



United States
Department
of Agriculture

Forest Service
Pacific Southwest
Research Station



Air Pollution and Global Change
Impacts on Western Forest
Ecosystems

Center for Urban Forest
Research

Chemical Ecology and
Management of Forest Insects

Cumulative Effects of Forest
Management on Hillslope
Processes, Fishery Resources,
and Downstream Environments

Ecology and Management of
Western Forests Influenced by
Mediterranean Climate

Institute of Forest Genetics

Institute of Pacific Islands
Forestry

Prescribed Fire and Fire Effects

Research Natural Areas

Sierra Nevada Research Center

Sudden Oak Death Research

Timber Management/Wildlife
Habitat Interactions

Wildland Fire Management
Research, Development, and
Application

Wildland Recreation and Urban
Cultures

Pacific Southwest Research Station Publications List

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The Pacific Southwest Research Station

The Pacific Southwest Research Station represents the research and development branch of the USDA Forest Service in the states of California and Hawaii and the U.S.-affiliated Pacific Islands. Our primary work occurs in California (the most populous state with the fifth largest economy in the world) and Hawaii (a strategic location in the Pacific Rim economies and tourism). We develop and deliver science-based information, technologies, and applications to help people make well-informed decisions about natural resource management, conservation, and environmental protection.

The Pacific Southwest Research Station has eight primary sites in California and Hawaii.

1. Redwood Sciences Laboratory, Arcata
2. Silviculture Laboratory, Redding
3. Institute of Forest Genetics (Historic), Placerville
4. Research Facilities, Davis
5. Sciences Laboratory and Station Headquarters, Albany
6. Forest Sciences Laboratory, Fresno
7. Forest Fire Laboratory, Riverside
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New PSW Series Publications

Community tree guide: Interior West

Order 1

Interior West community tree guide: Benefits, costs, and strategic planting. Vargas, Kelaine E.; McPherson, E. Gregory; Simpson, James R.; Peper, Paula J.; Gardner, Shelley L.; Xiao, Qingfu. 2007. Gen. Tech. Rep. PSW GTR-205. Davis, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 105 p.

Trees provide us with a great many ecosystem services, including air quality improvement, energy conservation, stormwater interception, and atmospheric carbon dioxide reduction. These benefits must be weighed against the costs of maintaining trees, including planting, pruning, irrigation, administration, pest control, liability, cleanup, and removal. We present benefits and costs for representative small, medium, and large deciduous trees and coniferous trees in the Interior West region derived from models based on indepth research carried out in Albuquerque, New Mexico. Two hypothetical examples of planting projects are described to illustrate how the data in this guide can be adapted to local uses, and guidelines for maximizing benefits and reducing costs are given.

Online: http://www.fs.fed.us/psw/publications/documents/psw_gtr205

Trout research assessment model

Order 2

InSTREAM: The individual-based stream trout research and environmental assessment model. Railsback, Steven F.; Harvey, Bret C.; Jackson, Stephen K.; Lamberson, Roland H. 2009. Gen. Tech. Rep. PSW-GTR-218. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 254 p.

This report documents Version 4.2 of InSTREAM, including its formulation, software, and application to research and management problems. InSTREAM is a simulation model designed to understand how stream and river salmonid populations respond to habitat alteration, including altered flow, temperature, and turbidity regimes and changes in channel morphology. The model represents individual fish at a daily time step, with population responses emerging from how individuals are affected by their habitat and by each other (especially, via competition for food). Field and analysis techniques for applying InSTREAM are based in part on extensive analysis of the model's sensitivities and uncertainties. The model's software provides graphical displays to observe fish behavior, detailed output files, and a tool to automate simulation experiments.

Online: http://www.fs.fed.us/psw/publications/documents/psw_gtr218

Wildland fire programs: residents' responses

Order 3

Residents' responses to wildland fire programs: a review of cognitive and behavioral studies. Absher, James D.; Vaske, Jerry J.; Shelby, Lori B. 2009. Gen. Tech. Rep. PSW-GTR-223. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 31 p.

A compilation and summary of four research studies is presented. They were aimed at developing a theoretical and practical understanding of homeowners' attitudes and behaviors in the wildland-urban interface (WUI) in relation to the threat from wildland fires. Individual studies focused on models and methods that measured (1) value orientations (patterns of basic beliefs) toward natural processes, (2) attitudes toward wildland fire policies, and (3) behavioral intentions to adopt defensible space activities or support agency policies/actions. This report presents some of the key findings from these studies, highlights the practical consequences of adopting a theory-based approach to understanding wildland fire management in urbanized areas, and suggests strategies for successful wildfire-prevention education programs.

Online: http://www.fs.fed.us/psw/publications/documents/psw_gtr223

Prescribed fire season: ecological effects

Order 4

Ecological effects of prescribed fire season: A literature review and synthesis for managers. Knapp, Eric E.; Estes, Becky L.; Skinner, Carl N. 2009. Gen. Tech. Rep. PSW-GTR-224. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 80 p.

Historical and prescribed fire regimes for different regions in the continental United States were compared and literature on season of prescribed burning synthesized. In regions and vegetation types where considerable differences in fuel consumption exist among burning seasons, the effects of prescribed fire season appears, for many ecological variables, to be driven more by fire-intensity differences among seasons than by phenology or growth stage of organisms at the time of fire. Where fuel consumption differs little among burning seasons, the effect of phenology or growth stage of organisms is often more apparent, presumably because it is not overwhelmed by fire-intensity differences.

Online: http://www.fs.fed.us/psw/publications/documents/psw_gtr224

Climate change and forest diseases

Order 5

Review of literature on climate change and forest diseases of western North America. Kliejunas, John T.; Geils, Brian W.; Glaeser, Jessie Micales; Goheen, Ellen Michaels; Hennon, Paul; Kim, Mee-Sook; Kope, Harry; Stone, Jeff; Sturrock, Rona; Frankel, Susan J. 2009. Gen. Tech. Rep. PSW-GTR-225. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 54 p.

A summary of the literature on relationships between climate and various types of tree diseases, and the potential effects of climate change on pathogens in western North American forests is provided. Sections on abiotic diseases, declines, canker diseases, root diseases, Phytophthoras, foliar diseases, stem rusts of pine, mistletoes, and wood decays present some examples of potential disease effects with predicted climate change.

Online: http://www.fs.fed.us/psw/publications/documents/psw_gtr225

Lake Tahoe Basin: Integrated science plan

Order 6

An integrated science plan for the Lake Tahoe Basin: Conceptual framework and research strategies. Hymanson, Zachary P.; Collopy, Michael W., eds. 2010. Gen. Tech. Rep. PSW-GTR-226. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 368 p.

An integrated science plan was developed to identify and refine contemporary science information needs for the Lake Tahoe Basin ecosystem. The main objectives were to describe a conceptual framework for an integrated science program, and to develop research strategies addressing key uncertainties and information gaps that challenge government agencies in the theme areas of (1) air quality, (2) water quality, (3) soil conservation, (4) ecology and biodiversity, and (5) integrating the social sciences in research planning. Each strategy concludes with a presentation of near-term research priorities. This science plan is considered a living document. The research priorities are best reviewed and revised regularly to ensure they reflect the changing information needs and evolving priorities of agencies charged with the welfare of the Lake Tahoe Basin.

Online: http://www.fs.fed.us/psw/publications/documents/psw_gtr226

Fire economics, planning, and policy: proceedings

Order 7

Proceedings of the third international symposium on fire economics, planning, and policy: common problems and approaches. González-Cabán, Armando. 2009. Gen. Tech. Rep. PSW-GTR-227 (English and Spanish). Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 395 p. No paper copies, CD only. The CD has both English and Spanish versions on it.

These proceedings summarize the results of a symposium designed to address current issues of agencies with wildland fire protection responsibility at the federal and state levels in the United States as well as agencies in the international community. Thirty-six invited and contributed papers and 18 posters were presented at the symposium that described the issues and presented state-of-the-art techniques to address technical issues on fire economics, planning, and policy currently faced by land and fire managers.

English version online: http://www.fs.fed.us/psw/publications/documents/psw_gtr227en/

Spanish version online: http://www.fs.fed.us/psw/publications/documents/psw_gtr227esp/

Community tree guide: Northern California coast

Order 8

Northern California coast community tree guide: benefits, costs, and strategic planting. McPherson, E. Gregory; Simpson, James R.; Peper, Paula J.; Crowell, Aaron M.N.; Xiao, Qingfu. 2010. Gen. Tech. Rep. PSW-GTR-228. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 118 p.

Trees make our cities more attractive and provide many ecosystem services, including air quality improvement, energy conservation, stormwater interception, and atmospheric carbon dioxide reduction. These benefits must be weighed against the costs of maintaining trees, including planting, pruning, irrigation, administration, pest control, liability, cleanup, and removal. We present benefits and costs for representative small, medium, and large deciduous trees and coniferous trees in the Northern California Coast region derived from models based on research carried out in Berkeley, California. Average annual net benefits (benefits minus costs) increase with mature tree size and differ based on location: \$29 (public) to \$41 (yard) for a small tree, \$42 (public) to \$60 (yard) for a medium tree, \$101 (public) to \$122 (yard) for a large tree, \$142 (public) to \$146 (yard) for a large conifer. Two hypothetical examples of planting projects are described to illustrate how the data in this guide can be adapted to local uses, and guidelines for maximizing benefits and reducing costs are given.

Online: http://www.fs.fed.us/psw/publications/documents/psw_gtr228

Sudden Oak Death: proceedings

Order 9

Proceedings of the Sudden Oak Death Fourth Science Symposium. Frankel, Susan J.; Kliejunas, John T.; Palmieri, Katharine M. 2010. Gen. Tech. Rep. PSW-GTR-229. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 378 p.

The Sudden Oak Death Fourth Science Symposium provided a forum for current research on sudden oak death, caused by the exotic, quarantine pathogen, *Phytophthora ramorum*. Ninety submissions describing papers or posters on the following sudden oak death/*P. ramorum* topics are included: biology, genetics, nursery and wildland management, monitoring, ecology, and diagnostics.

Online: http://www.fs.fed.us/psw/publications/documents/psw_gtr229

Law enforcement/ investigations: FS study

Order 10

Forest Service National Forest System perceptions of law enforcement and investigations: nationwide study. Chavez, Deborah J.; Tynon, Joanne F. 2008. Res. Pap. PSW-RP-256. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 38 p.

This is the fifth in a series of studies to evaluate perceptions of the roles, responsibilities, and issues entailed in the jobs of U.S. Department of Agriculture Forest Service law enforcement and investigations (LEI) personnel. An e-mail survey was administered to the 537 Forest Service forest supervisors and district rangers (National Forest System [NFS] line officers) across the United States. Two-hundred and seventy-six completed and returned the questionnaire. Interaction, collaboration, and teamwork were important to the NFS line officer respondents—they reported the need for frequent interactions and had general agreement on priorities with LEI. Budget was a major concern for the NFS line officer respondents as was the shortage of law enforcement officers and forest protection officers. Natural resource protection was seen as important and was thought to be a priority, along with budget and safety. A successful LEI program was characterized as one that is understood by those engaged in or affected by the program and that has sufficient personnel and good communication.

Online: http://www.fs.fed.us/psw/publications/documents/psw_rp256

**FS perceptions:
law enforcement/
investigations**

Order 11

A synthesis of five nationwide studies: Perceptions of law enforcement and investigations in the USDA Forest Service. Chavez, Deborah J.; Tynon, Joanne F. 2009. Res. Pap. PSW-RP-260. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 19 p.

This is the synthesis of a series of studies to evaluate perceptions of U.S. Department of Agriculture Forest Service (USFS) law enforcement and investigations (LEI). Five groups were evaluated: four groups of employees from different positions within LEI, and a group of customers of LEI, the line officers of the National Forest System (NFS). The groups responded to questions within 10 topic areas: demographics, area of responsibility, enforcement level and cooperation, roles, existing issues, priorities, customers, natural resources, success stories, and successful LEI programs. By highlighting areas of similarity between the groups and building further consensus based on that beginning, they can also examine existing differences and work toward understanding the position each group has on those areas.

Online: http://www.fs.fed.us/psw/publications/documents/psw_rp260

Science Perspectives

**Forests: view through
historical lens**

Order 12

Viewing forests through a historical lens. Knapp, Eric 2009. Science Perspective PSW-SP-013. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 6 p.

Past records on fire-resilient, biodiverse stands could offer models for the future. This year marks the centennial of the Forest Service's nationwide network of 80 experimental forests and ranges, which serve as field laboratories for long-term studies on the science and management of national forests. At the Stanislaus-Tuolumne Experimental Forest in the central Sierra Nevada, a research resurgence is underway thanks to the fortuitous discovery of a trove of useful historical data.

Online: http://www.fs.fed.us/psw/publications/documents/psw_sp013

**Air pollution, beetles,
and wildfire**

Order 13

An emerging triad: Air pollution, beetles, and wildfire. McGlynn, Daniel; Grulke, Nancy. 2010. Science Perspective PSW-SP-014. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 6 p.

Biochemical changes in trees stressed by drought and air pollution may attract bark beetles, which overwhelm the trees' defense mechanisms.

Online: http://www.fs.fed.us/psw/publications/documents/psw_sp014

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 or telephone: (970) 498-1205. We have also provided links to electronic copies when available.

Climate change, mitigation, and adaptation science

Correlations between El Niño-Southern Oscillation and changes in Nearctic-Neotropical migrant condition in Central America. Wolfe, Jared D.; Ralph, C. John. 2009. *The Auk*. 126(4): 809-814. Online: <http://www.treesearch.fs.fed.us/pubs/34192>.

Enhanced litter input rather than changes in litter chemistry drive soil carbon and nitrogen cycles under elevated CO₂: A microcosm study. Lilu, Lingli; King, John S.; Booker, Fitzgerald L.; Giardina, Christian P.; Allen, H. Lee; Hu, Shuijin. 2009. *Global Change Biology*. 15: 441-453. Online: <http://www.treesearch.fs.fed.us/pubs/19908>.

The influence of chemistry, production and community composition on leaf litter decomposition under elevated atmospheric CO₂ and tropospheric O₃ in a northern hardwood ecosystem. Liu, Lingli; King, John S.; Giardina, Christian P.; Booker, Fitzgerald L. 2009. *Ecosystems*. 12: 401-416.

Soil organic carbon quality in forested mineral wetlands at different mean annual temperature. Fissore, Cinzia; Giardina, Christian P.; Kolka, Randall K.; Trettin, Carl C. 2009. *Soil Biology & Biochemistry*. 41: 458-466. Online: <http://www.treesearch.fs.fed.us/pubs/33969>.

A synthesis of science on forests and carbon for U.S. forests. Ryan, Michael G.; Harmon, Mark E.; Birdsey, Richard A.; Giardina, Christian P.; Heath, Linda S.; Houghton, Richard A.; Jackson, Robert B.; McKinley, Duncan C.; Morrison, James F.; Murray, Brian C.; Pataki, Diane E.; Skog, Kenneth E. 2010. *Issues in Ecology*. 13: 1-16. Online: <http://www.treesearch.fs.fed.us/pubs/35006>.

Transient effects of elevated atmospheric CO₂ and tropospheric O₃ on litter chemistry and decomposition in a northern hardwood ecosystem. Liu, L.; King, J.; Giardina, C.; Booker, F. 2009. *Ecosystems*. 12: 401-416.

Ecosystem processes

Allozyme and microsatellite data reveal small clone size and high genetic diversity in aspen in the southern Cascade Mountains. De Woody, Jennifer; Rickman, Tom H.; Jones, Bobette E.; Hipkins, Valerie D. 2009. *Forest Ecology and Management*. 258: 687-696. Online: <http://www.treesearch.fs.fed.us/pubs/35313>.

Conservation of the Siskiyou Mountains salamander (*Plethodon stormi*). Olson, D.H.; Clayton, D.; Nauman, R. S.; Welsh, H.H., Jr., eds. 2009. *Northwest Fauna* 6. Olympia, WA: Society for Northwestern Vertebrate Biology.

Conservation strategy for the Siskiyou Mountains salamander (*Plethodon stormi*), northern portion of the range. Olson, D.H.; Clayton, D.; Reilly, E.C.; Nauman, R.S.; Devlin, B.; Welsh, H.H., Jr. 2009. *Northwest Fauna*. 6: 1-22.

Developing and testing a landscape habitat suitability model for the American marten (*Martes Americana*) in the Cascades mountains of California. Kirk, T.A.; Zielinski, W.J. 2009. *Landscape Ecology*. 24(6): 759-773. Online: <http://www.treesearch.fs.fed.us/pubs/33456>.

Eddy Gulch late-successional reserve landbird survey report 2008. Long, L.L.; Herrera, P.A. 2009. Arcata CA: U.S. Department of Agri-

culture, Forest Service, Pacific Southwest Research Station, Redwood Sciences Laboratory. 11 p.

Eddy Gulch late-successional reserve northern spotted owl, northern goshawk, and landbird survey report 2009. Slabe, V.; Herrera, P.A. 2009. Arcata, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Redwood Sciences laboratory. 18 p.

Estimating detection probabilities for fishers using non-invasive methods and implications for survey protocols. Slauson, K.M.; Baldwin, J.; Zielinski, W.J.; Schwartz, M.K. 2009. Arcata, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Redwood Sciences Laboratory. 68 p.

Long-term effects of fragmentation and fragment properties on bird species richness in Hawaiian forests. Flaspohler, David J.; Giardina, Christian P.; Asner, Gregory P.; Hart, Patrick; Price, Jonathan; Lyons, Cassie Ka'apu; Casteneda, Zeronimo. 2010. *Biological Conservation*. 143: 280-288.

Fire science

An evaluation of the Predictive Services Program. Winter, P.L.; Wordell, T.A. 2009. *Fire Management Today*. 69(4): 28-33.

Estimating contribution of wildland fires to ambient ozone levels in National Parks in the Sierra Nevada, California. Preisler, Haiganoush K.; Zhong, Shiyuan (Sharon); Esperanza, Annie; Brown, Timothy J.; Bytnerowicz, Andrzej; Tarnay, Leland. 2010. *Environmental Pollution*. 158(3): 778-787.

Fire effects on carbon and nitrogen cycling in forests of the Sierra Nevada. Johnson, D.W.; Fenn, M.E.; Miller, W.W.; Hunsaker, C.T. 2009. In: Bytnerowicz, A.; Arbaugh, M.; Riebau, A.; Anderson, C. *Wildland Fires and Air Pollution. Developments in Environmental Science* 8. Boston, MA: Elsevier: 405-423. Online: <http://www.treesearch.fs.fed.us/pubs/34233>.

Forecasting distributions of large federal-lands fires utilizing satellite and gridded weather information. Preisler, Haiganoush K.; Burgan, Robert E.; Eidenshink, Jeffery C.; Klaver, Jacqueline M.; Klaver, Robert W. 2009. *International Journal of Wildland Fire*. 18: 508-516.

Responding to wildfire events: Influences in fire manager decision-making. Wilson, R.A.; Winter, P.L.; Maguire, L.; Ascher, T. 2010. *Advances in Fire Practice*. Online: <http://www.wildfirelessons.net/Additional.aspx?Page=309>.

Insect and disease

Aerially applied methylcyclohexenone-releasing flakes protect *Pseudotsuga menziesii* stands from attack by *Dendroctonus pseudotsugae*. Gillette, N.E.; Mehmel, C.J.; Webster, J.N.; Mori, S.R.; Erbilgin, N.; Wood, D.L.; Stein, J.D. 2009. *Forest Ecology and Management*. 257: 1231-1236. Online: <http://www.treesearch.fs.fed.us/pubs/35482>.

Aerially applied verbenone-releasing laminated flakes protect *Pinus contorta* stands from attack by *Dendroctonus ponderosae* in California and Idaho. Gillette, N.E.; Erbilgin, N.; Webster, J.N.; Pederson, L.; Mori, S.R.; Stein, J.D.; Owen, D.R.; Bischel, K.M.; Wood, D.L. 2009. *Forest Ecology and Management*. 257: 1405-1412. Online: <http://www.treesearch.fs.fed.us/pubs/35486>.

Geographic variation in bacterial communities associated with the red turpentine beetle (Coleoptera: Curculionidae). Adams, Aaron S.; Adams, Sandye M.; Currie, Cameron R.; Gillette, Nancy E.; Raffa, Kenneth F. 2010. *Environmental Entomology*. 39(2): 406-414.

Individual-tree tests of verbenone flakes, verbenone pouches, and green-leaf volatiles to protect lodgepole pines from mountain pine beetle attack. Kegley, Sandra; Gibson, Ken; Gillette, Nancy; Webster, Jeff; Pederson, Lee; Mori, Silvia. 2010. *Forest Health Protection*. Numbered Rep. 10-02.

Verbenone flakes may help slow mountain pine beetle's spread. Society of American Foresters. Gillette, Nancy (featured scientist) 2009. *Forestry Source*. April. 2 p. Online: <http://www.treesearch.fs.fed.us/pubs/35490>.

The western bark beetle research group: A unique collaboration with Forest Health Protection—proceedings of a symposium at the 2007 Society of American Foresters conference. Hayes, J.L.; Lundquist, J.E., comps. 2009. Gen. Tech. Rep. PNW-GTR-784. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 134 p. Online: <http://www.treesearch.fs.fed.us/pubs/32892>.

Recreation

Opinions of Latino outdoor recreation visitors at four urban national forests. Chavez, Deborah J.; Olson, David D. 2009. *Environmental Practice*. 11(4): 263-269. Online: <http://www.treesearch.fs.fed.us/pubs/35495>.

Physical activity and the recreation opportunity spectrum: Differences in important site attributes and perceived constraints. Wilhelm Stanis, S.A.; Schneider, I.E.; Shiner, K.J.; Chavez, D.J.; Vogel, M.C. 2009. *Journal of Park and Recreation Administration*. 27(4): 73-91. Online: <http://www.treesearch.fs.fed.us/pubs/35497>.

Planning for youth days: Planting the SEED to get youth outdoors in nature. Chavez, Deborah J.; Fehr, John D. 2009. 2300—Recreation Mgmt, 0923 1801—SDTDC. San Dimas, CA: U.S. Department of Agriculture, Forest Service, National Technology & Development Program. 35 p.

Visitor constraints to physical activity in park and recreation areas: Differences by race and ethnicity. Wilhelm Stanis, Sonja A.; Schneider, Ingrid E.; Chavez, Deborah J.; Shiner, Kimberly J. 2009. *Journal of Park and Recreation Administration*. 27(3): 78-95. Online: <http://www.treesearch.fs.fed.us/pubs/35496>.

Youth day in Los Angeles: Connecting youth and nature with technology. Chavez, Deborah J. 2009. Hawaii international conference on social sciences; June 4-7, 2009; Honolulu, HI: 284-293.

Youth day in Los Angeles: Evaluating the role of technology in children's nature activities. Chavez, Deborah J. 2009. *Children, Youth and Environments*. 19(1): 102-124.

Urban forestry

Diverse users of four urban national forests: Participation, preferences, and perceptions. Chavez, Deborah J.; Olson, David D. 2009. Hawaii international conference on social sciences; June 4-7, 2009; Honolulu, HI: 294-308. Online: <http://www.treesearch.fs.fed.us/pubs/35494>.

Vegetation management

Digital data collection in forest dynamics plots. Inman-Narahari, Faith; Giardina, Christian; Ostertag, Rebecca; Cordell, Susan; Sack, Lauren. 2010. *Methods in Ecology & Evolution*. 10.1111/j.2041-210X.2010.00034.x.

Estimation of population structure in coastal Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco var. *menziesii*) using allozyme and microsatellite markers. Krutovsky, Konstantin; St. Clair, John Bradley; Saich, Robert; Hipkins, Valerie D.; Neale, David B. 2009. *Tree Genetics & Genomes*. 5: 641-658. Online: <http://www.treesearch.fs.fed.us/pubs/34937>.

Fostering sustainable operations in a natural resource management agency: Insights from the field. Winter, P.L.; Burn, S.M. 2010. *Journal of Forestry*. 108(2): 86-92. Online: <http://www.treesearch.fs.fed.us/pubs/35493>.

Genetic diversity and gene exchange in *Pinus oocarpa*, a Mesoamerican pine with resistance to the pitch canker fungus (*Fusarium circinatum*). Dvorak, W.S.; Potter, K.M.; Hipkins, V.D.; Hodge, G.R. 2009. *International Journal of Plant Science*. 170(5): 609-626. Online: <http://www.treesearch.fs.fed.us/pubs/33400>.

Variable temperature sensitivity of soil organic carbon in North American forests. Fissore, Cinzia; Giardina, Christian P.; Swanston, Christopher W.; King, Gary M.; Kolka, Randall K. 2009. *Global Change Biology*. 15(9): 2295-2310. Online: <http://www.treesearch.fs.fed.us/pubs/35340>.

Water and watersheds

The importance of streamflow in California's southern Sierra Nevada mountains: Kings River Experimental Watersheds. USDA Forest Service. 2009. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 2 p.

Natural variability of the Keetch-Byram Drought Index in the Hawaiian Islands. Dolling, Klaus; Chu, Pao-Shin; Fujioka, Francis. 2009. *International Journal of Wildland Fire*. 18:459-475. Online: <http://www.treesearch.fs.fed.us/pubs/35498>.

Project overview: Kings River Experimental Watersheds. Hunsaker, Carolyn; Stuemky, Matt; Startman, Tom, Tech. Contacts. 2009. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 1 brochure.

Sediment and soil erosion: Kings River Experimental Watersheds: Study area and contributing factors. USDA Forest Service. 2009. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 2 p.

Sediment and soil erosion: Kings River Experimental Watersheds: Why measure soil erosion in mountains? USDA Forest Service. 2009. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 2 p.

Spatial relationships in a dendritic network: The herpetofaunal meta-community of the Mattole River catchment of northwest California. Welsh, H. H., Jr.; Hodgson, G. R. 2010. *Ecography*. 33: 1-18.

Stream discharge: Kings River Experimental Watersheds: Background. USDA Forest Service. 2009. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 2 p.

Wildlife and fish

American marten distributions over a 28 year period: Relationships with landscape change in Sagehen Creek Experimental Forest, California, USA. Moriarty, K.M. 2009. Corvallis, OR: Oregon State University. Thesis.

The avian knowledge network: a partnership to organize, analyze, and visualize bird observation data for education, conservation, research, and land management. Iliff, Marshall; Salas, Leo; Inzunza, Ernesto Ruelas; Ballard, Grant; Lepage, Denis; Kelling, Steve. 2009. In: Rich, T.D.; Arizmendi, C.; Demarest, D.; Thompson, C., eds. *Tundra to tropics: Connecting birds, habitats and people*; Proceedings of

- the 4th International Partners in Flight Conference; 13-16 February, 2008; McAllen, TX. Partners in Flight: 365–373. Online: <http://www.treeseearch.fs.fed.us/pubs/35080>.
- Avian monitoring of the Masterson and Plaskett Meadows Campgrounds.** Herrera, P.A.; Ralph, C.J.; Hollinger, K. 2009. Arcata, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Redwood Sciences Laboratory. 9 p.
- Book review: Bird banding in North America: The first hundred years.** Ralph, C. John. 2009. *The Auk*. 126(3): 702-703.
- Breeding seasons, molt patterns, and gender and age criteria for selected northeastern Costa Rican resident landbirds.** Wolfe, Jared D.; Pyle, Peter; Ralph, C. John. 2009. *The Wilson Journal of Ornithology*. 121(3): 556-567.
- Broadening the focus of bat conservation and research in the USA for the 21st century.** Weller, Theodore J.; Cryan, Paul M.; O'Shea, Thomas J. 2009. *Endangered Species Research*. 8: 129-145. Online: <http://www.treeseearch.fs.fed.us/pubs/33440>.
- Changes in aquatic insect emergence in response to whole-lake experimental manipulations of introduced trout.** Pope, K.L.; Pioviva-Scott, J.; Lawler, S.P. 2009. *Freshwater Biology*. 54: 982-993.
- Characteristics of summer and fall diurnal resting habitat used by American martens in coastal northwestern California.** Slauson, Keith M.; Zielinski, William J. 2009. *Northwest Science*. 83(1): 35-45. Online: <http://www.treeseearch.fs.fed.us/pubs/33737>.
- Characterizing the molecular variation among American marten (*Martes Americana*) subspecies from Oregon and California.** Slauson, K.M.; Zielinski, W.J.; Stone, K.D. 2009. *Conservation Genetics*. 10(5): 1337-1341.
- The current state of knowledge on molt and plumage sequences in selected tropical families: A review.** Ryder, Thomas B.; Wolfe, Jared D. 2009. *Ornithologia Neotropical*. 20: 1-18.
- Diet of some spring migrant landbirds on the Caribbean coast of Costa Rica.** Wolfe, Jared D. 2009. *Journal of Caribbean Ornithology*. 22(1): 37-40. Online: <http://www.treeseearch.fs.fed.us/pubs/35079>.
- Está la proporción de sexos de una población relacionada con el crecimiento de la capturabilidad? Elizondo, Pablo; Ralph, C. John; Wolfe, Jared D.; Ramirez, A.O. 2009. *Mesoamericana*. 13(2): 101 p.**
- High-mountain lakes provide a seasonal niche for migrant American dippers.** Garwood, J.M.; Pope, K.L.; Bourque R.M.; Larson, M.D. 2009. *Wilson Journal of Ornithology*. 121(3): 600-609.
- How reliable are amphibian population metrics? A response to Kroll et al.** Welsh, H.H., Jr.; Pope, K.L.; Wheeler, C.A. 2009. *Biological Conservation*. 142: 2797-2801.
- Linking habitat quality with trophic performance of steelhead along forest gradients in the South Fork Trinity River watershed, California.** McCarthy, S.G.; Duda, J.J.; Emlen, J.M.; Hodgson, G.R.; Beauchamp, D.A. 2009. *Transactions of the American Fisheries Society*. 138: 506-521.
- Marbled murrelete abundance, distribution, and productivity along the coasts of northern California and southern Oregon, 2008.** Long, L.L.; Miller, S.L.; Ralph, C.J.; Elias, E.A.; Strong, C. 2009. Arcata, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Redwood Sciences Laboratory. 32 p.
- Molt patterns, age, and sex criteria for selected highland Costa Rican resident landbirds.** Wolfe, Jared D.; Chandler, Richard B.; King, David I. 2009. *Ornithologia Neotropical*. 20: 451-459. Online: <http://www.treeseearch.fs.fed.us/pubs/35078>.
- Orleans Cedar, Orleans Community Fuels Reduction and Forest Health, and Waterman West projects: northern spotted owl, northern goshawk, marbled murrelet, and landbird survey report 2009.** Slabe, V.; Herrera, P.A.; Miller, S. 2009. Arcata, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station, Redwood Sciences Laboratory. 18 p.
- Predatory leeches (Subclass Hirudinida) may contribute to amphibian declines near Mt. Lassen, California.** Stead, J. E.; Pope, K.L. 2010. *Northwestern Naturalist*. 91: 30-39.
- Resting structures and resting habitat of fishers in the southern Sierra Nevada, California.** Purcell, Kathryn L.; Mazzoni, Amie K.; Mori, Sylvia R.; Boroski, Brian B. 2009. *Forest Ecology and Management*. 258: 2696-2706.
- Site identification.** Olson, D.H.; Clayton, D.; Reilly, E.C.; Nauman, R. S.; Devlin, B.; Welsh, H.H., Jr. 2009. *Northwest Fauna*. 6: 31-37.
- Spatial ecology of the aquatic garter snake, *Thamnophis atratus*, in a free-flowing stream environment.** Welsh, H.H., Jr.; Wheeler, C. A.; Lind, A. J. 2010. *Copeia*. 1: 75-85.
- Spatial model of optimal habitat for the Siskiyou Mountains salamander (*Plethodon stormi*), north of the Siskiyou Crest.** Reilly, E. C.; Clayton, D.; Nauman, R. S.; Olson, D. H.; Welsh, H.H., Jr.; Devlin, B. 2009. *Northwest Fauna*. 6: 23-25.
- Stream amphibians as metrics of critical biological thresholds in the Pacific Northwest, U.S.A.: A response to Kroll et al.** Welsh, Hartwell H., Jr.; Hodgson, Garth R. 2009. *Freshwater Biology*. 54: 2374-2382.
- Survey protocol for the Siskiyou Mountains salamander (*Plethodon stormi*), Version 3.0, 1999.** Clayton, D.; Olivier, L. M.; Welsh, H. H., Jr. 2009. *Northwest Fauna*. 6: 43-61.
- Using molt cycles to categorize the age of tropical birds: An integrative new system.** Wolfe, Jared D.; Ryder, Thomas B.; Pyle, Peter. 2010. *Journal of Field Ornithology*. 81(2): 186-194.
- Wolverine confirmation in California after nearly a century: Native or long-distance immigrant? Moriarty, Katie M.; Zielinski, William J.; Gonzales, Armand G.; Dawson, Todd E.; Boatner, Kristie M.; Wilson, Craig A.; Schlexer, Frederick V.; Pilgrim, Kristine L.; Copeland, Jeffrey P.; Schwartz, Michael K. 2009. *Northwest Science*. 83(2): 154-162. Online: <http://www.treeseearch.fs.fed.us/pubs/3523>.**

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