

Technical Program

Monday, February 13, 2006

Plenary Session

**Fairmont, BC Ballroom – Monday,
 February 13, 8:00 AM – 11:30 AM**

**Moderator: Hugh Barrett, Vancouver,
 Washington**

- 8:40 **Scenes of the Pacific Northwest –**
 rolling slide show
- 9:00 Pipe in the Colors & Royal Canadian
 Mounted Police
**The Honorable Iona Campanola,
 Lieutenant Governor, Province of
 British Columbia**
- 9:40 **Ecological Archeology in the
 Rocky Mountains,**
 Wayne Choquette, Archeologist,
 Kootenay Region, BC
- 10:20 **Where Does All the Rain Go?, Dr.**
 Tom Pypker, Oregon State
 University, Corvallis, OR
- 10:40 **Learning to Live Sustainably in
 the Landscapes of the Pacific
 Northwest,** James Honey,
 Sustainable Northwest, Portland, OR
- 11:00 Closing Remarks, Hugh Barrett,
 Moderator

TECHNICAL SESSION: Invasive Species

**Hyatt, Plaza A – Monday, February 13,
 1:30 PM – 5:00 PM**

Moderators: Jane Mangold and Linda
 Wilson

- 1:30 **Combining remote sensing and
 landscape modeling for analysis of
 leafy spurge -** Raymond Hunt¹ and
 John Gillham. ¹USDA-ARS
 Hydrology and Remote Sensing Lab,
 Beltsville, Maryland, USA.
- 1:50 **The toxicology of western invasive
 plants in horses -** Genyce Hanson
 and Karen Launchbaugh.
 Department of Rangeland Ecology
 and Management, Moscow, ID.
- 2:10 **The interaction of competitive
 grass and biological control to
 manage spotted knapweed. –** James
 Jacobs¹, Sharlene Sing², Monica L
 Pokorny¹ and Roger Sheley³.
¹Montana State University-Bozeman
 Bozeman, MT, ²USDA Forest
 Service Bozeman, Mt, ³USDA ARS
 Burns, OR.
- 2:30 **Noxious weed utilization by sheep
 grazing Montana native range -**
 Lisa Surber¹, Rodney Kott¹, James
 Moore¹, Brent Roeder¹ and Gary
 Hewitt¹. ¹Montana State University
 Bozeman, MT.
- 2:50 **Break**
- 3:20 **The effects of prescribed grazing
 on yellow starthistle (Centaurea
 solstitialis, L.) phenological
 development and resource**

allocation - Linda Wilson¹, Karen Launchbaugh² and John Wallace³.
¹Department Plant, Soil and Entomological Sciences Moscow, ID, ²Department Rangeland Ecology and Management Moscow, ID, ³Department Plant, Soil and Entomological Sciences Moscow, ID

- 3:40 **Identifying high-payoff areas for investments in invasive species management: *Bromus tectorum* (cheatgrass) case study** - Lisa Wainger¹, Dennis King¹ and Richard Mack². ¹University of Maryland, Center for Environmental Science, Solomons, MD, ²Department of Botany, Washington State University, Pullman, WA.
- 4:00 **Uptake, allocation and resorption of nitrogen by *Centaurea maculosa* and three native species** - Elizabeth D'Imperio¹ and Bret Olson². ¹Land Resources and Environmental Sciences Dept. Bozeman, MT, USA, ²Animal and Range Sciences Dept. Bozeman, MT.
- 4:20 ***Pennistenum ciliare* invasion and subsequent success of native vs. exotic species in the desert southwest, USA** - Mari-Vaughn Virginia Johnson¹ and Timothy Fulbright¹. ¹Texas A&M University, Kingsville, Texas.
- 4:40 **Prescribed herbivory for vegetation management: A research strategy** - Wolfgang Pittroff¹. ¹Dept. of Animal Science Davis, CA.

**TECHNICAL SESSION: Watershed, Soils, and Hydrology
Hyatt, Grouse - Monday, February 13,
1:30 PM – 5:00 PM**

Moderators: John Buckhouse and Kenneth Tate

- 1:30 **Planting location and grazing management considerations in willow plantation survival** - Katherine Lowson¹ and John Buckhouse². ¹Alberta Public Lands and Forest Division Peace River, Alberta, Canada, ² Department of Rangeland Ecology and Management, Corvallis, OR.
- 1:50 **Effects of sheep grazing on soil properties and plant production in silvopastures** - Steven Sharrow. Department of Rangeland Ecology and Management, Oregon State University, Corvallis, OR.
- 2:10 **Efficacy of wetlands to enhance water quality of tailwaters from irrigated pastures** - Kate Knox, Ken Tate and Randy Dahlgren. UC Davis, Davis, CA.
- 2:30 **Vegetation canopy, streamflow, and air temperature are important and interacting factors determining water temperature in inland and coastal rangeland streams** - Kenneth Tate¹, David Lewis², John Harper³, David Lile⁴ and Donald Lancaster⁵. ¹Department of Plant Sciences, University of California Davis, CA, ²University of California Cooperative Extension Santa Rosa, CA, ³University of California Cooperative Extension Ukiah, CA, ⁴University of California Cooperative Extension Susanville,

- CA, ⁵University of California Cooperative Extension Alturas, CA.
- 2:50 **Grasslands filter a significant amount of the *Escherichia coli* transported from cattle fecal deposits during natural rainfall-runoff events** - Kenneth Tate¹, Edward Atwill², James Bartolome³ and Glenn Nader⁴. ¹Department of Plant Sciences, University of California Davis, CA, ²Veterinary Medicine Teaching and Research Center, University of California Tulare, CA, ³Environmental Science Policy and Management, University of California Berkeley, CA, ⁴University of California Cooperative Extension Yuba City, CA.
- 3:10 **Break**
- 3:40 **Ecohydrologic modeling for rangeland management with SWAT and artificial neural networks** - Sudhanshu Panda and Keith Weber. GIS Training and Research Center Pocatello, ID.
- 4:00 **Sub-alpine community controls on trace gas emissions from the Bogong High Plains, Australia** - Robert Simpson¹, Tina Bell¹ and Mark Adams². ¹School of Forest and Ecosystem Science Creswick, Victoria, Australia. ²University of New South Wales Sydney, New South Wales, Australia.
- 4:20 **A water balance approach to characterizing the hydroclimatology of a mountainous semi-arid catchment** - Gary Chauvin¹, Timothy Link², Gerald Flerchinger³ and Danny

Marks³. ¹Environmental Science Program Moscow, ID. ²Forest Resources Department Moscow, ID. ³USDA-ARS, Northwest Watershed Research Center Boise, ID.

- 4:40 **Automated detection of shrub size, location, and cover using aerial photography and two-dimensional wavelet analysis.** - Steven Garrity, Lee Vierling and Alistair Smith. Department of Rangeland Ecology & Management Moscow, ID.

SYMPOSIUM
Wildlife Habitat Analysis of the Future:
Examining Multiple Scales Using
Geospatial Technology
Hyatt, Georgia A – Monday, February 13
1:30 PM – 5:00 PM

Co-Organizers: Jeremy Maestus and Steve Petersen; Wildlife Habitat & GIS and Remote Sensing Committees.

- 1:30 **Introduction** – Jeremy Maestas. USDA-NRCS, UT.
- 1:35 **Integrating scale and heterogeneity into wildlife habitat research and management** - Sam Fuhlendorf. Oklahoma State University.
- 1:55 **Characterization of sage grouse nesting and brood-reading habitat at broad spatial scales using remote sensing and GIS** - Steven Petersen¹, Richard Miller¹, Mike Gregg², Mike Pope³ and Douglas Robinson³. ¹Department of Rangeland Ecology and Management, Oregon State University, Corvallis, OR, ²U.S. Fish and Wildlife Service Richland, WA, ³Department of Fisheries and Wildlife, Corvallis, OR.

2:15 **Assessment of the impacts of Canada goose grazing on cropland in western Oregon using GIS and remote sensing** - Mounir Louhaichi, Douglas Johnson and Michael Borman. Department of Rangeland Ecology and Management, Oregon State University, Corvallis, OR.

2:35 **Evaluating wolf effects on livestock and wild ungulates using the Clark Animal Tracking System** - Patrick Clark. USDA-ARS, Boise, ID.

2:55 **Landscape analysis and modeling for wildlife habitat assessment** - X. Ben Wu¹, Paikho Rho², Humberto Perotto-Baldivieso³, Fred Smeins¹, Markus Peterson⁴ and Nova Silvy⁴.
¹Rangeland Ecology and Mgt College Station, TX, ²Korea Environment Institute Seoul, Korea, Korea, ³University of Puerto Rico San Juan, PR. ⁴Wildlife and Fisheries Sciences, College Station, TX.

3:15 **Mapping of Thermal Patterns for Determining Landscape Suitability for *Rangifer tarandus* Calving Sites** - Norman Harris¹, Douglas Johnson², Beth Hall¹ and Randy Fulweber¹. ¹University of Alaska – Fairbanks, Palmer, AK, ²Department of Rangeland Ecology and Management, Oregon State University, Corvallis, OR.

3:35 **Multi-scale, Multi-temporal Watershed Assessments for Land Management Affecting a Listed Native Trout** - D. Terrance Booth¹, Samuel Cox¹ and Gregg Simonds².
¹USDA Agricultural Research Service, Cheyenne, WY, ²Open

Range Consulting, Inc., Park City, UT.

3:55 **Wildlife habitat mapping and analyses using satellite imagery** - Ramesh Sivanpillai. WyGISC Laramie, WY.

SYMPOSIUM

The Future of Rangeland Management on Publicly Held Lands
Hyatt, Plaza B – Monday, February 13
1:30 PM – 5:00 PM

Co-Organizers: Nancy Phelps, Bob Drinkwater, and Bob France; PNW Section.

1:30 **Panel Presentation** - Douglas Konkin. Deputy Minister, Ministry of Forests and Range, British Columbia.

1:40 Panel Presentation – Larry Pedersen, Deputy Minister, Ministry of Agriculture and Lands, British Columbia

1:50 **Panel Presentation** - Elaine Brong. BLM State Director for Oregon and Washington.

2:10 **Panel Presentation** - Linda Goodman. USFS Regional Forester for the Pacific Northwest Region.

2:30 **Panel Question and Answer Time**

SYMPOSIUM

Tectonics, Ice Ages and Floods-How the Pacific Northwest Landscapes were Formed

**Hyatt, Georgia B – Monday, February 13
1:30 PM – 5:00 PM**

Organizer: Brian Haddow; PNW Section

- 1:30 **Introduction**
- 1:40 **Living on the Edge of Cascadia -**
Scott Burns. Portland State University, Department of Geology, Portland, OR.
- 2:10 **DVD Video "The Great Floods"**
- 2:25 **Catastrophic Ice-Age Floods and Their Effects on the Pacific Northwest -** Brent Cunderla. Spokane Area Field Geologist, Wenatchee, WA.
- 2:55 **Climate Changes and Ecological Shifts in Rangelands in BC Since the Last Ice Age -** Richard Hebda. Royal British Columbia Museum, Curator of Botany and Earth History Victoria, BC, Canada.
- 3:25 **Break**
- 3:40 **After the Ice and Into the Future: Where do we go From Here? -** Michael D Pitt. Professor, Emeritus, Rangeland Management and Ecology, UBC; Pender Island, BC, Canada.
- 4:10 **Assembling the West: Moving From Tectonics to Management -** Hugh Barrett. Principle, CSR Natural Resources Consulting, Vancouver, WA.

4:40 **Accumulated and New Questions/Discussion**

WORKSHOP

**Hands on Monitoring
Fairmont, Vancouver Island – Monday,
February 13
1:30 PM – 5:00 PM**

Organizer: Jack Alexander

This “hands-on” monitoring workshop is designed to have participants be able to run transects and conduct sampling inside the convention center. Workshop sponsors will have materials, supplies, tools, and equipment on hand for participants to use in simulated field situation. Additionally, authors of sampling protocols will be present to answer questions. The workshop will consist of specific areas within the meeting room devoted to different sampling protocols including plant cover and composition, soil compaction, and soil susceptibility to wind and water erosion as well as weed invasion. There will be experts assigned to each area to answer participants’ questions.

**POSTER SESSION 1 - Ecology
Hyatt,Regency E & F – Monday,
February 13, 2:30 PM – 4:30 PM**

- 1 **Effects of wildfire on wooded draw vegetation composition in western North Dakota -** Lorilynn Clark¹, Kevin Sedivec¹, Clair Fitzpatrick², Jack Norland¹ and Mario Biondini¹. ¹North Dakota State University, Fargo, ND, ²Alberta Sustainable Resource Development-Public Lands Lethbridge, Alberta, Canada.

- 2 **Short-term effects of summer fire and post-fire grazing in the northern Great Plains** - Jessica Rose¹, Lance Vermeire² and David Wester¹. ¹Texas Tech University, Lubbock, TX, ²USDA-ARS Miles City, MT.
- 3 **Post-fire regeneration of mountain big sagebrush rangeland in southeast Idaho: A case study** - Juley Hankins. BLM, Idaho Falls, ID.
- 4 **The use of remote sensing imagery to determine wildland fire severity in semiarid sagebrush-steppe rangeland ecosystems** - Jill Norton¹, Nancy Glenn², Keith Weber¹, Steve Seefeldt³ and Bret Taylor⁴. ¹Idaho State University Pocatello, ID, ²Idaho State University-Boise Center, Boise, ID, ³USDA-ARS SubArctic Agricultural Research Unit, Fairbanks, AK, ⁴USDA-Agricultural Research Service, Dubois, ID.
- 5 **The impacts of burning Wyoming big sagebrush on community resource capture and use** - Kirk Davies¹, Jon Bates² and Rick Miller¹. ¹EOARC-Burns, Oregon State University, Burns, OR, ²EOARC-Burns, USDA Agriculture Research Service, Burns, OR.
- 6 **Biological forest ecosystem diversity and their impact in semi arid land, analysis and followed by remote sensing (ALSAT-1 data, steppe of Algeria)** - Ahmed Zegrar. Arzew, Oran, Algeria.
- 7 **Landscape position affects soil carbon in a rotationally-grazed native pasture** - Paul Jefferson, Alan Iwaasa and Reynald Lemke. Agriculture and Agri-Food Canada, Swift Current, Saskatchewan, Canada.
- 8 **Blue wildrye (*Elymus glaucus*) growth as a function of compaction and water potential** - Allison Tokunaga and Susan Edinger Marshall. Humboldt State University, Arcata, CA.
- 9 **Carbon flux of *Astragalus hulunensis* on the Gongga Mt., southwestern China** - Yihai Zhao¹, Ji Luo² and Yikun Fu¹. ¹Gansu Agricultural University, Lanzhou, Gansu, China, ²Institute of Mountain Hazards & Environment, CAS Chengdu, Sichuan, China.
- 10 **Effects of biosolids on soil physical properties of forage production systems in the southern interior of British Columbia** - Brian Wallace¹, Tom Forge², Maja Krzic¹, Klaas Broersma³ and Reg Newman⁴. ¹UBC, Faculty of Land and Food Systems, Vancouver, BC, ²Agriculture and Agri-Food Canada, Pacific Agri-Food Research Center, Agassiz, BC, ³Agriculture and Agri-Food Canada, Kamloops Range Research Station, Kamloops, BC, ⁴BC Ministry of Forests, Kamloops, BC.
- 11 **Prioritizing rare plant monitoring on the Black Hills National Forest** - Deanna Reyher¹, Carolyn Sieg² and Noah Barstatis². ¹USDA Forest Service, Custer, SD, ²USDA Forest Service, Flagstaff, AZ.
- 12 **Precipitation pulses in a tree community: Contrasting water use patterns by co-existing trees** - M. Keith Owens¹, Robert Ayala¹, Jim L Heilman, Jim F Kjelgaard² and Kevin McInnes². ¹Texas Agricultural Experiment Station, Uvalde, TX, ²Texas A&M University, College Station, TX.

- 13 **Measuring carbon dioxide flux over northern Great Plains rangelands -** Marshall Haferkamp, Michael MacNeil, Lance Vermeire and Jennifer Muscha. USDA-ARS, Fort Keogh, Miles City, MT.
- 14 **Belowground bud bank dynamics of invasive *Sericea lespedeza* in tallgrass prairie patch burn systems -** Karen Hickman, D. Cummings and Samuel Fuhlendorf. Oklahoma State University, Stillwater, OK.
- 15 **Germination and seedling establishment of perennial grasses and shrubs in Patagonia, Argentina -** Griselda Bonvissuto¹ and Carlos Busso². ¹INTA (National Institute for Agricultural Technology) - Rio Negro, Argentina, ²Department of Agronomia, Universidad Nacional del Sur Bahia Blanca, Buenos Aires, Argentina.
- 16 **Simulating long-term impacts of methods of control of *Bromus tectorum* at Yakima Training Center -** Ricardo Mata-Gonzalez¹, Rachael Hunter¹, Cade Coldren¹, Terry McLendon¹ and Mark Paschke². ¹MWH Americas, Inc., Fort Collins, CO, ²Department of Forest, Rangeland, and Watershed Stewardship, Colorado State University, Fort Collins, CO.
- 17 **Study on plant associations and vegetation mapping of Bagheshad Region, Iran -** Amir Hossein Kashipazha¹, Yones Asri² and Hamid Reza Moradi³. ¹Ghazvin, Iran, ²Reserch Institute of Forests and Rangelands, Pykanschahr, Tehran, Iran ³College of Natural Resources of Tarbiyat Moddares University, Noor, Mazandaran Province, Mazandaran, Iran.
- 18 **Loss of critical browse communities on the Charles Sheldon National Wildlife Refuge -** Charlie Clements and James A Young. USDA-ARS 920 Valley Road Reno, NV.
- 19 **Relationships between environmental and vegetation characteristics: Wyoming big sagebrush alliance -** Kirk Davies¹, Jon Bates² and Rick Miller¹. ¹EOARC-Burn, Oregon State University, Burns, OR, ²EOARC-Burns, USDA Agriculture Research Service Burns, OR.
- 20 **Clubmoss does not limit emergence of graminoids seedlings in the northern Mixed Prairie -** Jim Romo. Dept. of Plant Sciences, University of Saskatchewan Saskatoon, SK, Canada.
- 21 **The effect of pre-burn history and the season of burning on the seedbank in Fescue Prairie -** J. Romo, Y. Bai and D. Gross. Dept. of Plant Sciences, University of Saskatchewan Saskatoon, SK, Canada.
- 22 **Production and forage quality of cool and warm-season plant communities on Sandhills meadows -** Walter Schacht¹, Jerry Volesky¹, Eric M Mousel² and Bryce D Bauer³. ¹Department of Agronomy and Horticulture, University of Nebraska, Lincoln, NE, ²Department of Animal and Range Science, South Dakota State University, Brookings, SD, ³Natural Resources Conservation Service West Point, NE.
- 23 **Landscape variation in herbage availability associated with newly created wetlands in the dry mixedgrass prairie -** Stephen Asamoah and Edward Bork. Department of Agricultural, Food and Nutritional

Science, University of Alberta,
Edmonton, Alberta, Canada.

- 24 **Cattle & creeks can be compatible -** Bruce Cairns¹, Don McLennan² and Tracy Kupchenko¹. ¹Alberta Sustainable Resource Development, Medicine Hat, AB, Canada, ²Agriculture, and Agri-Food Canada, Medicine Hat, Alberta, Canada.
- 25 **The Wieslander vegetation mapping project: examining California's vegetation through time -** Timothy Doherty and Barbara Allen-Diaz. Allen Diaz Lab, UC Berkeley, Berkeley, CA.
- 26 **Are native ungulates and contemporary cattle grazing ecologically equivalent in the aspen parkland of Alberta -** Rae Haddow¹, Edward Bork¹ and Robert Hudson². ¹Dept. of Agricultural, Food, and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada, ²Dept. of Renewable Resources, University of Alberta, Edmonton, Alberta, Canada.
- 27 **Development of technologies to map slickspot soils on the Snake River Plain -** Mounir Louhaichi¹, David A Pyke², Scott E Shaff² and Douglas E Johnson¹. ¹Department of Rangeland Ecology & Management, Oregon State University, Corvallis, OR, ²USGS Forest and Rangeland Ecosystem Science Center, Corvallis, OR.
- 28 **Ecological site concepts, descriptions, state and transition models and rangeland health in southern Arizona -** Daniel Robinett. Natural Resources Conservation Service, Tucson, AZ.
- 29 **Organochlorine compounds in water and sediments of three tributaries of the Rio Bravo in Coahuila, Mexico -** Rebeca Hernandez-Paz¹, Juvenal Gutierrez-Castillo¹, Raul Garza-Cuevas¹, Porfirio Caballero-Mata¹, Shad D Nelson² and Ricardo Mata-Gonzalez³. ¹Tecnologico de Monterrey Monterrey, NL, Mexico, ²Texas A&M University – Kingsville, Kingsville, TX, ³MWH Americas Inc., Fort Collins, CO.
- 30 **Flood irrigation impacts on stream temperature dynamics of a meadow stream -** Chad Boyd, Jose Zamora and Tony Svejcar. USDA-ARS Burns, OR.
- 31 **Water quality effects of interactions between surface water and groundwater along the Rio Grande in northern New Mexico -** Amber M Helmus¹, Alexander Fernald¹, Steve Guldan² and Carlos Ochoa¹. ¹New Mexico State University Las Cruces, NM, ²Alcalde Sustainable Agriculture Science Center Alcalde, NM.
- 32 **Grazing and livestock exclusion effects on northern Plains diversity and heterogeneity -** Lance Vermeire, Rodney Heitschmidt and Marshall Haferkamp. USDA-ARS LARRL, Miles City, MT.
- 33 **How are plant community utilization and composition affected by cattle compared to native ungulates in the aspen parkland of Alberta -** Rae Haddow¹, Edward W Bork¹ and Robert J Hudson². ¹Dept. of Agriculture, Food, and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada, ²Dept. of Renewable Resources, University of Alberta Edmonton, Alberta, Canada.

- 34 **Moderate and heavy grazing impacts on carbon flux in a southern Plains mixed-grass prairie** - Phillip Sims and James Bradford. Southern Plains Range Research Station, Woodward, OK.
- 35 **Vegetation response to five years of summer and fall grazing in the Nebraska Sandhills** - Eric Mouse¹, Walter H Schacht² and Patrick E Reece³. ¹South Dakota State University Brookings, SD, ²University of Nebraska - Lincoln Lincoln, NE, ³University of Nebraska Scottsbluff, NE.
- 36 **Camp creek paired watershed Juniper control/water quantity monitoring project** - Tim Deboodt¹, Michael Fisher², John Buckhouse³ and John Swanson⁴. ¹OSU Extension, Crook County, Prineville, OR, ²Central Oregon Community College Bend, OR, ³Oregon State University, Department of Rangeland Ecology and Management, Corvallis, OR, ⁴USDI, BLM Prineville, OR.
- 37 **Utilization - When?** - Lars Santana, John Murray and John Scott.
- 38 **Effects of summer fire and post-fire grazing on grasshopper abundance and species composition** - David Branson¹ and Lance Vermeire². ¹USDA-Agricultural Research Service, Sidney, MT, ²USDA-Agricultural Research Service, Miles City, MT.
- 39 **Shrub stand manipulations to improve seed production in antelope bitterbrush in Idaho, Nevada and Utah** - Leland Roberts, Val Jo Anderson and Robert Johnson. Department of Integrative Biology, Brigham Young University, Provo, UT.
- 40 **Shrub stand manipulations to improve seed production in Wyoming big sagebrush in Idaho, Nevada and Utah** - Jeremiah Armstrong, Val Jo Anderson and Robert Johnson. Department of Integrative Biology, Brigham Young University, Provo, UT.