts. Although the Grand Canyon is in some respects a unique case, such conflicts are common to parks facing neighboring tourist development. The presentation will therefore offer a broader framework of conflict resolution applicable to other units of the National Park System.

Keywords

Grand Canyon, Development

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Managing for Wilderness: The potential of coordinated management across agencies rather than a balkanized approach

What will I get out of this?

Investigating what strategies are most effective for coordinating management of Wilderness across federal agencies.

Abstract

When the Wilderness Act was drafted in the 1950s and 1960s, the bill included establishing an overarching Wilderness Preservation Council to offer advice and provide information, however, the council was cut. In 2008 a committee formed to provide recommendations for monitoring wilderness character across the National Wilderness Preservation System (NWPS). However, system-wide implementation of these recommendations is still lacking and they do not address coordinated management for NWPS issues. This project examines whether a cross-agency council might be a more effective means of management across the NWPS; especially regarding non-native species, biodiversity, fire, climate change, recreation, and litigation facing the NWPS. If not, how can NWPS goals best be met within the current administrative system? Would a re-envisioned version of the Wilderness Preservation Council prove better at coordinating and steering NWPS management across all agencies in the face of these ecological, social, and political challenges?

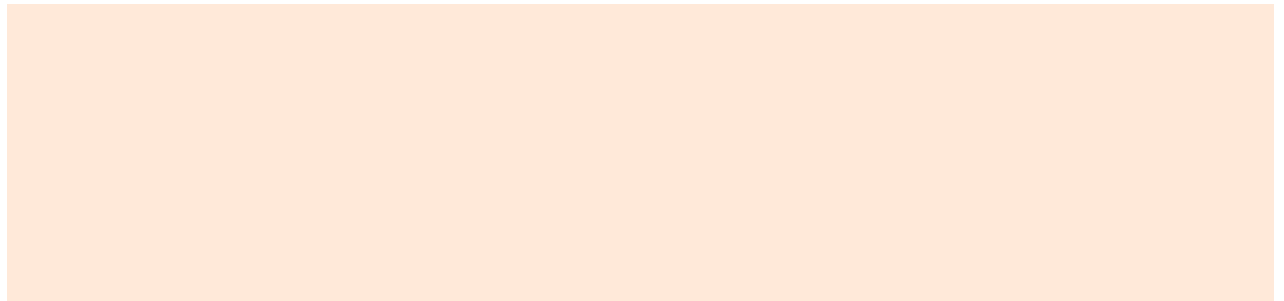
Keywords

wilderness, management, coordination

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Visitor-Use Management for Delaware Water Gap NRA's next 50 years: Next generation approaches and strategies

What will I get out of this?

This session is a case study at Delaware Water Gap NRA, updating the audience on next generation approaches and strategies for effective visitor-use management

Abstract

This session is an in-depth case study of visitor use management (VUM) planning at Delaware Water Gap National Recreation Area (DEWA), with a focus on parallel social science research efforts. Session presenters will take the audience on a tour of the planning process, from problem and issue identification, through data design and collection, as well as integration of VUM best practices and finally how all those elements were used to inform the process. Each presenter will share unique insights, providing direct value to park practitioners and academics alike. The session will offer 1) an overview of the VUM framework and its application, 2) an overview of issues, opportunities, and strategies from DEWA staff, and 3) voices from various disciplines describing design and analysis to support visitor use management planning. These topics include indicators and thresholds, monitoring impacts to park resources, and an extension of science contributions for achieving problem-based solutions.

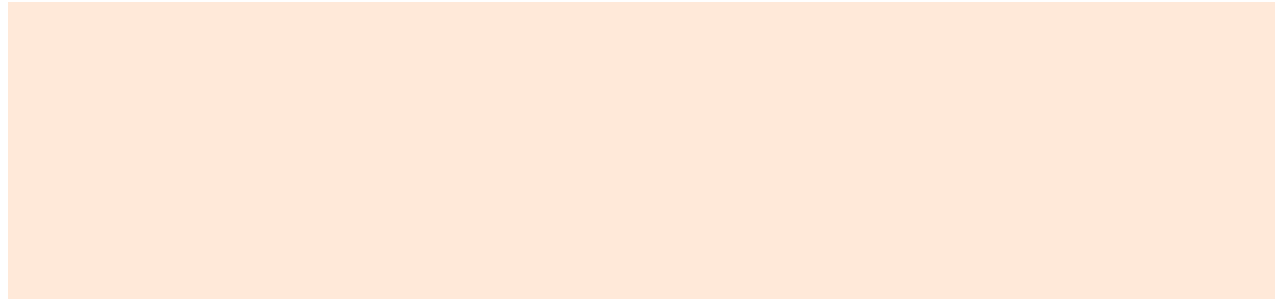
Keywords

Visitor-Use, Park Management

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Applying Visitor Use Management Planning at Delaware Water Gap National Recreation Area

Emerging visitor-use trends at Delaware Water Gap National Recreation Area

The new social scene: Social science for effective visitor-use planning at Delaware Water Gap NRA

Recreation Ecology and Visitor Use Management: A Delaware Water Gap National Recreation Area Case Study

An extension of social science contributions: Problem-based solutions for sustainable park management

What will I get out of this?

Climate change is happening and increasing the frequency and severity of natural disasters. By being informed we can prepare.

Abstract

How can we best prepare for climate change? The National Park Service is planning now for the future to best protect it's resources. What is predicted for National Park Service cultural resources and what type of planning is being done in response. We have also began to experience disasters with greater frequency and intensity. Is there a connection to climate change? How can we best prepare cultural resources for disasters? NCPTT developed Resilient Heritage booklet for the Louisiana Division of Historic Preservation with funding from the Louisiana Governor's Office of Homeland Security and Emergency Preparedness. The final presenter will discuss surveying and it's revolution over the last 10 years.

Keywords

climate change, disasters

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Preparing the National Parks for Climate Change

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Bigger and Badder Disasters

Resilient Heritage: Protecting Your Historic Home from Natural Disasters

Surveying to Prepare and Respond

What will I get out of this?

This session will enhance participants' understanding of the protected area-Indigenous peoples relationship and how it is taught at the undergraduate level in the United States.

Abstract

The relationship between protected areas and Indigenous peoples is a critical facet of contemporary park management. Sacred site management, traditional/subsistence use, artifact preservation, the incorporation of traditional (Indigenous) knowledge, culturally-appropriate interpretation, and opportunities for management partnerships are some of the ways in which Indigenous peoples and land management agencies may interact. But are American undergraduate programs in park management, heritage interpretation, and related fields preparing students for such work? To what extent do these programs teach students about co-management, relevant legislation, the impact of protected areas on Indigenous peoples, or the differences between Euro-American and Native American views on (and consequently, interactions with) nature? Using the National Association for Interpretation's database of undergraduate programs in interpretation, this session will explore these questions and discuss how universities can better prepare aspiring park rangers and managers to interact with Indigenous peoples.

Keywords

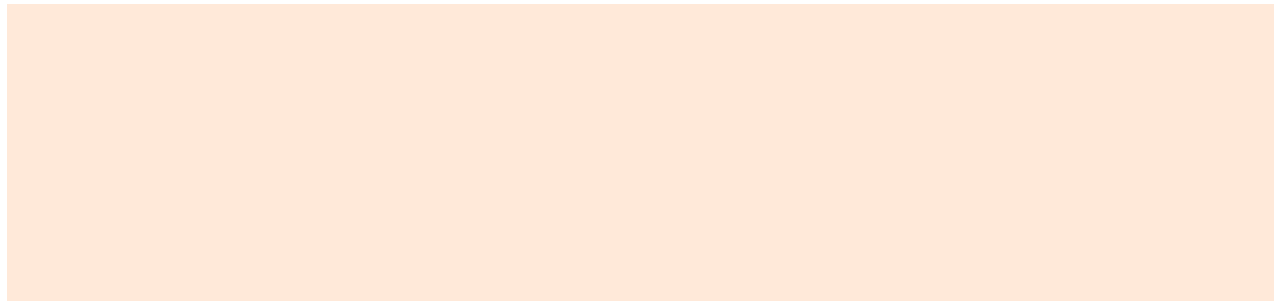
indigenous peoples, education

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Protected Areas: Laboratories of Settler-Indigenous Reconciliation

What will I get out of this?

I will highlight how parks can be conduits of settler-Indigenous reconciliation in North America and the importance of this work.

Abstract

How can parks foster settler-Indigenous reconciliation in North America? John Borrows, noted Anishinaabe lawyer, has argued that we need to learn to learn from one another in North America. Interpreters have an obvious role to play in this, by ensuring Indigenous heritage and perspectives are respectfully, accurately portrayed throughout their offerings. Alan Cairns, a leading non-Indigenous voice on reconciliation, has suggested that settlers must accept Indigenous people as being ‘citizens-plus’, with rights beyond settler-North Americans’. Parks have a role here, too; consider that many Parks Canada units offer free entry to Indigenous peoples. This poster will attempt to respond to the challenge of reconciliation with these and other tangible examples grounded in legal and political theory. It will also highlight that we are all treaty people, for renewing the settler-Indigenous relationship requires us all to act, even if we are not in Ottawa or Washington, D.C.

Keywords

Indigenous, interpretation, management

Lead author /
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What will I get out of this?

Denali park visitors were invited use the Map of Life app to record wildlife sightings. This paper examines the potential for tourists in citizen science.

Abstract

Most citizen science programs are geared toward volunteers who can attend training sessions, or commit to long-term involvement. To agree to these commitments, volunteers are often local residents or long-term/frequent visitors, who have the ability to make this type of time commitment. In National Parks, however, tourists also represent a large pool of potential volunteers. Tourists are typically eager to learn more about the park they are visiting, and if proven to collect quality data, tourists can produce successful educational and scientific outcomes for a citizen science program. This paper presents the educational and scientific outcomes of Map of Life- Denali, this tourist friendly citizen science project began in the 2016 and invites volunteers to use the Map of Life mobile application to record wildlife sightings in the park. Through examining the outcomes of Map of Life- Denali this paper illustrates the potential of tourists as citizen science volunteers.

Keywords

Citizen Science, Visitors

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What will I get out of this?

Speakers with diverse perspectives will explore creative solutions for sharing/restricting confidential information on natural and cultural resources.

Abstract

For decades, resource managers protected sensitive resource information by simply keeping it “under wraps.” However, the current information climate favors sharing, the footprint of development activities and the information demands of associated compliance regimes are growing, and everyone’s ability to find and share large quantities of information is on the dramatic increase. Challenges inherent in the “keep it all secret” strategy have become apparent. Resource stewards find themselves forced to weigh the risks of keeping secrets with those of sharing across disciplines; under-sharing may mean that resources are overlooked by planners and first responders while disclosing certain information, such as specific locations, can enable resource theft or damage. Panelists with expertise in the management of natural and cultural resources discuss how these tensions have affected resource management strategies. Participants in this session explore solutions for appropriate information sharing and resource protection, with special attention to climate change and incident response.

Keywords

data

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Archaeological Site Location and the Public Good: The DINAA Project

Open-ish”: Finding Balance between Site Data Protection and Accessibility at the State Level

Confidentiality: Who Decides?

To Share, or Not to Share? Perspectives from the field on Sharing Sensitive Information

A Tribal Historic Preservation Office Perspective on Sensitive Information

Water – Where did it Come From? Where is it Going? What is it Doing?

What will I get out of this?

A landscape-level overview, with supporting details chosen from experience and research, will offer a renewed appreciation of environmental complexities including cutting-edge findings from climate-change research.

Abstract

The source, the amount, and the method of arrival of water determine impact on the environment. Given the importance of water for all forms of life it is not surprising humans have long taken an interest in water quality, water sources, variation in supply. One of the earliest water studies conducted in the United States occurred in Boston, Massachusetts and was published in the very young American Academy of Arts and Sciences. Dr. Feron’s 1783 “Experiments on the Waters of Boston” was dedicated to understanding purity of water by source and the implications for medicine and industry. Currently, much of the research on water in the environment attempts to improve understanding of water's role in ecosystems and the changes anticipated due to climate change. Speakers will walk audience members from headwaters to coastlines drawing from their research and experience to highlight the role of water in sustaining and altering habitat.

Keywords

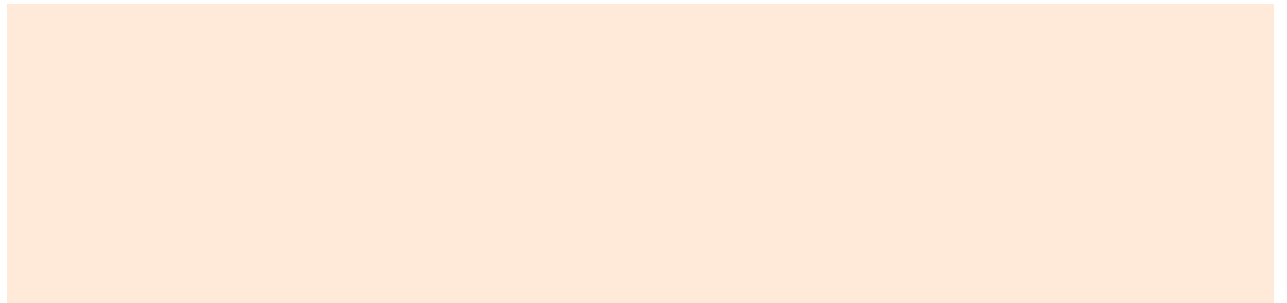
water, environment, climate-change

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Headwaters, Water in a Mountainous Park

Flowing Streams, Descriptions and Trends

Water at the Margins, Changing or Sustaining

Coastal Waters, Surging and Rising

Sea Levels Rise, Change.

Hazard Tree Management in the Pacific West Region

What will I get out of this?

Viewers of this poster will learn what is necessary to develop and implement a park hazard tree management plan.

Abstract

Hazard tree management within the National Park Service must be implemented consistently from park to park. With that in mind the Pacific West Region has developed a Regional Directive pertaining to hazard tree management. To date, only PWR has such a directive. Each park within the region that has developed such a plan has followed this directive and because of it, this management has made the operation of hazard tree management consistent between the parks in the region.

Keywords

Hazard Tree Management

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The State of Alaska's National Parks in a Rapidly Changing Arctic

What will I get out of this?

Invited Speaker/Panelist #6: Dave Payer. Climate change and subsistence harvest of wildlife in Alaska's Arctic parks and preserves.

Abstract

The Arctic is changing more rapidly than any other place on earth. Warming, increases in storm frequency and severity, permafrost thaw, and loss of sea ice all portend dramatic changes in Arctic ecosystems and biodiversity. These changes increase opportunities for resource development, commercial shipping, and tourism. The NPS manages nearly 20% of the U.S. landmass in the Arctic encapsulating over 21 million acres of tundra and boreal forest, and nearly 1,000 miles of coastline. Faced with unprecedented changes in park ecosystems, the NPS is actively engaged in efforts to document and forecast these changes, adapt its research and stewardship, respond to new opportunities for visitation, and increase resiliency through science and networking. This session will update attendees on the issues faced by the NPS in the Arctic through a series of presentations on park challenges, research and monitoring, and emerging opportunities.

Keywords

Arctic, climate, parks

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Landscape, landcover, and ecosystem change in Arctic parks

Winners and losers in Arctic parks' changing ecosystems

Changes in Arctic shipping, and why the NPS should care

Parklands as source of resilience for Arctic ecosystems and biodiversity

Research and monitoring to address rapidly changing Arctic park resources

Livestock grazing and biodiversity in Huascarán National Park, Peru

What will I get out of this?

Participants will gain a better understanding of conservation challenges in protecting biodiversity and ensuring human livelihoods in a high altitude mountain ecosystem.

Abstract

The Huascarán National Park, Peru is home to a high biological and cultural diversity nested within the largest concentration of tropical glaciers in the world. Although park management is aware of the overlap between livestock grazing and wildlife, no comprehensive surveys have been performed to assess the impact of livestock grazing on the diversity and distribution of mammalian communities in this region. The proposed research will use camera traps, hair snares, and sign transects to assess the diversity and distribution of mammals within Huascarán National Park; determine the extent of cattle grazing in strict protection areas; and identify the local variables that influence site occupation by different mammal species. The results from this study will be used to inform park managers of the status mammalian biodiversity as well as identify opportunities and challenges for conservation and sustainable grazing in Huascarán National Park.

Keywords

Mammals, biodiversity, grazing

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What will I get out of this?

Audience will gain a better understanding of the historical context of recent NPS efforts to engage with the public on controversial issues.

Abstract

In December 2001, as smoke was literally still rising from the site of the World Trade Center, the NPS Northeast Region held a conference in NYC to introduce the concept of “civic engagement” to the NPS system. Over the following decade the idea became institutionalized, with Director’s Order #75A in 2003, then disseminated and implemented. While the term itself has lost popularity since 2009, its legacy within NPS remains in the form of workshops that train interpreters in “facilitated dialogue” with visitors; twitter accounts and other social media; increased efforts to reach out to towns neighboring NPS sites about land use management issues; and recent additions to the NPS system of historic sites that commemorate controversial events. The paper will briefly analyze the origins, promise, and pitfalls of the civic engagement initiative while encouraging audience discussion about its future.

Keywords

engagement, community, dialogue

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What will I get out of this?

This study connects visitor behavior and management in a way that can promote resource protection and visitor management planning.

Abstract

Protected natural areas provide desired settings for many outdoor recreation activities, but less is known about how the physical setting itself can shape recreationists' behavior. Visitor behavior is often more influential than amount of use in determining recreation use-impact relationships. This presents a need to identify key landscape attributes and quantify their influences on spatial and temporal aspects of visitor behavior. Influences of physical features were analyzed to characterize visitor behavior measured from GPS tracks of hikers in Rocky Mountain and Grand Teton National Parks. A preliminary analysis from Muir Woods National Monument suggested that hiking speeds decrease in proximity to tall tree groves. Characteristics of visitor behavior related to the landscape itself could help predict potential bottlenecks, guide trail and interpretation planning, and focus resource impact rehabilitation efforts.

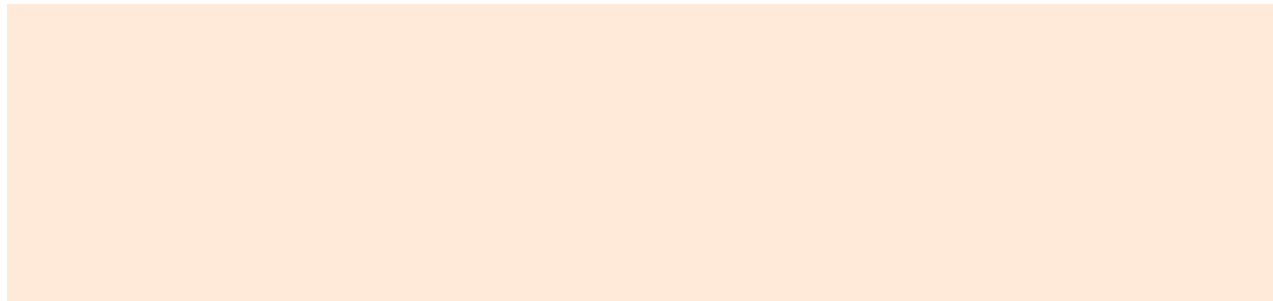
Keywords

Visitor behavior

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Planning for the Future of Resource Stewardship in the NPS

What will I get out of this?

The NPS planning framework and System Plan are guiding the future of resource management at every park unit and within the entire national park system.

Abstract

Three initiatives have set forth a framework to guide how the National Park Service (NPS) protects and manages the natural, cultural and recreational resources we have today and in the future. In 2012, the NPS introduced a more efficient framework for planning and resource management for parks. As the basis of this framework, a foundation document has been completed for every park unit to integrate all kinds and levels of planning from a single, shared understanding of what is most important at each park. The speakers will discuss lessons learned and how it's shaping NPS planning today. In 2016, the NPS unveiled the NPS system plan: its vision for how it will continue to protect resources into the next century. The speakers will explain the complexity of the NPS, the various pathways for potential unit designation, and opportunities for greater and more effective preservation and conservation beyond the system.

Keywords

System, Plan, Foundation

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Chief of Planning / The New Planning Framework for the National Park System

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Foundation Coordinator and Technical Branch Chief / Foundations for Planning and Management

Project Manager and Landscape Architect, Planning Division, NPS Denver Service Center /

Cultural Resource Specialist / session moderator

What will I get out of this?

Learn how unconfined recreation is managed across the NWPS and critically explore whether all of the rules are necessary to preserve wilderness character.

Abstract

Wilderness provides the opportunity for unconfined recreation, however, users' activities are frequently restricted as managers seek to balance the competing demands of the Wilderness Act. Over 350 different managerial restrictions for over 600 wilderness areas in the U.S. were placed into 19 broad categories of rules (i.e., camping, campfire, group size, stock). The most frequent rule – limits on group size – existed for 46% of the wilderness areas. Campfire, camping, and length of stay limits were present for 25% of the wilderness areas. This presentation will also focus on differences in the variables based on wilderness size, manager, and length of time it has been a designated wilderness.

Keywords

wilderness

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Decolonizing Landscapes: Documenting culturally important areas collaboratively with tribes

What will I get out of this?

TCL can increase appreciation for past and present indigenous interests in the national landscape, and give original stewards a stronger voice in shaping its future.

Abstract

The Characterizing Tribal Cultural Landscapes project outlines a proactive approach to working with indigenous communities to identify tribally significant places, in advance of proposed undertakings. A collaborative effort among BOEM, NOAA, tribal facilitators, and the THPOs of the Confederated Tribes of Grand Ronde in Oregon, Yurok Tribe in California, and Makah Tribe in Washington, we use a holistic cultural landscape approach to model methods and best practices for agencies and tribes to work together more effectively and appropriately. Case studies from each tribe demonstrate these transferable and transparent methods. The approach is adaptable by other tribes to record information on important places, and can help agencies and stakeholders engage with tribes prior to the proposal of activities that may impact tribal resources and areas. We will outline the project framework, selected case studies, and progress in changing the federal landscape.

Keywords

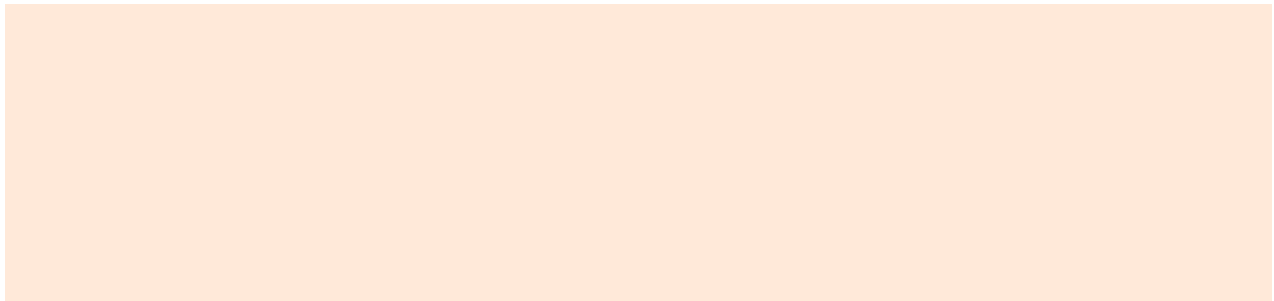
Cultural landscapes, consultation

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Characterizing Tribal Cultural Landscapes: Framework

Confederated Tribes of Grand Ronde Case Study: Understanding Place Through Indigenous Voice and Practice

Confederated Tribes of Grand Ronde Case Study: Indigenous Voice in Policy and Spatial Planning

Changing the Federal Landscape

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What will I get out of this?

Online toolkit can help MPA managers and staff to better accomplish mandates and goals, and embrace new heritage-based opportunities for achieving and maintaining successful MPAs.

Abstract

In marine protected area (MPA) planning and management, cultural resources are often undervalued, misinterpreted, or overlooked. However, cultural resources and the cultural heritage they embody offer dynamic opportunities for improving outcomes in nearly every MPA. Whether preserving fish stocks, saving habitat, or protecting archaeological sites, MPAs themselves are a new facet in the cultural heritage of a nation committed to maintaining and improving its human connections with the marine environment. This toolkit is designed to help change MPA manager perceptions of cultural heritage and resources. These tools will help managers and staff to better understand and meet their legal obligations and embrace new heritage-based opportunities for achieving and maintaining successful MPAs. Topics include Cultural Landscape Approach; Integrating Cultural Resources into MPA Management; Engagement, Outreach & Interpretation; Tribal and Indigenous Communities; Research, Monitoring & Evaluation; Intellectual Property & Sensitive Information; Climate Change Adaptation; Disaster Preparedness; Underwater Archaeology. <http://marineprotectedareas.noaa.gov/toolkit/>

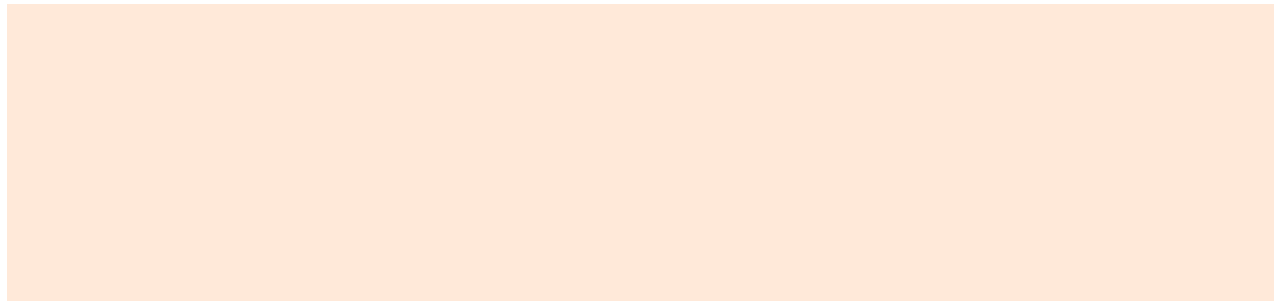
Keywords

Cultural, MPA, heritage

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Battlefield Perspectives: The Charge of the 7th Maine Regiment at Antietam using Archeology and GIS

What will I get out of this?

Viewers will learn about how combining an analysis of the historic record, archeological assemblage, and GIS can assist the historian in interpreting the battlefield landscape.

Abstract

Union and Confederate forces fought at Antietam Creek near Sharpsburg, Maryland, on September 17, 1862. It was the bloodiest single-day battle in American history with nearly 23,000 dead, wounded, and missing. Late in the day, an attack was ordered on a superior Confederate force — now known as the Charge of the 7th Maine Regiment. Historical accounts differ on the charge’s route across the landscape and retreat through the Piper Orchard. This study uses archeological research and GIS analysis to inform the historical record and gain a better understanding of the charge. It demonstrates a framework for a deeper understanding of the events of the day at Piper Farm and potential applications to other battlefield landscapes.

Keywords

Battlefields, GIS, Archeology

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What will I get out of this?

Audience members will learn about the National Park Service Scaling Up Initiative by viewing this exhibit.

Abstract

Audience members will learn about the National Park Service Scaling Up Initiative by viewing this exhibit. They will have the opportunity to speak with Scaling Up community members and learn more about the NPS landscape initiatives and principles pertaining to landscape scale work. Multiple publications will be available for viewing and some as a take home, including: The 2016 George Wright Forum, Conservation in North America (IUCN World Conservation Report), and Scaling Up: Collaboration Across Boundaries.

Keywords

Scaling Up, NPS

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What will I get out of this?

Session attendees will learn about recently-developed NPS planning guidance that integrates climate change adaptation into interdisciplinary planning processes and considers multiple plausible climate futures.

Abstract

Climate change affects all aspects of national park management, from natural and cultural resources to facilities, operations, and the visitor experiences. Impacts from rising temperatures, altered precipitation and storm patterns, sea level rise, and other climatic changes are widespread, complex, and accelerating. The NPS recognizes the need to respond to, and prepare for climate change in virtually all management activities. This session provides an overview of Planning for a Changing Climate, recently developed guidance that integrates climate change into NPS planning processes and products. Panelists will discuss the approach used in the guidance, as well as the paradigm shift needed in all NPS park planning to support management decisions in an era of “continuous change that is not yet fully understood.”

Keywords

Climate, planning, adaptation

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The NPS National Perspective on Addressing Climate Change Adaptation in Park Planning Portfolios

Preparing for and Managing Change: Applying the Principles of Climate Adaptation to NPS Planning

How “Planning for a Changing Climate” Differs from Traditional Planning Approaches

Planning for Cultural Resources in a Changing Climate

The NPS Planner’s Hands-on Perspective and Experience with Integrating Climate Change Adaptation into Planning

Expanded Collaboration Between Cultural Resources and Interpretation/Education: Challenges and Opportunities

What will I get out of this?

Participants of the workshop will work together to identify and discuss the challenges and opportunities of collaboration between Cultural Resources and Interpretation/Education.

Abstract

Too often in the NPS, Cultural Resource staff do not understand the experiences, needs, and pressures of Interpretation/Education staff, and the latter do not realize the wealth of useful information generated by the former. Being "siloed" in two different divisions does not help. This workshop seeks collaborative-minded folks from both Cultural Resources and Interpretation/Education to discuss the challenges and opportunities of expanded collaboration. What type of cultural resource information, and in what format, is most useful for front-line interpreters and educators? What and who defines history and interpretation in the NPS? Are cultural resources projects and documents created with the public in mind? This will be a forward-looking workshop based on the assumption that we all want visitors to NPS sites (and websites, exhibits, publications, etc.) to have the best experience and receive the best information possible. Increased collaboration is the way forward. How do we do that?

Keywords

cultural-resources, interpretation, history

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Lu Ann Jones, Acting Chief Historian, NPS
Linda Lutz-Ryan, Chief of Interpretation, National Capital Region, NPS
Paul Ollig, Chief, Interpretation and Education, National Mall and Memorial Parks, Washington, DC

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Go Tell it on the Mountain: Civil Rights History and the NPS in Washington, DC

What will I get out of this?

This session will explore why the history of civil rights is important and provide examples of how to research that history.

Abstract

The National Park Service is committed to telling a broader story of American history, one that is more inclusive of the experiences of underrepresented groups. Historians from the National Capital Region of the National Park Service will present four case studies of civil rights history in Washington, DC, and discuss how the NPS is researching and interpreting these stories. In brief powerful presentations, the topics will include the creation of schools for African American children in the Reconstruction Era, outdoor recreation and segregation of NPS golf courses, the relation of the NPS Summer in the Parks program and the Washington, DC riots of 1968, and the recognition of a historic site related to a pioneer in LGBTQ history. The presentations will be concise overviews, with pointers on how to research these types of topics, and sources and links for more information on the projects.

Keywords

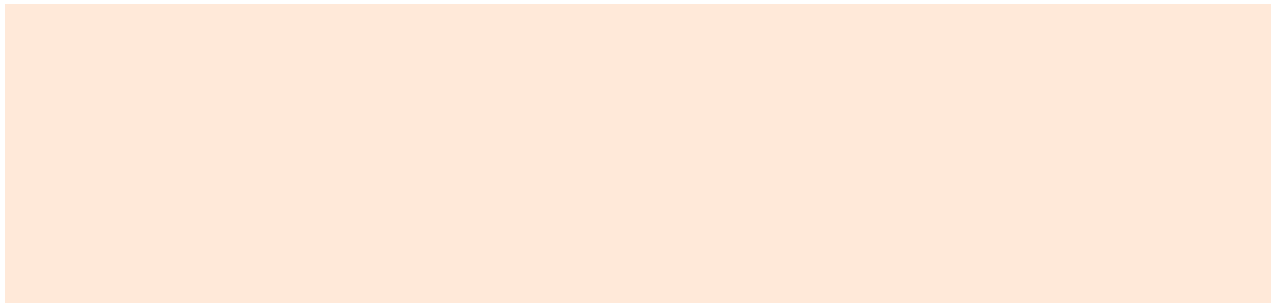
civil-rights, African-American, LGBTQ

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"Education...means emancipation": Freedpeople's Schools after the Civil War

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Breaking Jim Crow: Segregation and National Park Service Golf Courses in Washington, DC

Riots and Recreation: The 1968 DC Riots and the NPS Summer in the Parks Programs

Outing LGBTQ History: The Kameny House in Washington, DC

Managing Living Collections

What will I get out of this?

Learn about living collections, related cross-discipline management challenges, and NPS initiative to develop living collections guidance. Share expertise and help identify critical issues.

Abstract

Living collections consist of biological material that is permanently retained ex situ for the purpose of generating and providing living or otherwise biologically active material for research, restoration, education or other purposes. Zoos, botanical gardens, arboreta, seed repositories, and microbial culture collections manage living collections outside of their original natural environment (ex situ). Museums may manage both living and non-living collections. The National Park Service has recently recognized the need to develop standardized procedures for documenting and tracking the plants, animals, and microbes that it manages on an ongoing basis outside their natural habitat. Developing a policy and standardized procedures that meet the needs of multiple disciplines and collection types—from microbial and seed collections to fish hatcheries to horticultural specimens from cultural landscapes—is challenging. NPS will share its strategy, to date, and seek input from the audience.

Keywords

living, collections, biological

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What will I get out of this?

Audience members will learn techniques for curriculum design that balance mainstream history with a place-based Native American perspective for K-12 classrooms in all academic disciplines.

Abstract

In this presentation, participants will be introduced to the Honoring Tribal Legacies: An Epic Journey of Healing project and learn about the collaborative efforts of the National Park Service with Tribal people along the Lewis and Clark National Historic trail to produce educational resources. This curriculum design project balances the portrayal of different perspectives in history and asks us to acquire critical inquiry/analysis skills in order to answer questions such as, “Why are Tribal Voices important? How do we promote systemic change and broaden stakeholder ownership of a more inclusive and diverse approach to history?” Highlighting one of the Honoring Tribal Legacies demonstration curriculum - Discovering Our Relationship with Water, this presentation will stimulate participants to think about the current narratives offered in classrooms, and engage participants in a conversation about how to ensure that multiple perspectives and diverse forms of literacy are valued in K-12 classrooms across the country.

Keywords

Culture, Indigenous, Curriculum

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Growing Hope: Urban Youth, Historic Landscapes, and "Citizen Gardening"

What will I get out of this?

Growing Hope can be adapted for other parks and protected areas, engaging "at risk" youth to become stewards and "citizen gardeners" in their communities.

Abstract

In summer 2016, Independence National Historical Park initiated a pilot program to teach urban "at risk" (socio-economically challenged) youth the stewardship of historic gardens and landscapes. The six-week program focused on three key elements: 1) planting and care for a "teaching garden" at INDE comprised of heirloom and medicinal plants and the adjacent "18th century" garden; 2) field experiences at Park Partners such as Bartram's Garden, Pennsylvania Horticultural Society's Meadowbrook Farm, the Morris Arboretum, and Valley Forge NHP; and 3) site visits to regional horticultural landmarks. Program participants travelled nearly 800 miles, collectively working over 1800 hours in diverse settings. Students learned about heirloom varieties, seedsaving, invasive removal, garden restoration, greenhouse production, and the daily care of "special places." The program aimed at students becoming "citizen gardeners" in their neighborhoods wherever they saw the potential to "grow hope" – whether for aesthetic reasons or to provide food for the community.

Keywords

Urban, youth, engagement

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Measuring the whole night sky, and why it matters.

What will I get out of this?

Light pollution appears first and is most intrusive near the horizon, so the NPS approach for measuring night sky quality encompasses the entire celestial hemisphere.

Abstract

The dark night sky is a characteristic of wilderness and is important to many parks as a natural, cultural, educational, and economic resources. Sky glow degrades the character of the night sky and especially the scenic quality of the horizon. Bright light domes can significantly alter nocturnal luminous environments even when they do not extend high into the sky. Accordingly, NPS created an all-sky measurement system to address these concerns. We developed a camera system to create image mosaics of the entire night sky. These data are processed to remove natural sources of light in the night sky; the residual light is pollution. To enhance accuracy, the imaging system, calibration process, and model of natural sky brightness have been shaped to produce results across the diverse nightscapes of the National Park System.

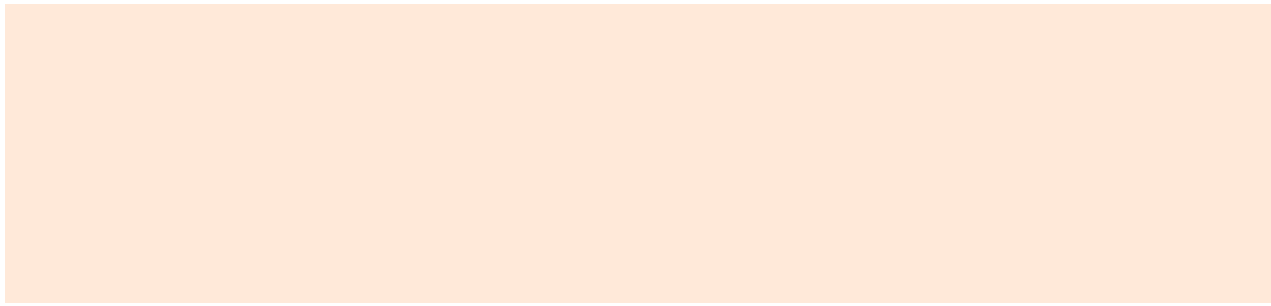
Keywords

light pollution

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Leveraging GPS tracking for improved decision-making: Innovative analyses and expanded visitor and resource management applications

What will I get out of this?

The session will explore new applications for integrating GPS data into visitor use management, encouraging thought and discussion on continued advancements in GPS-based tracking.

Abstract

Increasingly, global positioning system (GPS) technology is used to collect objective spatial and temporal data to characterize visitor use patterns in parks and protected areas. Advances in technology and software have increased the accessibility of collecting and analyzing these data. As such, the possibilities for utilizing GPS data to inform complex visitor use questions have expanded rapidly in recent years. This session will highlight novel expansions in applying GPS-based tracking data to understanding spatial patterns of visitor use in a range of protected areas across agencies. Five, twenty-minute presentations will feature advances such as leveraging crowd-harvested data, repurposing previously collected data for new applications, and monitoring overnight use. Outcomes of new analyses will be framed to demonstrate the increased utility of GPS-based tracking data to inform management decisions. To conclude, audience members will be encouraged to discuss and propose additional GPS tracking applications through participation in a 20-minute Q&A session.

Keywords

GPS-tracking, management, spatial

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Spatial analysis of visitor use to inform interagency fee revenue sharing at Sequoia-Kings National Park

Improving predictability in visitor use and natural resource management using agent-based models of hiker movement

A spatial classification of vehicular behavior patterns of visitors in Grand Teton National Park

Monitoring use without direct observation: Classifying pack stock behaviors and distributions with GPS tracking

Utilizing crowd-harvested GPS data to manage special events and general use of public lands

What will I get out of this?

Learn how to download or explore maps, reports and data from America's official inventory of public parks and protected areas.

Abstract

America's tremendous asset base of protected areas is critical for conservation planning, natural resource management, outdoor recreation, public health and more. These include national parks and forests, wildlife sanctuaries, state beaches and parks, county open space, city parks, land trust preserves, conservation easements, marine protected areas and more. Altogether, over 3 billion acres are managed by thousands of public agencies and non-profit organizations that serve current and future generations. A complete and current database of these places is a critical tool to achieve organizational missions across jurisdictions. The recent USGS PAD-US update (1.4) includes the best available representation of federal, state and other protected areas with descriptors like owner / manager name, designation type, unit name and other information useful for various applications. Join us to learn about America's official inventory of public parks and protected areas, our strategy to complete the inventory in three years and opportunities to help.

Keywords

Protected Areas

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Looking ahead: The future of visual resource management in the NPS

What will I get out of this?

Scenery is central to experiencing parks and protected places. This session will consider how the NPS manages scenery now and in the future.

Abstract

Scenic views inspire future generations, are windows to the natural world, and foster connections with history and culture. As landscapes change with increasing speed, agencies need to actively engage in management of views within and beyond boundaries. The value of scenic views can be measured in terms of aesthetic beauty, economics, health benefits, psychology, and educational potential. Views can also be inventoried and weighed against other resource considerations. Understanding our role in preserving and protecting visual resources will be critical to the continued viability of protected areas as places of refuge and learning into the future. Join panelists in this session for a series of brief presentations on the value of scenic views, the evolving NPS approach to managing them, and case studies; followed by an open discussion.

Keywords

Scenery, Management, Visual-resource

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Air & Water Quality Program Manager, Shenandoah National Park

Superintendent, Potomac Heritage National Scenic Trail

Constructing Urban Youth Outreach Strategies in Urban-Proximate Parks

What will I get out of this?

Attendees will learn about 1) creating an urban youth outreach strategy and 2) how such work attends to the NPS goal to attain relevancy.

Abstract

Increasingly, urban-proximate park units turn to urban engagement as a way to achieve relevancy. Timpanogos Cave National Monument (TICA), located at the doorstep of the greater Salt Lake City metropolitan area, represents the NPS mission to two million Utah residents in the Wasatch Front population core. Using a SWOT Analysis framework, we developed an outreach strategy to help TICA interface with an urban youth population in Salt Lake City. This session outlines the process used at TICA for constructing an urban youth outreach strategy, a process that can serve as a model for creating outreach strategies in other urban-proximate parks. This session also explores how effective urban engagement planning achieves the agency-wide goal of making the NPS relevant to all Americans. Further work will analyze urban engagement best practices currently used by parks and investigate how best practices may be measured and applied to other parks.

Keywords

urban, outreach, relevancy

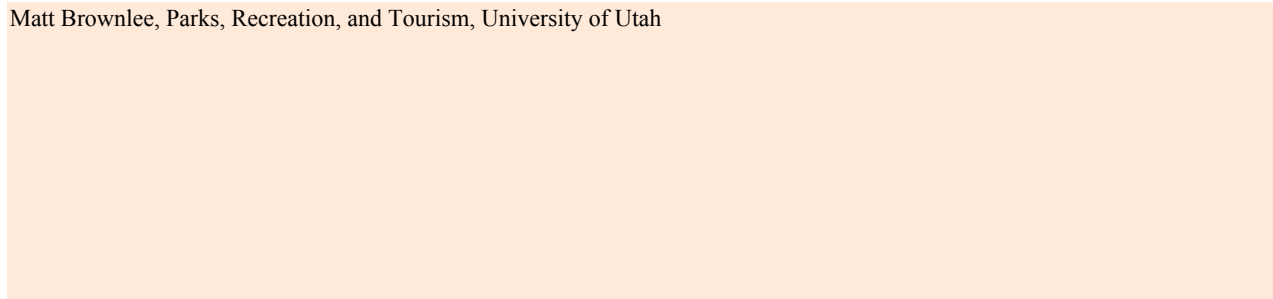
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What will I get out of this?

OA is a growing threat to coastal resources in the NPS. Here, we describe tested methodologies for monitoring ocean acidification and interpreting climate change science.

Abstract

A major effect of climate change in the marine environment is ocean acidification (OA), the reduction of seawater pH due to the burning of fossil fuels. OA negatively impacts many marine organisms, especially those that form body parts from calcium carbonate (e.g. mussels and barnacles). Olympic National Park and San Juan Island National Historical Park within the North Coast and Cascades Network, along with Cabrillo National Monument and Channel Islands National Park within the Mediterranean Coast Network contain exceptionally diverse and sensitive intertidal assemblages, including the federally listed black abalone, that are susceptible to OA. In this session, we will discuss state-of-the-art methodologies for how these parks and networks are monitoring ocean acidification in their intertidal zones and how the NCCN and MEDN approach can work in other Park Service marine units.

Keywords

Intertidal, acidification, climate

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Monitoring ocean acidification in the NCCN network

Monitoring ocean acidification at Cabrillo National Monument

Monitoring ocean acidification in the Channel Islands rocky intertidal

The nuts and bolts of interpreting ocean acidification at the park level

Norms and human nature relationships determine boater behaviors that affect the spread of invasive species

What will I get out of this?

This poster will help researchers and practitioners understand the complex interactions between natural landscapes and people who contribute to the spread of aquatic invasive species.

Abstract

Recreational water users such as boaters and anglers are a primary vector of the unintentional spread of aquatic invasive species. Despite its importance, the role of human behavior in preventing the spread of invasive species is not well understood, and is often neglected within the biological sciences. We quantified the factors that shaped individual decisions that affected the spread of invasive species at Chain O' Lakes State Park and North Point Marina, IL. Specifically, drawing on on-site observations and survey data collected from a representative sample of stakeholders, we measured the effects of norms and human-nature relationships on behavioral engagement in activities to reduce the spread of invasive species. Results showed respondents performed an array of pro-environmental behaviors, and the distribution of behavioral engagement varied. We found social and personal norms were positively correlated with activities that influenced the spread of aquatic invasive species across two resource management contexts.

Keywords

Invasive, Human, Dimensions

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What will I get out of this?

Biosphere reserves and Payment for Environmental Services programs are criticized for favoring top-down decisions. This study explores how both tools are influencing local conservation.

Abstract

The Calakmul Biosphere Reserve of Mexico was conceived to protect an extensive tropical moist forest. Since the 1980s, over fifty village settlements (ejidos) have been established within the forest margins. The Reserve's existence has had little impact on the land use decisions of most settlers, while NGO and government conservation and development efforts have often worked at cross-purposes. In 2016, the author interviewed leaders of 15 villages, to learn about their own concepts of parks and protected areas. Contrary to expectations, only a few villages set aside land for conservation as a part of local, "organic" process. Instead, a new program of Payments for Environmental Services (PES) implemented by the Mexican federal government is having a direct impact on local conservation, in a way the Biosphere Reserve never achieved. However, most PES-registered set-aside lands were already considered by villagers to be unsuitable for cultivation.

Keywords

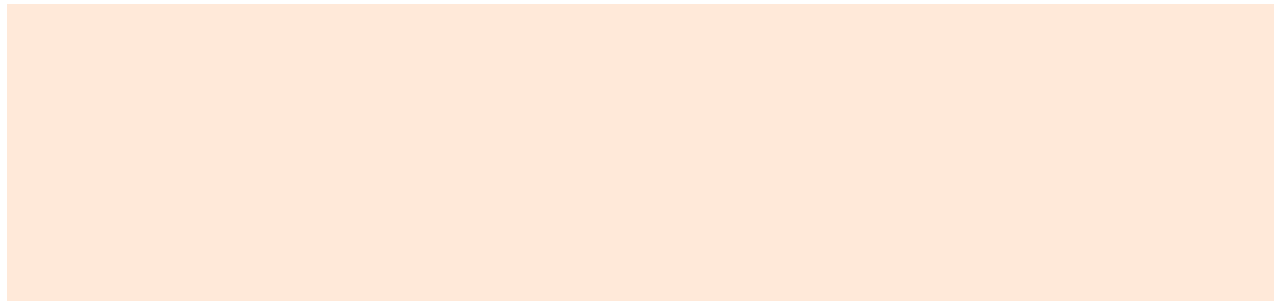
PES, biosphere, Mexico

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What will I get out of this?

Learn about the history of law enforcement in the National Park Service and how enforcement strategies have changed over time.

Abstract

The paper traces the complex history of the US Park ranger through time to show how the Ranger as an outward embodiment of state power has been contradicted by administrative and practical logics directing rangers to educate, welcome, and guide park visitors. Rangers' work as territorial enforcers, and as strong-arms of the state has been tempered and defined by multiple disciplining forces over time. Using a political ecology approach, this paper examines how shifting political economic contexts, shifts in park use and park visitors, and a changing national law enforcement milieu influenced how and in what ways National Park Rangers have performed law enforcement in US parks over the last 100 years. The paper argues that the mutable history of National Park Rangers' law enforcement practices offers empirical evidence that the militaristic models of conservation around the world can also change.

Keywords

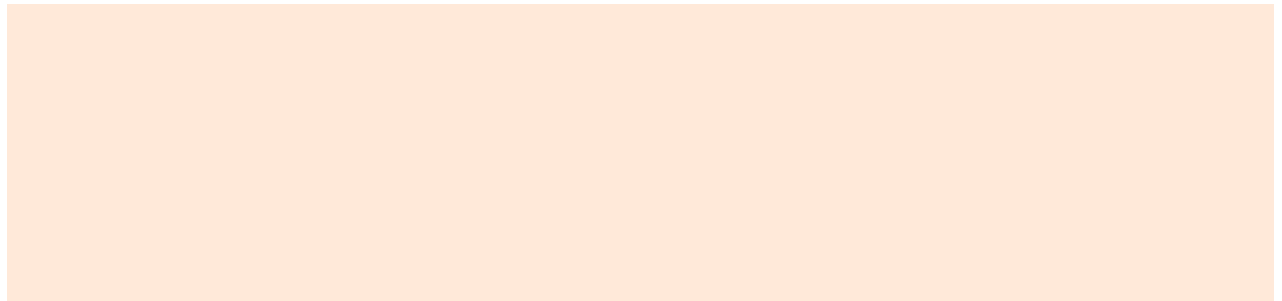
Ranger; Law Enforcement

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What will I get out of this?

This study describes visitor and animal behaviors and visitor management during wildlife jam events in an effort to better inform management of these events.

Abstract

As recreation and tourism in parks and protected areas increases, managers face rising concerns of natural resource and visitor experience degradation. An experience frequently sought in these areas is viewing wildlife. Visitor behavior in prime wildlife-viewing areas often involves visitors parking along roadways and exiting their cars to view wildlife. This creates a phenomenon known as a “wildlife jam”. To date, no studies have comprehensively investigated this phenomenon. This study characterizes the nature of wildlife jams along the Moose-Wilson Road in Grand Teton National Park. Global Positioning System and behavioral data were collected for jams that occurred with and without park staff present. Preliminary results suggest that presense of park staff at a jam impacts the duration, extent, and visitor behaviors that occur. Understanding the nature of these jams will enable managers to develop management strategies that minimize the potential negative effects of jams on wildlife and the visitor experience.

Keywords

Visitor-behavior, wildlife-jam, visitor-management

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Remote Sensing of Vegetation Diversity Change in Acadia National Park

What will I get out of this?

Remote sensing technology as a monitoring tool for identifying recreation resource impacts at a large spatial scale

Abstract

The purpose of this study was to monitor plant diversity changes resulting from recreational uses at Cadillac Mountain Trail Network, Acadia National Park, Maine. In this study, we propose the use of remote sensing technology as a monitoring tool for identifying plant response characteristics. We hypothesized two scenarios that maintain different numbers of plant species (25 and 50 classes) at the target study area by classifying the multiple Normalized Different Vegetation Index (NDVI) layers extracted from 2000, 2005, and 2010 Landsat TMs. Then, the Shannon-Weiner (SW) indices were calculated to compare the vegetation diversity in each class. In addition, T-test was used to compare the SW indices between trail group and non-trail group based on the systematic sampling design. The study will report preliminary results associated with developing a monitoring technique designed to cover a large spatial scale.

Keywords

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Assessing Park-Based Urban Sustainability within East Africa Community

What will I get out of this?

Participants will gain understanding of urban sustainability transitions in East Africa.

Abstract

Parks and greenspaces can play a big role in contributing to sustainability and human wellbeing in terms of economic productivity, social inclusion and preservation of the natural environmental. An expanding body of literature confirms the connection between exposure to nature and human wellbeing. Popular among these is the work of scholars who explore the concepts of biophilia and other the soft fascinations of nature. Parks also provide places for rest and recharge, spiritual renewal, and promotion of social integration and cultural diversity. This study was conceived to assess the how sustainable East African Community cities are. Media reports paint a picture of some of the fastest growing cities in the world in terms of population growth and economic expansion. However, the biggest question is whether the cities are positioned to harmonize such growth with provision of parks and greenspaces for recreation-based wellbeing of citizens, and for sustained provision ecosystem services.

Keywords

greenspaces, sustainability, wellbeing

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What will I get out of this?

Overview of an integrated invasive species plan—incorporating diverse cultural practices, land uses, and visitor patterns—in managing public lands and especially scientific research.

Abstract

The invasive species management plan for the high-elevation Mauna Kea Science Reserve on the Island of Hawaii was approved by the community-based Maunakea Management Board in 2015. The 11,288 acre Mauna Kea Science Reserve is used as a scientific complex in support of astronomical observatories, is a culturally significant site, and is a popular visitor destination. Managed by the Office of Maunakea Management under the University of Hawaii at Hilo, the plan’s invasive species prevention measures implement both pathway and species-specific risk management approaches with a suite of risk mitigation procedures, adapted from biosecurity protocols. Pathway analyses led to development of pre-planned responses aligned with traditional cultural priorities. Communication tools highlight the prevention, early detection, and response rationale that guide decision-making processes. Continued adaptation and updates ensure relevancy, address lessons learned, and promotes use such as informing other scientific and recreational invasive species planning efforts in the region.

Keywords

invasive, planning, science

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Values of front and backcountry users at Denali National Park change across space and scale

What will I get out of this?

Audience members will learn about a new way to approach park management to improve visitor experiences.

Abstract

Activities preferred by visitors to national parks may be partially attributed to the values perceived in a landscape. Understanding the reasons why people believe protected areas are important to stakeholders is crucial to improving park management decisions. This study drew on survey data collected from visitors to Denali National Park and Preserve that involved a mapping exercise. Respondents were asked to allocate 100 points to 13 values ranging from tangible (e.g. economic value) to intangible (e.g. aesthetic) qualities of place. Results showed a stark difference in the point density and distribution of values assigned by front and backcountry users. Generally, backcountry users allocated a smaller number of points to a broader range of values, whereas frontcountry users assigned larger numbers to fewer values. This information can be used to facilitate better management practices and improve visitor experiences by focusing management on activities that appeal to an array of stakeholder groups.

Keywords

values, behaviors, management

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'Ikena a ka Hawai'i: Lessons from the World Conservation Congress

What will I get out of this?

This session will connect participants to outcomes of the largest global conservation event ever convened in the United States.

Abstract

The largest conservation event on the planet exceeded all expectations during the meeting of the International Union for the Conservation of Nature (IUCN) in Honolulu, Hawai'i, USA. The number of participants also exceeded earlier Congresses, held every four years: over 10,225 people from 193 countries. As host country the United States set a high bar with arguably the best organized global IUCN conference to date. Many of the challenges that were covered are present in the microcosm in the Hawai'ian Islands, including biosecurity, indigenous issues, endangered species, and marine and ocean stewardship challenges. The session will explore continuing opportunities for biocultural connectivity that the conference brought forward.

Keywords

World Conservation Congress

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The WCC, the Ever-evolving Global Conservation Agenda, and Protected Area Governance

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Hawai'i Holds Many Lessons for the World

The Promise of Sydney After Honolulu

The Promise of Sydney After Honolulu

What will I get out of this?

Attendees will learn spontaneous, audience-centered, experiential, interpretive techniques that specifically address how to adapt interpretive programs to changing budgets, emerging issues, and evolving audiences.

Abstract

A new paradigm in interpretation is necessary. Parks face numerous changes. Budgetary, societal, political, and demographic changes challenge interpreters to rethink our approach. In response to less staff, new audiences, an increasingly individualistic culture, evolving technology, and expanding shared authority Pinnacles National Park has changed how, where, when, and why they deliver interpretive programs. The approach is to create spontaneous, audience-centered experiences. The program is spontaneous; it does not require them to be at a specific location and time. It is audience-centered. Regardless of topic, techniques maximize emotional, creative, and experiential input from the visitor. The program moves beyond interpretation to provide the visitor a formative experience. Examples include journaling chairs in the backcountry, “ask it forward cards” (un-facilitated facilitated dialogue), and a tournament of challenges. This approach is effective at reaching all audiences, building relevancy, and creating connections. The methods are replicable, and results are quantifiable at any unit.

Keywords

relevance, connections, inclusion

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Session organizer

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Additional
authors / organizers

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What will I get out of this?

What is the future of the American public park? We can theorize its future by exploring three key figures: Washington, Olmsted, and Disney.

Abstract

"The Pursuit of Happiness"—words immortalized in the Declaration of Independence—is a driving force behind a signature American landscape form: the public park. In each century since our founding, an important American has shaped that conversation through their personal and public designs. In the 18th century, it was the “father of our country,” George Washington (1732-1799); in the 19th century it was the “father of landscape architecture,” Frederick Law Olmsted (1822-1903) and in the 20th, it was the “father of modern entertainment,” Walt Disney (1901-1966). Understanding their philosophies and impacts on this evolution is to understand the current questions and dilemmas faced in preserving our historic park landscapes as well as designing parks for future generations.

Keywords

Parks, landscape, design

Lead author /
Session organizer

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authors / organizers

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What will I get out of this?

The session will explore state-of-practice research designed to support desired outcomes and enhanced effectiveness of interpretation, education, and engagement programs.

Abstract

Key elements of the Second Century Commission’s recommendations to “advance the 21st-century National Park idea” include: affirming that the National Park Service has a fundamental role to play in American education; strengthening connections between the national parks and educational institutions; helping the public to build personal connections to the national parks; and engaging diverse audiences. This session will explore the ways in which research is being applied to help inform and support interpretation, education, and engagement objectives within the National Park Service and beyond. A primary goal of the session is to provide a venue for scientists and practitioners to discuss challenges and opportunities for building within society strong connections and sense of engagement with National Park Service programs and places.

Keywords

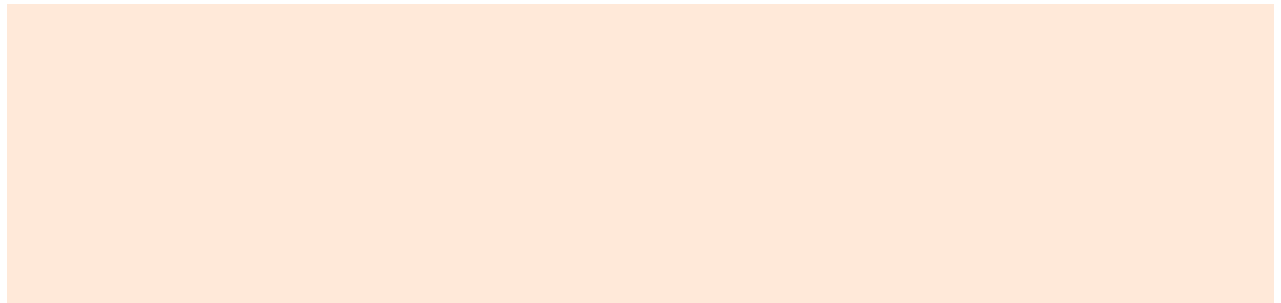
Interpretation, Education, Engagement

Lead author /
Session organizer

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The Inspiring a New Generation Summit: Findings from Census-building Workshops on Engaging Children with Parks

Influencing Youth Behavior and Nature Engagement Through Leave No Trace Education

Education and Interpretation in the Lab: Simulated Soundscapes' Role on Memory, Attention, and Personal Reflection

What Makes an Environmental Education Program Successful? Defining Success and Studying What Leads to It

Evaluating the Effects of Crowding on Interpretive Experiences at Castillo de San Marcos National Monument

The Important Intersection of Natural and Cultural Resources in Conservation and Preservation

What will I get out of this?

A look at the intersection of natural resources in the restoration and preservation of our cultural history and landscapes.

Abstract

A look at the intersection and role of natural resources in the restoration and preservation of our cultural history and landscapes, and in the context of our cultural heritage associated with our natural landscapes. The capacity of cultural resources to adapt to changing environments is very limited. Impacts to cultural resources from stressors such as climate change range from coastal erosion and storm damage to effects of wildfires, floods, rising sea level, extreme weather events and more rapid deterioration due to changing rain and temperature patterns. Tools are needed, scholarly input, and action is required to protect these threatened resources or to at least recover and retain as much information as possible.

Keywords

cultural natural resources

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Session organizer

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Additional
authors / organizers

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What will I get out of this?

What does it mean to our focus for science and stewardship and DO# 100 implementation?

Abstract

This session and dialogue will take a brief look back at the last few decades of natural resource stewardship within the National Park Service, lessons learned, and discussion of a path forward. What does it mean to our focus for science and stewardship and DO# 100 implementation? How will we embrace new technologies and approaches to stewardship? We will highlight how science and scholarship have shaped the past of national park natural resource management, and provide a forward look at the next century of collaborative science and scholarship in America's national parks. Session will feature current and past Associate Directors and Chief Scientists of Natural Resource Stewardship and Science, and forward-thinking Superintendents and park managers and collaborators.

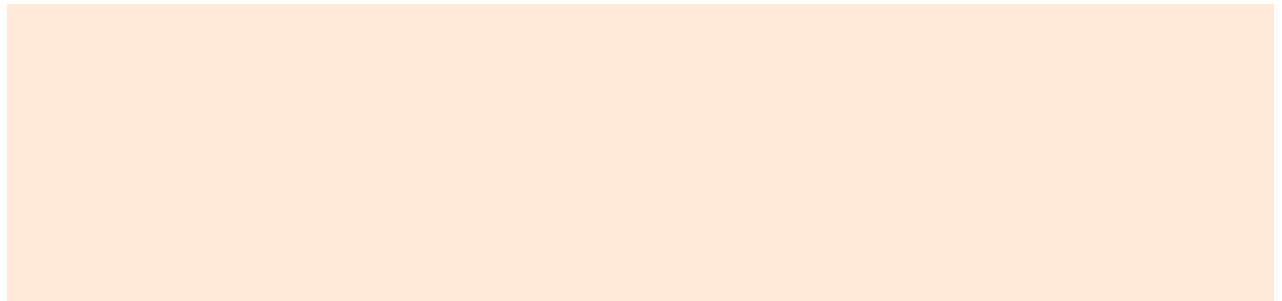
Keywords

Directors Order Natural

Lead author /
Session organizer

Elaine Leslie Taking a Look Back While Creating A Vision Forward-Natural Resource Science,
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Schoodic Institute

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Regional Director Alaska Regional Office

Associate Director Natural Resource Stewardship and Science

Retired NPS National Capital Region Natural Resource Manager

NPS

Moving from the Thinking Phase to an Implementation Plan for a Landscape Approach to Conservation

What will I get out of this?

How do the NPS, other agencies, and private land managers, partners, and neighbors contribute to a National Conservation Strategy - we connect resources at scale.

Abstract

How do the National Park Service (NPS) and other federal, state and private land managers, partners, and neighbors contribute to a larger National Conservation Strategy? This would be a strategy that uses best available science, and builds from the core of already protected areas to ensure that we act upon the conservation of our national natural heritage today and well into the future. What is needed now, is not just a cohesive and comprehensive approach for a cornerstone strategy, but proof of concept projects implemented on the ground that embrace and exhibit concepts of connectivity and landscape level principles. For the NPS, it requires expanding beyond our constructed boundaries within the states as well as reaching out to our trinational partners-using new technologies and strategies in a more unified approach to continental conservation.

Keywords

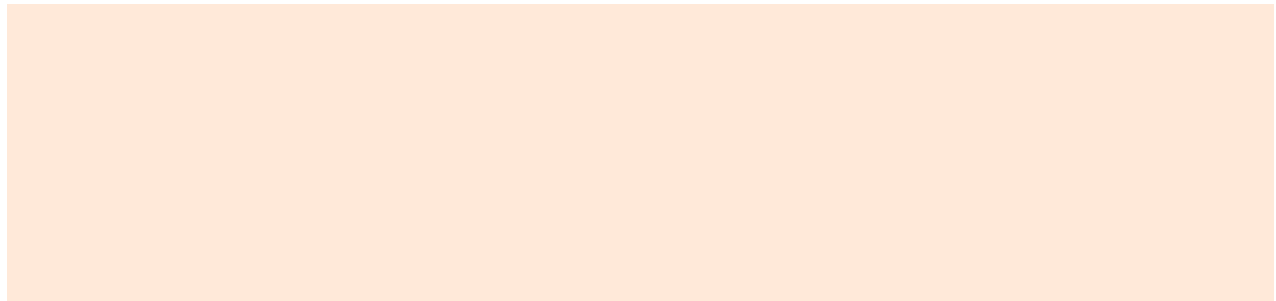
large landscape conservation

Lead author /
Session organizer

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The Greater Yellowstone Ecosystem and the Critical Core Migration of Deer and Elk

Y2Y Executive Director/ International and Tribal Partnerships-Bison Restoration across many nations

NPS Wildlife Biologist/ International and Tribal Partnerships-Bison Restoration across Many Nations

Marine Wildlife Connectivity- Shorebirds to Sea Turtles and Marine Mammals and Migration Corridors

Redwoods NP, Superintendent/ Connecting our Skies and our Heritage Through California Condor Restoration

Native Wildlife and Ecosystem Health-What are the Facts About Impacts from Feral Cats?

What will I get out of this?

Without many precedents and with a volatile topic among stakeholders and employees, the NPS is attempting to deal with feral domesticated cat-wildlife interface issues.

Abstract

Feral and free-ranging domestic cats are exotic and invasive species to North America and are responsible for the extinction of numerous mammals, reptiles, and as of 2013 at least 33 bird species. Effects of cat predation and disease spread are most pronounced in island settings, where populations of wildlife are already low or stressed by other factors. Effects are also significant in natural and urban areas where cat colonies become established. Although there is clear policy to inform NPS management of its responsibilities toward exotic and invasive species, many parks have been unable to navigate this issue due to volatile and contentious debate surrounding free-ranging domestic cat management caused by concerns associated with wildlife conservation, cat welfare, and public health. As a result, many parks have reached out to the Biological Resources Division (BRD) and regional offices seeking guidance. This contemporary conservation issue has few precedents to draw from.

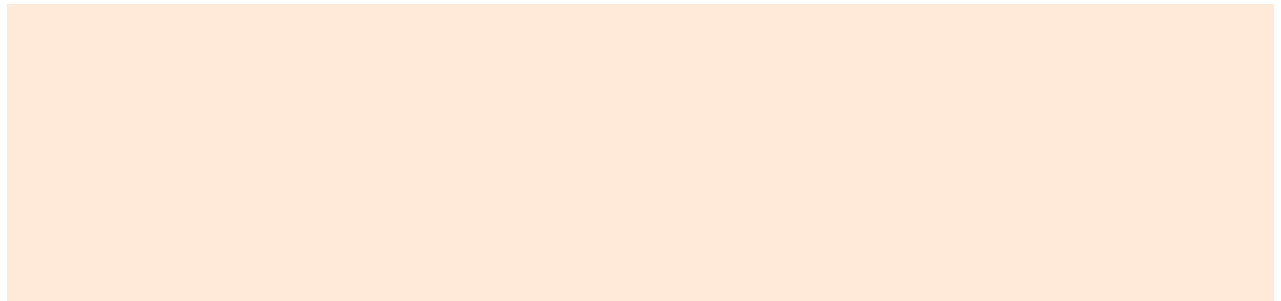
Keywords

feral cats, domesticated

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Science Team Panel Chair



If this is a session of
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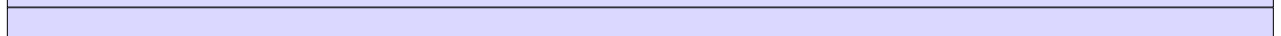
Epidemiology Branch and One Health Coordinator, NPS



HSUS



NPS/Island Cat Issues



What will I get out of this?

Invasive species are the second most significant threat to biodiversity, after habitat loss. Help the NPS determine a strategic servicewide approach to this pervasive issue.

Abstract

Invasive species are the second most significant threat to biodiversity, after habitat loss. In their new ecosystems, invasive species become predators, competitors, parasites, hybridizers, and diseases of our native species. It makes sense then, that invasive animals are a mission-critical issue for the National Park Service (NPS) due to their wide-ranging, detrimental impacts on NPS resources. Despite the fact that almost every NPS unit with land and water to manage is being affected by invasive animals, the NPS has yet to develop a servicewide strategic approach to invasive animals. This piecemeal approach is utilizing increasingly larger levels of funding and personnel, yet is not an effective strategy. This session will evaluate the extent of the problem, assess NPS' management needs for invasive terrestrial vertebrates, review existing case studies and identify the potential for new studies, and review organizational models that could serve as a servicewide organizational framework for NPS.

Keywords

Invasive animals, NPS

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If this is a session of
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Independent Science Team

Channel Islands National Seashore, Superintendent

Invasive Species Coordinator, Department of Interior

Pacific Island Network Inventory and Monitoring Program, NPS

Chief of Biological Resources, NPS

NPS Strategic Invasive Animal Science Workshop (INVITE ONLY 1.5DAY Workshop)

What will I get out of this?

Invasive species are the second most significant threat to biodiversity, after habitat loss. Help the NPS determine a strategic servicewide approach to this pervasive issue.

Abstract

Invasive species are the second most significant threat to biodiversity, after habitat loss. In their new ecosystems, invasive species become predators, competitors, parasites, hybridizers, and diseases of our native species. It makes sense then, that invasive animals are a mission-critical issue for the National Park Service (NPS) due to their wide-ranging, detrimental impacts on NPS resources. Despite the fact that almost every NPS unit with land and water to manage is being affected by invasive animals, the NPS has yet to develop a servicewide strategic approach to invasive animals. This piecemeal approach is utilizing increasingly larger levels of funding and personnel, yet is not an effective strategy. This session will evaluate the extent of the problem, assess NPS' management needs for invasive terrestrial vertebrates, review existing case studies and identify the potential for new studies, and review organizational models that could serve as a servicewide organizational framework for NPS.

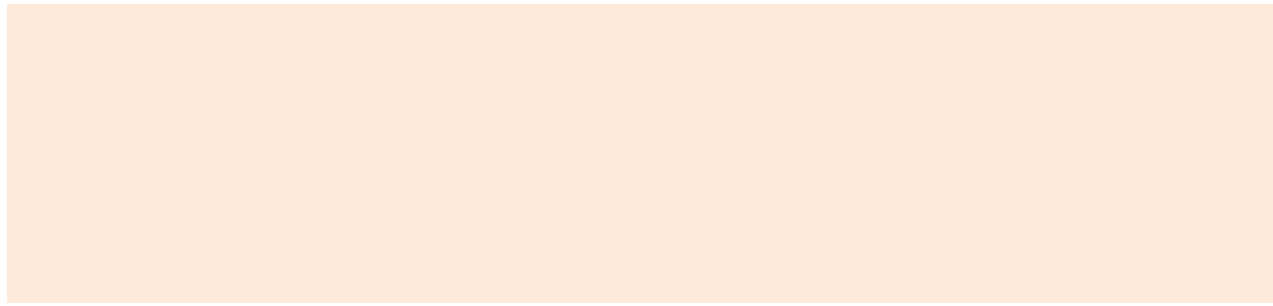
Keywords

Invasive animals, NPS

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Independent Science Team

Channel Islands National Park, Superintendent

Invasive Species Coordinator, DOI

Pacific Island Network Inventory and Monitoring Program, NPS

Chief of Biological Resources, NPS

What will I get out of this?

This is original research being conducted with the Hualapai on Native American soundscape perspectives. It is key to understanding future park management decisions.

Abstract

The National Park Service recognizes the inherent value of preserving or sustaining its natural and cultural soundscapes as a priority for the continuation of the overall park experience. These aural collections are rich and diverse spanning numerous ecotones. In the late 1980s, the Hualapai Nation decided to grant controlled access to its lands. It was here that visitors could enjoy the Grand Canyon experience without the continuous flow of large crowds often seen at the North and South Rims. This research focuses on Native American perspectives with respect to 'natural quiet' and 'natural soundscapes' at cultural or sacred sites in the Grand Canyon. Literature is limited, gaining knowledge on the significance of 'Place,' beliefs systems, and the role that soundscapes play in traditional and religious practices is key to understanding current and future management decisions; while maintaining mutual respect for long standing tribal presence, cultural histories, traditions, and knowledge systems.

Keywords

Soundscapes, Cultural Sites

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Watershed Restoration, Archaeological Preservation and Cultural Continuity at Canyon de Chelly National Monument, Arizona USA

What will I get out of this?

This project demonstrates the value of applying an integrated resource management approach and working cooperatively with indigenous communities to achieve mutual and positive goals.

Abstract

An Integrated Approach: Watershed Restoration, Archaeological Preservation and Cultural Continuity at Canyon de Chelly National Monument, Arizona USA. In 2003, this unique national monument in northeastern Arizona and canyon home to a living Navajo community embarked on an important and bold long-term initiative. The Canyon Farm Preservation and Watershed Restoration Project aims to revive natural ecological processes, improve canyon viewsheds, strengthen cultural connections and preserve a vast concentration of archaeological resources. This project occurs within a vibrant canyon landscape, comprised of sheer sandstone cliffs, alluvial terraces, and a dynamic riparian corridor overlain with evidence of 5000 years of nearly continuous human occupation. The resident Navajo community continues to utilize the landscape for agricultural, ceremonial, social and economic purposes. This National Park Service led project occurs on tribal trust lands within the Navajo Nation and involves cooperation and participation by many tribal, federal and academic partners and has produced intriguing results.

Keywords

Archaeology, watershed, Navajo

Lead author /
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Additional
authors / organizers

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Enhancing the Sustainability of Visitor Use Management through the Application of Recreation Ecology Research

What will I get out of this?

Participants will learn the latest recreation ecology research findings and their implications for the sustainable management of park visitation.

Abstract

This session presents recent recreation ecology research findings that describe common visitor impact management problems caused by trail use, camping, and rock climbing. Insights into the effective management of these problems will be communicated by describing recent research findings about the measurement of visitor resource impacts and the relative influence of use-related, environmental, and managerial factors. The focus of the research and presentations will be on sharing scientific findings and management implications that inform park managers about effective and sustainable visitor use and impact management strategies and practices.

Keywords

recreation, impacts, VUM

Lead author /
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Recreation Ecology Research and Geospatial Applications to Enhance the Sustainability of Trails

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Recreation Ecology Research to Enhance the Sustainability of Primitive Camping

Recreation Ecology Research to Enhance the Sustainability of Rock Climbing

Successful Applications of Recreation Ecology Science in Enhancing the Sustainability of Park Visitation

What will I get out of this?

Users will learn about the BISON web-based resource they can use for finding species occurrence data for their protected areas in the United States.

Abstract

Biodiversity Information Serving Our Nation (BISON) <<https://bison.usgs.gov>> is a data repository with free and open access that allows users to find, explore, and download occurrences of species found in the United States via the BISON web portal and web services. BISON currently contains more than 261 million species occurrence records from diverse sources, which can be accessed by searching for a species at the national, state or county level, or by defining a polygon for an area of interest. Search results can be viewed online as point locations in a map and as checklists and downloaded to the user's desktop. BISON enables the discovery and use of data otherwise not known to those working on protected areas, since checklists of species found within national park boundaries have a greater number of distinctive species when data from BISON is included than when it is not for example.

Keywords

species, occurrences, data

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Teaming Up: Nonprofit Partnerships in North Carolina’s Coastal State Parks

What will I get out of this?

Insight into park-nonprofit partnerships is examined, providing perspective about the benefits and drawbacks of these relationships, including dynamics in light of decreased resource management funding.

Abstract

This study will investigate the nature of relationships between nonprofit organizations and coastal government-managed lands in North Carolina. The role of nonprofit organizations has long been important in natural resource management. As federal agencies face smaller budgets, yet higher costs and more lands to manage, determining the abilities of these agencies to partner with nonprofits will be of significant benefit. A sample of nonprofit organizations in the Raleigh, NC area have been contacted due to their involvement in coastal work. A managerial staff person with each organization will be interviewed using a set of guide questions. Transcripts will then be uploaded into NVIVO (Version 11) for thematic analysis. Snowball sampling will be used to contact two coastal parks/public lands managers for a corresponding interview. The outcomes of this study will be meaningful illustrations of specific nonprofit-government partnerships in North Carolina’s coastal areas, as well as comparative values across nonprofits.

Keywords

Parks, Nonprofit, Partnerships

Lead author /
Session organizer

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What will I get out of this?

Participants will explore how monitoring, application of policy and planning, and diligent outreach and communication can address user impacts in this new discipline.

Abstract

In 2010, over 123 million people or 39 percent of the nation's population, lived in counties directly on the shoreline, with ten million more expected by 2020. Many parks are located squarely in the middle of our crowded coasts and face demands on their resources for marine recreation, seafood, infrastructure, and other needs. The land-based organizational culture of the National Park Service is playing “catch-up” on marine issues. Parks and programs are developing scientific information, garnering public support, and choosing actions to address overuse and degradation of marine resources. These stories can be shared and their value multiplied across parks and other protected areas with aquatic resources to build a community of practice. This session explores how to understand and manage certain priority uses of ocean and coastal parks and brings several valuable case studies and approaches to light.

Keywords

coastal, planning, visitors

Lead author /
Session organizer

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Relative Roles of State and Federal Jurisdiction in Managing Coastal Parks

Creating a Marine Reserve in Dry Tortugas National Park: Science, People, and Process

Implementing a Partnership Strategy to Increase Marine Resource Protection, Enjoyment and Adaptive Management in

Dispersed Fishing Use Monitoring Using GPS: Proof of Concept at Fire Island National Seashore

Aquaculture in Coastal Parks: Growing Out of Control?

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What will I get out of this?

There are lessons to be learned from Parks Canada's ability to significantly expand its national park and marine conservation area systems.

Abstract

The creation of new national parks and protected areas is a political decision. Since 2003, the Canadian government has authorized the establishment of seven new national parks totaling 82,437 km² and two new marine conservation areas totaling 14,380 km², as well as significantly expanding several existing parks by almost 32,000 km². This has been accomplished as a result of several factors including the involvement of Indigenous Peoples and provincial and territorial governments, federal budgets that fund system expansion, strong support from environmental groups, support by specific commercial interests, and continuing traditional land uses by non-Indigenous populations under certain conditions. This presentation will summarize these accomplishments, the techniques used to secure this legacy, and the lessons learned from this work. It will also identify future protected areas that will be added shortly to the system.

Keywords

Canada, establishment, Indigenous

Lead author /
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authors / organizers

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Social Science and Planning: Applications in the National Park Service

What will I get out of this?

To provide context for how and why the National Park Service incorporates social science research into Visitor Use Management planning.

Abstract

Planning for and managing visitor use is at the heart of the National Park Service mission. Proactively planning for visitor use supports responsive management that increases the ability of the NPS to encourage access and maximize visitor opportunities. This planning process is greatly informed by a variety of social science information that is often collected within the context of specific planning efforts. During this session a brief overview of NPS visitor use management planning will be provided followed by individual presentations on four topic areas where social science information is highly applicable to visitor use management planning: decision space, civic engagement, data types, and data integration. Each presentation will explore critical questions relating to the role of social science information within each topic. As a collective they tell the story of how data is used in planning from project initiation to preparing a final document.

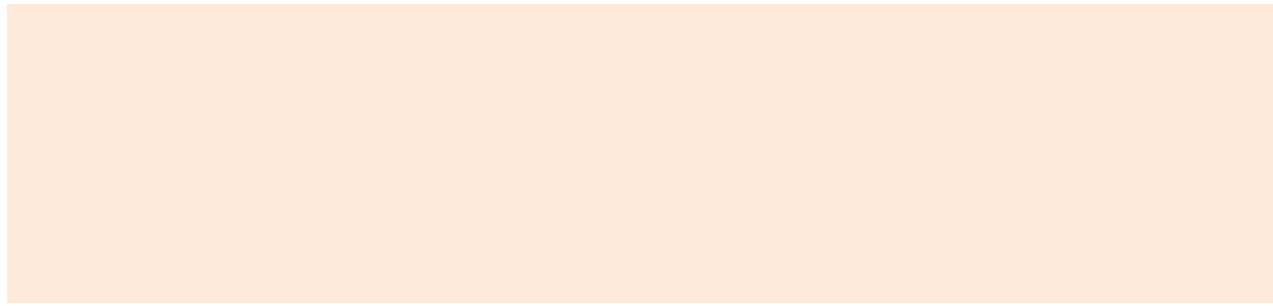
Keywords

Planning, Social Science

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Establishing a decision space: identifying planning issues, project scope, and research questions

Civic engagement: beyond involvement and into social science information

Sliding scale of data types: identifying what is needed and in what format

Putting it all together: integrating data into the planning process

What will I get out of this?

The NPS is challenged now more than ever with issues of relevancy and visitor management. Socio-Economic monitoring describes existing conditions and evidence for decision making.

Abstract

The National Park Service (NPS) recorded over 307 million recreation visits to park units in 2015. This record level of use demonstrates the public's interest in national parks and coincides with the NPS centennial year efforts. Despite the apparent success of increasing overall use of park lands, it is difficult to measure the broader benefits and implications. Socio-Economic Monitoring (SEM) data can provide evidence to inform a wide range of visitor experience and service issues. This session will highlight a wide range of developments and refinements that are collecting park visitor and public information for the NPS. Reaching new and more diverse audiences, accurately counting park visitation, and understanding the economic benefits to local communities and the nation as a whole from visitation and tourism as stated in A Call to Action start with understanding existing socio-economic conditions and tracking trends of NPS visitors and non-visitors alike.

Keywords

Socio-Economic Monitoring

Lead author /
Session organizer

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The Need for Comprehensive Socio-Economic Monitoring for the National Park Service

The National Park Service Comprehensive Survey of the American Public: Past, Present and Future.

Development and Pilot Implementation of an In-park Socioeconomic Monitoring Program

Socio-Economic Monitoring Data for Visitor Spending Effects Modeling

Counting on visitors: Monitoring National Park Service Visitation through the Public Use Statistics Program

iSWOOP, Interpreters and Scientists Working on Our Parks

What will I get out of this?

Park leaders can play a gate-opening role in facilitating communication about park-based science between interpreters, scientists, and the public. Presenters will highlight promising strategies.

Abstract

Research in parks is vital. Though scientific research often uses cutting-edge methods, requires acts of courage, involves determination and persistence to arrive at startling results, these stories are not always visible or obvious to the public. iSWOOP offers promising strategies for increasing the prominence of park-based research. Presenters will speak to preliminary findings about the usefulness of research briefs, field work conducted by interpreters led by scientists, and the role for data visualizations. iSWOOP is aligned with the 21st century interpretive competencies.

Keywords

science, communication, relevance

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One or more of the following will join me:

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Nickolay Hristov, Winston-Salem State University, co Project Director

Louise Allen, Winston-Salem State University, coProject Director

Abe Miller-Rushing, Acadia National Park, Science Coordinator

Marc Albert, Boston Harbor Islands National Park Area, Stewardship Program Director

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Multi-Scalar Approaches to Addressing Climate Change Impacts on Cultural Heritage

What will I get out of this?

This session will bring together NPS programs and partner institutions to discuss ongoing scaled-approaches to assess climate change impacts on cultural heritage.

Abstract

Recent NPS work clearly recognizes multiple connections between cultural heritage and climate change. These can be summarized as “impacts on cultural heritage from climate change and capacity to learn from cultural heritage about human history with variable climates and environments.” While both connections are essential to climate change response, it’s difficult to learn from heritage that has been damaged or destroyed. Therefore, this session takes a dive into understanding impacts of climate on cultural heritage. The session will set out a multi-scalar view of current practice – How are heritage materials being affected by climatic changes? How are we assessing impacts at the field/resource level? at the regional level? at the national level? The session will then ask the audience: What next? How do we continue to grow and inter-relate these efforts to ensure that stewardship of cultural heritage is strong enough to meet challenges projected by climate change?

Keywords

Climate Change; Heritage

Lead author /
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Planning for Impacts at the Regional Scale

Landscape-Scale Vulnerability Assessments

Thresholds Research, Case Study at FOUN

Thresholds Research in the NPS (NCPTT)

Landscape-Scale Vulnerability Assessments

Reaching Out on Scaling Up: Lessons from Landscape Scale Conservation

What will I get out of this?

This session will focus on the difficult realities of landscape-scale conservation. Participants will share lessons learned and yet-to-be learned about networked governance.

Abstract

Climate change, habitat fragmentation and globalization require that conservation work at ever-larger scales. As we “scale up” to system-level planning and connectivity conservation, we must complement site-level management to accommodate and embrace a multiplicity of ownerships and interests across landscapes of diverse and competing land uses. But while the rationale for collaborating in this way is clear, the mechanisms are not. Institutional, economic and cultural barriers abound. This session will follow on the recent George Wright Forum theme issue on Scaling Up: Landscape-Scale Conservation. It will begin with short presentations but encourage audience sharing of experience. As part of this discussion, participants will explore issues in what is coming to be known as networked governance: shared decision-making over different types of protected areas and other conserved areas by a diverse network of organizations and individuals with interdependent interests in affected land and resources.

Keywords

landscape scale governance

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Session organizer

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Emily Bateson, Executive Director, Practitioners’ Network for Large Landscape Conservation

Christina Marts, Assistant Superintendent, National Park Service

Overview: Opportunities and Challenges for Scaling Up from a Networked Governance Perspective

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National Parks and the Scaling Up Imperative

Chesapeake: A Network of Conservationists Across 64,000 Square Miles

TBD

What will I get out of this?

Lessons from recent conservation experience with nature-culture linkages challenge the assumption that managing nature and culture separately is the most effective approach for protected areas.

Abstract

Nature and culture are deeply entangled in landscapes/seascapes around the world. Even so, there exist strong dichotomous conservation traditions in North America and other regions that addresses nature and culture separately. Recent on-the-ground experience has demonstrated that in many landscapes natural and cultural heritage are inextricably bound together and that conservation approaches benefit from more integration. Drawing from a Nature-Culture Journey at the 2016 IUCN World Conservation Congress, five short panel presentations will examine experience with integrated nature-culture approaches in World Heritage Sites and other protected areas in the US, Canada, Meso-America, and Europe. These case studies will serve as the basis for a facilitated dialogue among panelists and participants to identify strategies for making connections across this nature-culture divide. Discussion will also examine how this integrated approach challenges commonly held definitions and perceptions of nature and culture and ways to advance a more integrated approach to conservation.

Keywords

nature-culture, dichotomy, conservation

Lead author /
Session organizer

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Jonathan Putnam and Jessica Brown

If this is a session of
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Interlinkages of nature and culture in landscape/seascape: Experience from the Pacific Islands

Linking nature-culture in World Heritage: Belize Barrier Reef Reserve System and Sian Ka'an Biosphere Reserve

The role of nature-culture connections in conserving and sustaining a traditional landscape

Nature-Culture connections in conservation of Hortobagy National Park and World Heritage Site, Hungary

What will I get out of this?

Emerging initiatives recognize that natural and cultural heritage are bound together in many landscapes and seek to identify next steps to advance integration in conservation.

Abstract

There is growing evidence that natural and cultural heritage are closely interconnected in many landscapes/seascapes and effective conservation of such places depends on better integration for planning and management. Natural and cultural heritage experts face similar conservation challenges in places with complex interrelated ecological and cultural networks and each brings a body of complementary knowledge and capacities. In response, ICOMOS and IUCN co-sponsored a Nature-Culture Journey at the September 2016 IUCN World Conservation Congress in Hawai'i, a series of over 50 related sessions that explored examples and produced a statement of commitments for advancing good practice. It was agreed that additional dialogue was critical to more fully explore and advance this approach to conservation. 10-minute panel presentations will reflect on this Journey and describe collaborative initiatives in key areas of conservation practice. Discussion will highlight examples of integrated conservation strategies and identify next steps to advance this work.

Keywords

nature-culture interlinkages, conservation

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IUCN's perspective on the importance of interlinkages of nature and culture for conservation

ICOMOS's perspective on the importance of interlinkages of nature and culture for conservation

IUCN CEESP perspective on the importance of interlinkages of nature and culture for conservation

Protected Landscape/Seascape perspective on the importance of interlinkages of nature and culture for conservation

Conserving Climate Change Refugia as a Climate Adaptation Strategy

What will I get out of this?

We will showcase the latest science on climate change refugia and how NPS managers are focusing on them to improve resource management and conservation

Abstract

The novelty, uncertainty, and complexity of climate science make it difficult to translate into action on-the-ground. Speakers will present a framework for identifying and conserving climate change refugia, areas buffered from climate change that enable persistence of physical, ecological, and cultural resources, as a potential climate adaptation option, with NPS examples of how they are being managed. Toni Lyn Morelli will chair, with an overview presentation of 15 minutes followed by a 5-minute Q&A session. That format of 15+5 minutes for Q&A will continue with four other speakers: Glacier NP Superintendent Jeff Mow, USGS Biologist Jennifer Cartwright, Devils Postpile NM Superintendent Deanne Dulen, and Alec Nelson (all confirmed, presentation titles above). For the final 20 minutes, Morelli, Mow, Dulen, John Gross, and Gregor Schuurman would act as panelists to dialogue with the audience. While the presentations are ongoing, questionnaires will record audience interests and questions they have for the panel.

Keywords

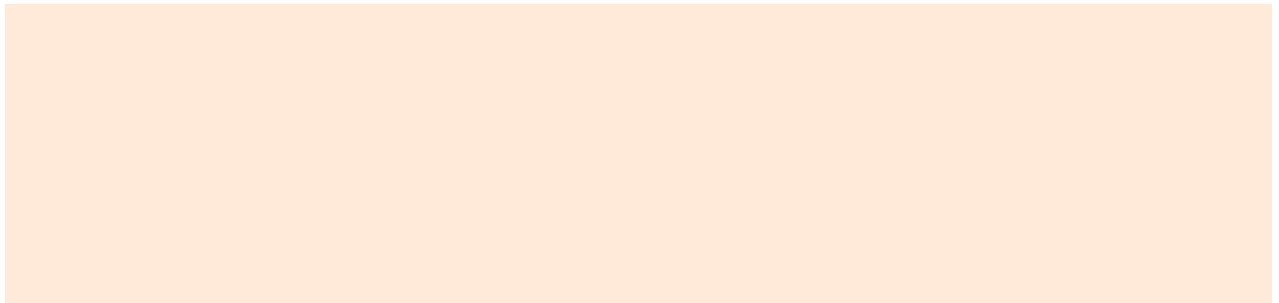
climate change adaptation

Lead author /
Session organizer

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authors / organizers



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Managing Climate Change Refugia for Biodiversity Conservation

Climate change refugia for cold water fisheries

Remote sensing approaches to identify drought refugia

Soda Springs Meadow as a Climate Change Refugium

Confirmed

Is Citizen Science a Sustainable Resource Management Tool?

What will I get out of this?

Session challenges obstacle that citizen science is irresponsible or not in the best interest of resources to have amateurs doing science.

Abstract

The jury seems to still be out regarding the role of citizen science in cultural and natural resource management. Some managers wonder about the “science” aspect and if their discipline counts. Others worry that public involvement may irreparably harm the resources, or draw attention to sensitive data. In an age when the press is full of stories about vandalism, climate change and changing demographic populations, citizen science may offer solutions that broaden public engagement and build public land managers’ capacity. Is citizen science a sustainable practice? How does a responsible project come together to reflect the best in public lands stewardship? What are the traditions impeding citizen science? If you’re on the fence about citizen science, or feel strongly one way or the other about it, this is the session for you.

Keywords

citizen science, resources

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Chief of Natural Resources, National Park Service

VISTA, National Park Service

Education Specialist, National Park Service

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Cooperative Ecosystem Studies Units: Accomplishments and Future Directions

What will I get out of this?

NPS annually allocates ~\$40 million through CESUs for technical assistance, research, and education projects. This session will help NPS clarify and improve services.

Abstract

Founded in 1999, CESUs deliver expertise to NPS for technical assistance, research, and education projects. A NPS Research Coordinator (RC; who holds a PhD in a natural or cultural resource field) at each unit is available as a science advisor to parks, regions, and WASO programs. Serving both natural and cultural resources, CESUs annually facilitate approximately \$40 million of NPS funding. While NPS budgets have been flat to effectively declining, use of CESUs grows as their value becomes better known, as the number of repeat users grows, and as access to disciplines is broadened. Still, many are unfamiliar with CESUs and the RC role. This session will (1) demonstrate program value, (2) describe services offered by RCs, and (3) solicit input to refine RC services and function. We welcome those familiar with CESUs and especially want to attract attendees who are unfamiliar with the program or have ideas for improvements.

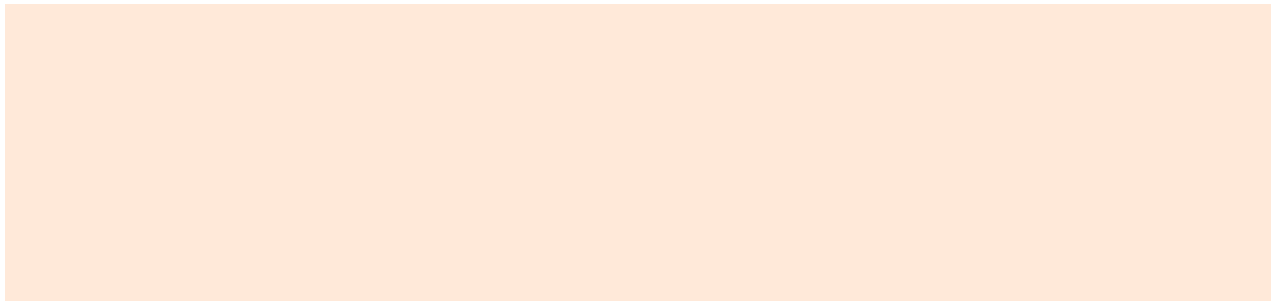
Keywords

CESU, research, cooperative

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Session organizer

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The Big Picture: Introduction, Issues, and Workshop Structure

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If not for the CESU Program

Research Coordinators and the PWR Science Strategy

The Science Advisor Role: Practice and Potential

Where do CESUs go from here?

Cultural Resource Conservation Practices: Assessing Trends in Prosecuting Archeological Site Destruction on Federal Lands

What will I get out of this?

This study presents rare data about archeological looting and vandalism. Analytic results assist in developing ways to better protect archeological resources on Federal lands.

Abstract

One component of place-based conservation is resource protection. How do we build agency-wide conservation practices that protect cultural resources? Mudar and Burgin examine current Federal agency conservation practices for protection of archeological resources. Using data on all Federal prosecutions of violations of the Archaeological Resources Protection Act (ARPA) from 1986-2012, and a sample of agency-reported infractions, the authors demonstrate that ARPA prosecutions decline over time, but that the prosecution success rate increases. A significant number of looting incidents are handled informally by the land manager through other means, and through other types of prosecutions. Comparison with reported incidents of site damage demonstrates that looters and vandals are apprehended less than 1% of the time. Recommendations include a need for more accurate reporting in order to assess success of conservation practices.

Keywords

ARPA, looting, prosecutions

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What will I get out of this?

This project highlights the use of citizen science, cross divisional collaboration, and the use of technology to draw visitors into deeper understanding.

Abstract

Acoustic monitoring of bats to determine baseline species diversity at elevation gradients (5000 – 8000 ft elev) along the Highway 120 corridor of Yosemite National Park. This project was a cross divisional effort: involving Yosemite’s Resource Management and Science as the guidance and support, and interpretive rangers and wildlife interns working hand in hand with the public to conduct an educational program while beta testing Sonabat4 to collect data. This project proved to be an effective mode of inviting visitors into science in the park, interacting with a species that visitors don’t normally see, and integrate new technology into a direct experience with the parks through audience centered interpretation and hands on science. The next step Summer 2017 “The Yosemite Bat Channel” – a live feed on the Yosemite website of the bat activity in Yosemite Valley. This will be supported by curriculum to engage students in inquiry based science.

Keywords

Bats, Citizen-science, interpretation

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What will I get out of this?

The presentation will share examples and experiences of fruitful cooperation between a park agency and Indigenous governments and organizations during the park establishment process.

Abstract

In the past 25 years, Canada’s national park system has grown in area by 85% through the creation of over a dozen new national parks. Most of the area added to the National Park system has come as a result of agreements negotiated with Indigenous communities and organizations. The relationships established during the work to create the new park are fundamental to the success of the project and ultimately to the successful cooperative management of the park in the future. The presentation provides examples of park establishment projects, with lessons learned and key results.

Keywords

negotiation, indigenous, collaboration

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Using motion-activated photography to evaluate physical activity in parks

What will I get out of this?

Attendees will learn how motion-activated cameras aid in tracking visitor activity type to connect parks and health.

Abstract

Park professionals and researchers often identify visitor activity type (e.g., runners, bikers, walkers) to evaluate the physical health benefits of parks. However, identifying and monitoring visitor activity types at multiple locations within a park unit is time consuming, resource intensive, and subject to observer error. Therefore, managers and researchers have begun using motion-activated cameras to document visitor activity to assess the health benefits of parks. Past studies have suggested time-lapsed and motion-activated cameras to be affordable, efficient, and provide digitally formatted data that clearly differentiates between activity types. The motion-activated camera method helps provide managers with valuable information for National Park Service (NPS) initiatives, such as Healthy Parks, Healthy People, to document the connections between parks and health. This poster will outline the motion-activated camera method, its past applications in parks and protected areas, rationale for use, and recommendations for use in diverse environments, including NPS units.

Keywords

camera, health, parks

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What will I get out of this?

This talk will demonstrate the implementation of important restoration techniques and methods and show how these can be applied in other parks.

Abstract

In response to a century of change , Yosemite National Park developed ecological restoration objectives as part of the Merced River Plan. Now in its second year of implementation, we are working to re-establish wetlands, restore connectivity of meadows threatened by conifer encroachment and restoring critical riverbank habitat. This paper provides an overview of the park’s efforts to restore meadows and riverbanks from many years of encroaching infrastructure and heavy visitor use. Objectives for the next five years include removal of historic recreation infrastructure, introduction of large wood to build floodplains, removal of rip-rap and bio-engineering of riverbanks, and the restoration of 80 acres of former meadow habitat through conifer removal and prescribed fire. The talk will share lessons learned from large scale restoration projects and discuss the challenges in restoring ecological function to systems with a long history of intervention.

Keywords

Ecological Restoration

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The effects of transportation related noise on experiential and ecological conditions in Parks

What will I get out of this?

Transportation contributes to anthropogenic noise in parks that presents unique challenges to protect and improve park soundscapes. This session provides an update on current knowledge.

Abstract

As use in national parks continues to rise and types of activities continue to diversify, managers are challenged to protect natural and cultural soundscapes from increasing amounts of anthropogenic noise related to park visitation. Transportation noise is a major contributor to anthropogenic noise in parks that presents unique challenges and opportunities to protect and improve park soundscapes. Using nationwide case studies and current research approaches, this session will focus on protecting natural and cultural soundscapes and the complexities of improving the acoustic environment. The session is comprised of presentations focused on issues related to over-flights, transportation noise modeling, coupled-human ecosystems modeling, and the effects of noise on people and wildlife. The session will include five, 20-minute presentations and a Q&A session. Attendees will emerge from the session with a clear understanding of the 'state-of' acoustic management and research in parks.

Keywords

Transportation, soundscapes, management

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Overflights and Parks: An Update

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The effects of natural and anthropogenic noise on climber experiences in Grand Teton National Park

Effects of anthropogenic noise on wildlife: Synthesis and case studies

The significance of soundscapes in coupling biodiversity, psychological ecosystem services and conservation in National

New tool to measure and minimize transportation noise

Perceived Health Benefits Associated with Engagement with Klondike Gold Rush National Historical Park

What will I get out of this?

Parks are more than the location where physical activity takes place; we must advance our understanding of the many ways park engagement influences health.

Abstract

Goal three of the National Park Service's 2011 call to action is: EXPAND the use of parks as places for healthy outdoor recreation that contributes to people's physical, mental, and social well-being. While seemingly a comprehensive view of health, this definition places health within discrete domains. This leads to simplistic conceptions of how people experience health in parks, often with the emphasis of physical health and casual mention of mental health. The goal of this case study of Klondike Gold Rush National Historical Park is to explore how diverse visitor populations (cruise ship passengers, multi-day backpackers and independent visitors) conceive of their own health through park engagement as well as how park employees perceive how visitors experience health. How we view nature colors how we see people in nature, which then affects what is healthy in nature. Through this exploration, I hope to expand the definition of health in parks.

Keywords

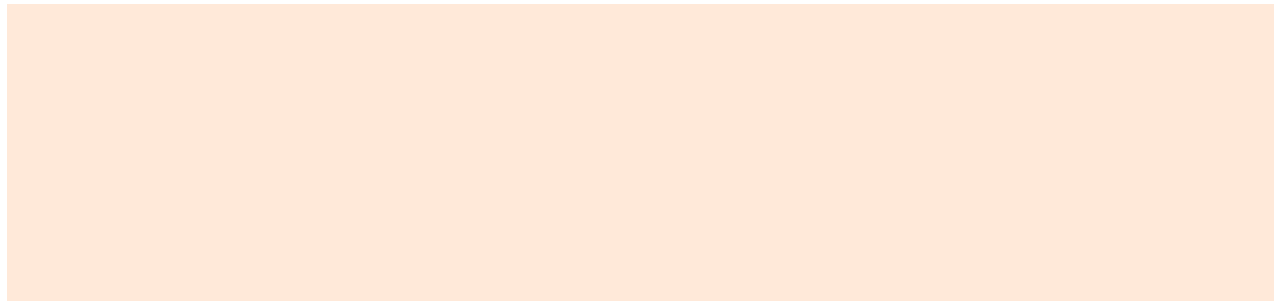
Health, Engagement, Social

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Keep Your Chinn Up: Lessons Learned in Managing for Change During WWII

What will I get out of this?

The fall of Chinn House from 1936-1950 serves as a case study of success and failure in managing change toward "the heritage of the future."

Abstract

Hazel Plain, later known as the Chinn House, was likely built around 1769 on land that is now part of Manassas National Battlefield Park. It was an example of the Georgian architectural style for plantation houses and served as a field hospital during the battles of First and Second Manassas. The U.S. Government acquired the property in 1936, when the house was 176 years old. The National Park Service planned to restore it, but World War II got in the way. By 1950, NPS razed the house down to the foundation because it had become such a safety hazard. It is now unusual among ruins because recent cultural landscape inventory compiled photographic documentation of its fall from a standing structure to foundations. This case study of devolution is an example of how resource management through triage and documentation in a time of major change affects "the heritage of the future."

Keywords

Chinn, House, Preservation

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Evaluating a Blended Approach to Climate Change Literacy

What will I get out of this?

In this session, we will examine three different models of climate change workforce training, with an exploration of relative benefits and success.

Abstract

The Department of the Interior has recently prioritized climate change literacy a focal effort of workforce development across all bureaus for FY17 and beyond. As such, the National Park Service (NPS) recently completed a Workforce Climate Change Training Needs Assessment and Strategy that identifies necessary workforce capabilities to meet the bureau mission, and prescribes a blended approach to the delivery of necessary training. In this session, we examine three distinct models of climate change communication training currently offered to NPS employees. Presentations will explore the costs, benefits, and outcomes of each model, detail recent successes, and identify potential opportunities for improvement over time.

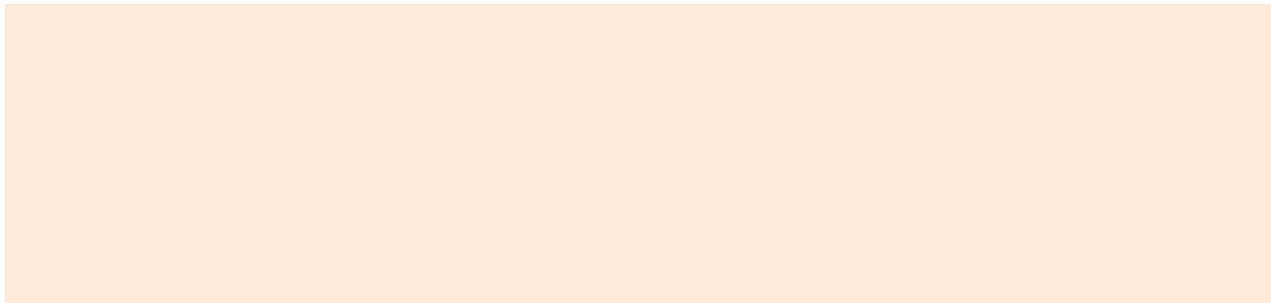
Keywords

Climate, Training, Workforce

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Climate Change Training Needs Assessment and Strategy

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The Earth to Sky Partnership

Interpreting Climate Change Virtual Course

Self-Paced Climate Change Training

Fostering Audience Engagement on Climate Change Through Novel Wayside Exhibit Design

What will I get out of this?

Audience members will become familiar with novel wayside elements and strategies that can be replicated across most protected areas and adapted to various park topics.

Abstract

In 2012, the National Park Service Climate Change Response Program partnered with multiple parks and programs to initiate a service-wide project to develop an interconnected network of waysides to engage visitors on changes to sea level and phenology occurring as a result of climate change. The multi-year project resulted in innovative solutions that modernized wayside design and incorporated novel elements to foster engagement, encourage interaction, and facilitate citizen science. The outcomes of the project can serve as a model for future iterations of similarly-themed climate change wayside exhibits in other protected areas. This poster will explore project history, deliverables, and measures of success.

Keywords

Climate, Exhibits, Communication

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Creative Edges and Innovative Brokers: Social Network Structure, Resilience, and the National Park Service

What will I get out of this?

This poster will relate the value-added opportunities that partnership networks harbor. Viewers will learn about structures that may increase institution, location, and systems resilience.

Abstract

The Urban Agenda of the National Park Service (NPS) provides opportunity for critically examining partnerships to promote connections to proximate populations. Although one-on-one partnerships are often probed, the critical broader scale of overall NPS relevance and cityscape resilience in networked partnerships is less examined. Examining different relationship networks may help identify structures that promote the building and maintenance of partnerships for NPS (and other institutions') relevancy. To this end, we conducted an ego-centric social network analysis in three cities with differential NPS physical presence: Boston (urban-embedded parks), Tucson (urban-adjacent park), and Detroit (programmatic-only). Relationship networks identified by NPS staff tasked with being urban conveners (N = 39/Boston, 80/Tucson, and 79/Detroit) were surveyed as to the strength and directionality of relationships, as well as the potential for new future relationships. This research yielded findings of interest to managers working in concert with other organizations and to theories of collaboration and resilience.

Keywords

quantitative, urban, collaboration

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Robert Manning - University of Vermont

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What will I get out of this?

Ever wonder how the natural resource conditions in your area fit into the bigger picture? Come learn what NPS knows about resources across the US.

Abstract

As resource professionals we spend a lot of time studying the minute details of research questions. This session will provide an opportunity for stepping back and looking at what science in parks is telling us about our natural resources at a national level. We will also hear from subject matter experts about major trends and our evolving approach to understanding resources. Resources covered will include air quality and scenic views, geology, climate change, natural sounds and night skies, and invasive plants.

Keywords

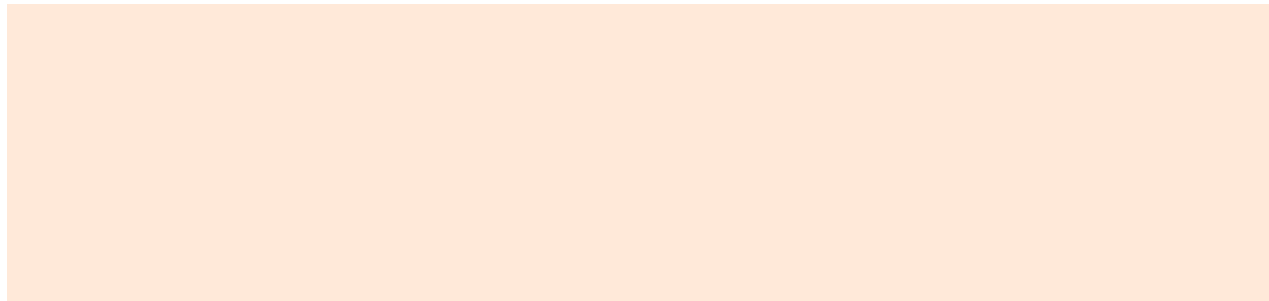
Resource, Condition, Science,

Lead author /
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Clean Air and Clear Views... Are we there yet?

This place rocks! Digging into the geologic foundation of national parks

Climate Change and Our National Parks

Advances in Managing for Natural Soundscapes and Lightscares

Getting a Grip on Invasive Plants

GPS Visitor Tracking to identify ideal locations for park staff-visitor interactions at Cumberland Island

What will I get out of this?

This presentation will outline the management issues, methods, and describe how GVT can help identify the locations and times for efficient park staff-visitor interactions.

Abstract

Park volunteers, rangers, and staff are often placed along key visitor travel routes and destinations. However, determining the locations and personnel resources to effectively intercept visitors is complex and often varies by season. GPS Visitor Tracking (GVT), which consists of distributing small GPS units to visitors, helps identify visitors' temporal and spatial travel patterns and the variation of those patterns across seasons. Consequently, GVT can help identify key locations and resources needed for ideal park staff-visitor interactions across and within seasons. This study gathered seasonal GPS tracks of day-use visitors at Cumberland Island National Seashore (CUIS) and analyzed the tracks using GIS. Resulting data illuminated visitor travel routes, and the ideal locations for park staff-visitor interactions at the seashore. The presenters will display a series of maps and emphasize the management implications at CUIS and beyond

Keywords

GPS Visitor Tracking

Lead author /
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Dr. Matt Brownlee is an Assistant Professor of Natural Resources Recreation Planning and Management at the University of Utah. His inter-disciplinary research links outdoor recreation and resource management, and provides information to help park and protected area managers plan for, monitor, and evaluate visitor experiences. Dr. Brownlee also examines how nature-based recreationists' interactions and attachments to climate-sensitive and impacted environments influence their a) attitudes towards sustainability initiatives, b) visitation and recreation behavior, and c) opinions about global climate change. His research generally incorporates student learning and addresses a pertinent management need in addition to unanswered academic questions.

Dr. Ryan Sharp is an Assitiant Professor in the Park Management and Conservation program at Kansas State University where he teaches and conducts research related to visitor use management in parks and protected areas.

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What will I get out of this?

Examine history of park landscape design. Explore successes and challenges of primitive area protection.

Abstract

At the height of the Mission 66 development frenzy, Fort Bowie National Historic Site was established to preserve the ruins of one of the most important military centers active during the Indian Wars. Anticipating 400,000 visitors yearly, Fort Bowie's first design plan envisioned full site development and a cable car to transport visitors to the ruins. Others saw a historic environment unaltered by human intrusion. By preserving Apache Pass in a primitive state, the visitor would instead experience a landscape of Historic Abandonment. Still without an entrance road, today's visitor must hike this foreboding landscape marked by past tragedies and redolent of ghosts to reach the Fort ruins. Though visitation numbers are small, hikers almost uniformly praise this park experience as one of the best. However this primitive area designation has engendered challenges -- ecological, administrative, and financial -- that were unforeseen at Fort Bowie's inception.

Keywords

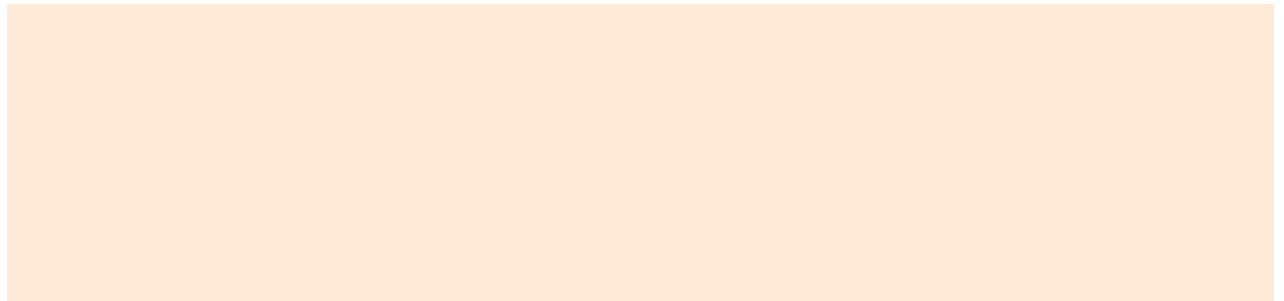
primitive area, design

Lead author /
Session organizer

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Update on U.S. World Heritage Program

What will I get out of this?

Will be of particular value to managers of U.S. World Heritage sites, those on the Tentative List, and those interested in becoming World Heritage sites.

Abstract

During 2016 - 2017, the U.S. World Heritage program has been very active. A newly revised U.S. World Heritage Tentative List was announced in early 2017 and one or more nominations to the World Heritage List are being considered. In addition, the NPS is working to develop draft guidance to Department of the Interior agencies regarding how to consider World Heritage values in planning activities, with the ultimate goal to make such guidance government-wide. Input from managers of World Heritage sites in the U.S. on this guidance will be sought at this session. We will also provide updates on other aspects of the World Heritage program, including the World Heritage Fellowship, dues to UNESCO, and other hot topics.

Keywords

World Heritage, international,

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International Cooperation Specialist, Co - Presenter on Above topic

What will I get out of this?

Sea level rise is putting an already critically imperiled ecosystem at more of a risk. How do we manage this?

Abstract

The Sunken Forest is a critically imperiled (G1 status) habitat and is one of only two known old-growth maritime holly forests in the world. The park has been studying the vegetation of the Sunken Forest for the last 50 years, via permanent vegetation plots. This data has shown that the understory is extremely impacted from deer browsing. More recent data (over the last decade) has identified erosion and vadose zone thinning as an additional pressure causing mortality in the understory and canopy of the forest. The erosion on the bayside of the Sunken Forest has been exponential causing mortality of trees and understory vegetation. The mortality of vegetation in the lower portions of the forest is most likely due to the thinning of the vadose zone, the unsaturated portion of earth underlying ground water system. This is caused by both erosion and the rise in sea level.

Keywords

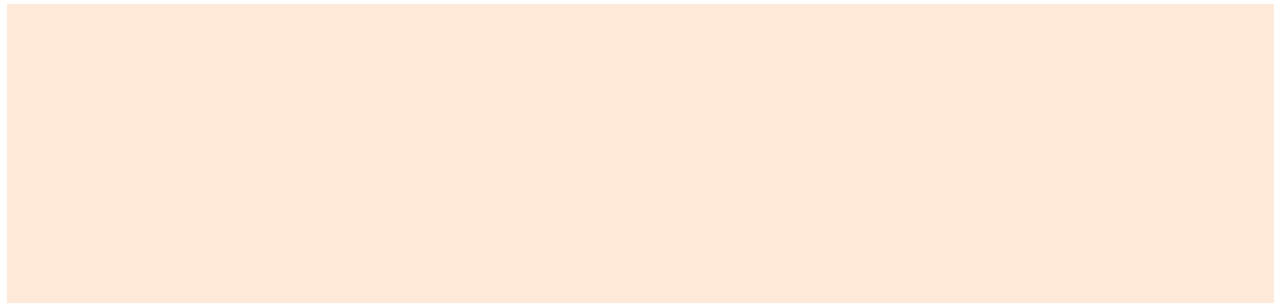
sea level rise

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authors / organizers



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What will I get out of this?

Management of a forest pest to protect forest health in a National Park

Abstract

Southern pine beetle (*Dendroctonus frontalis*), native to the southeastern United States, has expanded its range northward. In October 2014, southern pine beetle (SPB) was discovered at Fire Island National Seashore. Southern pine beetles are known to mass attack pines trees which overwhelms the tree, killing them within two to four months. Since the presence of the SPB was confirmed at Fire Island National Seashore (FIIS) in the fall of 2014, Seashore staff have monitored infestations and taken action to slow the spread of the beetle across the park. During this time more than 1,500 trees have been identified as infested within federal tracts on Fire Island. The Seashore quickly responded to the new infestation utilizing suppression methods implemented throughout the Eastern United States. SPB is suppressed by cutting down, or felling, infested trees. Results so far show that the effort has slowed the spread of the beetle at the park.

Keywords

forest health

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Hurricane Sandy Dune Overwashes in Fire Island’s High Dune Wilderness Area and Subsequent Vegetation Recovery

What will I get out of this?

habitat recovery after a hurricane

Abstract

One of the most significant natural impacts to park lands from Hurricane Sandy was dune overwashes. These overwashes pushed sand northward into the interior of the island, burying the coastal habitat that existed behind the former dune. Overwash areas were monitored for vegetation recovery and data quickly showed coastal habitats rebounding. Incorporated into the overwash vegetation monitoring, deer exclosures were constructed around a subset of vegetation plots. The exclosures were built to determine if the abundant white-tailed deer (*Odocoileus virginianus*) population was influencing the habitat recovery. Thus far, data indicates that the total percent cover of vegetation is higher in exclosed plots vs open plots suggesting white-tailed deer may be influencing vegetation growth in the overwashes. Going into our forth growing season we’ve seen dune building plants, such as *Ammophila breviligulata* (American beach grass), help to slowly bring back the high dunes of this wilderness area.

Keywords

barrier islands, dunes

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What will I get out of this?

Current issues concerning regulations that limit the ability of buffalo to get to Tribes and the transfer of live buffalo from Yellowstone NP.

Abstract

The session will provide an update on current Tribal usage of buffalo acquired from federal facilities and show the positive impacts on Tribal life. ITBC has been assisting Tribes in acquiring buffalo considered “surplus” by federal parks and refuges since 1992. During that time Tribes have incorporated the buffalo into various aspects of their life and this session will show the impacts. Tribes have utilized the buffalo for cultural purposes, for addressing health issues and economic development. Current issues concerning regulations that limit the ability of buffalo to get to Tribes as well as the transfer of live buffalo from Yellowstone National Park will also be discussed. The role Tribes play in federal buffalo management and “conservation” of the species as well as the future of tribal buffalo management and the inclusion of federal “surplus” buffalo will also be discussed.

Keywords

bison, national mammal

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ITBC Executive Director

ITBC President, Blackfeet Nation

ITBC Region 4 Director, Taos Pueblo

ITBC Vice President, Standing Rock Sioux Tribe

ITBC Tribal Representative for Fort Peck Assiniboine & Sioux Tribes

Traditional Science: What is its Place in Protected Area Management Today?

What will I get out of this?

This session will explore the role of traditional science in protected area management today.

Abstract

This session will explore the role of traditional science in protected area management today.

Keywords

traditional science

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What will I get out of this?

We will build on our shared interests and experiences to strengthen the role of phenology in science, engagement, and conservation in the new century.

Abstract

Phenology, the study of recurring life cycle events like migration and flowering, is key to both understanding biological response to climate change, and in engaging the public in nature and the scientific process. Phenology monitoring, with both scientific and engagement dimensions, is underway in more than 50 protected areas across the United States. Short presentations will provide an update on these diverse efforts, giving examples of success in meeting science, resource management and education goals, while also addressing challenges faced. Through questions and discussion we will come to a shared understanding of the current status, and key next steps to maximize the value of phenology-related programs across protected areas. The session will also provide a great opportunity to meet fellow phenology enthusiasts!

Keywords

phenology, science, engagement

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Kathy Gerst, Research Scientist, USA-NPN

Jake Weltzin, Ecologist, USGS

John Gross, Ecologist, NPS CCRP

Phenology Citizen Science – Current Status Across Protected Areas

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AT Seasons: Partnering to Understand Phenology Across 11 Degrees of Latitude

Science in the Parks: Phenology for Climate Change Engagement at the Grand Canyon National Park

Citizen Science for Climate Adaptation: Integrated Phenology Research at Acadia National Park

Spring Onset Advancing at the National Park Service

Innovative Strategies for Inventory and Monitoring of National Park Service Paleontological Resources

What will I get out of this?

Paleontological Resources Preservation Act (2009) specifically mandates paleontological resource inventory and monitoring. This session shares new and effective strategies and methods for management of fossils.

Abstract

Advances associated with the inventory and monitoring of National Park Service paleontological resources are directly attributed to the rapid development of new technologies and specific legal mandates identified in new federal law. The Paleontological Resources Preservation Act (2009) specifically mandates paleontological resource inventory and monitoring, requiring federal land managing agencies to develop strategies and plans to support fossil management. This session will include presentations which reflect cutting-edge work which is transforming the methods and strategies in paleontological resource management. Paleontological resource photogrammetry, geospatial data acquisition, digital geologic mapping and other technologies collectively enhance opportunities for informing park managers and scientists. The benefits gained through the advances in paleontological resource inventory and monitoring have helped to promote science and stewardship of America's paleontological heritage.

Keywords

Paleontology, Inventory, Monitoring

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Integration of Paleobiological Data into All Taxa Biodiversity Inventories: A Temporal Perspective

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The Paleontology Synthesis Project: Data Management and the National Park Service's Fossil Record

Quantifying and Assessing Vulnerability of National Park Service Paleontological Resources

Paleontological Resource Monitoring of Coastal Areas at Point Reyes National Seashore, California

Photogrammetric Applications Supporting Paleontological Resource Inventory, Monitoring and Research

Emerging Threats and Triage: What is a Park to Do?

What will I get out of this?

The pace of new natural resource threats exceeds understanding. This effort raises awareness and proposes triage thinking and processes for parks to use.

Abstract

National Parks are increasingly under siege by known and unknown external threats to natural resources. Such threats include a wide variety of invasive organisms, diseases, pollution, development, and a changing climate. The pace of new and different threats far exceeds our understanding and development of specialized tools to combat the threats. Resource Managers are overwhelmed and with limited fiscal resources forced to frequently choose what to fight and what is a lost battle. This work is to elevate awareness of this struggle, especially to parks in the East, and to consider a triage approach to resource decision-making.

Keywords

external threats, triage

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What will I get out of this?

Learn how iNaturalist can encourage on-park plant and animal observations and how those data integrate into decision making processes for park use and development.

Abstract

Encourage your citizen scientists and visitors to embrace the digital age and collect data that become immediately available for educational programs and park management decisions. Learn how iNaturalist has been a successful program for Colorado Parks and Wildlife to help document biodiversity. This ongoing effort is providing new ways to connect visitors, staff and volunteers with biological resources. This presentation will focus on an overview of iNaturalist, our State Parks NatureFinder project, the challenges and opportunities that have presented themselves along the way and how these data are utilized for park management.

Keywords

citizen, GIS, technology

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Communicating coastal vulnerability and climate change adaptation strategies to varied audiences

What will I get out of this?

Clear, informative communication through various media and methods is crucial for garnering public support of parks' adaptation to climate change and coastal vulnerability.

Abstract

Parks and protected areas have opportunities to explain the role of climate change in increasing the vulnerability of coastal resources, and to describe how parks are preparing for and adapting to coastal changes in order to protect park resources and facilities. The topic of climate change can provoke heated discussions among park visitors and stakeholders. The conversation and public support for climate adaptation benefits from informative communication. In this session, parks and partners showcase various media and methods that they have developed to communicate with different types of public audiences about coastal vulnerability, the scientific and decision-making processes that inform park management, and park adaptation strategies and opportunities. Examples include interactive websites with teaching modules, interpretive wayside exhibits, newsletters, and synthesis reports.

Keywords

coastal, climate, adaptation

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Picture This: Using Novel Elements to Provoke Climate Conversations

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Animating Outreach: Designing public texts that move audiences toward community resilience

Communicating Place-Based Climate Change Adaptation in the Great Lakes: The Apostle Islands National Lakeshore

Communicating Sea-Level Rise and Coastal Resource Impacts in the Pacific West

Development of a Resource Stewardship Strategy Tool for the National Capitol Region

Gnarly problems: examining natural resource climate change adaptation in the NPS through the policy lens

What will I get out of this?

Here we showcase an NPS effort that analyzes current policy regarding adaptation, identifies where further guidance is needed, and provides a foundation for policy evolution.

Abstract

The advent of the NPS' second century is an opportunity both to reflect on 100 years of ground-breaking natural resource management and address emerging challenges. As managers seek to adapt stewardship approaches to an era of accelerating and complex global change, they confront the fact that many natural resource management policies, goals, and core management principles developed within a comparatively static climate paradigm. Efforts to shift management are therefore often considered in the absence of policy that clearly considers climate change and its impacts, and this situation can potentially inhibit effective climate change adaptation. This session features brief presentations followed by a panel conversation with a diverse group of NPS working group leaders who will share analyses of truly 'gnarly,' policy-related park questions about issues as diverse as fire and vegetation management, ecological restoration, endangered species and managed relocation, wildlife and human health, and climate-driven species extirpation.

Keywords

climate change, policy

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Managing wet meadow systems at Sequoia and Kings Canyon National Parks in a changing climate

Adapting to wildlife range and distribution shifts in response to climate change: the Desert Tortoise

Fuels management and shifting fire regimes

Infectious disease management in wildlife in the climate change context

'Take home' messages – grounding policy evolution for an era of continuous change

Either Leave No Trace...or no trace of this park will be left

What will I get out of this?

This session will examine state-of-knowledge of Leave No Trace research, sharing lessons learned and practical implications for management and directions for future research.

Abstract

Messaging promoted through the Leave No Trace (LNT) Center for Outdoor Ethics is the most prominent visitor education strategy in protected areas, with the goal of protecting resource and social conditions by positively influencing behaviors. To influence protected area visitor behaviors, we must understand those cognitive processes that drive behavior, and use that knowledge to influence behaviors in a manner that reduces impact. A growing body of transdisciplinary LNT research including paired recreation ecology and social science approaches has emerged, improving our understanding of scientific processes to protect resource and social conditions. This session will provide case study examples from expert panelists, describing innovative methods, results, and key lessons learned from these studies. Ultimately, this presentation will provide protected area managers and researchers with information that can be used to influence visitor behaviors in a manner that aligns with management objectives, and protects ecological and social wellbeing.

Keywords

LNT, Attitudes, Behavior

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Is dispersed pristine-site camping effective? Evaluating a Wilderness Therapy program in Grand Staircase-Escalante

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Special events on public lands: Understanding participants' attitudes so we can mitigate impacts.

Diffusion of the Leave No Trace Visitor Education Program in Two U.S. National Parks.

Strategies for understanding off-trail travel in an open-space environment: Pairing observation and self-report data.

Will they 'leave what they find'? Efficacy of a Leave No Trace program for youth.

What will I get out of this?

The Wilderness Act permitted mining in wilderness areas. For five pre-1984 GYE wilderness areas, only the New World Mine was a subsequent mining threat.

Abstract

The general public may think that mining cannot occur in wilderness areas. However, the Wilderness Act of 1964 permitted new mining claims to be filed in wilderness areas until the end of 1983 and allowed already existing mining claims to be “grandfathered” into new wilderness areas. The eight selected wilderness areas in the Greater Yellowstone Ecosystem (GYE) were designated between 1964-1984 and five of these were designated before the end of 1983. My research sought to determine how many mining claims existed in these five national forest wilderness areas adjacent to Yellowstone and Grand Teton National Parks from pre-designation until now. I was able to answer this question: did this 20-year mining claim window result in more mining claims today? The only attempt at mining in these eight wilderness areas was the New World Mine, next to the Absaroka-Beartooth Wilderness Area, halted through Presidential intervention beginning in 1995.

Keywords

wilderness, mining, Yellowstone

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Ocean Acidification: Clarifying and Enhancing NPS Effectiveness in Research and Monitoring

What will I get out of this?

NPS ocean acidification research/monitoring currently occur provincially and bottom-up. Would higher-level coordination improve quality and effectiveness? If yes, how could greater coordination be achieved?

Abstract

Ocean acidification (OA) as a marine manifestation of climate change is gaining ever more attention as an important threat to the health of ocean communities and associated human populations. Marine protected areas like national parks have an important role to play in understanding and responding/adapting to the issue. Currently, National Park Service OA activities (research, monitoring, outreach/education) are mostly de-centralized and originate at the park level. Panelists will present today’s NPS programs and emerging initiatives, both internally and with outside agency and institutional partners. The panel will then discuss among themselves and with the audience whether and how the current NPS “grass-roots” model can be enhanced by greater coordination to make the agency’s OA efforts more effective, and to maximize the NPS contribution nationally and internationally.

Keywords

acidification, ocean, marine

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What will I get out of this?

The presentation highlights the benefits of international collaboration and the importance of facilitating a global community for front-line rangers in the conservation of protected areas.

Abstract

The global impact of human activities on the environment has led to an increasing awareness of the need for information and knowledge exchange among protected areas on an international level. The challenge is often to reach the front-line protected area professionals directly facing these threats, including pollution, the effects of climate change, encroachment, poaching, and many others. The IRF World Ranger Congress (WRC) is a tri-annual event that brings together rangers from all over the world and provides them the opportunity to learn new skills, share knowledge, create partnerships and be inspired by their colleagues. In May 2016, over 300 protected area professionals from 71 countries attended the eighth Congress, hosted for the first time by the US and held at Estes Park, CO. This presentation provides an overview of the Congress, its successes and how it provided both formal and informal opportunities for collaborative partnerships to build conservation capacity.

Keywords

international, Rangers, Collaboration

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What will I get out of this?

Learn how the National Historic Preservation Act has shaped the practice of historic preservation in parks over the last 50 years and today.

Abstract

Fifty years after the passage of the National Historic Preservation Act in 1966, how have park professionals applied and adapted the law, how have parks innovated, and how have we applied the laws to create authentic places and experiences? What are we doing today that will take that legacy to the next level? "Fifty Years of Preservation in the Parks" will explore the parallels between the conservation and preservation movements of the mid-to-late 20th century, evolving trends in the application of historic preservation practice in parks, and the development of highly specialized ways of defining and caring for historic properties within national parks. The session will conclude with current practice, issues, and broad trends that are reshaping the profession of historic preservation in parks and beyond.

Keywords

Cultural Resources

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Connecting people and natural resources through social media

What will I get out of this?

With thought and creativity, social media connects diverse audiences to the NPS and its natural resources. Various platforms helped the NRSS directorate receive national attention.

Abstract

Fifteen years ago people heard “America’s Storytellers” share experiences through written and print publishes. Now, people can participate and share their experiences through social media, engaging visitors unlike ever before. Taking advantage of this opportunity extended the reach of the 2016 National Parks BioBlitz through vast social networks. This poster summarizes the reach of this event digitally. Presented by the number of hits, likes, comments, and posts garnered, social media proved to be a powerful tool for the NPS to promote and communicate with their primary audience for the event, even at one point trending as one of the top 10 most discussed topics on Twitter during the two day celebration. The success of utilizing social media for the event can be held as proof to park units as well as researchers the benefit of letting strategic and creative technology play a role in their respective missions.

Keywords

social media, science

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What will I get out of this?

Understanding of the NPS ethic facilitates their participation in the preservation of communities and identification of cultural values that reflect their histories.

Abstract

Mather High School was conceived as a way to realize several complementary aims in both preservation and education. NPS recognized an opportunity to begin to train a new generation of practitioners in the preservation trades, in a more hands-on way than had traditionally been available in the US. The NPS saw in the model a means to enhance the educational mission of the organization; increase engagement with the country’s changing demographic. The DOE saw an ideal focus for a Career and Technical Education school (CTE), an update of the 20th-century vocational-technical model where instead of being tracked into career skills training or a college preparatory education, all students receive both, with the two curricula (trades and core academic) drawing from one another to produce an engaging, relevant education for a wide range of public high school students.

Keywords

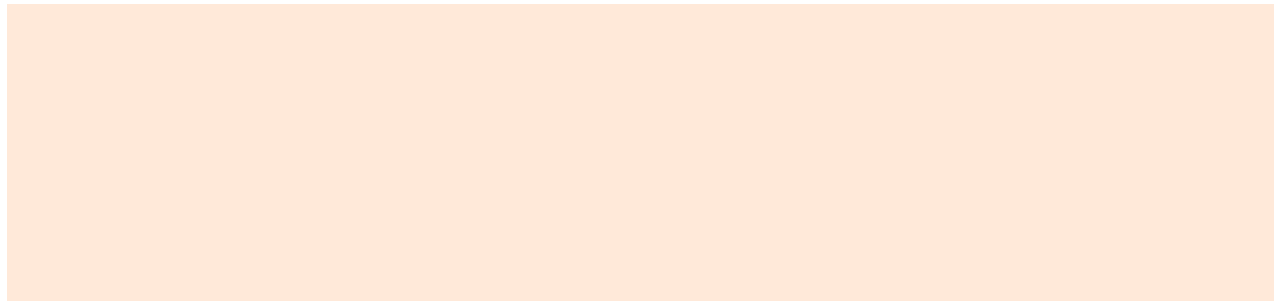
Education, Preservation, Hands-on

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The Next 100 Years: Principles to Guide the National Park Service

What will I get out of this?

By identifying ways to embed the principles of the Urban Agenda throughout the Service, this session will illuminate the potential of NPS to impact communities.

Abstract

As the NPS begins its second century, the agency continues to look for innovative ways to work with communities, leveraging its portfolio of parks and programs. The NPS designed an Urban Agenda to catalyze the adoption of three principles—Be Relevant to All Americans, Activate One NPS, and Nurture a Culture of Collaboration. While these principles were developed regarding the NPS’ role in urban areas, they have resonated with the Service. Exploring pioneering work in the NPS, partners, and communities, this session focuses on how parks, programs, and partners can work together to embed these principles in the NPS. Participants will discuss how these principles relate to parks, programs, partners, and communities and how we can enhance the dialogue around these issues and the role of the NPS in enhancing community quality of life. Participants will share examples of the principles in action, and opportunities for expanding those approaches.

Keywords

Collaboration, Relevancy, Parks

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Brent Mitchell, Senior Vice President, QLF Atlantic Center for the Environment

Michael Creasey, General Superintendent, National Parks of Boston

Gayle Hazelwood, Senior Urban Program Manager, National Park Service

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What will I get out of this?

Audience members will learn how a mixed-methods approach (manager focus groups and visitor choice modeling) could help managers make decisions despite rapid change and uncertainty.

Abstract

In this poster, I describe an interdisciplinary project seeking to answer: How will environmental and social changes and uncertainty influence management priorities in and visitor perceptions of U.S. National Parks? I conduct research at Joshua Tree National Park (JTNP), a landscape at the center of management concerns about the cultural and ecological consequences of rapid environmental change. Here, I present the results of a focus group with JTNP staff that discussed challenges facing the park and alternative management options in anticipation of those changes. This first phase of the research will lead to the design of a “choice experiment,” a survey instrument in which participants make selections among different future scenarios for JTNP, to quantify visitor acceptance of the biophysical and management changes under each scenario. My research will contribute novel insights for the management of vulnerable park systems facing changing environmental baselines and evolving visitor preferences.

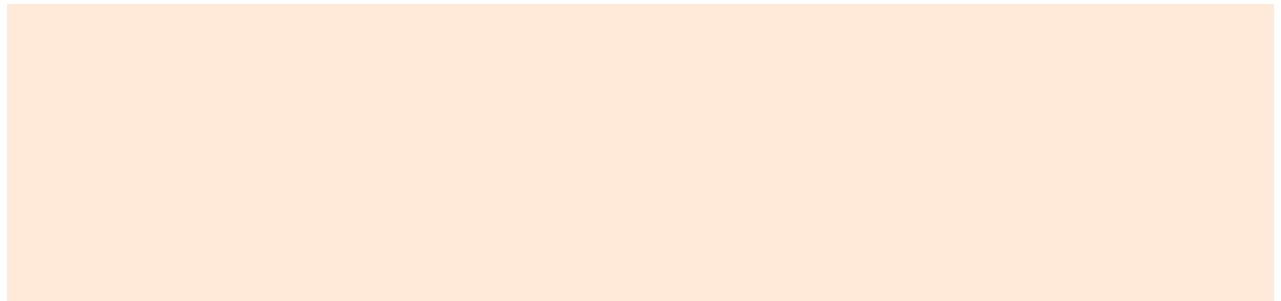
Keywords

Choice experiment, interdisciplinary

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What will I get out of this?

After learning about the state of evidence, panelists and participants will identify deficiencies and develop strategies for advancing park-based health science.

Abstract

Parks and public lands are increasingly recognized for their diverse contributions to public health. Beyond traditional values such as recreation, new paradigms assess park-related impacts through metrics such as ecosystem service provision and coupled environmental and social health. Directives such as the National Park Service’s Healthy Parks Healthy People program and the associated Science Plan have catalyzed research and programming focusing on parks and health. Although scientific understanding is rapidly advancing, many opportunities exist for improving methodological approaches to park-based health assessment, enhancing management of park health resources, and developing health promotion policies and programs based on empirical evidence. This session will feature expert panelists from diverse academic disciplines and agencies describing the state of scientific evidence and practice. After presenting, panelists will lead a facilitated discussion framed around the emerging Healthy Parks Healthy People Criteria Tool to enhance strategies for identifying, monitoring, and managing park health resources.

Keywords

Health, Wellbeing, Parks

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Session organizer

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Diana Allen, Chief of the National Park Service’s Healthy Parks Healthy People Program

Lincoln Larson, Assistant Professor, Dept. of Parks, Recreation & Tourism Management, North Carolina State University

Jennifer Thomsen, Assistant Professor, Department of Society and Conservation, University of Montana

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“NPS’s Healthy Parks Healthy People Program – Optimizing health values and benefits of public lands”

“Parks & Health: The State of the Scientific Evidence”

“Trails as Health Resources: Examples from Montana’s Park and Trail Rx Program”

“Participatory mapping: a tool to elicit nonmaterial values and identify the health benefits of nature”

“Urban Parks, Healthy People, and the Pursuit of Environmental Justice”

Rare plant restoration and pollination concerns for Agave shawii

What will I get out of this?

A rare agave species is missing its pollinator, a bat (Choeronycteris mexicana). With no new recruitment we are researching how to manage this rare species.

Abstract

Agave shawii (Shaw's agave) is a rare agave species living at its northernmost extent in San Diego, CA. Shaw's agave prefers coastal bluffs and is therefore threatened by both habitat destruction and coastal erosion. The main pollinator for this plant is thought to be the Mexican long-tongued bat (Choeronycteris mexicana). After several seasons of bat monitoring no detection of C. mexicana has been observed (nine other species were observed). There has been no new recruitment of A. shawii over the several decades they have been at Cabrillo National Monument. We have been monitoring local populations and performing pollination experiments to determine pollination success rates. We have also made efforts to grow new recruits from seed in our greenhouse. Successful germination from a low percentage of viable seed has lead to more questions regarding the future success of this plant at its edge habitat.

Keywords

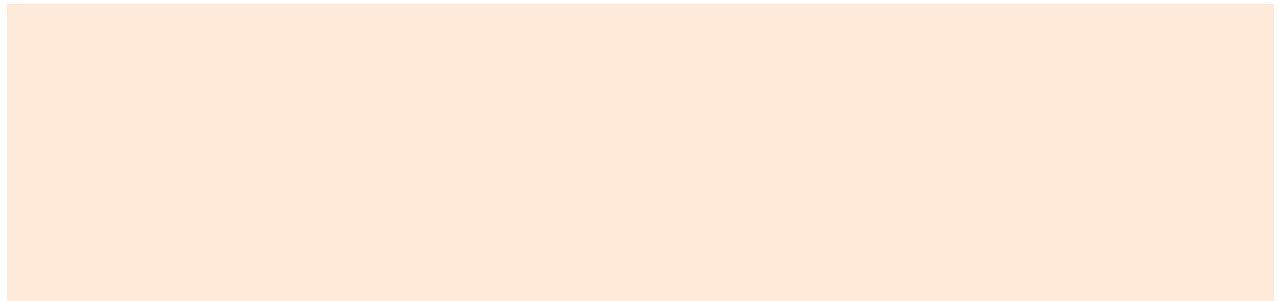
restoration, pollination, bats

Lead author /
Session organizer

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Assessing Climate Change Vulnerability using Measures of Exposure and Terrestrial Resilience

What will I get out of this?

New data for NCR parks shows climate already changing compared to mid-20th century 30 year baseline. High terrestrial resilience lessens vulnerability in some places.

Abstract

To better understand climate change vulnerability and adaptation potential of NPS NCR park resources, NatureServe integrated measures of historic and near-term future climate exposure with measures of terrestrial resilience. Estimates of climate exposure were derived from bioclimatic variables generated annually from TopoWX and PRISM datasets. Terrestrial resilience was measured as a derivative of landscape diversity and connectivity, using data developed by the Nature Conservancy. Results, presented as a series of compelling visualizations for parks and the region, provide managers with specific information about how climate is changing, which areas are most at risk, and which areas are most important for facilitating adaptation. The region is becoming hotter and wetter, with some local variation. Many NCR parks are characterized by relatively high landscape diversity. As pockets of natural vegetation in a fragmented landscape, these parks have an important role to play in facilitating adaptation in the face of climate change.

Keywords

climate, resilience, terrestrial

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Session organizer

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Regan Smyth, NatureServe
Lesley Sneddon, NatureServe
Judy Teague (NatureServe)
Diane Pavek, National Park Service

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Turtle T.H.i.S. Citizen Science at Gulf Islands National Seashore

What will I get out of this?

GWS participants will receive details sufficient to duplicate a research project which is staffed and managed by youth citizen scientists. Internships will be advertised.

Abstract

Turtle T.H.i.S (Teens Helping in the Seashore) is a youth oriented citizen science research project developed to provide park managers with scientifically sound information about ambient light influences on nesting sea turtles and to raise awareness in the community about light pollution impacts to nesting sea turtles. The project has expanded to include an employment ladder, beginning with local high school volunteers, leading to paid summer internship, the next level are post college internships lasting 12 months. This series of internships prepares the students well for seasonal employment and entry level permanent positions in the National Park Service and other land management organizations.

Keywords

research, citizen-science, youth

Lead author /
Session organizer

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What will I get out of this?

Audience will learn about recent trends in Chinese tourism to U.S. national parks and the implications for tourism and management in the park's gateway communities.

Abstract

Recently, China has experienced a rapid growth in outbound international tourism. Marketing of Yellowstone National Park and other iconic national parks has amplified Chinese visitation and the parks' gateway communities. While this growth in tourism has many opportunities, park professionals and tourism operators have been faced with challenges for managing the park's resources and the tourists' experience. Despite this continuous growth of Chinese tourism, there has been no research investigating Chinese tourists' motivations and expectations in the U.S. national park setting, their understanding of management practices, and the best strategies for communication and interpretation. This presentation will present a study exploring Chinese tourism in West Yellowstone, the park's major gateway community. The findings, which explore perspectives from Chinese tourists, tour operators, and local business owners, can inform tourism marketing and management of Chinese tourism to national parks and gateway communities in addition to strengthening communications with Chinese tourists.

Keywords

Yellowstone, tourism, Chinese

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GWS Student Summit Reflections: Challenges and Opportunities Facing Protected Areas over the Next Century

What will I get out of this?

This session offers reflections on where we have been and where we are going in protected area management from the inaugural GWS Student Summit.

Abstract

The National Park Service (NPS) centennial represents a time for professionals in protected area management to reflect on the past and look toward the future. The challenges in protected area management are increasingly complex and uncertain. However, these challenges can be viewed as opportunities to further strengthen protected area management and research. Recently, future leaders in protected area management have begun to form student chapters of the GWS and the inaugural student-led summit was convened this past July in Glacier National Park with representation from six universities. Five themes were discussed: unbounding parks, core park values, visitor use management, perspectives on natural change, and reimagining the NPS. During this compass session, summit attendees will provide an overview of each theme and engage the audience in discussions to address the challenges of protected area management in the NPS' second 100 years.

Keywords

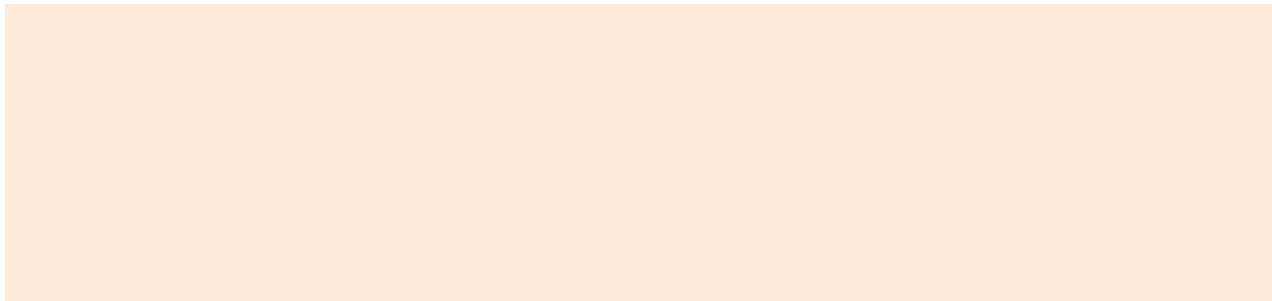
student, summit, future

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Session organizer

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PhD Student, Clemson University

PhD Student, University of Montana

University of Utah

PhD Student, University of Utah

PhD Student, University of California, Merced

What will I get out of this?

Bringing cultural heritage together with natural heritage on equal terms has many benefits. How can metropolitan conservation partnerships move in this direction?

Abstract

This session is an update on the Natural Neighbors concept, discussed at GWS 2015 (see Trzyna, “Natural Neighbors,” in the proceedings) and at the 2016 IUCN World Conservation Congress. A new movement to integrate natural heritage and cultural heritage (“Nature-Culture”) promises to produce many benefits. It is represented by the USNPS Director’s landmark Interim Order 100, “Resource Stewardship for the 21st Century” (2016); and efforts to connect natural and cultural heritage practice in the World Heritage System. Another movement, bringing together conservation actors in metropolitan regions, such as in the Chicago Wilderness alliance, also has great potential. Such alliances include protected area and wildlife management agencies, museums, zoos, aquariums, botanic gardens and local governments. How can these two movements be brought together? This session focuses on the “how.”

Keywords

nature, culture. urban

Lead author /
Session organizer

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Currently Director, USNPS; will retain strong interest in this topic per discussion with organizer 9-2016

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Currently Director, USFWS; will be head of American Zoo Assn. at time of conference

Chair, IUCN WCPA Urban Conservation Strategies Specialist Group; Project Director, Natural Neighbors

Urban Fellow, USNPS; anthropologist

VP, American Alliance of Museums; Director, Center for the Future of Museums

Developing a Sustainable Recreation Research Agenda for Public Lands

What will I get out of this?

We want them to contribute their thoughts and ideas toward Developing a Sustainable Recreation Research Agenda for Public Lands.

Abstract

The Forest Service, through its Pacific Northwest Research Station and in collaboration with Colorado State University, are planning a national symposium to re-envision and re-invigorate recreation research about the new planning paradigm of sustainable recreation and tourism on public lands. This session's purpose is to provide a quick presentation on sustainable recreation and tourism on public lands and then follow that presentation with an open interactive group dialogue on what the nature of a research agenda would look like. The design of that engagement would depend on the amount of participants but would most likely involve participatory break-out groups following by plenary presentations of the group results and a final discussion period. The results of this dialogue would then be used as direct input in the national recreation research symposium in the fall.

Keywords

Sustainable Recreation, Tourism

Lead author /
Session organizer

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Calling the Shots; Closing the Ranks: Partnerships on the Front Lines of Preservation

What will I get out of this?

Our presentation provides examples of effective partnerships with stakeholders to preserve battlefields, and the importance of grassroots preservation to achieve permanent protection of battlefield landscapes.

Abstract

The National Park Service's American Battlefield Preservation Program (ABPP) will present four case studies highlighting how its two grant programs have empowered community partners to be the front lines of battlefield preservation. In alignment with the ABPP's mission to assist citizens, public and private institutions, and governments, our grant programs provide funds and technical assistance to local communities allowing them to advocate for the preservation of battlefield landscapes. Through a planning and partnership approach, partners of the ABPP use program grants to identify resources, strategize, garner support, enact plans, and acquire land leading to the preservation of battlefield landscapes in perpetuity. This Fasttrack Session will demonstrate the various ways partners in the Mid-Atlantic have used the program's grants to preserve battlefield landscapes while simultaneously addressing the diverging needs between numerous stakeholders.

Keywords

Battlefields, Preservation, Partnerships

Lead author /
Session organizer

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Princeton: A Reorientation of the Landscape and New Strategies for Land Preservation

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Local Communities Driving Preservation Change

Conflicting Preservation Directions in a Small Community

Connecting to the Latino Community

Developing the Process: Initiation, Administration and Delivery of the Inaugural Social Science Park Break Experience

What will I get out of this?

The NPS and researchers identified growing social science needs in the NPS to inform planning and decision-making and have responded by advancing social science initiatives.

Abstract

The purpose of this session is to present on the publication and experience from the Inaugural Social Science Park Break; a Social Science Needs Assessment for Great Sand Dunes National Park and Preserve. The program demonstrates a collaborative effort among social scientists, park managers, and universities to promote proactive, science-based visitor use management. Specifically, the contributing presenters will provide on the administration and delivery of the first social science park break experience. The National Park Services' Social Science Division and the Denver Service Center supported the initiatives in addition to faculty from Clemson and Kansas State Universities. Student perspectives come from the nine graduate students representing six universities from across the U.S. The presenters will discuss the final report, Great Sand Dunes National Park and Preserve Social Science Needs Assessment including the methods, central research themes and how this informs decision-making as well as international transference.

Keywords

park break

Lead author /
Session organizer

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Aleksandra Pitt, Bob Powell, Ryan Sharp

Understanding and Informing Decision Making in the NPS: Social Science Initiatives, Planning, and Park Break

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Great Sand Dunes National Park and Preserve Research Themes and post-Park Break Perspectives

International Transference from Park Break: Integrating Social Science in Parks, Protected Areas, and Cultural Sites

What will I get out of this?

Conference participants will learn alternative methods to education and awareness methods that are used to guide users behaviors to align with protected areas management goals.

Abstract

Invasive species are ubiquitous aspect of contemporary protected areas management across people, places, and time. Often, users of parks, protected areas, and cultural sites are unintentional vectors leading to the establishment and spread of invasives. Therefore, managers must develop practices and policies that augment users' behavior in an attempt to reduce or eliminate this potential. Conventionally, practice and polices are disseminated in the form of education and awareness campaigns, which are thought to increase or change behaviors. However, these approaches, by themselves, are known to be limited in their effectiveness at changing behavior and increasing users level of engagement the necessary behavior. This project sought to understand the effectiveness of social norm messaging strategies . Results indicate both regulation messages (focusing users on the law) and social norm messages (focusing user on what others do/approve of) significantly increase users intentions to perform invasives species mitigation behaviors than information/education messages.

Keywords

behavior, invasives, norms

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National Parks as Part of a Broad National "Learning Ecosystem"

What will I get out of this?

Participants will be inspired to collaborate within and outside the NPS to extend the contribution of NPS science and history to the learning ecosystem.

Abstract

Learning can happen at all ages; at places, times, and modes selected by the learner; in formal and informal settings; with or without institutions; in solitary and social contexts, etc. What and how can the National Park Service uniquely contribute to this "learning ecosystem" and have a significant impact consistent with our mission? Engaging visitors in park science and historical study -- especially in ways that help visitors discover how we know what we know -- is an important opportunity. That requires collaboration and bridge-building between interpreters and educators on one hand with scientists, scholars, and resource managers on the other. It also requires strong relationships with other educators. The goal of this session is to illustrate how park science and history contribute to the learning ecosystem; explore the challenges and opportunities faced by innovators; and inspire creativity to expand what is accomplished in and by parks.

Keywords

science, history, learning

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Session organizer

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What will I get out of this?

Participants will identify priority needs and interests and contribute to strategic direction for NPS involvement in the CESU Network

Abstract

This is a business meeting for NPS CESU Research Coordinators to discuss a variety of operational and strategic issues.

Keywords

NPS, CESU

Lead author /
Session organizer

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NPS Research Learning Centers Business Meeting

What will I get out of this?

Participants will gain an understanding of operational and strategic issues across the RLC Network

Abstract

This is a business meeting for NPS RLC staff and partners to discuss a range of operational and strategic issues.

Keywords

NPS, RLCs

Lead author /
Session organizer

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authors / organizers

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What will I get out of this?

The audience will learn about places cut from the national park system and why, what became of them, and how they differ from surviving units.

Abstract

The count of national park units has recently reached 413 units, but over the years 28 national park units have been delisted from the system and disappeared off the map. This includes one national park, nine national monuments, five national recreation areas, five small markers and memorials, and seven other sites. This paper will examine the changing geography of the nine lost national monuments. These forgotten places will be mapped out in detail using Geographic Information Systems (GIS) and the reasons for their loss, their continuing development as state parks or other protected lands, and how their development compares to similar places still in the park system will be examined. It will be argued that while the other delisted units represent changing priorities of the NPS and transfers from other agencies, the lost monuments represent geographic limits to the expansion of the national park system.

Keywords

Delisting, National Monuments

Lead author /
Session organizer

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NPS and NASA: A Partnership to Address Resource Concerns Through Application of Geospatial Imagery

What will I get out of this?

A partnership to enhance understanding of natural and cultural park resources and responses to stressors through credible science that informs management decisions.

Abstract

Our national park units are experiencing an ever-increasing range of stressors, such as urban encroachment and climate change, which are impacting the natural and cultural resources they were established to conserve and preserve. To better understand how park resources are responding to these stressors, the National Park Service (NPS) has partnered with NASA’s DEVELOP Program, using NASA’s Earth Observing satellites, to help inform appropriate management decisions. The NASA DEVELOP Program is part of NASA’s Earth Science Division with the purpose of developing a scientific understanding of Earth’s system and its response to natural or human-induced changes, and to improve prediction of climate, weather, and natural hazards. This session will share several NPS natural and cultural resource projects the NASA DEVELOP Project teams have been working on over the past year.

Keywords

NASA, Partnership

Lead author /
Session organizer

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Kenton Ross, , National Science Advisor, NASA DEVELOP Program

Monitoring Snow and Ice Coverage in Intermountain Region Parks to Assess Vulnerability of Archaeological Sites

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Seeking Ancient Roadbeds Around Chaco Culture National Historical Park

Monitoring of Tropospheric Ozone Along the Appalachian National Scenic Trail

Monitoring Invasive Bromes in National Park Lands of the Northern Great Plains

NASA DEVELOP Program: Capacity Building through Earth Observations

What will I get out of this?

Floods and rising water threaten historic and natural resources. Understand how landscape adaptation and ecological solutions can be a viable protection measure for historic properties.

Abstract

This session will explore methods to protect shoreline and low-lying communities from the risk of flood disasters. Traditional adaptations to water risk can provide insight and instruction for modern practice. The session will start with a discussion of past and current methods intended to reduce risk to historic properties. The panel will explore alternative ways to reduce risk through natural systems, such as living shorelines. Learn how well-managed protected lands provide the known benefits of natural habitat and open space, and can also mitigate the impacts of natural disaster, climate change, and help local resident resilience. The panel will highlight several examples of “inadvertent” hazard mitigation via open space preservation. In addition, the group will delve into recent publications regarding land conservation practices that reduce the risk of disaster events and ask the audience what more can, and should be done.

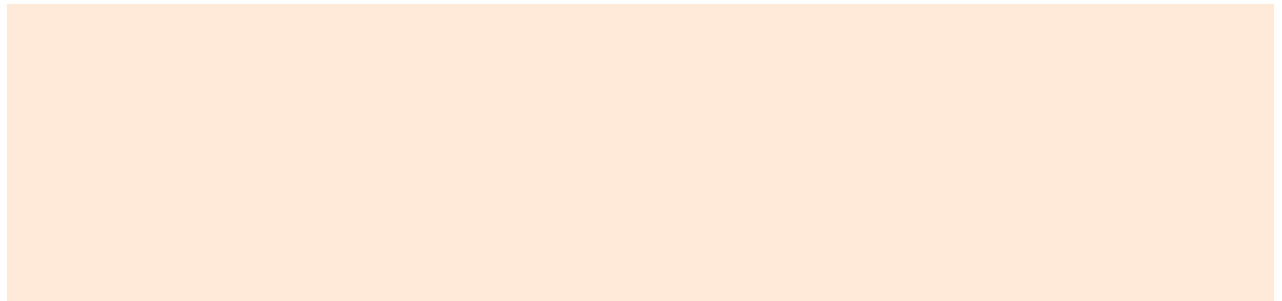
Keywords

Disaster, Mitigation, Cultural

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Session organizer

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Architectural Historian. (20 Minutes)

Chief, State and Local Assistance Programs (25 minutes)

Program Assistant to the Associate Director of Cultural Resources (20 minutes)

Technical Reviewer, (20 minutes)

The USA National Phenology Network: Providing capacity for monitoring, management and engagement in protected areas

What will I get out of this?

Learn about practical tools that can facilitate integrated implementation of monitoring, decision-making and stakeholder engagement – from staff to visitors – at your protected area.

Abstract

The USA National Phenology Network (USA-NPN; www.usanpn.org) serves science and society by promoting a broad understanding of plant and animal phenology and the relationships among phenological patterns and environmental change. The Network provides a set of integrated tools to support implementation of phenological monitoring and related applications within protected areas. Capacities include standard protocols and monitoring designs; data management, analysis and visualization; and tools for communication including training materials and formal and informal educational curricula. The network of over 150 partners actively engaged in phenological monitoring – for applications as diverse as inventory and monitoring, natural resource decision-making, and education and outreach – form a thriving community of practice across many types of protected areas, from parks and refuges to multi-organizational regional subnetworks. Here, we describe these tools –including our online and mobile user interface Nature’s Notebook – and illustrate applications relevant to users across a variety of protected areas.

Keywords

Climate change, monitoring

Lead author /
Session organizer

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Staff of the USA National Phenology Network National Coordinating Office

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Coastal Parks and Refuges as Part of Marine Protected Area Networks

What will I get out of this?

This fast-paced session will explore how Coastal Parks and Refuges are an integral part of MPA networks through video, social media, lightening talks and discussion.

Abstract

This fast-paced, fun session will look at the ways in which Coastal Parks and Refuges are an integral part of marine protected area networks. Coastal areas can both add to and benefit from broader networks of protected areas. Don't think of your park as an MPA? Perhaps it's time you did. We'll explore issues that connect us, including climate change, land/sea connections, invasive species, visitor use and building public support. The session will feature video, social media, lightening talks and discussion covering questions including: What is an MPA network, and why is it important? Making connections, I – building ecological networks to expand our conservation impact. Making connections, II – connecting managers and communities for coastal and marine conservation. Oceans are us – taking next steps for healthy oceans and communities.

Keywords

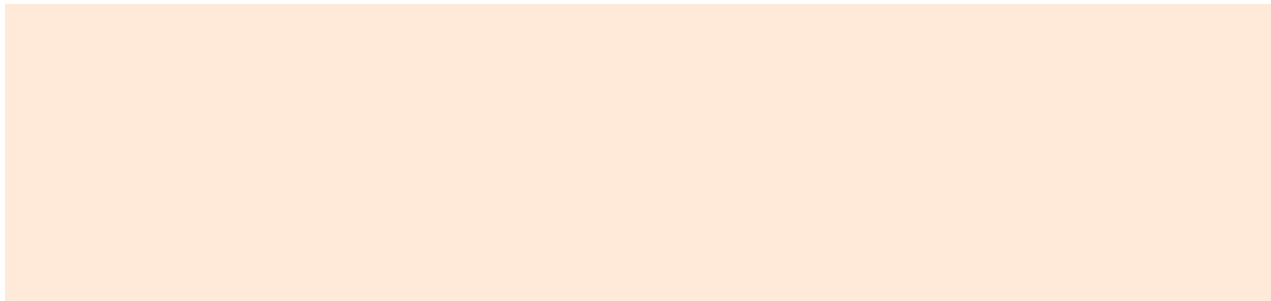
marine, oceans, coasts

Lead author /
Session organizer

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What is an MPA network, and why is it important?

Making connections, I – building ecological networks to expand our conservation impact

Making connections, II - connecting managers and communities for coastal and marine conservation

Oceans are us – taking next steps for healthy oceans and communities

What will I get out of this?

A best practice model on how: 1) a partnership can promote Public Land Hiring Authority, and 2) balancing interns personal development and meeting conservation-related tasks

Abstract

Over the past two summers Lake Mead NRA has partnered with the Great Basin Institute to establish a robust internship program for diverse youth blending outreach, resource management, and individual career development. Outreach activities target recreational boaters and develop awareness about Aquatic Invasive Species (AIS). Education messages highlight sense of place, stewardship, and the interconnectedness between human behavior and species distribution. Natural resource management activities focus on research and restoration activities that showcase the National Park Service’s role in resource stewardship. Each intern participates in unique experiences to gain greater self-awareness and leadership skills. Interns completing this program have a gateway toward future positions through the Public Lands Corps Hiring Authority. To date, 23 interns have collectively guided close to 80,000 park visitors on a journey to better understand the delicate relationships between native and invasive species, and tested solutions to slow the spread of AIS.

Keywords

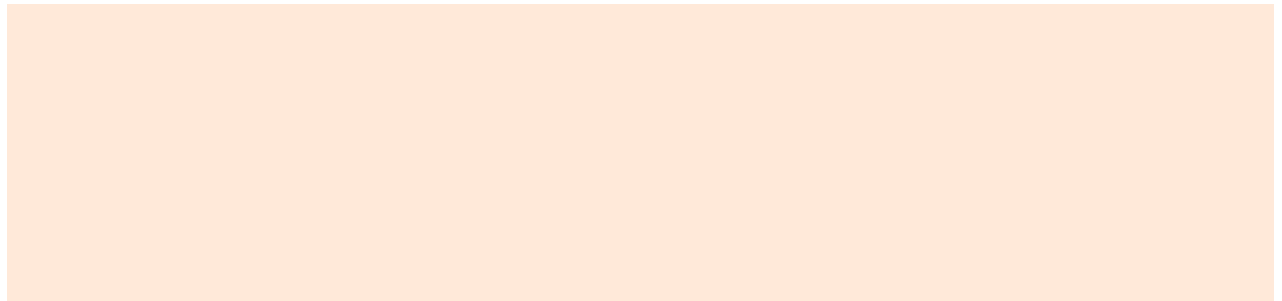
Diverse youth stewardship

Lead author /
Session organizer

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What will I get out of this?

Learn about "recreation habitat," riparian impacts, and support for management strategies to address impacts in high use riparian areas like Yosemite Valley.

Abstract

Many riparian features important for plants and animals are also attractive to people, but recreation use can seem incongruous with ecological restoration. Using the heavily-visited Merced River in Yosemite Valley as an example, this paper considers what makes riparian zones attractive to visitors and connects high quality recreation with healthy riparian systems. The paper then explores how capacities and other management actions can control amounts and types of use to mitigate adverse visitor impacts, and calls for interdisciplinary projects that recognize how human uses fit with restoration. It also examines Yosemite visitors' perceptions of riparian impacts and their support for management actions that might reduce impacts or restore riparian conditions. Management actions that limit rather than exclude use, focusing on specific problems, impacts, and related behaviors, are more likely to succeed and develop advocates for riparian stewardship.

Keywords

riparian, recreation, habitat

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Session organizer

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The Contextual Landscape Values of Werowocomoco and Captain John Smith Chesapeake NHT through different vantage points

What will I get out of this?

Challenge participants to see the many layers of values found in extraordinary places like Werowocomoco and the Captain John Smith Chesapeake Historic Trail

Abstract

Four hundred years ago, Werowocomoco was the home and spiritual place of the Algonquian speaking people known as the Powhatans . In 1607, Captain John Smith and the Virginia Colony arrived in this land for exploration and settlement. The land, water and people of the Chesapeake tell the historical story of at least two worlds and two cultures in one place. How can we identify, understand and respect the many values in a cultural landscape context from different vantage points? What tools exist and are being developed?

Keywords

indigenous, cultural landscapes, data

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James Rush, The Chesapeake Conservancy and Captain John Smith Chesapeake Historic Trail

Spiritual Values of the Landscape: Engaging indigenous communities

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The View from the Water: The Virginia Colony arriving in North America in 1607

Identifying the Character Defining Features in the cultural landscape context of Werowocomoco

Indigenous Cultural Landscape Predictive Modeling: Using Data and GIS to identify Cultural and Natural Resources

What will I get out of this?

To better understand the some of the opportunities and challenges in planning for and managing a large near-wilderness area within a growing metropolitan area.

Abstract

CRD Regional Parks is undertaking a multi-year project to open the Sea to Sea and Sooke Hills Wilderness Regional Park Reserves - together almost 9,000 hectares of near-wilderness set against the rapidly growing Victoria, B.C. metropolitan area. Phase one of the project focuses on opening the Mount Manuel Quimper section and includes: 1) a carnivore risk assessment; 2) a trails assessment; 3) trail upgrades; 4) development of facilities; and 5) development of a communications plan. This presentation will discuss phase one of the park opening and highlights the future planning phases. The Mount Manuel Quimper section provides a perfect example of the inherent challenges in balancing between nature conservation and outdoor recreation as more people with diverse interests, abilities, and levels of outdoor experience choose to visit these close-by regional parks. The importance of near-wilderness areas in shaping an urban population's awareness of and value for nature is also discussed.

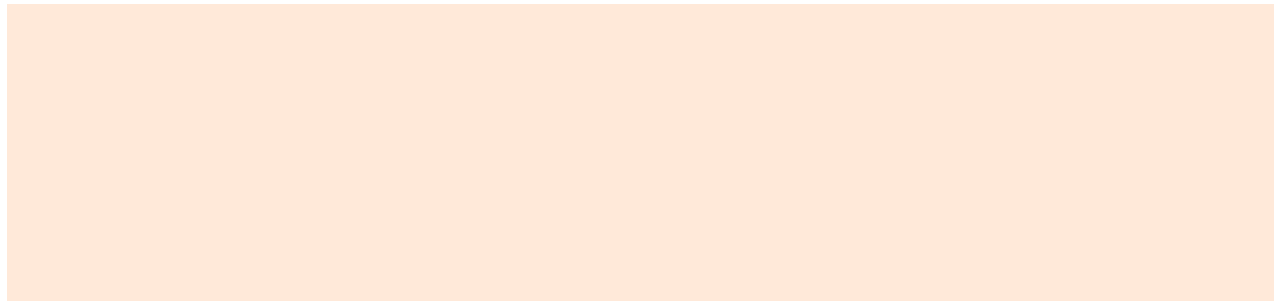
Keywords

Park planning, metropolitan

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Seasonal water use of Saguaro cacti (*Carnegiea gigantea*) and their nurses

What will I get out of this?

Audience members will learn about a biological phenomena that may explain the distribution and demography of the iconic Saguaro cactus.

Abstract

Saguaro National Park is currently experiencing multiple climate change factors and changes to its native plant community. The impact of climate change on the park’s iconic Saguaro cactus is unknown, but survival of young plants has declined dramatically in the past 20 years as the park has experienced higher temperatures and drought. Saguaros are well-known for being part of a nurse-protégé relationship with desert trees and shrubs. This relationship protects young saguaros from extreme temperatures, but may also provide a water benefit to saguaros from nurse trees through ecological phenomena. Our project examines the seasonal use of water in saguaros, their nurses, and if these associations assist saguaros by providing adequate moisture during periods of stress. Further, we evaluate the potential results of decreased winter precipitation and hotter, drier summers on the nurse-protégé relationship and how these changing conditions may impact saguaros for generations to come.

Keywords

climate, desert, precipitation

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Don Swann, Saguaro National Park

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What will I get out of this?

Will increase awareness of the the nature of the growing threat of aquatic invasive species and engage participants in developing solutions.

Abstract

Aquatic invasive species (AIS) are among the greatest threats to the integrity of resources, values and uses in protected areas including National Parks. A recent report found that over 300 AIS have been detected within 129 National Park Service units. This information is incomplete and there is high potential for new introductions via trailered boats, fishing tackle and bait, NPS and partner equipment, and release or escape of organisms from aquaria and aquaculture. The risks of invasion are elevated by human use and climate change. AIS compromise fundamental resources and values. The costs of prevention are substantial but typically orders of magnitude lower than costs that result from establishment. This overview of a growing threat will prepare attendees to contribute to solutions by participating in an electronic survey. Results will be used by NPS program staff to establish priorities, develop recommendations, inform issue papers, pursue funding indicatives and inform planning.

Keywords

AIS aquatic invasive

Lead author /
Session organizer

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authors / organizers

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What will I get out of this?

Our topic is the evolving understanding of present and absent western national parks. Historians and historical geographers will present the results of original, cutting-edge research.

Abstract

Our session focuses on national parks in the American West. It updates attendees on the shifting understanding of the historic purposes, variable interpretations, and notable individuals at the center of many nationally significant sites. Lary Dilsaver begins by asking why one of the most formative events in western US history – gold and silver rushes – is so badly represented in today's National Park System. Peter Blodgett then surveys the regionally inspired and gender liberating identities that women tourists were encouraged to embrace when visiting western parks during the interwar years. Michael Pretes continues our western exploration by examining the art and science of FS Dellenbaugh whose paintings helped to promote the creation of Grand Canyon and Zion National Parks. Finally, Terence Young argues that the mismanaged Yosemite State Park was more important in the shaping of America's national park system than has been recognized. John Sprinkle will discuss.

Keywords

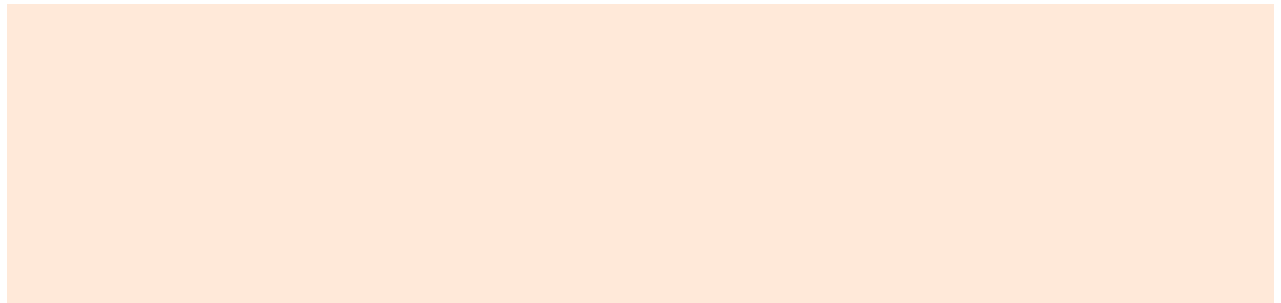
history, western US

Lead author /
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authors / organizers



Why Are There No Mining Frontier Units in the National Park System?

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"In the Wild Heart of America": Tourism, Gender and the Promotion of Western National Parks

Frederick S. Dellenbaugh: Geographer, Explorer, and National Park Artist

Yosemite and the Origins of America's National Parks

Discussant

Daily life methods for social science research in parks and protected areas

What will I get out of this?

Attendees will learn about the various 'daily life' methods available for social science park research. Situational implications for each method will be presented.

Abstract

Social scientists regularly employ survey methods and methodologies to assess visitor behavior in parks and protected areas. While often informative and practical, these self-reported, cross-sectional strategies have also been shown susceptible to response biases, such as retrospection and recall errors (e.g., Godbey et al., 2005; Schwarz, 2012; Zajchowski, Schwab, & Dustin, 2016). In contrast, “daily life” methods (Connor & Mehl, 2012) have been shown to reduce the temporal delay between experience and self-report (Reis, 2012) and increase the ecological validity of findings (Cziksizentmihalyi, 2012; McKay, Brownlee, Hallo, 2012). The purpose of this poster presentation is to share a framework that introduces various ‘daily life’ methods – experience sampling, daily dairies, event reconstruction, visitor employed photography, and head-cam videos – as well as assess their situational utility for park research. Presenters will provide implications for diverse management contexts, as well as diverse research programs (e.g., active living, nature connectedness, benefits-based management).

Keywords

Methods, Experience Sampling

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Session organizer

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Dr. Jeff Rose is an Assistant Professor of Parks, Recreation, and Tourism at the University of Utah. His research agenda explores productions of social and environmental (in)justice through the interlocking systemic inequities associated with class, race, political economy, and relationships to nonhuman nature

Dr. Matthew Brownlee is an Assistant Professor of Parks, Recreation and Tourism at the University of Utah. His interdisciplinary research links outdoor recreation and resource management, and provides information to help park and protected area managers plan, monitor, and evaluate visitor experiences

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What will I get out of this?

Learn new techniques, valuable communication tools, and learn how other parks are responding to harmful algal blooms

Abstract

Harmful Algal Blooms (HABs) are an environmental problem that can have severe impacts on human health, aquatic ecosystems and the economy. Nutrient pollution from human activities such as agriculture, failing septic tanks, and fertilizer use in homes, among other activities, are contributors to the development of harmful algal blooms. For example, in south Florida, critical triggers for algal blooms include nutrients and high temperature. Harmful algal blooms require long term solutions. To that end, the National Park Service (NPS) is a member of the Harmful Algal Bloom and Hypoxia Research and Control Act Interagency Working Group. We are forming partnerships and collaborating with other agencies to detect and quantify cyanobacterial blooms and collect data on harmful algal blooms and associated human and animal illness. The NPS is developing a community of practice, including communication tools and protocols, to help deal with HAB issues in parks.

Keywords

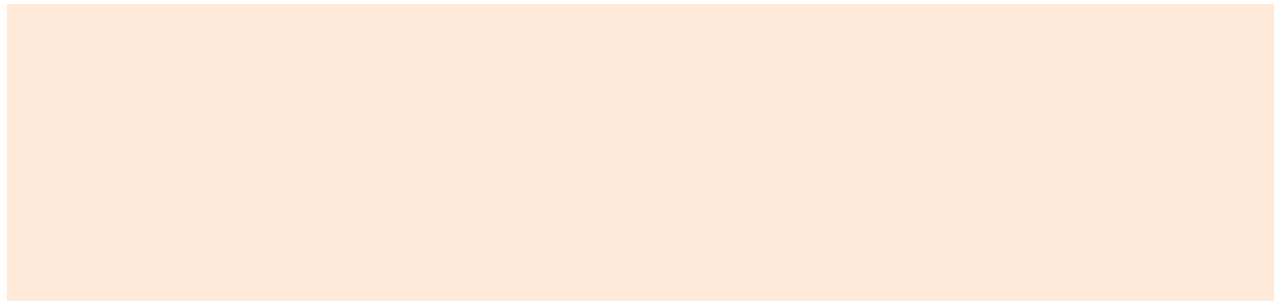
Harmful Algal Blooms

Lead author /
Session organizer

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