

Technical Program

Sunday, February 12, 2006

SYMPOSIUM

**Seeding Equipment and Native Plant
 Materials in Canada and the US – New
 Approaches and Products**
**Hyatt, Georgia A&B – Sunday, February
 12**
1:00 PM – 5:30 PM

Co-Organizers: Duane McCartney and Mike
 Pellant; Rangeland Technology and
 Equipment Council

- 1:00 **RTEC Introduction** - Duane
 McCartney. Agriculture and Agri-
 Food Canada, Lacombe, Alberta.
- 1:05 **Canada: Overview of land
 clearing and seeding equipment
 used to seed pastures and
 rangelands in western Canada** -
 Duane McCartney. Agriculture and
 Agri-Food Canada, Lacombe,
 Alberta.
- 1:30 **USA: New approaches and
 equipment for establishing diverse
 species on Western rangelands** -
 Mike Pellant. USDI Bureau of Land
 Management, Great Basin
 Restoration Initiative, Boise, ID.
- 1:55 **Canada: Development and uses of
 native plant materials for Alberta** -
 Jay Woosaree. Alberta Research
 Council, Vegreville, Alberta.
- 2:20 **USA: Equipment and
 Approaches for restoring diversity
 in grass monocultures** - Brad

Jessop, Bruce Roundy, Val Jo
 Anderson, and Jennifer Coleman.
 Brigham Young University, Provo,
 UT.

- 2:45 **Break** – Posters and sponsored
 refreshments
- 3:00 **Canada: Using Native Plant
 Materials for Reclamation of Alberta
 Rangelands** - Heather Sinton.
 Alberta Environment, Edmonton,
 Alberta.
- 3:40 **USA: Native Plant Initiatives:
 Native plants for public lands** –
 Nancy Shaw. USDA Forest Service,
 Rocky Mountain Research Station,
 Boise, ID.
- 4:05 **Canada: Native plant materials
 development: A joint Ducks
 Unlimited and Agriculture & Agri-
 Food Canada project** - Grant
 McLeod. Agriculture and AgriFood
 Canada, Semiarid Prairie
 Agricultural Research Centre, Swift
 Current, Saskatchewan. Bruce
 Coulman. Agriculture and AgriFood
 Canada, Saskatoon Research Center,
 Saskatoon, Saskatchewan and Paul
 Jefferson. Agriculture and AgriFood
 Canada, Semiarid Prairie
 Agricultural Research Centre, Swift
 Current, Saskatchewan
- 4:30 **USA: Native plant materials for
 private lands** - Jim Briggs. USDA
 Natural Resources Conservation
 Service, Portland, OR.
- 4:55 **RTEC Business Meeting**
 *Posters included in addition to oral
 presentations

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

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

Moderators: John Buckhouse and Kenneth Tate

- 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.
- 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.

Tuesday, February 14, 2006

TECHNICAL SESSION: Plant Ecology Hyatt, Georgia A – Tuesday, February 14, 8:00 AM – 11:30 AM

Moderators: Steve Sharrow and Gail
Tunberg

- 8:00 **Restoration of aspen stands to enhance plant diversity in the Sierra Nevada** - Timothy Kuhn¹, Kenneth Tate¹, Hugh Safford², Michael Barbour¹ and Bobette Jones¹. ¹Department of Plant Sciences, University of California Davis, CA, ²US Forest Service, Pacific Southwest Region Vallejo, C
- 8:20 **Mixed grass prairie and fescue grassland composition response to liquid hog manure application** - Laura Blonski¹ and Edward Bork². ¹British Columbia Ministry of Forests and Range Prince George, British Columbia, Canada, ²University of Alberta Edmonton, Alberta, Canada.
- 8:40 **The significance of summer precipitation in the northern Great Plains** - Rodney Heitschmidt and Lance Vermeire. USDA Agricultural Research Service Miles City, MT.
- 9:00 **Evaluation of various grass-legume forage mixes in Alberta for maximum production efficiency: establishment data** – Danielle Gabruck and Edward Bork. Department of Agricultural, Food, and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada.
- 9:20 **From Cows to Tanks; Range Management at Canadian Forces Base Suffield (Methods and Observations)** - Brent Smith. G3 Range Control, Canadian Forces Base Suffield Medicine Hat, Alberta, Canada.
- 9:40 **Break**
- 10:10 **Genetic ecology of natural populations of *Leymus chinensis* in heterogeneous and homogeneous habitats in China** - Xiao-Hua Teng¹, Rui-Min Hong¹, Bao-Zhong HU¹, Yu-Sheng Wang¹ and Di Chen². ¹Grassland Research Station, College of Animal Science and Technology, Northeast Agriculture University, Harbin, Heilongjiang Province, P.R. of China, ²Birth Control Bureau of Xiangfang District in Haibin Harbin, Heilongjiang Province, P.R. of China.
- 10:30 **Carbon and water flux responses to CO₂ variation in grassland exposed to different CO₂ concentrations** - Wayne Polley¹, William Dugas², Patricia C Mielnick² and Hyrum Johnson¹. ¹USDA Agricultural Research Service, Temple, TX, ²Texas Agricultural Experiment Station, Temple, TX.
- 10:50 **Distribution of forest gaps and their effects on liana seedling establishment in tropical seasonal evergreen forest, Khao Yai National Park, Thailand** - Chanpen Wongsriphuek^{1,3}, Warren Brockelman^{1,2}, Amnart Boonkongchart² and Saiwaroon Chongko². ¹Center for Conservation Biology, ISTRD Mahidol University Salaya, Nakornpathom, Thailand,

²National Center for Genetic Engineering and Biotechnology (BIOTEC), 113 Paholyothin Road Klongluang, Pathumthani, Thailand,
³ Department of Biology Faculty of Sciences, Mahidol university Payathai, Bangkok, Thailand.

11:10 **Impact of shrub regrowth following seasonal fires on herbaceous vegetation** - R J Ansley and M J Castellano. Texas Agricultural Experiment Station, Vernon, TX.

TECHNICAL SESSION: Technology and Monitoring
Hyatt, Plaza A – Tuesday, February 14,
8:00 AM – 11:30 AM

Moderators: Barry Adams and Doug Johnson

8:00 **Near infrared reflectance spectroscopy of fresh feces and plant tissue under field conditions** - Doug Tolleson and Jerry Stuth. Texas A&M University, Department of Rangeland Ecology & Management College Station, TX.

8:20 **Comparison of canopy cover measurements among four densiometers** - Claudia Kelley and William Krueger. Department of Rangeland Ecology & Management, Oregon State University, Corvallis, OR.

8:40 **Vegetation recovery and trend after wildfire on public rangelands** - Ann P Bollinger¹, Barry Perryman¹ and Sherman Swanson².
¹Department of Animal Science Reno, NV, ²Department of Natural

Resources and Environmental Science Reno, NV.

9:00 **Alberta rangeland health assessment for grassland, forest and seeded pasture** - Barry Adams. Alberta Sustainable Resource Development, Agriculture Centre, #100, 5401-1st Ave South Lethbridge, AB, Canada.

9:20 **Historic Trends in Rangeland Health in the Montane Region of Alberta** - Michael Willoughby¹ and Michael Alexander². ¹9920 108th Street. 4th Floor. Edmonton, Alberta, ² Box 1869 Pincher Creek, Alberta.

9:40 **Break**

9:50 **A case study of participatory monitoring on public lands in northwest Colorado** - Dana Bishop and Maria Fernandez-Gimenez. Colorado State University, Fort Collins, CO.

10:10 **Rangeland health modeling with quickbird imagery** - Bhushan Gokhale and Keith Weber. The GIS Training and Research Center, Idaho State University, Pocatello, ID.

10:30 **Visual obstruction for ecological site condition and wildlife habitat assessments** - Lakhdar Benkobi¹ and Jack Butler². ¹Rangeland Research Scientist, Fort Collins, CO, ²Research Ecologist, Rapid City, SD.

10:50 **Monitoring streambanks and riparian vegetation--multiple indicators** - Ervin Cowley¹ and Timothy Burton¹. ²Bureau of Land Management Boise, ID.

11:10 **A Comprehensive and Adaptive Residual Dry Matter (RDM) Monitoring Program.** - Keith Guenther¹, Caroline Christian² and Grey Hayes³. ¹Wildland Solutions Brewster, WA, ²The Nature Conservancy San Francisco, CA, ³ Private Consultant Corralitos, CA.

TECHNICAL SESSION: Ecology and Management of Riparian Communities
Hyatt, Plaza B – Tuesday, February 14,
8:00 AM – 11:30 AM

Moderators: Clayton Marlow and Tamzen Stringham

8:00 **Soil carbon and nitrogen mineralization as affected by bison and cattle grazing in wetland communities** - Agnieszka Przeszlowska¹, Joe Trlica¹ and Kate Schoenecker². ¹Colorado State University, Fort Collins, CO, ²U.S. Geological Survey, Fort Collins, CO.

8:20 **Initial recovery of riparian vegetation following prescribed fire in the Armells Creek drainage, Missouri River Breaks, Montana** - Clayton Marlow, Travis Miller, Glen Meeks, Ron Tucker and Chris Roberts. Animal and Range Sciences Department, Montana State University, Bozeman, MT.

8:40 **The influence of strategic protein supplementation on late summer cattle distribution, diet composition, performance and utilization of riparian vegetation in mountain riparian areas** - Angela D J Freeman^{1,3}, Jeffery H Braatne² and Timothy DelCurto³. ¹University of Idaho Moscow, ID, ²University of

Idaho Moscow, ID, ³Eastern Oregon Agricultural Research Center Union, OR.

9:00 **Break**

9:30 **Comparison of ground based and image based assessments of riparian zone health in Australian tropical savannas** - Kasper Johansen^{1,2}, Stuart Phinn¹, Michael Douglas² and Ian Dixon². ¹The University of Queensland, School of Geography, Planning & Architecture Brisbane, Queensland, Australia, ²Charles Darwin University Darwin, Northern Territory, Australia.

9:50 **Effects of hydrology and grazing on vegetation succession on wetlands in the Dry Mixedgrass Prairie** - Stephen Asamoah and Edward Bork. Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada.

10:10 **Cattle & creeks can be compatible** - Don McLennan¹, Bruce D Cairns² and Tracy A Kupchenko². ¹Agriculture, Agri-Food Canada Medicine Hat, Alberta, Canada, ²Alberta Sustainable Resource Development Medicine Hat, Alberta, Canada.

10:30 **Impact of climate change on forest fires and peatlands in Indonesia** - Volker Hammen. Centre for Environmental Research, Halle, Saxsony-Anhalt, Germany.

**TECHNICAL SESSION: Range
Domestic Animals
Hyatt, Plaza C – Tuesday, February 14,
8:00 AM – 11:30 AM**

Moderators: Dave Ganskopp and Mike
McInnis

- 8:00 **Dynamics of nutritional quality of range forage plants of Uzbekistan** - Wolfgang Pittroff¹ and Bakhtiyor Mardonov². ¹Dept. of Animal Science Davis, CA, ²Uzbekistan Academy of Sciences Samarkand, Uzbekistan.
- 8:20 **Will a supplement, with or without polyethylene glycol, overcome effects of cnicin in spotted knapweed?** - Melany Cheeseman and Bret Olson. Bozeman, MT.
- 8:40 **Nutritional monitoring cattle diets in the southern Plains** - William Pinchak¹, Ronald Gill², Cody Scott³, Scott Showers¹ and Doug Fulford¹. ¹Texas Agricultural Experiment Station, Vernon, TX, ²Texas Cooperative Extension, Vernon, TX, ³Angelo State University, San Angelo, TX.
- 9:00 **Steers performance grazing a WW-B.Dahl (Bothriochloa bladhii) pasture in summer in the Texas High Plains under different irrigation and supplement levels** - Carlos Ortega-Ochoa and Carlos Villalobos. Texas Tech University, Range, Wildlife and Fisheries, Lubbock, TX.
- 9:20 **Cattle performance grazing a WW-B. Dahl old world bluestem with different sources of protein supplementation** - Carlos Villalobos

¹, Miguel Avila², Gerardo Bezanilla³ and Carlton Britton⁴. ¹Department of Range, Wildlife and Fisheries Management Texas Tech University Lubbock, TX, ²INIFAP-CIRNE-Forrajeras y Pastizales Aldama, Tamaulipas, Mexico, ³Universidad Autonoma de Chihuahua Chihuahua, Chihuahua, Mexico.

9:40 **Break**

9:50 **Effects of seasonal temperature patterns on cattle locations in the foothills of California** - Kelly Smith¹, Mel George², David Ganskopp³, Neil McDougald⁴, David Cao² and Norman Harris⁵. ¹Department of Rangeland Ecology and Management, Oregon State University, Corvallis, OR, ²Agronomy and Range Sciences, Davis, CA, ³USDA ARS, Burns, OR, ⁴University of California Cooperative Extension, Madera, CA, ⁵Palmer Research Center Palmer, AK.

10:10 **Effects of strategically placed low-moisture block supplement and salt on individual cattle grazing patterns** - Derek Bailey¹, Harv VanWagoner², Robin Weinmeister² and Delyn Jensen². ¹Department of Animal and Range Sciences, Las Cruces, NM, ²Northern Agricultural Research Center, Havre, MT

10:30 **Use of strategic supplement placement and herding to extend cattle grazing in mountainous terrain: A demonstration** - Dennis Froeming¹, Derek Bailey², Christina Black², Robert Welling³, Wayne Butts⁴, David Voldseth⁵, Errol Galt⁶ and Craig Hereim⁷. ¹Rangeland

Consultant, Bozeman, MT,
²Department of Animal and Range
Sciences, Las Cruces, NM, ³Ridley
Block Operations, Vaughn, MT, ⁴US
Forest Service, Harlowton, MT, ⁵TG
Ranch, Martinsdale, MT, ⁶71 Ranch,
Martinsdale, MT, ⁷Hereim Ranch,
Martinsdale, MT.

- 10:50 **Group associations among gps
collared cattle** - Norman Harris ¹,
Michael Johnson², Neil McDougald
³, David Ganskopp⁴ and Melvin
George ⁵. ¹Palmer Research and
Extension Center Palmer, AK,
²Department of Mathematics Los
Angeles, CA, ³Cooperative
Extension Madera County Madera,
CA, ⁴USDA-ARS Burns, OR,
⁵Agronomy and Range Science
Davis, CA.
- 11:10 **Effect of ruminant livestock
systems on grassland condition in
Patagonia, Argentina** - Sebastian
Villagra ¹, Guillermo Siffredi²,
Clemens Wollny ³ and Celso Giraudo
². ¹INTA Bariloche C.C. 277
Bariloche, Río Negro, Argentina,
²INTA Bariloche C.C. 277
Bariloche, Río Negro, Argentina,
³Institute of Animal Breeding and
Production in the Tropics,
Kellnerweg 6 Göttingen, Lower
Saxony, Germany.

SYMPOSIUM
**Grasslands in Northern China: Ecology
and Contemporary Issues**
**Fairmont, Columbia – Tuesday, February
14**
8:15 AM – 11:30 AM

Co-Organizers: Xingguo Han; Institute of
Botany-CAS, X. Ben Wu; Texas A&M
University, and Jianguo Wu; Arizona State
University

- 8:15 **Grasslands in northern China:
past, present, and possible future** -
Xingguo Han. Laboratory of
Quantitative Vegetation Ecology
Beijing, China.
- 8:45 **Biodiversity and ecosystem
functioning: Insights from the
Inner Mongolia Grassland** -
Jianguo Wu¹, Yongfei Bai² and
Xingguo Han². ¹School of Life
Sciences Tempe, AZ, ²Laboratory of
Quantitative Vegetation Ecology,
Beijing, China.
- 9:15 **Changes in plant biodiversity and
biomass along precipitation and
grazing gradients in Inner
Mongolia grassland** - Yongfei Bai¹,
Qibing Wang¹, Qingmin Pan¹,
Xingguo Han¹ and Jianguo Wu².
¹Laboratory of Quantitative
Vegetation Ecology Beijing, China,
²Landscape Ecology and Modeling
Laboratory Tempe, AZ.
- 9:45 **Break**
- 10:00 **Significance of clonal growth in
the sandy grasslands in northern
China** - Ming Dong, Fei-Hai Yu and
Cheng-Yi Zhang. Laboratory of
Quantitative Vegetation Ecology,
Beijing, China.

- 10:30 **Wetland resources in the grasslands of northern China - X. Ben Wu^{1,2}, Yongfei Bai² and Shaopeng Qu².** ¹Rangeland Ecology and Management College Station, TX, ²Laboratory of Quantitative Vegetation Ecology Beijing, China.
- 11:00 **The Quantitative Assessment of Ecosystem Health on Grazing Land of Leymus chinensis Steppe, Inner Mongolia - Guodong Han¹, Mengli Zhao¹, Walter Willms², Anshe Gao¹ and Yan Liang.** ¹306 Zhaowudalu, Hohhot-010018, Inner Mongolia, PR China Hohhot, Inner Mongolia, P.R. China, ²1 Avenue South, P.O. Box 3000 Lethbridge, Alberta, Canada.

***To be continued in afternoon**

**SYMPOSIUM
Rangeland Weed Management
Hyatt, Georgia B – Tuesday, February 14
8:00 AM – 11:30 AM**

Co-Organizers: Larry Larson and Roger Sheley

- 8:00 **Introduction to successional management: An ecologically-based invasive weed management framework - Roger Sheley.** USDA-ARS, Eastern Oregon Agricultural Research Center, Burns, OR.
- 8:40 **Ecologically-based management of western juniper - Tony Svejcar.** USDA-ARS, Eastern Oregon Agricultural Research Center, Burns, OR

- 9:20 **Influencing disturbance and colonization to manage Russian knapweed- A Case Study - Larry Larson.** Professor, Eastern Oregon University, LaGrande, OR.
- 10:00 **Managing invasive weeds by altering soil nutrient availability - Jane Mangold.** USDA-ARS, Eastern Oregon Agricultural Research Center, Burns, OR
- 10:40 **Augmentative Restoration - Jeremy James.** USDA-ARS, Eastern Oregon Agricultural Research Center, Burns, OR

**SYMPOSIUM
Range Management School
Fairmont, Vancouver Island – Tuesday,
February 14
8:00 AM – 11:30 AM**

Organizer: Robbie Baird LeValley

- 8:00 **Range Management School Introduction - Robbie LeValley.**
- 8:30 **Grass, Forb and Shrub Growth and Environmental Impacts - John Murray.**
- 10:00 **Break**
- 10:15 **Time and Timing of Grazing - Dave Bradford.**
- 11:00 **Rangeland Nutrition and Animal Behavior – Robbie LeValley.**

***To be continued in afternoon**

SYMPOSIUM

**Natural Capital - Producer's Right or
Onerous Responsibility?
Fairmont, British – Tuesday, February 14
8:00 AM – 11:30 AM**

Organizer: Peggy Strankman

Sponsored by: Canadian Cattlemen

- 8:00 **Policies, programs, guidelines, plans, procedures, standards and strategies – What's a rancher to do?** - Hugh Lynch-Staunton. Vice President, Canadian Cattlemen's Association.
- 8:30 **Environmental goods and services - Alberta style** - Karen Haugen – Kozyra. Environmental/Land Use Policy Member, Policy Secretary, Alberta Agriculture.
- 9:00 **Stewardship agreements on the Alberta species at risk landscape** - Richard Quinlan. Species at Risk Biologist, Alberta Fish and Wildlife, Sustainable Resource Development.
- 9:30 **Break**
- 10:00 **The process of recovery for a "species at risk" species** - David Cunnington. Species at Risk Biologist, Environment Canada.
- 10:30 **Producer Perspective of the Safe Harbor Clause in the US Endangered Species Act** - Mike Byrne. Chair, Federal Lands NCBA.
- 11:00 **The pros and cons of using conservation agreements** - Robert Wenting. Environment Canada.

SYMPOSIUM

**Young Professionals Conclave
Hyatt, Cypress – Tuesday, February 14
8:00 AM – 11:30 AM**

- 8:00 Welcome and Introductions
- 8:10 (Panel Discussion) **Balancing Act: Career vs. Family**-Jennifer Pluhar, Lance Vermeire, Chad and Amy Boyd
- 8:50 (Panel Discussion) **Balancing Act: Field Work vs. Paper Work**-Faith Ryan, Karen Hickman, Scott Fluer, and Jack Alexander
- 9:30 Break
- 9:45 **What is SRM? An overview of the Society, its organizational structure, and the benefits of getting involved (national and local section levels)**- Bob Budd
- 10:00 (Panel Discussion) **What do we do and how to get involved?**
-Board or Directors – Dennis Phillippi
-Advisory Council – Charles Hart
-Committee Chairs
- Award Committee
 - Rangeland Assessment & Monitoring Committee
 - Rangeland Invasive Species Committee
 - Remote Sensing & GIS Committee
 - Watershed/Riparian Committee
 - Wildlife Habitat Committee
 - Leadership Development Committee
 - Rangeland Steering Committee
 - Partnerships & Affiliations Committee
 - Government Policies & Programs Committee
- Denver Office Staff – Ann Harris

**POSTER SESSION 2 - Range Plants,
Soils, Hydrology, Technology and
Monitoring**

**Hyatt, Regency E & F- Tuesday,
February 14, 9:00 AM – 11:30 AM**

- 1 **Water distribution in soil horizons beneath *Juniperus monosperma* in central New Mexico** - Sam Fernald¹, Andres Cibils¹, Dawn VanLeeuwen² and Carlos Ochoa¹. ¹Department of Animal & Range Sciences Las Cruces, NM, ²Department of Agriculture Extension Education Las Cruces, NM.
- 2 **Soil organic and inorganic carbon dioxide fluxes** - William E Emmerich¹ and Dean A Martens¹. ¹USDA-ARS Southwest Watershed Research Center Tucson, AZ.
- 3 **Impact of juniper removal on soil enzymes temperature and organic matter** - Douglas Green¹ and Melissa Debnar¹. ¹Department of Applied Biological Sciences, Mesa, AZ.
- 4 **Remote sensing of fire, grazing, and precipitation effects on bare ground in sage brush steppe** - Jed Gregory¹ and Keith Weber². ¹Idaho State University - GIS Pocatello, ID, ²Idaho State University - GIS Pocatello, ID.
- 5 **Distribution of buffalograss ploidy level variation in Mexico** - Juan M Martinez Reyna¹ and Rocio Hernandez Caldera¹. ¹Universidad Autonoma Agraria Antonio Narro, Buenavista Saltillo, Coahuila, Mexico.
- 6 **Mechanisms of defoliation response in *Poa ligularis* in the Patagonian steppe** - Guillermo Becker¹, Cecilia Gittins¹, Cintia Souto², Guillermo Siffredi¹ and Carlos Busso³. ¹INTA EEA Bariloche, cc 277 Bariloche, Rio Negro, Argentina, ²Laboratorio Ecotono, Universidad Nacional del Comahue Bariloche, Rio Negro, Argentina, ³Universidad Nacional del Sur, Dpto. de Agronomía Bariloche, Rio Negro, Argentina.
- 7 **Nitrogen capture by native and invasive Great Basin species: the role of root plasticity** - Jeremy James, Jane Mangold, Roger Sheley and Tony Svejcar. USDA-ARS Burns, OR.
- 8 **Responses of *Schizachyrium scoparium* to water and nitrogen manipulations: photosynthesis and water relations** - Amy Kochsiek¹, Veronica Ciganda¹, Neal Bryan², Lena Hite² and Tala Awada³. ¹School of Biological Sciences Lincoln, NE, ²Department of Agronomy and Horticulture Lincoln, NE, ³School of Natural Resources Lincoln, NE.
- 9 **Large-scale experimentation and long-term monitoring of grazing in Grasslands** - Darcy Henderson¹, Nicola Koper², Patrick Fargey³, John Wilmshurst¹ and Robert Sissons³. ¹Parks Canada, Western Canada Service Center Winnipeg, Manitoba, Canada, ²Natural Resources Institute Winnipeg, Manitoba, Canada, ³Grasslands National Park Val Marie, Saskatchewan, Canada.
- 10 **Vegetation cover change detection in two grazing systems using Landsat TM data in a semiarid ecosystem of Argentina** - Lisandro Blanco¹ and Carlos Ferrando¹. ¹INTA EEA La Rioja Chamental, La Rioja, Argentina.
- 11 **Woodland expansion in grassland affected by its edaphic composition** - Juvenal Gutiérrez-Castillo¹, James Stubbendieck² and Walter Schacht².

¹Dept. de Agronomía e Ing. Agrícola Monterrey, NL, México, ²Dept. of Agronomy and Horticulture, University of Nebraska Lincoln, Lincoln, NE.

12 **Sampling species richness in a Wyoming big sagebrush community -**

Edward Rhodes ¹ and Jonathon Bates ².
¹Dept. of Rangeland Ecology & Management, Burns, OR, ²USDA-ARS Burns, OR.

13 **State and transition models for California's Sierra Nevada foothill oak-woodlands -**

Melvin George ¹, Neil McDougald ², Dennis Dudley ³, Larry Forero ², Bill Frost ², Jim Sullins ², Roger Ingram ² and Mike Connor ². ¹Department of Plant Sciences, University of California, Davis, CA, ²UC Cooperative Extension, University of California, Davis, CA, ³USDA Natural Resources Conservation Service, Madera, CA.

14 **Rangeland health criteria for California's oak woodlands -**

Melvin George ¹ and Jon Gustafson ².
¹Department of Plant Sciences, University of California, Davis, CA, ²Natural Resources Conservation Service, Davis, CA.

15 **Powerful GIS visual display of RDM monitoring data helps reach goals in adaptive management conservation program -**

Caroline Christian ¹, Keith Guenther ² and Grey Hayes ³. ¹The Nature Conservancy San Francisco, CA, ²Wildland Solutions Brewster, WA, ³Private Consultant Corralitos, CA.

16 **State and transition models for California's central coast oak woodlands -**

Royce Larsen ¹, Shiela Barry ¹, Theresa Ward ¹, Karl Striby ²,

Ken Oster ², Craig Schriefer ³, Maximo Alonso ³ and Melvin George ³. ¹UC Cooperative Extension Davis, CA, ²USDA Natural Resources Conservation Service Templeton, CA, ³Department of Plant Sciences Davis, CA.

17 **State and transition models for California's north coast oak woodlands -**

John Harper ¹, Stephanie Larson ¹, Morgan Doran ¹, Michael Lennox ¹, Maximo Alonso ², Craig Thomsen ² and Melvin George ². UC Cooperative Extension Davis, CA, ²Department of Plant Sciences Davis, CA.

18 **Device for rapid assessment of range plant cover -**

Douglas Johnson ¹, Michael D Johnson ², Mounir Louhaichi ¹ and Melvin R George ³. ¹Dept. of Rangeland Ecology and Management, Oregon State University, Corvallis, OR, ²Dept. of Mathematics, University of Southern California, Los Angeles, CA, ³Department of Agronomy and Range Science, University of California, Davis, CA.

19 **Aspen community classification using understory characteristics: implications for national parks in**

Canada - Jody Best ¹ and Edward Bork ². ¹Rangeland Agrologist, PLFD, Alberta Sustainable Resource Development Pincher Creek, Alberta, Canada, ²Associate Professor, Range Management Edmonton, Alberta, Canada.

20 **California valley grassland dynamics: preliminary assessment of a long-term monitoring study -**

Matthew Stevenson ¹, James Bartolome ¹, Sasha Gennet ¹, Michele Hammond ¹, Peter Hopkinson ¹, Martin Johnson ¹, Devii Rao ¹ and

Andrew Scavullo¹. ¹Department of Environmental Science, Policy, and Management Berkeley, CA.

Bunting² and Maxine Dakins². ¹Idaho National Laboratory Idaho Falls, ID, ²Idaho State University.

- 21 **Effectiveness of photo-pair analysis for detecting change in central great basin riparian attributes** - Ryan Shane¹. ¹ Dept. of Natural Resources and Environmental Science Reno, NV.
- 22 **Interpreting indicators of rangeland health, version 4** - Mike Pellant¹, Pat Shaver², David Pyke³ and Jeffrey Herrick⁴. ¹1387 S. Vinnell Way Boise, ID, ²NRCS, West National Technology Support Center Portland, OR, ³USGS, Forest & Rangeland Ecosystem Science Center Corvallis, OR, ⁴ USDA, ARS Jornada Experimental Range Las Cruces, NM.
- 23 **Using digital photography to measure visual obstruction in grassland habitat** - Ryan Limb¹, David Engle¹, Terrence Bidwell¹, Aaron Alford¹ and Jack Norland². ¹Oklahoma State University Stillwater, OK, ²North Dakota State University Fargo, ND.
- 24 **Spatial and temporal variation for nutritive value on switchgrass fields in the Northern Plains, USA** - Marty Schmer, Rob Mitchell and Kenneth Vogel. USDA-ARS, Lincoln, NE.
- 25 **Comparing conceptual and empirical range vegetation classification systems for the Intermountain West** - William Adair¹, R. Douglas Ramsey¹ and John Lowry¹. ¹Remote Sensing / GIS Laboratories Logan, UT.
- 26 **Employing Unmanned Aerial Vehicles for Monitoring Habitat and Species in Sagebrush-Steppe Ecosystems** - Robert Breckenridge¹, Randy Lee¹, Steve Bunting² and Maxine Dakins². ¹Idaho National Laboratory Idaho Falls, ID, ²Idaho State University.
- 27 **MULTISAR: Multi-Species Strategy for Species at Risk, a Rangeland Perspective** - Jennifer Carlson¹, Barry Adams¹, Richard Quinlan², Brandy Downey², Paul Jones² and Brad Downey². ¹Alberta Sustainable Resource Development, Public Lands and Forest Division, #100, 5401- 1st Ave South Lethbridge, Alberta, Canada, ²Alberta Sustainable Resource Development, Fish and Wildlife, 2nd Flr, 530 8th St. South Lethbridge, Alberta.
- 28 **An effective method for translocating Greater sage grouse** - Rick Baxter, Jerran Flinders and Jordan Hennefer. Brigham Young University, Provo, UT.
- 29 **The Role of Plant Diversity and Richness in Assessment of Health Condition of Mountain Grassland Ecosystem** - Mohammad Hassan Jouri¹, Mohammad Mahdavi², Nosrat Safaian³ and Behrooz Malakpour⁴. ¹Po.Bo:46915-167, Ramsar, Mazandaran, Iran, ²Po.Bo:47138, Babol, Mazandaran, Iran, ³Po.Bo:717, Sari, Mazandaran, Iran, ⁴Golestan e sheshom, velenjak, Tehran, Iran
- 30 **Shrubs-grass steppes of southern Patagonia Argentina: a technical review to improve grazing systems** - Ariela Cesa, Diego Suárez and Marcelo Aguilar. INTA Santa Cruz, Chacra 45 A Río Gallegos, Santa Cruz, Argentina.
- 31 **Llama Preference for Forage Species on the Bolivian Altiplano** - Rachel Fugal and Val J Anderson. Brigham Young University Provo, UT.

32 **Excellence In Range Management posters**

TECHNICAL SESSION: Landscape Ecology

Hyatt, Georgia A – Tuesday, February 14, 1:30 PM – 5:00 PM

Moderators: Gene Hickman and Steve Petersen

- 1:30 **Deriving fire regime information for contrasting land use in a semi-arid African savanna using Landsat and MODIS satellite time series data** - Bruce Brockett¹, Andrew Hudak², David Roy³, Wilfred Seithlamo⁴ and Steve Bunting¹. ¹Department of Rangeland Ecology and Management Moscow, ID, ²USFS Rocky Mountain Research Station Moscow, ID, ³Geographic Information Science Center of Excellence Brookings, SD, ⁴Protected Area Management Mogwase, NW, South Africa.
- 1:50 **Predicting landscape composition under varying fire regimes in quaking aspen** - Eva Strand¹, Stephen Bunting¹ and Lee Vierling¹. ¹Department of Rangeland Ecology and Management Moscow, ID.
- 2:10 **Influence of landscape structure on the Index of Plant Community Integrity (IPCI) of seasonal and temporary wetlands in the Prairie Pothole Region of North Dakota –** Dath Mita, Don Kirby, Edward DeKeyser and Michael Ell. North Dakota State University, Fargo, ND.

- 2:30 **Determining presettlement vegetation using the 1850s government land office surveys for the upper Rogue river valley near Medford, Oregon** - O. Eugene Hickman¹. ¹Consulting Range Ecologist Portland, OR.
- 2:50 **Evaluation of an index of plant community integrity for assessing wetland plant communities** - Christina Hargiss¹, Edward DeKeyser¹, Don Kirby¹ and Michael Ell². ¹Animal and Range Sciences Department, North Dakota State University, Fargo, ND, ²North Dakota Department of Health, Bismarck, ND.
- 3:10 **Break**
- 3:20 **Modeling vegetative states of prairie pothole wetland plant communities** - Edward DeKeyser¹, Mario Biondini¹, Donald Kirby¹, Christina Hargiss¹ and Michael Ell². ¹Animal and Range Sciences Department Fargo, ND, ²North Dakota Department of Health Bismarck, ND.
- 3:40 **Disturbance-dependent threatened and endangered species and biodiversity on U.S. army training lands** - Steven Warren¹, Reiner Buettner², Debra Dale³, Scott Holbrook³ and Nathaniel Whelan⁴. ¹Center for Environmental Management of Military Lands Fort Collins, CO, ²Institut fuer Vegetationskunde und Landschaftoekologie Hemhofen, Germany, ³Installation Management Agency - Europe Heidelberg, Germany, ⁴Grafenwoehr Training Area Grafenwoehr-Lager, Germany.

- 4:00 **Spatial modeling of fire, grazing, and weed control on public lands** - Louis Provencher¹, Tara Forbis², Leonardo Frid³ and Gary Medlyn⁴.
¹The Nature Conservancy of Nevada Reno, NV, ²The Nature Conservancy of Nevada Ely, NV, ³ESSA Technologies Ltd. Vancouver, BC, Canada, ⁴Bureau of Land Management, Ely, NV.
- 4:20 **Modeling disturbance effects on mixed-grass prairie** - Leonardo Frid¹, Pat Fargey² and Xulin Guo³.
¹ESSA Technologies Ltd. Vancouver, BC, Canada, ²Grasslands National Park of Canada, Val Marie, SK, Canada, ³Geography Department Saskatoon, SK, Canada.
- 4:40 **Restoration of the Ponderosa Pine ecosystem and its understory** - Lee E Hughes.

TECHNICAL SESSION: Vegetation Management/Reclamation/Restoration Hyatt, Plaza C – Tuesday, February 14, 1:30 PM – 5:00 PM

Moderators: Val Jo Anderson and Jeremy James

- 1:30 **Seed islands for rangeland restoration** – John Brock.
Department of Applied Biological Sciences, Arizona State University, Mesa, AZ.
- 1:50 **Landscape restoration programs in the U.S. – A comparative analysis** – Maria Ryan¹. ¹University of Nevada Cooperative Extension Las Vegas, NV.

- 2:10 **Effect of three rates of five different herbicides on seven native forbs at various growth stages** – Joshua Voss¹, Val Jo Anderson¹ and Robert Johnson¹.
¹Dept. of Integrative Biology Provo, UT.
- 2:30 **Fire rehabilitation success on the Henry Mountains, Utah** – Cristina Juran¹, Bruce A Roundy¹ and Jim Davis². ¹Wildlife and Wildland Conservation Program Provo, UT, ²Utah Division Wildlife Resources Provo, UT.
- 2:50 **Shrub stand manipulations to improve seed production in antelope bitterbrush in Idaho, Nevada and Utah** - F. Leland Roberts¹, Val Jo Anderson¹ and Robert Johnson¹. ¹Department of Integrative Biology Provo, UT.
- 3:10 **Break**
- 3:20 **Shrub stand manipulations to improve seed production in Wyoming big sagebrush in Idaho, Nevada and Utah** – Jeremiah Armstrong¹, Val Jo Anderson¹ and Robert Johnson¹. ¹Department of Integrative Biology Provo, UT.
- 3:40 **Reduction in seed yields of forbs in native stands due to seed predation by fruit flies (Diptera: Tephritidae)** – Robert Johnson¹ and Val Jo Anderson¹. ¹Brigham Young University Provo, UT.
- 4:00 **The use of calorimetry as a tool to identify plant accession adaptability to site** – Tina Ward¹ and Bruce Smith¹. ¹Brigham Young University Provo, UT.

4:20 **Developing revegetation practices for drastically disturbed military training lands** - William Fox¹, Dennis Hoffman², June Wolfe² and Jason McAlister². ¹1500 Research Parkway, Suite 240, College Station, TX, ²Blackland Research & Extension Center Temple, TX.

SYMPOSIUM

BLM: Managing Public Rangeland Resources in the US
Hyatt, Plaza B – Tuesday, February 14
1:30 PM – 5:00 PM

Organizer: Doug Powell; Bureau of Land Management

1:30 **Introduction**

1:45 **Monitoring Strategy** - Steve Tryon

2:15 **The National Landscape Conservation System: Opportunities for the Next Five Years** - Aimee Betts. Bureau of Land Management Washington, DC.

2:45 **Break**

3:00 **Sage Grouse Habitat Conservation On Lands Administered by the Bureau of Land Management** - Mark Hilliard and Cal McCluskey Bureau of Land Management Boise, ID.

3:30 **Amendments to the Bureau of Land Management Grazing Regulations** - Kenneth Visser and Bud Cribley. USDI - Bureau of Land Management Washington, DC.

4:00 **Status of BLM Land Health Standard Evaluations** – Richard Mayberry.

4:30 **Wild Horse and Burro Management in the USA** - Don Glenn. Bureau of Land Management Washington, DC.

SYMPOSIUM

Applications of the Collaborative Resources Stewardship Process
Hyatt, Plaza A– Tuesday, February 14
1:30 PM – 5:00 PM

Co-Organizers: Kent Mcadoo and Roy Roath; Wildlife Habitat Committee

1:30 **Application of Roles and Concepts to Collaborative Management** - Roy Roath. Colorado State Univ., Fort Collins, CO.

2:05 **Saskatchewan's Prairie Conservation Action Plan** - Karyn Scalise. Saskatchewan Prairie Conservation Plan, Regina, SK.

2:40 **Quincy Library Group – Applications to Rangelands?** - Holly George. Univ. of California Cooperative Extension, Quincy, CA.

3:15 **Break**

3:25 **Wildlife Habitat Benefits from Collaborative Resource Stewardship in Northern Nevada** - Kent McAdoo, Univ. Nevada Cooperative Extension, Elko, NV.

4:00 **Reconfiguring Our Relationship with the Land: Collaboration, Monitoring, and Adaptive Ecosystem Management** - Fernandez-Giminez, Colo State Univ., Fort Collins, CO.

4:35 **Discussion and Summary**

5:00 **Adjourn**

SYMPOSIUM
Range Management School (continued)
Fairmont, Vancouver Island– Tuesday,
February 14
1:30 PM – 5:00 PM

Organizer: Robbie Baird LeValley

1:30 **Grazing Management Strategies** - Dave Bradford.

2:15 **Break**

2:30 **Rangeland Monitoring** - Harley Metz.

3:15 **Break**

3:30 **Using Livestock to Manipulate Vegetation** – John Murray.

4:00 **Tying It All Together**

4:30 **Question and Answer**

SYMPOSIUM
Prescribed Herbivory for Vegetation Management
Hyatt, Georgia B– Tuesday, February 14
1:30 PM – 5:00 PM

Co-Organizers: Wolfgang Pittroff, Mort Kothman, and Karen Launchbaugh.

1:30 **Prescribed Herbivory for Vegetation Management Overview and Implications** - Wolfgang Pittroff¹ and Mort Kothmann².
¹University of California - Davis Davis, CA, ²Texas A&M University College Station, TX.

2:00 **Targeted Grazing as a Vegetation Management Tool** - Karen Launchbaugh. Rangeland Ecology and Management Moscow, ID.

2:30 **Managing invasive grasses with prescribed grazing** - James Bartolome. Division of Ecosystem Sciences, University of California, Berkeley, CA.

3:00 **Prescribed grazing to control herbaceous broadleaf weeds** - Bret Olson. Animal and Range Sciences Dept. Bozeman, MT.

3:30 **Brush and Woody Weed Management with Sheep and Goats** - John Walker, Charles Taylor and Erika Campbell. Texas Agricultural Experiment Station San Angelo, TX.

4:00 **Planned Herbivory in the Management of Fire Fuels** - Glenn Nader, Roger Ingram, Zelman Henkin and Ed Smith.

4:30 **Contract Goat Grazing - Birth of a New Industry for Rejuvenation, Reclamation and Land Cleaning -**
An Peischel. Tennessee State University Nashville, TN.

SYMPOSIUM

Grasslands in Northern China: Ecology and Contemporary Issues (continued)
Fairmont, Columbia– Tuesday, February 14
1:30 PM – 5:00 PM

Co-Organizers: Xingguo Han; Institute of Botany-CAS, X. Ben Wu; Texas A&M University, and Jianguo Wu; Arizona State University.

1:30 **The potential of C sequestration in semi-arid grassland in northern China -** Xingguo Han. Laboratory of Quantitative Vegetation Ecology Beijing, China.

2:00 **Variations of labile soil organic carbon pools along a precipitation gradient in Inner Mongolia steppe -** Qibing Wang, Yongfei Bai, Linghao Li and Hongtao Zhao. Laboratory of Quantitative Vegetation Ecology Beijing, China.

2:30 **Methane emissions from freshwater sandy marsh of the Inner Mongolia Plateau -** Zhiping Wang and Xingguo Han. Laboratory of Quantitative Vegetation Ecology Beijing, China.

3:00 **Break**

3:15 **Patterns of N uptake and allocation by plants in Inner Mongolia steppe -** Qingmin Pan¹, Yongfei Bai¹, Xingguo Han¹ and Jianguo Wu². ¹Laboratory of

Quantitative Vegetation Ecology Beijing, China, ²School of Life Sciences, Tempe, AZ.

3:45 **Plant responses to N addition in a *Leymus chinensis* steppe ecosystem of Inner Mongolia, China -** Lixia Zhang, Yongfei Bai and Xingguo Han. Laboratory of Quantitative Vegetation Ecology, Institute of botany, the Chinese Academy of Sciences Beijing, China.

4:15 **Litter effects on Typical Grassland Steppe of Inner Mongolia -** Mengli Zhao¹, Walter Willms² and Han Guodong¹. ¹College of Ecology and Environmental Science, Inner Mongolia Agricultural University Hohhot, Inner Mongolia, P.R. of China, ²Agriculture and AgriFood Canada, PO Box 3000 Lethbridge, Alberta, Canada.

WORKSHOP

Statistics: Design of Experiments
Hyatt, Cypress– Tuesday, February 14
1:30 PM – 5:00 PM

Co-Organizers: Sara Duke, Susan Durham, and Tom Popham

This workshop will provide a discussion of issues and criterion which need consideration when preparing for research requiring a designed experiment. The workshop leaders will discuss in detail the statistical issues and common problems observed by applied statistical consultants using examples from their consulting experience in agricultural research. The intention is to provide participants with an understanding of why these issues are important to planning and conducting quality research. Workshop participants are

encouraged to bring specific questions or difficulties from their own work for discussion.

***To be continued tomorrow**

**POSTER SESSION 3 - Range Domestic Animals, Wildlife, and Economics
Hyatt, Regency E & F- Tuesday,
February 14, 2:30 PM – 4:30 PM**

- 1 **Incorporating Adult Education Principles into Range Management Training** - Chris Nykoluk.
- 2 **Use of in vitro gas production techniques to evaluate associative effects of forages** - E. Grings. USDA-ARS, Miles City, MT.
- 3 **Forage quality of Winterfat (*Ceratoides lanata*) plant communities during the dormant season: correlation to livestock body condition scores** - Mark Estes¹, Tamzen Stringham¹, James Males² and David Bohnert³. ¹Dept. of Range Ecology and Management, Oregon State University, Corvallis, OR, ²Dept. of Animal Sciences, Oregon State University, Corvallis, Oregon, Dept. of Animal Sciences, Oregon State University - Eastern Oregon Ag Research Center, Burns, OR.
- 4 **Effect of body condition on consumption of pine needles by beef cattle** - James Pfister and Kip Panter. USDA-ARS, Poisonous Plant Research Laboratory, Logan, UT.
- 5 **Animal Control – What constitutes a reliable cue to stop animal movement?** - Greg J Bishop-Hurley², Dave Swain², Dean Anderson¹ and Peter Corke³.

¹USDA-ARS, Jornada Experimental Range Las Cruces, NM, ²CSIRO Livestock Industries, JM Rendel Laboratory, Ibis Avenue North Rockhampton, QLD, Australia, ³CSIRO ICT Centre QCAT, Pullenvale, QLD, Australia.

- 6 **Habitat use by cattle grazing pinyon juniper rangelands during calving in early spring** - Christina Black¹, Andres Cibils¹, Rachel Endecott¹, Michael Rubio², Shad Cox², Mark Petersen¹ and Ken Boykin. ¹New Mexico State University, Department of Animal and Range Sciences, Las Cruces, NM, ²Corona Range and Livestock Research Center Corona, NM.
- 7 **Influence of spatial arrangement of forages on social induction of white locoweed ingestion by cattle** - Kyle Jackson¹, Andres Cibils¹, John Graham², William Gould³ and Chris Allison⁴. ¹Department of Animal and Range Sciences, New Mexico State University, Las Cruces, NM, ²Cooperative Extension Service, Clayton, NM, ³Department of Experimental Statistics, New Mexico State University, Las Cruces, NM, ⁴Animal Resources Department, New Mexico State University, Las Cruces, NM.
- 8 **Effect of ruminant livestock systems on grassland condition in Patagonia, Argentina** - Sebastian Villagra¹, Siffredi Guillermo¹, Clemens Wollny² and Celso Giraudo¹. ¹INTA, Río Negro, Argentina, ²Institute of Animal Breeding and Production in the Tropics, Lower Saxony, Germany.
- 9 **Feedlot and carcass responses of yearling beef cattle from native rangeland and native rangeland-**

- complementary forage systems** - Phillip Sims and Robert Gillen. Southern Plains Range Research Station, Woodward, OK.
- 10 **Sage-grouse winter habitat in Central Montana** - Jennifer Woodward¹, Carl Wambolt¹, Bok Sowell¹ and Jay Newell². ¹Montana State University, Bozeman, MT, ²Roundup, MT.
 - 11 **Reptiles as Indicators of Land Restoration Success** - Tina Ward, Val J Anderson and Jack W Sites. Brigham Young University, Provo, UT.
 - 12 **Impacts of large-scale wildfire and grazing on rodent populations in a semi-arid grassland** - Zach Jones¹, Linda Kennedy², Carl Bock¹ and Jane Bock¹. ¹Ecology and Evolutionary Biology, University of Colorado, Boulder, CO, ²Appleton-Whittell Research Ranch, National Audubon Society, Elgin, AZ.
 - 13 **Leafy spurge removal by sheep - effects on bird and small mammal communities** - Marc Kenyon, James Knight, Carolyn Nistler and Randy Fenster. Montana State University, Extension Wildlife Program, Bozeman, MT.
 - 14 **Chemical characteristics of two species of bamboo as determined by near infrared reflectance spectroscopy** - Doug Tolleson¹, Rude Bryan², Ouellette John³, Heidi Bissell³, Nicole Oberle¹, Kris Banik¹, Stephen Prince¹ and Jerry Stuth¹. Texas A&M University, Department of Rangeland Ecology & Management, College Station, TX, ²Mississippi State University, Department of Animal and Dairy Sciences, Starkville, MS, ³Memphis Zoo, Research & Conservation Department, Memphis, TN.
 - 15 **Sage Grouse Survey of Landowners in Owyhee County, Idaho** - Scott Jensen. University of Idaho, Marsing, ID.
 - 16 **Working with rangeland managers - Agriculture & Species at Risk can Co-exist** - Laura Poppy and Bill Bristol. AAFC-PFRA, Regina, Saskatchewan.
 - 17 **Effects of grazing, timber harvest, and wildfire on big game forage quantity and quality** - Brian Hurd, Jon Boren, Terrell Baker, Douglas Cram and Glenn Mason. New Mexico State University, Las Cruces, NM.
 - 18 **University students' priorities for public land products and perception of livestock impacts** - Matthew Pollock and Thomas Thurow. University of Wyoming, Department of Renewable Resources, Laramie, WY.
 - 19 **A changing range: Taking a closer look at exurban landowners in Wyoming** - Rachel Meador and Paul Meiman. University of Wyoming, Laramie, WY.
 - 20 **Conservation Reserve Program Decision Tree** - Carolyn Blocksom¹ and Kevin Herbel². ¹Dept. of Agronomy, Kansas State University, Manhattan, KS, ²Dept. of Agricultural Economics, Kansas State University, Manhattan, KS.
 - 21 **Rangeland health dynamic in prairie dog colonies in private and ejidal lands** - José Javier Ochoa Espinoza, Gustavo Quintana Martínez, Alberto Lafón Terrazas and Jesús Ricardo

- Mendoza Fernández. Departamento de Manejo de Recursos Naturales y Ecología, Facultad de Zootecnia, Universidad Autónoma de Chihuahua, Chihuahua, México.
- 22 **The Edwards Plateau Prescribed Burning Association is neighbor helping neighbor** - Nick Garza and Charles Taylor.
- 23 **Evaluation of Nevada's state-wide sage grouse planning effort** - Brad Schultz¹, Michael Haverkamp², Maria Ryan³, Steve Lewis⁴, Marlene Rebori², Rodney Davis⁵, Jerry Buk⁵ and Staci Emm⁶. ¹University of Nevada, Cooperative Extension, Winnemucca, NV, ²University of Nevada, Cooperative Extension, Reno, NV, ³University of Nevada, Cooperative Extension, Las Vegas, NV, ⁴University of Nevada, Cooperative Extension, Gardnerville, NV, ⁵University of Nevada, Cooperative Extension, Battle Mountain, NV, ⁶University of Nevada, Cooperative Extension, Fallon, NV.
- 24 **Socio-ecological Survey of Bedouin Communities in Syria** - James A Tiedeman, Fahim Ghassali, Nabil Battikha, Elias Khoudary, George Arab, Celine Dutilly-Diane and Camille Saint-Macary. International Center for Agricultural Research in Dry Areas Aleppo, Syria.
- 25 **Evaluation of North Dakota Youth Range Camp** - Joshua Peterson¹, Nels Peterson^{1,2} and Kevin K Sedivec^{1,3}. ¹North Dakota State University, Fargo, ND, ²NDSU Extension Service, Nelson County Lakota, ND, ³NDSU Extension Rangeland Specialist, Fargo, ND.
- 26 **Kansas Grassland Water Quality Program Digital Library** - Larry Huber¹ and Donna Schenck-Hamlin². ¹Department of Agronomy, Kansas State University, Manhattan, KS, ²Information Support Services for Agriculture, Kansas State University, Manhattan, KS.
- 27 **Tehabi: an internship program for the next generation of resource managers** - Ben Baldwin¹, Mark Brunson¹ and Ben Bobowski². ¹Utah State University, Logan, UT, ²Grant-Kohrs Ranch National Historic Site Deer Lodge, MT.
- 28 **The SK PCAP stewardship education programs for elementary school audiences: A fun and games approach to learning** - Karyn Scalise¹ and Krista Connick². ¹Saskatchewan Prairie Conservation Action Plan Regina, SK, Canada, ²Saskatchewan Watershed Authority Swift Current, SK, Canada.
- 29 **Distance MS and Ph D in Rangeland Ecology at Colorado State University and On-Line Course Delivery** - Larry Rittenhouse. Colorado State University, Fort Collins, CO.
- 30 **Factors affecting the market value of New Mexico ranches** - L. Allen Torell¹ and Neil Rimbey². ¹New Mexico State University, Las Cruces, NM, ²University of Idaho, Caldwell, ID.
- 31 **Buffelgrass seeding as an alternative to increase profits in cattle ranches in Sonora, Mexico** - Salomon Moreno¹, Fernando A Ibarra², Martha H Martin², Francisco G Denogean¹ and Luis E Gerlach¹. ¹Economy Professors. Universidad de Sonora. Santa Ana, Sonora, Mexico, ²Range Scientists.CECAR-INIFAP. Hermosillo, Sonora, Mexico.

Wednesday, February 15, 2006

- 32 **Economic effects of two grazing strategies on cattle system in a semiarid region of Argentina** - Emiliano Quiroga, Lisandro Blanco and Carlos Ferrando. INTA EEA La Rioja Chamental, La Rioja, Argentina.

- 33 **Effects of Range Management Projects Implementation on Rangeland: A Case Study of Amol Region** - Ali Rostam.

- 34 **Economic Impacts of the Endangered Species Act on the Sacramento Grazing Allotment** - Jenny Gomez and John Fowler. New Mexico State University, Las Cruces, NM.

- 35 **Factors Affecting the market value of ranches in the Great Basin** - Neil Rimbey¹ and L. Allen Torell².
¹University of Idaho Caldwell, ID, ²New Mexico State University, Las Cruces, NM.

- 36 **Distribution and Ploidy Levels of Sagebrush Taxa on the Uncompahgre Plateau** - Stephen Monsen¹, E. Durant McArthur², Allan Stevens³ and Stewart Sanderson². ¹Western Ecological Consulting, Mapleton, UT, ²USDA-FS Shrub Sciences Laboratory Provo, UT, ³Snow College, Ephraim, UT.

- 37 **Voluntary Intake and Nutritional Properties of Yellow Starthistle in Sheep** - Pelayo Alvarez and Wolfgang Pittroff. Dept. of Animal Science, University of California, Davis, CA.

- 38 **Excellence In Range Management posters**

Undergraduate Papers Fairmont, Boardroom – Wednesday, February 15 8:00AM – noon

Organizer: Val Jo Anderson

- 8:00 **Effects of short-term summer herbage degree of disappearance by wild horses on the Pryor Mountain Wild Horse Range** - Jill Nannenga, North Dakota State University.
- 8:15 **Effects of prescribed burning following biocontrol of leafy spurge on the soil seedbank** - Miranda A. Vlaminck, Connie O'Brien, Edward S. DeKeyser, and Donald R. Kirby, North Dakota State University.
- 8:30 **Effect of fire-induced cheatgrass invasion and subsequent land rehabilitation on diversity of ants and Tenebrionid beetles in a semi-arid shrub steppe** - Eric Gardner, Robert L. Johnson, Val Jo Anderson, Brigham Young University, Provo, UT.
- 8:45 **Maintenance of population variability in rare plant species during seed increase for restoration** - Eve Richards, Robert L. Johnson and Val Jo Anderson, Brigham Young University, Provo, UT.
- 9:00 **Modeling seed germination and seedling seminal root growth using heat accumulation** - Scott A. Davis

- and Bruce Roundy. Brigham Young University, Provo, UT.
- 9:15 **Conservation implications of Chukars (*Alectoris chukar*) in western North America** - Aaron Robinson, Randy Larsen and Jerran T. Flinders, Brigham Young University, Provo, UT.
- 9:30 **Hydrothermal modeling of native grasses and forbs** - Jennifer Coleman, Bruce Roundy and Brad Jessop. Brigham Young University, Provo, UT
- 9:45 **Two year evaluation of cultural practices on seed production of select native forbs** - Brian G. Taylor, Robert L. Johnson, Val Jo Anderson and Bruce A. Roundy. Brigham Young University, Provo, UT.
- 10:00 **Tolerance of five perennial rangeland grasses to two rates and two dormant season application times of the herbicide JOURNEY-** Zachary V. Anderson, Val Jo Anderson and Robert L. Johnson. Brigham Young University, Provo, UT.
- 10:15 **Effects of between row spacing and irrigation timing on seed production of four native forbs from the Uncompahgre Plateau** - Mark Judson, Robert L. Johnson and Val Jo Anderson. Brigham Young University, Provo, UT.
- 10:30 **Effects of spring precipitation on total and functional group forage production in three semi-arid rangeland ecosystems** - Erica L. East¹, Justin D. Derner², Bret W. Hess³, Rich A. Olson¹, Gerald E. Schuman² - ¹Department of Renewable Resources, University of Wyoming, Laramie, WY, ²Department of Animal Science, University of Wyoming, Laramie, WY, ³USDA-ARS, High Plains Grasslands Research Station, Cheyenne, WY.
- 10:45 **Changes in soil properties on former arable land after afforestation** - Adrienne Worley, University of Saskatchewan, Saskatoon, Saskatchewan.
- 11:00 **Management strategies for grazing legumes** - Beki Gummesson, University of Saskatchewan, Saskatoon, Saskatchewan.
- 11:15 ***Acremonium coenophialum* in tall fescue and its implications for grazing management** - Holly White, University of Saskatchewan, Saskatoon, Saskatchewan.
- 11:30 **The interacting effects of fire and grazing on plant species composition in the fescue prairie** - Nadia Mori, University of Saskatchewan, Saskatoon, Saskatchewan.
- 11:45 **There is higher non-weedy herbaceous biodiversity in natural windbreaks as compared to planted windbreaks, in Saskatchewan shelterbelts** - Shannon Poppy, University of Saskatchewan Saskatoon, Saskatchewan.

**TECHNICAL SESSION: Plant Ecology
II***

**Hyatt, Georgia B – Wednesday, February
15, 8:00 AM – 11:30 AM**

Moderators: Craig Carr and John Tunberg

- 8:00 **Clonal diversity and genetic ecology in plant populations of *Carex duriuscula* in the Songnen steppe** - Teng Xiao-Hua¹, Hong Rui-Min¹, Hu Bao-zhong¹, Wang Yu-Sheng¹ and Chen Di².
¹Grassland Research Station, College of Animal Science and Technology, Northeast Agriculture University Harbin, Heilongjiang Province, P.R.of China, ²Birth Control Bureau of Xiangfang District in Haibin Haibin, Heilongjiang Province, P.R.of China.
- 8:20 **Loss of perennial grasslands on pasture lands due to woody encroachment on the Canadian Prairies** - Marianne Schutz¹ and David Walker¹. ¹Department of Environment and Geography Winnipeg, Manitoba.
- 8:40 **Effects of the summer wildfires of 1999, 2000, and 2001 on riparian areas in Great Basin in Nevada** - Kurtiss M Schmidt¹ and Sherman R Swanson¹. ¹Natural Resources and Environmental Science Reno, NV.
- 9:00 **Spatial dependence of fire spread and fire effects to fuel heterogeneity** - Dirac Twidwell¹, Sam Fuhlendorf¹, Charles Taylor² and Dave Engle¹. ¹Plant and Soil Sciences Department Stillwater, OK, ²Texas A&M Agricultural Experiment Station Sonora, TX.
- 9:20 **Feral alfalfa in native rangeland: species composition, biomass, and soil seed bank** - Lan Xu¹, Arvid Boe², Patricia S Johnson³ and Kevin Kephart⁴. ¹Dept. of Biology and Microbiology, South Dakota State University Brookings, SD, ²Dept. of Plant Science, South Dakota State University Brookings, SD, ³Dept. of Animal and Range Sciences, South Dakota State University Brookings, SD, ⁴South Dakota Agricultural Experiment Station Brookings, SD.
- 9:40 **Break**
- 10:10 **Grazing and prescribed fire effects on plant communities in a California oak woodland rangeland** - Barbara Allen-Diaz¹, Ann Huber¹ and Kenneth Tate².
¹University of California Berkeley, Berkeley, CA, ²University of California Davis, Davis, CA.
- 10:30 **Basalt Milkvetch: A promising north American legume for rangeland rehabilitation, conservation, and forage production** - Douglas A Johnson¹, Kishor Bhattarai², Thomas A Jones¹, Dale R Gardner³ and James H Cane⁴. ¹USDA-ARS Forage and Range Research Lab Logan, UT, ²Department of Forest, Range, and Wildlife Sciences Logan, UT, ³USDA-ARS Poisonous Plant Research Lab Logan, UT, ⁴USDA-ARS Bee Biology and Systematics Lab Logan, UT.
- 10:50 **Effect of oak canopy and cattle grazing on *Nassella pulchra* in Sierra Nevada foothill annual grasslands** - Leslie Roche, Kenneth

Tate and Kevin Rice. University of California, Davis, CA.

- 11:10 **Influence of resource availability on *Juniperus virginiana* expansion in a forest-prairie ecotone** - Amy Ganguli¹, David Engle² and Paul Mayer³. ¹Ecosystem Management Research Institute Seeley Lake, MT, ²Oklahoma State University Stillwater, OK, ³U. S. Environmental Protection Agency, ORD, NRMRL Ada, OK.

TECHNICAL SESSION: Vegetation Management/Reclamation/Restoration II*

Hyatt, Plaza A – Wednesday, February 15, 8:00 AM – 11:30 AM

Moderators: Mark Estes and Linda Hardesty

- 8:00 **Aminopyralid: A New Herbicide for Broadleaf and Invasive Weed Control in Rangeland and Pastures in Canada** - D. Hare¹, A. McFadden¹, W. McGregor¹, L. Juras¹, N. Satchivi¹ and G. Turnbull¹. ¹Dow AgroSciences Canada, Inc. Calgary, Alberta, Canada.
- 8:20 **Managing USA Rangeland Invasive Plants with Aminopyralid** - Vanelle Carrithers¹, Robert Masters¹, Halstvedt Mary¹, Celestine Duncan², Joe DiTomaso³, Robert Wilson⁴ and Steven Dewey⁵. ¹Dow AgroSciences, LLC, Indianapolis, IN, ²Weed Management Services, Helena, MT, ³University of California, Davis, CA, ⁴University of Nebraska, Scottsbluff, NE, ⁵Utah State University, Logan, UT.

- 8:40 **Vegetative response of mixed conifer stands to different types and frequencies of silvicultural treatment** - Glenn Mason, Terrell Baker, Jon Boren, Doug Cram and Brian Hurd. PO Box 30003 MSC-3AE Las Cruces, NM.
- 9:00 **Preemergence-applied herbicides aid sand bluestem establishment** - Robert Gillen¹ and Robert Masters². ¹USDA-ARS Woodward, OK, ²Dow AgroSciences, LLC Lincoln, NE.
- 9:20 **Effects of supplemented fall sheep grazing on a plant community dominated by Wyoming big sagebrush** - Ryan Woodland, Neil West and Frederick Provenza. Department of Forest, Range and Wildlife Sciences, Utah State University, Logan, UT.
- 9:40 **Break**
- 10:10 **Influence of Soil Nitrogen and Phosphorus on the Competitive Relationship between Medusahead and Squirreltail** - Kert Young¹, Jane Mangold², Michael Borman³, Michael Carpinelli⁴ and Jennifer Kling⁵. ¹Oregon State University Graduate Student, Corvallis, OR, ²Eastern Oregon Agricultural Research Center Burns, OR, ³Oregon State University, Corvallis, OR, ⁴67826-A HWY 205 Burns, OR, ⁵Oregon State University, Corvallis, OR.
- 10:30 **Increasing the non-grass component of native seedings** - Dwight Tober¹ and Merle Bennett². ¹USDA NRCS Plant Materials Program Bismarck, ND, ²North

Dakota Natural Resources Trust
Bismarck, ND.

National Riparian Service Team
Leader.

10:50 **Restoration of a Winterfat
(*Ceratoides lanata*(Pursh))
dominated plant community:
assessment of four seedbed
preparations** - Mark Estes¹ and
Tamzen Stringham¹. ¹Dept. of
Rangeland Ecology and
Management, Oregon State
University, Corvallis, OR.

8:45 **Greenline Monitoring
Considerations** - Kent McAdoo.
University of Nevada Cooperative
Extension Northeast Nevada Area
Natural Resources Specialist.

11:10 **Plant Community Response
Following Dry Forest Ecosystem
Restoration** - Timothy Ross¹ and
Reg Newman². ¹Ross Range and
Reclamation Services Cranbrook,
B.C, Canada, ²BC Ministry of
Forests Kamloops, BC, Canada.

9:00 **Riparian Vegetation Monitoring –
Accuracy and Precision** - Marc
Coles-Ritchie. Pacfish –Infish
Biological Opinion Research Team
Botanist.

9:15 **Assessing Condition and Trend of
mountain meadows in the Sierra
Nevada, CA** - Dave Weixelman.
Ecologist, Tahoe National Forest
Nevada City, CA.

9:30 **Break**

SYMPOSIUM
**Riparian Monitoring: Quantitative
Methods**
Hyatt, Plaza B – Wednesday, February 15
8:00 AM – 11:30 AM.

10:00 **Multiple Indicator Monitoring of
Streamside Livestock Grazing** -
Ervin Cowley. Rangeland and
Riparian Management Specialist,
BLM Idaho State Office and/or Tim
Burton, Fish Biologist, BLM Idaho
State Office.

Organizer: Sherm Swanson;
Watershed/Riparian & Rangeland
Assessment & Monitoring

8:00 **Why Monitor Riparian Areas?** -
Sherm Swanson. University of
Nevada Cooperative Extension State
Range Specialist.

10:15 **Monitoring Water Quality** - Mark
Vinson. Research Assistant
Professor, Utah State University,
Department of Aquatic, Watershed,
and Earth Resources.

8:15 **Adaptive Livestock Management,
and the Need for Monitoring** -
Sandy Wyman. National Riparian
Service Team Ecologist.

10:30 **Monitoring Fish Habitat** - Rick
Henderson. Fish Biologist, Pacfish
Infish Biological Opinion
Effectiveness Monitoring Program.
USFS Forestry Sciences Lab, Logan,
UT.

8:30 **What to Monitor and Why from
Stream Functions to Desired
Future Conditions** - Ron Wiley.

10:45 **Landbirds as Indicators of Riparian Wildlife Habitat Conditions** - Terry Rich. Partners in Flight National Coordinator, USFWS, Boise ID.

11:00 **University of Idaho Stubble Height Report and Resulting Agency Policies** - Bruce Fox, Director of Forest and Rangeland Management Region I USFS, and Dick Mayberry, BLM Rangeland Management Specialist Washington Office.

SYMPOSIUM

Grazing, Riparian, Cold Water Fish: Is Beneficial Coexistence Possible?
Hyatt, Georgia A – Wednesday, February 15
8:00 AM – 11:30 AM

Organizer: Wendell Gilgert; Wildlife Habitat Committee.

8:00 **Introduction** – Carolyn Nistler. Montana State University.

8:10 **Research on effects of grazing on fisheries: past mistakes and future remedies.** – Al Zale. Montana Cooperative Fishery Research Unit, USGS, Bozeman, MT.

8:40 **A Ranchers Perspective for balancing fish and grazing interests** – John Hyde.

9:10 **Effects of grazing management on terrestrial invertebrate subsidies to trout in Wyoming rangeland streams** - W. Carl Saunders¹ and Kurt D Fausch¹. ¹Department of Fishery and Wildlife Biology Fort Collins, CO.

9:40 **Break**

10:00 **How topography and land use can influence the distribution of Lahontan cutthroat trout in a desert stream** - George Boxall¹, Guillermo R Giannico¹, Hiram W Li¹, Matthew Varner², ¹Department of Fisheries and Wildlife Corvallis, OR, ²Division of Renewable Resources Winnemucca, NV.

10:30 **Characteristics of Successful Livestock Grazing Systems for Streams in Northern Nevada** - Carol C Evans. Bureau of Land Management, Elko Field Office, Elko, NV.

11:00 **Influence of Riparian Vegetation on Stream Ecosystems and Water Temperature** - Wayne Elmore¹ and Stan Gregory². ¹Full Stream Consulting Prineville, OR, ²Department of Fish and Wildlife Corvallis, OR.

WORKSHOP

Who Wants to Beat Invasive Species?
Hyatt, Plaza C – Wednesday, February 15
9:00 AM – 10:30 AM

Co-Organizers: Carolyn Hull Sieg and Lori Hidingier.

9:00 **Introduction**

9:05 **Who Wants to Beat an Invasive Species? The Game Show**

9:50 **Discussion and Brainstorming**

10:20 **Awarding of Prizes/Wrap-UP**

SYMPOSIUM

Grassbanks

Hyatt, Plaza C – Wednesday, February 15

10:30 AM – 11:30 AM

Organizer: Maria Sonett.

10:30 So you want to start a grassbank?
- Maria Sonett. The Nature Conservancy
Heart Mountain Grassbank Lander, WY.

Grassbanks have the potential to be a powerful tool for range management professionals, ranchers, and conservation organizations to collaborate on projects that offer conservation benefits to both the land and the people making their living from the land. Interest in starting new grassbanking projects has led to the need for a frank discussion of what it might take to start and run such a project. In this presentation, I will define and discuss three grassbank models. I will discuss funding, public relations, and ranch management needs and strategies for selected projects with the would-be grassbanker in mind.

WORKSHOP

Statistics Workshop: Sampling

Hyatt, Cypress – Wednesday, February

15

8:00 AM – 11:30 AM

Co-Organizers: Sara Duke, Susan Durham,
and Tom Popham.

This workshop will address issues which arise when planning research frequently referred to as “Observational Research” where observation is of what is found *in situ*, not the result of pre-planned treatments. Workshop leaders will address many topics and explain why the analytical methods may be different from those used for designed experiments. The intention is to provide

participants with an understanding of why these issues are important to planning and conducting quality research. Workshop participants are encouraged to bring specific questions or difficulties from their own work for discussion.

***Continued in afternoon**

WORKSHOP

Sustainable Rangelands Roundtable

Hyatt, Grouse – Wednesday, February 15

8:00 AM – 11:30 AM.

Co-Organizers: Dennis Child and Kristie
Maczko.

Workshop participants will have an opportunity to identify and evaluate data collection methods for SRR’s 27 Core Indicators, concluding with recommendations to SRR, government agencies, and NGOs partners about the best methods to use to most accurately depict long term trends in social, ecological, and economic aspects of rangeland sustainability. Sustainable Rangelands Roundtable leadership will present a brief overview of roundtable background and introduce the 27 Core Indicators and existing data sets, organized by criterion. Workshop participants then will break out into small groups for each criterion and report back to the large group with recommended data collection methods for each Core Indicator.

**POSTER SESSION 4 - Range
Management**

**Hyatt, Regency E & F – Wednesday,
February 15, 9:00 AM – 11:30 AM**

- 1 **Production of a Brush Management Manual for Western Canada** - Ronald Moss. AAFC/PFRA, Manitoba, Canada
- 2 **Implementing weed control with multi-species grazing** - Amy Hummer⁴, Michael Carpine¹, Michael Crowder⁴, James Dobrowolski^{2,3}, Craig Madsen⁵ and Richard Schreckhise⁴. ¹USDA-NRCS Grants, NM, ²USDA-CSREES Washington, DC, ³Washington State University, Pullman, WA, ⁴Washington State University Tri Cities Branch, Richland, WA, ⁵Healing Hooves, LLC Edwall, WA.
- 3 **Responses buffel grass degraded pasture to roller chopping** - Luis Perez Romero, Juan Lopez Gonzalez, Reginaldo De Luna Villarreal and Luis De Leon Gonzalez. Domicilio conocido s/n Buenavista Saltillo, Coahuila, Mexico.
- 4 **Effects of seedbed characteristic and disturbance on native grasses establishment under arid conditions** - Luis Perez Romero, Eduardo Ruiz Fernandez, Reginaldo De Luna Villarreal and Juan Reynaga Valdez. Domicilio Conocido s/n, Buenavista Saltillo, Coahuila, Mexico.
- 5 **Compensatory mitigation involving energy development and livestock grazing on federal lands: examples from Wyoming** - Matthew Hoobler. Wyoming Department of Agriculture Cheyenne, WY.
- 6 **Livestock toxic plants on Sonoran rangelands** - Francisco Denogean¹, Martha Martin², Fernando Ibarra² and Salomon Moreno¹. ¹Economy Professors, Department of Administration, Unidad Regional Norte Santa Ana, Sonora, Mexico, ²Range Scientists, CECAR-INIFAP, Hermosillo, Sonora, Mexico.
- 7 **Photosynthetic characteristics of three varieties of buffelgrass in Santa Ana, Sonora, Mexico** - Fernando Ibarra¹, Felix Ayala², Martha Martin¹, Mark Hussey³, Byron Burson³, Alfonso Ortega³, Francisco Denogean² and Salomon Moreno². ¹Range Scientists, CECAR-INIFAP, Hermosillo, Sonora, Mexico, ²Assistant and Economy Professors, Universidad de Sonora, Santa Ana, Sonora, Mexico, ³Professor and Head, Department of Soil and Crop Sciences, Texas A&M University, College Station, TX.
- 8 **Establishment of browse species to restore productivity in rangelands of communal use in Sonora, Mexico** - Martha Martin¹, Fernando Ibarra¹, Francisco Denogean², Ernesto Gerlach² and Lorenzo Olivas². ¹Range Scientists, CECAR-INIFAP, Hermosillo, Sonora, Mexico, ²Economy Professors, Department of Administration, Unidad Regional Norte, Santa Ana, Sonora, Mexico.
- 9 **Sustainable Rangelands, Planning and Management in Hells Canyon (Prairie and Canyon Ecosystems)** - Michael Hale¹ and Dennis Sheehy². ¹International Center for the Advancement of Pastoral Systems, Joseph, OR, ²International Center for the Advancement of Pastoral Systems, Wallowa, OR.

- 10 **Changes on the steppes: Herder and livestock practices in Mongolia** - Batjav Batbuyan. Center for Nomadic Pastoralism Studies, Ulaanbaatar, Mongolia.
- 11 **Grazing evaluation of four indiangrass populations** - Rob Mitchell¹, Kenneth Vogel¹, Terry Klopfenstein² and Bruce Anderson². ¹USDA-ARS, Lincoln, NE, ²University of Nebraska, Lincoln, NE.
- 12 **Impacts of Stocking Rates on Pasture Dugout Water Quality** – George C Chu¹ and Lawrence Townley-Smith². ¹PFRA/AAFC, Edmonton, Alberta, Canada, ²PFRA/AAFC, Regina, Saskatchewan, Canada.
- 13 **Disappearance of residual dry matter on annual rangeland in the absence of grazing** - William Frost¹, James Bartolome² and Ken Churches³. ¹University of California, Cooperative Extension, Placerville, CA, ²Environmental Sciences, Policy and Management, University of California, Berkeley, CA, ³University of California, Cooperative Extension, San Andreas, CA.
- 14 **Extreme makeover, habitat edition: Fuels management treatments and Greater Sage-Grouse** - Lucinda Salo¹, Steven Hanser¹, Robert Unnasch² and David Pyke³. ¹USGS Forest and Rangeland Ecosystem Science Center, Boise, ID, ²The Nature Conservancy, Boise, ID, ³USGS Forest and Rangeland Ecosystem Science, Center Corvallis, OR.
- 15 **Leafy Spurge Impacts and Management on Native Prairie Rangeland** - Mae Elsinger¹, Erl Svendsen² and William Houston². ¹Agriculture and Agri-Food Canada, Prairie Farm Rehabilitation Administration, Brandon, Manitoba, Canada, ²Agriculture and Agri-Food Canada, Prairie Farm Rehabilitation Administration, Regina, Saskatchewan, Canada.
- 16 **Understory Response to Cutting, Seeding, and Chip Application in a Pinyon-Juniper Dominated Rangeland** - Tracy Benson^{1,2}, Hudson Glimp¹, Barry Perryman¹ and Robin Tausch³. ¹University of Nevada – Reno, Reno, NV, ²Resource Concepts, Inc., Carson City, NV, ³USDA Forest Service, Reno, NV.
- 17 **Cimarron X-tra: Postemergence weed control in improved pastures and rangeland** - Michael Edwards, Robert Rupp, Eric Castner, James Harbour, C. William Kral and Lawrence Tapia. DuPont Crop Protection, Wilmington, DE.
- 18 **Aminopyralid: Global Opportunities For a New Dow AgroSciences Herbicide** - Robert Masters, Vanelle Carrithers, Donald Hare, Anita Alexander, Alberto Reichert, Neivaldo Caceres, Adrian Chemello and John Troth. Dow AgroSciences, LLC, Indianapolis, IN.
- 19 **Effects of elevated zinc on germination, growth and development of Russian knapweed and restoration species** - Chris Call and Christo Morris. Forest, Range & Wildlife Sciences Department, Utah State University, Logan, UT.
- 20 **Defoliation management of grazing- and hay-type alfalfas in grasslands** -

John Hendrickson, John Berdahl and Mark Liebig. Northern Great Plains Research Laboratory, Mandan, ND.

Dan Sanchez, Charlie Clements and James A Young. USDA-ARS, Reno, NV.

- 21 **Natural Recovery of Industrial Activity on Public Lands in Southeastern Alberta- A Producer's Perspective** - Tracy Kupchenko¹, Alicia Hargrave² and Joel Heese¹. ¹SRD-Public Lands and Forests, Medicine Hat, Alberta, Canada, ²Hargrave Ranching Company Inc., Walsh, Alberta, Canada.
- 22 **Factors impacting survival and growth of big sage transplants into existing grass cover** - Mark Stannard. USDA Plant Materials Center, Pullman, WA.
- 23 **Development of a regionally adapted alkali sacaton population for seeding in southern Nevada** - Mary Hershendorfer¹, E Garner¹ and Gayle Marrs-Smith². ¹USDA- Natural Resources Conservation Service, Tucson, AZ, ²Bureau of Land Management, Las Vegas, NV.
- 24 **Homoclimates and Ecological Sustainability Simulation Model for Northeast Rangelands of Coahuila, México** - Iliana Hernández Javalera, Heriberto Díaz Solís, Silvia González Aldaco and Miguel Hernández Ventura. Domicilio Conocido, Buenavista, UAAAN Saltillo, Coahuila, Mexico.
- 25 **Huisache Control on the Rio Grande Plains** - Jason Hohlt¹ and Stan Reinke². ¹USDA Natural Resources Conservation Service, Alice, TX, ²USDA Natural Resources Conservation Service, Corpus Christi, TX.
- 26 **Cheatgrass seedbanks 30 years after the Hallelujah wildfire** - Dan Harmon,
- 27 **Biological Control?: Thirty Year Trend In Med Sage and An Introduced Med Sage Weevil** - Jeffrey Miller¹ and Eric Coombs². ¹Department of Rangeland Ecology and Management, Corvallis, OR, ²Oregon Department of Agriculture, Salem, OR.
- 28 **Germination potential of cheatgrass in relation to disturbance** - Bruce Roundy¹, Jeanne Chambers² and Susan Meyer³. ¹Wildlife and Wildland Conservation Program, Brigham Young University, Provo, UT, ²USDA Forest Service, Rocky Mountain Station, Reno, NV, ³USDA Forest Service, Rocky Mountain Station, Provo, Utah .
- 29 **Risk model of common gorse (*Ulex europaeus* L.) for Oregon** - Kipp Johnson¹, Michael Johnson², Mounir Louhaichi¹ and Douglas Johnson¹. ¹Department of Rangeland Ecology and Management, Corvallis, OR, ²University of Southern California, Los Angeles, CA.
- 30 **Implementing Weed Control Through Multi-Species Grazing** - Craig Madsen¹, Michael Carpinelli², Amy Hummer³, Andrea Mann⁴, Donald Nelson⁵, Michael Crowder⁶ and James Dobrowolski⁵. ¹Healing Hooves, LLC Edwall, WA, ²USDA-NRCS, Grants, NM, ³Washington State University - Tri-Cities, Richland, WA , ⁴USDA-NRCS, Ephrata, WA, ⁵Washington State University Extension, Pullman, WA, ⁶Barker Ranch, West Richland, WA.
- 31 **Does functional group diversity in shrub-steppe communities reduce**

- invasion?** - Eamonn Leonard¹ and Thomas Monaco². ¹FRWS Department, Utah State University, Logan, UT. ²USDA-ARS, Utah State University, Logan, UT.
- 32 **Managing Invasive Plant Infested Lands after Wildfire** - Monica Pokorny¹, James Hafer², Kirk Denny³ and James S Jacobs¹. ¹Montana State University, Bozeman, MT, ²Chief Dull Knife College, Lame Deer, MT, ³Northern Cheyenne Extension Service, Lame Deer, MT.
- 33 **Soil chemical changes associated with Russian knapweed invasions** - Sarah Tyrer¹, Ann Hild¹, Larry Munn¹, Brian Mealor¹ and Stephen Enloe². ¹University of Wyoming, Department of Renewable Resources, Laramie, Wyoming, ²University of Wyoming, Department of Plant Sciences, Laramie, WY.
- 34 **There goes the neighborhood...or does it? Population resilience to exotic invasions** - Brian Mealor and Ann Hild. University of Wyoming, Laramie, WY.
- 35 **Synergistic action of native plants and a stem boring weevil (*Ceutorhynchus litura*) for control of Canada Thistle (*Cirsium arvense*), an invasive weed** - Ángel Ferrero-Serrano¹, Ann Hild¹, Brian Mealor¹, Timothy Collier¹, Stephen Enloe² and Stephen Miller². ¹Dept. of Renewable Resources, University of Wyoming, Laramie, WY, ²Dept. of Plant Sciences, University of Wyoming, Laramie, WY.
- 36 **Vegetation response after roller chopping and buffelgrass seeding in a semiarid ecosystem of Argentina** - Carlos Ferrando, Lisandro Blanco, Fernando Biurrun, Enrique Oriente, Dario Recalde, Emiliano Quiroga and Pedro Namur. INTA EEA La Rioja, Chamental, La Rioja, Argentina.
- 37 **Can the impact of broadleaf weeds and legumes on forage production in pastures be isolated?** - Danielle Gabruck and Edward Bork. Agricultural, Food, and Nutritional Science Department, University of Alberta, Edmonton, Alberta, Canada.
- 38 **Use of goats in Russian knapweed management** - Lesley Richman¹, Larry Larson² and Michael Borman². ¹Burns District, Bureau of Land Management, Burns, OR, ²Department of Rangeland Ecology and Management, Oregon State University, Corvallis, OR.
- 39 **Blue Mustard in Cheatgrass Communities** - James Young and Charlie Clements. USDA-ARS, Reno, NV.
- 40 **The use of goat grazing to biologically suppress Perennial Pepperweed** - Charlie Clements and James Young. USDA-ARS, Reno, NV.
- 41 **Population Dynamics Of Selected forbs on Oregon's High Desert treated with Plateau® herbicide** - Mounir Louhaichi¹, Lesley Richman², Douglas Johnson¹ and Michael Carpinelli³. ¹Department of Rangeland Ecology and Management, Oregon State University, Corvallis, OR, ²USDI/BLM Burns District, Hines, OR, ³USDA/ARS, EOARC, Burns, OR.
- 42 ***Bromus tectorum*: Interactive effects of atmospheric CO₂ and elevation ecotype on plant growth, tissue biochemistry, and tissue**

combustibility - Robert Blank ¹, Lewis Ziska ², James Reeves ³, Robert White ⁴ and Charlie Clements ¹. ¹USDA-ARS, Exotic and Invasive Weed Research Unit, Reno, NV, ²USDA-ARS, Crop Systems and Global Change Laboratory, Beltsville, MD, ³USDA-ARS, Animal Manure and By-Products Laboratory, Beltsville, MD, ⁴USDA-FS, Forest Products Laboratory, Madison, WI .

- 43 **Effects of shade on behavioral and physiological responses of goats raised in the south of Thailand** - Wirawat Chaya, Apichart Rainchana and Penapa Nakpeng. Animal Production Technology Program, King Mongkut's Institute of Technology, Ladkrabang Chumphon Campus, Pathiu, Chumphon, Thailand.
- 44 **Prescribed Sheep Grazing to Control Cheatgrass and Medusahead and Facilitate Restoration of Annual Grasslands** - Lovina Roselle and Karen Launchbaugh. Rangeland Ecology and Management, University of Idaho, Moscow, ID.
- 45 **Seasonal Dynamics of Nutritional Value of Key California Chaparral Plants** - Nelmy Narvaez and Wolfgang Pittroff. Department of Animal Science, University of California, Davis, CA.
- 46 **Perennial Pepperweed: Cover, biomass, intake and nutritional properties in sheep** - Pelayo Alvarez and Wolfgang Pittroff. Department of Animal Science, University of California, Davis, CA.

Business Meeting
Fairmont, Pacific Ballroom – Wednesday,
February 15
1:30 PM – 3:00 PM

Thursday, February 16, 2006

TECHNICAL SESSION: Rangeland Economics, Sociology, and Education Hyatt, Georgia B – Thursday, February 16, 8:00 AM – 11:30 AM

Moderators: Lynn Huntsinger and Trent Teegerstrom

- 8:00 **The Story of the Stockpond** – Lynn Huntsinger ¹. ¹Department of Environmental Science, Policy and Management Berkeley, CA.
- 8:20 **Owners, Use, and Management: Californias Oak Woodlands 1985 to 2004** – Lynn Huntsinger ¹, Martin Johnson ¹, Monica Stafford ¹ and Jeremy Fried ². ¹Department of Environmental Science, Policy and Management Berkeley, CA, ²USDA Forest Service - PNW Research Station Portland, OR,.
- 8:40 **Change in the Steppes: Herder and livestock practices in Mongolia** – Batbuyan Batjav. Center for Nomadic Pastoralism Studies, Institute of Geography, Mongolian Academy of Sciences, Ulaanbaatar, Mongolia.
- 9:00 **How the Next Farm Bill Can Do More to Help Ranchers Improve Rangeland Health** – Theodore Toombs ¹. ¹Environmental Defense, 2334 North Broadway Boulder, CO.
- 9:20 **Assessing the value of Texas wildlife management associations for coordinate resource management** - Craig Limesand ¹ and Urs Kreuter ¹. ¹Department of Rangeland Ecology and Management College Station, TX.

- 9:40 **Break**
- 9:50 **Nomadic Social Study in Northern Mongolia** – Saruul Dolgorsuren¹.
¹Hovsgol_GEF/ World Bank Project, Geo-Ecology Institute Baruun Selbe-13, Ulaanbaatar 211238, Mongolia. Ulaanbaatar, Tov, Mongolia.
- 10:10 **Landowner Perceptions of Ranchland Conservation** – Mark Brunson¹ and Susan Wilmot¹.
¹Dept. of Environment & Society Logan, UT.
- 10:30 **Landowner perceptions regarding prescribed fire in Texas** – Urs Kreuter¹ and Brad Woodard¹.
¹Department of Rangeland Ecology and Management College Station, TX.
- 10:50 **Effects of stewardship programming on landowner attitudes, management practices, and conservation in the Prairie Ecozone** – Tom Harrison¹, Jennifer Lohmeyer¹ and Glen McMaster¹.
¹Saskatchewan Watershed Authority Regina, SK, Canada.
- 11:10 **A Blackfoot Traditional Land Use Study: Protecting Rangelands and Preserving Culture through Natural Resource Education** - Francis First Charger¹ and Rebecca S Toupal².
¹Traditional Land Use Study Coordinator Cardston, AB, Canada, ²Bureau of Applied Research in Anthropology, University of Arizona Tucson, AZ.

TECHNICAL SESSION: Grazing Management/Excellence in Rangeland Management

Hyatt, Regency A&B – Thursday, February 16, 8:00 AM – 11:30 AM

Moderators: Amanda Handcock and Bret Olson

- 8:00 **Burning and Grazing Interactions on Native Rangeland** – Lorilynn Clark¹, Kevin Sedivec¹, Jennifer Plummer², Jack Norland¹ and Mario Biondini¹.
¹100 Hultz Hall Fargo, ND, ²USDA-Natural Resource Conservation Service Dickinson, ND.
- 8:20 **A Collaborative Grasslands Planning Effort in Eastern Wyoming** – Jon Haufler¹, Carolyn Mehl¹, Amy Ganguli¹ and Scott Yeats¹.
¹Ecosystem Management Research Institute Seeley Lake, MT.
- 8:40 **Summer Defoliation Timing and Intensity Effects on Winter Standing Herbage in the Northern Mixed-Grass Prairie** – Rebecca Hipp¹, Alexander Smart¹, Roger Gates¹ and Patricia Johnson¹.
¹Department of Animal and Range Sciences Brookings, SD.
- 9:00 **Identifying Ecosystem Impacts of Different Grazing Regimes in the Sierra Nevada** – Susan McIlroy¹, Barbara Allen-Diaz¹, William Frost³, Neil McDougald³, Leslie Roche² and Ken Tate².
¹University of California, Berkeley Berkeley, CA, ³University of California-Cooperative Extension Madera, CA, ²University of California, Davis Davis, CA.

9:20 **Using environmental and economic indicators to compare and evaluate different grazing strategies** - Sheila Barry¹, Keith Guenther², Grey Hayes³, Royce Larsen⁴, Glenn Nader⁵ and Morgan Doran⁶. ¹UCCE Santa Clara San Jose, CA, ²Wildland Solutions Brewster, WA ³Elkhorn Slough Foundation Coastal Training Program Moss Landing, CA, ⁴UCCE San Luis Obispo County, Paso Robles Office Paso Robles, CA, ⁵UCCE Yuba-Sutter County Yuba City, CA, ⁶UCCE Solano County Fairfield, CA.

9:40 **Break**

9:50 **Effects of dormant-season grazing on herbage production and plant growth** – Kristy-Lane Nelson¹, Kevin Sedivec¹, Christopher Schauer², Jackie Olson³, Mitch Faulkner⁴ and Timothy Faller². ¹100 Hultz Hall Fargo, ND, ²Hettinger Research and Extension Center Hettinger, ND, ³Department of Agriculture and Technical Studies Dickinson, ND, ⁴USDA-Natural Resources Conservation Service Lincoln, NE.

10:10 **Effect of increase in biodiversity on grazing performance of different native pasture mixtures seeded in southwest Saskatchewan in 2001** – Alan Iwaasa and Mike Schellenberg. Agriculture and Agri-Food Canada Semiarid Prairie Agricultural Research Centre (AAFC-SPARC), Swift Current, Saskatchewan, Canada.

10:30 **Demonstration of best management practices in the Coteau region of North Dakota** –

Amanda Hancock¹, Paul Nyren¹ and Anne Nyren¹. ¹North Dakota State University Streeter, ND.

10:50 **Development Actions: An Ecocentric Approach** – Manuel Vásquez. Centro Universitario Regional del Litoral Atlántico (CURLA), La Ceiba, Atlántida, Honduras.

11:10 **Thermal balance of cattle grazing winter range: model application** - Ilai Keren and Bret Olson. ¹P.O. Box 172900, Bozeman, MT.

SYMPOSIUM

Rangeland Infra and Forest Service I-Web 1

**Hyatt, Plaza A – Thursday, February 16
8:00 AM – 11:30 AM.**

Organizer: Bonnie Pritchard; US Forest Service.

8:00 **IWeb & Range - What's New and Navigation**

9:00 **Getting your Data Out**

10:00 **Range Mobile for PDRs**

SYMPOSIUM

Prescribed Livestock Grazing to Enhance Wildlife Habitat

Hyatt, Regency C – Thursday, February 16

8:00 AM – 11:30 AM.

Co-Organizers: Jim Knight, Dale Rollins, and Jon Boren

8:00 **Introduction**

- 8:10 **Cattle management to enhance wildlife habitat in South Texas -** Alfonso Ortega and Fred C. Bryant. Caesar Kleberg Wildlife Research Institute, Texas A&M University-Kingsville, Kingsville, TX.
- 8:50 **The impacts of livestock grazing on sage grouse in northeast Montana—a historical perspective -** Ron Stoneburg (Retired), Montana Department of Fish Wildlife and Parks, Hinsdale, MT and Jim Knight. Montana State University, Bozeman, MT.
- 9:10 **Prescribed grazing to enhance quail habitat in the Southern Great Plains -** Dale Rollings, Texas A&M University, San Angelo, TX.
- 9:30 **Break**
- 9:50 **Prescribed livestock grazing to enhance riparian habitat in the southwest: A review -** Terrell Baker, Jon Boren, New Mexico State University, and Karl Wood, New Mexico State University Water Resources Research Institute, Las Cruces, NM.
- 10:10 **Challenges and opportunities for developing prescribed grazing guidelines to enhance habitat for endangered species in the southwest -** Jon Boren and Terrell Baker, New Mexico State University, Las Cruces, NM.
- 10:30 **Riparian habitat restoration and native southwestern USA fish assemblages: a tale of two rivers -** John Rinne, Rocky Mountain Research Station, Flagstaff, AZ, and Dennis Miller, Western New Mexico University, Silver City, NM.
- 10:50 **Livestock Grazing to enhance big game habitat: case studies -** Roy Fenster and Jim Knight, Montana State University, Bozeman, MT.
- 11:10 **Prescribed grazing as a tool to manage white-tailed deer habitat: myth or reality? -** Alfonso Ortega and Tim D. Fulbright, Caesar Kleberg Wildlife Research Institute, Texas A&M University-Kingsville, Kingsville, TX.
- SYMPOSIUM**
Grazing Alberta's Forested Rangeland
Hyatt, Regency E&F – Thursday,
February 16
8:00 AM – 11:30 AM.
- Co-Organizers: Mike Willoughby and Donna Lawrence.
- 8:00 **Introduction**
- 8:15 **Alberta's Forested Rangeland Health Assessment Protocol -** Darlene Moisey, Range Management Specialist, Alberta Sustainable Resource Development.
- 8:45 **Long-term Monitoring of Rangeland Health in the Lower Foothills Region of Alberta -** Mike Willoughby, Provincial Range Ecologist, Alberta Sustainable Resource Development.
- 9:15 **Issues, Challenge and Opportunities of Integrating Livestock Grazing and Timber Harvesting on Alberta's Public Lands -** Mike Alexander, Range

Management Specialist, Alberta Sustainable Resource Development.

9:45 **Break**

10:00 **Managing Livestock and Timber Harvesting on Public Lands – the Application of GPS Collars -** Carcey Hincz, Range Management Specialist, Alberta Sustainable Resource Development.

10:30 **Grazing Challenges in Remote Areas in the Upper Foothills Natural Subregion of Alberta -** Barry Irving, University of Alberta.

11:00 **Multiple Use Impacts on Range Health is Forest Grazing Allotments of Alberta’s Eastern Slopes -** Dr. Edward Bork, University of Alberta.

WORKSHOP

Changes in Ecology and Hydrology due to Weeds in Natural Areas
Hyatt, Regency D – Thursday, February 16
8:00 AM – 11:30 AM.

Co-Organizers: Denine Schmitz and Jim Jacobs.

The immediacy of the problem of invasive species has prompted multi-disciplinary action in many realms. We invite resource professionals from management agencies, universities, the private sector, and non-governmental organizations to attend this workshop to pool knowledge and information that quantifies the impacts of invasive species on watershed hydrology and riparian hydrology. Participants will discuss “what we know,” “what we

assume,” “what we need to know,” and “how do we get the word out.”

WORKSHOP

Using the Vegetation Dynamics Development Tool (VDDT) to Simulate Vegetation Change on the Landscape
Hyatt, Georgia A – Thursday, February 16
8:00 AM – 11:30 AM.

Organizer: Leonardo Frid.

8:00 **Overview of VDDT -** Leonardo Frid. ESSA Technologies Ltd.

8:45 **Landscape Characteristics of Sagebrush-Steppe/Juniper Woodland Mosaics Under Varying Modeled Prescribed Fire Regimes -** Stephen Bunting and Eva Strand. University of Idaho.

9:15 **Great Basin land management planning using ecological modeling -** Tara Forbis. The Nature Conservancy of Nevada.

9:45 **Break**

10:00 **Projecting landscape conditions in southern Utah using VDDT: Beaver river analysis -** James Merzenich. USDA Forest Service.

10:30 **Quantitative Modeling to Test and Direct Strategic Management of Invasive Plant Species in Montana -** Brian Martin. The Nature Conservancy of Montana.

11:00 **General Discussion**

***To be continued in afternoon**

TECHNICAL SESSION: Plant/Animal Relationships (defoliation)

Hyatt, Regency D – Thursday, February 16, 1:30 PM – 5:00 PM

Moderators: Patrick Reece and Kelly Smith

- 1:30 **Cattle range site preference on a California foothill rangeland -**
Kelly R Smith¹, Neil K McDougald², David C Cao³, Norman R Harris⁴, Mel R George⁵ and Douglas E Johnson⁶. ¹Department of Rangeland and Ecology Management Corvallis, OR, ²University of California Cooperative Extension Madera, CA, ³Agronomy and Range Science Davis, CA, ⁴Agricultural and Forestry Experiment Station Palmer, AK, ⁵Agronomy and Range Science Davis, CA, ⁶Department of Rangeland and Ecology Management Corvallis, OR.
- 1:50 **Initial (5 yr) vegetation responses to the removal of native ungulate herbivory in Elk Island National Park -** Jody N Best¹ and Edward W Bork². ¹Rangeland Agrologist, PLFD, Alberta Sustainable Resource Development Pincher Creek, Alberta, Canada, ²Associate Professor, Range Management Edmonton, Alberta, Canada.
- 2:10 **Forest grazing on lodgepole-pine cutblocks in southern British Columbia -** Maja Krzic¹, Reg Newman² and Klaas Broersma³. ¹University of British Columbia Vancouver, British Columbia, Canada, ²BC Ministry of Forests, Research Branch Kamloops, British Columbia, Canada, ³Agriculture and Agri-Food Canada Kamloops, British Columbia, Canada.
- 2:30 **Break**
- 3:20 **Consequences of grazing for aspen recruitment and stand sustainability in the Sierra Nevada -** Bobette E Jones¹, Kenneth W Tate¹, David F Lile² and Shannon R Cler¹. ¹Department of Plant Sciences, University of California Davis, CA, ²University of California Cooperative Extension Susanville, CA.
- 3:40 **Seasonal Defoliation and Fall Green-up Effects on Mixed-grass Prairie in Western -** W. Douglas Whisenhunt^{1,2}, Patrick E Reece¹, Jerry D Volesky¹, Ann E Kohler¹ and Lowell E Moser¹. ¹University of Nebraska-Lincoln, Panhandle Research and Extension Center Scottsbluff, NE, ²Natural Resources Conservation Service Curtis, NE.
- 4:00 **Drought and Grazing Intensity Impacts on Northern Mixed-Grass Prairie -** Don Kirby¹, Ryan Limb¹, Edward DeKeyser¹ and Paul Nyren². ¹Animal and Range Sciences Department Fargo, ND, ²Central Grasslands Research Extension Center Streeter, ND.
- 4:20 **Effects of long-term winter-spring grazing on foothill rangeland -** Tanya M Thrift¹, Tracy K Brewer¹ and Jeffrey C Mosley¹. ¹Department of Animal and Range Sciences, Bozeman, MT.

**TECHNICAL SESSION: Wildlife
Hyatt, Regency A&B – Thursday,
February 16, 1:30 PM – 5:00 PM**

Moderators: Chad Boyd and Michael Gregg

- 1:30 **The Effects of Hydro-ax Removal of Pinyon-Juniper and Big Sagebrush on Songbirds in Southeastern Colorado** – Matthew Williamson¹, Julie Savidge¹ and Wendell Gilgert². ¹Colorado State University Ft. Collins, CO, ²Natural Resource Conservation Service Portland, OR.
- 1:50 **Effects of grassland community structure and landscape factors on grassland-dependent songbirds in Valley Grasslands, CA** – Sasha Gennet, Devii Rao, James Bartolome and Michele Hammond. Division of Ecosystem Sciences, University of California, Berkeley, CA.
- 2:10 **Inventory and Comparison of Wildlife species diversity, richness, and evenness by plant community on military training bases in North Dakota** – Renae Hines¹, Kevin Sedivec¹, Jennifer Fox¹, Mark Goertel² and William Barker¹. ¹100 Hultz Hall Fargo, ND, ²USDA-Forest Service Butte, MT.
- 2:30 **Temporal variation in diet composition of preincubating greater sage-grouse relative to food availability and age of hen** – Michael Gregg¹, Jenny Barnett² and John Crawford³. ¹U.S. Fish and Wildlife Service, Richland, WA, ²Confederated Tribes of the Umatilla Indian Reservation, Pendleton, OR, ³Oregon State University, Corvallis, OR.
- 2:50 **A Vegetative Characterization of Mountain Plover Nest Sites on the Pawnee National Grassland: A Management Perspective** – Kim Obele. USDA Forest Service, Greeley, CO.
- 3:10 **Break**
- 3:20 **Influence of Lehmann lovegrass on wintering avian abundance and seed selection in Coronado National Memorial, Arizona** – Cesar Mendez-Gonzalez¹, Laurie Abbott¹ and Martha Desmond². ¹Department of Animal and Range Sciences Las Cruces, NM, ²Department of Fishery and Wildlife Sciences Las Cruces, NM.
- 3:40 **Small mammal response to long and short term disturbance in a mixed prairie: A different footprint** – Sherry Leis^{1,2}, David Leslie³, David Engle² and Jeffrey Fehmi⁴. ¹Missouri Department of Conservation, Clinton, MO, ²Oklahoma State University Stillwater, OK, ³Oklahoma Cooperative Fish and Wildlife Research Unit Stillwater, OK, ⁴U.S. Army Engineer Research and Development Center –Corps Engineering Research Laboratory Champaign, IL.
- 4:00 **Temperature Influence on Elk Selection of Habitats in the Black Hills** – Lakhdar Benkobi¹, Mark Rumble² and Jack Butler³. ¹Rangeland Research Scientist Fort Collins, CO, ²Wildlife Biologist Rapid City, SD, ³Research Ecologist/Project Leader Rapid City, SD.

4:20 **Spatially Enabled: The Practical and Portable Benefits of GIS Technology in an Agriculture Wildlife Conflict** – Jamie Piccin¹ and Candace Piccin². ¹Dynamic Outlook Consulting Pincher Creek, Alberta, Canada, ²Alberta Sustainable Resources Development Pincher Creek, Alberta, Canada.

4:40 **Distributional and dietary overlap of elk, deer, and cattle in the Lincoln National Forest** – Brian Hurd¹, Jon Boren¹, Terrell Baker¹ and Carleton Edminster². ¹New Mexico State University Las Cruces, NM, ²USDA Forest Service Flagstaff, AZ.

TECHNICAL SESSION: Rangeland Economics, Sociology, and Education II* Hyatt, Georgia B– Thursday, February 16, 1:30 PM – 5:00 PM

Moderators: Walter Fick and Linda Hardesty

1:30 **Does collaboration increase social capital?** – Cheryl Wagner and Maria Fernandez-Gimenez. ¹Colorado State University Fort Collins, CO.

1:50 **Public Land Grazing as a Tool for Private Land Conservation: A Report from the San Francisco Bay Area, California** – Adriana Sulak¹ and Lynn Huntsinger¹. ¹Department of Environmental Science, Policy and Management Berkeley, CA.

2:10 **Montanas Undaunted Stewardship Program Raises Awareness of Sustainable Rangeland**

Management – Lisa Schmidt¹, Jeffrey Mosley¹, Merrita Fraker-Marble¹, Brent Roeder¹, Stephanie Sever¹ and Heidi Olbert¹. ¹Department of Animal and Range Sciences Bozeman, MT.

2:30 **Kansas Grassland Water Quality Program** – Walter Fick¹, Rodney Jones², Carolyn Blocksome¹, Kevin Herbel², Larry Huber¹ and Donna Schenck-Hamlin¹. ¹Department of Agronomy, Kansas State University, Manhattan, KS, ²Department of Agricultural Economics, Kansas State University, Manhattan, KS, ³Information Support Services for Agriculture, Kansas State University, Manhattan, KS.

2:50 **Break**

3:20 **Linking Ethiopian pastoralists and exporters in a livestock marketing chain: The role of education** – D. Layne Coppock¹, Seyoum Tezera², Solomon Desta^{1,3} and Getachew Gebru^{1,2}. ¹GL-CRSP PARIMA Project Logan, UT, ²GL-CRSP PARIMA Project Addis Ababa, Ethiopia, East Africa, ³GL-CRSP PARIMA Project Nairobi, Kenya, East Africa.

3:40 **Forage resource use for Utah beef production under risk and uncertainty** – Layne Coppock¹, Donald Snyder^{2,3}, Mansi Amin³ and Louise Sainsbury⁴. ¹Dept. Environment & Society Logan, UT, ²Dept. Economics Logan, UT ³Utah Agricultural Experiment Station Logan, UT ⁴275 E 2500 N Vernal, UT.

4:00 **Economic Consequences of Conifer Encroachment into Utah Aspen Stands** – Barton Stam² and John Malechek¹. ¹Dept. of Forestry, Range, and Wildlife Sciences Logan, UT, ²Thermopolis, WY,

4:20 **A Remote Sensing Based Model for Rangeland Health Assessments** – Jared Buono¹, Philip Heilman² and D. Phillip Guertin¹. ¹School of Natural Resources, University of Arizona Tucson, AZ, ²Southwest Watershed Research Center, ARS, USDA Tucson, AZ.

SYMPOSIUM

Effectiveness of Grazing Systems on Rangelands – a Critical examination of the Evidence

Hyatt, Regency E&F – Thursday,

February 16

1:30 PM – 5:00 PM.

Organizer: Walter Willms.

1:30 **Introduction** – Walter Willms.

1:45 **Vegetation responses to grazing: have unifying principles emerged?** - David D Briske. Rangeland Ecology & Management, Texas A&M University, College Station, TX.

2:15 **Predictability of effects of rotational grazing systems along environmental gradients** - Justin Derner¹ and Robert Gillen².
¹USDA-ARS Cheyenne, WY,
²USDA-ARS Woodward, OK.

2:45 **Break**

3:00 **How can grazing systems influence community structure and function?** - Samuel Fuhlendorf. Oklahoma State University Stillwater, OK.

3:30 **Knowledge gaps in assessing and predicting grazing system performance: art or science?** - Joel Brown¹ and Andrew J Ash². ¹USDA NRCS, Jornada Experimental Range Las Cruces, NM, ²CSIRO Sustainable Ecosystems St Lucia, Qld, Australia.

4:00 **Effectiveness of Grazing Systems - a Synthesis of Evidence** - Kris Havstad. USDA ARS Jornada Experimental Range Las Cruces, NM.

WORKSHOP

Using the Vegetation Dynamics Development Tool (VDDT) to Simulate Vegetation Change on the Landscape (Continued)

**Hyatt, Georgia A – Thurs, February 16
1:30 PM – 5:00 PM.**

Organizer: Leonardo Fried

The afternoon session will be a hands-on tutorial in how to use the VDDT software with exercises to develop basic skills. A laptop computer, running Windows 98SE or higher, is required. Cost of this session is \$30 (including CD with the full version of VDDT, participant workbook and refreshments). Note that the morning session is a prerequisite for the afternoon.