

# NEWSLETTER



## Rocky Mountain Trench Ecosystem Restoration Program

June 2010



*Close to 40 people gathered at Skookumchuck Prairie on June 2 to hear range agrologists Tim Ross and Brian Wikeem present findings from their continuing study of wildlife and cattle grazing in the East Kootenay. Ross and Wikeem began researching the impacts of grazing on rangelands almost 20 years ago. Their 1997 report was a major impetus for establishment of the Trench Ecosystem Restoration Program and their work remains the only long-term research project of its kind in BC. In 2009 they returned to their original monitoring sites. Following are excerpts from the executive summary of this latest report. For the complete summary go to [www.trenchsociety.com](http://www.trenchsociety.com).*

### East Kootenay Wildlife Cattle Vegetation Monitoring: Implications of Long-term Results for Agriculture, Wildlife and Forest Management

By TIM ROSS MSc, PAg and BRIAN WIKEEM PhD, PAg

In 1990 the East Kootenay Trench Agriculture/Wildlife Committee was formed to mitigate long-standing conflicts concerning forage allocation among cattle, elk and deer in the Rocky Mountain Trench in southeastern BC.

A habitat monitoring program was initiated in 1991 on four wildlife winter ranges. Vegetation data were collected between 1991–94 and a report was completed in 1997. This project extends that report by re-sampling the original sites and evaluating the effects of 18 years of wildlife and cattle grazing.

#### CHANGES IN RANGE CONDITION

The Skookumchuck Historical Exclosure was constructed in 1951 and sampled at about 10-year intervals from 1960 to 2009. Both the grazed and ungrazed areas were in Poor range condition in 1951 and were dominated by Sandberg's

bluegrass, low pussytoes, prairie Junegrass and needle-and-thread.

Over the 60 years of protection inside the exclosure, bluebunch wheatgrass and needle-and-thread initially increased and then declined, while rough fescue and Idaho fescue increased.

Since 1970 rough fescue and Idaho fescue have jointly dominated the plant community. By 1982 range condition inside the exclosure was rated as Good and it has remained unchanged to 2009. On the grazed site, range condition has remained Poor for nearly 60 years with no sign of improvement.

#### RESULTS AT SKOOKUMCHUCK, PREMIER RIDGE, PICKERING HILLS

The Skookumchuck Prairie “Three-way Exclosure” was divided into three grazing treatment areas to allow differential access to cattle, wildlife, and cattle and wildlife together. An exclosure was also constructed to prevent all ungulate grazing.

In 1991 all four sites were rated in Poor range condition and little change was apparent in any of the treatment areas until 2003. By 2003, range condition in the Ungulate exclosure had advanced from Poor to Fair but range condition has not improved since. Range condition on the Cattle Only area also improved from Poor to Fair between 1991 and 2009 mostly because of an increase in rough fescue. There were no changes in range condition in the Wildlife Only and Combined Use areas from 1991 and 2009.

Range condition at Premier Ridge and Pickering Hills was assessed as Poor in 1991 and it remained Poor inside and outside the exclosures in 2009.

Evaluation of range condition on East Kootenay ranges can be challenging. Results from this study indicate that Idaho fescue and rough fescue are Decreaser species on the sites sampled, while bluebunch wheatgrass, needle-and-thread and Richardson's needlegrass act as Increasers. With mixed ungulate grazing, Saskatoon should also be regarded as a Decreaser species, while bitterbrush appears to increase under mixed ungulate grazing.

Plant community assessments conducted in this study revealed that range condition on some sites has not improved for up to 60 years. Continued heavy and/or sequential forage use have stagnated these sites, leaving them in a steady state that is not easily reversible and unlikely with grazing management alone.

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The exclosures at the Skookumchuck Historical site, and the Ungulate exclosure and Cattle Only area at the Three-way Exclosure site, demonstrate that these rangelands are much more resilient than perhaps previously thought and they have a capacity to recover given proper management and sufficient time.

The outcome of recovery, however, will likely be plant communities containing a mix of native dominant species and naturalized alien plants that have reached a new “steady state” (potential natural community). While much can be done with improved livestock and wildlife management, external management inputs may be necessary to achieve desired plant communities.

Fire, chemical, or mechanical treatments may be required to shift bitterbrush-dominated communities across the threshold from their current lower-seral steady state to a higher seral stage that has less bitterbrush and more desirable shrubs such as Saskatoon, low Oregon grape and buckbrush.

### RECOMMENDATIONS

The most important objective for the sustainability of integrated resources is land management, and in particular, management of soils, herbaceous forage species, and browse. Instead of independent management of all ungulates, the landscape unit should be managed holistically with livestock and wildlife considered as components of the system. Some of the main recommendations from this study include:

- Site-specific plant community objectives should be established based on obtainable ecological, production and social goals. Desired plant communities should represent realistic targets, which reflect these goals but may not always aim to achieve the climax ecological potential.
- Range management practices, such as modified herd sizes, shorter grazing periods, improved distribution of water, range riders, and salt should be used to obtain even livestock distribution.
- Cattle stocking rates should be set relative to the seasonal availability of preferred forages and known distribution patterns of cattle.
- Wildlife management planning must balance wildlife numbers and distribution with livestock numbers and distribution to ensure wildlife objectives do not negate benefits gained from livestock management.
- Livestock turn-out dates on key wildlife winter ranges should be adjusted to provide a rest period for forage plants between winter/spring wildlife use and cattle grazing.
- Monitoring should be conducted to evaluate the results of ecosystem restoration, and range and wildlife habitat management activities.
- **Ecosystem restoration activities should be continued with an emphasis on reducing forest cover on traditional grassland and maintaining open forest sites.**

## Rangeland Assessment Project Issues First Year Progress Report

A three-year project to assess forage production on East Kootenay rangelands is gearing up for a second summer of data collection.

The Rocky Mountain Trench Rangeland Assessment Project was launched in early 2009 by the Ministry of Environment (MoE), with participation by the Fish & Wildlife Compensation Program, Ministry of Forests and Range, and Ministry of Agriculture and Lands.

A progress report by MoE wildlife technician Becky Phillips and wildlife biologist Tara Szkorupa was released in November 2009.

“This project will build on decades of relevant field data to support informed land management decisions, and will provide science-based information to guide appropriate levels of grazing by wild and domestic ungulates. This will in turn promote the long-term sustainability of rangeland ecosystems,” the progress report says.



The Rangeland Assessment Committee, which is overseeing the project, chose three range units with high livestock/wildlife values for intensive study:

1. Rampart-Mayook, southeast of Cranbrook between Hwy 3 and the Kootenay River,
2. Power Plant, south of Fort Steele near the confluence of the Bull and Kootenay Rivers, and
3. Pickering Hills, immediately south of Power Plant.

Field data collected from these range units over three growing seasons will be extrapolated to estimate forage production at other range units with similar plant communities. Information collected through this project will also help identify areas of remnant bunchgrass communities, which may help target important areas for ecosystem restoration treatments.

Funding for the project has been provided by the Habitat Conservation Trust Foundation, Fish & Wildlife Conservation Program, Ecosystem Restoration Program, Ministry of Environment and BC Conservation Corps.

Copies of the 2009 progress report are available from Becky Phillips: 250-489-8541 or [Becky.Phillips@gov.bc.ca](mailto:Becky.Phillips@gov.bc.ca).

## Job Grants Boost ER Funding to Record Levels in 2009-10

Ecosystem restoration funding in the Rocky Mountain Trench got a huge boost in 2009-10 thanks to federal and provincial job-creation programs.

Ottawa's Community Adjustment Fund (CAF) and Victoria's Job Opportunities Program (JOP) provided grants totalling \$3.8 million to Galloway Lumber, Tembec, S&D Hunt Logging, Purcell Resources and the Rocky Mountain Trench Natural Resources Society.



JOP/CAF crew at the Waldo North Range Unit

With top-up funding from BC's Forest Investment Account, these organizations put about 150 laid-off loggers, mill workers and professional foresters to work on restoration projects throughout the East Kootenay and Upper Columbia Valley.

From April 2009 to March 2010, seven separate crews worked a total of 14,275 days, mainly on thinning projects.

Juvenile stems were hand slashed and piled on:

- 2,914 hectares of Crown rangeland (plus 555 ha in 2008-09)
- 156 ha in Kikomun Creek, Premier Lake and Moyie Lake provincial parks, and
- 90 ha on Nature Conservancy of Canada and Nature Trust of BC conservation properties.

Thinning reduced fuel loads in the vicinity of 11 rural communities which otherwise would not have benefitted from interface fire treatment.

Slash piles were burned on 475 hectares. Piles on the remaining hectares will be burned this fall if applications for additional funding are successful.

Foresters on JOP/CAF crews conducted post-treatment stand surveys on 2,516 hectares and helped lay out nearly 8,000 ha of current and future restoration projects.

Crews also spent about 28 days clearing trails and improving recreation sites in the St. Mary, Bull River, Jumbo, Bugaboo and Elizabeth Lake areas.

The preceding figures were compiled by Ecosystem Restoration Team Leader Randy Harris in his annual summary of restoration projects, costs and funding.

He had a lot of numbers to add up. Funding in 2009-10 almost equalled the \$5.7 million spent during the entire previous 12 years of the Trench ER Program.

## 2009-10 Funding Source Summary \$4,728,000

Amounts (numbers rounded) are expenditures on Crown and non-Crown land restoration projects and activities in the Trench.

Job Opportunities Program	\$2,248,000
Community Adjustment Fund	\$1,555,000
Fish & Wildlife Compensation Program	\$176,500
BC Gaming Commission	\$170,000
Habitat Conservation Trust Foundation	\$170,000
ER Steering Committee Fund (Ministry of Forests & Range grants)	\$116,000
Natural Resources Canada	\$75,000
Forest Investment Account	\$74,000
Columbia Basin Trust	\$62,300
Shuswap Indian Band	\$33,000
St. Mary's Indian Band	\$22,000
Agriculture Environment & Wildlife Fund	\$16,000
Ministry of Forests & Range	\$5,200
BC Horn Levy Fund	\$5,000

## 2009-10 Projects & Activities Summary

<b>Actual Hectares Treated</b>	<b>4,661 ha</b>
Crown Land	4,055 ha
First Nations Lands	255 ha
BC Parks	181 ha
Nature Trust of BC	115 ha
Nature Conservancy of Canada	55 ha
Prescriptions	15,464 ha
Hand Slash, Pile & Burn	3,735 ha
Routine Treatment Monitoring	2,517 ha
Prescribed Burns	602 ha
Mechanical Thinning	372 ha
Commercial Logging	337 ha
Wildlife Tree Protection	\$43,160
Effectiveness Monitoring Projects	\$42,700
Archaeological Assessments	\$36,600
Communications	\$23,800
Invasive Plant Treatments	\$21,000
Grant Writing & Fund-raising	\$4,700
Seed Mix Purchase	\$5,000
Meetings & Field Trips	\$3,200



**How hot do small slash piles burn? How deep do they burn? How does burning affect underlying soil and archaeological values? Fire ecologist Bob Gray (pictured above) and Kootenay National Park staff, along with other ER Program partners, conducted trials recently to answer these questions.**

## ER NEWS IN BRIEF ...

✓ **The Trench Society has hired** Ryan Fuessel and Kyle Thibeault to seed burn rings at locations where JOP/CAF crews hand slashed, piled and burned small conifers. They will



also do routine post-treatment monitoring at restoration project sites. Ryan, a forest technician from Wasa, previously worked on the JOP/CAF technical crew. Kyle, from Cranbrook, is a third-year science degree student. Funding and support for the seeding and monitoring is provided by Columbia Basin Trust, Canada Summer Jobs, Rocky Mountain Forest District and the Trench ER Program.

✓ **Bioenergy expert Tom Hobby** and fire ecologist Bob Gray will lead a tour to four Montana schools that use wood biomass for heating. East and West Kootenay representatives from First Nations, schools, hospitals, local and regional governments have been invited to join the June 21-22 tour. Participants will learn about the US Fuels For Schools program, which has operated in six western states since 2004. Using slash and low-value timber for bioenergy could advance ecosystem restoration and interface fuel management programs in the Kootenays.

✓ **Prescribed fire practitioners** will hold a day-long field review on June 22 to assess this spring's controlled burns at Premier Lake Provincial Park, Gina and Clear Lake Pastures.

✓ **Close to 70 volunteers** turned out April 17 for a restoration thinning project organized by the Fernie Rod & Gun Club. Volunteers hand slashed about 50 hectares of prime wildlife habitat on Wigwam Flats, near Mount Broadwood south of Fernie. The Wigwam winter range sustains thousands of bighorn sheep, elk, mule and white-tailed deer.



✓ **Two volunteer work bees** will be held in June to hand slash and chip small conifers in the Cranbrook Community Forest. Civil servants will volunteer on June 16 to mark their annual Public Service Day. Members of the public will volunteer on the 19th.



## Rocky Mountain Trench Ecosystem Restoration Program

Restoring Nature's Balance.

*The Rocky Mountain Trench Ecosystem Restoration Program is a collaborative long-term undertaking to restore grassland and open forest ecosystems. Program partners, practitioners and participants represent government agencies, funding agencies, non-governmental organizations, citizen groups, industry and First Nations.*

### STEERING COMMITTEE

**Chair: Ray Morello** Operations Manager,  
Rocky Mountain Forest District

**Sue Crowley** Habitat Biologist, Ministry of Environment

**Randy Harris** Ecosystem Restoration Team Leader,  
Rocky Mountain Forest District

**Lonnie Jones** Rancher, Range Advisory Committee

**John Krebs** Senior Wildlife Biologist,  
Fish & Wildlife Compensation Program (Columbia Basin)

**Doug Martin** Senior Ecosystem Biologist, Ministry of Environment

**Kris McCleary** Environmental Science Coordinator, Parks Canada

**Dan Murphy** Coordinator,  
Rocky Mountain Trench Natural Resources Society

**Andy Pezderic** Wildlife Committee Chair,  
East Kootenay Wildlife Association

**Ken Streloff** Planning Superintendent, Tembec Inc.

**Greg Tegart** Regional Manager, Ministry of Agriculture and Lands

**Jordy Thibeault** Rancher, Kootenay Livestock Association

### OPERATIONS COMMITTEE

**Chair: Sue Crowley** Habitat Biologist, Ministry of Environment

**Randy Byford** Forest Planner, Galloway Lumber Co. Ltd.

**Dean Draper** Field Operations Supervisor,  
Rocky Mountain Forest District

**Mike Gall** Conservation Specialist, BC Parks

**Gerry Grady** Practices Forester, BC Timber Sales

**Rae Haddow** Range Agrologist, Rocky Mountain Forest District

**Randy Harris** Ecosystem Restoration Team Leader,  
Rocky Mountain Forest District

**Larry Ingham** Project Biologist,  
Fish & Wildlife Compensation Program (Columbia Basin)

**Shawna Larade** Range Agrologist, Rocky Mountain Forest District

**Brent Lucas** First Nations Liaison Officer,  
Rocky Mountain Forest District

**Dan Murphy** Coordinator,  
Rocky Mountain Trench Natural Resources Society

**Rob Neil** Kootenay Conservation Land Manager,  
The Nature Trust of British Columbia

**Darrell Smith** Resource Stewardship Agrologist,  
Ministry of Agriculture and Lands

**Steve Temple** Planning Forester, Tembec Inc.

**Gary Tipper** Project Manager Rocky Mountain Trench,  
The Nature Conservancy of Canada

**Kenric Walburger** Range Officer, Rocky Mountain Forest District

**Brian Watson** Forestry Manager,

Nupqu Development Corporation/Ktunaxa Nation



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