



68th SRM Meeting, Training & Trade Show

JANUARY 31 - FEBRUARY 6, 2015 ★ SACRAMENTO, CALIFORNIA





69th SRM Meeting, Training & Trade Show

JANUARY 29 - FEBRUARY 6, 2016
★ CORPUS CHRISTI, TEXAS ★

Make plans to join us!



68th SRM Annual Meeting, Training & Trade Show

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IMPORTANT INFORMATION

Registration

Location

East lobby on the 3rd floor of the Convention Center

Hours

Saturday: 3:00 pm – 7:00 pm

Sunday: 7:00 am – 7:00 pm

Monday, Tuesday, Wednesday: 7:00 am – 5:30 pm

Thursday: 7:00 am – 5:00 pm

Friday: 7:00 am – 9:00 pm

Tour Bus Meeting Location

Meet on J Street, outside of the Convention Center Exhibit Hall

Daily Trail Boss

The *Daily Trail Boss* is printed every morning Sunday through Friday, and is available in the VIP Lounge on the 2nd floor of the Convention Center and throughout our conference areas. You'll also find updated PDFs on the Guidebook mobile app. Any information that you would like included in the next issue must be submitted by 12:00 noon the previous day via email to dailytrailboss@rangelands.org.

Message Board

A board for messages will be located near the registration area in the east lobby on the 3rd floor of the Convention Center. Trying to find someone to sell an extra event ticket or just have information to share? Please use the message board.

Speaker Preparation

Technical session papers will be presented within a 20-minute schedule. To allow time for questions, you should plan to present your paper in 15 minutes. Concurrent technical sessions dictate that the time schedule be strictly followed. A Windows PC laptop computer and projector will be provided for each session.

Presentations shall be brought directly to the session, symposia or workshops during the break before the session begins. Presenters should check with their session moderator at least 15 minutes before the start of the session so they know you are present and can give you any last minute instructions.

Technical Sessions and Authorships

In the program, only the name of the presenter is provided. Please use the presentation or poster number to view full authorship in the abstracts, posted online.

Abstracts

Abstracts are available for download and viewing on the SRM webpage (rangelands.org/sacramento2015 in the top navigation bar under *Abstracts*).

Poster Presentations

Poster paper authors have been assigned a number and session in this program corresponding to a number on the poster boards.

Poster session I: Monday, posters should be up from 8:00 am – 8:00 pm. Presenters are required to stand by poster 5:30 pm – 7:30 pm for poster social. This session will be held in the Trade Show area, 1st floor of the Convention Center.

Poster session II: Thursday, posters should be up from 8:00 am – 4:00 pm. Presenters are required to stand by poster from 11:40 am – 1:00 pm for a poster lunch. This session will be held on the 3rd floor of the Convention Center.

Mobile App

Download the Guidebook app at guidebook.com/getit or from the Apple, Google, Blackberry, or Amazon app stores. You can also look for Event Posters with QR Codes to scan around our registration area and ballrooms. Attendees who scan the QR code within the Guidebook mobile app will download the SRM 2015 Managing Diversity guide instantly. Scanning the barcode outside of the mobile app will take you to the app store to download the Guidebook mobile app. When the app is installed on your device, click on the *Download Guides* link and touch *Redeem Code* at the bottom of the page. Enter the code **SRM2015** and the guide will load on your device. After everything is loaded, explore the *ReadMe First* feature of the guide found in the menu area as it contains information on how to use the app, important survey information, and instructions on how to create an event profile. Features of the app include: A full schedule and schedules by events, maps, social media, links to rangeland websites, Daily Trail Boss PDFs, links to restaurants/nightlife, and more.

Badge Program for Food Discounts

Sacramento was recently named America's Farm-to-Fork Capital. Enjoy some of the country's finest food for a discount at many restaurants participating in the "Badge Program." Simply peruse the participating restaurants (visitsacramento.com/society-for-range-management) to see the discounts being offered. When dining out, just remember to bring your convention name badge and mention the Badge Program to receive your discount.

Key

HY = Hyatt Regency

SHER = Sheraton Grande

CC = Convention Center



68th SRM Annual Meeting, Training & Trade Show

2015 SRM SACRAMENTO ANNUAL MEETING CAL-PAC PLANNING COMMITTEE

Co-Chairs: Sheila Barry and Alan Bower

AM Meeting Director: Kelly Fogarty

SRM Board Liaisons: Kenneth Fulgham and Leonard Jolley

Local Coordinator: Tacy Currey

Technical Program and Abstracts: Lynn Huntsinger, Fadzayi Mashiri and Carlin Starrs

Technical Tours: Mel George, David Kelley, Elise Gornish, Ceci Dale-Cesmat, Ken Tate, Tracy Schohr, Jeremy James, Morgan Doran, Larry Forero, Theresa Becchetti, Marc Horney, Wendell Gilgert, Kent Reeves, and Jack Alexander

Session Operations: Jim Sullins and Susan Forbes

Finance: Edie Jacobsen and Larry Forero

Registration: Royce Larsen and David Lile

Trade Show: Ceci Dale-Cesmat, Rob Pearce, Breanna Owens, Danny Marquis, Karen Sweet, and Dan Macon

Publicity/Outreach: Susan Edinger Marshall, Patti Novak-Echenique, Jeffery Stackhouse, Karen Sweet, John Harper, and Morgan Doran

Agency Outreach: Lance Criley

Host Activities: Stephanie Larson, Holly George, and Theresa Becchetti

Student Activities: Marc Horney, Julie Finzel, Shelly Kelly, and Katelyn Schade

Employment/Career Fair: Wendel Gilgert, Richard King, Philip Brownsey, and Marc Pointel

Web and Print Services: Humboldt State University Marketing & Communications



68th SRM Annual Meeting, Training & Trade Show

WELCOME!

Hello and allow us to give you all a warm welcome to California from the California-Pacific Section of the Society for Range Management. We are excited to be hosting the 2015 SRM Annual Meeting, Training and Trade Show in Sacramento, California — our state's capital. The theme of this year's conference, "Managing Diversity" reflects the diversity of California's rangeland ecosystems as well as the diversity of people and organizations who manage, make their livelihood on, and use the state's vast and diverse rangelands. We are one of only a few locales in the world where you can experience alpine, Mediterranean and desert climates which support mountain meadows, oak savannahs, coastal prairies and desert scrubland, frequently within 150 miles (or less!) from each other.

Such a diversity of conditions creates many opportunities to apply a variety of resource management techniques and conduct research. For those of us that have the pleasure of living and working in California, we embrace the diversity of opportunities that our state offers.

It is our goal as hosts for SRM 2015 that along with the various symposiums that are being offered and the high quality technical information that will be delivered, you will all get at least a sampling of what this region has to offer and experience the diversity of our nation's golden state!

Enjoy!

Sheila Barry

Alan Bower

Sacramento 2015 Co-Chairs

2015 SRM ENDOWMENT FUND SILENT AUCTION

The Endowment Fund Development Committee requests your participation in the 2015 Silent Auction!

A portion of the earnings gained from investment of the Endowment Fund each year supports the operating budget of SRM. As the Endowment Fund grows, it contributes greater amounts to SRM's programs and operations. All proceeds from the silent auction are added to the Endowment Fund. You can participate by donating items to be auctioned and bidding on items in the auction, so bring your items and your checkbook or credit card. Bid high and bid often!

The Endowment Fund Silent Auction will run from Sunday evening to Tuesday evening at 5:00 pm. It will be in Exhibit Hall A and complete at the Awards and Dance. The auction will run to 8:00 pm and all items must be picked up by 10:00 pm. For more information on the 2015 SRM Silent Auction contact Meribeth Lomkin at mlomkin64@gmail.com or call (208) 358-1533.



Welcome to Sacramento, California and the 68th Society for Range Management Annual Meeting, Technical Training and Trade Show! We are excited to gather and learn the latest in rangeland technologies, honor our members who have achieved much

in their careers and welcome college and high school students who will lead our profession into the future. Renewing acquaintances and making new ones is always a highlight of our annual meeting. We are a family as much as professional colleagues. I look forward to seeing old friends, learning new technologies and making new friends!

Jenny Pluhar

SRM President



TRADE SHOW SCHEDULE

HOURS:

Sunday, February 1, 3:30 pm – 7:30 pm

Monday, February 2, 8:00 am – 7:00 pm

Tuesday, February 3, 8:00 am – 4:00 pm

All events associated with the Trade Show will be held in Exhibit Hall A.

FREE NETWORKING KICKOFF

Come join all your SRM friends for the Super Bowl at SRM's Trade Show Opener. There will be big screen TVs to watch the game, networking opportunities, prizes at the booths, fun games, and of course the traditional Super Bowl snacks! Kickoff starts at 3:30 pm so come enjoy the game, visit trade show vendors and enjoy fellowship.

TRADE SHOW HIGHLIGHT PRESENTATIONS

This year several highlighted activities will be happening on the trade show floor for your enjoyment. These include presentations and demonstrations on the following topics: Brand reading & history of branding/marketing cattle, dutch-oven cooking, meat cutting, solar water systems, Yeomans Keyline Plows—uses on rangeland, and cooking organic grassfed beef.

TRADE SHOW DEMONSTRATIONS

Organization	Name	Type	Date/Time
February 2nd, Monday			
Jefferson Center for Holistic Management	Spencer Smith	Workshop Promo	10:00 – 11:00 am
Brand Inspector	John Suther	Brand Reading	11:30 am – 12:00 noon
	John Suther	Brand Reading	1:00 – 1:30 pm
Stanford	Neomi Walzebuck	PastureMap App	2:00 – 3:00 pm
UCCE	Larry Forero	Range App	4:00 – 4:30 pm
February 3rd, Tuesday			
Castle Meats	Castle Meats	Meat Cutting Demo	10:00 – 11:00 am
Stanford	Neomi Walzebuck	PastureMap App	11:30 am – 12:00 noon
UCCE	Larry Forero	Range App	1:00 – 1:30 pm



EVENT	TIME
February 1st, Sunday	
Trade Show Setup	12:00 noon – 3:00 pm
University Chapter Displays	3:30 – 7:00 pm
Trade Show Opening Super Bowl Mixer	3:30 – 7:30 pm
February 2nd, Monday	
Trade Show	8:00 am – 7:00 pm
University Chapter Displays	8:00 am – 8:00 pm
Trade Show Highlight Presentations	1:00 – 5:00 pm
Rangeland Cup	1:00 – 5:00 pm
Employment/ Career Fair	4:00 – 7:00 pm
SRM Excellence in Range Management Poster Contest	5:00 – 6:00 pm
Poster Social Session	5:30 – 7:30 pm
February 3rd, Tuesday	
Trade Show	8:00 am – 4:00 pm
University Chapter Displays	8:00 am – 4:00 pm
Trade Show Highlight Presentations	9:00 am – 3:00 pm
Trade Show Tear Down	4:00 – 8:00 pm



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ANNUAL MEETING SPONSORS



*(Sponsors for Plant I.D. Contest
in Memory of Janine Hajar)*



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HUMBOLDT STATE UNIVERSITY



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PLENARY SESSION and AWARDS CEREMONY

**Monday February 2nd
8:30 am – 12:00 noon**

Convention Center Ball Room (306, 307, 314, 315)

8:30 am: WELCOME

8:40 AM: PLENARY SESSION

11:30 am: AWARDS CEREMONY I*

Frederic G. Renner Award:

Dr. Barbara Allen-Diaz, California-Pacific Section

W. R. Chapline Land Stewardship Award:

Dr. Charles A. "Butch" Taylor Jr., Texas Section

W. R. Chapline Research Award:

Dr. Kris A. Havstad, New Mexico Section

12:00 Noon: ADJOURN

**12:30 pm – 1:30 pm:
SRM MEMBER BUSINESS LUNCH • CC 313**

NOTE: Tuesday, February 3rd

***6:00 – 8:00 pm: AWARDS CEREMONY II
CC Ballroom; SRM Honors and Student Awards**



**8:40 am
TEMPLE
GRANDIN**

**Different Diverse
Minds Will be
More Effective in
Solving Problems**

Dr. Temple Grandin will discuss how people with different approaches to problem solving can complement each other's skills to do innovative research and solve problems. There is research that shows that these different types of thought processes are real. Dr. Grandin's presentation will help both research scientists and people in the field to understand each other and work together more effectively. She will also discuss how visual thinking helped her understand animal behavior.

Dr. Temple Grandin is currently a professor of animal sciences at Colorado State University, where she researches and teaches courses on livestock handling and facility design. Her book, *Animals in Translation* was a *New York Times* bestseller and her book, *Livestock Handling and Transport*, now has a fourth edition which was published in 2014. HBO recently premiered a movie about Temple's early life and career with the livestock industry. The movie received seven Emmy Awards, a Golden Globe, and a Peabody Award. In 2011, Temple was inducted into the Cowgirl Hall of Fame. She was honored in *Time Magazine's* 2010 "The 100 Most Influential People in the World." In 2012, Temple was also inducted into the Colorado Women's Hall of Fame.



**9:35 am
JAYMEE MARTY**

Managing Rangelands to Protect Biodiversity

Dr. Jaymee Marty works as an independent consultant and is the owner of Marty Ecological Consulting based in Sacramento. Prior to starting her own business, she spent 12 years working for The Nature Conservancy as an ecologist, leading teams of scientists to address complex conservation issues using cutting edge science and planning methodologies. Dr. Marty is best known for her groundbreaking research in vernal pool management, where she has conducted a long-term study looking at the impacts of cattle grazing on vernal pool diversity and function. This research has been ongoing for 13 years and has transformed the way the public thinks about management of vernal pools in California.

**10:10 am
CHUCK STRIPLEN**

**A Contemporary Native View on the
Diversity and Management of California's
Range Ecosystems**

Chuck Striplen is a member of the Amah Mutsun Tribal Band, the first people of the Monterey Bay region. He holds an M.S. and Ph.D. in Environmental Science, Policy and Management from UC Berkeley. Chuck is a past Board Member of the California Indian Basketweavers Association and is active in efforts to increase Tribal participation in the study and stewardship of California's watersheds. After working for many years as an ecologist, planner, and wildlife biologist, Chuck came to the San Francisco Estuary Institute in 2002 to join their nascent Historical Ecology team. Since that time, he has helped expand the work and prominence of the discipline of historical ecology in California, and is now working to create greater alignment between mechanisms designed to protect natural and cultural resources in California.

**10:45 am
HENRY GIACOMINI**

**A Livestock Producer's Perspective on
Managing for Diversity**

Henry Giacomini is co-owner and Manager of Hat Creek Grown LLC, a ranching business consisting of cow/calf, yearlings, grass finishing and hay. The land base is primarily leased ranches and USFS Allotments, including irrigated mountain pastures and farmland, oak woodlands and perennial mountain rangelands. Hat Creek Grown also direct-markets grass finished beef under their own label. Henry has been an SRM Member for the past 20 years.



BOARD, COUNCIL & COMMITTEE MEETINGS

NAME	DAY, TIME, & PLACE
2015 and 2016 Planning	Sunday – Friday 6:00 – 7:00 am, CC 317
Advisory Council	Sunday, 9:00 am – 5:00 pm, HY, Golden State and Monday, 1:30 – 5:00 pm, CC, 309
Agricultural Research Service Discussions: Rangeland Hydrology, Water Quality and Soil Erosion Research Programs	Tuesday, 8:00 am – 5:00 pm, SHER, Clark and Wednesday, 1:00 – 5:00 pm, SHER, Clark
ARS Family Meeting	Tuesday, 7:00 – 9:00 pm, CC, 309
Awards Committee	Sunday, 1:00 – 4:30 pm, HY, Tahoe
Board of Directors	Saturday, 8:00 am – 5:00 pm, SHER, Carr and Thursday, 12:30 – 4:00 pm, CC, 317
Board of Directors w/ Committee Chairs and Vice-Chairs	Saturday, 6:00 – 8:00 pm, SHER, Beavis
CPRM	Tuesday, 7:30 am – 9:30 am, HY, Ventura
CRMC	Sunday, 1:00 – 5:00 pm, HY, Santa Barbara
CA Beef Cattle Improvement Association	Tuesday, 1:00 – 5:00 pm, HY, Carmel
Endowment Fund Development	Sunday, 1:00 – 6:00 pm, HY, Big Sur A
Finance	Sunday, 8:30 am – 12:30 pm, HY, Big Sur A
International Affairs	Sunday, 1:00 – 5:00 pm, HY, Carmel
Moderator Briefing Session	Sunday – Friday 7:00 – 7:30 am, CC, 316
NatGLC	Sunday, 3:00 – 5:00 pm, CC, 317
NAURP - National Association of University Rangeland Programs	Tuesday, 3:00 – 5:00 pm, HY, Tahoe



NAME	DAY, TIME, & PLACE
NRCS Family Meeting	Tuesday, 8:00 – 10:00 pm, CC, 310
NRCS Midwestern Committee	Tuesday, 2:00 – 4:00 pm, SHER, Bondi
Nominations	Sunday, 8:00 am – 5:00 pm, HY, Sequoia
Northern Great Plains SRM Section Meeting	Tuesday, 4:00 – 6:00 pm, HY Ventura
Policy and Public Affairs	Sunday, 9:00 am – 5:00 pm, HY, Capitol Board Room and Monday, 1:00 – 5:00 pm HY, Capitol Board Room
Program Accreditation	Sunday, 1:00 – 3:00 pm, HY, Big Sur B
Rangeland Invasive Species	Sunday, 1:00 – 3:00 pm, HY, Trinity
Rangelands Partnership/ Outreach, Communications & Website	Sunday, 1:00 – 3:00 pm, CC, 319
Range Science Education Council	Sunday, 8:00 am – 12:30 pm, SHER, Compagno
Remote Sensing/GIS	Saturday, 10:00 am – 12:00 pm, SHER, Bondi
Sustainable Rangelands Roundtable Leadership Council	Saturday, 11:00 am – 1:00 pm, SHER, Williams Board Room
Targeted Grazing	Sunday, 3:00 – 5:00 pm, SHER, Bondi
USFS Family Meeting	Sunday, 6:30 – 9:00 pm, CC 319
USFS Public Room	TBD
VGS-Forest Service Vegetation GIS Data System Training	Tuesday, 1:00 – 5:00 pm, HY, Golden State
Watershed/Riparian	Sunday, 8:00 am – 12:00 pm, HY, Big Sur B
Wildlife Habitat	Sunday, 1:00 – 400 pm, HY, Ventura
USFS/WO-Forest Service Washington Office Rangeland Directors Meeting	Tuesday, 8:00 am – 12:00 noon, CC, 317



SCHEDULE AT A GLANCE

TIME	SATURDAY, JANUARY 31ST	SUNDAY, FEBRUARY 1ST	MONDAY, FEBRUARY 2ND	TUESDAY, FEBRUARY 3RD
8:00 am-12 noon	Board of Directors Meeting Grazing Urban Open Space & San Francisco Tours	Committee Meetings Workshops Targeted Urban Grazing Gold Country Wine Tour Sacramento Zoo & Fairytale Town	Plant I.D. Contest Poster Session I Plenary Session SRM Award Ceremony I Trade Show	Undergrad Range Management Exam Trade Show Symposia Technical Sessions California Rangeland Summit High School Youth Forum Papers CPRM Exam Review CPRM Exam
12 noon-1:00 pm	Lunch	Lunch	SRM Membership Business Luncheon	Past President & Charter Members Luncheon
1:00-5:00 pm	Registration Opens (3:00 – 7:00 pm) Board of Directors Meeting	Workshops Sacramento Underground Tour Trade Show Opening Super Bowl Mixer	Trade Show Rancher's Forum Symposia Workshops Poster Session I Technical Sessions Sacramento Capitol Tour Rangeland Cup	California Life Tour California Museum Tour Trade Show Symposia Technical Sessions Social Tours
Evening		Trade Show Super Bowl Mixer	Employment/Career Fair Poster Social University and Section Socials	Tapping the Top SRM Award Ceremony II Dance



TIME	WEDNESDAY, FEBRUARY 4TH	THURSDAY, FEBRUARY 5TH	FRIDAY, FEBRUARY 6TH
8:00 am-12 noon	Technical Tours and Workshops On-Site Symposia Jelly Belly/Outlet Tour	Symposia Technical Sessions Agency Training/Workshops Poster Session II Native American Forum Hornblower Cruise	Symposia Technical Sessions Agency Training/Workshops Tahoe Snow Trip
12 noon-1:00 pm	Lunch	Poster Session Lunch	Lunch
1:00-5:00 pm	Technical Tours and Workshops	Poster Session II Symposia Technical Sessions	
Evening	Wild Women of Range	Range to Plate	



STUDENT ACTIVITIES AT A GLANCE

Sunday, February 1st

EVENT	TIME	LOCATION
SRM Student Plant ID Study Room	6:00 am – 12 midnight	SHER, Beavis
Student Resume Review	7:00 – 8:00 am	SHER, Bondi
Student Interview Coaching	8:00 – 9:00 am	SHER, Bondi
Human Resources Room	8:00 am – 5:00 pm	SHER, Fowler
Plant ID room set up	Noon – 11:00 pm	HY, Regency Ballroom
Student Employment Workshop	1:00 – 5:00 pm	SHER, Compagno
Student Contestants Registration	5:00 – 6:00 pm	SHER, Tofanelli
SRM High School Youth Home Room	7:00 am – 11:00 pm	SHER, Carr
Student Activities Committee Meeting #1	2:30 – 5:00 pm	SHER, Fowler
Student Conclave Business Meeting & Mixer	5:00 – 7:00 pm	SHER, Tofanelli
SRM High School Youth Orientation & Social	6:00 – 11:00 pm	SHER, Carr

HIGH SCHOOL ACTIVITIES



STUDENT ACTIVITIES AT A GLANCE continued

Monday, February 2nd

EVENT	TIME	LOCATION
Student Resume Review	7:00 – 8:00 am	SHER, Bondi
Student Interview Coaching	8:00 – 9:00 am	SHER, Bondi
Plant ID Coaches Workshop	8:00 – 10:00 am	SHER, Compagno
Plant ID Contest	8:00 – 10:00 am	HY Ballroom
Young Professional Conclave - Recruitment and Sales Table	8:00 am – 4:30 pm	CC, East Lobby
Human Resources Room	8:00 am – 5:00 pm	SHER, Fowler
University Chapter Displays	8:00 am – 8:00 pm	Exhibit Hall A
Employment Interview Room #1	9:00 am – 6:00 pm	SHER, Royal
Employment Interview Room #2	9:00 am – 6:00 pm	SHER, McGinnis
Plant ID Viewing	10:00 am – 12 noon	HY Ballroom
SRM Plant ID Contest Grading	10:00 am – 4:00 pm	SHER, Beavis
Rangeland Cup	1:00 – 5:00 pm	Exhibit Hall A
Plant ID Coaches Critique	5:00 – 6:00 pm	SHER, Compagno
SRM High School Youth Home Room	7:00 – 11:00 am	SHER, Carr
High School Youth Forum Business Meeting	8:00 am – 12 noon	SHER, Carr
High School Youth Forum Ecological Workshop	1:00 – 2:00 pm	SHER, Carr
HSYF Professional Interaction Dinner	6:00 – 9:00 pm	OFF SITE

HIGH SCHOOL ACTIVITIES



STUDENT ACTIVITIES AT A GLANCE continued

Tuesday, February 3rd

EVENT	TIME	LOCATION
Student Resume Review	7:00 – 8:00 am	SHER, Bondi
Student Interview Coaching	8:00 – 9:00 am	SHER, Bondi
Undergraduate Range Management Exam	8:00 – 10:00 am	HY Ballroom D,E,F
Young Professional Conclave - Recruitment and Sales Table	8:00 am – 4:30 pm	CC, East Lobby
Undergrad Extemp. Prep and Registration Room	8:00 am – 5:00 pm	CC 301
Human Resources Room	8:00 am – 5:00 pm	SHER, Fowler
Employment Interview Room #1	9:00 am – 6:00 pm	SHER, Royal
Employment Interview Room #2	9:00 am – 6:00 pm	SHER, McGinnis
Undergraduate Range Management Viewing	10:00 – 11:00 am	HY Ballroom D,E,F
Undergraduate Range Management Coaches Critique	11:00 am – 12 noon	SHER, Compagno
Undergrad Extemp. Contest Room A	1:00 – 5:00 pm	CC 304
Undergrad Extemp. Contest Room B	1:00 – 5:00 pm	CC 305
Awards Ceremony II	6:00 – 8:00 pm	CC Ballroom (306, 307, 314, 315)
Tapping the Top	4:00 – 6:00 pm	CC 308
SRM High School Youth Home Room	7:00 – 11:00 am	SHER, Carr
High School Youth Forum Paper Presentations	7:00 am – 5:00 pm	CC 319
Student Conclave Business Meeting	12 noon – 2:00 pm	OFF SITE at Lucca

HIGH SCHOOL ACTIVITIES



Wednesday, February 4th

Human Resources Room	8:00 am – 5:00 pm	SHER, Fowler
Employment Interview Room #1	9:00 am – 6:00 pm	SHER, Royal
Employment Interview Room #2	9:00 am – 6:00 pm	SHER, McGinnis
Student Resume & Interview Review	7:00 – 8:00 am	SHER, Bondi
Student Activities Committee Meeting #2	7:00 – 9:00 am	SHER, Compagno
Undergraduate Student Papers	8:00 am – 12 noon	CC 309
SRM High School Youth Home Room	7:00 am – 11:00 pm	SHER, Carr
TOUR: SRM High School Youth Forum Tour	8:00 am – 4:45 pm	OFF SITE

Thursday, February 5th

Young Professional Conclave - Recruitment and Sales Table	8:00 am – 4:30 pm	CC, East Lobby
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HIGH SCHOOL ACTIVITIES



PRE-CONFERENCE TECHNICAL TOURS



All tours depart from J Street, outside of the Convention Center Exhibit Hall

Pre-Conference Technical Tour 1
URBAN OPEN SPACE GRAZING MANAGEMENT
Saturday, January 31st • 10:30 am–9:00 pm
Garin Regional Park, Hayward and
San Francisco

Pre-Conference Technical Tour 2
URBAN TARGETED GRAZING
Sunday, February 1st • 9:30 am–3:30 pm
Oakland



SOCIAL TOURS



All tours depart from J Street, outside of the Convention Center Exhibit Hall

Saturday, January 31st
SAN FRANCISCO SIGHTSEEING TOUR

Explore the sights and sounds of San Francisco: the Ferry Building, Fisherman's Wharf, China Town, Ghirardelli Square, ride a cable car, etc.
Depart 10:30 am, return 9:00 pm

Sunday, February 1st
GOLD COUNTRY WINE TOUR

This tour will have something for everyone, wineries, breweries, cider press, bakeries, historic "Hangtown" downtown.
Depart 9:45 am, return 4:30 pm

SACRAMENTO UNDERGROUND TOUR

Before the tour, walk around Old Sacramento and find many lunch options as well as explore historic buildings. The Underground Tour takes you back in time to when Sacramento was just a small fledgling town on the banks of the Sacramento River in the 1800's.

*This will be a walking tour outside with uneven terrain and low buildings.

Tour 1—Depart 11:30 am, return 3:00 pm
Tour 2—Depart 1:00 pm, return 3:00 pm

Monday, February 2nd
GUIDED TOUR OF THE SACRAMENTO CAPITOL

See the Chamber floor, past governors' office, the rotunda, and many more historic spots in the Capitol.
Depart at 2:15, return 3:30 pm



SOCIAL TOURS continued

All tours depart from J Street, outside of the Convention Center Exhibit Hall

Tuesday, February 3rd

PAST PRESIDENTS-CHARTER MEMBERS LUNCHEON

Noon to 2:00 pm. Downtown & Vine; 1200 K Street, #8.

**Please meet at the Ballroom Foyer of the Hyatt, outside of the Regency Ballrooms.*

FROM LA DOLCE VITA TO CALIFORNIA LIFE

Join your hosts Gail George and Jackie Fulgham for lunch at Biba's Ristorante Italiano and then a guided tour of the California Museum.

Depart at 11:30 am, return 4:00 pm

CALIFORNIA MUSEUM

If you were not able to join us for lunch, please join us at the California Museum for a docent lead tour and time to explore on our own.

Depart at 1:30 pm, return 4:00 pm

Wednesday, February 4th

JELLY BELLY AND FACTORY OUTLETS

You can tour the Jelly Belly Factory, sample Jelly Beans, and enjoy local wines in the Jelly Belly's Wine and Chocolate tastings. Afterwards the bus will take you to the Vacaville Outlets for shopping.

Depart at 9:15 am, return 3:00 pm

Thursday, February 5th

HORNBLOWER CRUISE

The one-hour Sacramento River cruise sails past Old Sacramento's famous historical sites, including the Delta King, the I Street Bridge, the Tower Bridge, and the Air Force Docks. During the tour, you will hear fascinating stories of the history of Sacramento. Lunch can be purchased on your own in Old Sacramento before the cruise.

Depart 11:45 am, return 3:00 pm



SPECIAL EVENTS AT A GLANCE



DANCE AND CONCERT

Tuesday, February 3 • FREE

8:00 – 11:00 pm

**Convention Center Ballroom
(306, 307, 314, 315)**

Jackson Michelson is a country singer/songwriter who has developed his unique style as the result of a lifetime of musical inspiration. He lives and breathes music and entertainment. When you leave his show, you will have a tune stuck in your head and a smile on your face. His soul infused, country style pays tribute to some of his greatest influences such as Keith Urban, Collin Raye, Al Green and Sam Cooke.

WILD WOMEN OF RANGE

Wednesday, February 4, 2015 • FREE

6:00 pm – closing

Goldfields Trading Post

1630 J Street, Sacramento (two blocks East of Convention Center)

The Wild Women of Range (WWOR) will gather at a local bar near the Convention Center for fellowship, food, and fun.

RANGE TO PLATE

Thursday, February 5, 2015 • \$40

First bus departs at 4:15 pm, and last bus returns by 9:00 pm. The traditional banquet will have a California twist to it. Our venue is the Old Sugar Mill. Everyone receives a commemorative 2015 wine glass to go wine tasting at the wineries. Dinner will feature Sonoma County beef and slow roasted pork. The Charley Baker Band will perform at Range to Plate so get ready to dance, sing along and have fun! Range to Plate is sponsored by American Ag Credit and Farm Credit and in part by San Joaquin-Stanislaus CattleWomen.



TECHNICAL PROGRAM

SUNDAY, FEBRUARY 1ST --- ALL DAY

Workshop
RANGELAND ANALYSIS AND SYNTHESIS: PLANNING MEETING FOR EARLY CAREER SCIENTISTS

CC 309 • Sunday, 8:00 am – 4:00 pm
Dirac Twidwell

Brings together early-career rangeland scientists that share the common goal of confronting new rangeland threats through unorthodox and non-traditional approaches to scientific inquiry.

SUNDAY, FEBRUARY 1ST --- AFTERNOON

Workshop
RANGELAND TECHNOLOGY AND EQUIPMENT COUNCIL: RESTORING AND RETAINING SAGE GROUSE HABITAT

CC 313 • Sunday, 1:00 – 4:00 pm • Robert Cox

1:10 pm • Assessing Wildfire, Invasive Annual Grass, and Conifer Expansion Threats in Great Basin Sage-grouse Habitats
Mike Pellant, 1

1:30 pm • Workshop Activities: The Rangeland Technology and Equipment Council (RTEC) is an informal organization of land managers, engineers, academia, and private industry representatives interested in developing new rehabilitation equipment and strategies. Invited speakers will discuss habitat requirements, applied research, practical experience, and review successes and failures in creating and maintaining habitat for Sage-Grouse. At the end of the workshop a short RTEC organizational meeting for the 2016 SRM meeting will be held.

Workshop
WHY SHOULD YOU COMMUNICATE YOUR RESEARCH IN POPULAR VENUES?

CC 305 • Sunday, 1:00 – 4:00 pm

Lori Hiding

1:00 pm • Introduction • **Lori Hiding**

1:10 pm • Overcoming Barriers to Communicating Science to Nonscientists: A Success Story from the Sage Grouse Initiative
Deborah Richie, 2

1:10 pm • Tell me a Story: Using Narrative to Sell Your Facts
Lori Hiding, 3

2:30 pm • Break

2:40 pm • From Communication to Engagement: Strategic Relationship-Building with Social Media • **Faith R. Kearns, 4**

3:20 pm • Discussion



MONDAY, FEBRUARY 2ND --- MORNING

PLENARY SESSION

CC Ballroom (306, 307, 314, 315) • Monday

8:40 am • Temple Grandin

9:35 am • Jaymee Marty

10:10 am • Chuck Striplen

10:45 am • Henry Giacomini

SRM AWARDS CEREMONY I

CC Ballroom (306, 307, 314, 315)

Monday • 11:30 am

SRM MEMBER BUSINESS LUNCH

CC 313 • Monday • 12:30 – 1:30 pm

MONDAY, FEBRUARY 2ND --- ALL DAY

POSTER SESSION I

Exhibit Hall A • Monday • 8:00 am – 8:00 pm

Poster Session I:

Impacts of Energy Development on Rangelands

5 • Impacts of Brine on Soil and Vegetation in the Bakken Region of Western North Dakota • **Hannah Tomlinson**

6 • Linking Seed Bank Composition to Oil and Gas Pipeline Disturbance in Southern Alberta's Mixedgrass Prairie
Lysandra Pyle

7 • The Future: Combining Energy Production with Rangeland Conservation • **Katie Tierney**

8 • Thinking Small: Arguments for Local Management of Diverse Dairy Cattle Systems • **Owen Cortner**

9 • 'Bull Whispering' in Switzerland – Low Stress Halter Breaking for Beef Cattle • **Regina Dahl**

10 • Cattle Production in Arid and Semiarid Rangelands in Sonora, Mexico: 2000-2012 • **Francisco Denogean B**

11 • Effects of Roller Chopping on Native Herbaceous Vegetation in the Sonoran Desert • **Felix Ayala**

12 • Ecology and Management of the Palm *Brahea aculeata* in Dry Forest Rangelands of Sonora, Mexico • **Bryan Endress**

13 • The Skinny Cow Problem: Strategies for Improving Resource Use for Dairy Production in Developing Countries
Belinda Richardson

14 • Biodiversity and Species Richness Assessment of Dual Purpose Farms in a Subtropical Region of Mexico
Benito Albarran-Portillo

15 • Performance of Goats and Sheep Grazing in Brazilian Semi-arid Rangelands when Supplemented with Protein Blocks
Aldo Sales



TECHNICAL PROGRAM

MONDAY, FEBRUARY 2ND --- ALL DAY cont.

Poster Session I:

Rangeland Economics and Communication

16 • New Look, Trending Topics, More Content, Mobile Responsive: Re-launching the Rangelands Partnership Portals
Barbara Hutchinson

17 • The Economics of Raramuri Criollo Versus British Crossbred Cattle Production in the Chihuahuan Desert
Jose Diaz

18 • Advantages of Early Weaning in Rangelands of Northwestern Mexico: A Rancher Experience • **Salomon Moreno-Medina**

Poster Session I:

Fire Ecology

19 • Long-term Fire Effects on Plant Succession and Exotic Weeds in Protected Area Sagebrush Steppe • **Claire Reed-Dustin**

20 • Effects of Micro-scale Fire Treatments on Population Dynamics of Medusahead • **Sasha Berleman**

21 • Relating Grazing Utilization to Fuels Properties in Sagebrush Bunchgrass Community • **Travis Decker**

22 • Fire Ignitions, Fire-Induced Debris Flows and Their Roles in Land Management Decision Making • **Katherine Gobble**

23 • Response of Idaho Fescue and Bluebunch Wheatgrass Associations One Year Post-Fire in the Canyon Grasslands
Samantha Pack

24 • Fire and Fire Line Effects on Vegetation on Montana Rangelands • **Craig Carr**

25 • Using Field Data and Remote Sensing to Build County-Level Maps of Herbaceous Fuel Conditions • **Edward Rhodes**

26 • Recovery of Subalpine Montane Grasslands following the 2011 Wallow Fire • **Amber Dalke**

27 • Studies of Grassland Fuel Dynamics in a Variable Environment • **David Engle**

28 • Effects of Phos-Chek on Soil Nutrient Availability
Tye Morgan

29 • The Fire Science Exchange Network: A Joint Fire Science Program Connecting You to Fire Science Program
Stacey Frederick

30 • Sagebrush Wildfire Effects on Soil Chemistry: A Temporal and Spatial Study • **Robert Blank**

31 • Effects of Seasonal Clipping and Fire on Purple Threeawn (*Aristida purpurea*) Basal Crown Total Nonstructural Carbohydrates (TNC) Reserves • **Leobardo Richarte-Delgado**

32 • Patch-Burn Grazing Promotes Pollinator Diversity Through Spatially Explicit Habitat Heterogeneity • **Shelly Wiggam**



MONDAY, FEBRUARY 2ND --- ALL DAY cont.

Poster Session I:

Riparian Ecosystems

33 • Groundwater Movement in Restored Meadows of the Sierra Nevada Range • **Karly Wagner**

34 • Post-fire Stream Recovery on Nevada's Rangeland
Camie Dencker

35 • Rehabilitation of an Agricultural Wetland: Utilizing Seed Bank Data to Inform Restoration and Management
Annie Overlin

36 • Repairing Headcuts in Uplands and Incised Stream Channels in California's Inner Coast Range • **Craig Thomsen**

37 • An Assessment of Fens in the Bighorn National Forest, Wyoming • **Joy Handley**

38 • Ecohydrologic Connectivity in Semiarid Watersheds of Central Oregon: A Paired Watershed Study • **Grace Ray**

39 • Using Ecological Sites to Model Grazing Effects in Riparian Pastures at Tejon Ranch, California • **Felix Ratcliff**

39B • Friend or Foe: Potential Benefits of Beaver to Rangelands in California • **Kate Lundquist**

Poster Session I:

Rangeland Plants/Plant Physiology

40 • The Edible Corm, Nahavita (*Dichelostemma capitatum* ssp. *capitatum*): Source Population Adaptation and Vegetative Response • **Ken Lair**

41 • Purple Prairie Clover (*Dalea purpurea* Vent.) Northern Great Plains Population Differences • **Michael Schellenberg**

42 • Effects of Biosolids Extracts on the Germination of Seven Sonoran Desert Shrubs • **Martha Martin-Rivera**

43 • Fragmentation Affects Germinable Soil Seed Banks from South Dakota Badlands • **Kelsey Ducheneaux**

44 • Tiller Diameter and Forage Yield Depend on Tiller Density in Native Grasses Used for Re-Vegetation

Ricardo Valdez-Cepeda

45 • Effects of Seasonal Clipping and Fire on Purple Threeawn (*Aristida purpurea*) Basal Crown TNC Reserves

Leobardo Richarte-Delgado

Poster Session I:

Vegetation Management and Restoration

46 • Characteristics that Determine a Successful Squirreltail (*Elymus elymoides*) • **Dan Harmon**

47 • Comparing Terrestrial Laser Scanning, Allometric Measurements as Non-destructive Estimates of Woody Understory Biomass and Structure • **Sarah Anderson**

48 • Improving Rangeland Seedling Effectiveness by Delaying Seed Germination with Abscisic Acid (ABA) • **Turmandakh Badrakh**

49 • Working with Farmers for Hedge Row Implementation
Garrett Vogel



TECHNICAL PROGRAM

MONDAY, FEBRUARY 2ND --- ALL DAY cont.

- 50 • Scale-Dependent Distribution of Arthropods in Restored Grassland Fragments • **Luke Petersen**
- 51 • Vegetation Response to Water and Soil Conservation Practices in Arid Rangeland in Chihuahua, Mexico
Tomas Cabanillas
- 52 • Growth Analysis of Sideoats Gramma [*Bouteloua curtipendula* (Mich.) Torr.] Genotypes under Greenhouse Conditions • **Alvarez-Holguin Alan**
- 53 • Characterization of Seedling Root Morphological and Physiological Traits of Eleven Alfalfa Populations for Drought Tolerance • **Austin Hanson**
- 54 • *Bromus tectorum* and Native Grass Establishment under Drought and Warming in Sagebrush Steppe after Fire
Beth Newingham
- 55 • Evaluation of Seedbeds for Rangeland Rehabilitation
Raul Corrales-Lerma
- 56 • Revegetation after Russian-olive (*Elaeagnus angustifolia* L.) Removal Along the Yellowstone River in Eastern Montana
Jennifer Muscha
- 57 • Phenotypic and Molecular Characterization of Sideoat Grama (*Bouteloua curtipendula*) Populations in Chihuahua, Mexico • **Carlos Morales-Nieto**
- 58 • Big Sagebrush Transplanting Success in Crested Wheatgrass Stands • **Charlie Clements**
- 59 • Conservation Seeding and Diverse Seed Species Performance • **Charlie Clements**
- 60 • Improving Ecosystem Services and Yield of Bioenergy Feedstocks with Topographically Matched Polycultures
Kwan Hong Teoh
- 61 • Vegetation Changes Ten Years after Catclaw Mimosa Control with Tebuthiuron in Short Grasslands
Fernando Ibarra-Flores
- 62 • *Acacia cochliacantha* Control in Buffelgrass Pastures in the Matorral Area at Alamos, Sonora, Mexico
Fernando Ibarra-Martin
- 63 • Effects of Buffelgrass Blight *Pyricularia grisea* on Pastures Productivity at North-Central Sonora, Mexico
Patricia Barrios-Cardenas
- 64 • Developing a Rangeland Management Practices Database in Sage-Grouse Habitat • **Lauren Connell**
- 65 • Vegetation Response to Mowing Wyoming Big Sagebrush Plant Communities in the Great Basin • **Matt Church**
- 66 • Observer Trends in the “Preponderance of Evidence” Approach to Interpreting Indicators of Rangeland Health
Sean Perry



MONDAY, FEBRUARY 2ND --- ALL DAY cont.

Poster Session I:

Rangeland Ecology

- 67 • Characterizing Aspen Regeneration by Abundance of Ungulates, Topography, and Tree Species Composition
Aaron Rhodes
- 68 • Distinguishing Between Ecological Sites and States: Results of an Initial Low Intensity Traverse • **Christopher Dickey**
- 69 • Drought Effects on Grasshopper Competition and Rangeland Production • **David Branson**
- 70 • Drought and Grassland Conversion Effects on the Stability of Primary Productivity in Central Argentina • **Wade Anderson**
- 71 • Do Cheatgrass, Snake River Wheatgrass, and Crested Wheatgrass Sense Different Availabilities of N and P in Soils Conditioned by a Cheatgrass Invasion? • **Robert Blank**
- 72 • Estimation of Soil Quality Under Contrasting Land Uses in Alberta • **Donald Schoderbek**
- 73 • Fate of C and N Inputs from Dung Pats • **Kenneth Evans**
- 74 • Does Winter Heifer Management Influence Distance Traveled and Rest Time when Grazing Native Range?
Mark Petersen
- 75 • Impacts of Plant Community Diversity and Drought Timing on Resilience of Mixed-Grass Prairies • **Kayla Tarr**
- 76 • Long-term Forb Productivity on Wyoming Big Sagebrush Associations; Southeast Oregon • **Jonathan Bates**
- 77 • New Generation Soil Erosion and Sediment Deposition Model for Rangelands • **Steven Warren**
- 78 • Pollinator Diversity and Abundance in Alberta's Agricultural Landscape • **Cameron Carlyle**
- 79 • Sweet Clover Effects on Soil Crust and Plant Community Composition in Mixed Grass Prairie in Southern Alberta
Claire Kisko
- 80 • Understanding Grazing Induced Changes in Carbon Stores through Microbial Pathways and Processes • **Daniel Hewins**
- 81 • USDA Northern Plains Regional Climate Hub
Justin Derner

2014 POSTER SESSION WINNERS

A • M.S. Poster

Darrell B. Roundy • Estimating Pinyon and Juniper Tree Cover and Biomass using NAIP Imagery across Utah

B • Ph.D. Poster

Laura E. Goodman • Effects of Applying Picloram and Aminopyralid with 2,4-D on White Locoweed in Northern New Mexico



TECHNICAL PROGRAM

MONDAY, FEBRUARY 2ND --- AFTERNOON

Symposium

APPLICATION OF ECOLOGICAL SITE DESCRIPTIONS TO MANAGEMENT OF GREAT BASIN RANGELANDS

CC 316 • Monday, 1:40 - 4:40 pm
Tamzen Stringham

1:40 pm • Applying Ecological Site Descriptions to Land Restoration Decisions • [Joel Brown, 82](#)

2:00 pm • Landscape-Scale Management Planning: Disturbance Response Groups and Ecological Sites
[Tamzen Stringham, 83](#)

2:20 pm • Fuels Management by Disturbance Response Groups
[Cody Coombs, 84](#)

3:00 pm • Break

2:40 pm • Post-Fire Vegetation Response by Ecological Site in Nevada • [Patti Novak-Echenique, 85](#)

3:20 pm • Post-Fire Response under Different Grazing Management Scenarios • [Devon Snyder, 86](#)

3:40 pm • Managers, Money, Models: How It All Fits Together
[Mindy Seal, 87](#)

4:00 pm • Panel Discussion

Symposium

COLLABORATIVE ADAPTIVE LANDSCAPE MANAGEMENT [CALM] IN RANGELANDS: ARE THERE GENERAL PRINCIPLES?

CC 311 • Monday, 1:40 - 4:40 pm
Brandon Bestelmeyer

1:40 pm • Staying Calm while Implementing CALM: Adaptively Learning from Participatory Research in Northwestern Colorado and Wyoming • [Retta Bruegger, 88](#)

2:00 pm • Collaborative Adaptive Landscape Management for Diverse Stakeholder Goals: A Participatory Grazing Management Experiment • [Leslie Roche, 89](#)

2:20 pm • Collaborative Adaptive Landscape Management: Communal Grazing Systems in Central Mexico
[Elisabeth Huber-Sannwald, 90](#)

2:40 pm • Prescribed Burn Associations in an Adaptive Management Framework • [Dirac Twidwell, 91](#)

3:00 pm • Break



MONDAY, FEBRUARY 2ND --- AFTERNOON cont.

3:20 pm • Developing a Collaborative Rangeland Management System for Mongolia • [Bulgamaa Densambu, 92](#)

3:40 pm • CALMing the Rangeland Conflict: the Malpai Borderlands Group • [Nathan Sayre, 93](#)

4:00 pm • Adaptive Grazing Management for Beef and Birds in the Western Great Plains • [David Augustine, 94](#)

4:20 pm • Collaborative Adaptive Landscape Management (CALM) in Rangelands: Discussion of General Principles
[Brandon Bestelmeyer, 95](#)

Symposium

GROUNDBREAKING NON-LETHAL STRATEGIES FOR MINIMIZING LIVESTOCK DEPREDAATION

CC 308 • Monday, 1:40 - 4:40 pm
Charlotte Conley and Nancy Gloman

1:40 pm • Introduction

1:50 pm • Overview of Practices to Minimize Wildlife-Livestock Conflicts • [Brian Bean, 96](#)

2:00 pm • Predator Protection and Marketing Strategies for Sheep Growers • [Dan Macon, 97](#)

2:10 pm • Question & Answer

2:20 pm • Stockmanship and Rewilding of Livestock to Reduce and Prevent Predation • [Kent Reeves, 98](#)

2:30 pm • Husbandry Techniques to Reduce Livestock Depredation in Wolf and Grizzly Country • [Hilary Zaranek, 99](#)

2:40 pm • Strategic Grazing Management: A New Centerpiece for Livestock-Carnivore Coexistence, and a Context for Preventative Tools • [Matt Barnes, 100](#)

2:50 pm • Question & Answer

3:00 pm • Break

3:20 pm • Wildlife-Livestock Conflict Avoidance Measures: Obstacles to Implementation • [Craig Miller, 101](#)

3:35 pm • Establishing a Community-Owned and Operated Coexistence Project • [Sisto Hernandez, 102](#)

3:50 pm • Building Partnerships to Minimize Wildlife-Livestock Conflicts • [Brian Bean, 103](#)

4:05 pm • Community-Based Resource Management across Private and Public Interests • [Jim Stone, 104](#)

4:20 pm • Roundtable Discussion



TECHNICAL PROGRAM

MONDAY, FEBRUARY 2ND --- AFTERNOON cont.

Symposium

INTEGRATING ECOLOGICAL AND SOCIOECONOMIC FACTORS INTO RESTORATION DECISIONMAKING AND OUTCOMES

CC 304 • Monday, 1:40 - 4:40 pm
Elise Gornish

1:40 pm • Our Daunting New Challenge: Integrating Two Requisite Needs for the Conservation and Maintenance of Rangelands • [Richard Mack](#), 105

2:00 pm • The Relative Importance of Biotic and Abiotic Factors for Driving Restoration Outcomes in Rangeland Systems
[Elise Gornish](#), 106

2:20 pm • Weather Data, Forecasting and Adaptive Management Planning for Rangeland Restoration • [Stuart Hardegreve](#), 107

2:40 pm • The History, Role and Potential of Integrating Economics into Restoration Decisions • [Allen Torell](#), 108

3:00 pm • Break

3:20 pm • Integrating Ecology into Dynamic Economic Models to Support Rangeland Decision-Making • [Kimberly Rollins](#), 109

3:40 pm • Social-Political Sources of Uncertainty Affecting Public Land Restoration Decisions • [Mark Brunson](#), 110

4:00 pm • Population and Politics Limit Rangeland Restoration Options in Southern Ethiopia • [David Coppock](#), 111

4:20 pm • Using Fire to Restore Rangelands—Economic and Social Drivers Affecting its Application • [Urs Kreuter](#), 112

Workshop

RANCHER FORUM A: RANCHING SUSTAINABILITY SELF-ANALYSIS ASSESSMENT

Ranchers come under pressure and scrutiny from the public to demonstrate stewardship of the land they manage. The RSA is a self-assessment process that guides the rancher through a series of questions that cover social, economic, and natural resource aspects of 11 ranch-management categories to track and demonstrate sustainability progress over time. Essential components for the ongoing implementation of the RSA are the strong support of a committee of ranchers, cattlemen associations, and voluntary participation.

CC 310 • Monday, 1:40 - 4:40 pm • Chad Ellis
1:40 pm • Introduction and Welcome • [Chad Ellis](#), 458

1:45 pm • Rancher Sustainability Analysis System (RSA) 101 • [Bill Tietje](#)

RSA Panel Discussion

2:05 pm • Confidentiality, Monitoring, and Management
[Steve Sinton](#)



MONDAY, FEBRUARY 2ND --- AFTERNOON cont.

2:35 pm • People and Relationships • [George Work](#)

2:55 pm • Break

3:15 pm • A Rancher's Perspective • [Chuck Pritchard](#)

3:35 pm • Hands-on RSA • [Royce Larson](#)

4:25 pm • Panel Q & A

Workshop

RANCHER FORUM B: GRAZING LEASE CLINIC: CREATING AGREEMENTS FOR SUCCESSFUL RANCH OPERATIONS

CC 302 & 303 • Monday, 1:40 - 4:40 pm
Liya B. Schwartzman

Whether you are about to negotiate your first lease, renew an old one, or expand your operation, this workshop will help you get the terms and security you need from your agricultural lease. We will cover the legal and financial risks of poorly developed lease agreements, types of lease agreements, leasing best practices, lease development and negotiation, and specialized clauses for your unique situation. As the Central Valley Regional Coordinator for California FarmLink, Liya Schwartzman helps farmers and ranchers find land and negotiate leases. Learn about what to look for in a property and how to create a lease that builds trust between the landowner and rancher that can be sustained over the long haul. • [Liya Schwartzman](#), 113

Symposium

WILDLAND/PREScribed FIRE AND RANGE MANAGEMENT: THE FRIEND, THE FOE, AND THE FUTURE

CC 312 • Monday, 1:40 - 4:40 pm
Stacey Frederick

1:40 pm • Fire in Big Sagebrush Plant Communities: Good or Bad? • [Kirk Davies](#), 114

2:00 pm • Are Sagebrush Ecosystems Fire Sensitive? Sagebrush/Mixed-Grass Prairie Community Response to Fire and Grazing
[Ryan Limb](#), 115

2:20 pm • The California Fire Science Consortium and the Future of Fire and Range • [Stacey Frederick](#), 116

2:40 pm • Fire Effects on Livestock and Wildlife: Strategies for Capturing the Positive and Mitigating the Negative
[John Scasta](#), 117

3:00 pm • Break

3:20 pm • Impacts on Prairie-Chicken Habitat from Management of Rangeland Fuels • [Heath Starns](#), 118



TECHNICAL PROGRAM

MONDAY, FEBRUARY 2ND --- AFTERNOON cont.

3:40 pm • Repeat Burning and Cattle Grazing Exclusion in Ponderosa Pine Forests: Long-term Experimental Results
Becky Kerns, 119

4:00 pm • Discussion

Technical Session: Oral RANGELAND SOCIAL SCIENCE I: PLANNING AND ECONOMICS

CC 305 • Monday, 1:40 - 4:40 pm
Philip Brownsey

1:40 pm • Incorporating Ecosystem Service Valuation into Research Design: A Rangeland Case Study
Robert Hrozencik, 120

2:00 pm • Evaluating Recreational Use as an Incentive for Habitat Conservation on Private Land in California • **Luke Macaulay, 121**

2:20 pm • Shifting Ranch Ownership and Conservation Implications in California: What We Know and What We Don't
Tracy Hruska, 122

2:40 pm • Idaho Private Grazing Lease Arrangements
Neil Rimbey, 123

3:00 pm • Break

3:20 pm • Utilizing Annual Forages in Single- and Dual-Crop Systems for Late-Fall and Early-Winter Grazing • **Erin Gaugler, 124**

3:40 pm • Ranch-Level Economic Impacts of Changing Grazing Management to Protect Greater Sage-grouse • **Neil Rimbey, 125**

4:00 pm • Economic Analysis of Management Options Following Closure of Rangeland Due to Sage Grouse Population
Thomas Harris, 126

4:20 pm • Analyzing the 2014 Farm Bill Insect & Disease Restoration Provision—True Gift or False Hope?
Jamilee Holmstead, 445

EMPLOYMENT/CAREER FAIR

CC East Lobby, 3rd floor • Monday, 4:00 - 7:00 pm

MONDAY, FEBRUARY 2ND --- EVENING

POSTER SOCIAL

Exhibit Hall A • Monday, 5:30 - 7:30 pm

ALUMNI SOCIALS

Hyatt and other locations—please check the Daily Trail Boss • Monday, 6:00 - 9:00 pm



TUESDAY, FEBRUARY 3RD --- MORNING

Symposium CALIFORNIA RANGELAND COALITION SUMMIT: COLLABORATIVE CONSERVATION

CC BALLROOM (306, 307, 314, 315)

Tuesday, 8:00 - 11:40 am • Grey Hayes

8:00 am • Welcome • **Grey Hayes, Elkhorn Slough National Estuarine Research Reserve**

8:20 am • A History of Collaborative Conservation for Rangelands in the US • **Nathan Sayre, University of California Berkeley, 127**

8:40 am • The Role of Academic Institutions in Collaborative Conservation of Rangelands: Banishing the 'Loading Dock' Model
Robin Reid, Center for Collaborative Conservation, Colorado State University

9:00 am • The Malpai Borderland Group at Twenty Years
Bill McDonald, The Malpai Borderlands Group

9:20 am • The Quivira Coalition • **Avery Anderson, Quivira Coalition**

9:40 am • The High Desert Partnership • **Brenda Smith, High Desert Partnership**

10:00 am • Break

10:20 am • A Collaborative Approach to Comprehensive Ranch Planning and Improvement through the Fish Friendly Ranching Program • **Laurel Marcus, California Land Stewardship Institute**

10:40 am • The California Rangeland Conservation Coalition: Boots and Birkenstocks Working Together to Keep Ranchers Rangeland
Pelayo Alvarez, California Rangeland Conservation Coalition, 128

11:00 am • Inside the Gate: Perspectives and Experiences of Western Landowners • **Leslie Allison and Rick Danvir, Western Landowners Alliance, 130**

11:20 am • Partners for Conservation – Promoting and Supporting Landowner-led Conservation Collaborations
Dina Moore, Partners for Conservation, 129

11:40 am • Discussion

Symposium IAC SYMPOSIUM: RANGELANDS AND ENERGY DEVELOPMENT: IMPLICATIONS FOR THE FUTURE DELIVERY OF ECOSYSTEM SERVICES

CC 310 • Tuesday, 8:00 am - 12:00 noon

Urs Kreuter

8:00 am • An Integrative Conceptual Framework for Evaluating the Impacts of Developing Unconventional Energy Resources on Rangelands • **Urs Kreuter, 131**

8:20 am • Energy Development and Ecosystems: Examining Attitudes and Behaviors of the General Public • **Gene Theodori, 132**

8:40 am • Energy Development and Ecosystems: Implications of Biofuels Production on Rangeland Resources • **James Ansley, 133**



TECHNICAL PROGRAM

TUESDAY, FEBRUARY 3RD --- MORNING cont.

9:00 am • Unconventional Oil and Gas Production and Water Interactions in Rangelands • **Robert Jackson, 134**

9:20 am • Wind Farms and Wildlife: Scientific Progress and Remaining Challenges • **William Kuvlesky, 135**

9:40 am • How Energy Development Affects Management of British Columbia Grasslands • **Wendy Gardner, 136**

10:00 am • Break

10:20 am • Promising Results Restoring Grassland Disturbances from Energy Development • **Anne Naeth, 137**

10:40 am • Moving from Reclamation to Restoration in Alberta Rangelands: Application of Range Science Tools and Policy
Susan McGillivray, 138

11:00 am • Potential Impacts of Mining and Oil/Gas Developments in the Rangelands of Northern Mexico
Edmundo Garcia-Moya, 139

11:20 am • Panel Discussion: The Way Forward and Linking to the 2016 International Rangeland Congress in Canada
Alan Iwaasa, 140

Symposium PROTECTING AND RESTORING THE SAGEBRUSH STEPPE ECOSYSTEM

CC 309 • Tuesday, 8:00 am - 12:00 noon
April Hulet and Kirk Davies

8:00 am • An Introduction to the Sagebrush Steppe
Tony Svejcar, 141

8:20 am • Sagebrush Steppe Recovery After Western Juniper Control; Management Considerations and Research Perspectives
Jonathan Bates, 142

8:40 am • Predicting Fire-Based Perennial Bunchgrass Mortality in Low Elevation Big Sagebrush Plant Communities • **Chad Boyd, 143**

9:00 am • Using Livestock Grazing to Reduce Wildfire Risk and Severity in the Sagebrush Steppe • **Kirk Davies, 144**

9:20 am • Seed Enhancement Technologies for Overcoming Barriers to Restoration • **Matthew Madsen, 145**

10:00 am • Break

10:20 am • Precision Restoration: A Framework for Identifying Restoration Barriers • **Jay Kerby, 146**

10:40 am • Restoring Sagebrush after Mega-Fire • **April Hulet, 147**

11:00 am • Preemptive Conservation of Sage-Grouse Habitat: The Harney County Experience • **Dustin Johnson, 148**

11:20 am • Outreach and Education Strategies to Improve Sagebrush Steppe Conservation and Restoration • **Brenda Smith, 149**



TUESDAY, FEBRUARY 3RD --- MORNING cont.

Technical Session: Oral RANGELAND ECOLOGY I: RESILIENCE AND DIVERSITY

CC 312 • Tuesday, 8:00 am - 12:00 noon
Stephanie Larson

8:00 am • The Role of Plant Hydraulic Conductance in Explaining Growth and Water-use Responses to Drought
Troy Ocheltree, 150

8:20 am • Bud Development and Viability under Prairie Dog and Livestock Herbivory • **Aaron Field, 151**

8:40 am • Managing Diversity in Mountain Rangelands in Northwest China • **Victor Squires, 152**

9:00 am • Rangeland Biodiversity Research in Sub-Saharan Africa Lacks Attention to Spatial and Temporal Scales of Disturbance • **Devan McGranahan, 153**

9:20 am • Using Geospatial Environmental Characteristics to Determine Plant Community Resilience to Fire and Fire Surrogate Treatments • **Nathan Cline, 154**

9:40 am • Evaluation of Fine Fescue Grasses Identifies Resources for Improved Ecological Function Under Rangeland Stress Environments • **Jack Staub, 155**

10:00 am • Break

10:20 am • Is the White-Tailed Jackrabbit a Bellwether of Mountain Big Sagebrush-Grass Community Resilience in Northern Nevada? • **Kent McAdoo, 156**

10:40 am • Resilience of Sandhills Grassland to an Extreme Wildfire and Drought Event • **Jack Arterburn, 157**

11:00 am • Cattle Grazing and Vegetation Succession on Burned Sagebrush Steppe • **Jonathan Bates, 158**

11:20 am • Effects of Herbivory-Episodic Disturbance Interactions on Shrubs in Forested Rangelands of the Pacific Northwest • **Bryan Endress, 159**

Technical Session: Oral REMOTE SENSING AND TECHNOLOGY

CC 316 • Tuesday, 9:00 am - 12:00 noon
Elizabeth Kellogg

9:00 am • Modeling Grassland Biomass During a Drought Period Using MODIS Sensor Images and Radiometry • **Nathalie Socorro and Hernandez-Quiroz, 160**

9:20 am • Phenocams as a Proxy for Primary Productivity and Mode of Discovery in Arid Grassland ecosystems
Dawn Browning, 161

9:40 am • Digital Soil Mapping as a Tool for Quantifying State-and-Transition Models • **Matthew Levi, 162**

10:00 am • Break



TECHNICAL PROGRAM

TUESDAY, FEBRUARY 3RD --- MORNING cont.

10:20 am • Modeling Land Resource Units to Inform Development of Ecological Site Descriptions in the Sierra Nevada, CA • **Dave Evans, 163**

10:40 am • Testing Ecological Site Concepts Using Digital Soil Mapping and Historical Aerial Photos • **Michael Duniway, 164**

11:00 am • A Comparison of Tools to Assess Greater Sage-Grouse Habitat • **Eric Sant, 165**

11:20 am • Use of Home Range Estimators to Evaluate Ring-Necked Pheasant Habitat Use at Multiple Scales
Jeffery Stackhouse, 166

Technical Session: Oral VEGETATION MANAGEMENT AND RESTORATION I CC 302 & 303 • Tuesday, 8:00 am - 12:00 noon Michele Hammond

8:00 am • California Rangeland Vegetation and Ecosystem Services Vary with Rainfall, Nitrogen Deposition, Invasion, and Management • **Valerie Eviner, 167**

8:20 am • Collaborative Development of Ecological Site Descriptions for Adaptive Grassland Management in California
Sheri Spiegel, 168

8:40 am • Managing Livestock to Mimic Native Ungulates for California Native Grassland Restoration • **Kent Reeves, 169**

9:00 am • Restoring Native Perennial Grasses by Changing Grazing Practices in Central Coastal California
Carlene Henneman, 170

9:20 am • Improving Reclamation Success through Weed Management and Seeded Species Selection • **Beth Fowers, 171**

9:40 am • Response of Seeded Native Wildflower Populations to Seasonal Grazing at Sacramento River National Wildlife Refuge
Adrian Frediani, 172

10:00 am • Break

10:20 am • A Conservation Planning Tool for Restoring Ecosystems in the Sagebrush Biome Considering Future Climate Conditions • **Jon Haufler, 173**

10:40 am • Seedling Recruitment of Contrasting Legume Species in Alberta's Parkland and Mixedgrass Prairie in Response to Litter and Defoliation • **Lysandra Pyle, 174**

11:00 am • Variation in Competitive Ability of Bottlebrush Squirreltail (*Elymus elymoides*) Populations • **Rebecca Mann, 175**

11:20 am • High Concentrations of Condensed Tannins in Utah Trefoil (*Lotus utahensis* L.) • **Douglas Johnson, 176**



TUESDAY, FEBRUARY 3RD --- MORNING cont.

Technical Session: Oral WILDLIFE HABITAT AND MANAGEMENT

CC 311 • Tuesday, 8:00 am - 12:00 noon Felix Ratcliff

8:00 am • Quantitative Review of Wild Horse Dietary Conflicts with Livestock and Wildlife on Western Rangelands
John Scasta, 177

8:20 am • Crossing-Over: Merging Grazing Management and Carnivore Behavior as Practical Tools for Reducing Livestock Conflicts • **Timothy Kaminski, 178**

8:40 am • Livestock Management for Coexistence with Large Carnivores, Healthy Land and Productive Ranches
Matt Barnes, 179

9:00 am • Patch Burn Grazing Management and Grassland Bird Habitat in the Western Great Plains • **David Augustine, 180**

9:20 am • Ranching and Endangered Species Conservation: The Benefits of Ranching to California Condor Recovery
Scott Scherbinbski, 181

9:40 am • Female Lesser Prairie-Chicken Response to Grazing Practices in Western Kansas Grasslands • **John Kraft, 182**

10:00 am • Break

10:20 am • Using Continuous Cover Mapping and Telemetry to Prioritize Sage-Grouse Habitat Conservation and Rehabilitation
Gregg Simonds, 183

10:40 am • Greater Sage-Grouse Seasonal Movements and Evaluation of Utah's Sage-Grouse Management Areas
David Dahlgren, 184

11:00 am • Effects of Juniper Encroachment and Management on Sage-Grouse Nest Selection in Southeastern Oregon
John Severson, 185

TUESDAY, FEBRUARY 3RD --- AFTERNOON

Symposium VULNERABILITY ASSESSMENT OF ECOLOGICAL IMPACTS OF CLIMATE CHANGE IN SAGEBRUSH STEPPE

CC 308 • Tuesday, 1:00 - 3:40 pm Eric T. Thacker

1:00 pm • Who Will Manage Sagebrush Habitats in a Future of Rapid Climate Change? • **Andrew Kleinhesselink, 186**

1:20 pm • Plant Population Responses to Historical Climate Variation in Sagebrush Steppe • **Dave Iles, 187**



TECHNICAL PROGRAM

TUESDAY, FEBRUARY 3RD --- AFTERNOON cont.

1:40 pm • Pixel-Based Modeling of Plant Population Dynamics at Meso-Scales: A Test Case with Sagebrush (*Artemisia*) Species
Eric LaMalfa, 188

2:00 pm • Modeling and Forecasting Big Sagebrush Regeneration in the Context of Climate Change • **John Bradford, 189**

2:20 pm • Break

2:40 pm • Carbon Cycling and Climate Change in Sagebrush Steppe
Kevin Horn, 190

3:00 pm • Wildfire in Sagebrush Steppe Ecosystems: Can Past Fire Regimes Help Predict the Future? • **Jennifer Pierce, 191**

3:20 pm • Climate Change Vulnerability of Sagebrush Steppe: Synthesis and Research Needs • **Peter Adler, 192**

3:40 pm • Discussion

Symposium RANGELAND MANAGER CERTIFICATION PROGRAMS

CC 316 • Tuesday, 1:00 - 3:40 pm
Lawrence Ford

Introduction to the parent society's two certification programs, "Certified Professional in Rangeland Management" (CPRM) and "Certified Range Management Consultant" (CRMC), and California's license, "Certified Rangeland Manager" (CRM). Presentations and a panel will discuss where and for what activities each is required, qualifications, application process, exams, how to prepare, continuing education requirements, and fees.

Symposium UNDERSTANDING THE CATTLE INDUSTRY FOR RANGELAND CONSERVATION

CC 309 • Tuesday, 1:00 - 3:40 pm
Dan Macon, 193

1:00 pm • Raising Beef is Environmentally Sustainable
Jude Capper, Ph.D., livestock sustainability consultant living in Bozeman, Montana and blogger, BovaDiva.com. Her groundbreaking research demonstrates the efficiency of modern livestock production to produce more food with fewer resources. **460**

1:40 pm • The Diversified and Global Beef Marketplace
Steve Kay, Publisher of *Cattle Buyers Weekly*. The economic prosperity of US livestock producers is increasingly tied to export markets, changing global demographics, economics, and growing competition.

2:10 pm • Break



TUESDAY, FEBRUARY 3RD --- AFTERNOON cont.

2:20 pm • Understanding Ranching Matters for Rangeland Conservation • **Larry Forero, Ph.D.**, University of California Cooperative Extension. Ranchers must feed their every day and balance conservation, business, family and livestock health in decision making.

3:00 pm • Defining Beef Sustainability • **Jack Hanson**, Board Member, Global Roundtable for Sustainable Beef and a California rancher. The roundtable has recently defined Beef Sustainability and works to achieve it throughout the food chain.

3:30 pm • Reliable Rangeland Stewardship Depends on a Local Ranching Community • **Lynn Huntsinger**, University of California, Berkeley.

4:00 pm • Audience Dialogue

Workshop COLLABORATIVE CONSERVATION FOR RANGELANDS [BY INVITATION]

CC 317 • Tuesday, 1:00 - 3:40 pm
Pelayo Alvarez

Technical Session: Oral INVASIVE SPECIES MONITORING AND MANAGEMENT

CC 311 • Tuesday, 1:00 - 3:40 pm • David Kelley
1:00 pm • Legacy Effects of Phenologically-Targeted Simulated Grazing Events in Drought-Impacted Semi-Arid Rangeland
Carolyn Malmstrom, 194

1:20 pm • Managing Tanglehead in South Texas with Patch Burning and Grazing • **Megan Clayton, 195**

1:40 pm • Targeted Grazing and Herbicide for Dalmatian Toadflax and Geyer Larkspur Management • **Julia Workman, 196**

2:00 pm • Towards Herbicidal Control of Buffelgrass
John Brock, 197

2:20 pm • Break

2:40 pm • Monitoring for Invasive Plants on Alaska Reindeer Range • **Jennifer Robinette, 198**

3:00 pm • White-Tailed Deer (*Odocoileus virginianus*), a Biological Control for Noxious Weeds in North Dakota
Melissa McCann, 199

3:20 pm • Effectiveness of Spring Cutting and Glyphosate for Yellow Flag Iris Management Along the Niobrara River
Jordan Spaak, 200

3:40 pm • Modeling Potential Distribution of Invasive Natal Grass (*Melinis repens*) in Chihuahua, Mexico • **Alicia Melgoza-Castillo, 201**



TECHNICAL PROGRAM

TUESDAY, FEBRUARY 3RD --- AFTERNOON cont.

Technical Session: Oral RANGELAND ECOLOGY II: SOIL CARBON AND NUTRIENT CYCLING

CC 312 • Tuesday, 1:00 - 3:40 pm
Sheri Spiegel

1:00 pm • Carbon on the Range • **Robert Parkhurst, 202**

1:20 pm • Effect of Nitrogen Fertilizer on Annual Rangeland Species Composition • **Josh Davy, 203**

1:40 pm • Agricultural Land-Use Differences in Soil Carbon Content and Stability in Alberta • **Donald Schoderbek, 204**

2:00 pm • Litter Decomposition Rates of Different Grass Species Across a Broad Environmental Gradient in Alberta's Rangelands
Xiaozhu Chuan, 205

2:20 pm • Break

2:40 pm • Are Invasive Species Affecting the Carbon Pools of Southern Alberta Grasslands? • **Mark Lyseng, 206**

3:00 pm • The Effect of Plant Community Change on Soil Organic Carbon Cycling in a Northern Grassland
Daniel Hewins, 207

3:20 pm • Nitrogen Mineralization in Two Mountain Big Sagebrush Plant Communities: An Ecological Process-Based Key to State-Transitions? • **Crystal Tipton, 208**

3:40 pm • Does Litter Matter: Impacts on Soil Temperature and Moisture in High Stock Density Grazing • **Emily Helms, 209**

Technical Session: Oral RANGELAND ENERGY DEVELOPMENT: IMPACTS AND RECLAMATION

CC 310 • Tuesday, 1:00 - 3:40 pm • Lance Criley
1:00 pm • Energy Development in Rangelands Part 1: A Call for a Disciplinary Shift • **Dirac Twidwell, 210**

1:20 pm • Energy Development in Rangelands, Part 2: Impacts on Ecosystem Services • **Brady Allred, 211**

1:40 pm • Increasing Diversity of Native Biofuel Plantings Using Simple Mixtures • **Cody Zilverberg, 212**

2:00 pm • Alpha and Beta Diversity on Reclaimed Mine-Lands in Central North Dakota • **Stefanie Bohrer, 213**

2:20 pm • Break

2:40 pm • A Novel Method for Removing Cheatgrass Contaminants from Reclamation Seed • **William Rose, 214**

3:00 pm • Evaluating Direct Herbicide Impacts on Desirable Species Used in Reclamation • **Beth Fowers, 215**



TUESDAY, FEBRUARY 3RD --- AFTERNOON cont.

3:20 pm • Using Multi-Criteria Analysis to Microsite Wind Turbines **Leticia Varelas, 216**

3:40 pm • Habitat Selection by Pronghorn Exposed to Wind Energy Development on Winter Range • **Jeffrey Beck, 217**

TUESDAY, FEBRUARY 3RD --- EVENING

SRM AWARDS CEREMONY II

CC BALLROOM (306, 307, 314, 315)
Tuesday, 6:00 - 8:00 pm

SRM Honors and Student Awards

WEDNESDAY, FEBRUARY 4TH

All Technical Tours will Depart from J Street, outside the Convention Center Exhibit Hall. Departure times are noted on your Ticket, Daily Trail Boss and Informational Posters.

Technical Tour GRAZING FOR NATIONAL SECURITY AND CONSERVATION TOUR

Technical Tour LOCKEFORD PLANT MATERIAL CENTER AND SPARROWK LIVESTOCK

***** Cancelled *****

Technical Tour HEDGEROW FARMS AND STONE RANCH: RANCHING WITH RESTORATION

Technical Tour SIERRA FOOTHILL RESEARCH AND EXTENSION CENTER

Technical Tour CALIFORNIA RANGELANDS: EARTH, AIR, FIRE, AND WATER—AND REGULATIONS

Technical Tour INVASIVE SPECIES MANAGEMENT AND CHALLENGES



TECHNICAL PROGRAM

WEDNESDAY, FEBRUARY 4TH cont.

All Technical Tours will Depart from J Street, outside the Convention Center Exhibit Hall. Departure times are noted on your Ticket, Daily Trail Boss and Informational Posters.

Technical Tour TARGETED GRAZING TOUR

Technical Tour GRAZING FOR HABITAT IMPROVEMENT AND CONSERVATION—REFUGE LAND

Technical Tour AN INTRODUCTION TO THE NATIONAL VEGETATION CLASSIFICATION, AND ITS VALUE FOR RANGE MANAGEMENT

Technical Tour ECOLOGICAL SITE DESCRIPTIONS IN BLUE OAK WOODLAND

Student Workshop/FieldTrip ECOLOGICAL SITE DESCRIPTIONS

Wednesday, February 4th (All Day Tour)
Meet in Homeroom (SHER, CARR)
8:00 am - 4:45 pm

Student Tour HIGH SCHOOL YOUTH FORUM ECOLOGICAL SITE DESCRIPTIONS

Wednesday, February 4th (All Day Tour)
8:00 am - 4:45 pm



WEDNESDAY, FEBRUARY 4TH cont.

Onsite Symposium STOCKMANSHIP: MANAGING RANGELANDS WITH EFFECTIVE LOW-STRESS LIVESTOCK HANDLING

CC 310 • Wednesday, 8:00 - 4:30 pm
Kent Reeves

8:00 am • Poetry, Introduction, and Overview of the Day
Kent Reeves

8:20 am • Fundamentals of Stockmanship • Whit Hibbard, Ph.D.,
Publisher-Editor, Stockmanship Journal, Helena, Montana, 223

9:40 am • Principles of Stockmanship continued... • Guy Glosson
Rancher, Jayton, Texas

10:00 am • Break

10:20 am • Stockmanship Principles and Practice for Managing
Rangelands • Richard McConnell and Tina Williams *Owners, Hand
'n Hand Livestock Solutions, Bolivar, Missouri, 219*

11:00 am • Principles in Stockmanship and Horsemanship
Steve Cote, *Author; Stockmanship: A Powerful Tool for Grazing
Lands Management, Paris, Tennessee, 221*

11:40 am • Lunch

1:00 pm • Application of Stockmanship to Achieve Rangeland
Management Goals • Derek W. Bailey, Ph.D., and Mitch
Stephenson, Ph.D., *New Mexico State University, Las Cruces,
New Mexico, 218*

1:30 pm • Placement of Livestock • Richard McConnell and
Tina Williams

2:00 pm • Stockmanship Techniques to Follow Grazing Plans
Without Cross Fencing • Bob Kinford, *Owner, 2 Lazy 4U Livestock
& Literary Company, Van Horn, Texas, 381*

2:30 pm • Break

2:45 pm • Low-Stress Herding Improves Herd Instinct, Facilitates
Strategic Grazing Management and Coexistence with Carnivores
Matt Barnes, *Field Director – Rangeland Stewardship, Keystone
Conservation, Bozeman, Montana, 222*

3:20 pm • Stockmanship, Grazing Associations, and Public Lands
Management • Steve Cote, 220

3:50 pm • Questions and Answers – Panel Discussion
with Temple Grandin

4:30 pm • Closing Comments & Poems • Kent Reeves



TECHNICAL PROGRAM

WEDNESDAY, FEBRUARY 4TH cont.

Onsite Symposium RANGELAND HYDRAULIC PROCESSES, PREDICTIONS, AND USE IN ECOLOGICAL SITE DESCRIPTIONS CC 311 • Wednesday, 8:00 am - 12:00 noon Mark Weltz

8:00 am • Hydrology in Ecological Site Descriptions
Curtis Talbot, 224

8:30 am • Overview of Rangeland Hydrology and Erosion Model
Mariano Hernandez, 225

9:00 am • Hydrologic Functions in Ecological Site Descriptions
Kenneth Spaeth, 226

9:30 am • Estimating Hydrologic and Erosion Response for Use
in Ecological Site Descriptions • Jason Williams, 227

10:00 am • Break

10:15 am • Use of RHEM to Assess Runoff and Erosion Following
Disturbance on Rangelands • Osama Al-Hamdan, 228

10:45 am • Estimating Soil Loss from Saline Rangelands
Sayjro Nouwakpo, 229

11:15 am • Estimating Water Quality from Saline Rangelands
Mark Weltz, 230

Onsite Technical Session: Oral UNDERGRADUATE TECHNICAL PAPERS

CC 309 • Wednesday, 8:00 am - 11:30 am
Loreen Allphin Rapier

8:00 am • Effect of Aggregation at a Winter Feeding Station
on Intestinal Parasite Load in Elk (*Cervus canadensis*)
Morgan Hughes, 231

8:20 am • Identification of Diet Supplements for Elk
Management • Hope Braithwaite, 232

8:40 am • Variance in Stomatal Size and Density Between
Triploid and Diploid Quaking Aspen (*Populus tremuloides*)
in Utah • Brianne Palmer, 233

9:00 am • Russian Olive (*Elaeagnus angustifolia*) Leaf Litter
as a Food Source in Montana's Prairie Stream Ecosystems
Smith Wells, 234

9:20 am • Quaking Aspen Response to Mechanical Treatment
in Southwest Montana • Jarrett Payne, 235

9:40 am • Factors Affecting Plant Persistence Following Rangeland
Seeding Treatments in Northeastern Utah • Benjamin Davis, 236

10:00 am • Break

10:20 am • Enhanced Phytoremediation of Pb, Cd and Cu
Using *Brassica juncea* and Chelators EDTA and EGTA
Kristin Cooper, 237

10:40 am • Examining the Competitive Effects of *Ventennata
dubia* • Shawn McKay, 238



WEDNESDAY, FEBRUARY 4TH cont.

11:00 am • Livestock Grazing Preferences on Yellow Bluestem
Craun Nolan, 239

11:20 am • Response of Reed Canarygrass to Two Herbicide
Applications • Kyle Schumacher, 240

THURSDAY, FEBRUARY 5TH --- ALL DAY

POSTER SESSION II

CC BALLROOM (306, 307, 314, 315)
Thursday • 8:00 am – 4:00 pm

Poster Session II:

Rangeland Social Science and Policy

241 • Usable Science for Sustainable Rangelands: A Preliminary
Summary of Workshop Outcomes • Kristie Maczko

242 • Presenting Rangeland Ecology to Natural Resource
Stakeholders • Kristen Gunther

243 • Rancher Decision-Making and Perceptions of Success:
A Case Study in the Western Great Plains • Hailey Wilmer

244 • California Grazing Regulatory Action Project • Cindy Wise

Poster Session II:

Invasive Species/Weed Management

245 • Effects of Mowing Treatment on Smooth Brome Belowground
Bud Bank • Denise Olson

246 • Cattle as a Biological Control for Noxious Weeds in North
Dakota • Melissa McCann

247 • Using Early Grazing to Control Kentucky Bluegrass
Bob Patton

248 • Impact of Kentucky Bluegrass Invasion on Species
Diversity and Nitrogen • John Hendrickson

249 • Does Annual Precipitation Regulate the Proportion of
Species Diversity that Comprises Invasive Species? • Mark Lyseng

250 • Plant Diversity Affects Success of Invasive Thistles in
Restored Nebraska Grassland • Katilyn Price

251 • Evaluating Perennial Grass Competition as a Management
Tool • Dan Harmon

252 • Botanical Composition of Cattle Diet in an Area Invaded
with Natal Grass (*Melinis repens*) in the State of Chihuahua
Obed Gutierrez-Gutierrez

253 • Understory Forage Production and Herbicide Mortality of
Huisache (*Acacia farnesiana*) • Kyle Brunson

254 • Regional Cheatgrass Dynamics Across 14 Years and
Future Cheatgrass Cover to Aid Rangeland and Sage Grouse
Conservation • Stephen Boyte



TECHNICAL PROGRAM

THURSDAY, FEBRUARY 5TH --- ALL DAY cont.

255 • The Effect of Annual Precipitation on *Agropyron cristatum* Suppression of *Bromus tectorum* • [Dan Harmon](#)

256 • Pollen Abscission in Wind-Pollinated Weeds • [David Greene](#)

Poster Session II:

Inventory, Monitoring, and Assessment

257 • Evaluating Ecosystems Services Provided by Rangelands with Managed and Unmanaged Conservation Easements

[Stephanie Larson-Praplan](#)

258 • Land Health Assessments: An Implementation of the AIM Strategy Throughout Nevada • [Todd Granberry](#)

259 • Developing the 18th Indicator for Interpreting Indicators of Rangeland Health on Northern Great Plains Rangelands

[Chadley Prosser](#)

260 • Recording Variability in Precipitation During an Arizona Monsoon • [Christopher Bernau](#)

261 • Impacts of Drought on Biomass Production and Species Composition in the Northern Mixed Grass Prairie • [Joe Bennett](#)

262 • Lower Joseph Creek Watershed Assessment • [John Williams](#)

263 • Effects of Western Juniper Removal on Soil Moisture and Vegetation Productivity in Wet Meadow Habitats • [Timothy Keeseey](#)

264 • Utilizing Fecal Profiling via NIRS to Compare *Leucaena leucocephala* and *Urochloa maxima* Pastures

[Stephanie Ficke-Beaton](#)

265 • An Analysis of Beaked Sedge (*Carex utriculata*) Stubble Height and Recovery Following Herbivory in Northeastern Arizona

[Sarah Noelle](#)

266 • Application of BLM's Assessment, Inventory and Monitoring Strategy at Grand Staircase-Escalante National Monument, Utah • [Kevin Miller](#)

267 • Long-Term Trend Monitoring Methods for Arid Environments • [Ashley Hall](#)

268 • Challenges and Opportunities of Using SamplePoint to Support Range Inventory and Monitoring • [Gene Fults](#)

269 • Integrating Rangeland and Pastureland Assessment Methods into a National Grazingland Assessment Approach

[David Toledo](#)

270 • Creating a Simple Web Interface to BLM's National Riparian Database Using Geocortex • [Melissa Dickard](#)

271 • The Importance of Collaborative Data Sharing: A Look at the BLM's New National Monitoring Database • [Sarah Lamagna](#)

272 • Multi-Scale Ecosystem Monitoring: An Application of Scaling Data to Answer Multiple Ecological Questions

[Sarah McCord](#)



THURSDAY, FEBRUARY 5TH --- ALL DAY cont.

Poster Session II:

Remote Sensing and Technology

274 • Using Random Forest to Estimate Potential Cheatgrass and Perennial Herbaceous Cover from Site Environmental Characteristics • [Nathan Cline](#)

275 • Monitoring Invasive Weeds Using Aerial and Ground Level Very High Resolution Imagery wcross Extensive Rangeland

[Stephen Ndzeidze](#)

276 • Using Remote Sensing to Map and Estimate Degradation in Savanna Grasslands in Cameroon • [Stephen Ndzeidze](#)

277 • The Impact of Land Use on the 3D Structure of Vegetation and Soils in a Cold Desert Ecosystem in Jordan

[Robert Washington-Allen](#)

278 • Using Dual-Wavelength Terrestrial Laser Scanning to Detect Micro-Channels or Rills Created by Cattle Use

[Robert Washington-Allen](#)

279 • Low-cost Wireless Salinity Sensors for Runoff Characterization and Water Quality Monitoring • [Sandra Li](#)

280 • Using JournalMap to Improve Discovery and Visualization of Rangeland Scientific Knowledge • [Jason Karl](#)

Poster Session II:

Wildlife Habitat and Management

282 • Characterization and Comparison of Vegetation on Dakota Skipper Inhabited and Extirpated Sites in South Dakota

[Diane Narem](#)

283 • The Effects of Grazing on Breeding Populations of Sprague's Pipits in Western North Dakota • [Brian Chepulis](#)

284 • Greater Sage-Grouse Habitat Suitability Assessment on Historical Crested Wheatgrass Seedings in Southeastern Oregon

[Eytchison Michael](#)

285 • Sage Grouse Conservation through Prioritization and Collaboration in Northeast California • [Tiffany Russell](#)

286 • Non-invasive Assessment of Mule Deer Diet Quality on the Kaibab Plateau in Northern Arizona • [Doug Tolleson](#)

287 • Merging Wildlife Habitat and Rangeland Monitoring Techniques for Resource Efficiency • [Glenn Owings](#)



TECHNICAL PROGRAM

THURSDAY, FEBRUARY 5TH --- ALL DAY cont.

Poster Session II:

Grazing Ecology and Management

288 • Grazekeeper: Planning and Record-Keeping System for all Livestock Grazing • **Tyrrell Hibbard**

289 • UCCE Livestock & Range Sheep Information Web Page
John Harper

290 • Forage Quality and Weaning Weight Influences Grass-Finished Cattle Performance and Meat Quality • **Mark Thorne**

291 • Assessing Dung Beetle Colonization in the Decomposition of a Dung Pat • **Matt Judkins**

292 • Using Wet Distillers Grains as a Late Season Protein Supplement for Grazing Steers • **Keith Harmony**

293 • Chute Exit Rating Improves Seasonally and is Not Related to Weight Gain for Grazing Steers • **Justin Derner**

294 • Body Temperature in Ewes with Different Colored Layers Under Two Pastoral Systems • **Jairo Mora-Delgado**

295 • Animal Activity Influence by Grazing Strategy • **Torie Lindsey**

296 • Approaches to Reduce Cattle Use of Riparian Areas Through Herding and Strategic Supplement • **Dave Stricklan**

297 • Evaluation of Four Grazing Strategies and their Effect on Wildlife Populations and Habitat • **Alfonso Ortega**

298 • Grazing Management as a Climate Change Mitigation and Adaptation Strategy • **Dan Denesiuk**

299 • Stocking Rate Constrains the Establishment of the Positive Feedback and Structural Heterogeneity with Patch-Burn Grazing
John Scasta

300 • Rate of Degradation of Cattle Diet Samples Collected on and off Prairie Dog Colonies • **Janna Kincheloe**

301 • Prairie Dog and Cattle Utilization of Western Wheatgrass in a Mixed-Grass Prairie • **Jameson Brennan**

302 • Contributions of Seed Bank and Bud Bank to Vegetation Composition Under Prairie Dog and Livestock Herbivory • **Lan Xu**

303 • Effects of Warming and Season of Defoliation on the Species Composition of a Manitoba Prairie • **Michael Schellenberg**

304 • Comparison of Western Wheatgrass in Windrows Versus Stockpiling • **Casey Matney**

305 • Detection of Honey Mesquite Leaves in Cattle Diets Using Fecal Near Infrared Reflectance Spectroscopy • **Derek Bailey**

306 • Decomposition of Dung Excreted From Cattle Grazing Smooth Bromegrass Pastures • **Bradley Schick**

307 • Evaluating Potential Forages for Suppressing Foxtail Barley and Downy Brome in Western Canada Saline Fields • **Alan Iwaasa**

308 • Measurement of Campos Rangelands Herbage Mass by Simple Methods • **Martin Do Carmo**

461 • Evaluation of Zero-Till Openers for Sod-Seeding Alfalfa in Crested Wheatgrass • **Paul G. Jefferson**



THURSDAY, FEBRUARY 5TH --- ALL DAY cont.

Symposium

BUILDING A BETTER CAPSTONE FOR MULTIDISCIPLINARY EDUCATION

CC 304 • Thursday, 8:00 am - 3:40 pm
Susan Edinger-Marshall

8:00 am • Keynote: The Future of Student Learning
Jillian Kinzie, 309

8:30 am • Effective Strategies to Teach Interdisciplinary Science Education • **Meena Balgopal, 310**

Introduction • **Susan Edinger-Marshall, 311**

9:20 am • Assessing the Quality of Student Experiences with Capstone Courses • **Jillian Kinzie, 312**

9:40 am • Inventory and Characterization of the Approaches, Scope, and Variations of Currently Offered Senior Capstones
Karen Hickman, 313

10:00 am • Break

10:20 am • Building a Better Capstone: Workforce Relevance for Natural Resource Professionals • **Melanie Murphy, 198**

10:40 am • Program Effectiveness: Evaluating the Impact of Your Capstone Course • **Meena Balgopal, 314**

11:00 am • Can Capstones Address Issues Raised in Recent Reports of Trends in Undergraduate Education?
Susan Edinger-Marshall, 315

11:20 am • Successful Approaches to Expanding Diversity in a Rangeland/Natural Resources Capstone
Maria Fernandez-Gimenez, 316

11:40 am • Lunch

1:00 pm • Introduction and start of World Café Process to Explore Capstones

2:20 pm • Break

2:40 pm • Harvest Results from World Café

2:20 pm • Wrap-up and Grant Planning

Symposium

NATIVE AMERICAN FORUM: RENEWAL ON THE STANDING ROCK RESERVATION: KNOWLEDGE AND OPPORTUNITIES

CC 310 • Thursday, 8:10 am - 3:00 pm
John R. Hendrickson and Roger Gates

8:10 am • Development of the Renewal on the Standing Rock Sioux Reservation Project • **Timothy Faller, 317**

8:20 am • Native Science: Understanding and Respecting Other Ways of Knowing • **Linda Black Elk, 318**



TECHNICAL PROGRAM

THURSDAY, FEBRUARY 5TH --- ALL DAY cont.

- 8:40 am** • Participatory Assessments and Action Research for Problem-Solving with Underserved Communities: Lessons from Ethiopia and Nepal • **Layne Coppock, 319**
- 9:00 am** • Implementing a Culture-Centered Infrastructure for Work with American Indian Communities
Kimberly Beauchamp, 320
- 9:20 am** • The Role of a 1994 Land Grant College
Gary Halvorson, 321
- 9:40 am** • Meaningful Partnerships with 1994 Tribal Land-Grant Colleges and Universities • **Lisa Yellow Luger, 322**
- 10:00 am** • Break
- 10:20 am** • The Role of Extension in the Native American Community • **Shawn Burke, 323**
- 10:40 am** • Soil Responses to Prairie Dog Activity: Observations across Three Ecological Sites • **Mark Liebig, 324**
- 11:00 am** • Vegetation Dynamics Under Prairie Dog And Livestock Herbivory • **Patricia Johnson, 325**
- 11:20 am** • Plant Community Composition and Change under Prairie Dog and Livestock Herbivory on different Ecological Sites
Kevin Sedivec, 326
- 11:40 am** • Lunch
- 1:20 pm** • Effect of Grazing on Rangeland with Prairie Dog Colonies on Cattle Nutrition and Performance • **Kenneth Olson, 327**
- 1:40 pm** • Understanding the Interaction of Prairie Dogs and Livestock Herbivory on Passerine Bird Populations
Ben Geaumont, 328
- 2:00 pm** • Beef Cattle Management on Prairie Dog Colonies
Christopher Schauer, 329
- 2:20 pm** • Break
- 2:40 pm** • Future Vision: A Sustainable and Healthy Food Production System • **James Garrett, 330**
- 3:00 pm** • Panel Discussion

Symposium K-12 EDUCATION

CC 301 • Thursday, 8:00 am - 3:00 pm
Theresa Becchetti

- 8:00 am** • Rangeland Literacy, It Takes a Village! • **Seth Pratt, 331**
- 8:40 am** • American Society of Animal Science, Junior Animal Scientist Program • **Meghan Wulster-Radcliffe, 332**
- 9:20 am** • An Educator's Perspective on Rangelands Curriculum
S. L. Johnson, 333
- 10:00 am** • Break



THURSDAY, FEBRUARY 5TH --- ALL DAY cont.

- 10:20 am** • The Prairie Project • **Blayr Gourley, 334**
- 10:40 am** • 4-H and High School Range Education Programs in Arizona • **Doug Tolleson, 335**
- 11:00 am** • Rangelands Curriculum from Welder Wildlife Foundation in Texas • **S. L. Johnson, 336**
- 11:20 am** • Empowering Teachers to Spark Interest in Range
Gretchen Hyde, 337
- 11:40 am** • K-12 Rangeland Curriculum Showcase
Theresa Becchetti, 338
- Lunch
- 1:00 pm** • How Can the Range Profession Contribute to Development of Ag-STEM Curricula for Middle School Students?
Kim Demoney, 339
- 1:20 pm** • A Bright Future is Calling! Attracting High School Students to Rangeland Careers • **Lovina Roselle, 340**
- 1:40 pm** • Wildlife Habitat Education Program • **Dwayne Elmore, 341**
- 2:00 pm** • Facilitated Discussion – Forming a Network for K-12 Rangeland Curriculum • **Theresa Becchetti, 342**
- 3:00 pm** • Discussion

Symposium MONITORING FOR ADAPTIVE MANAGEMENT: IMPLEMENTING THE BLM AIM STRATEGY

CC 309 • Thursday, 8:00 am - 3:40 pm
Emily Kachergis

- 8:00 am** • Monitoring for Adaptive Management: Introduction to the BLM Assessment, Inventory, and Monitoring (AIM) Strategy
Emily Kachergis, 343
- 8:20 am** • From Sage-Grouse to Solar Energy: Monitoring and Land Management Decisions • **Gordon Toevs, 344**
- 8:40 am** • NRCS National Resources Inventory Rangeland Resource Assessment • **Veronica Lessard, 345**
- 9:00 am** • National Terrestrial Monitoring: BLM Rangeland Resource Assessment • **Michael Sherm Karl, 346**
- 9:20 am** • Preliminary Results from the BLM's Western Rivers and Streams Assessment • **Scott Miller, 347**
- 9:40 am** • Evaluating Stream Conditions Using Long-Term Monitoring Data Collected by Forest Service and the BLM
Eric Archer, 348
- 10:00 am** • Break
- 10:20 am** • Applying AIM in Nevada for Sage Grouse Habitat and Grazing Management • **Mark Coca, 349**



TECHNICAL PROGRAM

THURSDAY, FEBRUARY 5TH --- ALL DAY cont.

- 10:40 am** • Assessing the Condition of Utah BLM Perennial streams: A Pilot of the BLM's National Aquatic Monitoring Program • **Justin Jimenez, 350**
- 11:00 am** • Monitoring for Adaptive Management in Alaska's Arctic • **Tina Boucher, 351**
- 11:20 am** • Using AIM Core Indicators for Sage-Grouse Habitat Management: An Example from Northern California
Dereck Wilson, 352
- 11:40 am** • Lunch
- 1:00 pm** • Monitoring of National Conservation Lands: Grand Staircase-Escalante and Agua Fria National Monuments
Paul Sitzmann, 353
- 1:20 pm** • Disturbance and Reclamation Monitoring for Oil and Gas Development in the White River Field Office • **Zoe Miller, 354**
- 1:40 pm** • Integration of AIM with LANDFIRE for Broad Scale Vegetation Monitoring • **Henry Bastian, 355**
- 2:00 pm** • Remote Sensing Characterization and Monitoring of Shrubland Components Across the Western United States
Collin Homer, 356
- 2:20 pm** • Break
- 2:40 pm** • Fine Scale Monitoring with Unmanned Aerial Systems
Chris Cole, 357
- 3:00 pm** • Implementing AIM-based Monitoring for Natural Resource Management • **Jason Karl, 358**
- 3:20 pm** • How You Can Support Landscape Monitoring, from Collaborative Design to Data Sharing • **Sarah Lamagna, 359**
- 3:40 pm** • Panel Discussion

THURSDAY, FEBRUARY 5TH --- MORNING

Symposium CONFRONTING THE MANAGEMENT-SCIENCE KNOWLEDGE GAP TO SUPPORT NATURAL RESOURCE MANAGEMENT

CC 305 • Thursday, 8:40 - 11:40 am
David Briske

- 8:40 am** • Knowledge Sources, Flows, and Management Challenges • **David Briske, 360**
- 9:00 am** • An Agency Knowledge Perspective • **Pat Shaver, 361**
- 9:20 am** • A Scientific Knowledge Perspective • **Nathan Sayre, 362**
- 9:40 am** • Management Relevant Science • **Justin Derner, 363**
- 10:00 am** • Break



THURSDAY, FEBRUARY 5TH --- MORNING cont.

- 10:20 am** • Beyond NIFA Integrated Programs: Requiring Stakeholder Co-Production as an Incentive to Link Science with Management • **James Dobrowski, 364**
- 10:40 am** • Co-Producing and Sharing Knowledge in the US and Internationally: Epistemology, Principles, Cases and Lessons
Robin Reid, 365
- 11:00 am** • Novel Participatory Research Approaches to Integrate Experiential and Experimental Knowledge on Rangeland Management and Conservation • **Kenneth Tate, 366**
- 11:40 am** • Discussion

Symposium MANAGING HAWAII'S RANGELANDS FOR DIVERSITY—E malama I na 'aina like 'ole

CC 316 • Thursday, 8:20 - 11:40 am
Matthew Stevenson

- 8:20 am** • Hawaii's Diverse Rangeland Ecotypes • **Joseph May, 367**
- 8:40 am** • Soil Diversity and Implications for Rangeland Management in Hawaii • **Jonathan Deenik, 368**
- 9:00 am** • Grazing Management for Tropical Grass-Finish Beef Production • **Mark Thorne, 369**
- 9:20 am** • Evaluation of Incorporating an Improved Leucaena Forage for Grass-Fed Beef Production in Hawaii
Glen Fukumoto, 370
- 9:40 am** • Conditioned Preference Training of Livestock for Tropical Weed Management • **Matthew Stevenson, 371**
- 10:00 am** • Break
- 10:20 am** • *Schinus terebinthifolius* and *Indigofera suffruticosa*: Potential for Reducing Internal Parasites in Goats • **Matthew Stevenson, 372**

10:40 am • Drought Management Tools for Hawaiian Rangelands
Mark Thorne, 373

11:00 am • Discussion

Technical Session: Oral GRAZING ECOLOGY AND MANAGEMENT

CC 311 • Thursday, 8:20 - 11:40 am

- 8:20 am** • Effect of Terrain Heterogeneity on Feeding Site Selection and Livestock Movement Patterns • **Derek Bailey, 374**
- 8:40 am** • Cattle Grazing on Fallows from the Andean Area South of Columbia • **Jairo Mora-Delgado, 376**
- 9:00 am** • Aspen Intake and Preference by Sheep: Implications for Herbivory and Aspen Decline • **Elizabeth Burritt, 377**



TECHNICAL PROGRAM

THURSDAY, FEBRUARY 5TH --- MORNING cont.

9:20 am • Seasonal Variability in Diet Selection by Sheep Grazing at the Semi-Arid Rangelands of the Kordofan Region of Sudan
Mohammed Abdelkreim, 378

9:40 am • Do Movement Patterns of GPS-Tracked Cattle on Extensive Rangeland Pastures Suggest Independence Among Individuals? • **Mitch Stephenson, 379**

10:00 am • Break

10:20 am • Targeted Sheep Grazing in Agricultural Ecosystems: Effects on Cover Crop, Winter Wheat, and Sheep Gains
Jasmine Westbrook, 380

10:40 am • Stockmanship Techniques to Follow Grazing Plans without Cross Fencing • **Bob Kinford, 381**

11:00 am • Continuous Versus Rotational Grazing, Again: Another Perspective from Meta-Analysis • **Kristina Wolf, 382**

11:20 am • iPhone Beef Cattle Inventory Application
Larry Forero, 383

POSTER SESSION LUNCH

CC BALLROOM (306, 307, 314, 315)
Thursday • 11:40 am - 1:00 pm

THURSDAY, FEBRUARY 5TH --- AFTERNOON

Symposium USABLE SCIENCE

CC 305 • Thursday, 1:00 - 4:00 pm
Kristie Mazco

1:00 pm • What is Usable Science? And Why Should We Care?
Lori Hiding, 384

1:20 pm • Usable Socio-Economic Science for Rangelands: Results of an Agenda-Setting Workshop • **Mark Brunson, 385**

1:40 pm • Ideas for Usable Science Related to Animals and Rangeland Sustainability • **Paul Meiman, 386**

2:00 pm • Usable Science for Rangeland Water
James Dobrowski, 387

2:20 pm • Break

2:40 pm • Future Directions of Usable Science for Sustainable Rangelands: Soil Health • **Chuck Stanley, 388**

3:00 pm • Outcomes of the Sustainable Rangeland Roundtable Sponsored "Usable Science" Workshop — Vegetation
Joel Brown, 389

3:20 pm • Discussion



THURSDAY, FEBRUARY 5TH --- AFTERNOON cont.

Technical Session: Oral INVASIVE SPECIES MANAGEMENT: MEDUSAHEAD AND CHEATGRASS

CC 312 • Thursday, 1:00 - 4:00 pm • Ling He
1:00 pm • Using Multi-State Modeling to Describe Optimal Treatment Windows for Medusahead and Barbed Goatgrass
Philip Brownsey, 390

1:20 pm • Statewide Prioritization of Cheatgrass Infestations
Cara Noseworthy, 391

1:40 pm • Influence of High-Energy Supplements, Silica and Individual Variation on Medusahead Intake and Preference by Sheep • **Juan Villalba, 392**

2:00 pm • Break

2:20 pm • Evaluating Multi-Species Targeted Grazing for Cheatgrass Control • **Cara Noseworthy, 393**

2:40 pm • Weather Variability Creates the Need for Flexibility in Grazing Management, Especially with Cheatgrass, *Bromus tectorum* • **Sherman Swanson, 394**

3:00 pm • Herbicide Efficacy and Perennial Grass Establishment on Cheatgrass-Dominated Rangelands • **Charlie Clements, 395**

Technical Session: Oral RANGELAND ECOLOGY III: LONG TERM CHANGE

CC 316 • Thursday, 1:00 - 4:00 pm
Fadzayi Mashiri

1:00 pm • Did Rangelands Cause Human Evolution? Climate Change, Vegetation and the Hominid Fossil Record
James Ansley, 396

1:20 pm • Thresholds or Gradients: The Importance of Slow, Reversible Change in a Grazing-Adapted Rangeland
Lauren Porensky, 397

1:40 pm • Historical Vegetation in Southwest Oregon, as Affected by Indian Burning Practices, Based on GLO Surveys
Gene Hickman, 398

2:00 pm • Trophic Interactions Between Cattle and Biodiversity: The Kenya Long-Term Enclosure Experiment (KLEE)
Truman Young, 399

2:20 pm • Break

2:40 pm • A Century of Grazing: Long-Term Research on Northern Great Plains Rangeland • **Matt Sanderson, 400**

3:00 pm • Case Study: Long-Term Livestock Grazing Influence on Vegetation in Coyote Flat, California, USA • **Robert Pearce, 401**

3:20 pm • Successional Status after 33 years of Canyon Grasslands in the Hells Canyon National Recreation Area
Samantha Pack, 402

3:40 pm • Identifying Relationships Between Long-Term Grazing Practices and Resource Condition in a Western Pine Forest
Kurt Chowanski, 403



TECHNICAL PROGRAM

THURSDAY, FEBRUARY 5TH --- AFTERNOON cont.

Technical Session: Oral RIPARIAN ECOSYSTEMS/WATER

CC 311 • Thursday, 1:00 - 4:00 pm

Amber Dalke

1:00 pm • Water Shortage, Climate Change, and Agency Land Management • **D. T. Booth, 404**

1:20 pm • Validating Riparian State-and-Transition Models
Miranda Meehan, 405

1:40 pm • Evaluating the Decline of Closed-Basin Ponds in British Columbia's Semi-Arid Rangelands • **Aaron Coelho, 406**

2:00 pm • Ecohydrologic Interactions in Rangeland Riparian Systems • **Carlos Ochoa, 407**

2:20 pm • Break

2:40 pm • Effects of Ungulate Exclusion on Riparian Plant Community Composition • **Caleb Roberts, 408**

3:00 pm • Effects of Deer and Elk Browsing on Riparian Restoration in the Absence of Cattle • **Mary Rowland, 409**

3:20 pm • Establishment of a Riparian Buffer Strip for Alleviating Lake Eutrophication in Eastern China • **Michael Kennedy, 410**

FRIDAY, FEBRUARY 6TH --- MORNING

Symposium HOLISTIC MANAGEMENT®— EXTRAORDINARY SUCCESS STORIES, EXTRAORDINARY POSSIBILITIES

CC 311 • Friday, 8:00 - 12:00 noon

Richard King

8:00 am • How Holistic Management is Different • **Richard King**, Poppy Hill Farm, retired NRCS, California, and **Rob Rutherford**, retired professor Cal Poly SLO, California

Rancher/Farmer Stories & Panel Discussion • **Joe Morris**, Morris Grassfed Beef, California; **Jerry Doan**, Blackleg Ranch, North Dakota; and **Ken Miller**, Miller Ranch, North Dakota

10:00 am • Break

10:20 am • Rancher/Farmer Stories & Panel Discussion
Peggy & Joe Maddox, Maddox Family Beef, Texas; **Maurice Robinette**, Lazy R Ranch, Washington; **Cooper Hibbard**, Sieben Live Stock Company, Montana

11:30 am • Summary & Conclusions • **Richard King** and **Rob Rutherford**



FRIDAY, FEBRUARY 6TH --- MORNING cont.

Symposium THE ROLE OF SOURCE IDENTIFIED NATIVE SEED IN RANGELAND REVEGETATION

CC 309 • Friday, 8:20 am - 12:00 noon

Scott Lambert

8:20 am • Historic Use of Native Seed, Including Source Identified, by Federal Agencies • **Scott Lambert, 411**

8:40 am • The Concept and Utility of Source Identified Revegetation Seed • **Stanford Young, 412**

9:00 am • Native and Reclamation Seed Testing, Certification, and Laws — Is There a Nexus? • **Victor Shaul, 413**

9:20 am • Procurement and Use of Source Identified Seed within the BLM • **Paul Krabacher, 414**

9:40 am • NRCS Plant Materials Program Native Germplasm Development and Usage for Western Rangelands

Derek Tilley, 415

10:00 am • Break

10:20 am • Using Source Identified Seed to Restore Rangelands in Utah • **Jason Vernon, 416**

10:40 am • Source ID Native Seed in the Wild Wild West
Mike Ingham, 417

11:00 am • Panel Discussion on Native Seed Issues with Speakers • **Scott Lambert**

Technical Session: Oral FIRE ECOLOGY AND MANAGEMENT

CC 310 • Friday, 8:40 am - 12:00 noon

Matthew Shapero

8:40 am • Influence of Duff Distribution on Post-Fire Vegetation Recovery Patterns in Western Juniper Woodland • **Eva Strand, 420**

9:00 am • Avian Diversity and Stability Along a Fire and Grazing Dependent Heterogeneity Gradient • **Torre Hovick, 421**

9:20 am • Effects of Early Spring Wildfire on Crested Wheatgrass Dominated Pasturelands and Rangelands of South Dakota
Katherine Kral, 422

9:40 am • The Effect of Fire on *Poa pratensis* and Native Tallgrass Prairie Species under Greenhouse Conditions

Katherine Kral, 423

10:00 am • Break

10:20 am • Pre- and Post-Fire Greater Sage-Grouse Lek Counts and Movement • **Gregg Simonds, 424**

10:40 am • High Live Fuel Moisture in C3 Grass Reduces Fire Behaviour in South African C4 Grassland
Devan McGranahan, 425



TECHNICAL PROGRAM

FRIDAY, FEBRUARY 6TH --- MORNING cont.

11:00 am • Patterns of Heterogeneity in Tallgrass Prairie: Comparing Rangelands Managed for Homogeneity vs Heterogeneity • **Callie Griffith, 426**

11:20 am • Conservation of Pattern and Process in Heterogeneous Grasslands in a Changing Climate
Christine Bielski, 427

Technical Session: Oral INVENTORY, MONITORING, AND ASSESSMENT

CC 304 • Friday, 8:00 am - 12:00 noon
Lawrence Ford

8:00 am • Detecting Long-Term Vegetation Change in an Arid Rangeland Ecosystem: Investigating Effects of Spatial Image Support Within Satellite Time-Series • **Jonathan Maynard, 428**

8:20 am • Using the Best Available Data: Integrating Field Data and Remote Sensing Imagery to Monitor Rangelands
Sarah McCord, 429

8:40 am • Enhancing APEX to Model Grazing Lands for the Conservation Effects Assessment Project (CEAP)
Cody Zilverberg, 430

9:00 am • Applying Alternative Data Sources to Ecological Site Classification and Description • **Jeb Williamson, 431**

9:20 am • Forage Monitoring on the California Central Coast Shows Tremendous Variation • **Royce Larson, 432**

9:40 am • Biological Capability of Selected Ecological Sites in the Western Dakotas • **Lauren Klempel, 433**

10:00 am • Break

10:20 am • Weighing the Costs of Different Errors when Determining Statistical Significance During Monitoring
Jason Karl, 434

10:40 am • Development and Use of a USDA-NRCS Planning Form within a California Mediterranean-type Rangeland
Michael Higgins, 435

11:00 am • Delineating and Classifying Native Grasslands of South Dakota's Prairie Coteau for Dakota Skipper Conservation
Diane Narem, 436

11:20 am • Point Blue Conservation Science's Rangeland Watershed Initiative: Measuring the Soil, Vegetation, and Wildlife
Elizabeth Porzig, 437



FRIDAY, FEBRUARY 6TH --- MORNING cont.

Technical Session: Oral RANGELAND SOCIAL SCIENCE II: CULTURE, POLICY, AND ECOSYSTEMS

CC 312 • Friday, 8:20 am - 12:00 noon
Tracy Hruska

8:20 am • Unintended Consequences?: Understanding the Interactions Between Culture, Livelihoods, Resources and Species Protection • **Corrie Knapp, 438**

8:40 am • Rustling Qualities: The Rise and Fall (and Rise) of the Texas Longhorn • **Joshua Specht, 439**

9:00 am • China's Pastoral Lands: A Resource on the Edge
Victor Squires, 440

9:20 am • What is Changing in the Rangelands, Why and How these Changes Occur: Case Study from the South Gobi of Mongolia • **Batkhisig Baival, 441**

9:40 am • A State-and-Transition Approach to Determine the Trade-Offs Associated with Livestock Production and other Ecosystem Services • **John Ritten, 442**

10:00 am • Break

10:20 am • Equilibrium or Non-Equilibrium Ecological Dynamics: What if the Market is Considered? • **Wenjun Li, 443**

10:40 am • Communicating in Global Rangelands
Lauren Svejcar, 444

11:00 am • Sheep and Goat Owners Near Bighorn Sheep Habitat: Reducing Pathogen Transmission Through Awareness, Alternatives, and Action • **Laura Heinse, 446**

11:20 am • The Influence of Water Districts on Rangelands in the North Central Sierra Nevada, California • **Matthew Shapero, 447**

11:40 am • The Incidental Habitat: The California Black Rail and the Water Ecology of the Foothills • **Lynn Huntsinger, 448**

Technical Session: Oral VEGETATION MANAGEMENT AND RESTORATION II: WOODY PLANTS

CC 305 • Friday, 8:20 am - 12:00 noon
Michael Hammond

8:20 am • Foliar-Applied Herbicides for Saltcedar Control in Southwest Kansas • **Walter Fick, 449**

8:40 am • Successional Trends After Treating Pinyon-Juniper Encroached Sagebrush Steppe to Reduce Fuels
Bruce Roundy, 450

9:00 am • Goats: A Tool to Reduce Encroachment of Coyote Brush into Grasslands, Fort Ord National Monument
Suzanne Worcester, 451



68th SRM Annual Meeting, Training & Trade Show

TECHNICAL PROGRAM

FRIDAY, FEBRUARY 6TH --- MORNING cont.

9:20 am • Plant Community Response to Pinyon-Juniper Reduction in Utah • **Thomas Monaco, 452**

9:40 am • Spatial Resilience in a Semi-Arid Shrubland: Implications for Operationalizing Resilience in Ecological Restoration • **Carissa Wonka, 453**

10:00 am • Break

10:20 am • Targeting Shrub and Interspace Microsites for Restoration Seedings and Plantings in Great Basin Sagebrush Communities • **Kari Veblen, 454**

10:40 am • Evaluating Six Mechanical Treatments In Big Sagebrush 10 Years Post Treatment In Northern Utah
Danny Summers, 455

11:00 am • Herbivore Effects on Grassland Recovery Potential in the Chihuahuan Desert • **Lauren Svejcar, 456**

11:20 am • Ecological and Cattle Production Impacts of an Invading Native Shrub (*Shepherdia argentea*) in a Mixed Prairie Landscape • **Regina Dahl, 457**



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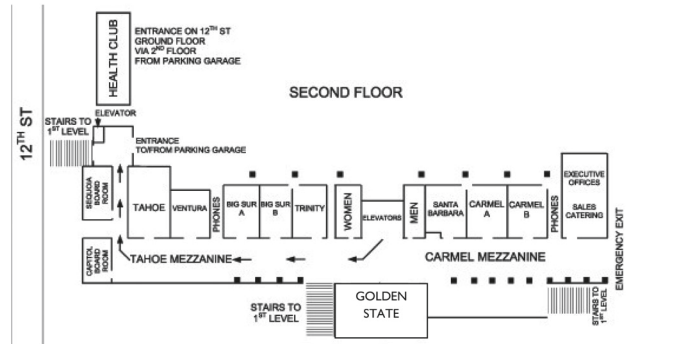
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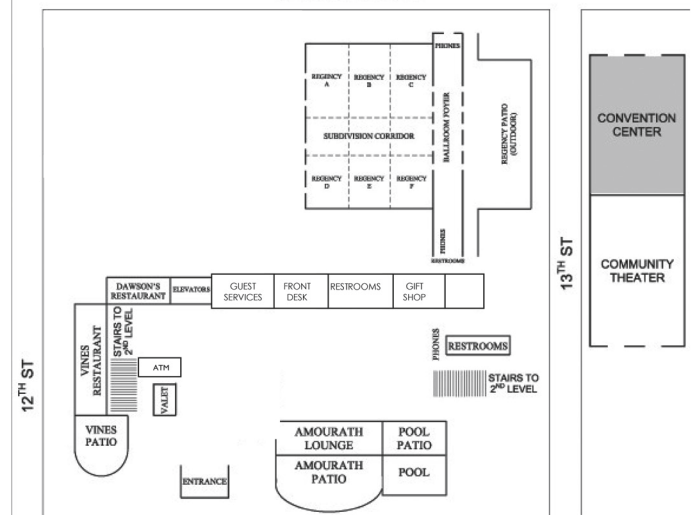


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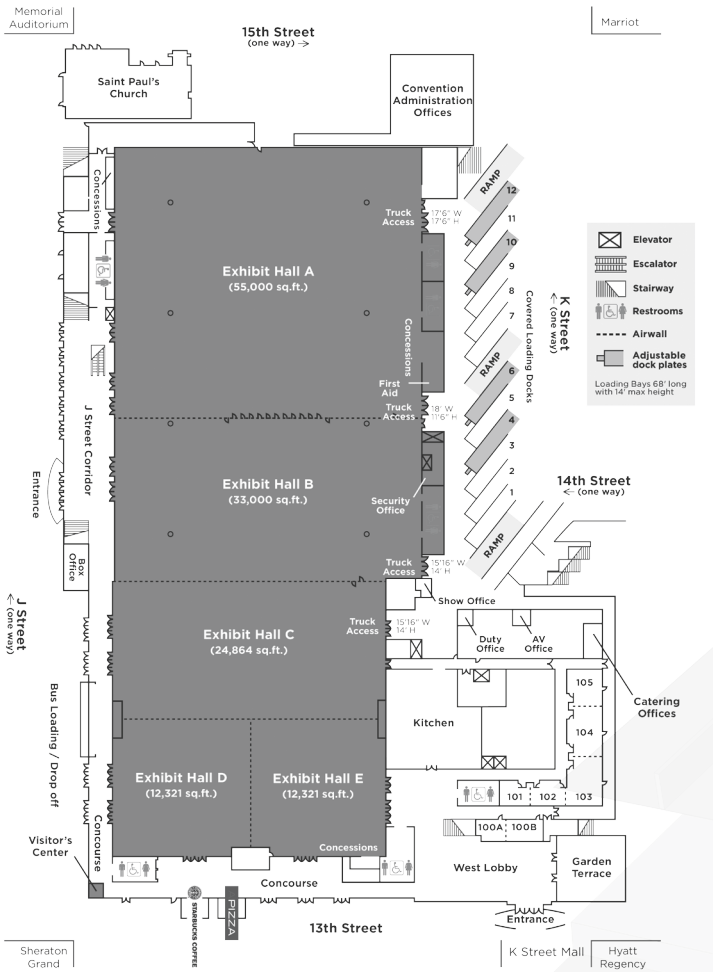


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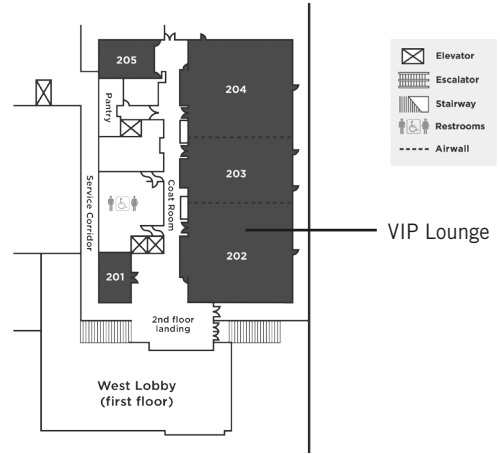


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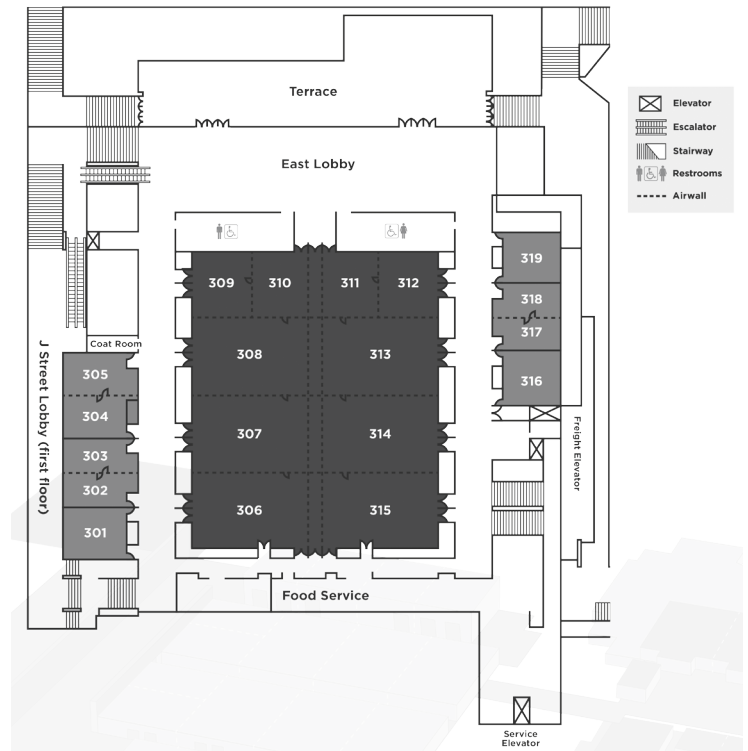
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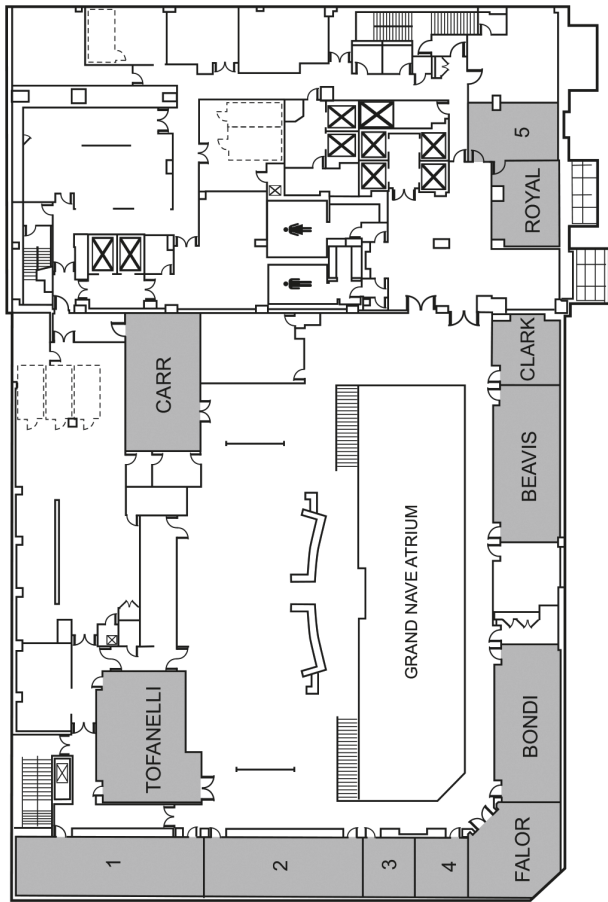




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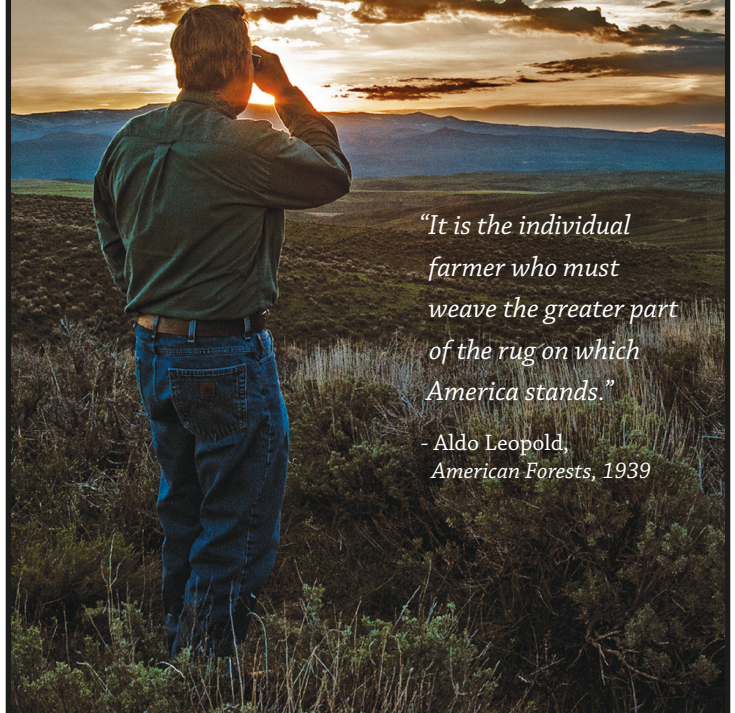
MAPS

SHERATON GRANDE (SHER) MEETING ROOMS



- 1. BATAGLIERI
- 2. COMPAGNO
- 3. SCHMIDT
- 4. DURANG
- 5. MCGINNIS

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