



Rocky Mountain Research Station

New Publications

July-September 2015

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The Rocky Mountain Research Station



We maintain 14 research locations throughout a 12-state territory encompassing the Great Basin, Southwest, Rocky Mountains, and parts of the Great Plains. The station employs more than 400 permanent full-time employees, including about 100 research scientists.

Scientists conduct research that spans an area containing 52% of the nation’s National Forest System lands (54 national forests and grasslands). In the lower 48 states, our territory also includes 55% of the nation’s Bureau of Land Management lands; 48% of the designated wildernesses; 37% of National Park Service lands; numerous other public and tribal lands; and 41% of the non-urban/rural private lands.

We administer and conduct ecological research on 14 experimental forests, ranges, and watersheds over the long term, even centuries, enabling us to learn how forests change as climate and other factors change over time.

We also oversee activities on several hundred research natural areas, a network of ecosystems set aside to conserve biological diversity. These areas represent a wide variety of habitats and ecosystems from alpine ecosystems to lowlands and from coniferous forests of the Northern Rockies to semiarid deserts of the Southwest and prairie ecosystems of the Great Plains.

New RMRS Publication Series

Results from the 2014 National Wilderness Manager Survey

Online only

Results from the 2014 National Wilderness Manager Survey. Ghimire, Ramesh; Cordell, Ken; Watson, Alan; Dawson, Chad; Green, Gary T. 2015. Gen. Tech. Rep. RMRS-GTR-336. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 96 p.

A national survey of managers was developed to support interagency wilderness strategic planning. The focus was on major challenges, perceived needs for science and training, and accomplishments of 1995 Strategic Plan objectives. The survey was administered to managers at the four federal agencies with wilderness management responsibilities: the Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, and U.S. Forest Service. In spring 2014, responses were received from 368 managers. The highest ranking threat perceived was "lack of political and financial support for wilderness protection and management," followed by "invasive species," "disconnected urban audiences" and "adjacent land use and management." The greatest need for science-based information was "public attitudes toward intervention to adapt to climate change influences" and "public attitudes toward ecological restoration activities."

http://www.fs.fed.us/rm/pubs/rmrs_gtr336.html

Strengthening syntheses on fire: Increasing their usefulness for managers

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copies

Strengthening syntheses on fire: increasing their usefulness for managers. Smith, Jane Kapler. 2015. Gen. Tech. Rep. RMRS-GTR-337. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 59 p.

A synthesis for fire managers summarizes and interprets a body of information, presents its meaning in an objective, unbiased way, and describes its implications for decision makers. Following are suggestions for ways to strengthen syntheses on fire and on other natural resource issues: (1) include managers, scientists, and science delivery specialists in planning, developing, and delivering syntheses; (2) if a synthesis has unique regional components, include someone from each region in the planning team and consider these needs in writing and packaging; (3) use managers as authors, co-authors, or reviewers; (4) use existing communication networks within the management community for marketing and delivery; (5) include syntheses in education and professional development; (6) improve use of technology to provide syntheses, research and monitoring results, and other information so managers can easily find the information and apply it to resource management decisions.

http://www.fs.fed.us/rm/pubs/rmrs_gtr337.html

New RMRS Publication Series

A field guide for rapid assessment of post-wildfire recovery potential in sagebrush and piñon-juniper ecosystems in the Great Basin

Online only

A field guide for rapid assessment of post-wildfire recovery potential in sagebrush and piñon-juniper ecosystems in the Great Basin: evaluating resilience to disturbance and resistance to invasive annual grasses and predicting vegetation response. Miller, Richard F.; Chambers, Jeanne C.; Pellant, Mike. 2015. Gen. Tech. Rep. RMRS-GTR-338. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 70 p.

This field guide provides a framework for rapidly evaluating post-fire resilience to disturbance, or recovery potential, and resistance to invasive annual grasses, and for determining the need and suitability of the burned area for seeding. Six primary components are: (1) characteristics of the ecological site; (2) vegetation composition and structure prior to the wildfire; (3) fire severity; (4) post-wildfire weather; (5) post-wildfire management; and (6) monitoring and adaptive management. Tools include: (1) a conceptual model of the key components that largely determine resilience to disturbance and resistance to invasive annual grasses of the burn area, (2) a guide to evaluate post-wildfire severity, (3) indicators to estimate pre-wildfire plant composition and structure, and (4) an evaluation score sheet.

http://www.fs.fed.us/rm/pubs/rmrs_gtr338.html

Northern goshawk and its prey in the Black Hills: habitat assessment

Contact Russ Graham,
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for printed copies

Northern goshawk and its prey in the Black Hills: habitat assessment. Graham, Russell T.; Bayard de Volo, Shelley; Reynolds, Richard T. 2015. Gen. Tech. Rep. RMRS-GTR-339. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 177 p.

The northern goshawk is classified as a Sensitive Species in all USDA Forest Service regions, including on the Black Hills National Forest in western South Dakota and northeastern Wyoming. An assessment was conducted of the quality of northern goshawk nesting and foraging habitat, along with the habitat quality of 22 of the goshawk's prey species. Panel members found that the Bear Lodge Mountains proportionally had the most optimum, high-, and medium-rated habitat. Wildfire, bark beetles, urban encroachment, and timber harvest can negatively affect northern goshawks and their prey's habitat. However, increasing the amount and presence of quaking aspen forests within the Black Hills will most likely improve the habitat of the goshawk by improving the habitat for many of its prey. Using previously articulated conditions as a template in the Forest Vegetation Simulator, we designed an example 100-year silvicultural system to create and maintain forest conditions for the northern goshawk and its prey on the Black Hills Experimental Forest.

http://www.fs.fed.us/rm/pubs/rmrs_gtr339.html

New RMRS Publication Series

Proceedings of the large wildland fires conference

Online only

Proceedings of the large wildland fires conference; May 19–23, 2014; Missoula, MT. Kean, Robert E.; Jolly, Matt; Parsons, Russell; Riley, Karin, comps. Proc. RMRS-P-73. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 345 p.

Large fires or "megafires" have been a major topic in wildland fire research and management for over a decade. There is great debate regarding the impacts of large fires. Many believe that they (1) are occurring too frequently, (2) are burning abnormally large areas, (3) cause uncharacteristically adverse ecological harm, and (4) must be suppressed at all costs. Others believe that large fires can effectively reintroduce fire back into those declining fire-prone ecosystems where fires have been excluded for decades, thereby (1) improving ecosystem health, (2) reducing future fire hazard, (3) providing critical fuel breaks, and (4) increasing ecosystem resilience in the face of climate change. Adding to the dilemma is the fact that little is known of the short- and long-term ecological impacts of large fires on historical, contemporary, and future landscapes and this lack of knowledge fuels the debate that surrounds both the causes and consequences of large fires. Large fires may provide unique opportunities to restore ecosystems and treat fuels across extensive areas.

http://www.fs.fed.us/rm/pubs/rmrs_p073.html

Science and stewardship to protect and sustain wilderness values

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Science and stewardship to protect and sustain wilderness values: tenth World Wilderness Congress symposium; 2013, 4-10 October, Salamanca, Spain. Watson, Alan; Carver, Stephen; Krenova, Zdenka; McBride, Brooke, comps. 2015. Proceedings RMRS-P-74. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 208 p.

The symposium on science and stewardship to protect and sustain wilderness values was the largest of multiple symposia held in conjunction with the Tenth World Wilderness Congress. The papers have been organized into four major sections: (1) Europe: Intervention and Nonintervention to Meet Protection Goals, (2) Australia and Antarctica: Geography of Place and Spirit in The Big Wild, (3) Africa and North America: Linkages Across Boundaries to Protect Nature, and (4) Old World and New World: The Relationships Between Wilderness, Human Health and Culture. Included are papers that address wildland issues on all continents, but wilderness designation, protection and restoration processes and challenges vary tremendously from North America to Europe and from Antarctica to Africa, thus sections are defined by geography and topic.

http://www.fs.fed.us/rm/pubs/rmrs_p074.html

Other Forest Service Series Publications

Map: The 2010 wildland-urban interface of the conterminous United States

Contact the Northern
Research Station,
[http://www.nrs.fs.fed.
us/pubs/48642](http://www.nrs.fs.fed.us/pubs/48642), for
printed copies

The 2010 wildland-urban interface of the conterminous United States.

Martinuzzi, Sebastián; Stewart, Susan I.; Helmers, David P.; Mockrin, Miranda H.; Hammer, Roger B.; Radloff, Volker C. 2015. Research Map NRS-8. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 124 p. [includes pull-out map].

The wildland-urban interface (WUI) is the area where structures and other human development meet or intermingle with undeveloped wildland, and it is where wildfires have their greatest impacts on people. Hence the WUI is important for wildfire management. This document and associated maps summarize the extent of the WUI in the conterminous United States in 2010. The maps and summary statistics are designed to inform both national policy and local land management concerning the WUI. The data presented here summarize the 2010 WUI at a national scale and for each of the 48 conterminous States. All products of this assessment—including maps, statistics, and the WUI GIS dataset—are available at <http://www.nrs.fs.fed.us/data/WUI>.

<http://www.nrs.fs.fed.us/pubs/48642>; [http://www.treearch.fs.fed.us/
pubs/48642](http://www.treearch.fs.fed.us/pubs/48642)

Journals and Other Publications

Air, water, and aquatic environments

Environmental DNA particle size distribution from Brook Trout (*Salvelinus fontinalis*). Wilcox, Taylor M.; McKelvey, Kevin S.; Young, Michael K.; Lowe, Winsor H. 2015. Conservation Genetics Resources. doi: 10.1007/s12686-015-0465-z. <http://www.treesearch.fs.fed.us/pubs/48666>.

Enhancements to the Water Erosion Prediction Project (WEPP) for modeling large snow-dominated mountainous forest watersheds. Srivastava, Anurag; Wu, Joan Q.; Elliot, William J.; Brooks, Erin S. 2015. Presented at the 2015 EWRI Watershed Management Conference; Reston, VA; August 4–7, 2015. Baltimore, MD: American Society of Civil Engineers, Environmental and Water Resources Institute. 20 p. <http://www.treesearch.fs.fed.us/pubs/49575>.

Extending WEPP technology to predict fine sediment and phosphorus delivery from forested hillslopes. Elliot, William; Brooks, Erin; Trauemer, Drea Em; Dobre, Mariana. 2015. In: Proceedings of the 3rd Joint Federal Interagency Conference (10th Federal Interagency Sedimentation Conference and 5th Federal Interagency Hydrologic Modeling Conference); April 19–23, 2015; Reno, NV. WICP/ACWI. Online: <http://acwi.gov/sos/pubs/index.html>. <http://www.treesearch.fs.fed.us/pubs/49573>.

Final Report: synthesis of aquatic climate change vulnerability assessments for the Interior West. Friggens, Megan M.; Woodlief, Carly K. 2015. Albuquerque, NM: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 67 p. <http://www.treesearch.fs.fed.us/pubs/49552>.

Geomorphic predictors of riparian vegetation in small mountain watersheds. Engelhardt, Blake M.; Chambers, Jeanne C.; Weisberg, Peter J. 2015. Geomorphic predictors of riparian vegetation in small mountain watersheds. *Journal of Plant Ecology*. doi: 10.1093/jpe/rtv002. <http://www.treesearch.fs.fed.us/pubs/49070>.

Planning for climate change on the National Wildlife Refuge System. Czech, B.; Covington, S.; Crimmins, T. M.; Ericson, J. A.; Flather, C.; Gale, M.; Gerst, K.; Higgins, M.; Kaib, M.; Marino, E.; Moran, T.; Morton, J.; Niemuth, N.; Peckett, H.; Savignano, D.; Saperstein, L.; Skorupa, S.; Wagener, E.; Wilen, B.; Wolfe, B. 2014. Washington, DC: U.S. Fish and Wildlife Service, National Wildlife Refuge System. 132 p. <http://www.treesearch.fs.fed.us/pubs/49201>.

Southwest Regional Climate Hub and California Subsidiary Hub assessment of climate change vulnerability and adaptation and mitigation strategies. Elias, E.; Steele, C.; Havstad, K.; Steenwerth, K.; Chambers, J.; Deswood, H.; Kerr, A.; Rango, A.; Schwartz, M.; Stine, P.; Steele, R. 2015. Las Cruces, NM: U.S. Department of Agriculture, Agricultural Research Service, Rangeland Management Research. 76 p. <http://www.treesearch.fs.fed.us/pubs/49341>.

Vulnerability of riparian obligate species to the interactive effect of fire, climate and hydrological change. Friggens, Megan M.; Loehman, Rachel; Holsinger, Lisa; Finch, Deborah. 2014. Final Report for Interagency Agreement #13-IA-11221632-006. Albuquerque, NM: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 213 p. <http://www.treesearch.fs.fed.us/pubs/49551>.

Water quality impacts of forest fires. Aregai, Teclé; Neary, Daniel. 2015. *Pollution Effects and Control*. 3(2). doi: <http://dx.doi.org/10.4172/2375-4397.1000140>. <http://www.treesearch.fs.fed.us/pubs/48946>.

Fire, fuel, and smoke

***Alnus rhombi folia*.** Fryer, Janet L. 2014. In: Fire Effects Information System, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences laboratory. Online: <http://www.fs.fed.us/database/feis/plants/tree/alnrho/all.html>.

Automated integration of lidar into the LANDFIRE product suite. Peterson, Birgit; Nelson, Kurtis J.; Seielstad, Carl;

Journals and Other Publications

Stoker, Jason; Jolly, W. Matt; Parsons, Russell. 2015. Remote Sensing Letters. 6(3): 247–256. <http://www.treesearch.fs.fed.us/pubs/49676>.

Characteristics of burns conducted under modified prescriptions to mitigate limited fuels in a semi-arid grassland. Augustine, David J.; Derner, Justin D.; Smith David P. 2014. Fire Ecology. 10(2): 36–47. <http://www.treesearch.fs.fed.us/pubs/49548>.

***Chlorogalum pomeridianum*, wavy leaf soap plant.** Fryer, Janet L. 2015. (Revised from Reeves, Sonja L. 2006.) In: Fire Effects Information System, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences laboratory. Online: <http://www.fs.fed.us/database/feis/plants/forb/chlpom/all.html>

Combining fire and erosion modeling to target forest management activities. Elliot, William J.; Miller, Mary Ellen; Enstice, Nic. 2015. In: Proceedings of the 3rd Joint Federal Interagency Conference (10th Federal Interagency Sedimentation Conference and 5th Federal Interagency Hydrologic Modeling Conference); April 19–23, 2015; Reno, NV. WICP/ACWI. Online: <http://acwi.gov/sos/pubs/index.html>. <http://www.treesearch.fs.fed.us/pubs/49545>.

Determination of the smoke-plume heights and their dynamics with ground-based scanning LIDAR. Kovalev, V.; Petkov, A.; Wold, C.; Urbanski, S.; Hao, W.M. 2015. Applied Optics. 54(8): 2011–2017. <http://www.treesearch.fs.fed.us/pubs/49674>.

Evaluating crown fire rate of spread predictions from physics-based models. Hoffman, C.M.; Ziegler, J.; Canfield, J.; Linn, R.R.; Mell, W.; Sieg, C.H.; Pimont, F. 2015. Fire Technology. doi: 10.1007/s10694-015-0500-3. <http://www.treesearch.fs.fed.us/pubs/48875>.

Fire management assessment of Eastern Province, Zambia. Hollingsworth, L.T.; Johnson, D.; Sikaundi, G.; Siame, S. 2015. Washington, DC: USDA Forest Service, International Programs. 88 p. <http://www.treesearch.fs.fed.us/pubs/49673>.

Fire regimes of Alaskan wet and mesic herbaceous systems. Innes, Robin J. 2015. In: Fire Effects Information System, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences laboratory. Online: http://www.fs.fed.us/database/feis/fire_regimes/AK_wet_herbaceous/all.html.

Fire regimes of montane riparian communities in California and southwestern Oregon. Fryer, Janet L. 2015. In: Fire Effects Information System, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences laboratory. Online: http://www.fs.fed.us/database/feis/fire_regimes/CA_montane_riparian/all.html

Fire regimes of woody riparian communities of the Central Valley, California. In: Fire Effects Information System, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences laboratory. Online: http://www.fs.fed.us/database/feis/fire_regimes/CA_valley_riparian/all.html.

Measurements relating fire radiative energy density and surface fuel consumption - RxCADRE 2011 and 2012. Hudak, Andrew T.; Dickinson, Matthew B.; Bright, Benjamin C.; Kremens, Robert L.; Loudermilk, E. Louise; O'Brien, Joseph J.; Hornsby, Benjamin S.; Ottmar, Roger D. 2015. International Journal of Wildland Fire. doi: <http://dx.doi.org/10.1071/WF14159>. <http://www.treesearch.fs.fed.us/pubs/49572>.

Minimizing post-fire erosion using rainwater harvesting practices. Garcia-Chevesich, P. R.; Valdes, R.; Neary, D.; Pizarro, R. 2015. Environmental Connection. 9(2): 24–25. <http://www.treesearch.fs.fed.us/pubs/49643>.

Modelling the role of fires in the terrestrial carbon balance by incorporating SPITFIRE into the global vegetation model ORCHIDEE - Part 1: Simulating historical global burned area and fire regimes. Yue, C.; Ciais, P.; Cadule, P.; Thonicke, K.; Archibald, S.; Poulter, B.; Hao, W.M.; Hantson, S.; Mouillot, F.; Friedlingstein, P.; Maignan, F.; Viovy, N. 2014. Geoscientific Model Development. 7: 2747–2767. <http://www.treesearch.fs.fed.us/pubs/49671>.

Journals and Other Publications

Polstichum munitum. Zouhar, Kris. 2015. In: Fire Effects Information System, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences laboratory. Online: <http://www.fs.fed.us/database/feis/plants/fern/polmun/all.html>.

Predicting wildfire ignitions, escapes, and large fire activity using Predictive Service's 7-Day Fire Potential Outlook in the western USA. Riley, Karin L.; Stonesifer, Crystal; Preisler, Haiganoush; Calkin, Dave. 2014. In: Viegas, Domingos Xavier, ed. *Advances in Forest Fire Research*. Coimbra, Portugal: Imprensa da Universidade de Coimbra: 239–1248. <http://www.treesearch.fs.fed.us/pubs/49564>.

Prescribed fire, soil inorganic nitrogen dynamics, and plant responses in a semiarid grassland. Augustine, David J.; Brewer, Paul; Blumenthal, Dana M.; Derner, Justin D.; von Fischer, Joseph C. 2014. *Journal of Arid Environments*. 104: 59–66. <http://www.treesearch.fs.fed.us/pubs/49549>.

Rapid response tools and datasets for post-fire modeling: Linking Earth Observations and process-based hydrological models to support post-fire remediation. Miller, M.E.; Billmire, M.; Elliot, W.J.; Endsley, K.A.; Robichaud, P.R. 2015. In: 36th International Symposium on Remote Sensing of Environment; 11–15 May 2015; Berlin, Germany. Vol. XL-7/W3. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*: 469–476. <http://www.treesearch.fs.fed.us/pubs/49546>.

Relationships between fire danger and the daily number and daily growth of active incidents burning in the northern Rocky Mountains, USA. Freeborn, Patrick H.; Cochrane, Mark A.; Jolly, W. Matt. 2015. *International Journal of Wildland Fire*. doi: <http://dx.doi.org/10.1071/WF14152>. <http://www.treesearch.fs.fed.us/pubs/49672>.

Role of buoyant flame dynamics in wildfire spread. Finney, Mark A.; Cohen, Jack D.; Forthofer, Jason M.; McAllister, Sara S.; Gollner, Michael J.; Gorham, Daniel J.; Saito, Kozo; Akafuah, Nelson K.; Adam, Brittany A.; English, Justin D. 2015. *PNAS*.

doi: 10.1073/pnas.1504498112. <http://www.treesearch.fs.fed.us/pubs/48668>.

***Salix lasiandra*, Pacific willow.** Fryer, Janet L. 2015. In: Fire Effects Information System, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences laboratory. Online: <http://www.fs.fed.us/database/feis/plants/tree/sallas/all.html>.

Satellite versus ground-based estimates of burned area: a comparison between MODIS based burned area and fire agency reports over North America in 2007. Mangeon, Stephane; Field, Robert; Fromm, Michael; McHugh, Charles; Voulgarakis, Apostolos. 2015. *The Anthropocene Review*. doi: 10.1177/2053019615588790. <http://www.treesearch.fs.fed.us/pubs/49675>.

Slash from the past: Rehabilitating pile burn scars. Miller, Sue; Rhoades, Chuck; Schnackenberg, Liz; Fornwalt, Paula; Schroder, Eric. 2015. *Science You Can Use Bulletin*, Issue 15. Fort Collins, CO: Rocky Mountain Research Station. 9 p. <http://www.treesearch.fs.fed.us/pubs/49554>.

Solutions in LIDAR profiling of the atmosphere. Kovalev, Vladimir A. 2015. Wiley and Sons, Inc. 304 p.

Sources and implications of bias and uncertainty in a century of US wildfire activity data. Short, Karen C. 2015. *International Journal of Wildland Fire*. doi:<http://dx.doi.org/10.1071/WF14190>. <http://www.treesearch.fs.fed.us/pubs/49677>.

Sustainability and the origins of wildland fire research. Smith, Diane M. 2015. *Arcadia Environment and Society Portal*. 13. Online: <http://www.environmentandsociety.org/arcardia/sustainability-and-origins-wildland-fire-research>. <http://www.treesearch.fs.fed.us/pubs/49678>.

A synthesis of post-fire Burned Area Reports from 1972 to 2009 for western US Forest Service lands: trends in wildfire characteristics and post-fire stabilisation treatments and expenditures. Robichaud, Peter R.; Rhee, Hakjun; Lewis,

Journals and Other Publications

Sarah A. 2014. *International Journal of Wildland Fire*. 23: 929–944. <http://www.treesearch.fs.fed.us/pubs/49633>.

Use of fire spread and hydrology models to target forest management on a municipal watershed. Srivastava, Anurag; Elliot, William J.; Wu, Joan. 2015. Presented at the 2015 EWRI Watershed Management Conference; Reston, VA; August 4–7, 2015. Baltimore, MD: American Society of Civil Engineers, Environmental and Water Resources Institute. 15 p. <http://www.treesearch.fs.fed.us/pubs/49574>.

Utilizing random forests imputation of forest plot data for landscape-level wildfire analyses. Riley, Karin L.; Grenfell, Isaac C.; Finney, Mark A.; Crookston, Nicholas L. 2014. In: Viegas, Domingos Xavier, ed. *Advances in Forest Fire Research*. Coimbra, Portugal: Imprensa da Universidade de Coimbra: 583–590. <http://www.treesearch.fs.fed.us/pubs/49563>.

Vegetation response to burn severity, native grass seeding, and salvage logging. Morgan, Penelope; Moy, Marshall; Droske, Christine A.; Lewis, Sarah A.; Lentile, Leigh B.; Robichaud, Peter R.; Hudak, Andrew T.; Williams, Christopher J. 2015. *Fire Ecology*. 11(2): 31–58. <http://www.treesearch.fs.fed.us/pubs/49634>.

Vegetation, topography and daily weather influenced burn severity in central Idaho and western Montana forests. Birch, Donovan S.; Morgan, Penelope; Kolden, Crystal A.; Abatzoglou, John T.; Dillon, Gregory K.; Hudak, Andrew T.; Smith, Alistair M. S. 2015. *Ecosphere*. 6(1): Article 17. <http://www.treesearch.fs.fed.us/pubs/49641>.

Wildland fire as a self-regulating mechanism: the role of previous burns and weather in limiting fire progression. Parks, Sean A.; Holsinger, Lisa M.; Miller, Carol; Nelson, Cara R. 2015. *Ecological Applications*. 25(6): 1478–1492. <http://www.treesearch.fs.fed.us/pubs/49463>.

Forest and woodland ecosystems

Both nursery and field performance determine suitable nitrogen supply of nursery-grown, exponentially fertil-

ized Chinese pine. Wang, Jiayi; Li, Guolei; Pinto, Jeremiah R.; Liu, Jiajia; Shi, Wenhui; Liu, Yong. 2015. *Silva Fennica*. 49(3): Article 1295. <http://www.treesearch.fs.fed.us/pubs/49562>.

Characterizing butt-rot fungi on USA-affiliated islands in the western Pacific. Cannon, Phil; Klopfenstein, Ned B.; Schlub, Robert L.; Kim, Mee-Sook; Ota, Yuko; Sahashi, Norio; Quitugua, Roland J.; Hanna, John W.; Ross-Davis, Amy L.; Sweeney, J. D. 2014. In: Chadwick, K.; Palacios, P., comps. *Proceedings of the 61st Annual Western International Forest Disease Work Conference*; October 6–11, 2013; Waterton Lakes National Park; AB, Canada. Washington, DC: U.S. Department of Agriculture, Forest Service, Forest Health Protection: 107–110. <http://www.treesearch.fs.fed.us/pubs/49124>.

Climate-based species distribution models for *Armillaria solidipes* in Wyoming: a preliminary assessment. Hanna, John W.; Blodgett, James T.; Pitman, Eric W. I.; Ashiglar, Sarah M.; Lundquist, John E.; Kim, Mee-Sook; Ross-Davis, Amy L.; Klopfenstein, Ned B. 2014. In: Chadwick, K.; Palacios, P., comps. *Proceedings of the 61st Annual Western International Forest Disease Work Conference*; October 6–11, 2013; Waterton Lakes National Park; AB, Canada. Washington, DC: U.S. Department of Agriculture, Forest Service, Forest Health Protection: 117–120. <http://www.treesearch.fs.fed.us/pubs/49125>.

Decrease in sapling nutrient concentrations for six northern Rocky Mountain coniferous species. Jain, Theresa B.; Graham, Russell T. 2015. *Forest Science*. 61(3): 570–578. <http://www.treesearch.fs.fed.us/pubs/49555>.

Effects of post-fire salvage logging and a skid trail treatment on ground cover, soils, and sediment production in the interior western United States. Wagenbrenner, Joseph W.; MacDonald, Lee H.; Coats, Robert N.; Robichaud, Peter R.; Brown, Robert E. 2015. *Forest Ecology and Management*. 335: 176–193. <http://www.treesearch.fs.fed.us/pubs/49635>.

Forest attributes and fuel loads of riparian vs. upland stands in mountain pine beetle infested watersheds, southern Rocky Mountains [Chapter 13]. Dwire, Kathleen

Journals and Other Publications

A.; Bazan, Roberto A.; Hubbard, Robert. 2015. In: Potter, Kevin M.; Conkling, Barbara L., eds. *Forest Health Monitoring: National Status, Trends and Analysis 2013*. General Technical Report SRS-207. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. p. 177–185. <http://www.treearch.fs.fed.us/pubs/49544>.

Forest landscape mosaics: Disturbance, restoration, and management at times of global change. Jogiste, Kalev; Jonsson, Bengt Gunnar; Kuuluvainen, Timo; Gauthier, Sylvie; Moser, W. Keith. 2015. *Canadian Journal of Forest Research*. 45(9): v–vi. <http://www.treearch.fs.fed.us/pubs/49196>.

Forest soil microbial communities: using metagenomic approaches to survey permanent plots. Ross-Davis, Amy L.; Stewart, Jane E.; Hanna, John W.; Shaw, John D.; Hudak, Andrew T.; Jain, Theresa B.; Denner, Robert J.; Graham, Russell T.; Page-Dumroese, Deborah S.; Tirocke, Joanne M.; Kim, Mee-Sook; Klopfenstein, Ned B. 2014. In: Chadwick, K.; Palacios, P., comps. *Proceedings of the 61st Annual Western International Forest Disease Work Conference*; October 6–11, 2013; Waterton Lakes National Park; AB, Canada. Washington, DC: U.S. Department of Agriculture, Forest Service, Forest Health Protection: 139–142. <http://www.treearch.fs.fed.us/pubs/491257>.

Historical (1860) forest structure in ponderosa pine forests of the northern Front Range, Colorado. Brown, Peter M.; Battaglia, Michael A.; Fornwalt, Paula J.; Gannon, Benjamin; Huckaby, Laurie S.; Julian, Chad; Cheng, Antony S. 2015. *Canadian Journal of Forest Research*. 43: 1462–1473. <http://www.treearch.fs.fed.us/pubs/49550>.

Identification of the infection route of a *Fusarium* seed pathogen into nondormant *Bromus tectorum* seeds. Franke, JanaLynn; Geary, Brad; Meyer, Susan E. 2014. *Phytopathology*. 104(12): 1306–1313. <http://www.treearch.fs.fed.us/pubs/49128>.

Landsat time series and lidar as predictors of live and dead basal area across five bark beetle-affected forests.

Bright, Benjamin C.; Hudak, Andrew T.; Kennedy, Robert E.; Meddens, Arjan J.H. 2014. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*. 7(8): 3440–3452. <http://www.treearch.fs.fed.us/pubs/49638>.

Light-emitting diode lighting for forest nursery seedling production. Apostol, Kent G.; Dumroese, R. Kasten; Pinto, Jeremiah R.; Davis, Anthony S. 2015. In: *The International Plant Propagators' Society, combined proceedings (2014)* 64: 335–339. <http://www.treearch.fs.fed.us/pubs/49192>.

Long-term effects on distribution of forest biomass following different harvesting levels in the northern Rocky Mountains. Jang, Woongsoon; Keyes, Christopher R.; Page-Dumroese, Deborah S. 2015. *Forest Ecology and Management* 358: 281–290. <http://www.treearch.fs.fed.us/pubs/49556>.

Mixed-conifer forests of central Oregon: effects of logging and fire exclusion vary with environment. Merschel, Andrew G.; Spies, Thomas A.; Heyerdahl, Emily K. 2014. *Ecological Applications*. 24(7): 1670–688. <http://www.treearch.fs.fed.us/pubs/49670>.

Mountain pine beetles use volatile cues to locate host limber pine and avoid non-host Great Basin bristlecone pine. Gray, Curtis A.; Runyon, Justin B.; Jenkins, Michael J.; Giunta, Andrew D. 2015. *PLoS ONE*. 10(9): e0135752. <http://www.treearch.fs.fed.us/pubs/491464>.

Northwest research experimental forests: a hundred years in the making. Jain, Theresa B. 2015. *Western Forester*. 60(4): 1–4. <http://www.treearch.fs.fed.us/pubs/49556>.

An observational and modeling study of impacts of bark beetle-caused tree mortality on surface energy and hydrological cycles. Chen, Fei; Zhang, Guo; Barlage, Michael; Zhang, Ying; Hicke, Jeffrey A.; Meddens, Arjan; Zhou, Guangsheng; Massman, William J.; Frank, John. 2015. *Journal of Hydrometeorology*. 16: 744–761. <http://www.treearch.fs.fed.us/pubs/49584>.

Journals and Other Publications

Remote sensing the vulnerability of vegetation in natural terrestrial ecosystems. Smith, Alistair M.S.; Kolden, Crystal A.; Tinkham, Wade T.; Talhelm, Alan F.; Marshall, John D.; Hudak, Andrew T.; Boschetti, Luigi; Falkowski, Michael J.; Greenberg, Jonathan A.; Anderson, John W.; Kliskey, Andrew; Alessa, Lilian; Keefe, Robert F.; Gosz, James R. 2014. *Remote Sensing of Environment*. 154: 322–337. <http://www.treearch.fs.fed.us/pubs/49639>.

Tracking the distribution of *Puccinia psidii* genotypes that cause rust disease on diverse myrtaceous trees and shrubs. Ross-Davis, Amy L.; Graca, Rodrigo N.; Alfenas, Acelino C.; Peever, Tobin L.; Hanna, Jack W.; Uchida, Janice Y.; Hauff, Rob D.; Kadooka, Chris Y.; Kim, Mee-Sook; Cannon, Phil G.; Namba, Shigetou; Minato, Nami; Simeto, Sofia; Perez, Carlos A.; Rayamajhi, Min B.; Moran, Mauricio; Lodge, D. Jean; Arguedas, Marcela; Medel-Ortiz, Rosario; Lopez-Ramirez, M. Armando; Tennant, Paula; Glen, Morag; Klopfenstein, Ned B. 2014. In: Chadwick, K.; Palacios, P., comps. *Proceedings of the 61st Annual Western International Forest Disease Work Conference*; October 6–11, 2013; Waterton Lakes National Park; AB, Canada. Washington, DC: U.S. Department of Agriculture, Forest Service, Forest Health Protection: 131–137. <http://www.treearch.fs.fed.us/pubs/49126>.

Tree mortality from drought, insects, and their interactions in a changing climate. Anderegg, William R.L.; Hicke, Jeffrey A.; Fisher, Rosie A.; Allen, Craig D.; Aukema, Juliann; Bentz, Barbara; Hood, Sharon; Lichstein, Jeremy W.; Macalady, Alison K.; McDowell, Nate; Pan, Yude; Raffa, Kenneth; Sala, Anna; Shaw, John D.; Stephenson, Nathan L.; Tague, Christina; Zeppel, Melanie. 2015. *New Phytologist*. doi: 10.1111/nph.13477. <http://www.treearch.fs.fed.us/pubs/49632>.

The USDA Forest Service-RMRS forest fungi collection: Resource for fungal identification, developing biological controls, predicting invasive pathogens, and predicting potential impacts of climate change. Ashiglar, Sara M.; Hanna, John W.; Ross-Davis, Amy L.; Klopfenstein, Ned B.

2014. In: Chadwick, K.; Palacios, P., comps. *Proceedings of the 61st Annual Western International Forest Disease Work Conference*; October 6–11, 2013; Waterton Lakes National Park; AB, Canada. Washington, DC: U.S. Department of Agriculture, Forest Service, Forest Health Protection: 127–130. <http://www.treearch.fs.fed.us/pubs/49123>.

Vascular plant flora of the alpine zone in the southern Rocky Mountains, U.S.A. Fowler, James F.; Nelson, B.E.; Hartman, Ronald L. 2015. *Journal of the Botanical Research Institute of Texas*. 8(2): 611–636. <http://www.treearch.fs.fed.us/pubs/49290>.

Western spruce budworm outbreaks did not increase fire risk over the last three centuries: a dendrochronological analysis of inter-disturbance synergism. Flower, Aquila; Gavin, Daniel G.; Heyerdahl, Emily K.; Parsons, Russell A.; Cohn, Gregory M. 2014. *PLoS ONE*. 9(12): e114282. <http://www.treearch.fs.fed.us/pubs/49669>.

Grasslands, shrublands, and desert ecosystems

Big sagebrush (*Artemisia tridentata*) in a shifting climate context: assessment of seedling responses to climate. Brabec, Martha A. 2014. Boise, ID: Boise State University. Thesis. 131 p. <http://www.treearch.fs.fed.us/pubs/49679>.

Biological soil crust response to late season prescribed fire in a Great Basin juniper woodland. Warren, Steven D.; St.Clair, Larry L.; Johansen, Jeffrey R.; Kugrens, Paul; Baggett, L. Scott; Bird, Benjamin J. 2015. *Rangeland Ecology & Management*. 68(3): 241–247. <http://www.treearch.fs.fed.us/pubs/49195>.

Blackbrush (*Coleogyne ramisissima* Torr.): State of our knowledge and future challenges. In: Huenneke, Laura F.; van Riper, Charles, III; Hays-Gilpin, Kelley A., eds. *The Colorado Plateau VI: Science and management at the landscape scale*. *Proceedings of the 11th biennial conference of research on the Colorado Plateau*; October 24–27, 2012; Flagstaff,

Journals and Other Publications

AZ. Tucson: The University of Arizona Press: 142–155. <http://www.treesearch.fs.fed.us/pubs/49194>.

Can biochar be used as a seed coating to improve native plant germination and growth in arid conditions? Williams, Mary I.; Dumroese, R. Kasten; Page-Dumroese, Deborah S.; Hardegree, Stuart P. 2016. *Journal of Arid Environments*. 125: 8–15. <http://www.treesearch.fs.fed.us/pubs/49636>.

Cheatgrass die-offs as an opportunity for restoration in the Great Basin, USA: Will local or commercial native plants succeed where exotic invaders fail? Baughman, Owen W.; Meyer, Susan E.; Aanderud, Zachary T.; Leger, Elizabeth A. 2016. *Journal of Arid Environments*. 124: 193–204. <http://www.treesearch.fs.fed.us/pubs/49559>.

Consequences of pre-inoculation with native arbuscular mycorrhizae on root colonization and survival of *Artemisia tridentata* ssp. *wyomingensis* (Wyoming big sagebrush) seedlings after transplanting. Davidson, Bill Eugene. 2015. Boise, ID: Boise State University. Thesis. 104 p. <http://www.treesearch.fs.fed.us/pubs/49680>.

Establishing big sagebrush and other shrubs from planting stock. Shaw, Nancy L.; Halford, Anne; McAdoo, J. Kent. 2015. Great Basin Factsheet Series. Number 8. Collaboratively published by Joint Fire Science Program, Great Basin Fire Science Exchange, Great Basin Research and Management Partnership, Great Basin Landscape Conservation Cooperative, and SageSTEP Treatment Evaluation Project. 6 p. <http://www.treesearch.fs.fed.us/pubs/49577>.

Grassland to shrubland state transitions enhance carbon sequestration in the northern Chihuahuan Desert. Petrie, M.D.; Collins, S.L.; Swann, A.M.; Ford, P.L.; Litvak, M.E. 2015. *Global Change Biology*. 21: 1226–1235. <http://www.treesearch.fs.fed.us/pubs/47836>.

Inferring ancestral distribution area and survival vegetation of *Caragana* (Fabaceae) in Tertiary. Zhang, Mingli; Xue, Juanjuan; Zhang, Qiang; Sanderson, Stewart C. 2015.

Plant Systematics and Evolution. doi: 10.1007/s00606-015-1196-z. <http://www.treesearch.fs.fed.us/pubs/49581>.

Insights into transcriptomes of Big and Low sagebrush. Huynh, Mark D.; Page, Justin T.; Richardson, Bryce A.; Udall, Joshua A. 2015. *PLoS ONE*. doi: 10.1371/journal.pone.0127593.s001. <http://www.treesearch.fs.fed.us/pubs/48949>.

Mating-type locus characterization and variation in *Pyrenophora semeniperda*. Henry, Julie Leanna. 2015. Provo, UT: Brigham Young University. Thesis. 37 p. <http://www.treesearch.fs.fed.us/pubs/49558>.

Molecular biogeography of tribe Thermopsidae (Leguminosae): a Madrean-Tethyan disjunction pattern with an African origin of core genistoides. Zhang, Ming-Li; Huang, Jian-Feng; Sanderson, Stewart C.; Yan, Ping; Wu, Yu-H; Pan, Bo-Rong. 2015. *BioMed Research International*. 2015: Article ID 864804. <http://www.treesearch.fs.fed.us/pubs/49583>.

Multiple model mimicry and feeding behavior of the spider web-inhabiting damsel bug, *Arachnocoris berytoides* Uhler (Hemiptera: Nabidae), from Puerto Rico. Mercado, Javier E.; Santiago-Blay, Jorge A. 2015. *Life: The Excitement of Biology*. 3(1): 20–32. <http://www.treesearch.fs.fed.us/pubs/49585>.

Mycelial growth rate and toxin production in the seed pathogen *Pyrenophora semeniperda*: resource trade-offs and temporally varying selection. Meyer, S.E.; Masi, M.; Clement, S.; Davis, T.L.; Beckstead, J. 2015. *Plant Pathology*. doi: 10.1111/ppa.12377. <http://www.treesearch.fs.fed.us/pubs/49131>.

Putting resilience and resistance concepts into practice. Chambers, J.C.; Maestas, Jeremy D.; Pellant, Mike. 2015. Great Basin Factsheet Series. Number 1. Collaboratively published by Joint Fire Science Program, Great Basin Fire Science Exchange, Great Basin Research and Management Partnership, Great Basin Landscape Conservation Cooperative, and

Journals and Other Publications

SageSTEP Treatment Evaluation Project. 6 p. <http://www.treesearch.fs.fed.us/pubs/49576>.

Quantifying "apparent" impact and distinguishing impact from invasiveness in multispecies plant invasions. Pearson, Dean E.; Ortega, Yvette K.; Eren, Ozkan; Hierro, Jose L. 2015. *Ecological Applications*. doi: <http://dx.doi.org/10.1890/14-2345.1>. <http://www.treesearch.fs.fed.us/pubs/48682>.

Survey for *Armillaria* by plant associations in northern Arizona. Hoffman, Christ W.; Mathiasen, Robert L.; Hofstetter, Richard W.; Fairweather, Mary Lou; Shaw, John D.; Hanna, John W. 2014. *Journal of the Arizona-Nevada Academy of Science*. 45(2): 76–86. <http://www.treesearch.fs.fed.us/pubs/48950>.

Young dispersal of xerophil *Nitraria* lineages in inter-continental disjunctions of the Old World. Zhang, Ming-Li; Temirbayeva, Kamshat; Sanderson, Stewart C.; Chen, X. 2015. *Scientific Reports*. 5: 13840. <http://www.treesearch.fs.fed.us/pubs/49582>.

Human dimensions

Adapting to wildfire: rebuilding after home loss. Mockrin, Miranda H.; Stewart, Susan I.; Radeloff, Volker C.; Hammer, Roger B.; Alexandre, Patricia M. 2015. *Society and Natural Resources: An International Journal*. 28(8): 839–856. <http://www.treesearch.fs.fed.us/pubs/49020>.

Catching fire? Social interactions, beliefs, and wildfire risk mitigation behaviors. Dickinson, Katherine; Brenkert-Smith, Hannah; Champ, Patricia; Flores, Nicholas. 2015. *Society and Natural Resources: An International Journal*. 28(8): 807–824. <http://www.treesearch.fs.fed.us/pubs/48874>.

Climate change beliefs and hazard mitigation behaviors: homeowners and wildfire risk. Brenkert-smith, Hannah; Meldrum, James R.; Champ, Patricia A. 2015. *Environmental Hazards*. <http://dx.doi.org/10.1080/17477891.2015.1080656>. <http://www.treesearch.fs.fed.us/pubs/49557>.

Earth, wind, and fire: wildfire risk perceptions in a hurricane-prone environment. Newman, Soren M.; Carroll, Matthew S.; Jakes, Pamela J.; Williams, Daniel R.; Higgins, Lorie L. 2014. *Society and Natural Resources*. 27: 1161–1176. <http://www.treesearch.fs.fed.us/pubs/46414>.

Exploring how alternative mapping approaches influence fire assessment and human community exposure to wildfire. Scott, Joe H.; Thompson, Matthew P.; Gilbertson-Day, Julie W. 2015. *GeoJournal*. 15 p. doi: 10.1007/s10708-015-9679-6. <http://www.treesearch.fs.fed.us/pubs/49566>.

Paths more traveled: predicting future recreation pressures on America's national forests and grasslands—a Forests on the Edge report. English, D.B.K.; Froemke, P.; Hawkos, K. 2014. FS-1034. Washington, DC: U.S. Department of Agriculture, Forest Service. 36 p. <http://www.treesearch.fs.fed.us/pubs/49553>.

Understanding gaps between the risk perceptions of wildland-urban interface (WUI) residents and wildfire professionals. Meldrum, James R.; Champ, Patricia A.; Brenkert-Smith, Hannah; Warziniack, Travis; Barth, Christopher M.; Falk, Lilia C. 2015. *Risk Analysis*. doi: 10.1111/risa.12370. <http://www.treesearch.fs.fed.us/pubs/48876>.

Inventory, monitoring and analysis

Disentangling forest change from forest inventory change: a case study from the US Interior West. Goeking, Sara A. 2015. *Journal of Forestry*. 113(5): 475–483. <http://www.treesearch.fs.fed.us/pubs/49462>.

Imputing forest structure attributes from stand inventory and remotely sensed data in western Oregon, USA. Hudak, Andrew T.; Haren, A. Tod; Crookston, Nicholas L.; Liebermann, Robert J.J.; Ohmann, Janet L. 2014. *Forest Science*. 60(2): 253–269. <http://www.treesearch.fs.fed.us/pubs/47746>.

Manual de control de calidad del Inventario Forestal Nacional (IFN) [Quality control manual of the National Forest Inventory (NFI)]. Barbosa, P.; Herrera, F.; Goeking,

Journals and Other Publications

S.; Nieto, V.; Pena, M.; Ortiz, S. 2014. Bogota D.C., Colombia: IDEAM. 40 p. <http://www.treesearch.fs.fed.us/pubs/49460>.

The national forest inventory in China: history, results, international context. Zeng, WeiSheng; Tomppo, Erkki; Healey, Sean P.; Gadow, Klaus V. 2015. *Forest Ecosystems*. 2: 23. <http://www.treesearch.fs.fed.us/pubs/49071>.

Novel Kalman filter algorithm for statistical monitoring of extensive landscapes with synoptic sensor data. Czaplowski, Raymond L. 2015. *Sensors*. 15: 23589–23617. <http://www.treesearch.fs.fed.us/pubs/49461>.

Temporal transferability of LiDAR-based imputation of forest structure attributes. Fekety, Patrick A.; Falkowski, Michael J.; Hudak, Andrew T. 2015. *Canadian Journal of Forest Research*. 45: 422–435. <http://www.treesearch.fs.fed.us/pubs/49461>.

Science application and integration

A chance-constrained programming model to allocate wildfire initial attack resources for a fire season. Wei, Yu; Bevers, Michael; Belval, Erin; Bird, Benjamin. 2015. *Forest Science*. 61(2): 278–288. <http://www.treesearch.fs.fed.us/pubs/47944>.

Conservation genetics and geographic patterns of genetic variation of the endangered officinal herb *Fritillaria pallidiflora*. Su, Zhihao; Pan, Borong; Sanderson, Stewart C.; Jiang, Xiaolong; Zhang, Mingli. 2015. *Nordic Journal of Botany*. 33: 506–512. <http://www.treesearch.fs.fed.us/pubs/49579>,

Conservation genetics and geographic patterns of genetic variation of the vulnerable officinal herb *Fritillaria walujewii* (Liliaceae). Su, Zhihao; Pan, Borong; Sanderson, Stewart C.; Shi, Xiaojun; Jiang, Xiaolong. 2015. *Australian Journal of Botany*. 63: 467–476. <http://www.treesearch.fs.fed.us/pubs/49580>.

Designing seasonal initial attack resource deployment and dispatch rules using a two-stage stochastic program-

ming procedure. Wei, Yu; Bevers, Michael; Belval, Erin J. 2015. *Forest Science*. 61. doi: <http://dx.doi.org/10.5849/forsci.14-182>. <http://www.treesearch.fs.fed.us/pubs/48945>.

Financial performance of a mobile pyrolysis system used to produce biochar from sawmill residues. Kim, Dongyeob; Anderson, Nathaniel McLean; Chung, Woodam. 2015. *Forest Products Journal*. 65(5/6): 189–197. <http://www.treesearch.fs.fed.us/pubs/49543>.

Hydrothermal time models for conidial germination and mycelial growth of the seed pathogen *Pyrenophora semeniperda*. Barth, Connor W.; Meyer, Susan E.; Beckstead, Julie; Allen, Phil S. 2015. *Fungal Biology*. 119: 720–730. <http://www.treesearch.fs.fed.us/pubs/49130>.

Integrating pixel- and polygon-based approaches to wild-fire risk assessment: application to a high-value watershed on the Pike and San Isabel National Forests, Colorado, USA. Thompson, Matthew P.; Gilbertson-Day, Julie W.; Scott, Joe H. 2015. *Environmental Modeling and Assessment*. doi: 10.1007/s10666-015-9469-z. <http://www.treesearch.fs.fed.us/pubs/48743>.

A mixed integer program to model spatial wildfire behavior and suppression placement decisions. Belval, Erin J.; Wei, Yu; Bevers, Michael. 2015. *Canadian Journal of Forest Research*. 45: 384–393. <http://www.treesearch.fs.fed.us/pubs/48943>.

Plant species coalition groups of Zion National Park: an individualistic, floristic alternative to vegetation classification. Ott, Jeffrey E.; Sanderson, Stewart C.; McArthur, E. Durant. 2015. *Monographs of the Western North American naturalist*. 8: 26–97. <http://www.treesearch.fs.fed.us/pubs/49560>.

Pyrenophoric acids B and C, two new phytotoxic sesquiterpenoids produced by *Pyrenophora semeniperda*. Masi, Marco; Meyer, Susan; Cimmino, Alessio; Clement, Suzette; Black, Beth; Evidente, Antonio. 2014. *Journal of Agricultural*

Journals and Other Publications

and Food Chemistry. 62: 10304–10311. <http://www.treeseearch.fs.fed.us/pubs/49129>.

Representing climate, disturbance, and vegetation interactions in landscape models. Keane, Robert E.; McKenzie, Donald; Falk, Donald A.; Smithwick, Erica A.H.; Miller, Carol; Kellogg, Lara-Karena B. 2015. *Ecological Modelling*. 309–310: 33–47. <http://www.treeseearch.fs.fed.us/pubs/48772>.

Soils [Chapter 4.2]. Neary, Daniel G.; Langeveld, Johannes W.A. 2015. In: Schweinle, J., ed. *Assessing the Environmental Performance of Bioenergy Supply Chains*. Report 2015:TR01. International Energy Agency, Bioenergy Task 43: 58–77. <http://www.treeseearch.fs.fed.us/pubs/49642>.

Structurally based analytic model of growth and biomass dynamics in single species stands of conifers. Tausch, Robin J. 2015. *Natural Resource Modeling* 28(3): 289–320. <http://www.treeseearch.fs.fed.us/pubs/49578>.

Targeted sequencing of plant genomes. Huynh, Mark D. 2014. Provo, UT: Brigham Young University. Thesis. 59 p. <http://www.treeseearch.fs.fed.us/pubs/48948>.

Wilderness research

Fifty years of wilderness science: an international perspective. Carver, Steve; McCool, Steve; Krenova, Zdenka; Fisher, Mark; Woodley, Stephen. 2014. *International Journal of Wilderness*. 20(2): 36–42. <http://www.treeseearch.fs.fed.us/pubs/49073>.

Performing leisure, making place: wilderness identity and representation in online trip reports [Chapter 16]. Williams, Daniel R.; Champ, Joseph G. 2015. In: Gammon, S.; Elkington, S., eds. *Landscapes in leisure: Space, place and identities*. Palgrave-Macmillan: 220–232. <http://www.treeseearch.fs.fed.us/pubs/49568>.

Perspectives from the Aldo Leopold Wilderness Research Institute: the Wildland Research institute. Bowker, J.M.; Cordell, H. Ken; Poudyal, Neelam C. 2014. *International Jour-*

nal of Wilderness. 20(2): 34–35. <http://www.treeseearch.fs.fed.us/pubs/49072>.

The relationship between perceptions of wilderness character and attitudes toward management intervention to adapt biophysical resources to a changing climate and nature restoration at Sequoia and Kings Canyon National Parks. Watson, Alan; Martin, Steve; Christensen, Neal; Fauth, Gregg; Williams, Dan. 2015. *Environmental Management*. 56: 653–663. <http://www.treeseearch.fs.fed.us/pubs/49567>.

Valuing values: A history of wilderness economics. Bowker, J.M.; Cordell, H.K.; Poudyal, N.C. 2014. *International Journal of Wilderness* 20(2): 26–33. <http://www.treeseearch.fs.fed.us/pubs/48057>.

Wildlife and terrestrial habitats

Avian abundance thresholds, human-altered landscapes, and the challenge of assemblage-level conservation. Gutzwiller, Kevin J.; Riffell, Samuel K.; Flather, Curtis H. 2015. *Landscape Ecology*. doi: 10.1007/s10980-015-0233-1. <http://www.treeseearch.fs.fed.us/pubs/49206>.

Bird diversity and environmental heterogeneity in North America: a test of the area-heterogeneity trade-off. Chocron, Rachel; Flather, Curtis H.; Kadmon, Ronen. 2015. *Global Ecology and Biogeography*. doi: 10.1111/geb.12353. <http://www.treeseearch.fs.fed.us/pubs/49202>.

Black-tailed prairie dog (*Cynomys ludovicianus*) response to seasonality and frequency of fire. Archuleta, Felicia D. 2014. Las Vegas, NM: New Mexico Highlands University. Thesis. 90 p. <http://www.treeseearch.fs.fed.us/pubs/49547>.

Breeding dispersal of Mexican Spotted Owls in the Sacramento Mountains, New Mexico. Schwartz, Michael K.; DeCesare, Nicholas J.; Jimenez, Benjamin S.; Copeland, Jeffrey P.; Melquist, Wayne E.; Ward, James P., Jr. 2014. *The Wilson Journal of Ornithology*: 126(3): 516–524. <http://www.treeseearch.fs.fed.us/pubs/48664>.

Journals and Other Publications

Long-term avian community response to housing development at the boundary of US protected areas: effect size increases with time. Wood, Eric M.; Pidgeon, Anna M.; Radeloff, Volker C.; Helmers, David P.; Culbert, Patrick D.; Keuler, Nicholas S.; Flather, Curtis H. 2015. *Journal of Applied Ecology*. doi: 10.1111/1365-2664.12492. <http://www.treesearch.fs.fed.us/pubs/49208>.

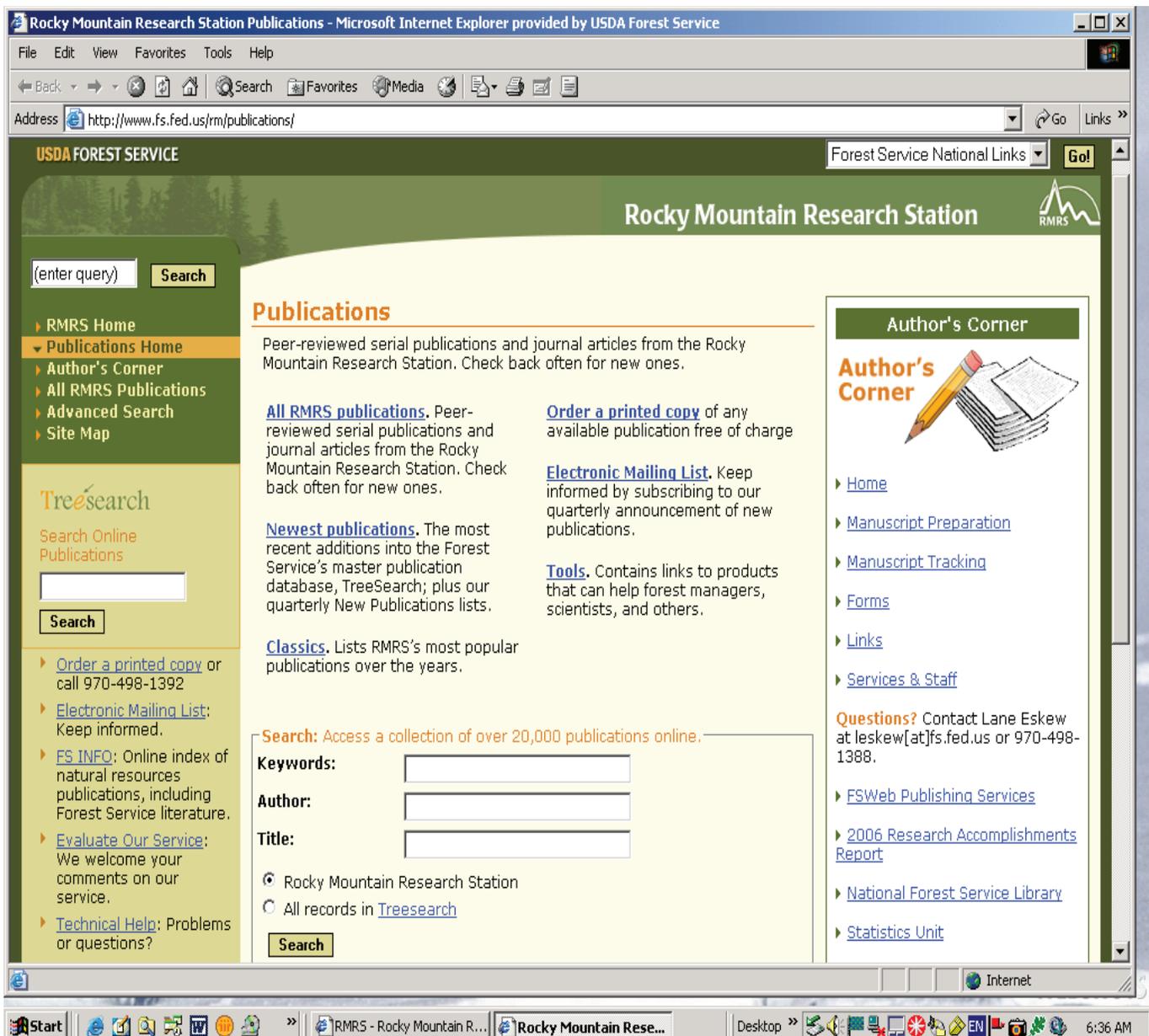
Movements vary according to dispersal stage, group size, and rainfall: the case of the African lion. Elliot, Nicholas B.; Cushman, Samuel A.; Loveridge, Andrew J.; Mtare, Godfrey; Macdonald, David W. 2014. *Ecology*. 95(10): 2860–2869. <http://www.treesearch.fs.fed.us/pubs/49113>.

Propagating native milkweeds for restoring Monarch butterfly habitat. Landis, Thomas D.; Dumroese, R. Kasten. 2015. In: *The International Plant Propagators' Society, combined proceedings (2014) 64*: 299–307. <http://www.treesearch.fs.fed.us/pubs/49193>.

Reproductive responses of an apex predator to changing climatic conditions. Salafsky, Susan Rebecca. 2015. Fort Collins, CO: Colorado State University. Dissertation. 131 p. <http://www.treesearch.fs.fed.us/pubs/49565>.

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Science Program Areas

Air, Water and Aquatic Environments

Air quality, water availability, water quality, and aquatic habitats are critical issues within the rapidly changing Western United States. The Air, Water and Aquatic Environments program is committed to the development of knowledge and science applications related to air and water quality, as well as the habitat quality, distribution, diversity, and persistence of fish and other aquatic species. Website: http://www.fs.fed.us/rm/boise/awae_home.shtml. Contact Frank McCormick, Program Manager, for more information: 208-373-4351.

Aldo Leopold Wilderness Research Institute

The Aldo Leopold Wilderness Research Institute aims to provide scientific leadership by bringing diverse groups of scientists and managers together to develop and use the knowledge needed to assure wilderness ecosystems and values endure for generations to come. Website: <http://leopold.wilderness.net>. Contact Susan Fox, Program Director, for more information: 406-542-4193.

Fire, Fuel and Smoke

The Fire, Fuel and Smoke program works to improve the safety and effectiveness of fire management through the creation and dissemination of basic fire science knowledge. The program investigates the impacts of fires on the environment by means of fundamental and applied research for understanding and predicting fire behavior, its effects on ecosystems, and its emissions into the atmosphere. Website: <http://www.firelab.org>. Contact Bret Butler, Acting Program Manager, for more information: 406-329-4801.

Forest and Woodland Ecosystems

Forests and woodlands are increasingly being impacted by large scale urbanization and human developments, uncharacteristically large and severe wildfires, insect and disease outbreaks, exotic species invasions, and drought, and interactions of multiple stressors at local, landscape, and regional scales. The Forest and Woodland Ecosystems program acquires, develops, and delivers the scientific knowledge for sustaining and restoring forests and woodlands landscape health, biodiversity, productivity, and ecosystem processes. Website: <http://www.fs.fed.us/rmrs/research/programs/forest-woodlands-ecosystem/>. Contact Alison Hill, Program Manager, for more information: 928-556-2105.

Grassland, Shrubland and Desert Ecosystems

Disruptions by large-scale clearing for agriculture, water diversions, extensive grazing, changes in the native fauna, the advent of alien weeds, altered fire regimes, and

increases in human-caused insect and disease epidemics have contributed to produce areas that are in unsuitable condition. The Grassland, Shrubland and Desert Ecosystems program addresses the biology, use, management, and restoration of these grass and shrublands. Website: <http://www.fs.fed.us/rmrs/research/programs/grassland-shrubland-desert/>. Contact Debbie Finch, Program Manager, for more information: 505-724-3671.

Human Dimensions

The Human Dimensions program provides social and economic science based innovation to human societies as they develop a sustainable relationship with their environment. Major issues confronting societies across the globe such as global climate change, energy, fire, water, and ecosystem services all have important social-economic dimensions that will be explored and addressed by this program. Website: <http://www.fs.fed.us/rmrs/research/programs/social-economics-decision/>. Contact Dan Williams, Acting Program Manager, for more information: 970-498-2561.

Inventory, Monitoring and Analysis

The Inventory, Monitoring and Analysis program provides the resource data, analysis, and tools needed to effectively identify current status and trends, management options and impacts, and threats and impacts of fire, insects, disease, and other natural processes. Website: <http://www.fs.fed.us/rm/ogden/>. Contact Michael Wilson, Program Manager, for more information: 801-625-5407.

Science Application and Integration

The Science Application and Integration program is a knowledge transfer unit that provides leadership for the integration and use of scientific information in natural resource planning and management across the Interior West. Website: <http://www.fs.fed.us/rm/science-application-integration/>. Contact Jan Engert, Assistant Station Director, for more information: 970-498-1377.

Wildlife and Terrestrial Ecosystems

The Wildlife and Terrestrial Ecosystems program is engaged in sustaining species and ecosystems of concern through studies of ecological interactions within and between plant, aquatic, and terrestrial animal communities; understanding public use effects through studies elucidating social and economic values associated with consumptive and non-consumptive uses of fish and wildlife; managing terrestrial and aquatic habitats; and evaluating outcomes of land and water uses and natural disturbances. Website: <http://www.rmrs.nau.edu/wildlife/>. Contact William Block, Program Manager, for more information: 928-556-2161.

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