

A guide to fuels management in riparian areas of the Interior West

www.nrfirescience.org/resource/12632

Fuel treatments in riparian areas pose distinct challenges. Riparian areas are protected by administrative regulations, many of which are largely custodial and restrict active management. However, riparian areas have also been affected by fire suppression, land use, and disturbance and manipulative treatments of fuels...

Author(s): Kathleen A. Dwire, Kristen E. Meyer, Sandra E. Ryan, Gregg M. Riegel, Timothy A. Burton

Year Published: 2016

Type: Document

Synthesis, Technical Report or White Paper

Riparian fuel treatments in the western USA: challenges and considerations

www.nrfirescience.org/resource/14663

Fuel reduction treatments are being conducted throughout watersheds of the western United States to reduce hazardous fuels in efforts to decrease the risk of high-severity fire. The number of fuel reduction projects that include near-stream environments is increasing, bringing new challenges to riparian management. Riparian areas...

Author(s): Kathleen A. Dwire, Kristen E. Meyer, Gregg M. Riegel, Timothy A. Burton

Year Published: 2016

Type: Document

Technical Report or White Paper

Fire, fuels, and streams: the effects and effectiveness of riparian treatments

www.nrfirescience.org/resource/13214

Fire is an important disturbance in riparian systems—consuming vegetation; increasing light; creating snags and debris flows; altering habitat structure; and affecting stream conditions, erosion, and hydrology. For many years, land managers have worked to keep fire out of riparian systems through the use of buffers...

Author(s): Josh McDaniel

Year Published: 2015

Type: Document

Research Brief or Fact Sheet

Eriophorum viridicarinatum (green-keeled cottongrass)

www.nrfirescience.org/resource/11521

This FEIS species review synthesizes information on the relationship of *Eriophorum viridicarinatum* (green-keeled cottongrass) to fire—how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution...

Author(s): Robin J. Innes

Year Published: 2013

Type: Document

Synthesis

Disease in a dynamic landscape: host behavior and wildfire reduce amphibian chytrid infection

www.nrfirescience.org/resource/12017

Disturbances are often expected to magnify effects of disease, but these effects may depend on the ecology, behavior, and life history of both hosts and pathogens. In many ecosystems, wildfire is the dominant natural disturbance and thus could directly or indirectly affect dynamics of many diseases. To determine how probability of...

Author(s): Blake R. Hossack, Winsor H. Lowe, Joy L. Ware, Paul S. Corn

Year Published: 2013
Type: Document
Book or Chapter or Journal Article

Interactive effects of wildfire, forest management, and isolation on amphibian and parasite abundance

www.nrfirescience.org/resource/11970

Projected increases in wildfire and other climate-driven disturbances will affect populations and communities worldwide, including host-parasite relationships. Research in temperate forests has shown that wildfire can negatively affect amphibians, but this research has occurred primarily outside of managed landscapes where...

Author(s): Blake R. Hossack, Winsor H. Lowe, R. Ken Honeycutt, Sean A. Parks, Paul S. Corn

Year Published: 2013

Type: Document

Book or Chapter or Journal Article

Appendix 1: Regional summaries - Great Plains

www.nrfirescience.org/resource/11902

Natural vegetation of the Great Plains is primarily grassland and shrubland ecosystems with trees occurring in scattered areas along streams and rivers, on planted woodlots, as isolated forests such as the Black Hills of South Dakota, and near the biogeographic contact with Rocky Mountains and eastern deciduous forests. Trees are...

Author(s): Linda A. Joyce

Year Published: 2013

Type: Document

Synthesis, Technical Report or White Paper

Fire as a tool for controlling Tamarix spp. seedlings

www.nrfirescience.org/resource/13506

Fire is often used in northern grasslands to control invasive grass species but has unknown effects on Tamarix spp., more recent invaders. Temperature (using an oven as a fire surrogate) and duration combinations that would be most lethal to Tamarix seeds and seedlings were determined. Tamarix seeds were sown in soil-lined dishes,...

Author(s): Michelle K. Ohrtman, Sharon A. Clay, David E. Clay, Alaexander J. Smart

Year Published: 2012

Type: Document

Book or Chapter or Journal Article

Fish life histories, wildfire, and resilience - A case study of rainbow trout in the Boise River, Idaho

www.nrfirescience.org/resource/11514

In this short piece we address the question of how aquatic ecosystems and species can change in response to disturbances, such as those related to the influence of wildfire on stream ecosystems. Our focal species is rainbow trout (*Oncorhynchus mykiss*) in the Boise River, Idaho. Rainbow trout in this system have persisted in the face...

Author(s): Amanda E. Rosenberger, Jason B. Dunham, Helen M. Neville

Year Published: 2012

Type: Document

Technical Report or White Paper

Effects of spring prescribed burning and wildfires on watershed nitrogen dynamics of central Idaho headwater areas

www.nrfirescience.org/resource/8294

Fire is known for its potential to profoundly affect nitrogen (N) dynamics in both terrestrial and aquatic ecosystems. However, few studies have investigated fire effects on several important watershed N pools simultaneously or have directly compared effects of spring prescribed burns and wildfires that occurred in the same...

Author(s): Kirsten Stephan, Kathleen L. Kavanagh, Akihiro Koyama

Year Published: 2012

Type: Document

Book or Chapter or Journal Article

Aquatic species invasions in the context of fire and climate change

www.nrfirescience.org/resource/11273

This paper focuses on the nexus among native and nonnative fishes with respect to fire and climate change in the western United States. Although many taxa are involved, I emphasize native and nonnative salmonids because these are obligate coldwater species that might be expected to respond strongly to fire and because most research...

Author(s): Michael K. Young

Year Published: 2012

Type: Document

Technical Report or White Paper

Wildfire severity mediates fluxes of plant material and terrestrial invertebrates to mountain streams

www.nrfirescience.org/resource/11477

Wildfire effects upon riparian plant community structure, composition, and distribution may strongly influence the dynamic relationships between riparian vegetation and stream ecosystems. However, few studies have examined the influence of fire on these processes. To that end, we compared the quantity and composition of...

Author(s): Breeanne K. Jackson, S. Mazeika P. Sullivan, Rachel L. Malison

Year Published: 2012

Type: Document

Book or Chapter or Journal Article

Cornus sericea (red-osier dogwood)

www.nrfirescience.org/resource/10629

This FEIS species review synthesizes information on the relationship of *Cornus sericea* (red-osier dogwood) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Corey L. Gucker

Year Published: 2012

Type: Document

Synthesis

Effects of climatic variability and change on forest ecosystems: a comprehensive science synthesis for the U.S. forest sector

www.nrfirescience.org/resource/12567

This report is a scientific assessment of the current condition and likely future condition of forest resources in the United States relative to climatic variability and change. It serves as the U.S. Forest

Service forest sector technical report for the National Climate Assessment and includes descriptions of key regional issues and...

Year Published: 2012

Type: Document

Synthesis, Technical Report or White Paper

Fire and fish: a synthesis of observation and experience

www.nrfirescience.org/resource/11271

The effects of wildfire on aquatic systems and fishes occurring in them has been linked to the direct or immediate influence of the fire on water quality and the indirect or subsequent effects on watershed characteristics and processes that influence water quality and quantity, stream channels, and aquatic biota (Gresswell 1999)....

Author(s): Bruce E. Rieman, Robert E. Gresswell, John N. Rinne

Year Published: 2012

Type: Document

Synthesis, Technical Report or White Paper

Betula occidentalis (water birch)

www.nrfirescience.org/resource/10582

This FEIS species review synthesizes information on the relationship of *Betula occidentalis* (water birch) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Corey L. Gucker

Year Published: 2012

Type: Document

Synthesis

Salix amygdaloides (peachleaf willow)

www.nrfirescience.org/resource/10658

This FEIS species review synthesizes information on the relationship of *Salix amygdaloides* (peachleaf willow) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology...

Author(s): Janet L. Fryer

Year Published: 2012

Type: Document

Synthesis

Burning questions for managers: fuels management practices in riparian areas

www.nrfirescience.org/resource/8354

Vegetation treatment projects for fuel reduction in riparian areas can pose distinct challenges to resource managers. Riparian areas are protected by administrative regulations, many of which are largely custodial and restrict active management. Like uplands, however, riparian areas have been affected by fire suppression, land use,...

Author(s): Kristen E. Meyer, Kathleen A. Dwire, Patricia A. Champ, Sandra E. Ryan, Gregg M. Riegel, Timothy A. Burton

Year Published: 2012

Type: Document

Book or Chapter or Journal Article

Genetic variation reveals influence of landscape connectivity on population dynamics and resiliency of western trout in disturbance-prone habitats

www.nrfirescience.org/resource/11272

Salmonid fishes have evolved and persisted in dynamic ecosystems (Waples and others 2008) where disturbance events vary in frequency, magnitude, timing, and duration (Gresswell 1999; Dale and others 2001), as well as the specific nature of associated effects (e.g., changes in thermal or flow regimes, geomorphology, or water...

Author(s): Helen M. Neville, Robert E. Gresswell, Jason B. Dunham

Year Published: 2012

Type: Document

Technical Report or White Paper

Fire effects on gross inorganic N transformation in riparian soils in coniferous forests of central Idaho, USA: wildfires v. prescribed fires

www.nrfirescience.org/resource/11469

We investigated differences between wildfires and prescribed fires in their effects on nitrogen (N) dynamics in mineral soils collected from riparian coniferous forests of central Idaho, USA. Specifically, we investigated how the two types of fires affected inorganic N concentrations, microbial biomass N and gross transformation...

Author(s): Akihiro Koyama, Kirsten Stephan, Kathleen L. Kavanagh

Year Published: 2012

Type: Document

Book or Chapter or Journal Article

Climate change, forests, fire, water, and fish: building resilient landscapes, streams, and managers

www.nrfirescience.org/resource/11270

Fire will play an important role in shaping forest and stream ecosystems as the climate changes. Historic observations show increased dryness accompanying more widespread fire and forest die-off. These events punctuate gradual changes to ecosystems and sometimes generate stepwise changes in ecosystems. Climate vulnerability...

Author(s): Charles H. Luce, Penelope Morgan, Kathleen A. Dwire, Daniel J. Isaak, Zachary A. Holden, Bruce E. Rieman

Year Published: 2012

Type: Document

Technical Report or White Paper

Rapid increases and time-lagged declines in amphibian occupancy after wildfire

www.nrfirescience.org/resource/11998

Climate change is expected to increase the frequency and severity of drought and wildfire. Aquatic and moisture-sensitive species, such as amphibians, may be particularly vulnerable to these modified disturbance regimes because large wildfires often occur during extended droughts and thus may compound environmental threats. However...

Author(s): Blake R. Hossack, Winsor H. Lowe, Paul S. Corn

Year Published: 2012

Type: Document

Book or Chapter or Journal Article

Toxicodendron radicans, Toxicodendron rydbergii (eastern poison-ivy, western poison-ivy)

www.nrfirescience.org/resource/10525

This FEIS species review synthesizes information on the relationship of *Toxicodendron radicans*, *Toxicodendron rydbergii* (eastern poison-ivy, western poison-ivy) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on...

Author(s): Robin J. Innes

Year Published: 2012

Type: Document

Synthesis

Amphibian responses to wildfire in the western United States: emerging patterns from short-term studies

www.nrfirescience.org/resource/8285

The increased frequency and severity of large wildfires in the western United States is an important ecological and management issue with direct relevance to amphibian conservation. Although the knowledge of fire effects on amphibians in the region is still limited relative to most other vertebrate species, we reviewed the current...

Author(s): Blake R. Hossack, David S. Pilliod

Year Published: 2011

Type: Document

Book or Chapter or Journal Article, Synthesis

Persistent effects of wildfire and debris flows on the invertebrate prey base of rainbow trout in Idaho streams

www.nrfirescience.org/resource/8287

Wildfire and debris flows are important physical and ecological drivers in headwater streams of western North America. Past research has primarily examined short-term effects of these disturbances; less is known about longer-term impacts. We investigated wildfire effects on the invertebrate prey base for drift-feeding rainbow trout...

Author(s): Amanda E. Rosenberger, Jason B. Dunham, John M. Buffington, Mark S. Wipfli

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Review of fuel treatment effectiveness in forests and rangelands and a case study from the 2007 megafires in central, Idaho, USA

www.nrfirescience.org/resource/11449

This report provides managers with the current state of knowledge regarding the effectiveness of fuel treatments for mitigating severe wildfire effects. A literature review examines the effectiveness of fuel treatments that had been previously applied and were subsequently burned through by wildfire in forests and rangelands. A case...

Author(s): Andrew T. Hudak, Ian Rickert, Penelope Morgan, Eva K. Strand, Sarah A. Lewis, Peter R. Robichaud, Chad M. Hoffman, Zachary A. Holden

Year Published: 2011

Type: Document

Synthesis, Technical Report or White Paper

***Alnus incana*, *Alnus incana* subsp. *rugosa*, *Alnus incana* subsp. *tenuifolia* (gray alder, speckled alder, thinleaf alder)**

www.nrfirescience.org/resource/10660

This FEIS species review synthesizes information on the relationship of *Alnus incana*, *Alnus incana* subsp. *rugosa*, *Alnus incana* subsp. *tenuifolia* (gray alder, speckled alder, thinleaf alder) to fire--how fire

affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations....

Author(s): Janet L. Fryer

Year Published: 2011

Type: Document

Synthesis

Schedonorus pratensis (meadow fescue)

www.nrfirescience.org/resource/10472

This FEIS species review synthesizes information on the relationship of *Schedonorus pratensis* (meadow fescue) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy...

Author(s): Katharine R. Stone

Year Published: 2010

Type: Document

Synthesis

Effects of climate change and wildfire on stream temperatures and salmonid thermal habitat in a mountain river network

www.nrfirescience.org/resource/11440

Mountain streams provide important habitats for many species, but their faunas are especially vulnerable to climate change because of ectothermic physiologies and movements that are constrained to linear networks that are easily fragmented. Effectively conserving biodiversity in these systems requires accurate downscaling of...

Author(s): Daniel J. Isaak, Charles H. Luce, Bruce E. Rieman, David E. Nagel, Erin E. Peterson, Dona L. Horan, Sharon Parkes, Gwynne L. Chandler

Year Published: 2010

Type: Document

Book or Chapter or Journal Article

Melilotus alba, Melilotus officinalis (white sweetclover, yellow sweetclover)

www.nrfirescience.org/resource/10456

This FEIS species review synthesizes information on the relationship of *Melilotus alba*, *Melilotus officinalis* (white sweetclover, yellow sweetclover) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is...

Author(s): Corey L. Gucker

Year Published: 2010

Type: Document

Synthesis

Fuel reduction management practices in riparian areas of the Western USA

www.nrfirescience.org/resource/12577

Two decades of uncharacteristically severe wildfires have caused government and private land managers to actively reduce hazardous fuels to lessen wildfire severity in western forests, including riparian areas. Because riparian fuel treatments are a fairly new management strategy, we set out to document their frequency and extent on...

Author(s): Katharine R. Stone, David S. Pilliod, Kathleen A. Dwire, Charles C. Rhoades, Sherry P. Wollrab, Michael K. Young

Year Published: 2010

Type: Document
Book or Chapter or Journal Article, Synthesis

Polygonum aviculare (prostrate knotweed)

www.nrfirescience.org/resource/10471

This FEIS species review synthesizes information on the relationship of Polygonum aviculare (prostrate knotweed) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species'...

Author(s): Katharine R. Stone

Year Published: 2010

Type: Document

Synthesis

Prescribed fires as ecological surrogates for wildfires: a stream and riparian perspective

www.nrfirescience.org/resource/11444

Forest managers use prescribed fire to reduce wildfire risk and to provide resource benefits, yet little information is available on whether prescribed fires can function as ecological surrogates for wildfire in fire-prone landscapes. Information on impacts and benefits of this management tool on stream and riparian ecosystems is...

Author(s): Robert S. Arkle, David S. Pilliod

Year Published: 2010

Type: Document

Book or Chapter or Journal Article

Populus alba, Populus x canescens, Populus x heimbürgeri, Populus x rouleiiana, Populus x tomentosa (white poplar, gray poplar, Heimbürger's poplar, Roulwau's poplar, Chinese white poplar)

www.nrfirescience.org/resource/10457

This FEIS species review synthesizes information on the relationship of Populus alba, Populus x canescens, Populus x heimbürgeri, Populus x rouleiiana, Populus x tomentosa (white poplar, gray poplar, Heimbürger's poplar, Roulwau's poplar, Chinese white poplar) to fire--how fire affects the species and its habitat, invasiveness of...

Author(s): Corey L. Gucker

Year Published: 2010

Type: Document

Synthesis

Equations to convert compacted crown ratio to uncompact crown ratio for trees in the Interior West

www.nrfirescience.org/resource/8368

Crown ratio is the proportion of total tree length supporting live foliage. Inventory programs of the US Forest Service generally define crown ratio in terms of compacted or uncompact measurements. Measurement of compacted crown ratio (CCR) involves envisioning the transfer of lower branches of trees with asymmetric crowns to fill...

Author(s): Chris Toney, Matthew C. Reeves

Year Published: 2009

Type: Document

Book or Chapter or Journal Article

Integrated analysis for management of fire and fuels, terrestrial and aquatic - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/12111

The potential for fire to negatively impact habitat that supports a threatened or endangered species, either directly or indirectly through phenomena such as debris flows, presents resource managers with a tough choice: treat fuels to reduce the risk of fire but potentially degrade stream habitat or do not treat fuels knowing an...

Author(s): Charles H. Luce, Bruce E. Rieman, Paul F. Hessburg, Anne E. Black, Matthew R. Dare

Year Published: 2009

Type: Document

Technical Report or White Paper

Influence of wildfire severity on riparian plant community heterogeneity in an Idaho, USA wilderness

www.nrfirescience.org/resource/11445

Despite the increasing recognition of riparian zones as important ecotones that link terrestrial and aquatic ecosystems and of fire as a critical natural disturbance, much remains unknown regarding the influence of fire on stream-riparian ecosystems. To further this understanding, we evaluated the effects of mixed severity wildfire...

Author(s): Breeanne K. Jackson, S. Mazeika P. Sullivan

Year Published: 2009

Type: Document

Book or Chapter or Journal Article

Carex rostrata, Carex utriculata (swollen beaked sedge, Northwest Territory sedge)

www.nrfirescience.org/resource/10595

This FEIS species review synthesizes information on the relationship of *Carex rostrata*, *Carex utriculata* (swollen beaked sedge, Northwest Territory sedge) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the...

Author(s): Michelle B. Anderson

Year Published: 2008

Type: Document

Synthesis

Climate change effects on historical range and variability of two large landscapes in western Montana, USA

www.nrfirescience.org/resource/8162

Quantifying the historical range and variability of landscape composition and structure using simulation modeling is becoming an important means of assessing current landscape condition and prioritizing landscapes for ecosystem restoration. However, most simulated time series are generated using static climate conditions which fail...

Author(s): Robert E. Keane, Lisa M. Holsinger, Russell A. Parsons, Kathy L. Gray

Year Published: 2008

Type: Document

Book or Chapter or Journal Article

Carex rossii (Ross's sedge)

www.nrfirescience.org/resource/10594

This FEIS species review synthesizes information on the relationship of *Carex rossii* (Ross's sedge) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire

management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and...

Author(s): Michelle B. Anderson

Year Published: 2008

Type: Document

Synthesis

Floods, fire, and ice: disturbance ecology of riparian cottonwoods

www.nrfirescience.org/resource/8237

Cottonwoods are poplar trees that are well adapted to dynamic riparian, or streamside, zones throughout the Northern Hemisphere. Here we assess the influences of three prominent physical disturbances, floods, fire, and ice, on cottonwood population ecology. We emphasize cottonwoods along rivers from the 'Crown of the Continent', the...

Author(s): Stewart B. Rood, Lori A. Goater, John M. Mahoney, Cheryl M. Pearce, Derald G. Smith

Year Published: 2007

Type: Document

Book or Chapter or Journal Article, Synthesis

Salix discolor (pussy willow)

www.nrfirescience.org/resource/10679

This FEIS species review synthesizes information on the relationship of *Salix discolor* (pussy willow) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and...

Author(s): Corey L. Gucker

Year Published: 2007

Type: Document

Synthesis

Betula glandulosa (bog birch)

www.nrfirescience.org/resource/10740

This FEIS species review synthesizes information on the relationship of *Betula glandulosa* (bog birch) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and...

Author(s): Jennifer E. Tollefson

Year Published: 2007

Type: Document

Synthesis

Responses of pond-breeding amphibians to wildfire: short-term patterns in occupancy and colonization

www.nrfirescience.org/resource/8249

Wildland fires are expected to become more frequent and severe in many ecosystems, potentially posing a threat to many sensitive species. We evaluated the effects of a large, stand-replacement wildfire on three species of pond-breeding amphibians by estimating changes in occupancy of breeding sites during the three years before and...

Author(s): Blake R. Hossack, Paul S. Corn

Year Published: 2007

Type: Document

Book or Chapter or Journal Article

The effect of spring prescribed fires on nitrogen dynamics within riparian and stream ecosystems - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/11173

The effects of prescribed fires on nitrogen dynamics in N limited headwater ecosystems in the northern Rocky Mountains of central Idaho are being investigated. This replicated study studies causal mechanisms that regulate nitrogen (N) dynamics between small headwater streams, riparian vegetation and soil following spring prescribed...

Year Published: 2007

Type: Document

Technical Report or White Paper

Eleocharis palustris (common spikerush)

www.nrfirescience.org/resource/10694

This FEIS species review synthesizes information on the relationship of *Eleocharis palustris* (common spikerush) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic...

Author(s): Alan S. Hauser

Year Published: 2006

Type: Document

Synthesis

Development of initial Wildland Fire Use documentation for Charles M. Russell National Wildlife Refuge

www.nrfirescience.org/resource/11077

The Charles M. Russell National Wildlife Refuge manages ecosystems that depend on fire for their maintenance. Fire is abundant in and adjacent to the refuge where lightning and human ignitions can rapidly spread in grass and shrub fuels. Farm and ranch land which would be adversely impacted by fire, pose a significant logistical...

Author(s): Bill Clark, Doug Stephen, Pat Stephen, Laurie L. Kurth, Ken Kerr

Year Published: 2006

Type: Document

Management or Planning Document

Acer grandidentatum (bigtooth maple)

www.nrfirescience.org/resource/10895

This FEIS species review synthesizes information on the relationship of *Acer grandidentatum* (bigtooth maple) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology,...

Author(s): Jennifer E. Tollefson

Year Published: 2006

Type: Document

Synthesis

Carex aquatilis (leafy tussock sedge)

www.nrfirescience.org/resource/10693

This FEIS species review synthesizes information on the relationship of *Carex aquatilis* (leafy tussock sedge) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire

regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology...

Author(s): Alan S. Hauser

Year Published: 2006

Type: Document

Synthesis

Postfire logging in riparian ecosystems

www.nrfirescience.org/resource/8126

We reviewed the behavior of wildfire in riparian zones, primarily in the western United States, and the potential ecological consequences of postfire logging. Fire behavior in riparian zones is complex, but many aquatic and riparian organisms exhibit a suite of adaptations that allow relatively rapid recovery after fire. Unless...

Author(s): Gordon H. Reeves, Peter A. Bisson, Bruce E. Rieman, Lee E. Benda

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Stream succession: channel changes after wildfire disturbance

www.nrfirescience.org/resource/11414

One concept in geomorphology is that vegetation is a fundamental control on sediment and water supplies to streams and, therefore, on downstream fluvial processes and channel morphology. Within this paradigm, wildfire has been implicated as a major driving force behind landscape erosion and changes to stream channels, periodically...

Author(s): Nicholas E. Schiedt

Year Published: 2005

Type: Document

Dissertation or Thesis

Spatially distributed estimates of riparian stream shading from remote sensing: effects of disturbance and relationship to stream temperature

www.nrfirescience.org/resource/11405

Solar radiation has long been recognized as a major component of the energy budget of streams, and modeling of stream temperature across stream basins requires estimates of riparian stream shade over extensive areas. A variety of methods are available for measuring shade locally, including hemispherical photography, however these...

Author(s): Charles H. Luce, B. Gutierrez-Teira, David E. Nagel

Year Published: 2005

Type: Document

Conference Proceedings

Fish and stream habitat risks from uncharacteristic wildfire: observations from 17 years of fire-related disturbances on the Boise National Forest, Idaho

www.nrfirescience.org/resource/11451

Several large, uncharacteristic wildfires occurred on the Boise National Forest in Southwest Idaho, from 1986 to 2003. From 1987 to 1994, severe wildfires burned almost 50% of the ponderosa pine forest types (about 200,000 ha). The intensity of the fires varied across the landscape, with a mix of low to moderate severity, and lesser...

Author(s): Timothy A. Burton

Year Published: 2005

Type: Document

Book or Chapter or Journal Article

Lonicera fragrantissima, Lonicera maackii, Lonicera morrowii, Lonicera tatarica, Lonicera x bella, Lonicera xylosteum (winter honeysuckle, Amur honeysuckle, Morrow's honeysuckle, Tatarian honeysuckle, Bell's honeysuckle, European fly honeysuckle)

www.nrfirescience.org/resource/10465

This FEIS species review synthesizes information on the relationship of *Lonicera fragrantissima*, *Lonicera maackii*, *Lonicera morrowii*, *Lonicera tatarica*, *Lonicera x bella*, *Lonicera xylosteum* (winter honeysuckle, Amur honeysuckle, Morrow's honeysuckle, Tatarian honeysuckle, Bell's honeysuckle, European fly honeysuckle) to fire--how...

Author(s): Gregory T. Munger

Year Published: 2005

Type: Document

Synthesis

Effects of prescribed and wildland fire on aquatic ecosystems in western forests - Final Report to the Joint Fire Science Program

www.nrfirescience.org/resource/11161

The goal of the project is to understand how fire in upland and riparian forests influence stream communities and whether prescription burning mimics the ecological function of fire in a watershed. The project has two components: wildland fire and prescribed fire. To document the range of biotic and abiotic responses to wildland...

Author(s): David S. Pilliod, R. Bruce Bury, Paul S. Corn

Year Published: 2005

Type: Document

Technical Report or White Paper

Wildfire, channel disturbance, and stream temperature: spatio-temporal patterns and associations with the distribution of fish and amphibians in central Idaho

www.nrfirescience.org/resource/8407

Temperature is a critical factor in stream ecosystems, and one that is very likely to be altered by wildfire and associated channel disturbance. In central Idaho streams, temperatures after wildfires may increase following loss of shade from riparian vegetation, and changes in channel structure that increase exposure to solar...

Author(s): Jason B. Dunham, Charles H. Luce, Amanda E. Rosenberger, B. Gutierrez-Teira, David E. Nagel, Bruce E. Rieman

Year Published: 2005

Type: Document

Conference Proceedings

Scales of Stream Disturbance Patterns and Population Structure in Bull Trout

www.nrfirescience.org/resource/11406

Ecological theory proposes that the geometry and dynamics of suitable habitats are important predictors for the persistence of a population or metapopulation. A key finding supporting a metapopulation-like conceptualization of extinction and colonization in fragmented salmonid populations is that individuals of particular species...

Author(s): Charles H. Luce, Bruce E. Rieman, Jason B. Dunham

Year Published: 2005

Type: Document

Conference Proceedings

Elaeagnus angustifolia (Russian-olive)

www.nrfirescience.org/resource/10486

This FEIS species review synthesizes information on the relationship of *Elaeagnus angustifolia* (Russian-olive) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy...

Author(s): Kristin L. Zouhar

Year Published: 2005

Type: Document

Synthesis

Juncus balticus (Baltic rush)

www.nrfirescience.org/resource/10701

This FEIS species review synthesizes information on the relationship of *Juncus balticus* (Baltic rush) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and...

Author(s): Alan S. Hauser

Year Published: 2005

Type: Document

Synthesis

Cornus nuttallii (Pacific dogwood)

www.nrfirescience.org/resource/10681

This FEIS species review synthesizes information on the relationship of *Cornus nuttallii* (Pacific dogwood) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology,...

Author(s): Corey L. Gucker

Year Published: 2005

Type: Document

Synthesis

Long-term impacts of fire and mass wasting on solar loading and stream heating in mountain streams of central Idaho

www.nrfirescience.org/resource/11433

The immediate impacts of watershed disturbances such as forest fires, debris flows, and hyperconcentrated flows to lotic systems can include the local decimation of fish, amphibian, and insect populations, but the long-term impacts to biota may have more to do with the trajectory of stream habitat recovery from disturbance. This...

Author(s): C. W. Welcker, John M. Buffington, Bruce E. Rieman, Charles H. Luce, J. A. McKean

Year Published: 2005

Type: Document

Conference Proceedings

Convolvulus arvensis (field bindweed)

www.nrfirescience.org/resource/10487

This FEIS species review synthesizes information on the relationship of *Convolvulus arvensis* (field bindweed) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on

the species' taxonomy...

Author(s): Kristin L. Zouhar

Year Published: 2004

Type: Document

Synthesis

Enhancing moist forest restoration opportunities in riparian systems

www.nrfirescience.org/resource/10976

In northern Rocky Mountain moist forests, riparian systems contain many attributes that create unique biophysical conditions that alter disturbances and microenvironments; thus creating distinct forest structures, species composition, and management challenges. For example, browsing, limited opening size, competition from...

Author(s): Theresa B. Jain, Russell T. Graham

Year Published: 2004

Type: Document

Conference Proceedings, Synthesis

Impacts of fire and mass wasting on channel morphology and stream temperature in mountain rivers of central Idaho (abstract)

www.nrfirescience.org/resource/11432

Debris flows and hyperconcentrated flows immediately impact streams by changing channel morphology, grain size, sediment storage and transport, amount of incision, riparian vegetation, large woody debris dynamics, and extirpating fish, amphibian, and insect populations. In central Idaho, these disturbances are commonly triggered by...

Author(s): C. W. Welcker, John M. Buffington, Bruce E. Rieman, Charles H. Luce, J. A. McKean

Year Published: 2004

Type: Document

Conference Proceedings

Lewis's Woodpecker (*Melanerpes lewis*): a technical conservation assessment

www.nrfirescience.org/resource/11498

Lewis's woodpecker (*Melanerpes lewis*) is a locally common but patchily distributed woodpecker species usually seen in open forests of western North America. The combination of its sporadic distribution, its diet of adult-stage free-living insects (primarily aerial), its preference to nest in burned landscapes, and its variable...

Author(s): Stephen C. Abele, Victoria A. Saab, Edward O. Garton

Year Published: 2004

Type: Document

Technical Report or White Paper

***Sonchus arvensis* (perennial sowthistle)**

www.nrfirescience.org/resource/10464

This FEIS species review synthesizes information on the relationship of *Sonchus arvensis* (perennial sowthistle) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species'...

Author(s): Jack McWilliams

Year Published: 2004

Type: Document

Synthesis

Wildfire and weeds in the Northern Rockies

www.nrfirescience.org/resource/8414

In 2000, wildfires burned more than 200,000 acres on the Bitterroot National Forest of Montana and nearly 1.5 million acres in the Northern and Intermountain Regions. These fires increased light and nutrient levels, reduced plant competition, and increased exposure of bare soil. These conditions favor the invasion and expansion of...

Author(s): Elaine Kennedy Sutherland

Year Published: 2003

Type: Document

Conference Proceedings

Fire and aquatic ecosystems of the western USA: current knowledge and key questions

www.nrfirescience.org/resource/7912

Understanding of the effects of wildland fire and fire management on aquatic and riparian ecosystems is an evolving field, with many questions still to be resolved. Limitations of current knowledge, and the certainty that fire management will continue, underscore the need to summarize available information. Integrating fire and...

Author(s): Peter A. Bisson, Bruce E. Rieman, Charles H. Luce, Paul F. Hessburg, Danny C. Lee, Jeffrey L. Kershner, Gordon H. Reeves, Robert E. Gresswell

Year Published: 2003

Type: Document

Book or Chapter or Journal Article, Synthesis

Tamarix chinensis, Tamarix gallica, Tamarix parviflora, Tamarix ramosissima (tamarisk, French tamarisk, small-flowered tamarisk, saltcedar)

www.nrfirescience.org/resource/10485

This FEIS species review synthesizes information on the relationship of *Tamarix chinensis*, *Tamarix gallica*, *Tamarix parviflora*, *Tamarix ramosissima* (tamarisk, French tamarisk, small-flowered tamarisk, saltcedar) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and...

Author(s): Kristin L. Zouhar

Year Published: 2003

Type: Document

Synthesis

Fire and riparian ecosystems in landscapes of the western USA

www.nrfirescience.org/resource/8158

Despite the numerous values of riparian areas and the recognition of fire as a critical natural disturbance, few studies have investigated the behavior, properties, and influence of natural fire in riparian areas of the western USA. Riparian areas frequently differ from adjacent uplands in vegetative composition and structure,...

Author(s): Kathleen A. Dwire, J. Boone Kauffman

Year Published: 2003

Type: Document

Book or Chapter or Journal Article

Introduction to the effects of wildland fire on aquatic ecosystems in the western USA

www.nrfirescience.org/resource/8130

Description not entered

Author(s): Bruce E. Rieman, Robert E. Gresswell, Michael K. Young, Charles H. Luce

Year Published: 2003
Type: Document
Book or Chapter or Journal Article

Responses of stream benthic macroinvertebrates to fire

www.nrfirescience.org/resource/7964

Synthesis of published research on the responses of stream benthic macroinvertebrates to fire in western United States indicates a consistent pattern of response that can guide resource management and future research. Direct effects of fire generally are minor or indiscernible. Indirect effects, resulting primarily from increased...

Author(s): G. Wayne Minshall
Year Published: 2003
Type: Document
Book or Chapter or Journal Article

Acer platanoides (Norway maple)

www.nrfirescience.org/resource/10466

This FEIS species review synthesizes information on the relationship of *Acer platanoides* (Norway maple) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy,...

Author(s): Gregory T. Munger
Year Published: 2003
Type: Document
Synthesis

Wildfire effects on stream food webs and nutrient dynamics in Glacier National Park, USA

www.nrfirescience.org/resource/8150

We documented immediate and mid-term (5 y) impacts on streams from a large (15,500 ha) wildfire in northwestern Montana. Fire-related impacts were ecosystem-wide, extending from water chemistry to fish. During the initial firestorm, phosphorus and nitrogen levels increased 5- to 60-fold above background levels resulting from aerial...

Author(s): Craig N. Spencer, Kristin O. Gabel, F. Richard Hauer
Year Published: 2003
Type: Document
Book or Chapter or Journal Article

Linkages between streams and riparian vegetation at increasing in time-since-fire in western Montana watersheds

www.nrfirescience.org/resource/11042

Succession in upland vegetation following fire is well studied, yet the concurrent changes in riparian zones and streams have received little attention. Our objective was to examine variation in riparian and stream characteristics in three headwaters basins of the Bitterroot River in western Montana in summer 2001. These watersheds...

Author(s): Elaine Kennedy Sutherland, Michael K. Young, Ethan Mace, Robert S. Ahl
Year Published: 2002
Type: Document
Conference Proceedings

Juniperus scopulorum (Rocky Mountain juniper)

www.nrfirescience.org/resource/10827

This FEIS species review synthesizes information on the relationship of *Juniperus scopulorum* (Rocky Mountain juniper) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic...

Author(s): Janette S. Scher

Year Published: 2002

Type: Document

Synthesis

Lythrum salicaria (purple loosestrife)

www.nrfirescience.org/resource/10467

This FEIS species review synthesizes information on the relationship of *Lythrum salicaria* (purple loosestrife) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy...

Author(s): Gregory T. Munger

Year Published: 2002

Type: Document

Synthesis

Pseudotsuga menziesii var. glauca (Rocky Mountain Douglas-fir)

www.nrfirescience.org/resource/10853

This FEIS species review synthesizes information on the relationship of *Pseudotsuga menziesii* var. *glauca* (Rocky Mountain Douglas-fir) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy,...

Author(s): Peter D. Steinberg

Year Published: 2002

Type: Document

Synthesis

Carduus nutans (musk thistle)

www.nrfirescience.org/resource/10494

This FEIS species review synthesizes information on the relationship of *Carduus nutans* (musk thistle) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy,...

Author(s): Kristin L. Zouhar

Year Published: 2002

Type: Document

Synthesis

Cirsium vulgare (bull thistle)

www.nrfirescience.org/resource/10492

This FEIS species review synthesizes information on the relationship of *Cirsium vulgare* (bull thistle) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy,...

Author(s): Kristin L. Zouhar

Year Published: 2002

Type: Document
Synthesis

Perspectives on persistence of native fishes and nonnative fish invasions in fire-prone landscapes - Slide presentation

www.nrfirescience.org/resource/11517

Powerpoint presentation about direct and indirect effects of fire on fish populations. Presented at the Fire and Aquatic Ecosystems Workshop, April 22-24, 2002 in Boise, Idaho.

Author(s): Jason B. Dunham, Michael K. Young, Robert E. Gresswell, Bruce E. Rieman

Year Published: 2002

Type: Document
Conference Proceedings

Scale of severe channel disturbances relative to the structure of fish populations

www.nrfirescience.org/resource/11404

Stream temperature and channel disturbance are two potentially important controls on the distribution and persistence of fish populations. Temperature regulates primary physiological processes that constrain the demographic response of populations to their environments. Ultimately temperature may be a first order determinant of the...

Author(s): Charles H. Luce, Bruce E. Rieman, John G. King, Jason B. Dunham

Year Published: 2002

Type: Document
Conference Proceedings

The role of fire in riparian zones of the northern Rocky Mountains

www.nrfirescience.org/resource/11137

While the importance of riparian systems in the northern Rocky Mountains as sources of productivity and diversity is recognized, there is little information about the interaction between pattern and process. To sustain these areas, we need to understand the characteristics of disturbance processes and how they result in patterns in...

Author(s): Elaine Kennedy Sutherland, Kevin S. McKelvey

Year Published: 2002

Type: Document
Conference Proceedings, Technical Report or White Paper

Cynoglossum officinale (houndstongue)

www.nrfirescience.org/resource/10500

This FEIS species review synthesizes information on the relationship of *Cynoglossum officinale* (houndstongue) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy...

Author(s): Kristin L. Zouhar

Year Published: 2002

Type: Document
Synthesis

Acer glabrum (Rocky Mountain maple)

www.nrfirescience.org/resource/10609

This FEIS species review synthesizes information on the relationship of *Acer glabrum* (Rocky Mountain maple) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire

regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology,...

Author(s): Michelle B. Anderson

Year Published: 2001

Type: Document

Synthesis

Populus deltoides, Populus deltoides var. deltoides, Populus deltoides var. mislizeni, Populus deltoides var. monilifera (eastern cottonwood, eastern cottonwood, Rio Grande cottonwood, plains cottonwood)

www.nrfirescience.org/resource/10862

This FEIS species review synthesizes information on the relationship of *Populus deltoides*, *Populus deltoides* var. *deltoides*, *Populus deltoides* var. *mislizeni*, *Populus deltoides* var. *monilifera* (eastern cottonwood, eastern cottonwood, Rio Grande cottonwood, plains cottonwood) to fire--how fire affects the species and its habitat,...

Author(s): Jane E. Taylor

Year Published: 2001

Type: Document

Synthesis

Benthic macroinvertebrate assemblages in five central Idaho (USA) streams over a 10-year period following disturbance by wildfire

www.nrfirescience.org/resource/11443

The effects of wildfire on benthic macroinvertebrate assemblages of streams in mixed-conifer forest were examined for 10 successive years following the Mortar Creek Fire of 1979. Changes in burned-catchment streams were evaluated relative to a paired set of reference-catchment streams. Taxa richness and total abundance tended to be...

Author(s): G. Wayne Minshall, Christopher T. Robinson, Deron E. Lawrence, Douglas A. Andrews, James T. Brock

Year Published: 2001

Type: Document

Book or Chapter or Journal Article

Populus angustifolia (narrowleaf cottonwood)

www.nrfirescience.org/resource/10829

This FEIS species review synthesizes information on the relationship of *Populus angustifolia* (narrowleaf cottonwood) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic...

Author(s): Kevin A. Simonin

Year Published: 2001

Type: Document

Synthesis

The role of fire in juniper and pinyon woodlands: a descriptive analysis

www.nrfirescience.org/resource/10994

Among the most pronounced vegetation changes in past 130 years has been the increase in both distribution and density of juniper (*Juniperus* spp.) and pinyon (*Pinus* spp.) across the Intermountain West. Juniper and pinyon species between the Canadian and Mexican borders occupy over 30 million ha throughout this region. Prior to...

Author(s): Richard F. Miller, Robin J. Tausch

Year Published: 2001
Type: Document
Conference Proceedings

Cirsium arvense (Canada thistle)

www.nrfirescience.org/resource/10482

This FEIS species review synthesizes information on the relationship of *Cirsium arvense* (Canada thistle) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy,...

Author(s): Kristin L. Zouhar

Year Published: 2001

Type: Document

Synthesis

Salix scouleriana (Scouler willow)

www.nrfirescience.org/resource/10606

This FEIS species review synthesizes information on the relationship of *Salix scouleriana* (Scouler willow) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology,...

Author(s): Michelle B. Anderson

Year Published: 2001

Type: Document

Synthesis

Water quality, substratum and biotic responses of five central Idaho (USA) streams during the first year following the Mortar Creek fire

www.nrfirescience.org/resource/11442

The Mortar Creek Fire burned 26 000 ha of mixed-conifer Rocky Mountain forest in July-August 1979. Changes in burn stream conditions were examined relative to reference streams for various ecological factors on two to six occasions, from October 1979 to August 1980. Factors included major ions and nutrients, suspended and benthic...

Author(s): G. Wayne Minshall, James T. Brock, Douglas A. Andrews, Christopher T. Robinson

Year Published: 2001

Type: Document

Book or Chapter or Journal Article

Populus balsamifera subsp. trichocarpa (black cottonwood)

www.nrfirescience.org/resource/10851

This FEIS species review synthesizes information on the relationship of *Populus balsamifera* subsp. *trichocarpa* (black cottonwood) to fire--how fire affects the species and its habitat, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy,...

Author(s): Peter D. Steinberg

Year Published: 2001

Type: Document

Synthesis

Centaurea maculosa (spotted knapweed)

www.nrfirescience.org/resource/10493

This FEIS species review synthesizes information on the relationship of *Centaurea maculosa* (spotted knapweed) to fire--how fire affects the species and its habitat, invasiveness of the species, effects of the species on fuels and fire regimes, and fire management considerations. Information is also provided on the species' taxonomy...

Author(s): Kristin L. Zouhar

Year Published: 2001

Type: Document

Synthesis

Prunus virginiana (chokecherry)

www.nrfirescience.org/resource/10503

This FEIS species review synthesizes information on the relationship of *Prunus virginiana* (chokecherry) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Kathleen A. Johnson

Year Published: 2000

Type: Document

Synthesis

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

Associated riparian communities

www.nrfirescience.org/resource/10962

Some 100 years of fire exclusion in the Interior Northwest has resulted in riparian areas dominated by dense thickets of shade-tolerant trees. If former, more open conditions could be restored, these habitats could once more support a more diverse bird community. Efforts toward this at two study sites are described.

Author(s): Colin C. Hardy, Robert E. Keane, Michael G. Harrington

Year Published: 2000

Type: Document

Conference Proceedings

Use of the helitorch to enhance diversity on riparian corridors in mature pinyon-juniper communities: a conceptual approach

www.nrfirescience.org/resource/12109

As pinyon-juniper have increased their dominance throughout the Great Basin, other perennial plants have declined in abundance. Riparian areas traditionally have the greatest biodiversity found in the region. The increase of pinyon-juniper can generally be attributed to a change in the disturbance regime. To increase the plant...

Author(s): G. Allen Rasmussen, Robin J. Tausch, Stephen C. Bunting
Year Published: 1999
Type: Document
Conference Proceedings

Fire ecology of the forest habitat types of northern Idaho

www.nrfirescience.org/resource/11234

Provides information on fire ecology in forest habitat and community types occurring in northern Idaho. Identifies fire groups based on presettlement fire regimes and patterns of succession and stand development after fire. Describes forest fuels and suggests considerations for fire management.

Author(s): Jane Kapler Smith, William C. Fischer

Year Published: 1997

Type: Document

Synthesis, Technical Report or White Paper

Populus tremuloides (quaking aspen)

www.nrfirescience.org/resource/10717

This FEIS species review synthesizes information on the relationship of *Populus tremuloides* (quaking aspen) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Janet L. Howard

Year Published: 1996

Type: Document

Synthesis

Reestablishing fire-adapted communities to riparian forests in the ponderosa pine zone

www.nrfirescience.org/resource/11248

Ecological research has implicated the practice of fire exclusion as a major contributor to forest health problems in the semiarid ponderosa pine (*Pinus ponderosa*) zone of the Inland West (Mutch and others 1993; Sampson and others 1994). Prior to 1900, frequent, low-intensity fires occurred on upland forests in this forest zone at...

Author(s): Matthew K. Arno

Year Published: 1996

Type: Document

Technical Report or White Paper

Consequences of fire on aquatic nitrate and phosphate dynamics in Yellowstone National Park

www.nrfirescience.org/resource/11990

Airborne remotely sensed data were collected and analyzed during and following the 1988 Greater Yellowstone Ecosystem (GYE) fires in order to characterize the fire front movements, burn intensities and various vegetative components of selected watersheds. Remotely sensed data were used to categorize the burn intensities as: severely...

Author(s): James A. Brass, Vincent G. Ambrosia, Philip J. Riggan, Paul D. Sebesta

Year Published: 1996

Type: Document

Conference Proceedings

Remote sensing of forest fire severity and vegetation recovery

www.nrfirescience.org/resource/8152

Burned forested areas have patterns of varying burn severity as a consequence of various topographic, vegetation, and meteorological factors. These patterns are detected and mapped using satellite data. Other ecological information can be abstracted from satellite data regarding rates of recovery of vegetation foliage and variation...

Author(s): Joseph D. White, Kevin C. Ryan, Carl H. Key, Steven W. Running

Year Published: 1996

Type: Document

Book or Chapter or Journal Article

Heracleum lanatum (cow parsnip)

www.nrfirescience.org/resource/10630

This FEIS species review synthesizes information on the relationship of *Heracleum lanatum* (cow parsnip) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Lora L. Esser

Year Published: 1995

Type: Document

Synthesis

Urtica dioica (stinging nettle)

www.nrfirescience.org/resource/10612

This FEIS species review synthesizes information on the relationship of *Urtica dioica* (stinging nettle) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Jennifer H. Carey

Year Published: 1995

Type: Document

Synthesis

Festuca subulata (bearded fescue)

www.nrfirescience.org/resource/10644

This FEIS species review synthesizes information on the relationship of *Festuca subulata* (bearded fescue) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Lora L. Esser

Year Published: 1994

Type: Document

Synthesis

Carex concinna (low northern sedge)

www.nrfirescience.org/resource/10925

This FEIS species review synthesizes information on the relationship of *Carex concinna* (low northern sedge) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Roberta A. Walsh

Year Published: 1994

Type: Document

Fish mortality resulting from delayed effects of fire in the greater Yellowstone ecosystem

www.nrfirescience.org/resource/8153

During the 1988 fires in the GYE, Minshall et al. (1989) observed fish kills in streams, but the extent and causes of mortality were not reported. While conducting other studies of watersheds in the GYE, we observed a fish kill in a burned watershed that occurred two years after the fires. In this paper we describe aspects of this...

Author(s): Michael K. Young, Michael A. Bozek

Year Published: 1994

Type: Document

Book or Chapter or Journal Article

Haliaeetus leucocephalus (bald eagle)

www.nrfirescience.org/resource/10843

This FEIS species review synthesizes information on the relationship of Haliaeetus leucocephalus (bald eagle) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can...

Author(s): S. A. Snyder

Year Published: 1993

Type: Document

Synthesis

Equisetum sylvaticum (wood horsetail)

www.nrfirescience.org/resource/10776

This FEIS species review synthesizes information on the relationship of Equisetum sylvaticum (wood horsetail) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can...

Author(s): Robin F. Matthews

Year Published: 1993

Type: Document

Synthesis

Tortula ruralis (twisted moss)

www.nrfirescience.org/resource/10756

This FEIS species review synthesizes information on the relationship of Tortula ruralis (twisted moss) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Robin F. Matthews

Year Published: 1993

Type: Document

Synthesis

Aix sponsa (wood duck)

www.nrfirescience.org/resource/10849

This FEIS species review synthesizes information on the relationship of Aix sponsa (wood duck) to fire--how fire affects the species and its habitat, and fire management considerations. Information is

also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used for fire...

Author(s): S. A. Snyder

Year Published: 1993

Type: Document

Synthesis

Branta canadensis (Canada goose)

www.nrfirescience.org/resource/10847

This FEIS species review synthesizes information on the relationship of *Branta canadensis* (Canada goose) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): S. A. Snyder

Year Published: 1993

Type: Document

Synthesis

Marchantia polymorpha (liverwort)

www.nrfirescience.org/resource/10757

This FEIS species review synthesizes information on the relationship of *Marchantia polymorpha* (liverwort) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Robin F. Matthews

Year Published: 1993

Type: Document

Synthesis

Equisetum arvense (field horsetail)

www.nrfirescience.org/resource/10858

This FEIS species review synthesizes information on the relationship of *Equisetum arvense* (field horsetail) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Janet Sullivan

Year Published: 1993

Type: Document

Synthesis

Poa compressa (Canada bluegrass)

www.nrfirescience.org/resource/10578

This FEIS species review synthesizes information on the relationship of *Poa compressa* (Canada bluegrass) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Ronald Uchtyl

Year Published: 1993

Type: Document

Synthesis

Anas platyrhynchos (mallard)

www.nrfirescience.org/resource/10848

This FEIS species review synthesizes information on the relationship of *Anas platyrhynchos* (mallard) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): S. A. Snyder

Year Published: 1993

Type: Document

Synthesis

Salix boothii (Booth willow)

www.nrfirescience.org/resource/10637

This FEIS species review synthesizes information on the relationship of *Salix boothii* (Booth willow) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Lora L. Esser

Year Published: 1992

Type: Document

Synthesis

Schoenoplectus americanus (Olney's threesquare bulrush)

www.nrfirescience.org/resource/10565

This FEIS species review synthesizes information on the relationship of *Schoenoplectus americanus* (Olney's threesquare bulrush) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This...

Author(s): Ronald Uchytel

Year Published: 1992

Type: Document

Synthesis

Salix bebbiana (Bebb willow)

www.nrfirescience.org/resource/10563

This FEIS species review synthesizes information on the relationship of *Salix bebbiana* (Bebb willow) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Julie L. Tesky

Year Published: 1992

Type: Document

Synthesis

Erodium cicutarium (cutleaf filaree)

www.nrfirescience.org/resource/10462

This FEIS species review synthesizes information on the relationship of *Erodium cicutarium* (cutleaf filaree) to fire--how fire affects the species and its habitat, invasiveness of the species, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general...

Author(s): Janet L. Howard
Year Published: 1992
Type: Document
Synthesis

Salix monticola (mountain willow)

www.nrfirescience.org/resource/10639

This FEIS species review synthesizes information on the relationship of *Salix monticola* (mountain willow) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Lora L. Esser
Year Published: 1992
Type: Document
Synthesis

Salix glauca (grayleaf willow)

www.nrfirescience.org/resource/10581

This FEIS species review synthesizes information on the relationship of *Salix glauca* (grayleaf willow) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Ronald Uchytel
Year Published: 1992
Type: Document
Synthesis

Betula papyrifera (paper birch)

www.nrfirescience.org/resource/10570

This FEIS species review synthesizes information on the relationship of *Betula papyrifera* (paper birch) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Ronald Uchytel
Year Published: 1991
Type: Document
Synthesis

Picea glauca (white spruce)

www.nrfirescience.org/resource/10579

This FEIS species review synthesizes information on the relationship of *Picea glauca* (white spruce) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used for...

Author(s): Ronald Uchytel
Year Published: 1991
Type: Document
Synthesis

Salix planifolia (planeleaf willow)

www.nrfirescience.org/resource/10568

This FEIS species review synthesizes information on the relationship of *Salix planifolia* (planeleaf willow) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Ronald Uchytel

Year Published: 1991

Type: Document

Synthesis

***Salix drummondiana* (Drummond willow)**

www.nrfirescience.org/resource/10566

This FEIS species review synthesizes information on the relationship of *Salix drummondiana* (Drummond willow) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be...

Author(s): Ronald Uchytel

Year Published: 1991

Type: Document

Synthesis

***Salix geyeriana* (Geyer willow)**

www.nrfirescience.org/resource/10564

This FEIS species review synthesizes information on the relationship of *Salix geyeriana* (Geyer willow) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Ronald Uchytel

Year Published: 1991

Type: Document

Synthesis

***Celtis reticulata* (netleaf hackberry)**

www.nrfirescience.org/resource/10891

This FEIS species review synthesizes information on the relationship of *Celtis reticulata* (netleaf hackberry) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can...

Author(s): D. A. Tirmenstein

Year Published: 1990

Type: Document

Synthesis

***Populus balsamifera* subsp. *balsamifera* (balsam poplar)**

www.nrfirescience.org/resource/10692

This FEIS species review synthesizes information on the relationship of *Populus balsamifera* subsp. *balsamifera* (balsam poplar) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This...

Author(s): Holly T. Harris

Year Published: 1990

Type: Document
Synthesis

Alnus rhombifolia (white alder)

www.nrfirescience.org/resource/10576

This FEIS species review synthesizes information on the relationship of *Alnus rhombifolia* (white alder) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Ronald Uchytel
Year Published: 1989
Type: Document
Synthesis

Alnus viridis subsp. sinuata (Sitka alder)

www.nrfirescience.org/resource/10572

This FEIS species review synthesizes information on the relationship of *Alnus viridis* subsp. *sinuata* (Sitka alder) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review...

Author(s): Ronald Uchytel
Year Published: 1989
Type: Document
Synthesis

Rubus laciniatus (evergreen blackberry)

www.nrfirescience.org/resource/10478

This FEIS species review synthesizes information on the relationship of *Rubus laciniatus* (evergreen blackberry) to fire--how fire affects the species and its habitat, invasiveness of the species, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general...

Author(s): D. A. Tirmenstein
Year Published: 1989
Type: Document
Synthesis

Salix lutea (yellow willow)

www.nrfirescience.org/resource/10567

This FEIS species review synthesizes information on the relationship of *Salix lutea* (yellow willow) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used for...

Author(s): Ronald Uchytel
Year Published: 1989
Type: Document
Synthesis

Effects of fire in the northern Great Plains

www.nrfirescience.org/resource/11184

Fire has been used inconsistently to manage native and tame grasslands in the Northern Great Plains

(NGP) of the north-central U.S. and south-central Canada, particularly the grasslands found in prairies, plains, agricultural land retirement programs, and moist soil sites. This has happened for three primary reasons: (1) the...

Author(s): Kenneth F. Higgins, Arnold D. Kruse, James L. Piehl

Year Published: 1989

Type: Document

Synthesis, Technical Report or White Paper

Salix lucida subsp. lasiandra (Pacific willow)

www.nrfirescience.org/resource/10577

This FEIS species review synthesizes information on the relationship of *Salix lucida* subsp. *lasiandra* (Pacific willow) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species...

Author(s): Ronald Uchytel

Year Published: 1989

Type: Document

Synthesis

The effects of fire on watersheds: a summary

www.nrfirescience.org/resource/11049

Over the past three days we have been presented with the results of a most impressive quantity and quality of research on the effects of fire on watersheds. My attempt to summarize these papers will hardly do them justice, but hopefully will recapitulate some of their more important and generalizable findings. My comments are...

Author(s): Nicholas Dennis

Year Published: 1989

Type: Document

Conference Proceedings

Salix lemmonii (Lemmons willow)

www.nrfirescience.org/resource/10575

This FEIS species review synthesizes information on the relationship of *Salix lemmonii* (Lemmons willow) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): Ronald Uchytel

Year Published: 1989

Type: Document

Synthesis

Alnus rubra (red alder)

www.nrfirescience.org/resource/10571

This FEIS species review synthesizes information on the relationship of *Alnus rubra* (red alder) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used for...

Author(s): Ronald Uchytel

Year Published: 1989

Type: Document

Synthesis

Rubus discolor (Himalayan blackberry)

www.nrfirescience.org/resource/10477

This FEIS species review synthesizes information on the relationship of *Rubus discolor* (Himalayan blackberry) to fire--how fire affects the species and its habitat, invasiveness of the species, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general...

Author(s): D. A. Tirmenstein

Year Published: 1989

Type: Document

Synthesis

Rubus spectabilis (salmonberry)

www.nrfirescience.org/resource/10889

This FEIS species review synthesizes information on the relationship of *Rubus spectabilis* (salmonberry) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used...

Author(s): D. A. Tirmenstein

Year Published: 1989

Type: Document

Synthesis

Acer negundo (boxelder)

www.nrfirescience.org/resource/10823

This FEIS species review synthesizes information on the relationship of *Acer negundo* (boxelder) to fire--how fire affects the species and its habitat, and fire management considerations. Information is also provided on the species' taxonomy, distribution, basic biology, and general management. This species review can be used for...

Author(s): Lynn Rosario

Year Published: 1988

Type: Document

Synthesis

Fire, logging, and white-tailed deer interrelationships in the Swan Valley, northwestern Montana

www.nrfirescience.org/resource/11056

The historical importance of fire was investigated on the upper Swan Valley winter white-tailed deer range in northwestern Montana. The relatively recent impacts of logging on winter range quality were also included in these studies. Fire exclusion has led to successional development of once open-canopied mature seral forests, and...

Author(s): June D. Freedman, James R. Habeck

Year Published: 1985

Type: Document

Conference Proceedings, Technical Report or White Paper

Fire's influence on wildlife habitat on the Bridger-Teton National Forest, Wyoming - Volume I: photographic record and analysis

www.nrfirescience.org/resource/12151

The Bridger-Teton National Forest in the Jackson Hole Region of Wyoming has long been recognized for its wildlife resource. Management efforts have emphasized the measurement of forage utilization by

elk (*Cervus canadensis nelsoni*) and their effect on summer and winter ranges. Less consideration has been given to other biotic and...

Author(s): George E. Gruell

Year Published: 1980

Type: Document

Technical Report or White Paper

The pyrolysis products and thermal characteristics of cottonwood and its components

www.nrfirescience.org/resource/11944

This study was undertaken to determine the thermal properties of, and the pyrolysis products from, western cottonwood (*Populus trichocavva*) and two of its major components: cellulose and xylan. The modifications due to treatment of the wood and its components with an acid and alkali were also documented. Differential thermal...

Author(s): Charles W. Philpot

Year Published: 1971

Type: Document

Technical Report or White Paper