



ROCKY MOUNTAIN
Research Station

New Publications

January – March 2002



What's Inside . . .

- *Fire effects database*
 - *Sediment movement*
 - *Arizona's forest resources*
 - *Greenback cutthroat trout*
 - *Mexican spotted owl*
 - *Pinyon-juniper history*
 - *Technology and development*
- . . . and much more*

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| SUBJECT | ORDER # | TITLE |
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Mexican spotted owl

- 01 **Using terrestrial ecosystem survey data to identify potential habitat for the Mexican spotted owl on National Forest System lands: a pilot study.** Ganey, Joseph L.; Benoit, Mary Ann. 2002. Gen. Tech. Rep. RMRS-GTR-86. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 25 p.

We assessed the usefulness of Terrestrial Ecosystem Survey (TES) data as a means of identifying habitat for the Mexican spotted owl (*Strix occidentalis lucida*) in three National Forests in Arizona. This spatial data set incorporates information on soils, vegetation, and climatic conditions in defining a set of ecological “map units” showing potential vegetation. We used three separate data sets consisting of spotted owl locations resulting from: (1) U.S. Forest Service (USFS) surveys; (2) mark-recapture sampling of 12 randomly selected “quadrats” ranging from 40 to 76 km², conducted in conjunction with population monitoring efforts; and (3) monitoring of radiomarked owls in four study areas. All data sets identified a subset of map units as associated with owl use.

Sediment movement

- 02 **The nature of flow and sediment movement in Little Granite Creek near Bondurant, Wyoming.** Ryan, Sandra E.; Emmett, William W. 2002. Gen. Tech. Rep. RMRS-GTR-90. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 48 p.

Sediment and flow measurements were made during the course of 13 runoff seasons between 1982 and 1997 on a gravel-bed stream near Bondurant, Wyoming. The data for Little Granite Creek, compiled through the efforts of the U.S. Geological Survey and USDA Forest Service, is one of the most comprehensive databases on transport processes for an individual site available as of this writing. Bedload, moved by flows ranging from 0.05 times to nearly twice the bankfull discharge, was measured with an original Helley-Smith bedload sampler while wading, while suspended from a bridge, or from a temporary sampling platform. Samples of suspended load were collected using depth-integrating samplers. Laboratory analyses were conducted in accordance with standard U.S. Geological Survey methods. Hydraulic data were taken from summaries of discharge measurements maintained by the U.S. Geological Survey and by supplemental measurements made by Forest Service personnel in 1997. All data on rates of bedload transport, particle-size distribution of individual samples, suspended sediment load, measurements of hydraulic geometry, and channel surveys are presented in tables and graphs.

Arizona’s forest resources

- 03 **Arizona’s forest resources, 1999.** O’Brien, Renee A. 2002. Resour. Bull. RMRS-RB-2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 116 p.

This report presents a summary of the most recent inventory information for Arizona’s forest lands. Much of the data are from the inventory completed in 1999 that included National Forest System lands and reserved lands. This report includes tables and highlights of area, number of trees, biomass, volume, growth, mortality, successional stage, understory vegetation, removals, and net change. Most of the tables are organized by forest type, species, diameter class, or owner group. The report also explains inventory design and inventory terminology, and discusses data reliability.

| SUBJECT | ORDER # | TITLE |
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Mexican spotted owl

04 **Responses of Mexican spotted owls to low-flying military jet aircraft.** Johnson, Charles L.; Reynolds, Richard T. 2002. Res. Note RMRS-RN-12. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 4 p.

To investigate the effects of military fixed-wing aircraft training on the behavior of the endangered Mexican spotted owl (*Strix occidentalis lucida*), we subjected four adults and one juvenile owl to low-altitude, fixed-wing, jet aircraft overflight trials in Colorado in 1996 and 1997. Trials consisted of three sequential fly-bys, each at a greater aircraft speed and noise level, over owl territories in narrow and steep-walled canyons. All overflights were about 460 m above canyon rims, the lowest altitude allowed during training flights. Maximum noise levels, measured at one owl site, were 78, 92, and 95 dB (sound volume) for the first, second, and third fly-bys, respectively.

Pinyon-juniper

05 **Dynamics of a pinyon-juniper stand in northern Arizona: a half-century history.** Ffolliott, Peter F.; Gottfried, Gerald J. 2002. Res. Pap. RMRS-RP-35. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 10 p.

This paper adds to the limited knowledge of stand dynamics in pinyon-juniper woodlands by reporting on the changes in species composition, numbers of trees, arrangements of trees, and total height and volume in a stand from late 1938 to early 1991. This information should be helpful in managing pinyon-juniper woodlands to sustain their productivity and maintain their multiple-use values. The annual increase of 1.2 trees per acre does not reflect the massive invasion of trees suspected by many people.

New World Wide Web Publication

The following publication is available exclusively on our Web site: <http://www.fs.fed.us/rm>.
No hard copy will be published.

Greenback cutthroat trout

Recovery history of greenback cutthroat trout: population characteristics, hatchery involvement, and bibliography. Version 1.0. Young, Michael K.; Harig, Amy L.; Rosenlund, Bruce; Kennedy, Chris. 2001. Gen. Tech. Rep. RMRS-GTR-88WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Available on our Web site: http://www.fs.fed.us/rm/pubs/rmrs_gtr88/

The greenback cutthroat trout (*Oncorhynchus clarki stomias*) is native to the mountain and foothill waters of the South Platte and Arkansas river basins in Colorado. This taxon declined rapidly beginning near the turn of the century and was listed under the Endangered Species Act in 1973. We assembled all available information from a variety of sources to document recovery efforts from 1957 to 1999. For each greenback cutthroat trout population, we noted (1) the characteristics of recovery waters and years of population discovery or introduction; (2) fish abundance estimates; (3) analyses of genetic purity; (4) salmonid fauna, removal efforts, and reinvasions; and (5) dates, sources, and numbers of fish used to establish populations. For each hatchery used to assist recovery, we noted (1) sources and numbers of fish delivered to them; (2) sources, sex ratios, and production of fish used to create particular year classes; and (3) dates, numbers, and sizes of hatchery fish shipped to establish wild populations or supplement other hatchery stocks.



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While Supplies Last

The following publications are available in limited quantities, while supplies last.

**Arizona
rare plant
field guide**

06 Arizona rare plant field guide: a collaboration of agencies and organizations. Arizona Rare Plant Committee. [n.d.]. Phoenix: Arizona Game and Fish Department, Heritage Data Management System. Not paginated.

The team of botanists who authored this book began with a list of species generated by the Arizona Heritage Data Management System and the Navajo Natural Heritage Program. Each species in these databases are ranked according to global rarity and the State rarity. All species with a global ranking of 1 or 2 (G1 or G2) and some species with a G3 rank were considered for inclusion in this book. The list of G1 and G2 species was too lengthy, given space and budget limitations, so the team had to shorten the list. Rare taxa not included in this edition of the field guide may be included in subsequent versions of this book. The 3-ring binder format was chosen to allow the addition of new species and updates of species that have already been treated.

Wildland fire CD 07

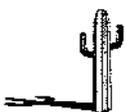
MTDC wildland fire safety collection. 2001. Publ. No. 0151-2811-MTDC. Missoula, MT: U.S. Department of Agriculture, Forest Service, Missoula Technology and Development Center. 1 CD-ROM.

This CD-ROM contains nine fire safety publications. It's a compilation of the major fire safety work done at MTDC during the 1990s, as well as one RMRS publication. It includes the full texts, charts, and photos as they appeared in the documents. Specific publications included are: *Fitness and Work Capacity*, *Fire Behavior Associated with the South Canyon Fire*, *Surviving Fire Entrapments*, *Wildland Fire Fatalities 1990–1998*, *Improving Firefighter Safety in the Intermix*, *Health Hazards of Smoke Conference Proceedings*, *Wildland Fire Entrapments: 1976–1999*, and *Wildland Firefighter Health and Safety Consensus Conference Proceedings*. In addition to the entire publication, there is a separate section with fully down-loadable photos and charts/graphs that you can use to develop your own training package.

**Subdivided
ranches**

08 Landscape attributes of subdivided ranches. Mitchell, John E.; Knight, Richard L.; Camp, Richard J. 2002. *Rangelands*. 24(1): 3–9.

The Western States have become the fastest growing region in the United States during the 1990s. Previously, people living in the West could be divided into two dissimilar groups—urban dwellers in cities and larger towns, and those residing in rural areas on farms and ranches in small towns. Today, differences between Western urban and rural areas are less distinct as a new segment of the population moves onto small acreages, commonly called “ranchettes.” These small tracts of land come almost exclusively from the subdivision of farms and ranches. The trend toward “ranchettes” is leaving range and forest lands fragmented and will create new challenges for livestock, wildlife, and range managers.



Fire Effects Information Database

The Fire Effects Information database is available online through the Rocky Mountain Research Station Web site: <http://www.fs.fed.us/database/feis/>. FEIS provides up-to-date information about fire effects on plants and animals. It was developed at the USDA Forest Service Rocky Mountain Research Station's Fire Sciences Laboratory in Missoula, Montana. The FEIS database contains synoptic descriptions, taken from current English-language literature of almost 900 plant species, about 100 animal species, and 16 K uchler plant communities found on the North American continent. The emphasis of each synopsis is fire and how it affects each species. Background information on taxonomy, distribution, basic biology and ecology of each species is also included. Synopses are thoroughly documented, and each contains a complete bibliography. Personnel from several land management agencies (USDA Forest Service, USDI-BIA, NPS, BLM, F&WS) identified the species to be included in the database. Those agencies funded the original work and continue to support maintenance and updating of the database. Species recently added include:

| Species name | Common name |
|---|---|
| <i>Acer glabrum</i> | Rocky Mountain maple, mountain maple, Douglas maple |
| <i>Alliaria petiolata</i> | garlic mustard |
| <i>Centaurea stoebe ssp. micranthos</i> | spotted knapweed |
| <i>Cirsium arvense</i> | Canada thistle, Californian thistle, creeping thistle, field thistle |
| <i>Dasiphora floribunda</i> | shrubby cinquefoil, bush cinquefoil |
| <i>Ilex glabra</i> | inkberry, gallberry, bitter gallberry |
| <i>Pinus ponderosa var. scopulorum</i> | interior ponderosa pine, Rocky Mountain ponderosa pine, pino real |
| <i>Pinus serotina</i> | pond pine, marsh pine, pocosin pine |
| <i>Populus deltoides</i> | eastern cottonwood, plains cottonwood, Rio Grande cottonwood, plains poplar |
| <i>Sporobolus airoides</i> | alkali sacaton |
| <i>Taeniatherum caput-medusae</i> | medusahead, medusahead wildrye |
| <i>Yucca elata</i> | soaptree yucca, palmilla, Spanish-bayonet, datil, Utah yucca |



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Atmosphere/climate

Analysis of inadvertent microprocessor lag time on eddy covariance results. Zeller, Karl; Zimmerman, Gary; Hehn, Ted; Donev, Evgeny; Denny, Diane; Welker, Jeff. 2001. *Journal of Applied Meteorology*. 40: 1640-1646.

Climate change and forest disturbances. Dale, Virginia H.; Joyce, Linda A.; McNulty, Steve; [and others]. 2001. *BioScience*. 51(9): 72x3-734.

Time-series analysis of $\delta^{13}\text{C}$ from tree rings. I. Time trends and autocorrelation. Monserud, Robert A.; Marshall, John D. 2001. *Tree Physiology*. 21: 1087-1102.

Fire

Educational program about wildland fire integrates plant science into curriculum. Smith, Jane Kapler; McMurray, Nancy E.; Smith, Garon C. 2001. *Plant Science Bulletin*. 47(3): 86-90.

Evaluating a century of fire patterns in two Rocky Mountain wilderness areas using digital fire atlases. Rollins, Matthew G.; Swetnam, Thomas W.; Morgan, Penelope. 2001. *Canadian Journal of Forest Research*. 31: 2107-2123.

Fire modeling and information system technology. Andrews, Patricia L.; Queen, Lloyd P. 2001. *International Journal of Wildland Fire*. 10: 343-352.

Introduction: integrating spatial technologies and ecological principles for a new age in fire management. Gollberg, Greg E.; Neuenschwander, Leon F.; Ryan, Kevin C. 2001. *International Journal of Wildland Fire*. 10: 263-265.

Mapping fire regimes across time and space: understanding coarse and fine-scale fire patterns. Morgan, Penelope; Hardy, Colin C.; Swetnam, Thomas W.; Rollins, Matthew G.; Long, Donald G. 2001. *International Journal of Wildland Fire*. 10: 329-342.

Mapping wildland fuels for fire management across multiple scales: integrating remote sensing, GIS, and biophysical modeling. Keane, Robert E.; Burgan,

Robert; van Wagtendonk, Jan. 2001. *International Journal of Wildland Fire*. 10: 301-319.

Modeling fire effects. Reinhardt, Elizabeth D.; Keane, Robert E.; Brown, James K. 2001. *International Journal of Wildland Fire*. 10: 373-380.

Prescribed burning to restore mixed-oak communities in southern Ohio: effects on breeding-bird populations. Artman, Vanessa L.; Sutherland, Elaine K.; Downhower, Jerry F. 2001. *Conservation Biology*. 15(5): 1423-1434.

The response of central North American prairies to seasonal fire. Engle, David M.; Bidwell, Terrence G. 2001. *Journal of Range Management*. 54: 2-10.

Spatial data for national fire planning and fuel management. Hardy, Colin C.; Schmidt, Kirsten M.; Menakis, James P.; Sampson, R. Neil. 2001. *International Journal of Wildland Fire*. 10: 353-372.

Water

Modeling snowmelt over an area: modeling subgrid scale heterogeneity in distributed model elements. Luce, C. H.; Tarboton, D. G. 2001. In: Ghassemi, Fereidoun; Post, David; Sivapalan, Murugesu; Vertessy, Robert, eds. *Integrating models for natural resources management across disciplines, issues and scales; proceedings, MODSIM 2001, International Congress on Modelling and Simulation; 2001 December 10-13; Canberra, Australia*. Vol. 1. Canberra: The Modelling and Simulation Society of Australia and New Zealand, Inc.: 341-346.

Avalanche

A between-storm indicator of avalanche activity. Davis, Robert E.; Elder, Kelly. [n.d.]. In: *A merging of theory & practice; proceedings, International snow science workshop; 2000 October 1-6; Big Sky, MT*: 135-139.

Decision trees predicting avalanche response: tools for training? Elder, Kelly; Davis, Robert E. [n.d.]. In: *A merging of theory & practice; proceedings, International snow science workshop; 2000 October 1-6; Big Sky, MT*: 140-145.



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The spatial and temporal variability of slab hardness. Kozak, Mark; Elder, Kelly; Birkeland, Karl. [n.d.]. In: A merging of theory & practice; proceedings, international snow science workshop; 2000 October 1-6; Big Sky, MT: 115-120.

Soils

Comparing erosion risks from forest operations to wildfire. Elliot, William J.; Robichaud, Peter R. 2001. In: Schiess, Peter; Krogstad, Finn, eds. 2001—A forest engineering odyssey; proceedings of the international mountain logging and 11th Pacific Northwest skyline symposium; 2001 December 10-12; Seattle, WA. University of Washington, College of Forest Resources and International Union of Forestry Research Organizations: 78-89. Available online: <http://depts.washington.edu/sky2001/proceedings/contents.html>

Silviculture

Biomass flow in western forests: simulating the effects of fuel reduction and presettlement restoration treatments. Hollenstein, Kurt; Graham, Robin L.; Shepperd, Wayne D. 2001. *Journal of Forestry*. 99(10): 12-19.

Introduction of ponderosa pine and Douglas-fir to Argentina. Rehfeldt, Gerald E.; Gallo, Leonardo A. 2001. *New Forests*. 21: 35-44.

Agroforestry

Toward quantifying water pollution abatement in response to installing buffers on crop land. Dosskey, Michael G. 2001. *Environmental Management*. 28(5): 577-598.

Environmental management

Complexity, energy transformations and post-normal science. Allen, T. F. H.; Tainter, J. A.; Hoekstra, T. W. 2001. In: Ulgiati, S.; Brown, M. T.; Giampietro, M.; Herendeen, R. A.; Mayumi, K., eds.

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Dragnet ecology—"Just the facts, Ma'am": the privilege of science in a postmodern world. Allen, T. F. H.; Tainter, Joseph A.; Pires, J. Chris; Hoekstra, Thomas W. 2001. *BioScience*. 51(6): 475-485.

Social sciences

Coastal management using public judgments, importance scales, and predetermined schedule. Chuenpagdee, Ratana; Knetsch, Jack L.; Brown, Thomas C. 2001. *Coastal Management*. 29(4): 253-270.

Disturbance ecology

Sustainable mineral resource management in karst areas: report on NATO advanced research workshop. Shields, Deborah J.; Solar, Slavko V. 2001. *European Geologist*. 12: 8-11.

Range management

AFLP variation in agamospermous and dioecious bluegrasses of western North America. Larson, S. R.; Waldron, B. L.; Monsen, S. B.; St. John, L.; Palazzo, A. J.; McCracken, C. L.; Harrison, R. D. 2001. *Crop Science*. 41: 1300-1305.

Livestock ranching and traditional culture in northern New Mexico. Raish, Carol; McSweeney, Alice. *Natural Resources Journal*. 41(3): 713-730.

Watershed and riparian

Using landscape metrics to measure suitability of a forested watershed: a case study for old growth. Lundquist, John E.; Lindner, Larry R.; Popp, John. 2001. *Canadian Journal of Forest Research*. 31: 1786-1792.



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Inventorying and monitoring

A boundary reconstruction method for circular fixed-area plots in environmental survey. Williams, Michael S.; Williams, Murray Todd; Mowrer, H. Todd. 2001. *Journal of Agricultural, Biological, and Environmental Statistics*. 6(4): 479-494.

Comparison of estimation techniques for a forest inventory in which double sampling for stratification is used. Williams, Michael S. 2001. *Forest Science*. 47(4): 563-576.

New approach to areal sampling in ecological surveys. Williams, Michael S. 2001. *Forest Ecology and Management*. 154: 11-22.

Sampling using thematic mapping, very large-scale photography, and ground sampling for management and strategic surveys. Schreuder, H. T. 2001. In: Rennolls, K., ed. *Forest biometry, modelling and information science; proceedings, IUFRO 4.11 conference; 2001 June 25-29*. University of Greenwich. 11 p.

Using Forest Health Monitoring to assess aspen forest cover change in the southern Rockies ecoregion. Rogers, Paul. 2002. *Forest Ecology and Management*. 155(1): 223-236.

Ecosystem management

Complexity, collapse, and sustainable problem-solving. Tainter, Joseph A. 2001. In: Tolba, M. K., ed. *Our fragile world: challenges and opportunities for sustainable development*. Oxford: EOLSS Publishers Co. Ltd.: 1803-1826.

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Spatial optimization. Hof, John. 2002. In: El-Shaarawi, Abdel H.; Piegorisch, Walter W., eds. *Encyclopedia of environmetrics*. Vol. 4. Chichester: John Wiley & Sons, Ltd.: 2073-2076.

Fish and wildlife

Effective population size and genetic conservation criteria for bull trout. Rieman, B. E.; Allendorf, F. W. 2001. *North American Journal of Fisheries Management*. 21: 756-764.

Evaluation of potential effects of Federal land management alternatives on trends of salmonids and their habitats in the Interior Columbia River Basin. Rieman, Bruce; Peterson, James T.; Clayton, James; Howell, Philip; Thurow, Russell; Thompson, William; Lee, Danny. 2001. *Forest Ecology and Management*. 153: 43-62.

Influences of spatial and temporal variation on fish-habitat relationships defined by regression quantiles. Dunham, Jason B.; Cade, Brian S.; Terrell, James W. 2002. *Transactions of the American Fisheries Society*. 131: 86-98.

Insights into Wilson's warbler migration from analyses of hydrogen stable-isotope ratios. Kelly, Jeffrey F.; Atudorei, Viorel; Sharp, Zachary D.; Finch, Deborah M. 2002. *Oecologia*. 130: 216-221.

Prevalence of *Eimeria* (Apicomplexa: Eimeriidae) in reintroduced Gunnison's prairie dogs (*Cynomys gunnisoni*). Ryan, M. M.; Decker, K. H.; Duszynski, D. W. 2001. *American Midland Naturalist*. 145: 409-413.

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Technology and development

Interfacing soil erosion models for the World Wide Web. Hall, D. E.; Elliot, W. J. 2001. In: Ghassemi, Fereidoun; Post, David; Sivapalan, Murugesu; Vertessy, Robert, eds. Integrating models for natural resources management across disciplines, issues and scales; proceedings, MODSIM 2001, International Congress on Modelling and Simulation; 2001 December 10-13; Canberra, Australia. Vol. 1. Canberra: The Modelling and Simulation Society of Australia and New Zealand, Inc.: 179-184.

Towards a classification of landscape-fire-succession models. Rupp, T. S.; Keane, R. E.; Lavorel, S.; Flannigan, M. D.; Cary, G. J. 2001. *GCTE News*. 17:1-4.

Tree mortality in gap models: application to climate change. Keane, Robert E.; Austin, Mike; Field, Christopher; [and others]. 2001. *Climatic Change*. 51: 509-540.

Recreation/wilderness

Influence of ecological impacts and other campsite characteristics on wilderness visitors' campsite choices. White, Dave D.; Hall, Troy E.; Farrell, Tracy A. 2001. *Journal of Park and Recreation Administration*. 19(2): 83-97.

Sustainable financing of wilderness protection: an experiment with fees in the United States. Watson, Alan E. 2001. *International Journal of Wilderness*. 7(3): 12-16.

Thinking and acting regionally: toward better decisions about appropriate conditions,

standards, and restrictions on recreation use. McCool, Stephen F.; Cole, David N. 2001. *The George Wright FORUM*. 18(3): 85-98.

Plant biology

Delayed seed germination in whitebark pine and regeneration patterns following the Yellowstone fires. Tomback, Diana F.; Anderies, Angela J.; Carsey, Katherine S.; Powell, Mary L.; Mellmann-Brown, Sabine. 2001. *Ecology*. 82(9): 2587-2600.

Pests/diseases

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Integrating concepts of landscape ecology with the molecular biology of forest pathogens. Lundquist, John E.; Klopfenstein, Ned B. 2001. *Forest Ecology and Management*. 150: 213-222.



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- Assessment and response to bark beetle outbreaks in the Rocky Mountain area. Report to Congress from Forest Health Protection, Washington Office, Forest Service, U.S. Department of Agriculture.** Samman, S.; Logan, J. 2000. Gen. Tech. Rep. RMRS-GTR-62.
- Benefit transfer of outdoor recreation use values: a technical document supporting the Forest Service Strategic Plan (2000 revision).** Rosenberger, R. S.; Loomis, J. B. 2001. Gen. Tech. Rep. RMRS-GTR-72.
- Data base for early postfire succession in Northern Rocky Mountain forests.** Stickney, P. F.; Campbell, R. B., Jr. 2000. Gen. Tech. Rep. RMRS-GTR-61CD.
- Ecology and conservation of lynx in the United States.** Ruggiero, L. F.; Aubry, K. B.; Buskirk, S. W.; [and others]. 1999. Gen. Tech. Rep. RMRS-GTR-30WWW.
- Fire behavior associated with the 1994 South Canyon Fire on Storm King Mountain, Colorado.** Butler, B. W.; Bartlette, R. A.; Bradshaw, L. S.; [and others]. 1998. Res. Pap. RMRS-RP-9.
- Projected use of grazed forages in the United States: 2000 to 2050: a technical document supporting the 2000 USDA Forest Service RPA Assessment.** Van Tassell, L. W.; Bartlett, E. T.; Mitchell, J. E. 2001. Gen. Tech. Rep. RMRS-GTR-82.
- Forest Health Monitoring in the Interior West: a baseline summary of forest issues, 1996-1999.** Rogers, P.; Atkins, D.; Frank, M.; Parker, D. 2001. Gen. Tech. Rep. RMRS-GTR-75.
- Hosts and geographic distribution of *Arceuthobium oxycedri*.** Ciesla, W. M.; Geils, B. W.; Adams, R. P. 2001. Res. Note RMRS-RN-11WWW.
- Livestock management in the American Southwest: ecology, society, and economics.** Jemison, R.; Raish, C., eds. 2000. Elsevier Science Ltd. 612 p.
- Models of vegetative change for landscape planning: a comparison of FETM, LANDSUM, SIMPPLE, and VDDT.** Barrett, T. M. 2001. Gen. Tech. Rep. RMRS-GTR-76WWW.
- Monitoring wilderness stream ecosystems.** Davis, J. G.; Minshall, G. W.; Robinson, C. T.; Landres, P. 2001. Gen. Tech. Rep. RMRS-GTR-70.
- The northern goshawk in Utah: habitat assessment and management recommendations.** Graham, R. T.; Rodriguez, R. L.; Paulin, K. M.; [and others]. 1999. Gen. Tech. Rep. RMRS-GTR-22.
- Rangeland resource trends in the United States: a technical document supporting the 2000 USDA Forest Service RPA Assessment.** Mitchell, J. E. 2000. Gen. Tech. Rep. RMRS-GTR-68.
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| 14 | 34 | 54 | 74 | 94 | 114 | 134 |
| 15 | 35 | 55 | 75 | 95 | 115 | 135 |
| 16 | 36 | 56 | 76 | 96 | 116 | 136 |
| 17 | 37 | 57 | 77 | 97 | 117 | 137 |
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