Restoration of the iconic Pando aspen clone: emerging evidence of recovery
www.nrfirescience.org/resource/14933
Quaking aspen (Populus tremuloides Michx.) is being stressed across the America West from a variety of sources including drought, herbivory, fire suppression, development, and past management practices. Rich assemblages of plants and animals that utilize aspen forests, as well as economic values of tourism, grazing, hunting,...
Author(s): Paul C. Rogers, Jody A. Gale
Year Published: 2017
Type: Document
Book or Chapter or Journal Article

Quaking aspen in the Northern Rockies: retention and restoration
www.nrfirescience.org/resource/15373
Specific objectives of this review are to address the current status and future outlook of aspen across a range of ecosystems in the US Northern Rockies. Specifically, we aim to answer the following questions: Is aspen declining in the Northern Rockies, and if so what are the underlying causes? Where should aspen...
Author(s): Camille Stevens-Rumann, Penelope Morgan, Eva K. Strand, Diane Abendroth
Year Published: 2017
Type: Document
Synthesis

Climate variability and fire effects on quaking aspen in the central Rocky Mountains, USA
www.nrfirescience.org/resource/14978
Our understanding of how climate and fire have impacted quaking aspen (Populus tremuloides Michx.) communities prior to the 20th century is fairly limited. This study analysed the period between 4500 and 2000 cal. yr BP to assess the pre-historic role of climate and fire on an aspen community during an aspen-dominated period.
Author(s): Vachel A. Carter, Andrea R. Brunelle, John D. Shaw, Thomas A. Minckley, R. Justin DeRose, Simon C. Brewer
Year Published: 2017
Type: Document
Book or Chapter or Journal Article

Quaking aspen in Utah: integrating recent science with management
www.nrfirescience.org/resource/15175
Quaking aspen is widely regarded as a key resource for humans, livestock, and wildlife with these values often competing with each other, leading to overuse of aspen in some locations and declines. We review trends in aspen science and management, particularly in Utah. Historically, research conducted here holds a prestigious place...
Author(s): Paul C. Rogers, Sam St. Clair
Year Published: 2016
Type: Document
Book or Chapter or Journal Article

Elevated Rocky Mountain elk numbers prevent positive effects of fire on quaking aspen (Populus tremuloides) recruitment
www.nrfirescience.org/resource/14027
Quaking aspen (Populus tremuloides) is the most widespread tree species in North America and has supported a unique ecosystem for tens of thousands of years, yet is currently threatened by dramatic loss and possible local extinctions. While multiple factors such as climate change and fire suppression
Burn me twice, shame on who? Interactions between successive forest fires across a temperate mountain region
www.nrfirescience.org/resource/14793
Increasing rates of natural disturbances under a warming climate raise important questions about how multiple disturbances interact. Escalating wildfire activity in recent decades has resulted in some forests re-burning in short succession, but how the severity of one wildfire affects that of a subsequent wildfire is not fully...
Author(s): Brian J. Harvey, Daniel C. Donato, Monica G. Turner
Year Published: 2016
Type: Document
Book or Chapter or Journal Article

Shifting ecological filters mediate postfire expansion of seedling aspen (Populus tremuloides) in Yellowstone
www.nrfirescience.org/resource/13896
Determining how ecological filters (e.g., climate, soils, biotic interactions) influence where species succeed in heterogeneous landscapes is challenging for long-lived species (e.g., trees), because filters can vary over space and change slowly through time. Stand-replacing wildfires create opportunities for establishment of tree-...
Author(s): Winslow D. Hansen, William H. Romme, Aisha Ba, Monica G. Turner
Year Published: 2016
Type: Document
Book or Chapter or Journal Article

Paths of recovery: landscape variability in forest structure, function, and fuels after the 1988 Yellowstone Fires
www.nrfirescience.org/resource/13720
Understanding the rates, trajectories, and spatial variability in succession following severe wildfire is increasingly important for forest managers in western North America and critical for anticipating the resilience or vulnerability of forested landscapes to changing environmental conditions. However, few long-term...
Author(s): Monica G. Turner, William H. Romme, Daniel B. Tinker, Daniel C. Donato, Brian J. Harvey
Year Published: 2015
Type: Document
Technical Report or White Paper

Influence of wildland fire along a successional gradient in sagebrush steppe and western juniper woodlands
www.nrfirescience.org/resource/12149
Western juniper (Juniperus occidentalis Hook. var. occidentalis) has been expanding into sagebrush (Artemisia L. spp.) steppe over the past 130 years in Idaho, Oregon, and California. Fuel characteristics and expected fire behavior and effects change as sagebrush steppe transitions into juniper woodlands. Little is currently known...
Author(s): Eva K. Strand, Stephen C. Bunting, Robert F. Keefe
Year Published: 2013
Modelling conditional burn probability patterns for large wildland fires

We present a technique for modelling conditional burn probability patterns in two dimensions for large wildland fires. The intended use for the model is strategic program planning when information about future fire weather and event durations is unavailable and estimates of the average probabilistic shape and extent of large fires...

Author(s): Pamela S. Ziesler, Douglas B. Rideout, Robin Reich
Year Published: 2013
Type: Document

Fire regimes of quaking aspen in the mountain west

Quaking aspen (Populus tremuloides Michx.) is the most widespread tree species in North America, and it is found throughout much of the Mountain West (MW) across a broad range of bioclimatic regions. Aspen typically regenerates asexually and prolifically after fire, and due to its seral status in many western conifer forests, aspen...

Author(s): Douglas J. Shinneman, William L. Baker, Paul C. Rogers, Dominik Kulakowski
Year Published: 2013
Type: Document

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

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

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

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

Landscape composition in aspen woodlands under various modeled fire regimes
Quaking aspen (Populus tremuloides) is declining across the western United States. Aspen habitats are diverse plant communities in this region and loss of these habitats can cause shifts in biodiversity, productivity, and hydrology across spatial scales. Western aspen occurs on the majority of sites seral to conifer species, and...

Author(s): Eva K. Strand, Stephen C. Bunting, Lee A. Vierling
Year Published: 2012
Type: Document
Conference Proceedings

Effects of ungulate herbivory on aspen, cottonwood, and willow development under forest fuels treatment regimes

Herbivory by domestic and wild ungulates can dramatically affect vegetation structure, composition and dynamics in nearly every terrestrial ecosystem of the world. These effects are of particular concern in forests of western North America, where intensive herbivory by native and domestic ungulates has the potential to substantially...

Author(s): Bryan A. Endress, Michael J. Wisdom, Martin Vavra, Catherine G. Parks, Brian L. Dick, Bridgett J. Naylor, Jennifer M. Boyd
Year Published: 2012
Type: Document
Book or Chapter or Journal Article

Fire-induced shifts in overstory tree species composition and associated understory plant composition in Glacier National Park, Montana

In Rocky Mountain forests, fire can act as a mechanism of change in plant community composition if postfire conditions favor establishment of species other than those that dominated prefire tree communities. We sampled pre and postfire overstory and postfire understory species following recent (1988-2006) stand-replacing fires in...

Author(s): David A. McKenzie, Daniel B. Tinker
Year Published: 2012
Type: Document
Book or Chapter or Journal Article

Comprehensive fuels treatment practices guide for mixed conifer forests: California, central and southern Rockies, and the Southwest

The goal of this guide is to provide a resource for managers of mixed conifer forests of the Southwestern plateaus and uplands, the Central and Southern Rocky Mountains, the Sierra Nevada, and the Transverse and Peninsular Ranges in Southern California. Mixed conifer forests have different species, structures, and spatial patterns...

Author(s): Alexander M. Evans, Rick G. Everett, Scott L. Stephens, James A. Youtz
Year Published: 2011
Type: Document
Synthesis, Technical Report or White Paper

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

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...
Equations to convert compacted crown ratio to uncompacted 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 uncompacted 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

From the ground up, way up: measuring live fuel moisture with satellite imagery to fine-tune fire modeling in western ecosystems

www.nrfirescience.org/resource/11431

Remote sensing from space may well become one of the world's most effective, accurate, and efficient ways to assess fire risk and thus manage large landscapes. The technology is evolving quickly, and researchers are busy keeping up. Some major western U.S. landscapes are just now being assessed for integrating remote sensing data...

Author(s): Rachel Clark
Year Published: 2009
Type: Document
Research Brief or Fact Sheet

Indirect effects of fire severity on avian communities in ponderosa pine and aspen forests in western North America: a review

www.nrfirescience.org/resource/8365

description

Author(s): Kerri T. Vierling, Leigh B. Lentile
Year Published: 2008
Type: Document
Book or Chapter or Journal Article

Recoupling fire and aspen recruitment after wolf reintroduction in Yellowstone National Park, USA

www.nrfirescience.org/resource/8232

We report on the recent growth of upland aspen (Populus tremuloides Michx.) thickets in northwestern Yellowstone National Park, USA following wolf (Canis lupus L.) reintroduction in 1995. We compared aspen growth patterns in an area burned by the 1988 fires to aspen growth patterns in an adjacent unburned area. Elk (Cervus elaphus L...
Do high-density patches of coarse wood and regenerating saplings create browsing refugia for aspen (Populus tremuloides) in Yellowstone National Park (USA)?

Following the extensive 1988 fires in Yellowstone, a mosaic of high-density patches of fallen logs and regenerating lodgepole pine (Pinus contorta var. latifolia Engelm. ex Wats.) saplings developed in the landscape. Such patches could potentially provide browsing refugia for post-fire aspen (Populus tremuloides Michx.)...

Author(s): James D. Forester, Dean P. Anderson, Monica G. Turner
Year Published: 2007
Type: Document
Book or Chapter or Journal Article

Complex interactions shaping aspen dynamics in the Greater Yellowstone Ecosystem

Loss of aspen (Populus tremuloides) has generated concern for aspen persistence across much of the western United States. However, most studies of aspen change have been at local scales and our understanding of aspen dynamics at broader scales is limited. At local scales, aspen loss has been attributed to fire exclusion, ungulate...

Author(s): K. Brown, Andrew J. Hansen, Robert E. Keane, Lisa Graumlich
Year Published: 2006
Type: Document
Book or Chapter or Journal Article

Snow accumulation in thinned lodgepole pine stands, Montana, USA

Alternative silvicultural treatments such as thinning can be used to restore forested watersheds and reduce wildfire hazards, but the hydrologic effects of these treatments are not well defined. We evaluated the effect of two shelterwood-with-reserve silvicultural prescriptions, one leaving residual trees evenly distributed (SE) and...

Author(s): Scott W. Woods, Robert S. Ahl, Jason Sappington, Ward W. McCaughey
Year Published: 2006
Type: Document
Book or Chapter or Journal Article

Quantitative comparison of spectral indices and transformations of multi-resolution remotely sensed data using ground measurements: implications for fire severity modeling - Final Report to the Joint Fire Science Program

The primary factor in estimating fire danger is fuel moisture. Fuel moisture varies seasonally and should be measured over an entire fire season using remote sensing technologies and verified using ground measurements. Recent advances in spaceborne and airborne imaging systems can potentially significantly improve the ability to...

Author(s): Jennifer L. Rechel, Dar A. Roberts
Year Published: 2005
Type: Document
Technical Report or White Paper

Establishment, persistence, and growth of aspen (Populus tremuloides) seedlings in Yellowstone National Park
Quaking aspen (Populus tremuloides Michx.) is a long-lived clonal species in which many genetically identical stems (ramets) arise from a common root system. Establishment by seed is extremely rare in the Rocky Mountain region, where most clones that exist today are thought to have established hundreds or thousands of...

Author(s): William H. Romme, Monica G. Turner, Gerald A. Tuskan, Rebecca A. Reed
Year Published: 2005
Type: Document
Book or Chapter or Journal Article

Testing transferability of willingness to pay for forest fire prevention among three states of California, Florida, and Montana
www.nrfirescience.org/resource/7960
The equivalency of willingness to pay between the states of California, Florida and Montana is tested. Residents in California, Florida and Montana have an average willingness to pay of $417, $305, and $382 for prescribed burning program, and $403, $230, and $208 for mechanical fire fuel reduction program, respectively. Due to wide...

Author(s): John B. Loomis, Le Trong Hung, Armando Gonzalez-Caban
Year Published: 2005
Type: Document
Book or Chapter or Journal Article

Effects of prescribed fire on the invasion of northern mixed-grass prairie by non-native plant species - Final Report to the Joint Fire Science Program
www.nrfirescience.org/resource/11162
We seek to measure the effects of fire and grazing on weeds of the northern mixed grass prairie. To accomplish this we are interpreting measurements from two management experiments, one at Lostwood National Wildlife Refuge (NWR) and one at Des Lacs NWR. At Lostwood we found a nearly balanced 2x7 treatment experiment with seven...

Author(s): Jennifer S. Hartz-Rubin, Tad Weaver, Cory S. Rubin, Jack Plaggemeyer
Year Published: 2005
Type: Document
Technical Report or White Paper

Incorporating wildlife habitat needs into restoration and rehabilitation projects
www.nrfirescience.org/resource/11119
Description not entered
Author(s): Richard Stevens
Year Published: 2004
Type: Document
Technical Report or White Paper

Temperature-dependent rate models of vascular cambium cell mortality
www.nrfirescience.org/resource/7922
We use two rate-process models to describe cell mortality at elevated temperatures as a means of understanding vascular cambium cell death during surface fires. In the models, cell death is caused by irreversible damage to cellular molecules that occurs at rates that increase exponentially with temperature. The models differ in...

Author(s): Matthew B. Dickinson, Edward A. Johnson
Year Published: 2004
Type: Document
Book or Chapter or Journal Article
Guidelines for restoration and rehabilitation of principal plant communities
www.nrfirescience.org/resource/11121
Range and wildland improvement projects conducted throughout the Intermountain region normally occur within specific plant communities. Each plant community has unique features that require different equipment, planting techniques, and plant materials to conduct improvement projects. Plant communities or associations discussed in...
Author(s): Richard Stevens, Stephen B. Monsen
Year Published: 2004
Type: Document
Technical Report or White Paper

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

Postfire aspen seedling recruitment across the Yellowstone (USA) landscape
www.nrfirescience.org/resource/13542
Landscape patterns of quaking aspen (Populus tremuloides) seedling occurrence and abundance were studied after a rare recruitment event following the 1988 fires in Yellowstone National Park, Wyoming, USA. Belt transects (1 to 17 km in length, 4 m width) along 18 foot trails were surveyed for aspen seedlings on the...
Author(s): Monica G. Turner, William H. Romme, Gerald A. Tuskan, Rebecca A. Reed
Year Published: 2003
Type: Document
Book or Chapter or Journal Article

Vegetation dynamics under fire exclusion and logging in a Rocky Mountain watershed, 1856-1996
www.nrfirescience.org/resource/8264
How have changes in land management practices affected vegetation patterns in the greater Yellowstone ecosystem? This question led us to develop a deterministic, successional, vegetation model to ‘turn back the clock’ on a study area and assess how patterns in vegetation cover type and structure have changed through different...
Author(s): Alisa L. Gallant, Andrew J. Hansen, John S. Councilman, Duane K. Monte, David W. Betz
Year Published: 2003
Type: Document
Book or Chapter or Journal Article

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

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

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

Aspen’s ecological role in the West
www.nrfirescience.org/resource/11883
Aspen exhibits a variety of ecological roles. In southern Colorado, the 1880 landscape mosaic contained a range of stand ages, of which half were >70 years old and half were younger. Pure aspen stands in southern Colorado are widespread and may result from previous short fire intervals that eliminated local conifer seed sources.

Author(s): William H. Romme, Lisa Floyd-Hanna, David D. Hanna, Elisabeth Bartlett
Year Published: 2001
Type: Document
Conference Proceedings

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
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

Manipulations to regenerate aspen ecosystems
www.nrfirescience.org/resource/11882
Vegetative regeneration of aspen can be initiated through manipulations that provide hormonal stimulation, proper growth environment, and sucker protection - the three elements of the aspen regeneration triangle. The correct course of action depends upon a careful evaluation of the size, vigor, age, and successional status of the...
Author(s): Wayne D. Shepperd
Year Published: 2001
Type: Document
Conference Proceedings

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

Aspen response to prescribed fire and wild ungulate herbivory
www.nrfirescience.org/resource/12104
Land management agencies in northwest Wyoming have implemented an active prescribed fire program to address historically altered fire regimes, regenerate aspen, and improve overall watershed functions. Treated clones are susceptible to extensive browsing from elk concentrated on supplemental feedgrounds and from wintering moose....
Author(s): Steve Kilpatrick, Diane Abendroth
Year Published: 2001
Type: Document
Conference Proceedings

Native burning in western North America: implications for hardwood forest management
www.nrfirescience.org/resource/11062
It is now widely acknowledged that frequent low-intensity fires once structured many western forests. What is not generally recognized, however, is that most of those fires were purposefully set by native people, not started by lightning. Data from the Rocky Mountains attest to the widespread use of fire by
native people, as does...

Author(s): Charles E. Kay
Year Published: 2000
Type: Document
Conference Proceedings

Environmental assessment: Tenderfoot Creek Experimental Forest - Vegetative treatment research project, Kings Hill Ranger District, Lewis and Clark National Forest, Meagher County, Montana
www.nrfirescience.org/resource/11513
Environmental assessment of the Tenderfoot Research Project. This research project proposes to harvest timber in two treatment subwatersheds, Spring Park Creek and Sun Creek. The silvicultural system proposed is a two-aged system termed 'shelterwood with reserves,' that uses even distribution of single or small groups and uneven...
Author(s): Gloria E. Flora, Ward W. McCaughey
Year Published: 1998
Type: Document
Management or Planning Document

Fire and insects in northern and boreal forest ecosystems of North America
www.nrfirescience.org/resource/7945
Fire and insects are natural disturbance agents in many forest ecosystems, often interacting to affect succession, nutrient cycling, and forest species composition. We review literature pertaining to effects of fire-insect interactions on ecological succession, use of prescribed fire for insect pest control, and effects of fire on...
Author(s): Deborah G. McCullough, Richard A. Werner, David Neumann
Year Published: 1998
Type: Document
Book or Chapter or Journal Article, Synthesis

Assessing simulated ecosystem processes for climate variability research at Glacier National Park, USA
www.nrfirescience.org/resource/8378
Glacier National Park served as a test site for ecosystem analyses that involved a suite of integrated models embedded within a geographic information system. The goal of the exercise was to provide managers with maps that could illustrate probable shifts in vegetation, net primary production (NPP), and hydrologic responses...
Author(s): Joseph D. White, Steven W. Running, Peter Thornton, Robert E. Keane, Kevin C. Ryan, Daniel B. Fagre, Carl H. Key
Year Published: 1998
Type: Document
Book or Chapter or Journal Article

Mapping historic fire regimes for the western United States: integrating remote sensing and biophysical data
www.nrfirescience.org/resource/7937
We have developed a spatial database of historic natural fire regimes for the eleven western States to provide information in support of expected national increases in prescribed burning. Fire regimes are described in terms both of frequency and severity, and we have classified five distinct fire regimes:
Author(s): Colin C. Hardy, James P. Menakis, Donald G. Long, James K. Brown, David L. Bunnell
Year Published: 1998
A rare episode of sexual reproduction in aspen (Populus tremuloides Michx) following the 1988 Yellowstone fires
www.nrfirescience.org/resource/8236
No description available.
Author(s): William H. Romme, Monica G. Turner, Robert H. Gardner, William W. Hargrove, Gerald A. Tuskan, Don G. Despain, Roy A. Renkin
Year Published: 1997
Type: Document
Book or Chapter or Journal Article

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

Aspen, elk, and fire in northern Yellowstone Park
www.nrfirescience.org/resource/8261
Most stands of trembling aspen (Populus tremuloides) in northern Yellowstone National Park appear to have become established between 1870 and 1890, with little regeneration since 1900. There has been controversy throughout this century regarding the relative roles of browsing by elk (Cervus elaphus) and fire suppression in...
Author(s): William H. Romme, Monica G. Turner, Linda L. Wallace, Jennifer S. Walker
Year Published: 1995
Type: Document
Book or Chapter or Journal Article

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

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

**Pinus ponderosa var. ponderosa (Pacific ponderosa pine)**
www.nrfirescience.org/resource/10687
This FEIS species review synthesizes information on the relationship of Pinus ponderosa var. ponderosa (Pacific ponderosa pine) 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): James R. Habeck
Year Published: 1992
Type: Document
Synthesis

**Fire ecology of the forest habitat types of eastern Idaho and western Wyoming**
www.nrfirescience.org/resource/12116
This report summarizes the available fire ecology and management information relating to the forest habitat types of eastern Idaho and western Wyoming, west of the crest of the Wind River Mountain.

Author(s): Anne F. Bradley, William C. Fischer, Nonan V. Noste
Year Published: 1992
Type: Document
Technical Report or White Paper

**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 Uchytil
Year Published: 1991
Type: Document
Synthesis

**Picea engelmannii (Engelmann spruce)**
www.nrfirescience.org/resource/10569
This FEIS species review synthesizes information on the relationship of Picea engelmannii (Engelmann 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...

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

**Forage quality in burned and unburned aspen communities**
Selected forage species were sampled during the first and second summers after autumn prescribed burning of three sites in southeastern Idaho. They were analyzed for in vitro dry matter digestibility, protein, calcium, and phosphorus. This aspen type has a highly nutritious understory. Burning further improved the quality of the...

Author(s): Norbert V. DeByle, Philip J. Urness, Deborah L. Blank
Year Published: 1989
Type: Document
Technical Report or White Paper

Soil temperatures and suckering in burned and unburned aspen stands in Idaho

Monthly average soil temperatures in a burned aspen stand ranged from 0 to 8 °F higher than in the unburned stand at depths to 12 inches for a site in southeastern Idaho. From June through August the first year after burning, soil temperatures were significantly different at all depths in burned and unburned stands. By the second...

Author(s): Roger D. Hungerford
Year Published: 1988
Type: Document
Research Brief or Fact Sheet

Fire ecology of western Montana forest habitat types

Provides information on fire as an ecological factor for forest habitat types in western Montana. Identifies Fire Groups of habitat types based on fire’s role in forest succession. Describes forest fuels and suggests considerations for fire management.

Author(s): William C. Fischer, Anne F. Bradley
Year Published: 1987
Type: Document
Technical Report or White Paper

Appraising fuels and flammability in western aspen: a prescribed fire guide

Describes a method for appraising fuels and fire behavior potential in aspen forests to guide the use of prescribed fire and the preparation of fire prescriptions. Includes an illustrated classification of aspen fuels; appraisals of fireline intensity, rate of spread, adjective ratings for fire behavior and probability of burn...

Author(s): James K. Brown, Dennis Simmerman
Year Published: 1986
Type: Document
Technical Report or White Paper

Fire ecology of the forest habitat types of central Idaho

Discusses fire as an ecological factor for forest habitat types occurring in central Idaho. Identifies "Fire Groups" of habitat types based on fire's role in forest succession. Considerations for fire management are suggested.

Author(s): Marilyn F. Crane, William C. Fischer
Year Published: 1986
Type: Document
Technical Report or White Paper
Rangeland fire effects
www.nrfirescience.org/resource/11003
Description not entered
Author(s): Ken Sanders, Jack Durham
Year Published: 1985
Type: Document
Conference Proceedings

Managing wildlife habitat with fire in the Aspen ecosystem
www.nrfirescience.org/resource/11482
Much of the nearly 7 million acres (2.86 million ha) of aspen in the western United States is seral to conifers. Also, most aspen stands are old, in excess of 60 years. Proper treatment of these aspen forests will retain the aspen and can produce optimum wildlife habitat. Optimally, all age and size classes of aspen should be...
Author(s): Norbert V. DeByle
Year Published: 1985
Type: Document
Conference Proceedings

Estimating postfire changes in production and value of northern rocky mountain-intermountain rangelands
www.nrfirescience.org/resource/11222
A simulation model was developed to estimate postfire changes in the production and value of grazing lands in the Northern Rocky Mountain-Intermountain region. Ecological information and management decisions were used to simulate expected changes in production and value after wildfire in six major rangeland types: permanent forested...
Author(s): David L. Peterson, Patrick J. Flowers
Year Published: 1984
Type: Document
Technical Report or White Paper

Monoammonium phosphate: effect on flammability of excelsior and pine needles
www.nrfirescience.org/resource/11959
The study quantified differences between fire-retarding abilities of monoammonium phosphate samples from five different sources. Ponderosa pine needles and aspen excelsior fuel beds were spray-treated with different levels of chemical solutions, dried, and burned under controlled laboratory conditions. Flame spread and energy...
Author(s): Aylmer D. Blakely
Year Published: 1983
Type: Document
Technical Report or White Paper

Fire ecology and prescribed burning in the Great Plains: a research review
www.nrfirescience.org/resource/11912
Historical evidence indicates that fires were prevalent in grasslands. In the past, big prairie fires usually occurred during drought years that followed 1 to 3 years of above-average precipitation, which provided abundant and continuous fuel. Fire frequency probably varied from 5 to 10 years in level-to-rolling topography and from...
Author(s): Henry A. Wright, Arthur W. Bailey
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

Fire’s influence on wildlife habitat on the Bridger-Teton National Forest, Wyoming - Volume II: changes and causes, management implications

www.nrfirescience.org/resource/12126

Provides information on wildlife habitat condition and trend on the Bridger-Teton National Forest in the Jackson Hole Region of Wyoming by analysis of broad plant communities. Visual evidence of condition and trend are provided in Volume I, The Photo Record. Management implications are included.  
Author(s): George E. Gruell  
Year Published: 1980  
Type: Document  
Technical Report or White Paper

Elk-aspen relationships on a prescribed burn

www.nrfirescience.org/resource/11924

Elk use of aspen alones was deterred only one winter following prescribed fire. Numbers of aspen suckers on the nine burned clones increased 178 percent in 3 years, but the response varied greatly among clones. Elk browsing the third winter after burning averaged 44 percent of current annual growth, and eliminated incremental height...  
Author(s): Joseph V. Basile  
Year Published: 1979  
Type: Document  
Research Brief or Fact Sheet

Spring burning in an aspen-conifer stand for maintenance of moose habitat, West Boulder River, Montana

www.nrfirescience.org/resource/8441

Description not entered  
Author(s): Floyd A. Gordon  
Year Published: 1976  
Type: Document  
Conference Proceedings

Airborne infrared forest fire detection system: final report

www.nrfirescience.org/resource/11942

This work was undertaken because of a mutual interest of the Department of Defense, Advanced
Research Projects Agency (ARPA), and the USDA Forest Service in the problems of detecting hot targets against natural terrain backgrounds using airborne infrared (IR) line scanning instrumentation. The study objectives were broadly defined...

Author(s): Ralph A. Wilson, Stanley N. Hirsch, Forrest H. Madden, John B. Losensky
Year Published: 1971
Type: Document
Technical Report or White Paper