ROCKY MOUNTAIN ANTHROPOLOGICAL CONFERENCE
SEPTEMBER 21-24 2017

CANMORE, ALBERTA, CANADA

COAST CANMORE HOTEL AND CONFERENCE CENTRE

CONFERENCE EVENTS

THURSDAY, SEPTEMBER 21, 2017

Grassi Lakes Pictograph Site Field Trip
Depart Coast Hotel at 3:30 PM in provided transporation, duration approximately 2.5-3 hours
Cost: $10 per person, preregistration required
*Note: Involves hike of approximately 30 minutes uphill on way to site, 30 minutes downhill return, please bring appropriate footwear etc.

Conference Check-In, 7:00 - 10:00 PM, Coast Hotel – Orchid Room
Includes Cash Bar and Light Snacks

FRIDAY, SEPTEMBER 22, 2017
Conference Sessions and Presentations

Conference Reception, Friday, September 22, 5:30 - 7:00 PM
Location: Canmore Museum and Geoscience Centre, Canmore Civic Centre, 902B 7th Avenue (in downtown Canmore, a ten-minute walk from the Coast Hotel)
Includes Cash Bar and Hors d'Oeuvres

Speaker: *Dr. Brian Reeves, Professor Emeritus, Department of Archaeology, University of Calgary, and Lifeways of Canada Limited*
Title: *Visions of the Crown: A Remembrance for John Dormaar*

SATURDAY, SEPTEMBER 23, 2017
Conference Sessions and Presentations

Conference Reception, Saturday, September 23, 5:30 - 7:00 PM
Location: Conference venue at the Coast Hotel, Orchid/Ladyslipper Rooms
Includes Cash Bar, Hors d'Oeuvres

Speaker: *Bob Sandford, EPCOR Chair for Water and Climate Security at the United Nations University Institute for Water, Environment and Health*
Title: *Into the Wild: Acts, Accidents and Heroes Defining Sense of Place in the Canadian Rockies*

SUNDAY, SEPTEMBER 24, 2017

Grotto Canyon Pictograph Site Field Trip
Depart Coast Hotel at 9:30 AM in provided transportation, duration approximately 2.5-3 hours
Cost: $10 per person, preregistration required
*Note: Involves hike of approximately 30 minutes uphill on way to site, 30 minutes downhill return, please bring appropriate footwear etc.

FRIDAY, SEPTEMBER 22, 2017

ROOM	ORCHID ROOM		LADYSLIPPER ROOM		ARNICA ROOM
8:00-8:30 am	CONFERENCE OPENING REMARKS				
8:30-10:10 am	THE DENE LANGUAGE FAMILY IN PREHISTORY			8:30-10:10 am	CURRENT RESEARCH ON THE EASTERN SLOPES
10:10-10:30 am	*COFFEE BREAK*	10:10-10:30 am	*COFFEE BREAK*	10:10-10:30 am	*COFFEE BREAK*
10:30-11:50 am	THE DENE LANGUAGE FAMILY IN PREHISTORY	10:30-11:50 am	PALEOINDIAN ARCHAEOLOGY OF THE ROCKY MOUNTAINS: SO MUCH, SO WIDESPREAD…SO WHAT'S IT ALL MEAN?!	10:30-11:50 am	CURRENT RESEARCH ON THE EASTERN SLOPES
11:50 am-1:00 pm	*LUNCH BREAK*	11:50 am-1:00 pm	*LUNCH BREAK*	11:50 am-1:00 pm	*LUNCH BREAK/RMAA BOARD MEETING*
1:00-2:00 pm	THE DENE LANGUAGE FAMILY IN PREHISTORY	1:00-2:20 pm	PALEOINDIAN ARCHAEOLOGY OF THE ROCKY MOUNTAINS: SO MUCH, SO WIDESPREAD…SO WHAT'S IT ALL MEAN?!	1:00-2:20 pm	TRANSFORMING THE ROCKY MOUNTAINS: HISTORICAL PERSPECTIVES ON LANDSCAPE AND COMMUNITY
2:20-2:40 pm	*COFFEE BREAK*	2:20-2:40 pm	*COFFEE BREAK*	2:20-2:40 pm	*COFFEE BREAK*
2:40-4:20 pm	TRADE AND EXCHANGE IN THE ROCKY MOUNTAINS	2:40-4:00 pm	PALEOINDIAN ARCHAEOLOGY OF THE ROCKY MOUNTAINS: SO MUCH, SO WIDESPREAD…SO WHAT'S IT ALL MEAN?!	2:40-3:20 pm	TRANSFORMING THE ROCKY MOUNTAINS: HISTORICAL PERSPECTIVES ON LANDSCAPE AND COMMUNITY
				4:20-5:00 pm	RMAA BUSINESS MEETING

SATURDAY, SEPTEMBER 23, 2017

ROOM	ORCHID/LADYSLIPPER ROOMS		ARNICA ROOM
8:00-10:00 am	**THE ICE-FREE CORRIDOR AND ITS REGIONAL CONTEXT: NEW APPROACHES TO THE ONGOING PROBLEM OF TIMING AND CHARACTER**	8:00-10:00 am	**PUBLIC OUTREACH IN THE ROCKY MOUNTAIN REGION**
10:00-10:20 am	***COFFEE BREAK***	10:00-10:20 am	***COFFEE BREAK***
10:20 am-12:00 pm	**THE ICE-FREE CORRIDOR AND ITS REGIONAL CONTEXT: NEW APPROACHES TO THE ONGOING PROBLEM OF TIMING AND CHARACTER**	10:20-11:20 am	**PUBLIC OUTREACH IN THE ROCKY MOUNTAIN REGION**
12:00-12:40 pm	***LUNCH BREAK***	12:00-12:40 pm	***LUNCH BREAK***
12:40-2:20 pm	**ICE PATCH ARCHAEOLOGY IN THE ROCKY MOUNTAINS**	1:00-2:20 pm	**ROCKY MOUNTAIN REFLECTIONS**
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TIME	ORCHID ROOM *THE DENE LANGUAGE FAMILY IN PREHISTORY*	TIME	LADYSLIPPER ROOM *PALEOINDIAN ARCHAEOLOGY OF THE ROCKY MOUNTAINS: SO MUCH, SO WIDESPREAD…SO WHAT'S IT ALL MEAN?!*	TIME	ARNICA ROOM *CURRENT RESEARCH ON THE EASTERN SLOPES*
8:00-8:30 am	**CONFERENCE OPENING REMARKS**				
8:30-8:50 am	**Session Introduction** *John W. (Jack) Ives (University of Alberta) and Bruce Starlight (Gunaha Institute, Tsuut'ina First Nation)*	8:30-8:50 am		8:30-8:50 am	**A Stash near Grande Cache: the Skinny on a Newly Discovered Reworked, Basally Thinned Projectile Point** *Kyle Belanger (Circle CRM Group Inc.) and Matt Rawluk (Circle CRM Group Inc.)*
8:50-9:10 am	**When the Southwest is Really the Southeast: Re-Thinking Linguistic Relationships Between Apachean and 'Northern' Athapaskan** *Sally Rice (University of Alberta) and Conor Snoek (University of Lethbridge)*	8:50-9:10 am		8:50-9:10 am	**A Tale of Two Sites Left Untold: Mitigative Excavations at EgPu-7 and EgPu-21** *Kendra Kolomyja (Lifeways of Canada)*
9:10-9:30 am	**Southern Yukon Arrow Design and Function** *Christian Thomas (Cultural Services Branch, Yukon Department of Tourism and Culture), Greg Hare (Cultural Services Branch, Yukon Department of Tourism and Culture), Sheila Greer (Heritage, Lands and Resources, Champagne and Aishihik First Nation), Josh Reuther (Curator of Archaeology, University of Alaska Museum of the North), Jason Rogers (Senior Projects Archaeologist, Northern Land Use Resource Inc.)*	9:10-9:30 am		9:10-9:30 am	**The Middle Prehistoric in the Eastern Foothills - Two Oxbow Period Sites from the Ya Ha Tinda Ranch** *Gareth Spicer (Turtle Island Cultural Resource Management Inc.)*
9:30-9:50 am	**Seeking Congruency—Search Images, Archaeological Records, and Apachean Origi** *John W. (Jack) Ives (University of Alberta)*	9:30-9:50 am		9:30-9:50 am	**Eastern Slopes Hunting Strategies and Mobility: Some Early Results from the Hummingbird Creek Site (FaPx-1)** *Timothy Allan (University of British Columbia)*
9:50-10:10 am	**Bison migration: Implications for Ancient Dene Cultures** *Jessica Z. Metcalfe (University of British Columbia)*	9:50-10:10 am		9:50-10:10 am	**Brazeau Reservoir: a Preliminary Investigation of Sites Within the Eastern Slopes Region** *Amandah van Merlin (Strathcona Archaeological Society) and Madeline Coleman (Strathcona Archaeological Society)*
10:10-10:30 am	***COFFEE BREAK***	10:10-10:30 am	***COFFEE BREAK***	10:10-10:30 am	***COFFEE BREAK***
10:30-10:50 am	**Late Bison Ecology and Implications for Promontory Land-Use** *Vandy Bowyer (Athabasca University)*	10:30-10:50 am	**Investigating Alternate Ice-Free Routes in the Mountainous Regions of Alberta and British Columbia: A Plan for the Future** *Andrea Freeman (University of Calgary)*	10:30-10:50 am	**Embarras Bipoints: A Diagnostic Tool of the Early Middle Period Found Along the Eastern Slopes of Alberta** *Jason Roe (Lifeways of Canada)*
10:50-11:10 am	**Insights into Prehistoric Footwear Landscapes** *John W. (Jack) Ives (University of Alberta) and Michael Billinger (University of Alberta)*	10:50-11:10 am	**Identifying Paleoindian and Archaic Socialized Landscapes in the Bridger Mountains, Montana** *Meghan J. Dudley (University of Oklahoma)*	10:50-11:10 am	**Using Digital Terrain Analysis for Archaeological Modelling in the Eastern Slopes of Alberta** *Robin Woywitka (Archaeological Survey of Alberta)*
11:10-11:30 am	**Art in the Time of Promontory Cave: Enhancement of Rock Art Figures Using DStre** *Andrew Lints (University of Alberta) and John W. (Jack) Ives (University of Alberta)*	11:10-11:30 am	**A GIS Predictive Model for Paleoindian Sites in Yellowstone** *Matthew R. Nelson and Douglas H. MacDonald (University of Montana)*	11:10-11:30 am	**Connecting the Dots: Shifting Archaeological Survey Targeting from the Landform to the Landscape** *Kurtis Blaikie-Birkigt (Tree Time Services Inc.)*
11:30-11:50 am	**Athapaskan Group Size based on Space Needs Per Person** *Courtney Lakevold (Archaeological Survey of Alberta)*	11:30-11:50 am	**The Cody Complex at Yellowstone Lake: A Compilation of Data Collected by the University of Montana from 2009 - 2016** Douglas H. MacDonald (University of Montana)	11:30-11:50 am	**The Gods of the Valleys Are Not the Gods of the Hills: Efforts to Reclassify Archaeological Phases in the Foothills of West-Central Alberta** *Dan Meyer (Lifeways of Canada) and Jason Roe (Lifeways of Canada)*
11:50 am-1:00 pm	***LUNCH BREAK***	11:50 am-1:00 pm	***LUNCH BREAK***	11:50 am-1:00 pm	***LUNCH BREAK/RMAA EXECUTIVE MEETING***
	THE DENE LANGUAGE FAMILY IN PREHISTORY, cont.		***PALEOINDIAN ARCHAEOLOGY OF THE ROCKY MOUNTAINS: SO MUCH, SO WIDESPREAD…SO WHAT'S IT ALL MEAN?! cont.***		***TRANSFORMING THE ROCKY MOUNTAINS: HISTORICAL PERSPECTIVES ON LANDSCAPE AND COMMUNITY***
1:00-1:20 pm	**Intermontane Migration Routes Inferred from Early and Late Promontory Ceramic** *Gabriel Yanicki (University of Alberta)*	1:00-1:20 pm	**A Paleoindian Presence around the Teton Range** *Matt Stirn & Rebecca Sgouros (Jackson Hole Historical Society and Museum)*	1:00-1:20 pm	**The Rocky Mountains Or Mis-Tōkis: Backbone Of The Blackfoot Homeland** *Gerald A. Oetelaar, (University of Calgary)*
1:20-1:40 pm	**The Evidence for Early Apachean Migration into the Rocky Mountain West: The Promontory Culture in Colorado** *Kevin P. Gilmore (HDR, Inc.), Derek Hamilton (Scottish Universities Environmental Research Centre), and John Ives (University of Alberta)*	1:20-1:40 pm	**Dinwoody Paleoindians: Wind River Mountains, Wyoming** *Todd Guenther (Central Wyoming College)*	1:20-1:40 pm	**Up to Your Neck In Hot Water: Construction Monitoring at the Banff Sanitarium (1873R)** *Lindsay Amundsen-Meyer (Lifeways of Canada)*

1:40-2:00 pm **We Were a Mountain People: Understanding Apache Landscape Use**

Deni J. Seymour (Independent Research Archaeologist)

2:00-2:20 pm

2:20-2:40 pm **COFFEE BREAK**

TRADE AND EXCHANGE IN THE ROCKY MOUNTAINS

2:40-3:00 pm **Pre-contact Jade East of the Rocky Mountains : the Geochemistry and Archaeological Significance of Nephrite Ground Stone Tools**
Todd J. Kristensen (Archaeological Survey of Alberta), Jesse Morin (Independent Researcher), M. John Duke (SLOWPOKE Nuclear Reactor Facility), Andrew J. Locock (University of Alberta), Courtney Lakevold (Archaeological Survey of Alberta), Karen Giering (Royal Alberta Museum), and John W. Ives (University of Alberta)

3:00-3:20 pm **Following the Stone**

Wayne Choquette (Independent Scholar)

3:20-3:40 pm **A Tale of Three White Cherts**
Ann Johnson (National Parks Service)

3:40-4:00 pm **Lithic Rounds: An Examination of Lithic Raw Materials of Non-Hunting Sites Through Time at Rollins Pass, Northern Colorado**
Michelle A. Dinkel Center for Mountain and Plains Archaeology, Colorado State University)

4:00-4:20 pm **A Brief Discussion of Lithic Materials Recovered In Excavation From Occupation Horizons Dating From 6,000 To 12,000 BP**
A.Dudley Gardner (WAARI)

1:40-2:00 pm **Paleoindian to Early Plains Archaic: Microwear at Laddie Creek**

Zach Garhart, Marcel Kornfeld, and Mary Lou Larson (Paleoindian Research Lab, University of Wyoming)

2:00-2:20 pm **The La Prele Mammoth: A Clovis-Aged Mammoth Site near the Rocky Mountains**

Madeline E. Mackie (University of Wyoming)

2:20-2:40 pm **COFFEE BREAK**

PALEOINDIAN ARCHAEOLOGY OF THE ROCKY MOUNTAINS: SO MUCH, SO WIDESPREAD…SO WHAT'S IT ALL MEAN?! cont...

2:40-3:00 pm **Paleoindian Occupation of the Medicine Bow Mountains of Northern Colorado: A Consideration of Archaeological and Paleoclimatic Data**
Jason M. LaBelle and Kelton A. Meyer (Center for Mountain and Plains Archaeology, Colorado State University)

3:00-3:20 pm **Some Thoughts Synthesizing 80+ Years of Paleoindian Research of the Gunnison Basin, Southwestern Colorado**
Bonnie L. Pitblado (University of Oklahoma)

3:20-4:00 pm **SESSION DISCUSSION**

1:40-2:00 pm **The Story of the Sun Greenhouse Co. (1927 – 1973), Anthracite, Banff National Park**

Tommy Y. Ng (Bison Historical Services Ltd.)

2:00-2:20 pm **"A huddle of dirty dwellings": Some observations on the built heritage of Field, BC.**

Nancy Saxberg (AMEC Foster Wheeler)

2:20-2:40 pm **COFFEE BREAK**

TRANSFORMING THE ROCKY MOUNTAINS: HISTORICAL PERSPECTIVES ON LANDSCAPE AND COMMUNITY, cont.

2:40-3:00 pm **Dumps and Ditches: Historic Archaeology updates in two Mountain Parks**

Michael Turney (Golder Associates Ltd.)

3:00-3:20 pm **The Yellowhead Mine and Townsite: Coal Mining Life at the Gates of the Rockies in Alberta, 1910-1919**
Dan Meyer (Lifeways of Canada Limited)

4:20-5:00 pm **RMAA BUSINESS MEETING**

ROOM	TIME	ORCHID/LADYSLIPPER ROOMS	TIME	ARNICA ROOM
SESSION		***THE ICE-FREE CORRIDOR AND ITS REGIONAL CONTEXT: NEW APPROACHES TO THE ONGOING PROBLEM OF TIMING AND CHARACTER***		***PUBLIC OUTREACH IN THE ROCKY MOUNTAIN REGION***
	8:00-8:20 am	**Colonization of Beringia and the New World: Patterns and Constraints** *Ben A. Potter (University of Alaska Fairbanks)*	8:00-8:20 am	**What's the Point of Public Archaeology? Perspectives on 40 Years of Avocational Training in Colorado to Prepare for the Next 40** *Christopher M. Johnston (Assistant State Archaeologist, History Colorado)*
	8:20-8:40 am	**Taking a New York Times Approach to the Ice-Free Corridor—In 2017, What Do We Know and Not Know?** *John W. (Jack) Ives (University of Alberta), Kisha Supernant (University of Alberta), and Courtney Lakevold (Archaeological Survey of Alberta)*	8:20-8:40 am	**Contributions of the Archaeology Society of Alberta** *Brent Murphy (Archaeological Society of Alberta – Calgary Centre) and Laura Nuttall (Archaeological Society of Alberta – Calgary Centre)*
	8:40-9:00 am	**The Icy Corridors: Finding A Way Into The Americas** *Bob Dawe (Royal Alberta Museum) and Marcel Kornfeld (Paleoindian Research Lab)*	8:40-9:00 am	**Archaeology, Outreach, and Education: Public Archaeology at the Office of the Wyoming State Archaeologist** *Greg Pierce (Wyoming State Archaeologist)*
	9:00-9:20 am	**Flow-patterns of the Laurentide and Cordilleran ice sheets across western Alberta: Implications for the geometry and timing of the ice-free corridor** *Nigel Atkinson (Alberta Geological Survey)*	9:00-9:20 am	**What's Old is New Again: Public Archaeology at the El Pueblo Archaeology Site** *Holly Norton (State Archaeologist of Colorado)*
	9:20-9:40 am	**Reconstructing the retreat of the Laurentide Ice Sheet from central and northern Alberta using geomorphic evidence: Implications for the timing of the ice-free corridor** *Ken Munyikwa (Athabasca University)*	9:20-9:40 am	**Community-Based Archaeology at Magic Mountain, Golden, CO** *Michele Koons (Denver Museum of Nature & Science) and Mark Mitchell (Paleocultural Research Group)*
	9:40-10:00 am	**Pleistocene Horse And Possible Human Association 12,700 Years Ago In The Ice-Free Corridor, West-Central Alberta** *Jack W. Brink (Royal Alberta Museum), Christina I. Barrón-Ortiz (Royal Alberta Museum), Kathy Loftis (Centre for Applied Isotope Studies) and Robert J. Speakman (Centre for Applied Isotope Studies)*	9:40-10:00 am	**A Little Bit of "This and That" Adds Up Over Time: Embedding Public Education and Outreach into Everyday Contract Archaeology** *Mike Metcalf (Metcalf Archaeological Consultants) and Kelly Pool (Metcalf Archaeological Consultants)*
	10:00-10:20 am	***COFFEE BREAK***	10:00-10:20 am	***COFFEE BREAK***
	10:20-10:40 am	**Megafauna Hunting and Habitat in Late Pleistocene Southern Alberta at Wally's Beach** *Brian Kooyman (University of Calgary)*	10:20-10:40 am	**The Colorado Encyclopedia Project** *Kevin Black (History Colorado (retired) & Colorado Archaeological Society)*
	10:40-11:00 am	**The Archaeological Survey of Alberta Ice-Free Corridor Survey Project** *Robin Woywitka (Archaeological Survey of Alberta)*	10:40-11:00 am	**Project Archaeology: Protecting the Past and Shaping the Future** *Samantha Kirkley (Project Archaeology)*
	11:00-11:20 am	**The Late Glacial Archaeological Record of Britannia Creek** *Christian Thomas (Department of Tourism and Culture, Government of Yukon), Margarita de Guzman (Circle CRM Group), Greg Hare (Department of Tourism and Culture, Government of Yukon), and Nathaly Desjardin (Université du Québec à Montréal)*	11:00-11:20 am	**Digitally Preserving Alberta's Diverse Cultural Heritage** *Peter Dawson (Department of Anthropology and Archaeology, University of Calgary)*
	11:20-11:40 am	**Archaeology and Science at the Paisley Caves, South-Central Oregon** *Dennis Jenkins (Museum of Natural and Cultural History, University of Oregon)*		

11:40-12:00 pm **Retrospect and Prospect: So where do we go from here?**
Alwynne B. Beaudoin (Royal Alberta Museum)

12:00-12:40 pm ***LUNCH BREAK***

SESSION ***ICE PATCH ARCHAEOLOGY IN THE ROCKY MOUNTAINS***

12:40-1:00 pm **An overview of Icepatch Archaeology in Scandinavia Anno 2017**
Martin Callanan (Dept. of Historical Studies, NTNU, Trondheim, Norway)

1:00-1:20 pm ***Searching for a Needle in a Dung Pile: Ice Patch Archaeology in Yukon***
P. Gregory Hare (Government of Yukon), Christian Thomas (Government of Yukon), John Meikle (Lands and Resources Department Kwanlin Dün First Nation)

1:20-1:40 pm **In Subarctic Northwestern North America, Spatiotemporal Trends in the Adoption of Bow Technology Do Not Support Simple Cultural Diffusion from Siberia**
Brigid Grund (Wyoming State Historic Preservation Office)

1:40-2:00 pm **Archaeological Ice Patch Surveys in Alberta's Rocky Mountains in 2015 and 2016: Ecology, Topography, and Big Game Hunting Dynamics of the Boreal Forest, Northern Plains, and Rocky Mountains**
Todd Kristensen (Archaeological Survey of Alberta), Timothy Allan (University of British Columbia), and Courtney Lakevold (Archaeological Survey of Alberta)

2:00-2:20 pm **Remnant Glacial Ice Patches: Revealing Former Landscapes Through Preserved Plant and Animal Remains**
Diana Tirlea (Royal Alberta Museum), Alwynne B. Beaudoin (Royal Alberta Museum), Krista Williams (Royal Alberta Museum and Alberta Biodiversity Monitoring Institute), Richard Caners (Royal Alberta Museum), Ashley Thorsen (Royal Alberta Museum and Alberta Biodiversity Monitoring Institute), Lisa Lumley (Royal Alberta Museum and Alberta Biodiversity Monitoring Institute), and Greg Horne (Parks Canada)

2:20-2:40 pm ***COFFEE BREAK***

2:40-3:00 pm **Re-examinging the Role of the Aerial Perspective in Archaeological Research, an Example from Ice Patch Archaeology**
Christopher Boyer (Kestrel Aerial Services, Inc.)

3:00-3:20 pm **Expanding on the Points: Sociocultural Complexity Revealed by Non-Hunting Artifacts from Melting Ice Patches in the High Alpine, Greater Yellowstone Area, USA**
Craig M. Lee (Metcalf, PCRG, INSTAAR), Pei-Lin Yu (Boise State University), Edward Jolie (Mercyhurst University), Kathy Puseman (Paleoscapes Archaeobotanical Services Team), Halcyon LaPoint (Custer-Gallatin National Forest), Josh Kapp (University of California Santa Cruz) and Beth Shapiro (University of California Santa Cruz)

12:00-12:40 pm ***LUNCH BREAK***

ROCKY MOUNTAIN REFLECTIONS

12:40-1:00 pm

1:00-1:20 pm **Picks, Shovels, and Computers: Data Mining the Alpine Archaeological Record of the Colorado Rocky Mountains, USA**
Christopher M. Johnston, Jason M. LaBelle (Colorado State University, Center for Mountain and Plains Archaeology), and Todd A. Surovell (University of Wyoming)

1:20-1:40 pm **Only Time Will Tell: Reconstructing Site Chronology at the 5BL148 Game Drive, Rollins Pass, Colorado**
Kelton A. Meyer (Center for Mountain and Plains Archaeology, Department of Anthropology, Colorado State University)

1:40-2:00 pm **Phylogenetic Analysis of Shield Bearing Warrior Rock Art from the Intermountain Region**
Lorena Craig (University of Montana)

2:00-2:20 pm **The Kattainten Site (42DA1787): Formative Era Residential Occupation in Browns Park, Utah**
Kelly J. Pool (Metcalf Archaeological Consultants, Inc.)

2:20-2:40 pm ***COFFEE BREAK***

2:40-3:00 pm **Prehistoric Drive Lines in Extreme Environments: A Cross-Regional Comparison between Sites in the Mountains of Colorado and Jordan**
John M. Scott (Metcalf Archaeological Consultants, Inc.)

3:00-3:20 pm **Rolling Thunder: 10,000 Years of Bison in the Greater Yellowstone Ecosystem**
Kenneth P. Cannon (Cannon Heritage Consultants, Inc., Utah State University) and Molly Boeka Cannon (Utah State University)

3:20-3:40 pm **Ice Patch Research in the Teton Mountains and its Contributions to the Paleoecological Reconstruction of the Greater Yellowstone Area**

Marcia Peterson (Wyoming State Archaeologist), Rebecca A. Sgouros (Jackson Hole Historical Society and Museum), and Matthew A. Stirn (Jackson Hole Historical Society and Museum)

3:40-4:00 pm **Ice Patch Archaeology in a Landscape Context: Chipped Stone, Snow, and Ice in the Southern Absarokas, NW Wyoming**
Lawrence Todd (Draper Museum of Natural History), Rachel Reckin (Cambridge University), and Robert Kelly (University of Wyoming)

4:00-4:20 pm **The Archaeology and Paleoecology of the Ice Patches of the Southern Rocky Mountains of Colorado**
Jason M. LaBelle and Kelton A. Meyer (Center for Mountain and Plains Archaeology, Department of Anthropology, Colorado State University)

3:20-3:40 pm **Archaeological Insights into Precontact Salish Population Dynamics**

Wayne Choquette (Archaeologist, Shuswap Indian Band)

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ORCHID ROOM

TIME	*THE DENE LANGUAGE FAMILY IN PREHISTORY*
8:00-8:30 am	**CONFERENCE OPENING REMARKS**
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11:10-11:30 am	**Art in the Time of Promontory Cave: Enhancement of Rock Art Figures Using DStretch** *Andrew Lints (University of Alberta) and John W. (Jack) Ives (University of Alberta)*
11:30-11:50 am	**Athapaskan Group Size based on Space Needs Per Person** *Courtney Lakevold (Archaeological Survey of Alberta)*
11:50 am-1:00 pm	***LUNCH BREAK***
1:00-1:20 pm	**Intermontane Migration Routes Inferred from Early and Late Promontory Ceramics** *Gabriel Yanicki (University of Alberta)*
1:20-1:40 pm	**The Evidence for Early Apachean Migration into the Rocky Mountain West: The Promontory Culture in Colorado**

Kevin P. Gilmore (HDR, Inc.), Derek Hamilton (Scottish Universities Environmental Research Centre), and John Ives (University of Alberta)

1:40-2:00 pm **We Were a Mountain People: Understanding Apache Landscape Use**
Deni J. Seymour (Independent Research Archaeologist)

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TRADE AND EXCHANGE IN THE ROCKY MOUNTAINS

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Todd J. Kristensen (Archaeological Survey of Alberta), Jesse Morin (Independent Researcher), M. John Duke (SLOWPOKE Nuclear Reactor Facility), Andrew J. Locock (University of Alberta), Courtney Lakevold (Archaeological Survey of Alberta), Karen Giering (Royal Alberta Museum), and John W. Ives (University of Alberta)

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Michelle A. Dinkel (Center for Mountain and Plains Archaeology, Colorado State University)

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A.Dudley Gardner (WAARI)

LADYSLIPPER ROOM

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8:30-8:50 am	
8:50-9:10 am	
9:10-9:30 am	
9:30-9:50 am	
9:50-10:10 am	
10:10-10:30 am	***COFFEE BREAK***
10:30-10:50 am	**Investigating Alternate Ice-Free Routes in the Mountainous Regions of Alberta and British Columbia: A Plan for the Future** *Andrea Freeman (University of Calgary)*
10:50-11:10 am	**Identifying Paleoindian and Archaic Socialized Landscapes in the Bridger Mountains, Montana** *Meghan J. Dudley (University of Oklahoma)*
11:10-11:30 am	**A GIS Predictive Model for Paleoindian Sites in Yellowstone** *Matthew R. Nelson and Douglas H. MacDonald (University of Montana)*
11:30-11:50 am	**The Cody Complex at Yellowstone Lake: A Compilation of Data Collected by the University of Montana from 2009 - 2016** Douglas H. MacDonald (University of Montana)
11:50 am-1:00 pm	***LUNCH BREAK***
1:00-1:20 pm	**A Paleoindian Presence around the Teton Range** *Matt Stirn & Rebecca Sgouros (Jackson Hole Historical Society and Museum)*
1:20-1:40 pm	**Dinwoody Paleoindians: Wind River Mountains, Wyoming** *Todd Guenther (Central Wyoming College)*
1:40-2:00 pm	**Paleoindian to Early Plains Archaic: Microwear at Laddie Creek**

Zach Garhart, Marcel Kornfeld, and Mary Lou Larson (Paleoindian Research Lab, University of Wyoming)

2:00-2:20 pm **The La Prele Mammoth: A Clovis-Aged Mammoth Site near the Rocky Mountains**
Madeline E. Mackie (University of Wyoming)

2:20-2:40 pm ***COFFEE BREAK***

2:40-3:00 pm **Paleoindian Occupation of the Medicine Bow Mountains of Northern Colorado: A Consideration of Archaeological and Paleoclimatic Data**
Jason M. LaBelle and Kelton A. Meyer (Center for Mountain and Plains Archaeology, Colorado State University)

3:00-3:20 pm **Some Thoughts Synthesizing 80+ Years of Paleoindian Research of the Gunnison Basin, Southwestern Colorado**
Bonnie L. Pitblado (University of Oklahoma)

3:20-4:00 pm **SESSION DISCUSSION**

FRIDAY, SEPTEMBER 22, 2017

TIME	ARNICA ROOM
	CURRENT RESEARCH ON THE EASTERN SLOPES
8:30-8:50 am	**A Stash near Grande Cache: the Skinny on a Newly Discovered Reworked, Basally Thinned Projectile Point** *Kyle Belanger (Circle CRM Group Inc.) and Matt Rawluk (Circle CRM Group Inc.)*
8:50-9:10 am	**A Tale of Two Sites Left Untold: Mitigative Excavations at EgPu-7 and EgPu-21** *Kendra Kolomyja (Lifeways of Canada)*
9:10-9:30 am	**The Middle Prehistoric in the Eastern Foothills - Two Oxbow Period Sites from the Ya Ha Tinda Ranch** *Gareth Spicer (Turtle Island Cultural Resource Management Inc.)*
9:30-9:50 am	**Eastern Slopes Hunting Strategies and Mobility: Some Early Results from the Hummingbird Creek Site (FaPx-1)** *Timothy Allan (University of British Columbia)*
9:50-10:10 am	**Brazeau Reservoir: a Preliminary Investigation of Sites Within the Eastern Slopes Region** *Amandah van Merlin (Strathcona Archaeological Society) and Madeline Coleman (Strathcona Archaeological Society)*
10:10-10:30 am	***COFFEE BREAK***
10:30-10:50 am	**Embarras Bipoints: A Diagnostic Tool of the Early Middle Period Found Along the Eastern Slopes of Alberta** *Jason Roe (Lifeways of Canada)*
10:50-11:10 am	**Using Digital Terrain Analysis for Archaeological Modelling in the Eastern Slopes of Alberta** *Robin Woywitka (Archaeological Survey of Alberta)*
11:10-11:30 am	**Connecting the Dots: Shifting Archaeological Survey Targeting from the Landform to the Landscape** *Kurtis Blaikie-Birkigt (Tree Time Services Inc.)*
11:30-11:50 am	**The Gods of the Valleys Are Not the Gods of the Hills: Efforts to Reclassify Archaeological Phases in the Foothills of West-Central Alberta** *Dan Meyer (Lifeways of Canada) and Jason Roe (Lifeways of Canada)*
11:50 am-1:00 pm	***LUNCH BREAK/RMAA EXECUTIVE MEETING***
	TRANSFORMING THE ROCKY MOUNTAINS: HISTORICAL PERSPECTIVES ON LANDSCAPE AND COMMUNITY
1:00-1:20 pm	**The Rocky Mountains Or Mis-Tōkis: Backbone Of The Blackfoot Homeland** *Gerald A. Oetelaar, (University of Calgary)*
1:20-1:40 pm	**Up to Your Neck In Hot Water: Construction Monitoring at the Banff Sanitarium (1873R)** *Lindsay Amundsen-Meyer (Lifeways of Canada)*
1:40-2:00 pm	**The Story of the Sun Greenhouse Co. (1927 – 1973), Anthracite, Banff National Park** *Tommy Y. Ng (Bison Historical Services Ltd.)*

2:00-2:20 pm **"A huddle of dirty dwellings": Some observations on the built heritage of Field, BC.**
Nancy Saxberg (AMEC Foster Wheeler)

2:20-2:40 pm **COFFEE BREAK**

TRANSFORMING THE ROCKY MOUNTAINS:
HISTORICAL PERSPECTIVES ON LANDSCAPE AND COMMUNITY, cont.

2:40-3:00 pm **Dumps and Ditches: Historic Archaeology updates in two Mountain Parks**
Michael Turney (Golder Associates Ltd.)

3:00-3:20 pm **The Yellowhead Mine and Townsite: Coal Mining Life at the Gates of the Rockies in Alberta, 1910-1919**
Dan Meyer (Lifeways of Canada Limited)

4:20-5:00 pm **RMAA BUSINESS MEETING**

ORCHID/LADYSLIPPER ROOMS

TIME	*The Ice-Free Corridor and Its Regional Context: New Approaches to the Ongoing Problem of Timing and Character*
8:00-8:20 am	**Colonization of Beringia and the New World: Patterns and Constraints** *Ben A. Potter (University of Alaska Fairbanks)*
8:20-8:40 am	**Taking a New York Times Approach to the Ice-Free Corridor—In 2017, What Do We Know and Not Know?** *John W. (Jack) Ives (University of Alberta), Kisha Supernant (University of Alberta), and Courtney Lakevold (Archaeological Survey of Alberta)*
8:40-9:00 am	**The Icy Corridors: Finding A Way Into The Americas** *Bob Dawe (Royal Alberta Museum) and Marcel Kornfeld (Paleoindian Research Lab)*
9:00-9:20 am	**Flow-patterns of the Laurentide and Cordilleran ice sheets across western Alberta: Implications for the geometry and timing of the ice-free corridor** *Nigel Atkinson (Alberta Geological Survey)*
9:20-9:40 am	**Reconstructing the retreat of the Laurentide Ice Sheet from central and northern Alberta using geomorphic evidence: Implications for the timing of the ice-free corridor** *Ken Munyikwa (Athabasca University)*
9:40-10:00 am	**Pleistocene Horse And Possible Human Association 12,700 Years Ago In The Ice-Free Corridor, West-Central Alberta** *Jack W. Brink (Royal Alberta Museum), Christina I. Barrón-Ortiz (Royal Alberta Museum), Kathy Loftis (Centre for Applied Isotope Studies) and Robert J. Speakman (Centre for Applied Isotope Studies)*
10:00-10:20 am	***COFFEE BREAK***
10:20-10:40 am	**Megafauna Hunting and Habitat in Late Pleistocene Southern Alberta at Wally's Beach** *Brian Kooyman (University of Calgary)*
10:40-11:00 am	**The Archaeological Survey of Alberta Ice-Free Corridor Survey Project** *Robin Woywitka (Archaeological Survey of Alberta)*
11:00-11:20 am	**The Late Glacial Archaeological Record of Britannia Creek** *Christian Thomas (Department of Tourism and Culture, Government of Yukon), Margarita de Guzman (Circle CRM Group), Greg Hare (Department of Tourism and Culture, Government of Yukon), and Nathaly Desjardin (Université du Québec à Montréal)*
11:20-11:40 am	**Archaeology and Science at the Paisley Caves, South-Central Oregon** *Dennis Jenkins (Museum of Natural and Cultural History, University of Oregon)*
11:40-12:00 pm	**Retrospect and Prospect: So where do we go from here?** *Alwynne B. Beaudoin (Royal Alberta Museum)*

12:00-12:40 pm ***LUNCH BREAK***

ICE PATCH ARCHAEOLOGY IN THE ROCKY MOUNTAINS

12:40-1:00 pm **An overview of Icepatch Archaeology in Scandinavia Anno 2017**
Martin Callanan (Dept. of Historical Studies, NTNU, Trondheim, Norway)

1:00-1:20 pm ***Searching for a Needle in a Dung Pile: Ice Patch Archaeology in Yukon***
P. Gregory Hare (Government of Yukon), Christian Thomas (Government of Yukon), John Meikle (Lands and Resources Department Kwanlin Dün First Nation)

1:20-1:40 pm **In Subarctic Northwestern North America, Spatiotemporal Trends in the Adoption of Bow Technology Do Not Support Simple Cultural Diffusion from Siberia**
Brigid Grund (Wyoming State Historic Preservation Office)

1:40-2:00 pm **Archaeological Ice Patch Surveys in Alberta's Rocky Mountains in 2015 and 2016: Ecology, Topography, and Big Game Hunting Dynamics of the Boreal Forest, Northern Plains, and Rocky Mountains**
Todd Kristensen (Archaeological Survey of Alberta), Timothy Allan (University of British Columbia), and Courtney Lakevold (Archaeological Survey of Alberta)

2:00-2:20 pm **Remnant Glacial Ice Patches: Revealing Former Landscapes Through Preserved Plant and Animal Remains**
Diana Tirlea (Royal Alberta Museum), Alwynne B. Beaudoin (Royal Alberta Museum), Krista Williams (Royal Alberta Museum and Alberta Biodiversity Monitoring Institute), Richard Caners (Royal Alberta Museum), Ashley Thorsen (Royal Alberta Museum and Alberta Biodiversity Monitoring Institute), Lisa Lumley (Royal Alberta Museum and Alberta Biodiversity Monitoring Institute), and Greg Horne (Parks Canada)

2:20-2:40 pm ***COFFEE BREAK***

2:40-3:00 pm **Re-examinging the Role of the Aerial Perspective in Archaeological Research, an Example from Ice Patch Archaeology**
Christopher Boyer (Kestrel Aerial Services, Inc.)

3:00-3:20 pm **Expanding on the Points: Sociocultural Complexity Revealed by Non-Hunting Artifacts from Melting Ice Patches in the High Alpine, Greater Yellowstone Area, USA**
Craig M. Lee (Metcalf, PCRG, INSTAAR), Pei-Lin Yu (Boise State University), Edward Jolie (Mercyhurst University), Kathy Puseman (Paleoscapes Archaeobotanical Services Team), Halcyon LaPoint (Custer-Gallatin National Forest), Josh Kapp (University of California Santa Cruz) and Beth Shapiro (University of California Santa Cruz)

3:20-3:40 pm **Ice Patch Research in the Teton Mountains and its Contributions to the Paleoecological Reconstruction of the Greater Yellowstone Area**

Marcia Peterson (Wyoming State Archaeologist), Rebecca A. Sgouros (Jackson Hole Historical Society and Museum), and Matthew A. Stirn (Jackson Hole Historical Society and Museum)

3:40-4:00 pm

Ice Patch Archaeology in a Landscape Context: Chipped Stone, Snow, and Ice in the Southern Absarokas, NW Wyoming

Lawrence Todd (Draper Museum of Natural History), Rachel Reckin (Cambridge University), and Robert Kelly (University of Wyoming)

4:00-4:20 pm

The Archaeology and Paleoecology of the Ice Patches of the Southern Rocky Mountains of Colorado

Jason M. LaBelle and Kelton A. Meyer (Center for Mountain and Plains Archaeology, Department of Anthropology, Colorado State University)

ARNICA ROOM

TIME	*PUBLIC OUTREACH IN THE ROCKY MOUNTAINS*
8:00-8:20 am	**What's the Point of Public Archaeology? Perspectives on 40 Years of Avocational Training in Colorado to Prepare for the Next 40** *Christopher M. Johnston (Assistant State Archaeologist, History Colorado)*
8:20-8:40 am	**Contributions of the Archaeology Society of Alberta** *Brent Murphy (Archaeological Society of Alberta – Calgary Centre) and Laura Nuttall (Archaeological Society of Alberta – Calgary Centre)*
8:40-9:00 am	**Archaeology, Outreach, and Education: Public Archaeology at the Office of the Wyoming State Archaeologist** *Greg Pierce (Wyoming State Archaeologist)*
9:00-9:20 am	**What's Old is New Again: Public Archaeology at the El Pueblo Archaeology Site** *Holly Norton (State Archaeologist of Colorado)*
9:20-9:40 am	**Community-Based Archaeology at Magic Mountain, Golden, CO** *Michele Koons (Denver Museum of Nature & Science) and Mark Mitchell (Paleocultural Research Group)*
9:40-10:00 am	**A Little Bit of "This and That" Adds Up Over Time: Embedding Public Education and Outreach into Everyday Contract Archaeology** *Mike Metcalf (Metcalf Archaeological Consultants) and Kelly Pool (Metcalf Archaeological Consultants)*
10:00-10:20 am	***COFFEE BREAK***
10:20-10:40 am	**The Colorado Encyclopedia Project** *Kevin Black (History Colorado (retired) & Colorado Archaeological Society)*
10:40-11:00 am	**Project Archaeology: Protecting the Past and Shaping the Future** *Samantha Kirkley (Project Archaeology)*
11:00-11:20 am	**Digitally Preserving Alberta's Diverse Cultural Heritage** *Peter Dawson (Department of Anthropology and Archaeology, University of Calgary)*
12:00-12:40 pm	***LUNCH BREAK***

ROCKY MOUNTAIN REFLECTIONS

12:40-1:00 pm

1:00-1:20 pm **Picks, Shovels, and Computers: Data Mining the Alpine Archaeological Record of the Colorado Rocky Mountains, USA**
Christopher M. Johnston, Jason M. LaBelle (Colorado State University, Center for Mountain and Plains Archaeology), and Todd A. Surovell (University of Wyoming)

1:20-1:40 pm **Only Time Will Tell: Reconstructing Site Chronology at the 5BL148 Game Drive, Rollins Pass, Colorado**
Kelton A. Meyer (Center for Mountain and Plains Archaeology, Colorado State University)

1:40-2:00 pm **Phylogenetic Analysis of Shield Bearing Warrior Rock Art from the Intermountain Region**
Lorena Craig (University of Montana)

2:00-2:20 pm **The Kattainten Site (42DA1787): Formative Era Residential Occupation in Browns Park, Utah**
Kelly J. Pool (Metcalf Archaeological Consultants, Inc.)

2:20-2:40 pm ***COFFEE BREAK***

2:40-3:00 pm **Prehistoric Drive Lines in Extreme Environments: A Cross-Regional Comparison between Sites in the Mountains of Colorado and Jordan**
John M. Scott (Metcalf Archaeological Consultants, Inc.)

3:00-3:20 pm **Rolling Thunder: 10,000 Years of Bison in the Greater Yellowstone Ecosystem**
Kenneth P. Cannon (Cannon Heritage Consultants, Inc., Utah State University) and Molly Boeka Cannon (Utah State University)

3:20-3:40 pm **Archaeological Insights into Precontact Salish Population Dynamics**
Wayne Choquette (Archaeologist, Shuswap Indian Band)

SPECIAL EVENT ABSTRACTS

Visions of the Crown: A Remembrance for John Dormaar

Dr. Brian Reeves (Professor Emeritus, Department of Archaeology, University of Calgary, and Lifeways of Canada Limited)

Thirty-five or so years ago, Dr. John Dormaar, one of our great Alberta avocational archaeologists, found a vision quest site on top of a peak in Waterton-Glacier, the first to be recorded in the Crown. While John had read about vision questing he had not really thought about the archaeology; what might the sites be like, where were they located, how ancient might they be and what their fundamental transcendental spiritual meaning is to the Crown and human beings' place within it. Seeking these answers became John's personal vision quest. For the next three decades he climbed and re-climbed the buttes, foothills, and mountains of the Crown and the Sweetgrass Hills. He discovered and shared much with other avocationalists, professionals, and the public. John passed away after a short battle with cancer in late January 2011 and never got to make that next climb. He was 81. Tonight I want to share some of our more recent findings with you. We have now recorded over 200 structures between the Marias Pass and the Crowsnest Pass. I will first focus on "why the sites are where they are"- the 100% association of site location with "power rocks/formations" and views to focal peaks. Secondly I will describe the basic structural forms. These range from open horseshoe shaped enclosures to complex small " medicine wheels" and range in age in construction – from 10,500 + years to contemporary structures built today by young and not so young Piikani. I close with a brief look at why.

Into the Wild: Acts, Accidents and Heroes Defining Sense of Place in the Canadian Rockies

Bob Sanford (EPCOR Chair for Water and Climate Security at the United Nations University Institute for Water, Environment and Health)

This insightful and often amusing presentation explores how individual sense of place in the Rocky Mountains is often established by personal acts and accidents that connect us to history in ways that allow us to feel that we belong where we have chosen to live. The presentation begins with an example of the kinds of accidental experiences that make one aware of new surroundings and then goes on to examine how sense of place as defined by Wallace Stegner and others. This analysis explores the gradually deepening appreciation for where we live that occurs as we see the geography of where we live as unique; as we establish our own history in a place; and by the merger of personal history with the larger history of a community or region through which we come to claim that place as home. The establishment of this relationship, the presentation notes, is often much accelerated through openness to the skilled story-telling of elders, and the informed and enthusiastic interpretation of archaeologists, historians, naturalists and artists. After remarking on current threats to sense of place in an increasingly mobile world, the presentation then outlines what an alien European culture confronted in terms of place in the Rocky Mountains. The presentation then tracks the major historical turning points that over time made the Rockies famous not just for the grandeur of the scenery but because there are people who live among them that possess a deep sense of place and live

to share their experience of where and how they live with others. In conclusion, the presentation urges us to use our past and the mountain West we have created to help define the West we want in the future. This, in itself will be a huge challenge. In making a stand for where and how we live we must reach into our hearts for the deepest expression of local sense of place. We must find the words for our epiphany, and then find the courage to stand by them.

ALPHABETICAL LISTING OF ABSTRACTS

Eastern Slopes Hunting Strategies and Mobility: Some Early Results from the Hummingbird Creek Site (FaPx-1)
Timothy Allan (University of British Columbia)

This paper reviews archaeological and ethnographic data to assist in the interpretation of the Hummingbird Creek archaeological site (FaPx-1), located on the front ranges of the central Rockies, Alberta, Canada. Ethnographic data for Indigenous land-use of mountain landscapes is poor in this region, however, inferences based on other mountain regions can shed light into how the central Rockies were utilized by precontact hunter gatherers. This site has seven distinct cultural components, and yielded excellent chronological control, making FaPx-1 ideal for interpreting its relationship in a regional land-use framework. Inferences from other mountain landscapes indicates that FaPx-1 represents a Late Summer Hunting Camp, where lower occupations are characterized by bifacial thinning debitage, pressure flakes, hunting and scraping tools. These levels, dated to ~2,330 cal BP to ~2,460 cal BP, also contained low utility elements of Wapiti (Cervus elephus) and Bison (Bison bison), where the high-yield elements have yet been found, or were transported away from the site. The site is also situated along a narrow valley of the front ranges of the Rocky Mountains, possibly a wildlife corridor ideal for staging and ambushing game. I infer that FaPx-1 was a small camp purposed for retrieving big game, preparing hide and meat for transport to a Residential Campsite area, yet undiscovered within the region around the site. Low density alpine or subalpine sites may appear to be ephemeral, however, by using general ethnographic analogies they can be valuable in interpreting Indigenous land use.

Up to Your Neck In Hot Water: Construction Monitoring at the Banff Sanitarium (1873R)
Lindsay Amundsen-Meyer (Lifeways of Canada)

The Banff Sanitarium was a high-priced hotel, spa and private hospital established in 1886 in Banff National Park, operating into the late 1920s. Under the leadership of a doctor who was trained in both folk therapy and scientific medicine, and in an era when modern medicine had not yet been fully accepted, a form of hybrid medicine was practiced at the Sanitarium bridging the gap between the old and the new by offering its patients both types of treatment. This transition in medicine is manifest in the history and architecture of the Sanitarium buildings as well as the artifacts recovered at the site. While traditional excavation methods have seldom been employed at the site, archaeological construction monitoring has provided a unique opportunity to study the site and a transitional period in medicine. The results of the 2016 construction monitoring at the Banff Sanitarium are explored and compared to previous studies of the site, ultimately leading to a greater understanding of the types of activities occurring here and how these activities shifted over the Sanitarium's period of use.

Flow-patterns of the Laurentide and Cordilleran ice sheets across western Alberta: Implications for the geometry and timing of the ice-free corridor
Nigel Atkinson (Alberta Geological Survey)

Detailed LiDAR based landform mapping of the convergence zone between the Laurentide and Cordilleran ice sheets (LIS, CIS) documents their initial convergence and mutual deflection along the Albertan portion of the eastern Canadian Rocky Mountains. This work reveals an earlier more extensive Cordilleran advance before coalescence with the LIS, after which, the flow pattern was dominated by ice flow along the mountain front, which displaced Cordilleran ice westward into the Front Ranges, and deflected trunk ice emerging from the Athabasca River valley southeastwards along the Foothills. These convergent flow patterns remained major features in the geometry of both ice sheets throughout the last glaciation.

The onset of deglaciation was characterized by the northward retreat of the LIS, which progressively unblocked valleys along the mountain front, facilitating the advance and sequential drawdown of the eastern CIS along fast-flowing outlet glaciers. Subsequent deglaciation associated with the development of large proglacial lakes which amplified ice retreat by destabilizing the margins of both ice sheets, triggering extensive readvances across western Alberta.

Hell Gap 2017 National Historical Landmark
Jacob Batisky, Darlene Carreto, Tony Fitzpatrick, Justin Garnet, Marcel Kornfeld, Mary Lou Larson, Alix Piven, Rachael Shimek, and Heidi VanEtten (University of Wyoming) (POSTER)

In the early 1960s archaeologists from Harvard University's Peabody museum conducted first systematic excavations of Paleoindian components in the Hell Gap Valley of Goshen County, Wyoming, U.S.A. These excavations resulted in the recovery of the most complete sequence of Paleoindian age components, including three new projectile point types (Goshen, Hell Gap, and Frederick). In the summer of 2017 University of Wyoming archaeological project completed its 17th season of site re-investigation. The focus of our presentation is the recovered artifacts, site stratigraphy, site formation processes, and the public event marking the dedication of Hell Gap as a National Historic Landmark.

Retrospect and Prospect: So where do we go from here?
Alwynne B. Beaudoin (Royal Alberta Museum)

A Stash Near Grande Cache: The Skinny on a Newly Discovered Reworked, Basally Thinned Projectile Point.
Kyle Belanger (Circle CRM Group Inc.) and Matt Rawluk (Circle CRM Group Inc.)

In 2016, a subsurface lithic scatter (FlQs-35) was identified during an HRIA of forestry blocks for Foothills Forestry Products. This newly identified site is situated on a fluvial terrace overlooking Washy Creek, northeast of Grande Cache, Alberta. From the systematic shovel testing, a broken lanceolate-like, basally thinned projectile point was recovered. The preliminary analysis in this

paper will focus on the point base attributes, which compare it typologically to similar point types (such as Goshen and Charlie Lake) manufactured during the early prehistoric period (11, 000 BP to 8,600 BP). While thought of as a rarity in Alberta, basally thinned and fluted points have been identified at a variety of find spots and excavations, and this paper will discuss the type and location of the newly recovered lanceloate-like base, in contrast with other locales in the region. While not indicative of fluted technology, the preliminary analysis presented here will attempt to show the significance of the basally thinned point typology within the greater context of the eastern slopes and the early prehistoric period.

The Colorado Encyclopedia Project
Kevin Black (Colorado Archaeological Society)

The Colorado Encyclopedia Project (CEP) is one of scores of similar on-line resources at the state and national level that seeks to provide non-technical but credible, peer-reviewed content to the general public. First conceived in 2009, the project came to fruition in 2013 with a grant from the National Endowment for the Humanities, having a goal of posting at least 500 articles by the end of 2016. This target was met and there are currently over 800 articles on-line from nearly 200 authors. Although the CEP is not focused solely on archaeological or historical topics, both subjects are very well represented with many additions to the list planned in the coming years. Teachers, students, parents and anyone else interested in details about Colorado find short but well-referenced articles in the CEP. This presentation will describe the organization of the CEP along with plans for expansion of the content.

Connecting the Dots: shifting archaeological survey targeting from the landform to the landscape.
Kurtis Blaikie-Birkigt (Tree Time Services Inc.)

The availability of high resolution LiDAR and satellite imagery has revolutionized impact assessment strategies for the forestry sector over the last decade. Spatial data and imagery at the scale of the archaeological site enabled us to shift development screening and survey strategies from the development level to the landform level. The ability to focus and target survey on specific landforms and locations enabled a substantial improvement in site identification rates and survey efficiency. As our inventory of known sites has grown, new patterns of site distribution, both positive and negative, are appearing. Shifting our focus back out to a larger scale, we can now begin to ask, and hopefully answer, landscape level questions about travel and transportation, resource use, and other "meso-scale" variation within these regions.

Late Bison Ecology and Implications for Promontory Land-Use
Vandy Bowyer (Athabasca University)

Julian Steward proposed that the distinctive Promontory Culture found in cave deposits along the northern shores of Great Salt Lake, Utah at around A.D. 1100-1300 was related to Dene speakers of northern Canada. Pre-contact northern Dene are known for their mobile and

flexible land-use patterns, in which a variety of strategies are used to obtain large ungulates seasonally. Faunal assemblages indicate that bison were an important prey species to occupants of the Promontory Caves. The location, migratory behaviour and predictability of bison, however, can be influenced by the structure and availability of preferred grazing resources. Some researchers have suggested that past inhabitants in the region became less reliant on bison as environmental conditions shifted, or that Promontory peoples followed migrating game into new areas to acquire these resources. Given the potential impact that forage has on past bison populations, refined regional and temporal paleoenvironmental records are needed. In this study, bison dung recovered from archaeological deposits in Promontory Cave 1 (A.D. 1250-1290) and the analysis of plant remains (e.g. pollen) from these biogenic substrates are used to identify: (i) bison diet; (ii) past local and regional vegetation; and (iii) the time of year bison were using the Promontory landscape. Changes in bison location would potentially require adjustments in hunting patterns and land-use strategies by local human populations.

Re-examinging the role of the Aerial Perspective in Archaeological Research, an Example from Ice Patch Archaeology

Christopher Boyer (Kestrel Aerial Services, Inc.)

Humans started conjuring the aerial view for mapping, long before the invention of any type of flying machine. During the earliest days of aeronautical explorations—18th century balloon rides—narratives reveal a fascinating discrepancy between how we believe our habitat to be organized and and how it is actually organized.

When it became possible to conveniently go aloft with the popularization of the aircraft, the novelty of the view was paramount. However, attentions turned quickly towards the things we were unaware of on the ground but could see clearly from the air. This included the soil and crop marks from the many archaeological sites scattered across Britain, Europe, North Africa and the Middle East. During the early years of the aircraft, thousands of sites were discovered lying directly beneath shallow soils and shallow waters.

Today, incredible new hardware—drones, cameras, LiDar, IR and multi-spectral sensors— and software—3D mapping, object recognition, and machine learning technologies are renewing the utility of the aerial view in many disciplines, including archaeology.

Briefly tracing some of the historical context for the aerial view in archaeology I will present some of the emerging technology, and my own use of fixed wing aircraft and various sensors for a variety landscape resource projects, including the cataloging of more than 300 remote ice patches in Glacier National Park and throughout the Greater Yellowstone Ecosystem.

Pleistocene Horse and Possible Human Association 12,700 Years Ago In The Ice-Free Corridor, West-Central Alberta

Jack W. Brink (Royal Alberta Museum), Christina I. Barrón-Ortiz (Royal Alberta Museum), Kathy Loftis (Centre for Applied Isotope Studies) and Robert J. Speakman (Centre for Applied Isotope Studies)

Materials collected from the shoreline of the Brazeau reservoir in west-central Alberta include a number of Paleoindian artifacts and a set of six articulated mandibular teeth from the genus *Equus*. The heavily weathered horse teeth were identified as most similar to the caballine equids that became extinct in North American at the end of the Pleistocene. An average of four AMS radiocarbon dates place the age of the teeth at ~12,700 calibrated years before present. Early style artifacts recovered from the reservoir include two fluted points, a biface cache, and several other Paleoindian points. No artifacts were directly associated with the teeth, but nearby fluted points are likely coeval and suggestive of an association. The presence of Pleistocene horse 12,700 years ago directly within the Ice-Free Corridor (IFC) has a bearing on the debate concerning the timing of the opening of the IFC and on the environmental conditions within the corridor. Data presented here indicate not just an open IFC in west-central Alberta by at least 12,700 years ago, but also an environment fully capable of supporting large grazing herbivores, and, by extension, human hunters.

An Overview of Icepatch Archaeology in Scandinavia Anno 2017

Martin Callanan (Dept. of Historical Studies, NTNU, Trondheim, Norway)

Ice patches and glaciers in Scandinavia have been melting and producing archaeological finds for many years. Reports of well-preserved organic objects from both Norway and Sweden appear in the litterature from the 1930's and onwards. In recent years, the main archaeological focus has been on sites and discoveries in southern and central Norway. However as the degradation of sites continues, archaeologists in northern Norway and Sweden are also beginning to take a closer look at new areas with high potential.
In this presentation, I will give a short overview over the current state of icepatch archaeology in Scandinavia. We will look at different contexts and types of finds that are typical for this area. We will also look at some of the new projects coming online in both Norwegian, Swedish and Sami regions.

Rolling Thunder: 10,000 Years of Bison in the Greater Yellowstone Ecosystem

Kenneth P. Cannon (Cannon Heritage Consultants, Inc., Utah State University) and Molly Boeka Cannon (Utah State University)

The precontact record of bison in the GYE extends back at least 10,000 years and is variously represented by single elements from short term occupations to massive, logistically complex bison jumps. Over the past few decades researchers have presented a range of interpretations for the role of bison in native economies and its role in the native faunal community. Interpretations include: bison were not a native species; relatively uncommon making them an unpredictable human prey species; and a substantial member of the faunal community.

Interestingly, in archaeological faunal assemblages, bison are typically the most common species identified. Many of these opinions have been based upon the fallacy that an absence of evidence is evidence of absence without fully understanding the nature of the record and how it came to be observed. In this paper, we explore the taphonomic, historical, and cultural processes that influence how the paleorecord is observed and the influence this has had on interpretations.

Archaeological Insights into precontact Salish population dynamics
Wayne Choquette (Archaeologist, Shuswap Indian Band)

Anadromous salmon formed a core component of the precontact Salish culture, both ideologically and functionally in terms of its contribution to the subsistence base. However, from a diachronic perspective, salmon is a variable and fluctuations would have had repercussions that are potentially detectable in the archaeological record. This paper considers population dynamics on the eastern margins of the Salish language group where the upper Columbia River and its tributaries drain the west slope of the Rocky Mountains. Employing a palaeoecological perspective and a model of Holocene salmon carrying capacity, it explores a possible evolutionary trajectory of the Flathead-Pend Oreille-Kalispel divergence. Utilizing the same perspective and model, the results of recent archaeological investigations in Kinbasket Reservoir are synthesized with the ethnohistoric record to identify the millennia old roots of the "Mountain Shuswaps" and the Kenpesket Band.

Following the Stone
Wayne Choquette (Independent Scholar)

Because flakable stone was so important in precontact economies, in areas where lithic sources were accessible but not ubiquitous, its direct procurement would have been efficiently incorporated into the seasonal subsistence round. The geological history of the upper Columbia River drainage is such that a number of discrete sources of distinctive lithic material were available, thereby facilitating the tracking of the movements of the precontact lithic artisans across the landscape. This paper presents some examples of insights gained into the nature of the seasonal round by tracking the distribution of stone from its source and relating this to palaeogeographic correlates. It highlights examples of probable use of watercraft on mountain lakes by Neoglacial and early postglacial human groups.

Phylogenetic Analysis of Shield Bearing Warrior Rock Art from the Intermountain Region
Lorena Craig, Graduate Student, University of Montana

The purpose of this research is to demonstrate that the use of a macroevolutionary theoretical framework coupled with use of biological evolutionary methods is a potentially useful tool for rock art analysis. Phylogenetic analysis of a data set of Shield Bearing Warrior (SBW) Rock Art from the Intermountain region, obtained from published literature, suggests cultural transmission does occur in rock art, at least in the case of SBW motifs. Moreover, using phylogenetic analysis provides a way to infer evolutionary relationships, which can be further

compared to historical and ethnographic information. The results from this analysis indicate SBW rock art evolved through the process of time and distance, as evidenced by regional differences. Comparing the results of this study with other research of SBW rock art support the idea that SBW motifs were adopted and modified by later prehistoric plains groups.

The Icy Corridors: Finding A Way Into The Americas
Bob Dawe (Royal Alberta Museum) and Marcel Kornfeld (Paleoindian Research Lab)

Models of the first peopling of the Americas are characterized by a southward movement either along the west coast or through an ice free corridor following the Last Glacial Maximum of the late Wisconsin glaciation. While the pendulum has currently swung somewhat towards the coastal route, the controversy continues as evidence for either entry route is lacking. With this paper we would like to present a third option – the 'Icy Corridors.' We argue that the traditionally envisioned corridor is an unnecessary feature for the terrestrial arrival of Clovis or Clovis predecessors below the ice sheets.

Digitally Preserving Alberta's Diverse Cultural Heritage
Peter Dawson (University of Calgary)

Our multi-disciplinary team is developing a research platform for digitally preserving heritage sites in Alberta, many of which are of national and international significance. While some are associated with economic and technological history in such areas as agriculture, coal, oil, and gas exploration, others are tied to unique cultural histories and events like pre-contact Indigenous lifeways and 19th century Chinese immigration, Unfortunately, flooding, wildfires, vandalism, as well as the expansion of cities and industry, place countless provincial heritage sites at risk each year. The Departments of Anthropology and Archaeology, Geomatics Engineering, and Art have begun collaborating with Alberta Culture and Tourism (ACT) on a variety of digital heritage preservation projects involving heritage at risk. These include a 19th century Chinese Laundry in Fort Macleod, the Okotok's Erratic, the Brooks Aqueduct, and the McDougall United Memorial Church which was recently lost to fire. Out of these projects is emerging a workflow for digitally capturing and recording heritage sites using terrestrial and airborne laser scanners. In this talk, I provide an overview of some recent projects, and discuss how the resulting data sets can be used to archive, manage, and disseminate information about Alberta's diverse cultural heritage.

Lithic Rounds: An Examination of Lithic Raw Materials of Non-Hunting Sites Through Time at Rollins Pass, Northern Colorado
Michelle A. Dinkel (Center for Mountain and Plains Archaeology, Colorado State University)

Rollins Pass, along the Continental Divide of the Colorado Front Range in the southern Rocky Mountains, contains a significant concentration of prehistoric game drives and other types of sites (camps, hunting stations, etc.). Since 2010, the Center for Mountain and Plains Archaeology has systematically surveyed the pass by revisiting known sites and recording newly discovered locales. Rollins Pass is notable because it contains the highest density of alpine game

drives within North America, but the Pass also holds dozens of non-hunting sites. One of the goals of my thesis research is to identify the chronological sequence of the non-hunting sites at the Pass. Diagnostic projectile points and ceramics document a sequence spanning the Late Paleoindian to Late Ceramic periods. Examining the chronology of non-hunting sites and the lithic raw material of diagnostic tools could provide an insight to potential mobility over time. This paper aims to test the reliance of locally procured raw materials by examining diagnostic tools sourced from Colorado lithic quarries. This study defines local as being within 150 miles of the Pass. In order to examine exotic vs locally procured materials, quarry sites nearest to the Pass will be compared to diagnostic lithic tools from Rollins non-hunting sites. If the raw materials from Rollins Pass non-hunting sites do not reflect local procurement it may suggest a different mobility pattern than the generally accepted model or could indicate varied mobility patterns through time.

Identifying Paleoindian and Archaic Socialized Landscapes in the Bridger Mountains, Montana
Meghan J. Dudley (University of Oklahoma)

Over the past several decades, archaeologists have increasingly undertaken studies in the Rocky Mountains to learn how the earliest inhabitants of North America lived their lives. Their efforts have led to a richer understanding of the different ways Paleoindian groups occupied mountain landscapes. Despite these gains, however, few archaeologists have addressed social questions about people's landscape use, due in large part to the nature of the Rocky Mountain archaeological record.

In this paper, I address the question, "what *kinds* of socialized landscapes can archaeologists identify from the largely lithic archaeological record of the Rockies?" To accomplish this, I blend elements of Michel de Certeau's (1984) spatially oriented practice theory with Laura Scheiber's (2015) landscape tropes, to define archaeological expectations for specific types of spaces associated with particular types of socialized landscapes.

I test these archaeological expectations for socialized landscapes in the Bridger Mountains, southwestern Montana. Using four different analytical tools, I identify socialized landscape types for the Paleoindian and Archaic Periods and contextualize them within the surrounding region. Although the methods used to develop and assess archaeological expectations for early human landscape use in the Bridgers can be improved, the results suggest that archaeologists can begin to identify and offer nuanced interpretations of socialized landscapes from deep-time contexts in the Bridger Mountains, the surrounding area, and throughout the Rocky Mountains.

A Brief Discussion of Lithic Materials Recovered In Excavation From Occupation Horizons Dating From 6,000 To 12,000 BP
A.Dudley Gardner (WAARI

The Eagle Rock Site is located in a Rock Shelter east of the Gunnison River in western Colorado. Excavations provided data that show the site was occupied from roughly 150 to 13,000 BP. This presentation will briefly describe the nature of the lithic materials recovered from the

cultural horizons dating from 6,000 to 13,000 BP. Specifically we will focus on the nature of bifurcated and stemmed projectile points recovered from these horizons during excavation.

Investigating Alternate Ice-Free Routes in the Mountainous Regions of Alberta and British Columbia: A Plan for the Future

Andrea Freeman (University of Calgary)

Many recent studies suggest that "the" ice-free corridor is a dead issue and that the only means of travel for early people into the lower-48 contiguous United States and further south was a coastal route. These studies oversimplify the eDNA record and fail to recognize the complexity of ice retreat. They also minimize the present evidence of potentially early lithic technology, the possibility of mountain adapted early people, and the apparent rapidity with which early deglaciated landscapes were occupied. This evidence is scattered across a territory of enormous size, much of which is still scarcely populated. The possibility of deeply buried sites exists along the mountain fronts and in drainages where thick paraglacial sediments are present. Potential long-buried archaeology in these areas may be threatened by future developments or by geomorphic processes that may experience greater magnitude and frequency due to climate change. This paper suggests a monitoring strategy that targets the areas that may have the highest potential.

Paleoindian to Early Plains Archaic: Microwear at Laddie Creek

Zach Garhart, Marcel Kornfeld, and Mary Lou Larson (Paleoindian Research Lab, University of Wyoming)

Paleoindian Complex chipped stone microwear studies in the Rocky Mountains/Plains region are rare, but extant. Early Plains Archaic (EPA) microwear studies are non-existent, leaving no room for comparison of the Northwest Plains/Rockies time periods. Changes in chipped stone technology, subsistence strategies, and the general reorganization of lifeways, suggest differences between Cody and EPA stone tool use, but the exact time frame of the change as well as the significance of some changes is debatable. We present changes in microwear between Cody and EPA at the Laddie Creek site and compare them to other Paleoindian microwear results from the region.

The Evidence for Early Apachean Migration into the Rocky Mountain West: The Promontory Culture in Colorado

Kevin P. Gilmore (HDR, Inc.), Derek Hamilton (Scottish Universities Environmental Research Centre), and John Ives (University of Alberta)

Similarities in culturally diagnostic artifacts from the Promontory Cave sites in Utah and Franktown Cave (5DA272) in Colorado provide evidence of a pre-A.D. 1300 migration of proto-Apachean speakers into the Rocky Mountain west using both Intermountain and Plains margin migration routes. Bayesian modeling of Promontory Culture AMS dates from Franktown Cave suggests a 40-85 year occupation starting in the early A.D. 13th century that overlaps the modeled 25-55 year occupation of Promontory Cave 1 during the late A.D. 13th century. Using

moccasin size as a proxy for age, the complete Franktown Cave Promontory moccasin was made for a 4-5 year-old child. Isotopic values (δ13C) for bison leather from Franktown Cave suggest that bison from northern and southern herds were exploited and products made from their hides were discarded at the site. These data indicate the Promontory Culture group at Franktown Cave was mixed in age, suggesting migrants (rather than scouting groups) that traveled widely or had trade connections both north and south. The A.D. 13th century was a time of highly variable climate, population flux and social upheaval throughout western North America and this apparent disorder may have provided the opportunity for proto-Apachean migrants to enter the area unmolested and initiate the long distance trade relationships that were historically documented for the Apache. After the 13th century, geographically separated Promontory Culture groups gradually became isolated and culturally differentiated. This represents the initial formation of separate group identities among Apacheans that eventually resulted in the historically recognized Apache and Navajo.

In Subarctic Northwestern North America, Spatiotemporal Trends in the Adoption of Bow Technology Do Not Support Simple Cultural Diffusion from Siberia
Brigid Grund (Wyoming State Historic Preservation Office)

For over a century, various archaeologists have implicitly or explicitly claimed that bow technology spread across the world solely by simple cultural diffusion. In northwestern North America, the simple cultural diffusion hypothesis suggests that bows would have appeared first in western Alaska and subsequently spread east and eventually south into the rest of the continent. In this paper, using previously published bow and atlatl radiocarbon dates collected from Subarctic ice patches, I test whether simple cultural diffusion explains the spatiotemporal patterning of bow adoption in a small study area in the Yukon and Northwest Territories. Spatial statistics suggest that available bow and atlatl dates could potentially reflect spatial patterning (or lack thereof) in any direction. However, the most probable spatiotemporal scenario reflected by these data is east-to-west diffusion. This result is tentative, but the only explanatory hypothesis concordant with it invokes geographic population shifts triggered by the White River Ash volcanic eruptions. These population pulses may have catalyzed an increase in technological complexity, which manifested as the adoption of bow and arrow technology.

Dinwoody Paleoindians: Wind River Mountains, Wyoming
Todd Guenther (Central Wyoming College)

Central Wyoming College is located in “Indian Country” and serves students from the Wind River Indian Reservation and surrounding communities. The Interdisciplinary Climate Change Expedition (ICCE) is a capstone course which takes Archaeology, Environmental Science and Outdoor Education students into the highest reaches of the Wind River Mountains in their backyard to learn field research methods on and around the Dinwoody Glacier. Though hydrologists and officials find the glacier and water data interesting, participation by archaeologists has been controversial. The Chairman of the Eastern Shoshone Tribal Council recently asked why the archaeologists need to go, stating, “We’ve always been up there. We know that. What else do they need to know?” Some claim that Shoshone tradition discourages

anyone, Shoshone or otherwise, from going up into the Dinwoody for hunting, recreation, or other purposes. It is, according to some, a sacred area best left to spirits and the "Little People."

Archaeological evidence both supports and refutes this claim. The lower Dinwoody Canyon was clearly sacred and contains the dense complex of type-sites of the well-known Dinwoody style petroglyphs common in the central Rocky Mountains. Yet, the entire Dinwoody Canyon, from the mouth to the toe of the Glacier, is filled with intensively reused prehistoric campsites, lodge-pad complexes, lithic procurement sites, steatite sites, a bison jump, and other sites. CWC students have documented evidence of prehistoric human activity as high as 3,749 masl (12,300 ft). Diagnostic artifacts and radiocarbon dates indicate occupations from the Early Paleoindian through Archaic, Late Prehistoric and Contact-eras.

But the highest end of the canyon tells a different story. There the archaeology consists of lithic scatters. Among them is the oldest documented site in the entire length of the canyon, identified by a Goshen point base. This is also one of the highest sites in the canyon and when it was first occupied it appears to have been literally at the toe of the Glacier. In other words, some of the earliest humans in North America were climbing to one of the highest and most hostile places on the continent—a deep, narrow, steep-sided, and rocky canyon that was not suitable for significant hunting or gathering—to be as close as they possibly could be to the glacial ice. They were followed by succeeding generations as the Glacier retreated. The question is: what were they doing there?

Searching for a Needle in a Dung Pile: Ice Patch Archaeology in Yukon

P. Gregory Hare (Government of Yukon), Christian Thomas (Government of Yukon), John Meikle (Lands and Resources Department Kwanlin Dün First Nation)

Ice patches in Yukon range in size from trace amounts of ice to over one kilometre in length. Many have dung incorporated in them from thousands of years of summer use by caribou. Over the past 20 years, Yukon Government and First Nation researchers have explored scores of ice patches in an area of over 32,000 sq. kilometres and have documented 32 archaeological ice patches. Ice patch research in Yukon is arguably one of the most successful programs of its kind in North America. This paper explores the keys to ice patch survey in Yukon and examines the relationship between geography, climate, human history, technology and core funding in achieving ice patch success.

Seeking Congruency—Search Images, Archaeological Records, and Apachean Origins

John W. (Jack) Ives (University of Alberta)

Identifying Dene prehistoric records has proved to be challenging in many areas of western North America. These challenges are best met by drawing upon the independent strengths of anthropological, linguistic and genetic studies to develop "search images" to guide archaeological enquiry. To explore this strategy, I link Apachean prehistory with larger Dene prehistory in northwestern North America. The Apachean case presents a significant conundrum: remarkably resilient and pragmatic people, Dene speakers consistently adopted

many elements of the ceremonial life and material culture of their neighbours. How then do we truly know when an archaeological record was created by Proto-Apachean ancestors? Anthropological, linguistic and genetic studies have provided clear targets we should anticipate in various stages of Apachean migration from Subarctic Canada to the American Southwest. The founding Apachean population was small, and undoubtedly grew through fissioning of small populations creating further founder effects. Yet, Proto-Apachean populations did not remain small: many people (especially women from neighboring societies) joined nascent Apache and Navajo groups. With new data emerging from Promontory Culture, Franktown Cave and other sites, specific search images can be evaluated against the rich perishable, demographic, isotopic data and clear evidence of societal interactions, in the context of high precision chronologies.

Insights into Prehistoric Footwear Landscapes

John W. (Jack) Ives (University of Alberta) and Michael Billinger (University of Alberta)

Moccasins are an uncommon feature of the archaeological record, but a category of artifact through which manufacturing methods and decoration actively signal cultural identity. Where present, they are well suited to exploring cultural relationships, migration processes, and demographic characteristics. Here we discuss archaeological instances of footwear across western North America, and explain how Promontory moccasin dimensions can be used to chart predictable relationships concerning moccasin length, foot length, stature and age. A high proportion (83%) of the discarded moccasins in the Promontory caves came from children and subadults. While a discard bias concerning adult males (more likely to discard moccasins outside of domestic contexts) must be acknowledged, the predominance of children and subadults suggested the presence of a growing population, consistent with other data indicating that Promontory Culture peoples flourished in comparison to their terminal Fremont neighbours. The precision of the Promontory formulae in predicting stature and age from moccasins can be employed in assessing site function for a variety of footwear instances, including the Yukon ice patch moccasin from an area in or near the Proto-Athapaskan homeland, Franktown Cave in Colorado, Kenton Caves in Oklahoma and Ross Rockshelter and Daugherty Cave in Wyoming. We also contrast our findings with other large assemblages of footwear, including sandals from Antelope House in Arizona. The differential presence of children, subadults and adults can be used to infer the nature of occupations ranging from small residential groups in some cases to task groups and migratory activities like adult male scouting in others.

Session Introduction

John W. (Jack) Ives (University of Alberta) and Bruce Starlight (Gunaha Institute, Tsuut'ina First Nation)

The extent of Dene (Athapaskan) presence in North America is extraordinary, extending from the Pacific to Hudson Bay and from Alaska to the Sierre Madres. Yet, the majority of Dene speakers remained in close proximity to the Rockies, in a way unique among language families in North America. Our opening remarks will frame Dene and interdisciplinary perspectives on the broad scope of Dene language family prehistory, incorporating oral tradition, linguistic,

genetic, anthropological, archaeological, and palaeoenvironmental data with a bearing upon Dene origins, lifeways, and migration, along with their relationship with mountainous terrain.

Taking a New York Times Approach to the Ice-Free Corridor—In 2017, What Do We Know and Not Know?

John W. (Jack) Ives (University of Alberta), Kisha Supernant (University of Alberta), and Courtney Lakevold (Archaeological Survey of Alberta)

Few regions of the world have been more frequently written about—with absolute certainty, but little firsthand familiarity—than the Ice-Free Corridor of western Canada. Much current thinking about the Corridor region remains mired in misconceptions such as the notion that the Corridor has been thoroughly investigated, that "Clovis First, Through the Corridor" requires continued intellectual slaying, or that the Corridor was impassable until after 12,600 cal yr BP. A diverse large mammal fauna existed along the entire length of the corridor by Clovis times. Three corridor archaeological sites have produced detailed chronologies. Fluted points are moderately common and when plotted with geomorphological data, reveal both morphologies implicated in the spread of fluted point technology and a discernable landscape signature. A realistic picture of the Corridor must recognize that: 1) its southern "funnel" had a diverse fauna hunted by First Nations ancestors in pre- or earliest Clovis times; 2) clusters of fluted points late in their use life exist in tertiary landscape locations, spatially associated with a terminal Pleistocene fauna; and 3) any "critical" bottleneck in the Peace River country had also opened by early Clovis times. This empirical basis will be essential in exploring what we do *not* know about the dynamics of early human re-occupation of the Corridor, especially the extent to which diffusion or demic expansion affected interactions between eastern Beringian and southern populations (both established >14,000 cal yr BP). Current indications suggest that both processes were at play in the Corridor throughout the Paleoindian interval.

Archaeology and Science at the Paisley Caves, South-Central Oregon

Dennis Jenkins (Museum of Natural and Cultural History, University of Oregon)

Dr. Luther Cressman's 1938-1940 excavations at the Paisley Caves in Oregon discovered Pleistocene camel and horse bones in close proximity to obsidian artifacts on a small house floor suggesting that people may have lived there as early as the Late Pleistocene, some 12,000 to 15,000 years ago. However, it was not until recent developments in ancient DNA and radiocarbon dating that he was proven correct. Ancient human coprolites, radiocarbon dated to as much as 14,525 years have been recovered over six field seasons from Pleistocene deposits containing artifacts and extinct megafaunal remains. This paper provides an update on the progress of scientific investigations of this unique site. The evidence indicates the first site occupants were broad-range hunter-gathers already well adapted to the Northern Great Basin's late Pleistocene high desert environment.

A Tale of Three White Cherts
Ann Johnson (National Parks Service)

Once upon a time there was one well known source for the white chert (Avon) found in archaeological sites in the Middle and Northern Rockies and adjacent plains. Then, a second source (Bowman) was found and later a third source (South Fork) of white chert was found. The history of investigations for these three sources is summarized. No longer can the source of white chert be assumed to be the Avon source. These quarries are in Tertiary sediments and additional quarries may be waiting to be identified.

What's the Point of Public Archaeology? Perspectives on 40 Years of Avocational Training in Colorado to Prepare for the Next 40
Christopher M. Johnston (History Colorado)

The Program for Avocational Archaeological Certification (PAAC) was developed in the late 1970s with the aim of training avocational volunteers to meet the oncoming demands of contract archaeology. Since its inception, PAAC, in conjunction with the Colorado Archaeological Society, has trained thousands of people with a series of 13 different courses and multiple certification tracks. PAAC participants have contributed countless hours to survey and excavation projects with multiple agencies and organizations, and have made an enormous contribution to research projects across the state. However, with a changing landscape of professional archaeology we must examine our avocational training and public outreach programs to address new and different needs. This paper will explore some of these issues, attempting to measure the benefit of public archaeology, and how PAAC is preparing our volunteers to meet this changing landscape.

Picks, Shovels, and Computers: Data Mining the Alpine Archaeological Record of the Colorado Rocky Mountains, USA
Christopher M. Johnston (History Colorado), Jason M. LaBelle (Colorado State University, Center for Mountain and Plains Archaeology), and Todd A. Surovell (University of Wyoming)

The prehistoric record of the Colorado alpine ecosystem is well known in regards to Altithermal refugia and communal hunting, among other topics. Much of this knowledge is due to the efforts of the late Jim Benedict, with his work based in the Indian Peaks and Rocky Mountain National Park, the mountainous regions west of Boulder. However, the Southern Rocky Mountains contain other ranges, ecologically distinct from that of the Colorado Front Range. As part of an ongoing baseline investigation, this project summarizes over 2,200 prehistoric and 5,000 historic archaeological sites located above 3000 m in Colorado. Classifying the Colorado mountains into 26 zones, we statistically analyze the abundance and types of sites to identify land use patterns related to prehistoric subsistence and mobility, in addition to gaps in the present data. Rather than demonstrating a normative "mountain adaptation", ancient peoples exhibited diversity in their use of Colorado ranges.

A Tale of Two Sites Left Untold: Mitigative Excavations at EgPu-7 and EgPu-21
Kendra Kolomyja (Lifeways of Canada)

Prior to the construction of Canmore's Benchlands subdivision in 1991, Lifeways of Canada identified several significant Precontact sites that would be impacted by the development. Mitigative excavations were carried out at two of these sites: EgPu-7 and EgPu-21, both Middle Period campsites. Between the initial survey and the excavation, over 10,000 artifacts were collected, including fire-cracked rock, faunal bone fragments, lithic debitage and dozens of formed tools. Final reporting for the excavation was left unfinished but recent efforts have been made to analyze the results of the excavation program and compose a summary report. This paper will discuss some of the results of this analysis and endeavour to place these sites within the cultural framework of the Bow Valley.

Community-Based Archaeology at Magic Mountain, Golden, CO
Michele Koons (Denver Museum of Nature) and Mark Mitchell (Paleocultural Research Group)

In June 2017 the Apex Trailhead parking lot in Golden, CO was buzzing with more than the just the usual hikers and bikers. Many came to tour the archaeological site of Magic Mountain and to get dirty trying their own hand at archaeology. The project is a collaborative effort between the Denver Museum of Nature & Science (DMNS) and PaleoCultural Research Group (PCRG). Together we set out to learn more about Early Ceramic period (A.D. 100-1000) mobility patterns in the South Platte basin through an investigation of the site's material connections to the regional cultural landscape. We also wanted to give the public a first-hand experience with archaeology to foster a better appreciation of what life was like long ago on Colorado's Front Range and to promote stewardship. Over the course of two weeks we served over 1000 people through site tours and hands on experiences, all while learning many new things about Colorado's past.

Megafauna Hunting and Habitat in Late Pleistocene Southern Alberta at Wally's Beach
Brian Kooyman (University of Calgary)

The Wally's Beach site (DhPg-8) contains evidence of Pre-Clovis and Clovis hunting of large game species such as horses at the end of the Pleistocene, providing insight into hunting strategies and butchering techniques. The pre-Clovis subsistence hunting interpretations are based on data from lithic tools, bone breakage patterns, bone element distribution patterns, and the geographic locations of the kill localities. The fauna present at the site at this time are revealed by both bones and tracks of animals. The fauna consists of species trapped south of the ice sheets in the Pleistocene rather than northern taxa migrating south through the Ice Free Corridor. This indicates that the animals, and the hunters exploiting them, have moved into the area from the south prior to the full opening of the Corridor. These earliest occupations are also found beneath a paleosol dating to early post-Clovis times that provides some evidence for the plant communities that colonized this landscape about 10,000 years ago.

Archaeological Ice Patch Surveys in Alberta's Rocky Mountains in 2015 and 2016: Ecology, Topography, and Big Game Hunting Dynamics of the Boreal Forest, Northern Plains, and Rocky Mountains

Todd Kristensen (Archaeological Survey of Alberta), Timothy Allan (University of British Columbia), and Courtney Lakevold (Archaeological Survey of Alberta)

A discovery of preserved wood near alpine ice patches in 2015 stimulated two short seasons of fieldwork in Jasper National Park and Willmore Wilderness Park in western Alberta, jointly organized by the Archaeological Survey of Alberta, Parks Canada, and the University of Alberta. We summarize field methods, artifacts, palaeontological specimens, and radiocarbon dates stemming from this work. Alberta has yet to yield evidence of intensive ice patch utilization by pre-contact people and we offer explanations involving the ecology of big game in western Alberta and the accessibility of alpine regions in Jasper National Park and Willmore Wilderness Park.

Pre-contact Jade East of the Rocky Mountains: the Geochemistry and Archaeological Significance of Nephrite Ground Stone Tools

Todd J. Kristensen (Archaeological Survey of Alberta), Jesse Morin (Independent Researcher), M. John Duke (SLOWPOKE Nuclear Reactor Facility), Andrew J. Locock (University of Alberta), Courtney Lakevold (Archaeological Survey of Alberta), Karen Giering (Royal Alberta Museum), and John W. Ives (University of Alberta)

Nephrite is a type of jade that outcrops in British Columbia, Oregon, Washington, and Alaska and was used in pre-contact times for ground stone celt production. Occurrences of pre-contact jade artifacts east of the Rockies are poorly documented. We conducted near –infrared spectrometry on ten nephrite celts from central and northern Alberta to source them back to nephrite celt production centres in southwest British Columbia. We also ran portable x-ray fluorescence and x-ray diffraction to determine mineralogy and to aid future archaeological identification of jade

Paleoindian Occupation of the Medicine Bow Mountains of Northern Colorado: A Consideration of Archaeological and Paleoclimatic Data

Jason M. LaBelle and Kelton A. Meyer (Center for Mountain and Plains Archaeology, Colorado State University)

Colorado is well known for the dense concentrations of Paleoindian sites found within its eastern plains, as well as several high altitude basins (Middle Park, Gunnison Basin, and San Luis Valley) to the west. Prominent mountain ranges separate these clusters, with the sinuous Continental Divide forming the headwaters of the Colorado, Rio Grande, and Platte River valleys. Mountain settings, with elevations routinely topping 3000-4400 m, would have presented both challenges and opportunities for the earliest inhabitants of the region.

This paper examines the occurrence and frequency of Paleoindian components within the Medicine Bow Range of the Southern Rocky Mountains, a small range that spans the

Colorado/Wyoming border. Nearly fifty years of survey and limited excavation provide a dataset for examining the early occupation of the Range's montane, subalpine, and alpine ecosystems. One hundred sixty-four sites of all periods have been recorded over an area encompassing four 1:24,000 scale maps, including 10 sites with Paleoindian components (71 prehistoric components in total). While limited numbers of terminal Pleistocene materials are evident (faunal remains and a Folsom point), this range (as well as others in Colorado) is dominated by late Paleoindian occupations, in particular those associated with the Early Holocene Allen complex at sites such as Carey Lake (5LR230). In this paper, these archaeological data are arrayed against paleoclimatic reconstructions to discuss the timing of the initial human occupation of the Medicine Bow range, identify the period of its most intensive Paleoindian use, and ponder the reason(s) for these early occupations.

The Archaeology and Paleoecology of the Ice Patches of the Southern Rocky Mountains of Colorado

Jason M. LaBelle and Kelton A. Meyer (Center for Mountain and Plains Archaeology, Department of Anthropology, Colorado State University)

Over the past six years, the Center for Mountain and Plains Archaeology examined thirty-nine ice patches in the Arapaho-Roosevelt National Forest (n=15) and Rocky Mountain National Park (n=24) of the Colorado Front Range, USA. Culturally associated ice patches have proven rare, although many locales yielded biological materials including trees buried in ice as well as fragmentary faunal remains of bighorn sheep, elk, deer, and/or bison. The dearth of ice patch archaeological sites is surprising given that this portion of the Colorado Front Range is one of the most intensively surveyed alpine areas in North America, with abundant evidence for prehistoric Native American use dating back to the late Pleistocene. This presentation summarizes the results of our on-going ice patch survey program in Rocky Mountain National Park and adjacent wilderness areas, presenting new radiocarbon dates obtained from biological materials and proposing several scenarios that might help explain the lack of cultural association within Southern Rocky Mountain ice patches.

Athapaskan Group Size based on Space Needs Per Person

Courtney Lakevold (Archaeological Survey of Alberta)

In an archaeological context, population or group size is often difficult to predict. However, group size, composition and sociopolitical organization are often reflected in a society's architecture. Built dwellings and organization of space can inform archaeologists about the group that lived there, beyond material culture. One method that has been explored is population size based on the floor area of dwellings and space needs per person. This paper looks at several ethnographic accounts of Athapaskan groups and takes into account group sizes, group composition, the size and layout of dwellings, and the number of people that lived in each dwelling, where possible. From this data, common Athapaskan group sizes are compiled and the average space needs per person for Athapaskan groups is calculated. In addition to Athapaskan space needs per person, other hunter-gatherer space needs values are also presented. These values can be applied at archaeological sites where dwelling sizes are known,

in order to gain insight into population and group size. To illustrate this method, results from Promontory Cave 1, Utah will be presented, where these space needs per person values were used to estimate the maximum group size.

Expanding on the Points: Sociocultural Complexity Revealed By Non-Hunting Artifacts From Melting Ice Patches In The High Alpine, Greater Yellowstone Area, USA

Craig M. Lee (Metcalf, PCRG, INSTAAR), Pei-Lin Yu (Boise State University), Edward Jolie (Mercyhurst University), Kathy Puseman (Paleoscapes Archaeobotanical Services Team), Halcyon LaPoint (Custer-Gallatin National Forest), Josh Kapp (University of California Santa Cruz) and Beth Shapiro (University of California Santa Cruz)

Chipped stone projectile points, bows, dart and arrow foreshafts and shafts, and the remains of prey species—notably bighorn sheep (Ovis canadensis)—recovered in direct association with melting Greater Yellowstone Area ice patches illustrate that hunting was a primary activity at these features Chipped stone projectile points, bows, dart and arrow foreshafts and shafts, and the remains of prey species—notably bighorn sheep (Ovis canadensis)—recovered in direct association with melting Greater Yellowstone Area ice patches illustrate that hunting was a primary activity at these features; however, other types of organic artifacts recovered at these locations hint at a broader utilization of the alpine. While these artifacts are few in number, they bolster the contention that the alpine archaeological record reflects repeated occupations by family units—or still larger groups—taking advantage of a seasonally enriched biome. Artifacts that we hope to discuss include as-yet-undated cordage made from hair, a ca. 1375 cal BP plaited or twisted (not braided) object made of wapiti (Cervus elephus) hide, several wood objects of uncertain function ranging in age between ca. 6200 cal BP and 1370 cal BP, and a ca. 1340 cal BP basket/tray made of willow (Salix sp.).

Art in the Time of Promontory Cave: Enhancement of Rock Art Figures Using DStretch

Andrew Lints (University of Alberta) and John W. (Jack) Ives (University of Alberta)

While the Promontory caves are well known for their preservation of perishable cultural materials, the red-ochre pictographs inside Promontory Cave 1 have attracted less attention. The conditions within the cave provided a 'safe haven' for organic artifacts, but the pictographs themselves have varying degrees of visibility, from excellent to poor. Archaeologists have relied solely upon descriptions made by Julian Steward during his 1930s work. Advancements in digital imagery and rock art software, such as DStretch, provide the opportunity to greatly enhance these images, providing new insights. Not only were digital analyses successful in providing fuller images of these ancient paintings, but previously indecipherable design elements were clarified, revealing classic late Fremont forms. In addition to the enhancements of previously identified rock art, we report new rock art paintings located in the vicinity of the Promontory caves. We compare these restored Promontory Point images with examples from Grotto Canyon in southwestern Alberta, where identical images document contact between the late Fremont world and a region Apachean ancestors could be expected to have inhabited.

The La Prele Mammoth: A Clovis-Aged Mammoth Site near the Rocky Mountains
Madeline E. Mackie (University of Wyoming)

The La Prele Mammoth Site, formerly the Fetterman or Hinrichs Mammoth, was first excavated in 1987 by Dr. George Frison and crew. The site is located just outside Douglas, Wyoming approximately a mile from the confluence of the La Prele Creek and the Platte River. During the initial excavations the remains of a single juvenile Columbian mammoth (*Mammuthus columbi*) as well as one stone tool, a possible hammerstone, and a dozen pieces of debitage were recovered. The site sat unexcavated for 27 years until we returned in 2014 to settle the debate about the presence of an associated human occupation at the site and identify any additional archaeological deposits.

In the last four field seasons we have undeniably shown that the La Prele Mammoth has an associated cultural component and discovered new archaeological deposits in and around the mammoth bone bed. We have identified at least one secondary activity area approximately 10 meters south of the original excavation, which contains artifacts never before found in association with a mammoth in North America, including a large ocher stain, bone needles, and a bone bead. Additionally, this secondary area has multiple stone tools, hundreds of pieces of debitage, and bison remains.

Based on the artifacts present and their distribution. this new area of the site appears to be a hearth-centered activity area. Preliminary analyses of the lithic assemblage indicate raw materials were brought to the La Prele Site from sources located both up and downstream of the Platte River. A pilot ocher sourcing study indicates the hematite on site originated from the Hartville Uplift, possibly the Sunrise Mine, approximately 85 km down the valley of the North Platte, to the southeast of site. The La Prele Mammoth and its associated cultural components offer the opportunity to better understand the activities that took place on mammoth butchery sites during the Clovis time period.

The Cody Complex at Yellowstone Lake: A Compilation of Data Collected by the University of Montana from 2009 - 2016
Douglas H. MacDonald (University of Montana)

Since 2009, the University of Montana has conducted seven seasons of archaeological fieldwork at Yellowstone Lake, Wyoming. At an elevation of nearly 8,000 ft. (2,400 m) amsl with 110 miles (180 km) of shoreline, it is North America's largest, high-elevation fresh-water lake. UM's work included testing of more than 75 sites along the northern, eastern, and southern shores. This paper compiles data for Late Paleoindian Cody Complex artifacts collected from nearly two dozen of the lake-area sites. Most recently, in 2016, UM excavated a Cody Complex assemblage from 48YE0001 along an ancient lake shoreline near Fishing Bridge. We analyze Yellowstone Lake Cody Complex data to interpret Late Paleoindian hunter-gatherer settlement patterns in the Greater Yellowstone Ecosystem.

Bison migration: Implications for Ancient Dene Cultures
Jessica Z. Metcalfe (University of British Columbia)

Reconstructing ancient bison behaviour is critical for understanding ancient Dene people for whom bison were food, shelter, equipment, and ancestors. How far did individual bison migrate? Were their migrations predictable? Researchers have attempted to answer these questions using a variety of strategies, including historical accounts, ecological analogies, faunal assemblages, and isotopic analyses. These studies have reached different conclusions – in part because of the limitations associated with each type of evidence, but also because bison mobility was likely variable over time and space, differing in response to local conditions and contexts. This paper will outline what we do and do not know about bison mobility, focusing on C3-dominated environments occupied by Dene people: the Northern Plains, Great Basin, and Colorado Plateau. Using isotopic analysis of bison remains, two main questions will be addressed. In the Northern Plains, did bison regularly migrate between the prairies and parklands? And, did Promontory people hunt bison in distant locations? These examples demonstrate how isotopic analysis of bison remains can provide insight into Dene cultures.

The Gods of the Valleys Are Not the Gods of the Hills: Efforts to Reclassify Archaeological Phases in the Foothills of West-Central Alberta
Dan Meyer (Lifeways of Canada) and Jason Roe (Lifeways of Canada)

The archaeological foundations of Alberta are in its Plains to the south, and to a lesser extent in the mountains of the Crowsnest Pass and Waterton in the southwest. Unfortunately, this led to many early studies further to the north, both in the forested foothills and mountains and in the boreal forest, where Plains culture chronologies were applied to materials a considerable distance from the Plains, both physically and perhaps culturally. This has been most evident in terms of things such as projectile point typologies, but has also impacted cultural phase designations for materials collected. We present here cultural phases relatively newly defined on the basis of fifteen years of archaeological work in the foothills of west-central Alberta. This culturally chronology still requires further testing and evidence, which will be a significant challenge in this part of the Rockies, with conditions perhaps not experienced elsewhere along the mountain front.

The Yellowhead Mine and Townsite: Coal Mining Life at the Gates of the Rockies in Alberta, 1910-1919
Dan Meyer (Lifeways of Canada Limited)

The Coal Branch, just to the east of Jasper National Park, is not as well known to history as the grand mines and towns of the Crowsnest Pass. With the exception of some towns like Mountain Park, many small mines and associated towns opened and closed after only relatively short operating lives. One of the first in the Coal Branch to open and close was the Yellowhead Mine near Robb, Alberta. Using materials excavated over three seasons at the site, this paper will present the short history of the mine and the hardscrabble miners and families who pioneered resource extraction activities in a young Alberta.

Only Time Will Tell: Reconstructing Site Chronology at the 5BL148 Game Drive, Rollins Pass, Colorado

Kelton A. Meyer (Center for Mountain and Plains Archaeology, Department of Anthropology, Colorado State University)

The game drives of Rollins Pass, Colorado are currently recognized as the densest concentration of communal hunting sites at high-altitude in North America. Prehistoric Native American groups constructed low-lying stone walls, cairns, and hunting blind features into the alpine tundra and talus slopes surrounding Rollins Pass and nearby mountain peaks. Hunters used atlatl darts and arrow projectiles to hunt small and medium sized game passing through intercept zones at these game drives. Unfavorable environmental conditions and minimal site deposition provide difficulties in securing radiocarbon samples to date these high-altitude sites, many of which approach 12,000 ft. in altitude (3600 meters). Multiple sampling methods are used to assess the depth of time represented at the largest game drive site at Rollins Pass, 5BL148. More than 2,000 meters of stone wall segments have been mapped at the site, including 50 hunting blinds and several associated cairn alignments. Size-frequency lichenometry of subgenus Rhizocarpon thalli, diagnostic projectile points collected during surface survey, and radiocarbon samples taken from cored hunting blinds provide a dataset to reconstruct site chronology. This paper presents the preliminary results of this chronological assessment.

Reconstructing the retreat of the Laurentide Ice Sheet from central and northern Alberta using geomorphic evidence: Implications for the timing of the ice-free corridor

Ken Munyikwa (Athabasca University)

At the height of the Last Glacial Maximum, the Laurentide Ice Sheet (LIS) is thought to have coalesced in western Canada with the Cordilleran Ice Sheet (CIS). Subsequently, the LIS began to recede and by the beginning of the Holocene, it had retreated from most of Alberta. However, while the retreat pattern and ice sheet geometry have been determined in many areas, the chronology of the recession of the LIS has been difficult to establish due to the scarcity of contemporaneous organic remains that can be dated. As a result, the timing of the progressive positions of the ice sheet margin, including the opening up of the ice-free corridor that formed between the LIS and CIS in the early stages of the separation, is not known with certainty. In an effort to construct a chronological framework for the retreat of the LIS from Alberta, this presentation provides a compilation of reconstructions of the ice sheet retreat margins that have been reported in various studies using geomorphic evidence. The evidence includes morainal systems as well as hydrological networks formed by meltwaters, glaciofluvial and glaciolacustrine deposits associated with proglacial lakes, and other ice marginal features. The reconstruction demonstrates that proglacial lakes that emerged behind the retreating ice sheet, including lakes Peace, Windfall, Fawcette, Fahler, Chisholm, Hay, McMurray, and McConnell resulted in the emplacement of fine grained sediment on the lake beds and in associated deltas. When the lakes drained, with the progressive northeastward retreat of the LIS, the fine grained sediments that became subaerially exposed were, in many places,

mobilized by wind to form eolian bedforms, including dune systems. By dating the dune deposits using luminescence methods, it is possible to assign minimum ages to the retreat of the LIS from the respective depositional sites.

Luminescence dating measures energy from environmental ionizing radiation that has accumulated in mineral grains of quartz or feldspar. If the annual rate at which the energy is acquired (dose rate) is determined, the burial ages of the sands can be ascertained by dividing the stored energy, or paleodose, by the dose rate. Eolian deposition on the postglacial landscape is thought to have been initiated in the immediate aftermath of the retreat of the LIS. Thus, burial ages of the eolian sands, especially from the lower part of the dunes, provide minimum age constraints for the retreat of the LIS.

Establishing the chronology of the late Pleistocene retreat of the LIS from western Alberta facilitates the assignment of a temporal scale to the postglacial evolution of the region's biotic, faunal, and physical environments. Additionally, the chronology makes it possible to determine the timing of the emergence of the ice-free corridor. The corridor has previously been cited as a possible conduit used by the First Americans to spread from Beringia to mid and low latitude regions of the Americas. Hence, an accurate LIS retreat chronology would make it possible to ascertain the earliest period by which this would have been possible.

Contributions of the Archaeology Society of Alberta
Brent Murphy (Lifeways of Canada) and Laura Nuttall (Stantec Consulting Inc.)

With a mandate to promote archaeological regulations and act as a liaison between the provincial regulator and museum and the public, the Archaeological Society of Alberta has been involved promoting Alberta archaeology for more than 40 years. In this time, the membership, made up of both professional and avocational archaeologists, have contributed greatly to research and public outreach. This paper explores some of the contributions of the society and its members at some of the most important archaeological sites discovered in recent times.

A GIS Predictive Model for Paleoindian Sites in Yellowstone
Matthew R. Nelson and Douglas H. MacDonald (University of Montana)

This paper presents a predictive model of Paleoindian archaeological site locations to better understand settlement patterns and land use by early peoples in the Greater Yellowstone Ecosystem of the northwestern Great Plains and Rocky Mountains. While only a small portion—less than five percent—of Yellowstone National Park (YNP) has been surveyed by professional archaeologists, sufficient site location data have been collected to propose a Geographic Information Systems (GIS) predictive model of Paleoindian site locations. Results of the model indicate that Paleoindian sites are most typically located near: 1) terrace edges; 2) areas with low relief; 3) stream/river confluences; 4) forest ecotones; and 5) glaciofluvial terraces/plains and glaciated rolling uplands. On the ground testing of the model indicates its robustness. While the model was prepared specifically to predict site locations within YNP, we believe it has

correlative value for Paleoindian site locations in much of the Greater Yellowstone Ecosystem of Wyoming, Montana, and Idaho.

The Story of the Sun Greenhouse Co. (1927 – 1973), Anthracite, Banff National Park
Tommy Y. Ng (Bison Historical Services Ltd.)

The story of the Sun Greenhouse Co. is not about explorers, builders, and adventurers of which Banff has in abundance. It is about a pioneer, a Chinese immigrant, Gee Moy who paid the infamous Head Tax, and built a successful vegetable farming business on a piece of non-arable land within the Rocky Mountains. The Sun Greenhouse thrived for two generations on 10.4 acres of land, and employed up to 16 people. It supplied needed produce to soldiers stationed in Banff during WWII, the Banff Springs Hotel, Chateau Lake Louise, and various local grocery outlets. It was said that any time a person spent eating in Banff from 1927 to 1973, it was most likely he/she had eaten a product from the Sun Greenhouse. And this included Billy Carver, the "Hermit of Inglismaldie," a recluse, whose only contact was Gee Moy. The story of the Sun Greenhouse is one of those unsung histories about a family farming business that became an essential fabric of the early Banff community.

What's old is new again: Public Archaeology at the El Pueblo Archaeology Site
Holly Norton (History Colorado)

This winter/spring, History Colorado began an effort to re-analyze and re-house the El Pueblo Archaeology Collection, 20 linear feet of documentation and nearly 100,000 artifacts related to the 1840s era Trading Post originally excavated in the 1990s by William and Nancy Buckles. Immediately the community rallied to support the project, just as they did under the Buckles' during the original excavations. This paper proposes to discuss the ever-evolving community outreach, and it's potentials and pitfalls for the El Pueblo Archaeology Project.

The Rocky Mountains or Mis-Tōkis: Backbone Of The Blackfoot Homeland
Gerald A. Oetelaar, (University of Calgary)

Blackfoot elders describe their homeland as extending from omaka-ty or the Big River in the north (North Saskatchewan) to ponokasis-'ughty or Elk River (Yellowstone) in the south and from mis-tōkis or Rocky Mountains in the west to omaxi-spatchikway or Great Sandhills in the east. This homeland consists of an upper, a middle and a lower world, each of which is inhabited by sentient beings whose interactions are based on the principles of reciprocity and trust. Some of the powerful beings in the Blackfoot cosmos occupy residences located within named mountain peaks scattered along the Front Range of the Rocky Mountains. The majority of the named peaks are depicted as icons on maps produced for Peter Fidler in the winter of 1801 and 1802. Moreover, the descriptive names of these landscape features encapsulate the image of the peaks as seen from specific reference points along the respective trails. In addition to their role as anchors for the network of trails extending eastward across the homeland, the mountain peaks also serve as landmarks guiding travelers to passes across the mountainous terrain and to portals which provide access to the beings in the upper and lower worlds. In this

presentation, I propose to describe and discuss the importance of these named mountain peaks to the Blackfoot and their ancestors. In fact, the archaeological evidence suggests that the names and stories associated with these peaks may have been appropriated by the Blackfoot ancestors from the earliest inhabitants of the area.

Ice Patch Research in the Teton Mountains and its Contributions to the Paleoecological Reconstruction of the Greater Yellowstone Area

Marcia Peterson (Wyoming State Archaeologist), Rebecca A. Sgouros (Jackson Hole Historical Society and Museum), and Matthew A. Stirn (Jackson Hole Historical Society and Museum)

Since 2014, several researchers have been investigating ice patches in the Jedediah Smith Wilderness Area of the Caribou Targhee National Forest and Grand Teton National Park. Although a few historic and prehistoric artifacts have been recovered, numerous paleobiological specimens have been collected. These include at least five wood samples from dead trees and numerous bison bones melting from the ice patches. The wood samples were identified to species and radiocarbon dated, if possible, and these data were used to reconstruct past tree line elevations and as proxies for prehistoric climate regimes. The bison bones were identified to element, if possible, and radiocarbon dated. These data have been used to reconstruct the prehistoric lifeways of bison in the higher elevations of the Greater Yellowstone Area. This paper presents the results of these analyses and their implications for future ice patch research in the Tetons.

Archaeology, Outreach, and Education: Public Archaeology at the Office of the Wyoming State Archaeologist

Greg Pierce (Wyoming State Archaeologist)

Over the course of the past three years the Office of the Wyoming State Archaeologist (OWSA) has become increasingly focused on the development of public outreach initiatives to more effectively engage the Wyoming citizenry in the work that we do. The purposes of these efforts are threefold. First, and most importantly, we firmly believe that archaeological investigations benefit from the inclusion of a wide range of stakeholders in the identification, investigation, interpretation, and preservation of these resources. The various perspectives these stakeholders offer work to make our understanding of the archaeological record richer and more complete. Additionally, as a public agency conducting archaeology it is incumbent upon us to include interested individuals in the archaeological process.

Some Thoughts Synthesizing 80+ Years of Paleoindian Research of the Gunnison Basin, Southwestern Colorado

Bonnie L. Pitblado (University of Oklahoma)

Colorado's Upper Gunnison Basin has enjoyed archaeological attention for much longer than most Rocky Mountain regions. From work by *Colorado Archaeological Society* founder C.T. Hurst in the 1930s, through some of Colorado's earliest large-scale compliance projects in the 1960s – 1980s, to robust Paleoindian research programs pursued over the past two decades,

archaeologists have learned a great deal about the earliest human use of this ecologically diverse region.

This paper briefly overviews the robust history of archaeology in the UGB but focuses primarily on synthesizing the Paleoindian record of the Basin and evaluating if and how it changed from Early (pre-10,000 rcybp) through Late (10,000 – 8,000 rcybp) Paleoindian time. Key conclusions include that Folsom people occupied the Upper Gunnison Basin intensively and probably year-round, and that their commitment to UGB living did not change much over the subsequent 2,000+ years. The data also show that the eclectic UGB landscape encouraged flexibility in mobility strategies throughout the Paleoindian era.

The Kattainten Site (42DA1787): Formative Era Residential Occupation in Browns Park, Utah
Kelly J. Pool, Metcalf Archaeological Consultants, Inc.

The multicomponent Kattainten site (42DA1787), situated above the Green River in Browns Park and excavated by Metcalf for the WIC Kanda Lateral Project, contained two house pits, each dating to ca. 1300 BP (1307 to 1181 cal BP). These ages fall into the Fremont culture time period (1400 to 650 cal BP). Fremont farmers flourished nearby to the west in the Uinta Basin during this time, and an expansion northward of the Fremont logistical foraging range along the Green River (towards Browns Park) about A.D. 650 to 800 has been postulated. Although the Kattainten house pits exhibit AMS dates similar to many of the Uinta Fremont residential features, material culture associated with the Kattainten residential component lacks a full suite of the attributes sometimes considered as Fremont. Further, many of the Fremont farmer house pit morphologies differ from those of the Kattainten foragers. Instead, the Kattainten house pits most closely resemble the morphology of structural remains on similarly dated forager residential sites immediately to the north in the Wyoming Basin. This paper explores cultural interactions among the inhabitants of these three regions during the Formative era.

Colonization of Beringia and the New World: Patterns and Constraints
Ben A. Potter (University of Alaska Fairbanks)

Recent archaeological, genetic, and paleoecological research have yielded largely disassociated models on the peopling of the Americas. Viewed from a processual perspective, multiple lines of evidence suggest constraints within which to construct and test viable models for the earliest colonization. The chronology for late Pleistocene human expansion into Northeast Asia, Beringia, and North America south of the Ice Sheets and the route(s) utilized are evaluated with respect to current evidence.

When the Southwest is Really the Southeast: Re-Thinking Linguistic Relationships Between Apachean and 'Northern' Athapaskan
Sally Rice (University of Alberta), Conor Snoek (University of Lethbridge)

Linguistic evidence has long played an important role in determining the relationship of Apachean peoples to Northern Athapaskans (Sapir 1936). While the membership of Apachean

languages in the Athapaskan family is firmly established, the more precise determination of their linguistic affiliation to Northern Athapaskan linguistic groups has proved more difficult (K. Rice 2012), partly due to lack of available data and the insufficient power of the analytic methods employed. Recent scholarship has led to improved availability and quality of lexical source materials for Athapaskan. Lexical comparison, the cornerstone of historical linguistic research, can now be carried out on more wide-ranging and accurate data. Methodologically, comparative linguistics has developed to a stage where reliable methods for the investigation of historical linguistic relationships have become established, especially in the fields of dialectometry (Nerbonne et al. 2011) and phylogenetic linguistics (Greenhill & Gray 2009). In this paper, we apply these quantitative methods to lexical data compiled in the Pan-Athapaskan Comparative Lexicon, a database containing over 20,000 words from the terminological domains of anatomy, kinship, fauna/fish/insects, flora, landscape, gaming, among others. We compare the results of our analyses with existing hypotheses concerning the closest linguistic relatives of the Apacheans.

Embarras Bipoints: A Diagnostic Tool of the Early Middle Period Found Along the Eastern Slopes of Alberta.
Jason Roe (Lifeways of Canada)

Over the last 15 years, along the Eastern Slopes, a suite of new Middle Period stone tool types have begun to emerge. The Embarras Bipoint is one of these tool types. This presentation will showcase this tool and discuss some of its diagnostic characteristic such as morphology, toolstone preference, and most importantly its reduction sequence. The objective will be to demonstrate that in the absence of projectile points, datable materials, or other diagnostic artifacts, a common characteristic of Eastern Slopes archaeological sites, Embarras Bipoints are a strong temporal marker of the Middle Period.

Peak Conflict: Recreational Mountain Climbing Impacts to High Altitude Prayer and Fasting Sites in Glacier National Park, MT, USA.
Brent Rowley and Kira Mullen (National Parks Service) (POSTER)

Glacier National Park (Montana, USA) contains one of the highest concentrations of high altitude vision quest sites in North America. These sites, referred to regionally as prayer and fasting sites, are an important part of the traditional cultural landscape. They represent both evidence of high altitude prehistoric religious use but also continued ethnographic use of the alpine by members of regional Native American tribes. The physical presence of these sites consist of various forms of rock alignments, cairns, and stone circles (prayer beds). During the past 15 years there has been a marked shift in recreational use of alpine areas of the park where mountain climbing has become exponentially more popular than it once was. This increase in climbing has resulted in surge of visitor traffic to the park's prayer and fasting sites. During the 2017 field season the National Park Service has partnered with the Blackfeet Community College to undertake a multi-year study of mountain climbing impacts to prayer and fasting sites. This information will be used to develop programming to educate visitors

climbing in the high country about these unique and sensitive sites. This poster will present the preliminary results of the first year of fieldwork.

"A huddle of dirty dwellings": Some observations on the built heritage of Field, BC.
Nancy Saxberg (AMEC Foster Wheeler)

Situated in the middle of the sixth most-visited national park in Canada, the village of Field, BC is a bit of an anomaly. It is not considered a resort town like Banff, Jasper or Lake Louise, and it is rarely a first choice destination for visitors. Everything about the town, from the circumstances of its establishment and the process of naming it, to its continuing existence, is an undeveloped story. Its days as an important rail hub are long over but the railway context looms large and remains in opposition to an ongoing perception of national parks as "wilderness" in a way that shopping centres, golf courses and ski hills do not. Efforts to draw visitors have focused on everything but the town itself and with such a spectacular natural setting, one cannot be surprised. Nonetheless, Field's built heritage contains a misunderstood record of mundane residential settlement that other mountain park communities left behind generations ago. This presentation is a brief overview of recent research that offers insight into Field's place in the historic cultural landscape of the mountain parks.

Prehistoric Drive Lines in Extreme Environments: A Cross-Regional Comparison between Sites in the Mountains of Colorado and Jordan
John M. Scott, Metcalf Archaeological Consultants, Inc.

Ungulate drive lines have been utilized worldwide for millennia and have a distinctive, uniform organizational structure that is likely due to similar function. Site plan details appear to vary minimally with terrain, environment, or culture. An example of drive lines from the high mountains of Colorado, the Monarch Pass site, is compared with a drive line from the mountainous desert of southern Jordan, the Titin Kite. This paper presents a preliminary look at these two site complexes and highlights comparable and differing attributes. It concludes with implications as to their specific function and reasons for the widespread usage of this site type.

We Were a Mountain People: Understanding Apache Landscape Use
Deni J. Seymour (Independent Research Archaeologist)

Archaeological research that incorporates ethnographic and ethnohistoric data serves as a reliable basis for inference building regarding Apachean landscape use and terrain selection. Predictive success, explanatory value, and incorporation into modern understandings raise confidence levels, while avoiding the pitfalls of unexamined assumptions of continuity. Understanding relevant social and economic issues explains the lifeways practiced by the mobile hunter-raiders known as mountain people.

The Middle Prehistoric in the Eastern Foothills - Two Oxbow Period Sites from the Ya Ha Tinda Ranch

Gareth Spicer (Turtle Island Cultural Resource Management Inc.)

Parks Canada staff carried out a cultural resource assessment in September 2015 at the Ya Ha Tinda Ranch in association with a new road alignment to the ranch accommodation and service facility. As a result of this assessment two new archaeological sites (2475R and 2476R) were identified which were the subject of mitigative excavations by Turtle Island CRM October 18-27, 2015. Based on projectile point styles, occupations date to the Middle Prehistoric, specifically the Oxbow period (4,500-4,100 BP) at both 2475R and 2476R. A single Mckean type (4,200-3,500 BP) projectile point was also recovered from 2476R. This period is associated with the emergence of conical temporary structures (tipi), the rendering of fat from crushed animal bone through rock heated water boiling pits and the construction of field stone type ceremonial structures (medicine wheels). These sites represent prehistoric activity areas represented by multiple occupations with a focus on lithic reduction and stone boiling, likely for the preparation of food. Based on the assemblage recovered, these examples are typical of Oxbow Period sites described from the Northern Plains and likely represent winter occupations by people attracted by the concentration of game and favourable climate provided by Ya Ha Tinda. These cultural attributes would come to dominate the cultures of the Northern Plains with increasing complexity until colonization. As they are currently understood, Oxbow period sites mark the beginning of a cultural and adaptive signature which would become extremely wide spread in the Plains region of Western Canada.

A Paleoindian Presence around the Teton Range

Matt Stirn and Rebecca Sgouros (Jackson Hole Historical Society and Museum)

The Teton Mountains rise abruptly out of high plains, separating Jackson Hole, Wyoming from Teton Valley, Idaho and the Snake River Plain. The archaeology of this particular area remains relatively unexplored and offers an ideal platform for examining the prehistory and lifestyles associated with alpine environments in the Rocky Mountains. In 2014 the Jackson Hole Historical Society and Museum began excavations at the Linn Site, a multicomponent stratified site in eastern Idaho, and began a project recording new archaeological sites in the high Teton Mountains. By looking at the results of the Linn Site excavation, Teton survey, and previous Paleoindian data gathered from Jackson Hole, this paper will explore the relationship that Paleoindian people had with high elevations and how they adapted to and utilized mountainous environments.

The Late Glacial Archaeological Record of Britannia Creek

Christian Thomas (Department of Tourism and Culture, Government of Yukon), Margarita de Guzman (Circle CRM Group), Greg Hare (Department of Tourism and Culture, Government of Yukon), and Nathaly Desjardin (Université du Québec à Montréal)

The Britannia Yukon Hill Site (KfVi-3) was discovered in 2009 during baseline heritage inventories of associated with the development of a major mining project, located in the

Traditional Territories of the Selkirk First Nation and the Tr'ondëk Hwëch'in First Nation. Subsequent significance determination excavations at the site in 2013 resulted in the discovery of a substantial Holocene era occupation spanning a 5,000 year period as well as a smaller late glacial period occupation dated between 12,700 and 13,500 cal BP. The antiquity of the site was further established through detailed excavations (2015) which have confirmed that the late glacial occupation is associated with a paleosol dating between 13,205 and 13,581 cal BP. Datable animal bone has also been recovered from below the paleosol, returning dates between 13,760 and 14,393 cal BP, that are currently not associated with cultural materials. The site is significant, representing the only discovery of an intact late glacial period archaeological occupation on the main branch of the Yukon River and is the easternmost site in Beringia for this time period.

Southern Yukon Arrow Design and Function

Christian Thomas (Cultural Services Branch, Yukon Department of Tourism and Culture), Greg Hare (Cultural Services Branch, Yukon Department of Tourism and Culture), Sheila Greer (Heritage, Lands and Resources, Champagne and Aishihik First Nation), Josh Reuther (Curator of Archaeology, University of Alaska Museum of the North), Jason Rogers (Senior Projects Archaeologist, Northern Land Use Resource Inc.)

Bow and arrow technology spread through the northwest of North America, replacing the the throwing dart, over a period of 2000 years before European contact. In much of Yukon-Alaska, the technology is characterized by complex composite bone or antler points that are highly stylized. In this talk we will compare 48 examples of arrow technology recovered from Yukon ice patches to descriptions provided from hunters in a variety of ethnographies with the objective of better understanding indigenous crafting styles and intents.

Remnant Glacial Ice Patches: Revealing Former Landscapes Through Preserved Plant and Animal Remains

Diana Tirlea (Royal Alberta Museum), Alwynne B. Beaudoin (Royal Alberta Museum), Krista Williams (Royal Alberta Museum and Alberta Biodiversity Monitoring Institute), Richard Caners (Royal Alberta Museum), Ashley Thorsen (Royal Alberta Museum and Alberta Biodiversity Monitoring Institute), Lisa Lumley (Royal Alberta Museum and Alberta Biodiversity Monitoring Institute), and Greg Horne (Parks Canada)

Interest in ice patches and alpine ecosystems continues to spark research and use of montane areas. These ecosystems are important sources of drinking water, raw materials and traditional use by many people. Retreated glaciers offer an opportunity to analyze exposed material to determine changes in vegetation, which may impact human land use in the future. Gaining a better understanding of past landscapes also provides an understanding of the type of environment and habitat people were living in and utilizing in the past.

As glaciers recede overtime, they are potential sources of overridden organic material which can be used to interpret past changes in the landscape. However, in Alberta it is rare to find suitable overridden material which can be studied for macrofossils and pollen. Recently,

organic matter overridden by Fraser Glacier (Jasper National Park) was exposed on a remnant of the receding glacier. The processed sample revealed anarray of well-preserved plant and animal remains. These included conifer needles, wood and cone fragments (bracts), seeds, fungal spores, pollen, charcoal, bryophytes (moss), orbatid mites and other arthropod fragments.

Radiocarbon dating of bulk organic matter returned a conventional radiocarbon date of 630 +/- 30 yrs BP (present=1950), which aligns with the Little Ice Age period (14th to mid-19th century); confirmation of this date is underway. Preliminary results suggest that at the time of sample deposition the forest was further upslope and contained a number of taxa indicative of mountainous habitat. This is supported through multiple proxies.
The pollen and seed record indicated a denser, higher-than-present, spruce dominated conifer forest. The pollen record had low occurrence of herbaceous plant species. Based on pollen dispersal and deposition, this suggests a more closed and denser forest compared to more open and sparsely treed forest. Bryophyte macrofossils support inferences of a mountainous terrain. Bryophytes are often microhabitat specialists and are closely associated with fine-scale environmental gradients. Our initial assessment revealed several bryophytes that are affiliated with a broad range of moisture and substrate conditions. These bryophyte taxa also represent a number of life-history strategies from perennials to colonists, suggesting both the presence of mature populations and local disturbance. Several oribatid mite species were identified. Some of these mite species are associated with higher elevation habitats, while almost all of the species are associated with arboreal and/or mossy habitats.

Ice Patch Archaeology in a Landscape Context: Chipped Stone, Snow, and Ice in the Southern Absarokas, NW Wyoming

Lawrence Todd (Draper Museum of Natural History), Rachel Reckin (Cambridge University), and Robert Kelly (University of Wyoming)

Investigation of ice patches has focused on the documentation and recovery of the remarkably rare and exceedingly endangered organic materials melting out of shrinking alpine ice. Based on models developed by Lee of the likelihood that organic materials could be revealed as ice patches shrink, since 2014 we have been monitoring a group of eleven ice patches in the southern Absaroka Mountains, Greater Yellowstone Ecosystem, Wyoming. The recovery of both organic artifactual material and other biological materials has been successful, with several wooden artifacts, animal bones, and tree stumps having been discovered. The focus of this presentation is not, however, on the ice patch organics but rather on the more durable chipped stone record documented in the area. To date, we have recorded spatial and attribute data on over 19,000 pieces of chipped stone in proximity to these Absaroka ice patches and have diagnostic projectile points ranging from Paleoindian through Late Prehistoric in age. Spatial patterning of the chipped stone provides clues to the role that alpine ice and snow distributions may have played in the operation of prehistoric systems and suggests that their locations may have been a key factor conditioning locational aspects of landuse decisions.

Dumps and Ditches: Historic Archaeology updates in two Mountain Parks
Michael Turney (Golder Associates Ltd.)

During the last two field seasons, Golder archaeologists participated in a number of Parks Canada/Public Works supported heritage resource investigations in both Glacier and Jasper National Parks. In both cases the mountain landscapes led to constrained project footprints, and involved investigations of historic linear transportation corridors (historic rail and highway construction and use). Utilizing refuse from occupations ranging from the late Victorian Era to the 1970's, Golder archaeologists were able to add additional detail to the historic record of these mountain parks. In GNP the archaeological field survey and recovered assemblages, provides insight about consumerism in the late Victorian / Edwardian Period that could be usefully compared to assemblages from the other nearby sites (Glacier Hotel, Glacier Station, and Cambie Siding). Insights into the history of construction and early utilization of the TransCanada Highway will also be discussed. In Jasper, the various stages of the Icefields highway construction and utilization of the Park are well marked on the landscape through discarded refuse, assisting us in the chronicling its early construction, utilization of the area military training in the 1940's, and subsequent realignments.

Brazeau Reservoir: a preliminary investigation of sites within the Eastern Slopes Region.
Amandah van Merlin (Strathcona Archaeological Society) and Madeline Coleman (Strathcona Archaeological Society)

In May of 2016, members of the Strathcona Archaeological Society led an archaeological survey and a trial excavation at four sites on the Brazeau Reservoir near Drayton Valley, Alberta. This was a follow up to a pilot survey of the area conducted in 2015. The reservoir is located in the Eastern Slopes region of Alberta and allows for easier survey access to landscapes that are generally more difficult to reach. In this talk we will be discussing the preliminary data that we have gathered in 2015 and 2016 and how this will broaden the understanding of the Eastern Slopes region within Alberta and North America.

Archaeology on the Kanda Lateral in Northeast Utah and Southwest Wyoming
Garrett Williams, Gail Lincoln, Michael D. Metcalf, Amy Nelson, Kelly J. Pool, Naomi Rintoul, Nicole Sauvageau, and John M. Scott (Metcalf Archaeological Consultants, Inc.) (POSTER)

The WIC Kanda Lateral is a 122-mile long natural gas pipeline connecting Uintah County, Utah, and Sweetwater County, Wyoming. Fieldwork undertaken by Metcalf Archaeological Consultants, Inc. included pedestrian survey and evaluative testing; data recovery excavations; production of historic contexts; construction monitoring; and the hosting of a Project Archaeology field school. Produced for the public outreach component, this poster summarizes project results. Highlights include large-scale data recovery in Browns Park at the Kattainten site that documented five components ranging in age from ca. 1,000 to 5,000 years old, with one including residential use at 1300 BP; excavation of a small camp in the Uinta Basin with evidence of charred corn dating to 1520 BP; data recovery of a vegetal processing station above the Green River in Browns Park, with a slab-lined hearth dated to about 4,500 years ago;

surface analysis of two Uinta Mountain Group orthoquartzite prehistoric quarry sites; and segment documentation of the Vernal to Green River Freight Road, which appeared on historic maps as early as 1867 and connected Green River, Wyoming, with Vernal, Utah, through Browns Park.

Using Digital Terrain Analysis for Archaeological Modelling in the Eastern Slopes of Alberta
Robin Woywitka (Archaeological Survey of Alberta)

The Alberta Government has purchased extensive Light and Detection Ranging (LiDAR) derived digital elevation models for the majority of the eastern slopes of the Rocky Mountains. Terrain can be accurately characterized from very local to regional scales using these datasets. This paper presents digital terrain analysis techniques that can be used to describe multi-scalar geomorphic and archaeological landscapes, and how these tools can aid in the identification of areas of archaeological sensitivity in the eastern slopes.

The Archaeological Survey of Alberta Ice-Free Corridor Survey Project
Robin Woywitka (Archaeological Survey of Alberta)

The First Albertans project was spearheaded by the Archaeological Survey of Alberta in the late 1980s and 1990s. The program focused on documenting known Late Pleistocene sites and collections in the Province, as well as identifying new areas where immediate post-glacial human occupation may have occurred within the Ice-Free Corridor. This program was re-initiated in 2016 as the Ice-Free Corridor Survey Project. Survey target areas in the Wapiti, North Saskatchewan, and Smoky River drainages were selected by geomorphic interpretation of LiDAR-derived bare earth elevation models, and local collections were examined for early Paleoindian artifacts. Depositional environments likely to date to the early Pleistocene were identified in the field, and several early Paleoindian projectile point types were identified in collections. The results are promising, and we hope to continue the project in collaboration with other interested research groups.

Intermontane Migration Routes Inferred from Early and Late Promontory Ceramics
Gabriel Yanicki (University of Alberta)

A critical reexamination of ceramics from the deeply stratified and extensively dated deposits at Promontory Cave 1 indicates not only who migrating Proto-Apacheans learned their ceramic tradition from, but the routes they followed prior to and after arriving at the Great Salt Lake. Similarities between the earliest Promontory ceramics (ca. AD 1240–1290) and calcite-tempered Uinta Gray, not Great Salt Lake Gray, suggest a tenure somewhere on the northern Colorado Plateau and social recruitment of Uinta Fremont women prior to their arrival in the eastern Great Basin. However, later dates for Promontory ceramics in the Utah Valley and their lack of calcite temper suggest that the Promontory people did not penetrate the Uinta Basin before moving west across the Wasatch Range. Instead, an efflorescence of calcite-tempered pottery in mixed assemblages at sites surrounding Willard Bay around the time of the Promontory Caves' occupation suggests that the Bear and/or Ogden–Weber drainages were the

routes through the Wasatch Range from the northern Uinta Fremont frontier in the Wyoming Basin. Subsequent dispersal of Promontory pottery in Utah Valley to the south and Snake River Plain to the north, and similarities between Promontory and Dismal River ceramics on the Central Plains, are of interest for their indication of several stages of Proto-Apachean differentiation in the intermountain west, and which implicate Proto-Apachean involvement with Proto-Kiowa ancestors in the terminal Fremont era.

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LADYSLIPPER	137	110	137	80	-	55	65	1484	52 x 29	14'
ORCHID	137	110	137	80	-	55	65	1537	50 x 28	14'
WILD ROSE BALLROOM	692	460	540	350	-	-	-	6042	53 x 114	10'
WAPITI	-	-	-	-	10	-	-	352	22 x 16	10'
WOLVERINE	45	32	50	24	20	16	20	528	24 x 22	10'
CARIBOU	45	32	50	24	20	16	20	528	24 x 22	10'
SQUIRREL	45	32	50	24	20	16	20	528	24 x 22	10'
COUGAR	30	24	30	12	12	-	-	432	23 x 15	10'
GRIZZLY	30	24	30	12	12	-	-	432	23 x 18	10'
COUGAR/GRIZZLY	55	48	60	30	24	24	27	864	23 x 33	10'

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Town of Canmore Visitor Map

CANMORE

Wapiti Campground

Golf Course

Golf Course & Curling Club

Canmore Nordic Center

Town Center

Coast Hotel

Rundle Forbay

Quarry Lake

Bow River

Canmore Creek

Cougar Creek

Spring Creek

Policeman's Creek

Bill Griffith's Creek

Three Sisters Creek

To Banff

To Exshaw

To Calgary

Transcanada Highway

Mountain Ave

C.P.R.

Larch Cl

Larch Ave

8 Ave

17 St

16 St

15 St

14 St

13 St

11 St

10 St

9 St

8 (Main) St

7 St

6 St

5 St

4 St

3 St

2 St

1 St

12 Ave

11 Ave

Fairholme Dr

9 Ave

River Rd

MacDonald Pl

Circle

Evergreen

Three Sisters Dr

Rundle Dr

Rundle View Dr

Spray Lakes Road

Prospect Heights

McNeil

Carey

Van Horne

Walker

Three Sisters Drive

Lawrence Grassi Ridge

Wilson Way

Three Sisters Parkway

Railway Ave

Bow Valley Trail

Hospital Pl

7 Ave

6 Ave

5 Ave

3 Ave

2 Ave

1 Ave

Palliser Trail

Little Ravine Rd

Silvertip Trail

Silvertip Rd

Silvertip Heights

Benchlands Trail

Benchlands Terr

100 Benchlands Terr

200 Benchlands Terr

Cougar Pl Rd

Cougar Creek Drive

Kananaskis Way

Grizzly Cres

Grotto Road

Lady McDonald Dr

Moraine Rd

Glacier Drive

Ridge Rd

Elk Run Blvd

Highway 1A

Cairns Ld

Casale Pl

Miskow Close

Dyrgas Gate

Hubman Landing

Three Sisters Blvd

Three Sisters Parkway

Armstrong Pl

Stewart Creek Dr

Legend

- Washrooms
- Campground - Tent
- Campground - RV
- Fire Station
- Boat Launch
- Horseback Riding
- Heliport
- Hospital
- Information Centre
- RCMP (Police)
- Wedding Location
- Trails
- Trans Canada Trail
- Green Spaces

1. Centennial Park
2. Millenium Park
3. Riverside Park
4. Winter Skating Pond
5. Lions Park
6. Recreation Centre
7. Elk Run Park
8. NWMP Barracks
9. Public Library and Art Gallery
10. To Grassi Lakes and Kananaskis Country
11. Senior's Centre
12. Alpine Club of Canada
13. Civic Centre, Museum, FCSS Resource Centre

Town Center

10 Street

9 Street

8 (Main) Street

7 (Veteran's Way) Street

8 Avenue

7 Avenue

6 Avenue (Marra's Way)

5 Ave

Railway Ave

Policeman's Creek

Canmore Museum

Map produced by the Town of Canmore, GIS services, September 2005
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