



# Rocky Mountain Research Station New Publications

July to September 2013

*Integrated Science Working for You*



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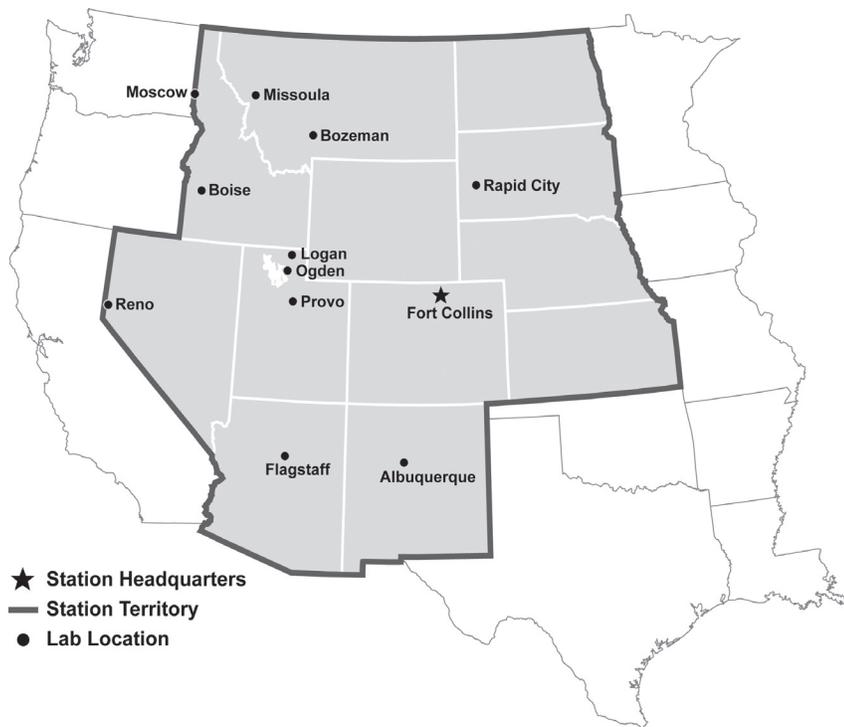
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## The Rocky Mountain Research Station



The Rocky Mountain Research Station is one of five regional units that make up the US Forest Service Research and Development organization—the most extensive natural resources research organization in the world. 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 over 400 permanent full-time employees, including roughly 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 BLM 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. The 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.



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## New RMRS Series Publications

### Southern Nevada land management: SNAP

Online only

**The Southern Nevada Agency Partnership Science and Research Synthesis: Science to support land management in Southern Nevada.** Chambers, Jeanne C.; Brooks, Matthew L.; Pendleton, Burton K.; Raish, Carol B., eds. 2013. Gen. Tech. Rep. RMRS-GTR-303. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 207 p. **NOTE:** This publication is available only on our website. Paper copies are not available.

This synthesis provides information related to the Southern Nevada Agency Partnership (SNAP) Science and Research Strategy Goal 1 - to restore, sustain and enhance southern Nevada's ecosystems - and Goal 2 - to provide for responsible use of southern Nevada's lands in a manner that preserves heritage resources and promotes an understanding of human interaction with the landscape. The Science and Research Strategy has nine Sub-goals that address the topics of water and water use, fire, invasive species, biological diversity, restoration, cultural resources, historic content, recreation, and science-based management. This synthesis summarizes the state-of-knowledge related to each of these Sub-goals, addresses knowledge gaps, and provides management implications. It builds on previous efforts to develop the necessary scientific understanding for adaptive management of southern Nevada ecosystems.

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr303.html](http://www.fs.fed.us/rm/pubs/rmrs_gtr303.html).

### Southern Nevada land management: SNAP executive summary

Online only

**The Southern Nevada Agency Partnership Science and Research Synthesis: Science to support land management in Southern Nevada: Executive Summary.** Chambers, Jeanne C.; Brooks, Matthew L.; Pendleton, Burton K.; Raish, Carol B., eds. 2013. Gen. Tech. Rep. RMRS-GTR-304. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 79 p. **NOTE:** This publication is available only on our website. Paper copies are not available.

This synthesis provides information related to the Southern Nevada Agency Partnership (SNAP) Science and Research Strategy Goal 1 - to restore, sustain and enhance southern Nevada's ecosystems - and Goal 2 - to provide for responsible use of southern Nevada's lands in a manner that preserves heritage resources and promotes an understanding of human interaction with the landscape. The Science and Research Strategy has nine Sub-goals that address the topics of water and water use, fire, invasive species, biological diversity, restoration, cultural resources, historic content, recreation, and science-based management. This synthesis summarizes the state-of-knowledge related to each of these Sub-goals, addresses knowledge gaps, and provides management implications. It builds on previous efforts to develop the necessary scientific understanding for adaptive management of southern Nevada ecosystems.

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr304.html](http://www.fs.fed.us/rm/pubs/rmrs_gtr304.html).

**Climate change and Southwest species vulnerability**

Order 38

**Vulnerability of Species to climate change in the Southwest: Terrestrial species of the Middle Rio Grande.** Friggens, Megan M.; Finch, Deborah M.; Bagne, Karen E.; Coe, Sharol J.; Hawksworth, David L. 2013. Gen. Tech. Rep. RMRS-GTR-306. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 191 p.

We used a vulnerability scoring system to assess the vulnerability of 117 vertebrate species that occur in the Middle Rio Grande Bosque (MRGB) to expected climate change. The purpose of this project was to guide wildlife managers on options and considerations for climate change adaptation. The 117 species occur regularly in the MRGB during the breeding season, winter, or year-round. In general, future climate scenarios predict warmer temperatures with an altered precipitation regime that will likely lead to reduced water levels in the MRGB. This assessment points to several key issues relating to future habitat changes and individual species physiology that are expected to affect species survival under climate change. Decreased availability of mesic sites is expected to directly impact many amphibian and reptile populations and is expected to have indirect effects for birds and mammals primarily through changes in habitat availability. We predicted that phenological changes will negatively impact many species within all taxonomic groups through altered timing of weather events and river flow. Riparian-dependent species received some of the highest vulnerability scores. Species already at the southern limit of their distributional range were also predicted to be more likely to be vulnerable to climate change. The assessment also identified important data gaps. Management for species conservation under future climate conditions will require increased research and monitoring, greater integration of landscape-scale approaches, consideration of future land-use scenarios, and increased understanding of the consequences of species' interactions. We review the specific implications of climate change for wildlife in the MRGB in order to identify intervention points and approaches that may achieve management goals.

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr306.html](http://www.fs.fed.us/rm/pubs/rmrs_gtr306.html)

**Post-fire erosion mitigation treatment: Wood shred application**

Order 39

**Production and aerial application of wood shreds as a post-fire hillslope erosion mitigation treatment.** Robichaud, Peter R.; Ashmun, Louise E.; Foltz, Randy B.; Showers, Charles G.; Groenier, J. Scott. 2013. Gen. Tech. Rep. RMRS-GTR-307. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 31 p.

Guidelines for the production and aerial application of wood shred mulch as a post-fire hillslope treatment were developed from laboratory and field studies, several field operations, and the evaluations of professionals involved in those operations. At two early trial sites, the wood shred mulch was produced off-site and transported to the area of use. The same equipment and techniques used for aerial mulching with agricultural straw worked, with some adjustments in flight altitude and speed, for wood shreds. The Heli-Claw, an experimental device designed to replace the cargo net in aerial mulching, was tested and used to apply 80 percent of the wood shred mulch at the Beal Mountain mine reclamation site. Because wood shreds are four to six times heavier than agricultural straw, wood shred mulch took longer to apply than agricultural straw for the same area (25 to 35 ac [10 to 14 ha] per day for wood shreds; approximately 200 ac [81 ha] per day for straw). The additional flight time makes mulching with wood shreds cost three to four times more than with agricultural straw (\$1700 to \$2200 per ac [\$4200 to \$5500 per ha] for wood shreds; \$500 to \$700 per acre [\$1200 to 1700 per ha] for straw). However, the advantages of wood shreds - on- or near-site availability, greater stability in high winds and on steep slopes, and lack of unwanted plant seeds from off-site - make wood shred mulch useful in areas where agricultural straw mulch may not be desirable.

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr307.html](http://www.fs.fed.us/rm/pubs/rmrs_gtr307.html)

### Climate change and Southwest species vulnerability

Order 40

**Review and recommendations for climate change vulnerability assessment approaches with examples from the Southwest.** Friggens, M.; Bagne, K.; Finch, D.; Falk, D.; Triepke, J.; Lynch, A. 2013. Gen. Tech. Rep. RMRS-GTR-309. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 106 p.

Climate change creates new challenges for resource managers and decision-makers with broad and often complex effects that make it difficult to accurately predict and design management actions to minimize undesirable impacts. We review pertinent information regarding methods and approaches used to conduct climate change vulnerability assessments to reveal assumptions and appropriate application of results. Secondly, we provide managers with an updated summary of knowledge regarding vulnerability of species and habitats to climate change in the American Southwest. Overall, vulnerability assessments provided valuable information on climate change effects and possible management actions but were far from a comprehensive picture for the future of the Southwest. Scales, targets, and assessment approaches varied widely and focused on only a subset of resources. We recommend land managers critically examine methods when using assessment results; select scale, methods, and targets carefully when planning new assessments; and communicate assessment needs to researchers of climate change response.

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr309.html](http://www.fs.fed.us/rm/pubs/rmrs_gtr309.html).

### Southwestern frequent-fire forests

Order 41

**Restoring composition and structure in Southwestern frequent-fire forests: A science-based framework for improving ecosystem resiliency.** Reynolds, Richard T.; Sánchez Meador, Andrew J.; Youtz, James A.; Nicolet, Tessa; Matonis, Megan S.; Jackson, Patrick L.; DeLorenzo, Donald G.; Graves, Andrew D. 2013. Gen. Tech. Rep. RMRS-GTR-310. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 76 p.

Ponderosa pine and dry mixed-conifer forests in the Southwest United States are experiencing, or have become increasingly susceptible to, large-scale severe wildfire, insect, and disease episodes resulting in altered plant and animal demographics, reduced productivity and biodiversity, and impaired ecosystem processes and functions. We present a management framework based on a synthesis of science on forest ecology and management, reference conditions, and lessons learned during implementations of our restoration framework. Our framework focuses on the restoration of key elements similar to the historical composition and structure of vegetation in these forests: (1) species composition; (2) groups of trees; (3) scattered individual trees; (4) grass-forb-shrub interspaces; (5) snags, logs, and woody debris; and (6) variation in the arrangements of these elements in space and time. Our framework informs management strategies that can improve the resiliency of frequent-fire forests and facilitate the resumption of characteristic ecosystem processes and functions by restoring the composition, structure, and spatial patterns of vegetation. We believe restoration of key compositional and structural elements on a per-site basis will restore resiliency of frequent-fire forests in the Southwest, and thereby position them to better resist, and adapt to, future disturbances and climates.

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr310.html](http://www.fs.fed.us/rm/pubs/rmrs_gtr310.html).

## Madrean Archipelago III Proceedings

Order **42**

**Merging science and management in a rapidly changing world: Biodiversity and management of the Madrean Archipelago III and 7th Conference on Research and Resource Management in the Southwestern Deserts;** 2012 May 1-5; Tucson, AZ. Gottfried, Gerald J.; Ffolliott, Peter F.; Gebow, Brooke S.; Eskew, Lane G.; Collins, Loa C., comps. 2013. Proc. RMRS-P-67. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 593 p.

The Madrean Archipelago or Sky Islands region of the southwestern United States and northern Mexico is recognized for its unique biological diversity, natural beauty, and cultural heritage. This 2012 conference brought together scientists, managers, students, and other interested parties from the United States and Mexico to share their knowledge and passion about the region and to identify needs and creative solutions for existing and emerging problems. More than 300 people attended the conference including a large and energetic contingent from northern Mexico. The conference provided a forum to update the state-of-knowledge that has evolved since the first conference in 1994 and the second conference in 2004. It also provided a setting for the formation of new friendships and partnerships. These proceedings contain 80 of the 190 oral and poster presentations and all abstracts from the plenary sessions and the concurrent sessions. Abstracts in Spanish are included. Topics include climate change in the Sky Island Region, southwestern cienegas, the Northern Jaguar Reserve, amphibian conservation, biodiversity of plants and animals, fire effects, grasslands, and human impacts, and tools. The conference hosted a symposium about Santa Cruz River Watershed Conservation. A lively open forum at the end of the conference generated a list of future scientific and management needs for the Madrean Archipelago and a commitment to increase international cooperation. Mexican participants graciously offered to host the next conference, Speakers stressed the importance for all interested parties to collaborate - to work side-by-side and constantly inform one another about relevant research, timely events, and cross-pollination opportunities throughout the region.

### Madrean proceedings papers by RMRS authors:

- Preliminary assessment of species richness and avian community dynamics in the Madrean Sky Islands, Arizona. Jamie S. Sanderlin, William M. Block, Joseph L. Ganey, and Jose M. Iniguez.
- Soil erosion and deposition before and after fire in oak savannas. Peter F. Ffolliott, Gerald J. Gottfried, Hui Chen, Aaron T. Kauffman, Cody L. Stropki, and Daniel G. Neary.
- Ecology and management of oak woodlands and savannas in the southwestern borderlands region. Gerald J. Gottfried, Peter F. Ffolliott.
- Effects of prescribed fires and a wildfire on biological resources of oak savannas in the Petoncillo Mountains, New Mexico. Gerald J. Gottfried, Peter F. Ffolliott, and Daniel G. Neary.
- Post-wildfire erosion in the Chiricahua Mountains. Ann Youberg, Daniel G. Neary.
- Mountain pine beetle in southwestern white pine in the Pinaleño Mountains. Ann M. Lynch, Christopher D. O'Connor.

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_p067.html](http://www.fs.fed.us/rm/pubs/rmrs_p067.html).

**Mexican spotted owl:  
Long-distance breeding  
dispersal**

Online only

**An apparent case of long-distance breeding dispersal by a Mexican spotted owl in New Mexico.** Ganey, Joseph L.; Jenness, Jeffrey S. 2013. Res. Note RMRS-RN-53WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 5 p.

The Mexican spotted owl (*Strix occidentalis lucida*) is widely but patchily distributed throughout the southwestern United States and the Republic of Mexico (Gutiérrez and others 1995, Ward and others 1995). This owl typically occurs in either rocky canyonlands or forested mountain and canyon systems containing mixed-conifer or pine-oak (*Pinus* spp. - *Quercus* spp.) forests, and its distribution mirrors the availability of such areas (Ganey and Dick 1995, Ward and others 1995, USDI FWS 2012). Gene flow is known to occur across this fragmented range (Barrowclough and others 2006), but the mechanisms facilitating gene flow are poorly understood. Natal dispersal between disjunct mountain ranges and populations has been documented for dispersing juvenile Mexican spotted owls (Gutiérrez and others 1996, Arsenault and others 1997, Ganey and others 1998, Willey and van Riper 2000, Duncan and Speich 2002). In contrast, there are no documented records of breeding dispersal (defined as movement of a non-juvenile owl between territories where it had the opportunity to breed, regardless of whether or not breeding occurred on these territories [Daniels and Walters 2000]) by non-juvenile owls. Thus, the potential role of breeding dispersal in gene flow within the range of this owl is unknown.

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_rn053.html](http://www.fs.fed.us/rm/pubs/rmrs_rn053.html).

**Turbidity changes  
during culvert to bridge  
upgrades**

Order 43

**Turbidity changes during culvert to bridge upgrades at Carmen Creek, Idaho.** Foltz, Randy B.; Westfall, Breann; Kopyscianski, Ben. 2013. Res. Note RMRS-RN-54. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 12 p.

Forest Service, BLM, and state forest roads provide access for timber harvest and recreational use. Culverts used on these roads were historically designed to convey water under the road with little attention given to passage of aquatic organisms. In the past decade or so, driven largely by the Endangered Species Act listing of various salmonids in the Pacific Northwest, managers have designed and installed culverts to accommodate passage of aquatic species. Many existing culverts designed under the old criteria are impediments to passage and are replaced with culverts or bridges designed to accommodate aquatic species passage. Managers weigh the short-term negative impacts of sediment in the stream during culvert replacement against the positive long-term impacts of improved passage when considering which culverts to replace.

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_rn054.html](http://www.fs.fed.us/rm/pubs/rmrs_rn054.html)

**Wildland fire  
management**

Order 44

**Assessing high reliability practices in wildland fire management: An exploration and benchmarking of organizational culture.** Black, Anne E.; McBride, Brooke Baldauf. 2013. Res. Note RMRS-55. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 17 p.

In an effort to improve organizational outcomes, including safety, in wildland fire management, researchers and practitioners have turned to a domain of research on organizational performance known as High Reliability Organizing (HRO). The HRO paradigm emerged in the late 1980s in an effort to identify commonalities among organizations that function under hazardous conditions but experience fewer than their fair share of adverse events (see for instance: Klein and others 1995; Weick and others 1999; Weick and Sutcliffe 2001; Sutcliffe 2011).

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_rn055.html](http://www.fs.fed.us/rm/pubs/rmrs_rn055.html)

## Ignition by rifle bullets

Order 45

**A study of ignition by rifle bullets.** Finney, Mark A.; Maynard, Trevor B.; McAllister, Sara S.; Grob, Ian J. 2013. Res. Pap. RMRS-RP-104. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 31 p.

Experiments were conducted to examine the potential for rifle bullets to ignite organic matter after impacting a hard surface. The tests were performed using a variety of common cartridges (7.62x51, 7.62x39, 7.62x54R, and 5.56x45) and bullet materials (steel core, lead core, solid copper, steel jacket, and copper jacket). Bullets were fired at a steel plate that deflected fragments downward into a collection box containing oven-dried peat moss. We found that bullets could reliably cause ignitions, specifically those containing steel components (core or jacket) and those made of solid copper. Lead core-copper jacketed bullets caused one ignition in these tests. Ignitions of peat also occurred with a small set of tests using solid copper bullets and a granite target. Thermal infra-red video and temperature sensitive paints suggested that the temperature of bullet fragments could exceed 800°C. Bullet fragments collected from a water tank were larger for solid copper and steel core/jacketed bullets than for lead core bullets, which also facilitate ignition. Physical processes are reviewed with the conclusion that kinetic energy of bullets is transformed to thermal energy by plastic deformation and fracturing of bullets because of the high-strain rates during impact. Fragments cool rapidly but can ignite organic matter, particularly fine material, if very dry and close to the impact site.

Online: [http://www.fs.fed.us/rm/pubs/rmrs\\_rp104.html](http://www.fs.fed.us/rm/pubs/rmrs_rp104.html).

## Journals and Other Publications

Obtain the following publications through university libraries, the publisher, or other outlets. Forest Service employees may request these items from the National Forest Service Library at [FSLibrary-DocsFC@fs.fed.us](mailto:FSLibrary-DocsFC@fs.fed.us) or telephone: (970) 498-1205. We have also provided links to electronic copies when available.

### Air, water, and aquatic environments

**Climatic change and assisted migration: Strategic options for forest and conservation nurseries.** Williams, Mary I.; Dumroese, R. Kasten. 2013. *Forest Nursery Notes*. 33(2): 33-35. Online: <http://www.treesearch.fs.fed.us/pubs/43883>.

**Data processing technique for multiangle lidar sounding of poorly stratified polluted atmospheres: Theory and experiment.** Wold, Cyle E.; Kovalev, Vladimir A.; Petkov, Alexander P.; Hao, Wei Min. 2012. In: *Proceedings of the Aerosol and Atmospheric Optics: Visibility and Air Pollution Specialty Conference*; 24-28 September 2012; Whitefish, Montana. Extended Abstract #12. 6 p. Online: <http://www.treesearch.fs.fed.us/pubs/44341>.

**Design and evaluation of an inexpensive radiation shield for monitoring surface air temperatures.** Holden, Zachary A.; Klene, Anna E.; Keefe, Robert F.; Moisen, Gretchen G. 2013. *Agricultural and Forest Meteorology*. 180: 281-286. Online: <http://www.treesearch.fs.fed.us/pubs/44116>.

**The effects of climate change on terrestrial birds of North America.** King, D.; Finch, D.M. 2013. U.S. Department of

Agriculture, Forest Service, Climate Change Resource Center. Online: <http://www.treesearch.fs.fed.us/pubs/44357>.

**Effects of climatic gradients on genetic differentiation of *Caragana* on the Ordos Plateau, China.** Yang, Jiuyan; Cushman, Samuel A.; Yang, Jie; Yang, Mingbo; Bao, Tiejun. 2013. *Landscape Ecology*. doi: 10.1007/s10980-013-9913-x. Online: <http://www.treesearch.fs.fed.us/pubs/45077>.

**Emissions tradeoffs associated with cofiring forest biomass with coal: A case study in Colorado, USA.** Loeffler, Dan; Anderson, Nathaniel. 2013. *Applied Energy* 113: 67-77. Online: <http://www.treesearch.fs.fed.us/pubs/44222>.

**Experimental forest watershed studies contribution to the effect of disturbances on water quality.** Neary, Daniel G. 2012. *Hydrology and Water Resources in Arizona and the Southwest*. 42: 61-76. Online: <http://www.treesearch.fs.fed.us/pubs/44912>.

**Flood pulse trophic dynamics of larval fishes in a restored arid-land, river-floodplain, Middle Rio Grande, Los Lunas, New Mexico.** Magana, Hugo A. 2013. *Reviews in Fish Biology and Fisheries*. doi: 10.1007/s11160-013-9313-y. Online: <http://www.treesearch.fs.fed.us/pubs/44488>.

- Integrating biodiversity and drinking water protection goals through geographic analysis.** Wickham, James D.; Flather, Curtis H. 2013. *Diversity and Distributions*. 19: 1198-1207. Online: <http://www.treesearch.fs.fed.us/pubs/44717>.
- Interactive effects of wildfire, forest management, and isolation on amphibian and parasite abundance.** Hossack, B.R.; Lowe, W.H.; Honeycutt, R.K.; Parks, S.A.; Corn, P.S. 2013. *Ecological Applications*. 23: 479-492. Online: <http://www.treesearch.fs.fed.us/pubs/44946>.
- Long-term forest watershed studies in the Southwest: Recycled for wildfire and prescribed fire.** Neary, Daniel G.; Gottfried, Gerald J.; Ffolliott, Peter F.; Poff, Boris. 2012. *Hydrology and Water Resources in Arizona and the Southwest*. 42: 55-60. Online: <http://www.treesearch.fs.fed.us/pubs/44903>.
- Measurements of reactive trace gases and variable O<sub>3</sub> formation rates in some South Carolina biomass burning plumes.** Akagi, S.K.; Yokelson, R.J.; Burling, I.R.; Meinardi, S.; Simpson, I.; Blake, D.R.; McMeeking, G.R.; Sullivan, A.; Lee, T.; Kreidenweis, S.; Urbanski, S.; Reardon, J.; Griffith, D.W.T.; Johnson, T.J.; Weise, D.R. 2013. *Atmospheric Chemistry and Physics*. 13: 1141-1165. Online: <http://www.treesearch.fs.fed.us/pubs/43426>.
- Monitoring the effects of air-quality on forests: An overview of the Sierra Ancha Experimental Forest ICP-Level II site.** Koestner, Peter E.; Koestner, Karen A.; Neary, Daniel G. 2012. *Hydrology and Water Resources in Arizona and the Southwest*. 42: 21-26. Online: <http://www.treesearch.fs.fed.us/pubs/44907>.
- An overview of the Sierra Ancha Experimental Forest's role in the free-air CO<sub>2</sub> enrichment large wood decomposition experiment.** Koestner, Peter E.; Koestner, Karen; Neary, Daniel G.; Trettin, Carl C. 2012. *Hydrology and Water Resources in Arizona and the Southwest*. 42: 9-12. Online: <http://www.treesearch.fs.fed.us/pubs/44906>.
- Potential effects of climate change on streambed scour and risks to salmonid survival in snow-dominated mountain basins.** Goode, Jaime R.; Buffington, John M.; Tonina, Daniele; Isaak, Daniel J.; Thurow, Russell F.; Wenger, Seth; Nagel, David; Luce, Charlie; Tetzlaff, Doerthe; Soulsby, Chris. 2013. *Hydrological Processes*. 27: 750-765. Online: <http://www.treesearch.fs.fed.us/pubs/43353>.
- Preparing for climate change: Forestry and assisted migration.** Williams, Mary I.; Dumroese, R. Kasten. 2013. *Journal of Forestry*. 111(4): 287-297. Online: <http://www.treesearch.fs.fed.us/pubs/44260>.
- Probabilistic accounting of uncertainty in forecasts of species distributions under climate change.** Wenger, Seth J.; Som, Nicholas A.; Dauwalter, Daniel C.; Isaak, Daniel J.; Neville, Helen M.; Luce, Charles H.; Dunham, Jason B.; Young, Michael K.; Fausch, Kurt D.; Rieman, Bruce E. 2013. *Global Change Biology*. Accepted paper. doi: 10.1111/gcb.12294. Online: <http://www.treesearch.fs.fed.us/pubs/44180>.
- Projected freshwater withdrawals in the United States under a changing climate.** Brown, Thomas C.; Foti, Romano; Ramirez, Jorge A. 2013. *Water Resources Research*. 49: 1259-1276. Online: <http://www.treesearch.fs.fed.us/pubs/43837>.
- The Seven Springs Experimental Grassland watersheds.** Gottfried, Gerald J.; Ffolliott, Peter F. 2012. *Hydrology and Water Resources in Arizona and the Southwest*. 42: 17-20. Online: <http://www.treesearch.fs.fed.us/pubs/44908>.
- Slope-area thresholds of road-induced gully erosion and consequent hillslope-channel interactions.** Katz, Harry Alexander; Daniels, J. Michael; Ryan, Sandra. 2013. *Earth Surface Processes and Landforms*. doi: 10.1002/esp.3443. Online: <http://www.treesearch.fs.fed.us/pubs/45078>.
- Spatio-temporal variability of hyporheic exchange through a pool-riffle-pool sequence.** Gariglio, Frank P.; Tonina, Daniele; Luce, Charles H. 2013. *Water Resources Research*. Accepted paper. doi: 10.1002/wrcr.20419. Online: <http://www.treesearch.fs.fed.us/pubs/44181>.

## Fire, fuel, and smoke

- Assessing watershed-wildfire risks on National Forest System lands in the Rocky Mountain Region of the United States.** Thompson, M.P.; Scott, J.; Langowski, P.G.; Gilbertson-Day, J.W.; Haas, J.R.; Bowne, E.M. 2013. *Water*. 5(3): 945-971. Online: <http://www.treesearch.fs.fed.us/pubs/44909>.
- Bald Mountain Fire, Eagle Cap Wilderness Area, Wallowa-Whitman National Forest, FARSITE analysis.** Hollingsworth, LaWen. 2012. Missoula, MT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. 4 p. Online: <http://www.treesearch.fs.fed.us/pubs/44343>.
- Bald Mountain Fire long term fire assessment - V1.09/24/2012.** Fay, Bret; Hollingsworth, LaWen. 2012. Missoula, MT: United States Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. 20 p. Online: <http://www.treesearch.fs.fed.us/pubs/44344>.
- Coupling field and laboratory measurements to estimate the emission factors of identified and unidentified trace gases for prescribed fires.** Yokelson, R.J.; Burling, I.R.; Gilman, J.B.; Warneke, C.; Stockwell, C.E.; de Gouw, J.; Akagi, S.K.; Urbanski, S.P.; Veres, P.; Roberts, J.M.; Kuster, W.C.; Reardon, J.; Griffith, D.W.T.; Johnson, T.J.; Hosseini, S.; Miller, J.W.; Cocker, D.R.; Jung, H.; Weise, D.R. 2013. *Atmospheric Chemistry and Physics*. 13: 89-116. Online: <http://www.treesearch.fs.fed.us/pubs/44350>.
- Economics of fuel management: Wildfire, invasive plants, and the dynamics of sagebrush rangelands in the western United States.** Taylor, Michael H.; Rollins, Kimberly; Kobayashi, Mimako; Tausch, Robin J. 2013. *Journal of Environmental Management*. 126: 157-173. Online: <http://www.treesearch.fs.fed.us/pubs/44455>.
- Effect of crib dimensions on burning rate.** McAllister, S.; Finney, M. 2013. In: Bradley, D.; Makhviladze, G.; Molkov, V.; Sunderland, P.; Tamanini, F., eds. *Proceedings of the Seventh International Seminar on Fire and Explosion Hazards (ISFEH7)*. College Park, MD: University of Maryland, Research Publishing.

- doi: 10.3850/978-981-08-7724-8\_0x-0x. Online: <http://www.treesearch.fs.fed.us/pubs/44351>.
- Evaluating the effectiveness of wood shred and agricultural straw mulches as a treatment to reduce post-wildfire hillslope erosion in southern British Columbia, Canada.** Robichaud, P.R.; Jordan, P.; Lewis, S.A.; Ashmun, L.E.; Covert, S.A.; Brown, R.E. 2013. *Geomorphology*. 197: 21-33. Online: <http://www.treesearch.fs.fed.us/pubs/44231>.
- Examination of the wind speed limit function in the Rothermel surface fire spread model.** Andrews, Patricia L.; Cruz, Miguel G.; Rothermel, Richard C. 2013. *International Journal of Wildland Fire*. doi: <http://dx.doi.org/10.1071/WF12122>. Online: <http://www.treesearch.fs.fed.us/pubs/44352>.
- Fire Modeling Institute 2011 annual report.** Innes, Robin J. 2012. Missoula, MT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. Online: <http://www.treesearch.fs.fed.us/pubs/44342>.
- Integrated wildfire risk assessment: Framework development and application on the Lewis and Clark National Forest in Montana, USA.** Thompson, Matthew P.; Scott, Joe; Helmbrecht, Don; Calkin, Dave E. 2012. *Integrated Environmental Assessment and Management*. 9(2): 329-342. Online: <http://www.treesearch.fs.fed.us/pubs/44117>.
- Interactions among the mountain pine beetle, fires, and fuels.** Jenkins, Michael J.; Runyon, Justin B.; Fettig, Christopher J.; Page, Wesley G.; Bentz, Barbara J. 2013. *Forest Science*. 60. doi: <http://dx.doi.org/10.5849/forsci.13-017>. Online: <http://www.treesearch.fs.fed.us/pubs/44259>.
- Optimising fuel treatments over time and space.** Chung, Woodam; Jones, Greg; Krueger, Kurt; Bramel, Jody; Contreras, Marco. 2013. *International Journal of Wildland Fire*. doi: <http://dx.doi.org/10.1071/WF12138>. Online: <http://www.treesearch.fs.fed.us/pubs/44888>.
- A polygon-based modeling approach to assess exposure of resources and assets to wildfire.** Thompson, M.P.; Scott, J.; Kaiden, J.D.; Gilbertson-Day, J.W. 2013. *Natural Hazards*. 67: 627-644. Online: <http://www.treesearch.fs.fed.us/pubs/45018>.
- Pre-fire treatments have persistent effects on post-fire plant communities.** Shive, Kristen L. 2012. Flagstaff, AZ: Northern Arizona University. Thesis. 112 p. Online: <http://www.treesearch.fs.fed.us/pubs/44630>.
- Prescribed fire: A proposed management tool to facilitate black-tailed prairie dog (*Cynomys ludovicianus*) colony expansion.** Archuleta, Felicia D.; Ford, Paulette L. 2013. In: Michalk, David L., chief ed. *Proceedings of the 22nd International Grassland Congress: Revitalising Grasslands to Sustain Our Communities*; 15-19 September, 2013; Sydney, Australia. International Grassland Congress 2013: 1613-1615. Online: <http://www.treesearch.fs.fed.us/pubs/44692>.
- Previous fires moderate burn severity of subsequent wildland fires in two large western US wilderness areas.** Parks, Sean A.; Miller, Carol; Nelson, Cara R.; Holden, Zachary A. 2013. *Ecosystems*. doi: 10.1007/s10021-013-9704-x. Online: <http://www.treesearch.fs.fed.us/pubs/44942>.
- Pre-wildfire fuel reduction treatments result in more resilient forest structure a decade after wildfire.** Stevens-Rumann, Camille; Shive, Kristen; Fule, Peter; Sieg, Carolyn H. 2013. *International Journal of Wildland Fire*. doi: <http://dx.doi.org/10.1071/WF12216>. Online: <http://www.treesearch.fs.fed.us/pubs/44227>.
- Quantifying the effect of fuel reduction treatments on fire behavior in boreal forests.** Butler, B.W.; Ottmar, R.D.; Rupp, T.S.; Jandt, R.; Miller, E.; Howard, K.; Schmoll, R.; Theisen, S.; Vihnanek, R.E.; Jimenez, D. 2013. *Canadian Journal of Forestry Research*. 43: 97-102. Online: <http://www.treesearch.fs.fed.us/pubs/43710>.
- A review of recent advances in risk analysis for wildfire management.** Miller, Carol; Ager, Alan A. 2013. *International Journal of Wildland Fire*. 22:1-14. Online: <http://www.treesearch.fs.fed.us/pubs/43316>.
- Safety climate in the US federal wildland fire management community: Influences of organizational, environmental, group and individual characteristics.** Black, A.E.; McBride, B.B. 2013. *International Journal of Wildland Fire*. 22(6): 850-861. Online: <http://www.treesearch.fs.fed.us/pubs/44506>.
- Wilderness shapes contemporary fire size distributions across landscapes of the western United States.** Haire, Sandra L.; McGarigal, Kevin; Miller, Carol. 2013. *Ecosphere*. 4(1): Article 15. Online: <http://www.treesearch.fs.fed.us/pubs/44947>.
- Woody debris dynamics in Interior West forests and woodlands.** Shaw, John D.; Long, James; Marzano, Raffaella; Garbarino, Matteo. 2012. *Journal of Forestry*. 110(8): 515. Online: <http://www.treesearch.fs.fed.us/pubs/44541>.

## Forest and woodland ecosystems

- Challenging a paradigm: Toward integrating indigenous species into tropical plantation forestry.** Davis, Anthony S.; Jacobs, Douglass F.; Dumroese, R. Kasten. 2012. In: Stanturf, J.; Lamb, D.; Madsen, P., eds. *Forest landscape restoration: Integrating natural and social sciences*. Dordrecht: Springer publishing: 293-308. *World Forests* 15, doi 10.1007/978-94-007-5326-6\_15. Online: <http://www.treesearch.fs.fed.us/pubs/44261>.
- Changing climates, changing forests: A western North American perspective.** Fettig, Christopher J.; Reid, Mary L.; Bentz, Barbara J.; Sevanto, Sanna; Spittlehouse, David L.; Wang, Tongli. 2013. *Journal of Forestry*. 111(3): 214-228.
- Commentary: Climate-driven tree mortality: Insights from the piñon pine die-off in the United States.** Hicke, Jeffrey A.; Zeppel, Melanie J.B. 2013. *New Phytologist*. 200: 301-303. Online: <http://www.treesearch.fs.fed.us/pubs/45079>.
- Comparison of direct and indirect methods for assessing leaf area index across a tropical rain forest landscape.** Olivas, Paulo C.; Oberbauer, Steven F.; Clark, David B.; Clark, Deborah A.; Ryan, Michael G.; O'Brien, Joseph J.; Ordóñez, Harlyn. 2013. *Agricultural and Forest Meteorology*. 177: 110-116. Online: <http://www.treesearch.fs.fed.us/pubs/44178>.

- Continental-scale assessment of genetic diversity and population structure in quaking aspen (*Populus tremuloides*).** Callahan, Colin; Rowe, Carol; Ryel, Ronald; Shaw, John; Madritch, Michael; Mock, Karen. 2013. *Journal of Biogeography*. 40: 1780-1791. Online: <http://www.treesearch.fs.fed.us/pubs/44539>.
- Habitat typing versus advanced vegetation classification in western forests.** Kusbach, Tony; Shaw, John; Long, James; Van Miegroet, Helga. 2012. *Journal of Forestry*. 110(8): 514. Online: <http://www.treesearch.fs.fed.us/pubs/44545>.
- The incidence of dwarf mistletoe in Minnesota black spruce stands detected by operational inventories.** Baker, Fred; Hansen, Mark; Shaw, John D.; Mielke, Manfred; Shelstad, Dixon. 2012. *Northern Journal of Applied Forestry*. 29(3): 109-112. Online: <http://www.treesearch.fs.fed.us/pubs/44119>.
- Latent resilience in ponderosa pine forest: effects of resumed frequent fire.** Larson, A.J.; Belote, R.T.; Cansler, C.A.; Parks, S.A.; Dietz, M.S. 2013. *Ecological Applications* 23, 1243-1249. Online: <http://www.treesearch.fs.fed.us/pubs/44945>.
- Is lodgepole pine mortality due to mountain pine beetle linked to the North American Monsoon?** Goeking, S.A.; Liknes, G.C. 2012. In: Morin, Randall S.; Liknes, Greg C., comps. Moving from status to trends: Forest Inventory and Analysis (FIA) symposium 2012; 2012 December 4-6; Baltimore, MD. Gen. Tech. Rep. NRS-P-105. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. [CD-ROM]: 448-452. Online: <http://www.treesearch.fs.fed.us/pubs/44528>.
- Mapping aspen in the Interior West.** Werstak, Charles E. 2012. In: Morin, Randall S.; Liknes, Greg C., comps. Moving from status to trends: Forest Inventory and Analysis (FIA) symposium 2012; 2012 December 4-6; Baltimore, MD. Gen. Tech. Rep. NRS-P-105. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. [CD-ROM]: 472-473. Online: <http://www.treesearch.fs.fed.us/pubs/44527>.
- Monitoring US forest dynamics with Landsat.** Masek, J.G.; Healey, S.P. 2012. In: Achard, F.; Hansen, M.H., eds. *Global forest monitoring from earth observation*. CRC Press: 225-242. Online: <http://www.treesearch.fs.fed.us/pubs/44332>.
- Populus tremuloides* mortality near the southwestern edge of its range.** Zegler, Thomas J.; Moore, Margaret M.; Fairweather, Mary L.; Ireland, Kathryn B.; Fule, Peter Z. 2012. *Forest Ecology and Management*. 282: 196-207. Online: <http://www.treesearch.fs.fed.us/pubs/44628>.
- Precipitation thresholds and drought-induced tree die-off: Insights from patterns of *Pinus edulis* mortality along an environmental stress gradient.** Clifford, Michael J.; Royer, Patrick D.; Cobb, Neil S.; Breshears, David D.; Ford, Paulette L. 2013. *New Phytologist*. 200: 413-421.
- The role of temperature variability in stabilizing the mountain pine beetle-fungus mutualism.** Addison, A.L.; Powell, J.A.; Six, D.L.; Moore, M.; Bentz, B.J. 2013. *Journal of Theoretical Biology*. 335: 40-50. Online: <http://www.treesearch.fs.fed.us/pubs/45081>.
- Transcriptome characterization and detection of gene expression differences in aspen (*Populus tremuloides*).** Rai, Hardeep S.; Mock, Karen E.; Richardson, Bryce A.; Cronn, Richard C.; Hayden, Katherine J.; Wright, Jessica W.; Knaus, Brian J.; Wolf, Paul G. 2013. *Tree Genetics and Genomes*. 9: 1031-1041. Online: <http://www.treesearch.fs.fed.us/pubs/44262>.
- White pine blister rust resistance in limber pine: Evidence for a major gene.** Schoettle, A.W.; Sniezko, R.A.; Kegley, A.; Burns, K.S. 2013. *Phytopathology*. Accepted publication. doi: <http://dx.doi.org/10.1094/PHYTO-04-13-0092-R>. Online: <http://www.treesearch.fs.fed.us/pubs/44228>.
- Widespread triploidy in western North American aspen (*Populus Tremuloides*).** Mock, K.E.; Callahan, C.M.; Islam-Faridi, M.N.; Shaw, J.D.; Rai, H.S.; Sanderson, S.C.; Rowe, C.A.; Ryel, R.J.; Madritch, M.D.; Gardner, R.S.; Wolf, P.G. 2012. *PLoS ONE*. 7(10): e48406. Online: <http://www.treesearch.fs.fed.us/pubs/44542>.

## Grasslands, shrublands, and desert ecosystems

- Adaptive divergence at the margin of an invaded range.** Kilkenny, Francis F.; Galloway, Laura F. 2012. *Evolution*. 67(3): 722-731. Online: <http://www.treesearch.fs.fed.us/pubs/44359>.
- Characterization of nuclear and chloroplast microsatellite markers for *Falcaria vulgaris* (Apiaceae).** Piya, Sarbottam; Nepal, Madhav P. 2013. *American Journal of Plant Science*. 4: 590-595. Online: <http://www.treesearch.fs.fed.us/pubs/44490>.
- Climate change and North American rangelands: Assessment of mitigation and adaptation strategies.** Joyce, Linda A.; Briske, David D.; Brown, Joel R.; Polley, H. Wayne; McCarl, Bruce A.; Bailey, Derek W. 2013. *Rangeland and Ecology Management*. 66: 512-528. Online: <http://www.treesearch.fs.fed.us/pubs/44831>.
- Effective landscape scale management of *Cirsium arvense* (Canada thistle) utilizing biological control.** Markin, G.P.; Larson, D. 2013. In: Wu, Yun; Johnson, Tracy; Sing, Sharlene; Raghu, S.; Wheeler, Greg; Pratt, Paul; Warner, Keith; Center, Ted; Goolsby, John; Reardon, Richard, eds. *Proceedings, XIII International symposium on biological control of weeds*; September 11-16, 2011; Waikoloa, HI. Tifton, GA: University of Georgia, Center for Invasive Species and Ecosystem Health: 423-427. Online: <http://www.invasive.org/proceedings/pdfs/Markin.pdf>.
- Evaluating population connectivity for species of conservation concern in the American Great Plains.** Cushman, Samuel A.; Landguth, Erin L.; Flather, Curtis H. 2013. *Biodiversity Conservation*. doi: 10.1007/s10531-013-0541-1. Online: <http://www.treesearch.fs.fed.us/pubs/45080>.
- Evaluation of the reference unit method for herbaceous biomass estimation in native grasslands of southwestern South Dakota.** Boyda, Eric D. 2013. Brookings, SD: South Dakota State University. Thesis. 102 p. Online: <http://www.treesearch.fs.fed.us/pubs/44359>.

- Evolution of competitive ability within *Lonicera japonica*'s invaded range.** Evans, Gregory A.; Kilkenny, Francis F.; Galloway, Laura F. 2013. *International Journal of Plant Science*. 174(5): 740-748. Online: <http://www.treesearch.fs.fed.us/pubs/44358>.
- Genetic variation in adaptive traits and seed transfer zones for *Pseudoroegneria spicata* (bluebunch wheatgrass) in the northwestern United States.** St. Clair, John Bradley; Kilkenny, Francis F.; Johnson, Richard C.; Shaw, Nancy L.; Weaver, George. 2013. *Ecological Application*. 6(6): 933-948. Online: <http://www.treesearch.fs.fed.us/pubs/44356>.
- Grass seedling demography and sagebrush steppe restoration.** James, J. J.; Rinella, M. J.; Svejcar, T. 2012. *Rangeland Ecology and Management*. 65(4): 409-417. Online: <http://www.treesearch.fs.fed.us/pubs/44964>.
- Inferring introduction history and spread of *Falcaria vulgaris* Bernh. (Apiaceae) in the United States based on herbarium records.** Piya, Sarbottam; Nepal, Madhav P.; Neupane, Achal; Larson, Gary E.; Butler, Jack L. 2012. *Proceedings of the South Dakota Academy of Sciences*. 91: 113-129. Online: <http://www.treesearch.fs.fed.us/pubs/44493>.
- Introduction history and population genetics of *Falcaria vulgaris* (Apiaceae) in the United States.** Piya, Sarbottam. 2013. Brookings, SD: South Dakota State University. Thesis. 111 p. Online: <http://www.treesearch.fs.fed.us/pubs/44489>.
- Observational monitoring of biological control vs. herbicide to suppress leafy spurge (*Euphorbia esula*) for eight years.** Progar, R.A.; Markin, G.; Scarbrough, D.; Jorgensen, C.L.; Barbouletos, T. 2013. In: Wu, Yun; Johnson, Tracy; Sing, Sharlene; Raghu, S.; Wheeler, Greg; Pratt, Paul; Warner, Keith; Center, Ted; Goolsby, John; Reardon, Richard, eds. *Proceedings, XIII International symposium on biological control of weeds; September 11-16, 2011; Waikoloa, HI*. Tifton, GA: University of Georgia, Center for Invasive Species and Ecosystem Health: 417-422. Online: <http://www.treesearch.fs.fed.us/pubs/44758>.
- Plant establishment and soil microenvironments in Utah juniper masticated woodlands.** Young, Kert R. 2012. Provo, UT: Brigham Young University. Dissertation. 110 p. Online: <http://www.treesearch.fs.fed.us/pubs/44642>.
- Plant guide: Bigflower agoseris: *Agoseris grandiflora*.** Tilley, Derek. 2013. Aberdeen, ID: U.S. Department of Agriculture, National Resources Conservation Service, Aberdeen Plant Materials Center. 2 p. Online: <http://www.treesearch.fs.fed.us/pubs/44637>.
- Plant guide: Limestone hawkbeard: *Crepis intermedia*.** St. John, L.; Tilley, D. 2012. Aberdeen, ID: U.S. Department of Agriculture, National Resources Conservation Service, Aberdeen Plant Materials Center. 3 p. Online: <http://www.treesearch.fs.fed.us/pubs/44638>.
- Proceedings, XIII International symposium on biological control of weeds; September 11-16, 2011; Waikoloa, HI.** Wu, Yun; Johnson, Tracy; Sing, Sharlene; Raghu, S.; Wheeler, Greg; Pratt, Paul; Warner, Keith; Center, Ted; Goolsby, John; Reardon, Richard, eds. 2013. Tifton, GA: University of Georgia, Center for Invasive Species and Ecosystem Health. Online: <http://www.treesearch.fs.fed.us/pubs/44754>.
- Releases of natural enemies in Hawaii since 1980 for classical biological control of weeds.** Conant, P.; Garcia, J.N.; Johnson, M.T.; Nagamine, W.T.; Hirayama, C.K.; Markin, G.P.; Hill, R.L. 2013. In: Wu, Yun; Johnson, Tracy; Sing, Sharlene; Raghu, S.; Wheeler, Greg; Pratt, Paul; Warner, Keith; Center, Ted; Goolsby, John; Reardon, Richard, eds. *Proceedings, XIII International symposium on biological control of weeds; September 11-16, 2011; Waikoloa, HI*. Tifton, GA: University of Georgia, Center for Invasive Species and Ecosystem Health: 237-242. Online: <http://www.treesearch.fs.fed.us/pubs/44745>.
- Sickleweed on the Fort Pierre National Grasslands: An emerging threat.** Butler, Jack L.; Wacker, Stefanie D. 2013. *The Prairie Naturalist*. 45: 28-38. Online: <http://www.treesearch.fs.fed.us/pubs/44491>.
- Viability and invasive potential of hybrids between yellow toadflax (*Linaria vulgaris*) and Dalmatian toadflax (*Linaria dalmatica*).** Turner, Marie F.S. 2012. Fort Collins, CO: Colorado State University. 142 p. Dissertation. Online: <http://www.treesearch.fs.fed.us/pubs/44737>.
- Wide-scale population sampling identifies three phylogenetic races of basin wildrye and low-level genetic admixture with creeping wildrye.** Culumber, C. Mae; Larson, Steven R.; Jones, Thomas A.; Jensen, Kevin B. 2013. *Crop Science*. 53: 996-1007. Online: <http://www.treesearch.fs.fed.us/pubs/44641>.

## Human dimensions

- Does prompting for revision influence subjects' offers in willingness to accept - willingness to pay lab experiments?** Kingsley, David C.; Brown, Thomas C. 2012. *Economics Bulletin*. 32(3): 2580-2585. Online: <http://www.treesearch.fs.fed.us/pubs/42761>.
- Estimating willingness to accept using paired comparison choice experiments: Tests of robustness.** Kingsley, David C.; Brown, Thomas C. *Journal of Environmental Economics and Policy*. 2(2): 119-132. Online: <http://www.treesearch.fs.fed.us/pubs/44910>.
- Living in a tinderbox: Wildfire risk perceptions and mitigating behaviours.** Champ, Patricia A.; Donovan, Geoffrey H.; Barth, Christopher M. 2013. *International Journal of Wildland Fire*. 22: 832-840. Online: <http://www.treesearch.fs.fed.us/pubs/44329>.
- Value learning and the willingness to accept-willingness to pay disparity.** Kingsley, David C.; Brown, Thomas C. 2013. *Economics Letters*. 120: 473-476. Online: <http://www.treesearch.fs.fed.us/pubs/44911>.

## Inventory, monitoring, and analysis

- A comparison of FIA plot data derived from image pixels and image objects.** Werstak, Charles E. 2012. In: Morin, Randall S.; Liknes, Greg C., comps. *Moving from status to trends: Forest Inventory and Analysis (FIA) symposium 2012; 2012*

December 4-6; Baltimore, MD. Gen. Tech. Rep. NRS-P-105. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. [CD-ROM]: 440-447. Online: <http://www.treeseearch.fs.fed.us/pubs/42797>.

**Trends in standing biomass in Interior West forests: Reassessing baseline data from periodic inventories.** Goeking, S.A. 2012. In: Morin, Randall S.; Liknes, Greg C., comps. Moving from status to trends: Forest Inventory and Analysis (FIA) symposium 2012; 2012 December 4-6; Baltimore, MD. Gen. Tech. Rep. NRS-P-105. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. [CD-ROM]: 453-460. Online: <http://www.treeseearch.fs.fed.us/pubs/44530>.

**United States forest disturbance trends observed with landsat time series.** Masek, Jeffrey G.; Goward, Samuel N.; Kennedy, Robert E.; Cohen, Warren B.; Moisen, Gretchen G.; Schleweiss, Karen; Huang, Chengquan. 2013. *Ecosystems*. 16: 1087-1104. Online: <http://www.treeseearch.fs.fed.us/pubs/44327>.

## Science application and integration

**Comparison of direct and indirect methods for assessing leaf area index across a tropical rain forest landscape.** Olivas, Paulo C.; Oberbauer, Steven F.; Clark, David B.; Clark, Deborah A.; Ryan, Michael G.; O'Brien, Joseph J.; Ordonez, Harlyn. 2013. *Agricultural and Forest Meteorology*. 177: 110-116. Online: <http://www.treeseearch.fs.fed.us/pubs/44178>.

**A density management diagram for even-aged Sierra Nevada mixed-conifer stands.** Long, J.N.; Shaw, J.D. 2012. *Western Journal of Applied Forestry*. 27(4): 187-195. Online: <http://www.treeseearch.fs.fed.us/pubs/44543>.

**A density management diagram for Norway spruce in central Europe.** Vacchiano, G.; DeRose, R.J.; Svoboda, M.; Shaw, J.D. 2013. *European Journal of Forest Research*. 132: 535-549. Online: <http://www.treeseearch.fs.fed.us/pubs/44536>.

**Effects of sample size, number of markers, and allelic richness on the detection of spatial genetic pattern.** Landguth, Erin L.; Fedy, Bradley C.; Oyler-McCance, Sara J.; Garey, Andrew L.; Emel, Sarah L.; Mumma, Matthew; Wagner, Helene H.; Fortin, Marie-Josée; Cushman, Samuel A. 2012. *Molecular Ecology Resources*. 12: 276-284. Online: <http://www.treeseearch.fs.fed.us/pubs/40709>.

**Environmental literacy, ecological literacy, ecoliteracy: what do we mean and how did we get here?** McBride, B.B.; Brewer, C.A.; Berkowitz, A.E.; Borrie, W.T. 2013. *Ecosphere* 4(5): Article 67. Online: <http://www.treeseearch.fs.fed.us/pubs/44944>.

**Evaluating theories of drought-induced vegetation mortality using a multimodel-experiment framework.** McDowell, N.G.; Fisher, R.A.; Zu, C.; Domec, J.C.; Hölttä, T.; Mackay, D.S.; Sperry, J.S.; Boutz, A.; Dickman, L.; Gehres, N.; Limousin, J.M.; Macalady, A.; Martinez-Vilálta, J.; Mencuccini, M.; Plaut, J.A.; Ogee, J.; Pangle, R.E.; Rasse, D.P.; Ryan, M.G.; Sevanto, S.; Waring, R.H.; Yepez, E.A.; Pockman, W.T. 2013. *New Phytologist*. 200: 304-321. Online: <http://www.treeseearch.fs.fed.us/pubs/44821>.

**Improving our knowledge of drought-induced forest mortality through experiments, observations, and modeling.** McDowell, Nate G.; Ryan, Michael G.; Zeppel, Melanie J.B.; Tissue, David T. 2013. *New Phytologist*. 200: 289-293. Online: <http://treeseearch.fs.fed.us/pubs/44820>.

**Integrated carbon budget models for the Everglades terrestrial-coastal-oceanic gradient: Current status and needs for inter-site comparisons.** Troxler, T.G.; Gaiser, E.; Barr, J.; Fuentes, J.D.; Jaffe, R.; Childers, D.L.; Collado-Vides, L.; Rivera-Monroy, V.H.; Castaneda-Moya, E.; Anderson, W.; Chambers, R.; Chen, M.; Coronado-Molina, C.; Davis, S.E.; Engel, V.; Fitz, C.; Fourqurean, J.; Frankovich, T.; Kominoski, J.; Madden, C.; Malone, S.L.; Oberbauer, S.F.; Olivas, P.; Richards, J.; Saunders, C.; Schedlbauer, J.; Scinto, L.J.; Sklar, F.; Smith, T.; Smoak, J.M.; Starr, G.; Twilley, R.R.; Whelan, K. 2013. *Oceanography*. 26(3): 98-107. Online: <http://www.treeseearch.fs.fed.us/pubs/44226>.

**Leveraging the geospatial advantage.** Butler, Ben; Bailey, Andrew. 2013. *Wildfire*. March/April. Online: <http://firechief.com/wf-technology/leveraging-geospatial-advantage>.

**Light emitting diodes (LED): applications in forest and native plant nurseries.** Landis, Thomas D.; Pinto, Jeremiah R.; Dumroese, R. Kasten. 2013. *Forest Nursery Notes*. 33(2): 5-13. Online: <http://www.treeseearch.fs.fed.us/pubs/43884>.

**Monitoring U.S. forest dynamics with Landsat.** Masek, Jeffrey G.; Healey, Sean P. 2012. In: Achard, F.; Hansen, M. C., eds. *Global Forest Monitoring from Earth Observation*. CRC Press: 211-227. Online: <http://www.treeseearch.fs.fed.us/pubs/44332>.

**On valuing patches: estimating contributions to metapopulation growth with reverse-time capture-recapture modeling.** Sanderlin, Jamie S.; Waser, Peter M.; Hines, James E.; Nichols, James D. 2012. *Proceedings of the Royal Society B*. 279: 480-488. Online: <http://www.treeseearch.fs.fed.us/pubs/44632>.

**A national approach for integrating wildfire simulation modeling into wildland urban interface risk assessments within the United States.** Haas, J.R.; Calkin, D.E.; Thompson, M.P. 2013. *Landscape and Urban Planning*. 119: 44-53. Online: <http://www.treeseearch.fs.fed.us/pubs/44720>.

**Program SimAssem: Software for simulating species assemblages and estimating species richness.** Reese, Gordon C.; Wilson, Kenneth R.; Flather, Curtis H. 2013. *Methods in Ecology and Evolution*. 4: 891-896. Online: <http://www.treeseearch.fs.fed.us/pubs/44718>.

**Re-evaluating causal modeling with mantel tests in landscape genetics.** Cushman, Samuel A.; Wasserman, Tzeidle N.; Landguth, Erin L.; Shirk, Andrew J. 2013. *Diversity*. 5: 51-72. Online: <http://www.treeseearch.fs.fed.us/pubs/43694>.

**A sample design for globally consistent biomass estimation using lidar data from the Geoscience Laser Altimeter System (GLAS).** Healey, S.P.; Patterson, P.L.; Saatchi, S.S.; Lefsky, M.A.; Lister, A.J.; Freeman, E.A. 2012. *Carbon Balance and Management*. 7: doi.10.1186/1750-0680-7-10. Online: <http://www.treeseearch.fs.fed.us/pubs/44333>.

- The science of decisionmaking: Applications for sustainable forest and grassland management in the National Forest System.** Thompson, Matthew P.; Marcot, Bruce G.; Thompson, Frank R., III; McNulty, Steven; Fisher, Larry A.; Runge, Michael C.; Cleaves, David; Tomosy, Monica. 2013. Gen. Tech. Rep. WO-GTR-88. Washington, DC: U.S. Department of Agriculture, Forest Service. 54 p. Online: <http://www.treesearch.fs.fed.us/pubs/44326>.
- A spatial stochastic programming model for timber and core area management under risk of stand-replacing fire.** Nguyen, Dung Tuan. 2012. Fort Collins, CO: Colorado State University. Thesis. 43 p. Online: <http://www.treesearch.fs.fed.us/pubs/44887>.
- UNICOR: a species connectivity and corridor network simulator.** Landguth, E.L.; Hand, B.K.; Glassy, J.; Cushman, S.A.; Sawaya, M.A. 2012. *Ecography*. 35: 9-14. Online: <http://www.treesearch.fs.fed.us/pubs/40707>.
- Using epiphytic lichens to monitor nitrogen deposition near natural gas drilling operations in the Wind River range, WY, USA.** McMurray, J.A.; Roberts, D.W.; Fenn, M.E.; Geiser, L.H.; Jovan, S. 2013. *Water, Air, & Soil Pollution*. 224(3): 1-14. Online: <http://www.treesearch.fs.fed.us/pubs/44538>.
- Using structure locations as a basis for mapping the wildland urban interface.** Bar-Massada, Avi; Stewart, Susan I.; Hammer, Roger B.; Mockrin, Miranda H.; Radeloff, Volker C. 2013. *Journal of Environmental Management*. 128: 540-547. Online: <http://www.treesearch.fs.fed.us/pubs/43857>.
- United States forest disturbance trends observed with landsat time series.** Masek, J.G.; Goward, S.N.; Kennedy, R.; Cohen, W.B.; Moisen, G.G.; Schleweiss, K.; Huang, C. 2013. *Ecosystems*. 16: 1087-1104. Online: <http://www.treesearch.fs.fed.us/pubs/44327>.
- ### Wilderness research
- "Beyond the commodity metaphor," revisited: Some methodological reflections on place attachment research.** Williams, Daniel R. 2013. In: Manzo, Lynne C.; Devine-Wright, Patrick, eds. *Place attachment: Advances in theory, methods, and research*. Routledge: 89-99. Online: <http://www.treesearch.fs.fed.us/pubs/44349>.
- Campsite impact in the wilderness of Sequoia and Kings Canyon National Parks: Thirty years of change.** Cole, D.N.; Parsons, D.J. 2013. Natural Resource Technical Report NPS/SEKI/NRTR—2013/665. Fort Collins, CO: National Park Service. Online: <http://www.treesearch.fs.fed.us/pubs/44948>.
- Estimating the economic value of recreation losses in Rocky Mountain National Park due to a mountain pine beetle outbreak.** Rosenberger, Randall S.; Bell, Lauren A.; Champ, Patricia A.; White, Eric M. 2013. *Western Economics Forum*. 12(1): 31-39. Online: <http://www.treesearch.fs.fed.us/pubs/43894>.
- Living waters: Linking cultural knowledge, ecosystem services, and wilderness.** Stumpff, Linda Moon. 2013. *International Journal of Wilderness*. 19(1): 20-25. Online: <http://www.treesearch.fs.fed.us/pubs/44941>.
- Recent advances in recreation ecology and the implications of different relationships between recreation use and ecological impacts.** Monz, Christopher A.; Pickering, Catherine M.; Wade L. Hadwen. 2013. *Frontiers in Ecology and the Environment*. doi:10.1890/120358. Online: <http://www.treesearch.fs.fed.us/pubs/44943>.
- Wilderness managers, wilderness scientists, and universities: A partnership to protect wilderness experiences in the Boundary Waters Canoe Area Wilderness.** Watson, Alan; Schwaller, Ann; Dvorak, Robert; Christensen, Neal; Borrie, William T. 2013. *International Journal of Wilderness* 19(1) 41-42. Online: <http://www.treesearch.fs.fed.us/pubs/44940>.
- ### Wildlife and terrestrial habitats
- Cost-efficient selection of a marker panel in genetic studies.** Sanderlin, Jamie S.; Lazar, Nicole; Conroy, Michael J.; Reeves, Jaxk. 2012. *Journal of Wildlife Management* 76(1): 88-94. Online: <http://www.treesearch.fs.fed.us/pubs/44631>.
- Estimating detection probability for Canada lynx *Lynx canadensis* using snow-track surveys in the northern Rocky Mountains, Montana, USA.** Squires, John R.; Olson, Lucretia E.; Turner, David L.; DeCesare, Nicholas J.; Kolbe, Jay A. 2012. *Wildlife Biology*. 18: 215-224. Online: <http://www.treesearch.fs.fed.us/pubs/44629>.
- Evaluating the sufficiency of protected lands for maintaining wildlife population connectivity in the northern Rocky Mountains.** Cushman, Samuel A.; Landguth, Erin L.; Flather, Curtis H. 2012. *Diversity and Distributions*. 18: 873-884. Online: <http://www.treesearch.fs.fed.us/pubs/40713>.
- Lewis's Woodpecker: *Melanerpes lewis*.** Tobalske, Bret W.; Vierling, Kerri T.; Saab, Victoria A. 2013. In: Poole, A., ed. *The Birds of North America Online*. Ithaca, NY: Cornell University, Cornell Lab of Ornithology. doi: 10.2173/bna.284. Online: <http://www.treesearch.fs.fed.us/pubs/44627>.
- Nesting habitat of Mexican spotted owls in the Sacramento Mountains.** Ganey, Joseph L.; Apprill, Darrell L.; Rawlinson, Todd A.; Kyle, Sean C.; Jonnes, Ryan S.; Ward, James P. 2013. *Journal of Wildlife Management*. 77(7): 1426-1435. Online: <http://www.treesearch.fs.fed.us/pubs/44335>.
- Scale dependence in habitat selection: The case of the endangered brown bear (*Ursus arctos*) in the Cantabrian Range (NW Spain).** Sanchez, Maria C. Mateo; Cushman, Samuel A.; Saura, Santiago. 2013. *International Journal of Geographical Information Science*. doi: 10.1080/13658816.2013.776684. Online: <http://www.treesearch.fs.fed.us/pubs/43692>.
- Using housing growth to estimate habitat change: Detecting Ovenbird response in a rapidly growing New England State.** Lepezyk, Christopher A.; Wunnicke, Aaron; Radeloff, Volker C.; Flather, Curtis H.; Pidgeon, Anna M.; Hammer, Roger B. 2013. *Urban Ecosystems*. 16: 499-510. Online: <http://www.treesearch.fs.fed.us/pubs/44719>.

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## Science Program Areas

The Rocky Mountain Research Station is evolving from a Station with 30 research work units (including ecosystem management units and national programs) to a comprehensive programmatic structure consisting of eight Science Program areas and several Research, Development and Applications programs. Descriptions of the Science Program areas follow below.

### 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](http://www.fs.fed.us/rm/boise/awae_home.shtml). Contact Frank McCormick, Program Manager, for more information: 208-373-4351.

### 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 Colin Hardy, Program Manager, for more information: 406-329-4978.

### 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 Tom Crow, Program Manager, for more information: 970-498-1378.

### 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 Cindy Swanson, Program Manager for more information: 406-329-3388.

### 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 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.

### 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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