

Resilience to fire and resistance to annual grass invasion in sagebrush ecosystems of US National Parks

www.nrfirescience.org/resource/23565

Western North American sagebrush shrublands and steppe face accelerating risks from fire-driven feedback loops that transition these ecosystems into self-reinforcing states dominated by invasive annual grasses. In response, sagebrush conservation decision-making is increasingly done through the lens of resilience to fire and annual...

Author(s): Thomas J. Rodhouse, Jeffrey Lonneker, Lisa Bowersock, Diana Popp, Jamela C. Thompson, Gordon H. Dicus, Kathryn M. Irvine

Year Published: 2021

Type: Document

Book or Chapter or Journal Article

A history of wilderness fire management in the Northern Rockies

www.nrfirescience.org/resource/23925

Suppression of most wildland fire ignitions has defined fire management in the United States since 1935. These past suppression activities, along with climate change impacts and other factors, have resulted in longer fire seasons and increased frequency of large fires in many forest ecosystems across the western United States, thus...

Author(s): Julia Berkey, Carol Miller, Andrew J. Larson

Year Published: 2021

Type: Document

Technical Report or White Paper

A Mixed Methods Literature Review and Framework for Decision Factors That May Influence the Utilization of Managed Wildfire on Federal Lands, USA

www.nrfirescience.org/resource/23606

here is increasing discussion in the academic and agency literature, as well as popular media, about the need to address the existing deficit of beneficial fire on landscapes. One approach allowable under United States federal wildland fire policy that could help address this condition is by deliberately managing wildfire with a...

Author(s): Stephen D. Fillmore, Sarah M. McCaffrey, Alistair M. S. Smith

Year Published: 2021

Type: Document

Book or Chapter or Journal Article

Does conserving roadless wildland increase wildfire activity in western US national forests?

www.nrfirescience.org/resource/23525

National forests in the western United States are divided roughly in half between lands without roads managed for wilderness characteristics and lands with an extensive road system managed for multiple uses including resource extraction. We investigated the influence of these land use designations on fire ignitions, fire extent, and...

Author(s): James D. Johnston, John B. Kilbride, Garrett W. Meigs, Christopher J. Dunn, Robert E. Kennedy

Year Published: 2021

Type: Document

Book or Chapter or Journal Article

Effects of changing wildfire management strategies: Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/23791

Managed wildfires, naturally ignited wildfires that are managed for resource benefit, have the potential to reduce fuel loads and minimize the effects of future wildfires, but have been utilized mainly in remote settings. A new policy federal guidance in 2009 provided greater flexibility for using this tool with the effects of the...

Author(s): Jose M. Iniguez, Andrea E. Thode, Sarah M. McCaffrey, Alexander M. Evans, Marc D. Meyer, Shaula J. Hedwall

Year Published: 2021

Type: Document

Technical Report or White Paper

Structural diversity and development in active fire regime mixed-conifer forests

www.nrfirescience.org/resource/21923

Nearly a century of fire suppression in most forested land of the United States has limited researchers' ability to construct and rigorously test conceptual models of forest structural development in mixed-conifer ecosystems. As a result, land managers must rely on conceptual models of forest development that may overemphasize...

Author(s): Julia Berkey, R. Travis Belote, Colin T. Maher, Andrew J. Larson

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

The effectiveness of adding fire for air quality benefits challenged: A case study of increased fine particulate matter from wilderness fire smoke with more active fire management

www.nrfirescience.org/resource/20792

The Lion Fire 2011 (LF11) and Lion Fire 2017 (LF17) were similar in size, location, and smoke transport. The same locations were used to monitor both fires for ground level fine particulate matter (PM_{2.5}). Ground level PM_{2.5} is used to determine the relative smoke exposure from fire management tactics used during LF11 and LF17. The...

Author(s): Don Schweizer, Ricardo Cisneros, Kathleen M. Navarro

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

Long-term forest health implications of roadlessness

www.nrfirescience.org/resource/22491

The 2001 Forest Service Roadless Rule prohibits roadbuilding in forests across an area equivalent to the combined states of New York and Maine (236 000 km²). There have been recent assertions that roads are needed to prevent fire and to keep forests healthy. Despite twenty years of ongoing forest health monitoring and the unique...

Author(s): Sean P. Healey

Year Published: 2020

Type: Document

Book or Chapter or Journal Article

As wildfires flare up across West, research highlights risk of ecological change

www.nrfirescience.org/resource/21711

One of Jonathan Coop's first vivid memories as a child was watching the flames of the 1977 La Mesa Fire in north-central New Mexico. The human-caused fire burned more than 15,000 acres of pine forests in the Bandelier National Monument and areas surrounding the Los Alamos National Laboratory. Now a forest ecologist and professor at...

Year Published: 2020

Type: Document
Book or Chapter or Journal Article

Protected area stewardship in the Anthropocene: integrating science, law, and ethics to evaluate proposals for ecological restoration in wilderness

www.nrfirescience.org/resource/20756

ePDFPDF PDF ?Tools ?Share Abstract Every year, the four federal agencies that manage designated wilderness in the United States receive proposals to implement small? and large?scale ecological restorations within the National Wilderness Preservation System. The combination of climate change with other landscape stressors is...

Author(s): Peter Landres, Beth Hahn, Eric Biber, Daniel T. Spencer

Year Published: 2020

Type: Document
Book or Chapter or Journal Article

Contrasting human influences and macro-environmental factors on fire activity inside and outside protected areas of North America

www.nrfirescience.org/resource/19770

Human activities threaten the effectiveness of protected areas (PAs) in achieving their conservation goals across the globe. In this study, we contrast the influence of human and macro-environmental factors driving fire activity inside and outside PAs. Using area burned between 1984 and 2014 for 11 ecoregions in Canada and the...

Author(s): Nicolas Mansuy, Carol Miller, Marc-Andre Parisien, Sean A. Parks, Enric Batllori, Max A. Moritz

Year Published: 2019

Type: Document
Book or Chapter or Journal Article

Fine-scale spatial climate variation and drought mediate the likelihood of reburning

www.nrfirescience.org/resource/16808

In many forested ecosystems, it is increasingly recognized that the probability of burning is substantially reduced within the footprint of previously burned areas. This self-limiting effect of wildland fire is considered a fundamental emergent property of ecosystems and is partly responsible for structuring landscape heterogeneity...

Author(s): Sean A. Parks, Marc-Andre Parisien, Carol Miller, Lisa M. Holsinger, Scott L. Baggett

Year Published: 2018

Type: Document
Book or Chapter or Journal Article

Potentials and limitations of remote fire monitoring in protected areas

www.nrfirescience.org/resource/17289

Protected areas (PAs) play an important role in maintaining the biodiversity and ecological processes of the site. One of the greatest challenges for the PA management in several biomes in the world is wildfires. The objective of this work was to evaluate the potentialities and limitations of the use of data obtained by orbital...

Author(s): João Flávio Costa dos Santos , Joyce Machado Nunes Romeiro , José Batuíra de Assis, Fillipe Tamiozzo Pereira Torres, José Marinaldo Gleriani

Year Published: 2018

Type: Document
Book or Chapter or Journal Article

Manipulating the wild: A survey of restoration and management interventions in U.S. wilderness

www.nrfirescience.org/resource/18312

Landscape scale restoration is a common management intervention used around the world to combat ecological degradation. For wilderness managers in the United States, the decision to intervene is complicated by the Wilderness Act's legal mandate to preserve wilderness character and demonstrate managerial restraint (16 U.S.C. §...

Author(s): Lucy Lieberman, Beth Hahn, Peter Landres

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Temporal trends in burn severity in Selway Bitterroot Wilderness 1880-2012

www.nrfirescience.org/resource/17662

Multidecadal trends in areas burned with high severity shape ecological effects of fires, but most assessments are limited to ~30 years of satellite data. We analysed the proportion of area burned with high severity, the annual area burned with high severity, the probability areas burned with high severity and also the area...

Author(s): Penelope Morgan, Andrew T. Hudak, Ashley Wells, Sean A. Parks, Scott L. Baggett, Benjamin C. Bright, Patricia Green

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

A synthesis of the economic values of wilderness

www.nrfirescience.org/resource/14168

Early applications of wilderness economic research demonstrated that the values of natural amenities and commodities produced from natural areas could be measured in commensurate terms. To the surprise of many, the economic values of wilderness protection often exceeded the potential commercial values that might result from resource...

Author(s): Thomas P. Holmes, Jeffrey Englin, J. M. Bowker, Evan Hjerpe, John B. Loomis, Spencer Phillips, Robert Richardson

Year Published: 2016

Type: Document

Book or Chapter or Journal Article, Synthesis

Wildland fire: nature's fuel treatment (spotlight)

www.nrfirescience.org/resource/16056

RMRS Scientists have evaluated more than 40 years of satellite imagery to determine what happens when a fire burns into a previously burned area. Results from this research are helping land managers to assess whether a previous wildland fire will act as a fuel treatment based on the length of time since the previous fire occurred,...

Author(s): Sean A. Parks, Carol Miller

Year Published: 2016

Type: Document

Research Brief or Fact Sheet

Suppressing fire at the wilderness boundary: The Bear Creek fires of 2015, Spotted Bear Ranger District

www.nrfirescience.org/resource/19688

A s a warm up for the 2016 Learning from a Legacy of Wilderness Fire Workshop, Spotted Bear Ranger

District of the Flathead National Forest and the Northern Rockies Fire Science Network (NRFSN) hosted a field trip just outside the wilderness boundary. Forty-four managers, scientists, and students learned about fire management on...

Author(s): Vita Wright

Year Published: 2016

Type: Document

Research Brief or Fact Sheet

Time shows wisdom of letting some wilderness fires roam freely

www.nrfirescience.org/resource/14472

In August of 1972, the small Bad Luck Fire signaled the start of returning fire to the wilderness for the USDA Forest Service. Forty-three years later, the wisdom of allowing perhaps the most important of the "forces of nature" to prevail has been proven time and again. While climate change challenges fire managers across the...

Author(s): Dave Campbell, Robert W. Mutch

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Progress in wilderness fire science: embracing complexity

www.nrfirescience.org/resource/14470

Wilderness has played an invaluable role in the development of wildland fire science. Since Agee's review of the subject 15 years ago, tremendous progress has been made in the development of models and data, in understanding the complexity of wildland fire as a landscape process, and in appreciating the social factors that...

Author(s): Carol Miller, Gregory H. Aplet

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Introduction to the article by Elers Koch: the passing of the Lolo Trail

www.nrfirescience.org/resource/14325

In 1935, Elers Koch argued in a Journal of Forestry article that a minimum fire protection model should be implemented in the backcountry areas of national forests in Idaho, USA. As a USDA Forest Service Supervisor and Assistant Regional Forester, Koch had led many major fire-fighting campaigns in the region, beginning with...

Author(s): Elers Koch

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Using risk analysis to reveal opportunities for the management of unplanned ignitions in wilderness

www.nrfirescience.org/resource/16049

A goal of fire management in wilderness is to allow fire to play its natural ecological role without intervention. Unfortunately, most unplanned ignitions in wilderness are suppressed, in part because of the risk they might pose to values, outside of the wilderness. We capitalize on recent advances in fire risk analysis to...

Author(s): Kevin M. Barnett, Carol Miller, Tyron J. Venn

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Weather, fuels, and topography impede wildland fire spread in western US landscapes

www.nrfirescience.org/resource/14716

As wildland fire activity continues to surge across the western US, it is increasingly important that we understand and quantify the environmental drivers of fire and how they vary across ecosystems. At daily to annual timescales, weather, fuels, and topography are known to influence characteristics such as area burned and fire...

Author(s): Lisa M. Holsinger, Sean A. Parks, Carol Miller

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Wilderness in the 21st Century: A framework for testing assumptions about ecological intervention in wilderness using a case study of fire ecology in the Rocky Mountains

www.nrfirescience.org/resource/14471

Changes in the climate and in key ecological processes are prompting increased debate about ecological restoration and other interventions in wilderness. The prospect of intervention in wilderness raises legal, scientific, and values-based questions about the appropriateness of possible actions. In this article, we focus on the role...

Author(s): Cameron Naficy, Eric G. Keeling, Peter Landres, Paul F. Hessburg, Thomas T. Veblen, Anna Sala

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Keeping it wild 2: an updated interagency strategy to monitor trends in wilderness character across the National Wilderness Preservation System

www.nrfirescience.org/resource/13591

Keeping It Wild 2 is an interagency strategy to monitor trends in selected attributes of wilderness character based on lessons learned from 15 years of developing and implementing wilderness character monitoring across the National Wilderness Preservation System. This document updates and replaces Keeping It Wild: An Interagency...

Author(s): Peter Landres, Chris Barns, Steve Boutcher, Tim Devine, Peter Dratch, Adrienne Lindholm, Linda Merigliano, Nancy Roeper, Emily Simpson

Year Published: 2015

Type: Document

Technical Report or White Paper

Wildland fire as a self-regulating mechanism: the role of previous burns and weather in limiting fire progression

www.nrfirescience.org/resource/19432

Theory suggests that natural fire regimes can result in landscapes that are both self-regulating and resilient to fire. For example, because fires consume fuel, they may create barriers to the spread of future fires, thereby regulating fire size. Top-down controls such as weather, however, can weaken this effect. While empirical...

Author(s): Sean A. Parks, Lisa M. Holsinger, Carol Miller, Cara R. Nelson

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Wildland fire deficit and surplus in the western United States, 1984-2012

www.nrfirescience.org/resource/13740

Wildland fire is an important disturbance agent in the western US and globally. However, the natural role of fire has been disrupted in many regions due to the influence of human activities, which have the potential to either exclude or promote fire, resulting in a "fire deficit" or "fire surplus", respectively. In this study, we...

Author(s): Sean A. Parks, Carol Miller, Marc-Andre Parisien, Lisa M. Holsinger, Solomon Z. Dobrowski, John T. Abatzoglou

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Forest Fire Severity Patterns of Resource Objective Wildfires in the Southern Sierra Nevada

www.nrfirescience.org/resource/23463

Distinguishing favorable versus undesirable outcomes of wildland fires in coniferous forest ecosystems is challenging and requires a clear and objective approach. I applied the natural range of variation (NRV) concept and used fire severity indicators to evaluate the possible effects of wildfires managed for resource benefits (...)

Author(s): Marc D. Meyer

Year Published: 2014

Type: Document

Book or Chapter or Journal Article

Northern Rockies pyrogeography: an example of fire atlas utility

www.nrfirescience.org/resource/12923

We demonstrated the utility of digital fire atlases by analyzing forest fire extent across cold, dry, and mesic forests, within and outside federally designated wilderness areas during three different fire management periods: 1900 to 1934, 1935 to 1973, and 1974 to 2008. We updated an existing atlas with a 12,070,086 ha recording...

Author(s): Penelope Morgan, Emily K. Heyerdahl, Carol Miller, Aaron M. Wilson, Carly E. Gibson

Year Published: 2014

Type: Document

Book or Chapter or Journal Article

From research to policy: The White Cap Wilderness Fire Study

www.nrfirescience.org/resource/16135

On August 18, 1972, an aerial patrol reported a snag burning deep in the Selway-Bitterroot Wilderness in Idaho. Bob Mutch, then a young research forester, traveled to the site the following day for an on-the-ground assessment. It was, Mutch later recalled, a little "nothing fire" that posed no threat. And he was right. Growing to...

Author(s): Diane M. Smith

Year Published: 2014

Type: Document

Book or Chapter or Journal Article

40 years of wilderness fire in the Selway-Bitterroot and Frank Church-River of No Return

www.nrfirescience.org/resource/12777

Wilderness fire, its history, challenges, teachings, and future management were the focus of discussions and presentations during the 40 Years of Wilderness Fire in the Selway-Bitterroot field trip at the May 2014 Large Wildland Fires Conference. The trip took participants to observe recent fire

patterns in the region between the...

Author(s): Corey L. Gucker

Year Published: 2014

Type: Document

Research Brief or Fact Sheet

The contribution of natural fire management to wilderness fire science

www.nrfirescience.org/resource/16052

When the federal agencies established policies in the late 1960s and early 1970s to allow the use of natural fires in wilderness, they launched a natural fire management experiment in a handful of wilderness areas. As a result, wildland fire has played more of its natural role in wilderness than anywhere else. Much of what we...

Author(s): Carol Miller

Year Published: 2014

Type: Document

Book or Chapter or Journal Article

Response of highly valued resources and assets to wildfire within Grand Teton National Park and Bridger-Teton National Forest

www.nrfirescience.org/resource/12744

Grand Teton National Park (GTNP) and the Bridger-Teton National Forest (BTNF) cover approximately 3.7 million acres within the Greater Yellowstone Ecosystem. The majority of this land base is fairly remote, much of it either designated Wilderness or roadless, and composed of fire-adapted ecosystems. To add complexity to the fire...

Author(s): Joe H. Scott, Don Helmbrecht, Martha A. Williamson

Year Published: 2013

Type: Document

Technical Report or White Paper

Wilderness shapes contemporary fire size distributions across landscapes of the western United States

www.nrfirescience.org/resource/12682

In many U.S. federally designated wilderness areas, wildfires are likely to burn of their own accord due to favorable management policies and remote location. Previous research suggested that limitations on fire size can result from the evolution of natural fire regimes, specifically in places where fuels were...

Author(s): Sandra L. Haire, Kevin McGarigal, Carol Miller

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Latent resilience in ponderosa pine forest: effects of resumed frequent fire

www.nrfirescience.org/resource/12018

Ecological systems often exhibit resilient states that are maintained through negative feedbacks. In ponderosa pine forests, fire historically represented the negative feedback mechanism that maintained ecosystem resilience; fire exclusion reduced that resilience, predisposing the transition to an alternative ecosystem state upon...

Author(s): Andrew J. Larson, R. Travis Belote, C. Alina Cansler, Sean A. Parks, Matthew S. Dietz

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Escape probability: an alternative risk metric to support and evaluate wilderness fire management decisions

www.nrfirescience.org/resource/13478

A goal of fire management in wilderness is to allow fire to play its natural ecological role without intervention. Unfortunately, most unplanned ignitions in wilderness are suppressed, in part because of the risk they might pose to values outside of the wilderness. Although the fire management community has embraced the concept of...

Author(s): Kevin M. Barnett

Year Published: 2013

Type: Document

Dissertation or Thesis

Quantifying the threat of unsuppressed wildfires reaching the adjacent wildland-urban interface on the Bridger-Teton National Forest, Wyoming, USA

www.nrfirescience.org/resource/8349

An important objective for many federal land management agencies is to restore fire to ecosystems that have experienced fire suppression or exclusion over the last century. Managing wildfires for resource objectives (i.e., allowing wildfires to burn in the absence of suppression) is an important tool for restoring such fire-adapted...

Author(s): Joe H. Scott, Don Helmbrecht, Sean A. Parks, Carol Miller

Year Published: 2012

Type: Document

Book or Chapter or Journal Article

Traditional wisdom – protecting wilderness as a cultural landscape

www.nrfirescience.org/resource/17482

Interviews of tribal and nontribal residents of the Flathead Indian Reservation in Montana, U.S., were conducted to contrast the meanings that different cultures attach to the Mission Mountains Tribal Wilderness. Legislation that created a national system of wilderness areas (in 1964 and still growing) was conceived, supported, and...

Author(s): Alan E. Watson, Roian Matt, Katie Knotek, Daniel R. Williams, Laurie Yung

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Wilderness fire management in a changing environment

www.nrfirescience.org/resource/15694

Two major factors affecting wilderness fire regimes and their management are climate variability and surrounding land use. Patterns in climate and housing densities are expected to change dramatically in the next several decades (IPCC 2007; Theobald and Romme 2007) with important implications for fire management and policy (Dombeck...

Author(s): Carol Miller, John T. Abatzoglou, Timothy J. Brown, Alexandra D. Syphard

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Technical guide for monitoring selected conditions related to wilderness character

www.nrfirescience.org/resource/12437

The purpose of monitoring wilderness character is to improve wilderness stewardship by providing managers a tool to assess how selected actions and conditions related to wilderness character are

changing over time. Wilderness character monitoring provides information to help answer two key questions about wilderness character and...

Author(s): Peter Landres, Steve Boutcher, Liese Dean, Troy E. Hall, Tamara Blett, Terry Carlson, Ann Mebane, Carol Hardy, Susan Rinehart, Linda Merigliano, David N. Cole, andy leach, Pam Wright, Deb Bumpus

Year Published: 2009

Type: Document

Technical Report or White Paper

Mapping tradeoffs in values at risk at the interface between wilderness and non-wilderness lands

www.nrfirescience.org/resource/11063

On the Flathead Indian Reservation in Montana, U.S., the Mission Mountains Tribal Wilderness is bordered by a buffer zone. To successfully improve forest health within that buffer zone and restore fire in the wilderness, the managing agency and the public need to work together to find solutions to increasingly threatening fuel...

Author(s): Alan E. Watson, Roian Matt, Tim Waters, Kari Gunderson, Stephen J. Carver, Brett Davis

Year Published: 2009

Type: Document

Conference Proceedings

Recreation visitor attitudes towards management-ignited prescribed fires in the Bob Marshall Wilderness Complex, Montana

www.nrfirescience.org/resource/16051

Research at the Bob Marshall Wilderness Complex in Montana explored differences in recreation visitors' attitudes towards the use of management-ignited prescribed fires in the wilderness. A mail-back survey of visitors (n = 291) during the 2004 season revealed that over half of visitors would accept prescribed fires in wilderness...

Author(s): Katie Knotek, Alan E. Watson, William T. Borrie, Joshua G. Whitmore, David Turner

Year Published: 2008

Type: Document

Book or Chapter or Journal Article

Wildland fire use barriers and facilitators

www.nrfirescience.org/resource/16055

The Forest Service authorizes broad scale wildland fire use (WFU) both inside and outside wilderness areas in many western forests; but, will agency authorization alone lead to implementation? Understanding barriers and facilitators to WFU implementation is critical for establishing realistic program expectations and providing a...

Author(s): Anne E. Black, Martha A. Williamson, Dustin Doane

Year Published: 2008

Type: Document

Book or Chapter or Journal Article

Visitor preferences for managing wilderness recreation after wildfire

www.nrfirescience.org/resource/19566

The 2003 Bear Butte and Booth (B&B) Fires burned much of the Mount Jefferson Wilderness in the Deschutes and Willamette National Forests, Oregon. A question for managers is how best to manage recreation in fire-affected areas in ways that minimize adverse impacts on visitor experiences and the recovering landscape. To help...

Author(s): Ryan N.K. Brown, Randall S. Rosenberger, Jeffrey D. Kline, Troy E. Hall, Mark D. Needham

Year Published: 2008
Type: Document
Book or Chapter or Journal Article

Factors in United States Forest Service district rangers' decision to manage a fire for resource benefit

www.nrfirescience.org/resource/8204

United States wildland fire policy and program reviews in 1995 and 2000 required both the reduction of hazardous fuel and recognition of fire as a natural process. Despite the fact that existing policy permits managing natural ignitions to meet resource benefits, or Wildland Fire Use (WFU), most fuel reduction projects rely on...

Author(s): Martha A. Williamson
Year Published: 2007
Type: Document
Book or Chapter or Journal Article

CCE fire regimes and their management

www.nrfirescience.org/resource/8369

A spectacular forest in the center of the Crown of the Continent Ecosystem (CCE) cuts a 15- by 5-km swath along the Flathead River's South Fork around Big Prairie in the middle of the Bob Marshall Wilderness Area in Montana (Figure 13- 1). This wide valley bottom, which contains two patches (of about 1,000 ha each) of the last...

Author(s): Robert E. Keane, Carl H. Key
Year Published: 2007
Type: Document
Book or Chapter or Journal Article

Traditional ecological knowledge: applying principles of sustainability to wilderness resource management

www.nrfirescience.org/resource/12545

Traditional ecological knowledge within specific cultural and geographical contexts was explored during an interactive session at the 8th World Wilderness Congress to identify traditional principles of sustainability. Participants analyzed the traditional knowledge contained in ten posters from Canada and...

Author(s): Nancy C. Ratner, Davin L. Holen
Year Published: 2007
Type: Document
Conference Proceedings

Frequent fire alters nitrogen transformations in ponderosa pine stands of the inland Northwest

www.nrfirescience.org/resource/7919

Recurrent, low-severity fire in ponderosa pine (*Pinus ponderosa*)/interior Douglas-fir (*Pseudotsuga menziesii* var. *glauca*) forests is thought to have directly influenced nitrogen (N) cycling and availability. However, no studies to date have investigated the influence of natural fire intervals on soil processes in undisturbed forests...

Author(s): Thomas H. DeLuca, Anna Sala
Year Published: 2006
Type: Document
Book or Chapter or Journal Article

Organizational characteristics that contribute to success in engaging the public to accomplish fuels management at the wilderness/non-wilderness interface

www.nrfirescience.org/resource/10984

In the fall of 2003, the Rocky Mountain Ranger District of the Lewis and Clark National Forest initiated a multi-year, large-scale prescribed burn in the Scapegoat Wilderness. The objectives of this burn were to make the non-wilderness side of the wilderness boundary more defensible from wildfire and to establish conditions that...

Author(s): Katie Knotek, Alan E. Watson

Year Published: 2006

Type: Document

Conference Proceedings

Barriers to wildland fire use: a preliminary problem analysis

www.nrfirescience.org/resource/16054

American society has a general cultural bias toward controlling nature (Glover 2000) and, in particular, a strong bias for suppressing wildfire, even in wilderness (Saveland et al. 1988). Nevertheless, the Federal Wildland Fire Management Policy directs managers to 'allow lightning-caused fires to play, as nearly as possible, their...

Author(s): Dustin Doane, Jay O'Laughlin, Penelope Morgan, Carol Miller

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Trends in public attitudes towards the use of wildland fire

www.nrfirescience.org/resource/10983

This paper summarizes a select set of research studies conducted over the past 40 years, drawing conclusions on trends in public attitudes about the use of wildland fire in federally designated Wilderness. The research includes trend studies conducted with visitors to Wilderness areas in Washington, Oregon, California, Idaho and...

Author(s): Katie Knotek

Year Published: 2006

Type: Document

Conference Proceedings

Understanding social influences on wilderness fire stewardship decisions

www.nrfirescience.org/resource/7954

Federal land managers and the public engage in many decisions about stewardship of wilderness in the United States, including decisions about stewardship of fire. To date, social science research lacks a holistic examination of the decision-making context of managers and the public about stewardship of fire inside wilderness and...

Author(s): Katie Knotek

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

The complexity of managing fire-dependent ecosystems in wilderness: relict ponderosa pine in the Bob Marshall Wilderness

www.nrfirescience.org/resource/7953

Isolated wilderness ecosystems with a history of frequent, low-severity fires have been altered due to many decades of fire exclusion and, as a result, are difficult to restore for philosophical and logistical reasons. In this paper, we describe the successional conditions of ponderosa pine (*Pinus ponderosa*)

communities along the...

Author(s): Robert E. Keane, Stephen F. Arno, Laura J. Dickinson

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Wilderness fire management in a changing world

www.nrfirescience.org/resource/7963

Several strategies are available for reducing accumulated forest fuels and their associated risks, including naturally or accidentally ignited wildland fires, management ignited prescribed fires, and a variety of mechanical and chemical methods (Omi 1996). However, a combination of policy, law, philosophy, and logistics suggest...

Author(s): Carol Miller

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Understanding place meanings on the Bitterroot National Forest - A landscape-level assessment of personal and community values

www.nrfirescience.org/resource/7934

Information about human relationships with wilderness is important for wilderness management decisions, including decisions pertaining to the use of wildland fire. In a study about meanings attached to a national forest, local residents were asked to identify places they valued on the forest, why they valued them, and how fuel...

Author(s): Kari Gunderson, Alan E. Watson

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Effects of fire exclusion on forest structure and composition in unlogged ponderosa pine/Douglas-fir forests

www.nrfirescience.org/resource/7928

Research to date on effects of fire exclusion in ponderosa pine (*Pinus ponderosa*) forests has been limited by narrow geographical focus, by confounding effects due to prior logging at research sites, and by uncertainty from using reconstructions of past conditions to infer changes. For the work presented here, reference stands in...

Author(s): Eric G. Keeling, Anna Sala, Thomas H. DeLuca

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Can behavioral decision theory explain risk-averse fire management decisions?

www.nrfirescience.org/resource/12719

Organizations managing forest land often make fire management decisions that seem overly risk-averse in relation to their stated goals for ecosystem restoration, protection of sensitive species and habitats, and protection of water and timber resources. Research in behavioral decision theory has shown that people faced with...

Author(s): Lynn A. Maguire, Elizabeth A. Albright

Year Published: 2005

Type: Document

Book or Chapter or Journal Article

The spatial context of fire: a new approach for predicting fire occurrence

www.nrfirescience.org/resource/10993

Across North America, decades of fire suppression and recent patterns of human settlement have combined to increase the risks that wildland fires pose to human life, property, and natural resource values. Various methods can be used to reduce fuel hazards and mitigate these risks, but funding and other constraints require that these...

Author(s): Carol Miller

Year Published: 2003

Type: Document

Conference Proceedings, Technical Report or White Paper

Linking wilderness research and management, volume 1. Wilderness fire restoration and management: an annotated reading list

www.nrfirescience.org/resource/19692

This reference list provides an overview of key literature relating to fire restoration and management in wilderness and similarly protected areas. This list, which centers on the United States, should be helpful to managers or researchers new to the topic, or to those seeking knowledge about specific aspects of wilderness fire...

Author(s): Marion Hourdequin

Year Published: 2001

Type: Document

Synthesis

Testing transferability of forest recreation demand in three intermountain states with application to forest fire effects

www.nrfirescience.org/resource/11052

Surveys of visitors to National Forests in Colorado, Idaho, and Wyoming were conducted to determine whether non-motorized recreation visitation responded to different fire ages and fire intensities. Actual and intended behavior data was combined using a negative binomial count data travel cost model. The intended behavior trip...

Author(s): John B. Loomis, Jeffrey Englin, Jared McDonald, Armando Gonzalez-Caban

Year Published: 2000

Type: Document

Conference Proceedings

The Bitterroot Ecosystem Management Research Project: what we have learned, symposium proceedings; May 18-20, 1999; Missoula, MT

www.nrfirescience.org/resource/11890

The varied topics presented in these symposium proceedings represent the diverse nature of the Bitterroot Ecosystem Management Research Project (BEMRP). Separated into six sections, the papers cover the different themes researched by BEMRP collaborators as well as brief overviews of five other ecosystem management projects. The...

Author(s): Helen Y. Smith

Year Published: 2000

Type: Document

Conference Proceedings

Twentieth-century fire patterns in the Selway-Bitterroot Wilderness Area, Idaho/ Montana, and the Gila/Aldo Leopold Wilderness Complex, New Mexico

www.nrfirescience.org/resource/11001

Twentieth century fire patterns were analyzed for two large, disparate wilderness areas in the Rocky Mountains. Spatial and temporal patterns of fires were represented as GIS-based digital fire atlases compiled from archival Forest Service data. We find that spatial and temporal fire patterns are related to landscape features and...

Author(s): Matthew G. Rollins, Thomas W. Swetnam, Penelope Morgan

Year Published: 2000

Type: Document

Conference Proceedings

Mixed-severity fire regimes in the Northern Rocky Mountains: consequences of fire exclusion and options for the future

www.nrfirescience.org/resource/8426

Findings from fire history studies have increasingly indicated that many forest ecosystems in the northern Rocky Mountains were shaped by mixed-severity fire regimes, characterized by fires of variable severities at intervals averaging between about 30 and 100 years. Perhaps because mixed-severity fire regimes and their resulting...

Author(s): Stephen F. Arno, David J. Parsons, Robert E. Keane

Year Published: 2000

Type: Document

Conference Proceedings, Synthesis

Wilderness fire science: a state of knowledge review

www.nrfirescience.org/resource/14386

Wilderness fire science has progressed since the last major review of the topic, but it was significantly affected by the large fire events of 1988. Strides have been made in both fire behavior and fire effects, and in the issues of scaling, yet much of the progress has not been specifically tied to wilderness areas or funding....

Author(s): James K. Agee

Year Published: 2000

Type: Document

Conference Proceedings

Effects of the Gates Park Fire on recreation choices

www.nrfirescience.org/resource/11094

The 1988 Gates Park Fire, along the North Fork of the Sun River in the Bob Marshall Wilderness, provided an opportunity to explore fire effects on wilderness visitor choices. Recreation visitors along the North and South Fork drainages were interviewed to assess the effects of 1988 fires on their 1989 visits. The Gates Park fire had...

Author(s): Timothy G. Love, Alan E. Watson

Year Published: 1992

Type: Document

Research Brief or Fact Sheet

Some thoughts on prescribed natural fires

www.nrfirescience.org/resource/12420

Wildland fire is a significant component of nearly all North American ecosystems. High intensity, stand-replacement fires are normal in certain ecosystems, especially in the northern Rocky Mountains. Wilderness fire managers are obligated to let fire operate as a natural influence to the extent that this is possible. Where...

Author(s): Jack D. Cohen

Year Published: 1991
Type: Document
Technical Report or White Paper

Visitor attitudes toward wilderness fire management policy - 1971-84

www.nrfirescience.org/resource/11962

Visitors to the Selway-Bitterroot Wilderness, MT, were asked about their knowledge of fire effects and attitudes toward fire management in wilderness settings. In comparison to a similar 1971 study, visitors were more knowledgeable about fire effects and more supportive of fire management rather than fire suppression. About half the...

Author(s): Stephen F. McCool, George H. Stankey

Year Published: 1985

Type: Document

Technical Report or White Paper

Fire-dependent forests in the Northern Rocky Mountains

www.nrfirescience.org/resource/7935

One objective of wilderness and parkland fire ecology research is to describe the relationships between fire and unmanaged ecosystems, so that strategies can be determined that will provide a more nearly natural incidence of fire. More than 50 years of efforts directed toward exclusion of wildland fires in the Northern Rocky...

Author(s): James R. Habeck, Robert W. Mutch

Year Published: 1973

Type: Document

Book or Chapter or Journal Article