By Greg Anderson, BSc, MSc and Al Neal, BSc, RFT

Ecosystem Restoration: A Renewed Interest in Prescribed Fire in BC

A LACK OF OWNERSHIP OF PRESCRIBED FIRE IN BC has led to a fragmented approach amongst agencies practising this discipline. The 80s and 90s saw a decline in prescribed fire activity in BC and, as a result, all provincial resource agencies, including the Ministry of Forests and Range, have fewer experienced and trained practitioners available to achieve desired prescribed fire goals. Since 2000, there has been renewed interest in the use of prescribed fire as a tool for environmental stewardship especially with respect to ecosystem restoration activities.

Decades of wildfire suppression combined with this prolonged absence of prescribed fire has had an effect on many of BC's ecosystems, most notably in the dry-forests where it has contributed to the in-growth of trees in previously open forests and the encroachment of trees on to historic grasslands in BC's Interior.

Provincially, this has had a negative affect on ecosystem resiliency, wildfire hazard, forage supply, habitat, timber values, non-timber forest resources and forest susceptibility to insects and disease. Additionally, at risk are loss of First Nations values such as medicinal and culturally important plants, habitat in traditional hunting and trapping areas, protection of archaeological sites from severe wildfire, and traditional knowledge and cultural activities related to managed fire.

To help mitigate these trends and respond to a changing climate, an ecosystem restoration (ER) initiative led by the Ministry of Forests and Range (MFR) was announced in the fall of 2006. Ecosystem restoration treatments involve applying varying combinations of harvesting, mechanical slashing and/or prescribed burning to key areas. The initial focus is the lower-elevation savannah grasslands, shrublands and open forest areas in the province's Interior which are rich in biological diversity. Adding to the management complexity, these same areas are also highly favoured for agriculture, settlements, community watersheds, cultural activities and recreation.

Photo: Greg Anderson

Hand-lit fires like this one can help manage excessive fuel loads and reduce wildfire risks.

Historically, these areas were part of a mixed-severity fire regime that included low, moderate and high-severity fires that created a landscape mosaic. These 'fire-maintained ecosystems,' represent approximately five percent of British Columbia's land base and have been recognized as a provincial conservation concern (*Taking Nature's Pulse* 2008).

Then in 2008, MFR spearheaded the formation of the British Columbia Prescribed Fire Council. The council is currently composed of representatives from multiple provincial and federal agencies who are charged with leading a more coordinated approach to the application of prescribed fire in the province. The council's terms of reference include:

- Developing standardized training and certification to aid in providing opportunities for practitioners to maintain and improve their skills;
- Educating the public about the objectives and benefits of prescribed fire;
- Supporting coordinated prescribed fire planning and operations; and,
- Supporting improved airshed management to help minimize the potential negative health impacts (primarily arising from smoke) especially in populated areas.

By 2011, the draft provincial ER strategy has set a target of having 12-15,000 ha of restored area moved into a maintenance condition each year (0.025% of the province's forested land base each year) including 10-12,000 ha of judiciously applied pre-

See **ER TREATMENTS** on **Page 28**

The Benefits of ER Treatments:

- resilient ecosystems;
- re-establishing First Nations traditional managed fire practices;
- managing excessive fuel loads and continuity to mitigate catastrophic wildfire risks;
- helping to maintain air quality by creating forests that are less vulnerable to wildfire events;
- restoring damaged native open forest and grassland ecosystems, which are habitat to 30% of the province's at-risk species;
- timber harvest values by spacing over-dense, stagnated stands while also providing a potential bioenergy source;
- increasing natural forage to sustain wildlife and livestock and their related industries; and
- increasing resilience of community watersheds to maintain potable water supplies.

In Memoriam

It is very important to many members to receive word of the passing of a colleague. Members have the opportunity to publish their memories by sending photos and obituaries to BC Forest Professional. The association sends condolences to the family and friends of the following members:

James A. (Jim) McIntosh D.F.C

RPF(Ret) #376
1920 - 2009

Jim passed away peacefully at home, with family by his bedside, on September 13, 2009. He is survived by Gerry, his wife of 61 years, his daughter Sandra (Jan), his son Graeme, RPF (Cathy), and his 3 grandchildren Aislinn (Frank), Cameron, RPF (Melissa) and Andrew.

Jim was born in Revelstoke where his family worked a farm in the 'Big Eddy' area. In winters he helped run the family trapline up the Columbia River. It was during those years the seeds were planted for his two lifetime sporting passions, bird hunting and fishing.

After schooling, Jim worked on the CPR trains until Canada's involvement in WW II. He enlisted, took pilot training and was commissioned as a Pilot Officer in late 1943. He was awarded the Distinguished Flying Cross for piloting his heavily damaged bomber back to safety in England after being attacked by a German fighter. A few months later his plane was shot down over Berlin. Jim was captured and spent the remaining months of the war as a POW.

After the war Jim enrolled in forestry at UBC, lived in Fort Camp on the UBC site, married and graduated with the class of '50. He worked in logging camps on Vancouver Island and the Interior, before moving to a job in Alberta. In 1956, he returned to Vancouver to work for the federal Western Forest Products Lab (now Forintek), received his RPF in 1964 and retired in 1984.

Jim was a strong family man and member of his church community and was generous with both his time and good fortune. After retirement, he volunteered at the Seymour Demonstration Forest and he made a scholarship endowment to UBC Forestry. He enjoyed traveling with Gerry, vacationing on their Thetis Island summer home, duck hunting on Beechers Prairie west of Williams Lake, and a good single malt Scotch.

Forestry was in Jim's blood, often a subject of conversation or debate, and he took great pride knowing he was to be part of a three generation RPF family.

ER TREATMENTS Continued from **Page 15**

scribed fire annually to help meet the Ministry's ER objectives.

By coupling First Nation's traditional knowledge of managed fire, with historic photography, tree ring analysis and stand reconstruction/climate models we gain some understanding of the historic conditions that existed under that fire regime. Although the historical information offers insight into a previous resilient forest condition, ER treatment activities are also guided by landscape-level considerations (wildfire hazard, land conversion, fragmentation, species losses, invasive plants and cultural needs) and larger phenomena such as climate change.

In a changing climate, reducing forest vulnerability to future disturbances will be an important aspect of maintaining ecosystem resilience. Management actions that could help forest ecosystems build resilience includes introducing fire into ecosystems where historical fire cycles have been disrupted by past fire exclusion and therefore made more vulnerable to severe future fires (Campbell et al. 2009).

Ultimately, going forward in BC, a quote from the renowned University of California fire ecologist Dr. Harold Biswell (1989) provides some perspective, "Keep in mind that fire is a natural part of the environment, about as important as rain and sunshine…fire has always been here and everything good has evolved with it."

Greg Anderson, BSc, MSc, has 34 years of experience with Forest Service in BC and Alberta. The last 15 years he has lead ecosystem restoration activities in the district and now provincially since 2006.

Al Neal, BSc, RFT, is leading the provincial strategic planning for the Ministry of Forests and Range's Ecosystem Restoration initiative.