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## Upcoming Events

### AGM

The 2018 AGM will be on **Monday, April 30th** at the **Scout Island Nature Centre** in Williams Lake. A **potluck dinner** will start at 6:00 pm, followed by the AGM, including a presentation on our recent activities within the Protected Area. A very important item at the AGM will be a special resolution to adopt proposed new bylaws prepared by the directors. Time permitting, a slide show about the Protected Area will also be presented. Please contact Peter Opie ([peter&skye@telus.net](mailto:peter&skye@telus.net)) for more information or if you would like to become a director.

## Activities Update

### 2017 Hikes in Churn Creek P.A.

On June 5th, nine people hiked from the Empire Valley road up onto Airport Flats along an old stock trail running through open Douglas-fir forest. From the open grasslands on the top, we had outstanding views of Fraser River canyon, Clyde Mountain and the northeast slopes of Black Dome Mountain. The grasslands here are in fair to good condition and many grassland plant species, including indicators of condition, were identified. The group also assessed the extent and character of tree encroachment on the grasslands. A great day in a great place!

Because of the wildfires and closure of Churn Creek Protected Area, this was our only hike of the season.



*Nearing the top of Airport Flats ridge*

## Activities Update continued

### Hikes Planned for 2018

At least two day hikes will be scheduled for the coming season to explore other scenic and ecologically interesting features of the Protected Area. Because the hike to **Sheep Flats** was cancelled last year due to the wildfire danger, we expect to reschedule that hike for this coming season. More information about our hikes will be forwarded to all members by email and placed on our Facebook page.



*Approaching Sheep Flats on the access trail in 2016*

### Membership and Donations

It is time again to renew your membership with the Friends of Churn Creek. Individual (\$20) and family (\$30) memberships are both available using forms which can be downloaded from our website ([www.friendsofchurn.ca](http://www.friendsofchurn.ca)). Please consider encouraging a friend to join because without a strong membership base, FCCPAS cannot continue to conduct valuable projects within Churn Creek Protected Area. FCCPAS is a registered charity and receipts for income tax purposes will be provided for any \$20 or greater donation other than membership fees. THANK YOU FOR YOUR SUPPORT!!

## Project Updates

### High Lake Grassland and Dry Forest Restoration Project

Felling, bucking and piling of tree encroachment on the High Lake grassland benchmark area was completed in 2016 but BC Parks staff were unable to burn the slash piles to complete the treatments. Consequently, Friends of Churn Creek (FCCPAS) obtained funding from the Cariboo-Chilcotin Ecosystem Restoration Committee (CCERC) to contract a crew from Stswecem'c Xgat'tem Development Corporation (SXDC) to burn the piles in December 2017. FCCPAS volunteers also spent several days monitoring wildlife use plots (pellet counts), removing invasive plants, and burning slash piles the SXDC crew could not complete. We will now be able to complete a post-treatment monitoring of vegetation and wildlife use this coming summer.



*Burning slash piles December 2017*



## Project Updates continued

### **Airport Flats restoration project initiated in 2017**

In June, FFCCPAS directors joined BC Parks staff on a trip to Airport Flats to identify ecosystem restoration needs. We subsequently obtained funding from Cariboo-Chilcotin Ecosystem Restoration Committee and BC Parks to treat about 60 hectares of tree encroachment and ingrowth on the slope above BC Lake. Slashing of trees was completed by a SXDC forestry crew while FCCPAS volunteers spent several days laying out treatment units, establishing monitoring plots and assessing slashing crew progress.

### **FCCPAS has several projects under consideration for next year.**

In addition to continuing the **High Lake** and **Airport Flats** projects, we have submitted a proposal to HCTF to restore California bighorn sheep habitat by removing forest encroachment on **Sheep Flats**. We have also discussed with BC Parks staff our 2018 goal to assess and monitor the ecological condition of **wetland habitats** within the Protected Area. Finally, directors are working on a long-term **strategic plan for treating forest encroachment** of grasslands within the Protected Area. If you would like more information on any of these projects, contact Peter Opie.

## Feature Article

### **Research Documents Wildfire History in Churn Creek Protected Area**

The history of wildfires in an area is written in the trees. The number and frequency of wildfires can be determined by dating fire scars on trees and by documenting the structure of surviving stands, including the spatial pattern of tree ages. In Churn Creek P.A., oldest trees tell a story of fires over nearly four centuries.

In 2001, researchers examined several fire scarred trees within the Lower and Upper elevation grasslands of Churn Creek Protected Area<sup>1</sup>. The purpose was to assess the frequency of past wildfires as a guide for developing a fire management plan for the area. In the Lower Grasslands, they found evidence of 14 wildfires with an average interval between fires of 19.1 years. In the Upper Grasslands, they recorded 16 wildfires with an average interval between fires of 14 years.



*Section of a tree stem with many fire scars. The year each fire occurred is estimated by counting annual growth rings of the tree. Photo courtesy of Jill Harvey*

Fire history research in Churn Creek P.A. expanded in the summer of 2013 when Jill Harvey and her crew of researchers from the University of Victoria established 27 plots and examined 92 fire scarred trees in the middle and upper elevation grasslands of the P.A<sup>2</sup>. Plots were located along the Black Dome Road and above the calving barn near Airport Flats and Clyde Mountain. The fires recorded by tree scars in each plot were classified into three impact classes: low severity (scarred trees present but most larger trees survived), medium or mixed severity (many trees killed while others survived, resulting in a patchy, heterogenous stand), and high severity (most trees killed – new stand started).

During the 300 year period between 1600 and 1900, Jill found evidence of 14 widespread medium to high severity fires and 28 more localized low severity grassland/forest edge fires. The average interval between all fires combined was 23 years.

Jill concluded that low severity, grassland/forest edge fires were historically more frequent than were medium to high severity fires. That is, the fire regime over the landscape was characterized by many relatively localized, low severity fires and occasional large, moderate to high severity fires. Widespread moderate to high severity fires occurred in warm, dry years following multiple years of especially warm, dry weather. Low severity, grassland/forest edge fires occurred following cool, wet years when fine fuels would have accumulated on the grasslands and in the forest edge.



*Live Douglas-fir tree with multiple fire scars in Churn Creek Protected Area. Photo courtesy of Jill Harvey.*

Fire frequency changed substantially after European settlement. Jill's research recorded 33 fires in the period from 1800 to 1900 but only 12 fires from 1900 to 2012.

Decreased fire frequency in the last 100 years has resulted in the loss of extensive areas of grassland due to forest encroachment. In addition, forests have become more dense and contain fewer plants able to survive in the deep shade. To conserve open forests and grasslands, fire history research supports the need for BC Parks to continue a grassland and open forest restoration program which includes prescribed burning and manual tree removal.

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<sup>1</sup>Blackwell, B., B. Gray, K. Iverson, F. Steele and K. MacKenzie. 2001. Fire Management Plan Churn Creek Protected Area. Unpublished report prepared for BC Parks, Cariboo District, Williams Lake, BC.

<sup>2</sup>Harvey, J. E., Smith D. J. and T.T. Veblen. 2017. Mixed-severity fire history at a forest–grassland ecotone in west central British Columbia, Canada. *Ecological Applications*, 27:1746-1760.