

Is That Tree Dead? Quantifying Fire-Killed Trees to Inform Salvage and Forest Management

www.nrfirescience.org/resource/20088

Wildfires are natural disturbances in the western United States. Managing the resulting stands of dead and dying trees requires balancing conflicting priorities. Although these trees provide wildlife habitat and salvage logging revenue, they also pose public safety hazards. One criticism of salvage logging is that forest managers...

Author(s): Sharon M. Hood, Sheri L. Smith, Renate Bush, Maurice Huynh

Year Published: 2019

Type: Document

Research Brief or Fact Sheet

Ponderosa pine regeneration, wildland fuels management, and habitat conservation: identifying trade-offs following wildfire

www.nrfirescience.org/resource/19304

Increasing wildfires in western North American conifer forests have led to debates surrounding the application of post-fire management practices. There is a lack of consensus on whether (and to what extent) post-fire management assists or hinders managers in achieving goals, particularly in understudied regions like eastern...

Author(s): Victoria M. Donovan, Caleb P. Roberts, Carissa L. Wonkka, David A. Wedin, Dirac Twidwell

Year Published: 2019

Type: Document

Book or Chapter or Journal Article

Interactions between large high-severity fires and salvage logging on a short return interval reduce the regrowth of fire-prone serotinous forests

www.nrfirescience.org/resource/17175

New fire disturbance regimes under accelerating global environmental change can have unprecedented consequences for ecosystem resilience, lessening ecosystem natural regeneration. In the Mediterranean Basin, fire-dependent obligate seeder forests that are prone to increasingly frequent stand-replacing fires and then salvaged logged...

Author(s): Angela Taboada, Víctor Fernández-García, Elena Marcos, Leonor Calvo

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Salvage logging effects on regulating and supporting ecosystem services - a systematic map

www.nrfirescience.org/resource/18101

Wildfires, insect outbreaks, and windstorms are increasingly common forest disturbances. Post-disturbance management often involves salvage logging, i.e., the felling and removal of the affected trees; however, this practice may represent an additional disturbance with effects on ecosystem processes and services. We developed a...

Author(s): Alexandro B. Leverkus, José María Rey Benayas, Jorge Castro, Dominique Boucher, Stephen Brewer, Brandon M. Collins, Daniel C. Donato, Shawn Fraver, Barbara E. Kishchuk, Eun-Jae Lee, David B. Lindenmayer, Emanuele Lingua, Ellen Macdonald, Raffaella Marzano, Charles C. Rhoades, Alejandro A. Royo, Simon Thorn, Joseph W. Wagenbrenner, Kaysandra Waldron, Thomas Wohlgemuth, Lena Gustafsson

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Salvage logging effects on regulating and supporting ecosystem services — a systematic map

www.nrfirescience.org/resource/18364

Wildfires, insect outbreaks, and windstorms are increasingly common forest disturbances. Post-disturbance management often involves salvage logging, i.e., the felling and removal of the affected trees; however, this practice may represent an additional disturbance with effects on ecosystem processes and services. We developed a...

Author(s): Alexandro B. Leverkus, José María Rey Benayas, Jorge Castro, Dominique Boucher, Stephen Brewer, Brandon M. Collins, Daniel C. Donato, Shawn Fraver, Barbara E. Kishchuk, Eun-Jae Lee, David B. Lindenmayer, Emanuele Lingua, Ellen Macdonald, Raffaella Marzano, Charles C. Rhoades, Alejandro A. Royo, Simon Thorn, Joseph W. Wagenbrenner, Kaysandra Waldron, Thomas Wohlgemuth, Lena Gustafsson

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Overlapping bark beetle outbreaks, salvage logging and wildfire restructure a lodgepole pine ecosystem

www.nrfirescience.org/resource/17365

The 2010 Church's Park Fire burned beetle-killed lodgepole pine stands in Colorado, including recently salvage-logged areas, creating a fortuitous opportunity to compare the effects of salvage logging, wildfire and the combination of logging followed by wildfire. Here, we examine tree regeneration, surface fuels, understory plants...

Author(s): Charles C. Rhoades, Kristen Pelz, Paula J. Fornwalt, Brett Wolk, Anthony S. Cheng

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Fuel mass and stand structure 13 years after logging of a severely burned ponderosa pine forest in northeastern Oregon, U.S.A

www.nrfirescience.org/resource/18135

Stand structure and fuel mass were measured in 2011, 13 years after logging of a seasonally dry, ponderosa pine-dominated forest that had burned severely in the 1996 Summit Wildfire, Malheur National Forest, northeastern Oregon, U.S.A. Data are compared to those taken one year after post-fire logging (1999), and analyzed in the...

Author(s): James D. McIver, Roger D. Ottmar

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

Recent post-wildfire salvage logging benefits local and landscape floral and bee communities

www.nrfirescience.org/resource/17899

Understanding the implications of shifts in disturbance regimes for plants and pollinators is essential for successful land management. Wildfires are essential natural disturbances that are important drivers of forest biodiversity, and there is often pressure to respond to wildfire with management like post-wildfire logging (i.e.,...

Author(s): Laura J. Heil, Laura A. Burkle

Year Published: 2018

Type: Document

Book or Chapter or Journal Article

The effect of salvage logging on surface fuel loads and fuel moisture in beetle-infested lodgepole pine forests

www.nrfirescience.org/resource/15246

Widespread tree mortality from mountain pine beetle (MPB; *Dendroctonus ponderosae* Hopkins) outbreaks has prompted forest management activities to reduce crown fire hazard in the Rocky Mountain region. However, little is known about how beetle-related salvage logging and biomass utilization options affect woody surface fuel loads and...

Author(s): Paul R. Hood, Kellen N. Nelson, Charles C. Rhoades, Daniel B. Tinker

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Literature review: effects of salvage logging on riparian zones in coniferous forests of eastern Washington and adjacent regions

www.nrfirescience.org/resource/17487

This Synthesis Report represents the contract final report for Washington State Department of Natural Resources [DNR] contract number PSC 93-095317, titled Literature Review and Synthesis Related to Salvage of Fire Damaged Timber. For this literature review project, contemporary research information was requested by the Scientific...

Author(s): Stephen W. Barrett, Matthew J. Reilly

Year Published: 2017

Type: Document

Technical Report or White Paper

Impacts of salvage logging on biodiversity – A meta-analysis

www.nrfirescience.org/resource/15274

Logging to 'salvage' economic returns from forests impacted by natural disturbances has become increasingly prevalent globally. Despite potential negative effects on biodiversity, salvage logging is often conducted, even in areas otherwise excluded from logging and reserved for nature conservation, inter alia because...

Author(s): Simon Thorn, Claus Bassler, Roland Brandl, Philip J. Burton, John L. Campbell, Rebecca Cahall, Jorge Castro, Chang-Yong Choi, Tyler Cobb, Daniel C. Donato, Ewa Durska, Joseph B. Fontaine, Sylvie Gauthier, Christian Hebert, Torsten Hothorn, Richard L. Hutto, Eun-Jae Lee, Alexandro B. Leverkus, David B. Lindenmayer, Martin K. Obrist, Josep Rost, Sebastian Seibold, Rupert Seidl, Dominik Thom, Kaysandra Waldron, Beat Wermelinger, Maria-Barbara Winter, Michal Zmihorski, Jorg Muller

Year Published: 2017

Type: Document

Book or Chapter or Journal Article

Mixed-severity fire and salvage logging in dry forests of Oregon's western Cascades

www.nrfirescience.org/resource/15054

Interest in PNW forests is shifting from a focus on old-growth forests alone to include the ecological value and processes of early-seral communities. However, focusing on the alpha and omega states of a linear successional model does not account for the suite of conditions derived from mixed-severity fire common in many forests....

Author(s): Christopher J. Dunn, John D. Bailey

Year Published: 2017

Type: Document

Technical Report or White Paper

Evaluating the ecological impacts of salvage logging: can natural and anthropogenic disturbances promote coexistence?

www.nrfirescience.org/resource/17458

Salvage logging following windthrow is common throughout forests worldwide even though the practice is often considered inimical to forest recovery. Because salvaging removes trees, crushes seedlings, and compacts soils, many warn this practice may delay succession, suppress diversity, and alter composition. Here, over 8 yr...

Author(s): Alejandro A. Royo, Chris J. Peterson, John Stuart Stanovick, Walter P. Carson

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Effects of post-fire logging on fuel dynamics in a mixed-conifer forest, Oregon, USA: a 10-year assessment

www.nrfirescience.org/resource/14429

Removal of fire-killed trees (i.e. post-fire or salvage logging) is often conducted in part to reduce woody fuel loads and mitigate potential reburn effects. Studies of post-salvage fuel dynamics have primarily used chronosequence or modelling approaches, with associated limitations; longitudinal studies tracking fuels over time...

Author(s): John L. Campbell, Daniel C. Donato, Joseph B. Fontaine

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Post-fire logging produces minimal persistent impacts on understory vegetation in northeastern Oregon, USA

www.nrfirescience.org/resource/14354

Post-fire forest management commonly requires accepting some negative ecological impacts from management activities in order to achieve management objectives. Managers need to know, however, whether ecological impacts from post-fire management activities are transient or cause long-term ecosystem degradation. We studied the long...

Author(s): David W. Peterson, Erich K. Dodson

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

Ecological Effects of Post-fire Salvage Logging in the Pacific Northwest

www.nrfirescience.org/resource/15729

Post-fire salvage logging is typically proposed as a means of recovering some of the lost economic value in dead or damaged trees. The ecological consequences of salvage, however, are often considered negative from the perspective of soils, hydrology, and wildlife habitat resources, although species responses do vary. Early...

Author(s): Matthew J. Reilly, Thomas A. Spies, Paul F. Hessburg

Year Published: 2015

Type: Document

Research Brief or Fact Sheet

Post-fire logging reduces surface woody fuels up to four decades following wildfire

www.nrfirescience.org/resource/16307

Severe wildfires create pulses of dead trees that influence future fuel loads, fire behavior, and fire effects as they decay and deposit surface woody fuels. Harvesting fire-killed trees may reduce future surface woody fuels and related fire hazards, but the magnitude and timing of post-fire logging effects on woody fuels have not...

Author(s): David W. Peterson, Erich K. Dodson, Richy J. Harrod
Year Published: 2015
Type: Document
Book or Chapter or Journal Article

Vegetation response to burn severity, native grass seeding, and salvage logging

www.nrfirescience.org/resource/13422

As the size and extent of wildfires has increased in recent decades, so has the cost and extent of post-fire management, including seeding and salvage logging. However, we know little about how burn severity, salvage logging, and post-fire seeding interact to influence vegetation recovery long-term. We sampled understory plant...

Author(s): Penelope Morgan, Marshall Moy, Christine A. Droske, Leigh B. Lentile, Sarah A. Lewis, Peter R. Robichaud, Andrew T. Hudak, Christopher Jason Williams

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Effects of post-fire salvage logging and a skid trail treatment on ground cover, soils, and sediment production in the interior western United States

www.nrfirescience.org/resource/12829

Post-fire salvage logging adds another set of environmental effects to recently burned areas, and previous studies have reported varying impacts on vegetation, soil disturbance, and sediment production with limited data on the underlying processes. Our objectives were to determine how: (1) ground-based post-fire logging affects...

Author(s): Joseph W. Wagenbrenner, Lee H. MacDonald, Robert N. Coats, Peter R. Robichaud, Robert E. Brown

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Hillslope erosion two and three years after wildfire, skyline salvage logging, and site preparation in southern Oregon, USA

www.nrfirescience.org/resource/16306

Harvest of dead timber following wildfire is contentious because of a perception that the benefits are outweighed by environmental costs. One primary concern is the potential for increased erosion susceptibility associated with timber extraction (i.e. salvage logging) and site preparation. We measured erosion at the Timbered Rock...

Author(s): Robert A. Slesak, Stephen H. Schoenholtz, Daniel Evans

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

Ecological Consequences Of Mountain Pine Beetle Outbreaks For Wildlife In Western North American Forests

www.nrfirescience.org/resource/17469

Mountain pine beetle (*Dendroctonus ponderosae*) (MPB) outbreaks are increasingly prevalent in western North America, causing considerable ecological change in pine (*Pinus* spp.) forests with important implications for wildlife. We reviewed studies examining wildlife responses to MPB outbreaks and postoutbreak salvage logging to inform...

Author(s): Victoria A. Saab, Quresh Latif, Mary M. Rowland, Tracey N. Johnson, Anna D. Chalfoun, Steven W. Buskirk, Joslin E. Heyward, Matthew A. Dresser

Year Published: 2014
Type: Document
Book or Chapter or Journal Article

The Bitterroot Valley fires of 2000 - Revisiting experiences and fire effects 13 years later

www.nrfirescience.org/resource/12673

During the Fires of 2000 field trip, held as part of the May 2014 Large Wildland Fires Conference, researchers, managers, residents, and stakeholders shared their experiences around the unprecedented number and size of fires that burned in the Bitterroot Valley in the summer of 2000. Topics discussed included fire history, fire...

Author(s): Corey L. Gucker
Year Published: 2014
Type: Document
Research Brief or Fact Sheet

Perspectives on disconnects between scientific information and management decisions on post-fire recovery in western US

www.nrfirescience.org/resource/12035

Environmental regulations frequently mandate the use of 'best available' science, but ensuring that it is used in decisions around the use and protection of natural resources is often challenging. In the Western US, this relationship between science and management is at the forefront of post-fire land management decisions. Recent...

Author(s): Xiaoli Chen, Nathan Emery, Elizabeth S. Garcia, Erin J. Hanan, Heather E. Hodges, Tyronne Martin, Matthew A. Meyers, Lindsey E. Peavey, Hui Peng, Jaime Sainz Santamaria, Kellie A. Uyeda, Sarah E. Anderson, Christina Tague
Year Published: 2013
Type: Document
Book or Chapter or Journal Article

Comparing the effect of salvage logging on birds in the Mediterranean Basin and the Rocky Mountains: common patterns, different conservation implications

www.nrfirescience.org/resource/12016

Postfire salvage logging is currently a controversial issue because of the impact that the removal of snags has on ecosystem structure and function. Although it is a common practice worldwide, the absence of comparisons across regions hinders the development of broad generalizations. Here we compare bird response to postfire salvage...

Author(s): Josep Rost, Richard L. Hutto, Lluís Brotons, Pere Pons
Year Published: 2013
Type: Document
Book or Chapter or Journal Article

Utility of remotely sensed imagery for assessing the impact of salvage logging after forest fires

www.nrfirescience.org/resource/8352

Remotely sensed imagery provides a useful tool for land managers to assess the extent and severity of post-wildfire salvage logging disturbance. This investigation uses high resolution QuickBird and National Agricultural Imagery Program (NAIP) imagery to map soil exposure after ground-based salvage operations. Three wildfires with...

Author(s): Sarah A. Lewis, Peter R. Robichaud, Andrew T. Hudak, Brian Austin, Robert J. Liebermann
Year Published: 2012
Type: Document
Book or Chapter or Journal Article

Salvage Logging Versus the Use of Burnt Wood as a Nurse Object to Promote Post-Fire Tree Seedling Establishment

www.nrfirescience.org/resource/17440

Intense debate surrounds the effects of post-fire salvage logging (SL) versus nonintervention policies on forest regeneration, but scant support is available from experimental studies. We analyze the effect of three post-fire management treatments on the recruitment of a serotinous pine (*Pinus pinaster*) at a Mediterranean mountain....

Author(s): Jorge Castro, Craig D. Allen, M. Molina-Morales, Sara Maranon-Jimenez, A. Sanchez-Miranda, R. Zamora

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Woodpecker habitat after the fire

www.nrfirescience.org/resource/13508

Public land managers are asked to minimize fuel levels after fires, including using techniques such as salvage logging. They are also responsible for maintaining suitable wildlife habitat, especially for species of concern to state and federal agencies. An area where these responsibilities could conflict is in the use of salvage...

Author(s): Victoria A. Saab

Year Published: 2011

Type: Document

Research Brief or Fact Sheet

The forgotten stage of forest succession: early successional ecosystems on forest sites

www.nrfirescience.org/resource/17459

Early-successional forest ecosystems that develop after stand-replacing or partial disturbances are diverse in species, processes, and structure. Post-disturbance ecosystems are also often rich in biological legacies, including surviving organisms and organically derived structures, such as woody debris. These legacies and...

Author(s): Mark E. Swanson, Jerry F. Franklin, Robert L. Beschta, Charles M. Crisafulli, Dominick A. DellaSala, Richard L. Hutto, David B. Lindenmayer, Frederick J. Swanson

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Effects of post-fire salvage logging on cavity-nesting birds and small mammals in southeastern Montana

www.nrfirescience.org/resource/12052

We investigated how post-fire salvage logging of Ponderosa Pine (*Pinus ponderosa*) affected populations of cavity-nesting birds and small mammals in southeastern Montana in 2004 and 2005. We examined two salvage and two control plots with three point-count stations and one small mammal trap site randomly distributed across each plot...

Author(s): William J. Kronland, Marco Restani

Year Published: 2011

Type: Document

Book or Chapter or Journal Article

Influences of postfire salvage logging on forest birds in the Eastern Cascades, Oregon, USA

www.nrfirescience.org/resource/17447

In coniferous forests of western North America, fire is an important disturbance that influences the structure and composition of floral and faunal communities. The impacts of postfire management, including salvage logging and replanting, on these forests are not well known. We compared densities and relative abundances of forest...

Author(s): Rebecca Cahall, John P. Hayes

Year Published: 2009

Type: Document

Book or Chapter or Journal Article

Effects of timber harvest following wildfire in western North America

www.nrfirescience.org/resource/11122

Timber harvest following wildfire leads to different outcomes depending on the biophysical setting of the forest, pattern of burn severity, operational aspects of tree removal, and other management activities. Fire effects range from relatively minor, in which fire burns through the understory and may kill a few trees, to severe, in...

Author(s): David L. Peterson, James K. Agee, Gregory H. Aplet, Dennis P. Dykstra, Russell T. Graham, John F. Lehmkuhl, David S. Pilliod, Donald F. Potts, Robert F. Powers, John D. Stuart

Year Published: 2009

Type: Document

Technical Report or White Paper

Sediment production following severe wildfire and post-fire salvage logging in the Rocky Mountain headwaters of the Oldman River Basin, Alberta

www.nrfirescience.org/resource/17441

In 2003, the Lost Creek fire burned 21,000 ha of nearly contiguous crown land forests in the headwater regions of the Oldman River Basin, Alberta. Seven small watersheds with various levels of land disturbance (burned, post-fire salvage logged, unburned) were instrumented and monitored for four years to measure stream discharge,...

Author(s): Uldis Silins, Monica B. Emelko, Kevin D. Bladon

Year Published: 2009

Type: Document

Book or Chapter or Journal Article

Nest-site selection by cavity-nesting birds in relation to postfire salvage logging

www.nrfirescience.org/resource/8383

Large wildfire events in coniferous forests of the western United States are often followed by postfire timber harvest. The long-term impacts of postfire timber harvest on fire-associated cavity-nesting bird species are not well documented. We studied nest-site selection by cavity-nesting birds over a 10-year period (1994-2003),...

Author(s): Victoria A. Saab, Robin E. Russell, Jonathan G. Dudley

Year Published: 2009

Type: Document

Book or Chapter or Journal Article

Nest densities of cavity-nesting birds in relation to postfire salvage logging and time since wildfire

www.nrfirescience.org/resource/8145

We monitored the nest densities and nest survival of seven cavity-nesting bird species, including four open-space foragers (American Kestrel [*Falco sparverius*], Lewis's Woodpecker [*Melanerpes lewis*], Western Bluebird [*Sialia mexicana*], and Mountain Bluebird [*S. currucoides*]) and three wood-foragers

(Hairy Woodpecker [Picoides...

Author(s): Victoria A. Saab, Robin E. Russell, Jonathan G. Dudley

Year Published: 2007

Type: Document

Book or Chapter or Journal Article

Post-fire logging debate ignores many issues

www.nrfirescience.org/resource/14599

Recent controversy concerning post-fire logging in Oregon is emblematic of the problems of "salvage logging" globally. Although tree regeneration after disturbances in forested areas is important, a narrow view of this issue ignores important ecological lessons, especially the role of disturbances in diversifying and rejuvenating...

Author(s): Dominick A. DellaSala, James R. Karr, Tania L. Schoennagel, David A. Perry, Reed F. Noss, David B. Lindenmayer, Robert L. Beschta, Richard L. Hutto, Mark E. Swanson, Jon Evans

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Post-wildfire logging hinders regeneration and increases fire risk

www.nrfirescience.org/resource/17443

We present data from a study of early conifer regeneration and fuel loads after the 2002 Biscuit Fire, Oregon, USA, with and without postfire logging. Natural conifer regeneration was abundant after the high-severity fire. Postfire logging reduced median regeneration density by 71%, significantly increased downed woody fuels, and...

Author(s): Daniel C. Donato, Joseph B. Fontaine, John L. Campbell, William D. Robinson, J. Boone Kauffman, Beverly E. Law

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

The effects of postfire salvage logging on cavity-nesting birds

www.nrfirescience.org/resource/12933

We investigated the effects of postfire salvage logging on cavity-nesting birds by comparing nest densities and patterns of nest reuse over a three-year period in seven logged and eight unlogged patches of mixed-conifer forest in the Blackfoot-Clearwater Wildlife Management Area, Montana. We found 563 active nests of 18 cavity-...

Author(s): Richard L. Hutto, Susan M. Gallo

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Wildfire, timber salvage, and the economics of expediency

www.nrfirescience.org/resource/8124

Administrative planning rules and legal challenges can have significant economic impacts on timber salvage programs on public lands. This paper examines the costs of the delay in salvage caused by planning rules and the costs associated with the volume reductions forced by legal challenges in one case study. The fires on the...

Author(s): Jeffrey P. Prestemon, David N. Wear, Fred J. Stewart, Thomas P. Holmes

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Salvage logging, ecosystem processes, and biodiversity conservation

www.nrfirescience.org/resource/16297

We summarize the documented and potential impacts of salvage logging—a form of logging that removes trees and other biological material from sites after natural disturbance. Such operations may reduce or eliminate biological legacies, modify rare postdisturbance habitats, influence populations, alter community composition, impair...

Author(s): D.B. Lindenmeyer, Reed F. Noss

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Salvage harvesting—past lessons and future issues

www.nrfirescience.org/resource/17454

The increasing prevalence and/or increasing intensity of large-scale natural disturbance events in forests means that post-disturbance salvage logging is becoming more widespread. Salvage logging can have a wide range of environmental impacts, but some of these are not well known or not well understood by policy makers and natural...

Author(s): David B. Lindenmayer

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Monitoring changes in soil quality from post-fire logging in the inland northwest

www.nrfirescience.org/resource/11015

The wildland fires of 2000, 2002, and 2003 created many opportunities to conduct post-fire logging operations in the Inland Northwest. Relatively little information is available on the impact of post-fire logging on long-term soil productivity or on the best method for monitoring these changes. We present a USDA Forest Service...

Author(s): Deborah S. Page-Dumroese, Martin F. Jurgensen, Ann Abbott, Thomas M. Rice, Joanne M. Tirocke, Sue Farley, Sharon DeHart

Year Published: 2006

Type: Document

Conference Proceedings

Toward meaningful snag-management guidelines for postfire salvage logging in North American conifer forests

www.nrfirescience.org/resource/14507

The bird species in western North America that are most restricted to, and therefore most dependent on, severely burned conifer forests during the first years following a fire event depend heavily on the abundant standing snags for perch sites, nest sites, and food resources. Thus, it is critical to develop and apply appropriate...

Author(s): Richard L. Hutto

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Snag longevity in relation to wildfire and postfire salvage logging

www.nrfirescience.org/resource/8142

Snags create nesting, foraging, and roosting habitat for a variety of wildlife species. Removal of snags

through postfire salvage logging reduces the densities and size classes of snags remaining after wildfire. We determined important variables associated with annual persistence rates (the probability a snag remains standing from 1...

Author(s): Robin E. Russell, Victoria A. Saab, Jonathan G. Dudley, Jay J. Rotella

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

Managing fire-prone forests in the Western United

www.nrfirescience.org/resource/16308

The management of fire-prone forests is one of the most controversial natural resource issues in the US today, particularly in the west of the country. Although vegetation and wildlife in these forests are adapted to fire, the historical range of fire frequency and severity was huge. When fire regimes are altered by human activity,...

Author(s): Reed F. Noss, Jerry F. Franklin, William L. Baker, Tania L. Schoennagel, Peter B. Moyle

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

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

Variation in fire regimes of the Rocky Mountains: implications for avian communities and fire management

www.nrfirescience.org/resource/8144

Information about avian responses to fire in the U.S. Rocky Mountains is based solely on studies of crown fires. However, fire management in this region is based primarily on studies of low-elevation ponderosa pine (*Pinus ponderosa*) forests maintained largely by frequent understory fires. In contrast to both of these trends, most...

Author(s): Victoria A. Saab, Hugh D. W. Powell, Natasha B. Kotliar, Karen R. Newlon

Year Published: 2005

Type: Document

Book or Chapter or Journal Article, Synthesis

The effects of postfire salvage logging on aquatic ecosystems in the American West

www.nrfirescience.org/resource/16298

Recent changes in the forest policies, regulations, and laws affecting public lands encourage postfire salvage logging, an activity that all too often delays or prevents recovery. In contrast, the 10 recommendations proposed here can improve the condition of watersheds and aquatic ecosystems.

Author(s): James R. Karr, Jonathan J. Rhodes, G. Wayne Minshall, F. Richard Hauer, Robert L. Beschta, Christopher A. Frissell, David A. Perry

Year Published: 2004

Type: Document

Book or Chapter or Journal Article

Salvage harvesting policies after natural disturbance

www.nrfirescience.org/resource/17453

The [authors][1] of this Policy Forum examine a range of issues associated with salvage harvesting policies after major natural disturbances such as fire, windstorms, and volcanic eruptions. Although natural disturbances can have important benefits for ecosystems, salvage harvesting can have major negative impacts on ecosystem...

Author(s): David B. Lindenmayer, D. R. Foster, Jerry F. Franklin, M. L. Hunter, Reed F. Noss, Fiona K. A. Schmiegelow, David A. Perry

Year Published: 2004

Type: Document

Book or Chapter or Journal Article

Postfire management on forested public lands of the western United States

www.nrfirescience.org/resource/7913

Forest ecosystems in the western United States evolved over many millennia in response to disturbances such as wildfires. Land use and management practices have altered these ecosystems, however, including fire regimes in some areas. Forest ecosystems are especially vulnerable to postfire management practices because such practices...

Author(s): Robert L. Beschta, Jonathan J. Rhodes, J. Boone Kauffman, Robert E. Gresswell, G. Wayne Minshall, James R. Karr, David A. Perry, F. Richard Hauer, Christopher A. Frissell

Year Published: 2004

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

Effects of wildfire and post-fire salvage logging on avian communities in conifer-dominated forests of the western United States

www.nrfirescience.org/resource/7956

Description not entered

Author(s): Natasha B. Kotliar, Sallie Hejl, Richard L. Hutton, Victoria A. Saab, C. P. Melcher, Mary E. McFadzen

Year Published: 2002

Type: Document

Book or Chapter or Journal Article

Postfire logging: is it beneficial to a forest?

www.nrfirescience.org/resource/17445

Public debate on postfire logging has intensified in recent years, particularly since passage of the

'salvage rider' in 1995, directing accelerated harvest of dead trees in the western United States. Supporters of postfire logging argue that it is part of a suite of restoration techniques, and that removal of timber means reduction...
Author(s): Sally Duncan
Year Published: 2002
Type: Document
Book or Chapter or Journal Article

Effects of stand-replacement fire and salvage logging on a cavity-nesting bird community in eastern Cascades, Washington

www.nrfirescience.org/resource/17449

We monitored the response of cavity-nesting species to three snag density treatments (high = 37-80 snags/ha, medium = 15-35 snags/ha, and low = 0-12 snags/ha) during two breeding seasons 4-5 yr post-fire and logging in Douglas-fir-ponderosa pine forests in the eastern Cascades, Washington. Snag surveys were used to describe habitat...

Author(s): Maryellen Haggard, William L. Gaines
Year Published: 2001
Type: Document
Book or Chapter or Journal Article

Environmental effects of postfire logging: literature review and annotated bibliography

www.nrfirescience.org/resource/18597

The scientific literature on logging after wildfire is reviewed, with a focus on environmental effects of logging and removal of large woody structure. Rehabilitation, the practice of planting or seeding after logging, is not reviewed here. Several publications are cited that can be described as 'commentaries,' intended to help...

Author(s): James D. McIver, Lynn Starr
Year Published: 2000
Type: Document
Book or Chapter or Journal Article

Responses of cavity-nesting birds to stand-replacement fire and salvage logging in ponderosa pine/douglas-fir forests of southwestern Idaho

www.nrfirescience.org/resource/11413

From 1994 to 1996, researchers monitored 695 nests of nine cavity-nesting bird species and measured vegetation at nest sites and at 90 randomly located sites in burned ponderosa pine forests of southwestern Idaho. Site treatments included two types of salvage logging, and unlogged controls. All bird species selected nest sites with...

Author(s): Victoria A. Saab, Jonathan G. Dudley
Year Published: 1998
Type: Document
Technical Report or White Paper

Wildfire and salvage logging: recommendations for ecologically sound post-fire salvage logging and other post-fire treatments on federal lands in the West

www.nrfirescience.org/resource/18495

From the text: 'This paper offers a scientific framework of principles and practices that are provided to guide development of federal policy concerning wildfire and salvage logging and other post-fire treatments. A common thread throughout the -recommendations is that most native species are adapted to natural patterns and...

Author(s): R.L. Beschta, Christopher A. Frissell, R. Gresswell, R. Hauer, James R. Karr, G. Wayne

Minshall, David A. Perry, Jonathan J. Rhodes
Year Published: 1995
Type: Document
Technical Report or White Paper

Forest Service Review of Wildfire and Salvage Logging

www.nrfirescience.org/resource/16301

This is a summary of comments by Forest Service reviewers of the Beschta, et al. paper, "Wildfire and Salvage Logging". The paper was reviewed by a diverse and highly qualified group of Forest Service researchers and managers with expertise in a broad range of disciplines pertinent to the subject presented. Thus, the reviews present...

Author(s): Susan G. Conard, Richard L. Everett, Susan Husari, Alan E. Harvey, Gordon H. Reeves, James M. Saveland, Phil Weatherspoon, Robert R. Ziemer

Year Published: 1995

Type: Document

Technical Report or White Paper

Deterioration of fire-killed and fire-damaged timber in the Western United States

www.nrfirescience.org/resource/11159

Fire-killed and fire-damaged timber are an important source of fiber and are becoming more important because of a decrease in the land base available for timber harvest. Forest managers need to know the causes of deterioration and degrade, the expected losses in product volume and value, and the impact of time on deterioration. This...

Author(s): Eini C. Lowell, Susan A. Willits, Robert L. Krahmer

Year Published: 1992

Type: Document

Technical Report or White Paper

The Sleeping Child Burn - 21 years of postfire change

www.nrfirescience.org/resource/11961

In early August 1961, more than 26,000 acres (10,500 ha) of upper montane and subalpine forest on the Bitterroot National Forest burned in a lightning-caused wildfire. At the time, the Sleeping Child Burn represented the single largest forest fire in the Northern Rocky Mountains in more than 20 years.

Historically, large wildfires...

Author(s): L. Jack Lyon

Year Published: 1984

Type: Document

Technical Report or White Paper

Erosional effects of wildfire and logging in Idaho

www.nrfirescience.org/resource/18602

The effects of wildfire and logging on erosion from two small catchments of the Pine Creek drainage in Idaho, USA, were investigated. One catchment was clearfelled in 1972 and a wildfire burned in the study areas in 1973. The fire was more intense on the clear felled area (estimated fuels were 90 and 10 tons/acre on felled and...

Author(s): Walter F. Megahan, D. C. Molitor

Year Published: 1975

Type: Document

Conference Proceedings

The effects of post-wildfire salvage logging on plant reproductive success and pollination in *Symphoricarpos albus*, a fire-tolerant shrub

www.nrfirescience.org/resource/18151

Post-wildfire salvage logging is an increasingly used land management tool with poorly understood ecological consequences for understory flowering plants and their interactions with pollinators. Understanding these consequences of salvage logging is important because an essential aspect of post-wildfire forest succession involves...

Author(s): Laura J. Heil, Laura A. Burkle

Type: Document

Book or Chapter or Journal Article