



What's New...

The Aleza Lake Research Forest **Management Plan #2** was approved by the Prince George District Manager on October 26. This document provides strategic guidance for Research Forest activities from 2005 to 2010. Included in the management plan is a list of commitments over the term of the plan including stream, ecosystem and wildlife inventories and monitoring which can be linked with research projects and teaching opportunities. The ALRF management plan can be viewed on the website (alrf.unbc.ca).

The ALRF Society would like to welcome its newest board member, **Dr. Anne Hardy**, Assistant Professor, Resource Recreation and Tourism/Geography Program, UNBC. Dr. Hardy replaces **Dr. Bill McGill**, UNBC Dean of the College of Science and Management. Many thanks to Dean McGill for his 4 years of service on the ALRF Board.

ALRF received funding from Forests For Tomorrow, a provincial program aimed at improving the long-term timber supply by enhancing the productivity of young forests. This fall, ALRF used a portion of the funding to brush and space 10 ha of a 20 year old block. With input from **Dr. Scott Green** (UNBC), ALRF staff established a range of brushing treatments on the site. More brushing and spacing treatments for other sites at ALRF are planned for 2006.

ALRF continues to enter projects into the BC Research Forest Project Database. The database now contains ALRF projects from 1995 to the present. The database is a collaborative effort



UNBC students from Dr. Paul Sanborn's Forest Soils course sample a bog at Aleza Lake Research Forest. (Photo: P. Sanborn, October, 2005)

between BC University Research Forests, and is funded by the BC Forest Science Program – Long Term Research Installation Fund, Malcolm Knapp Research Forest, Alex Fraser Research Forest, and Aleza Lake Research Forest. Recent updates include adding a GIS component to the database. The database is used as a management tool to archive and protect research sites. **BC research forest projects are searchable online:** <http://www.rpd.forestry.ubc.ca/>. Many thanks to Ionut Aron, Research Coordinator at Malcolm Knapp Research Forest, for supervising and designing this project.

Research and Teaching Opportunities in the Northern Uplands Unit

The ALRF Management Plan outlines strategic guidance for creating research and education opportunities at the Research Forest. Seven ALRF units are managed according to one of three emphases: Intensive forest management; Intermediate forest management; Legacy Research plot management; and Research Natural Areas. This issue of the ALRF Newsletter will focus on research and teaching opportunities in the Northern Uplands Unit, which is managed under the intensive forest management strategy.

The Northern Uplands Unit occupies 3,435 ha in the northern portion of the ALRF. The Unit is characterized by gently rolling hills and benches that are dissected in several areas by steep-sided draws and rounded knolls. Fish-bearing streams such as Camp, Firebreak, and Slaney Creeks and their tributaries flow north into Aleza and Hansard Lakes and on to the Fraser River.

Significant areas of uncut mature and old stands are interspersed throughout this Unit including Aleza Lake Ecological Reserve #84 (managed by BC Parks) which forms the approximate geographical centre of the Management Unit. Mature spruce-subalpine fir stands are still present in the easterly portions of the Camp Creek headwaters. Some rock knolls and rocky uplands in the northeast corner contain Douglas-fir/hemlock complexes and rare fire-origin spruce stands.

Harvesting began in the north-central portion of this area in 1919 upon completion of the railroad. Representing the original Aleza Lake Experiment Station established in 1926, the Unit has diverse examples of silvicultural system trials and partial-cutting methods, implemented between 1945 and 1963 along with 103 operational plots. There are excellent examples of single-tree selection, alternate strip cutting, diameter-limit cutting, clearcut and plantation methods, and mixedwood systems. A spruce progeny trial was also

established in the 60s. The east end of the Northern Uplands Unit has been clearcut logged and planted from the mid-1960's to late 1980's, resulting in extensive plantations ranging in age from 15 to 40 years. More recently, uniform shelterwood methods were implemented in the mid-1990s which are monitored through 9 operational plots. Four and a half kilometres of wildlife monitoring transect are monitored as well as 3 kms in the Ecological Reserve. Two long term climate monitoring stations are also located in this area.



An aerial view of the northwest portion of the Northern Uplands Unit. An example of 2nd pass strip harvesting is shown in the foreground (Photo: M. LeRoy, 2004).

Current activity in the Northern Uplands Unit focuses on continuing to use a diversity of silvicultural systems. In the 2005/2006 logging season, ALRF will harvest two blocks in this Unit, 40.3ha and 29.3ha in size, amounting to 18,000 m³. Two blocks are in preparation for group selection partial cut systems to be harvested within the next two years.

Faculty, students and other visitors are welcome to observe and participate in forest management and monitoring activities at ALRF. Maps showing future harvesting are outlined in the Research Forest Stewardship Plan found on the ALRF website. Research and teaching sites can be incorporated into planning these future sites and other activities. For information contact ALRF staff.

Research Feature

Habitat Requirements and Timing of Adult Emergence for the Cattail Mosquito, *Mansonia perturbans*, in North Central British Columbia

By Lisa Poirier, PhD

Ecosystem Science and Management Program
UNBC

Funded by the 2005 Aleza Lake Research Forest Seed Grant Program, the goals of this project were to identify habitat types that support populations of *M. perturbans*, both in urban and rural areas, and to determine peak times of adult emergence.

Six sites were sampled in the ALRF along the Shask'oh Road, as well as six sites in or near the City of Prince George. Larval mosquitoes were sampled using dip nets and a hand-operated bilge pump, and by uprooting aquatic vegetation such as cattails. Adult mosquitoes were sampled using CDC miniature light traps with dry ice as a source of attractant carbon dioxide (upper right). Emergence traps (lower right) were also used, with limited success.

Some samples remain to be sorted and identified, but at least 7 different species of mosquitoes were caught between May and August, 2005. Larval sampling at ALRF caught primarily *Aedes* spp. One species, *Culex territans*, was found in large numbers in three ponds. Unlike the related species, *Cx. tarsalis*, this species is unlikely to be a competent vector of West Nile virus. *Cx. territans* adults feed primarily on amphibians, particularly frogs, rather than on birds or humans. Interestingly, ponds with large numbers of these larvae also had large numbers of tadpoles. While we expected to find *Cx. territans* throughout British Columbia, ours is the first record of the species from this area. We were unable to catch any *Mansonia* (-*Coquilletidia*) *perturbans* larvae. Adult sampling at ALRF caught mostly *Aedes* spp. early in the year. Later on we trapped adult *Culiseta* spp., *Aedes* spp. and *Mansonia perturbans*. The *Aedes* spp. adults persisted later in the season at ALRF than at the Prince George



CDC miniature light trap (dry ice in the cooler).
(Photo: L. Poirier, 2005)

sample sites. Otherwise, emergence dates appeared to be quite close in the two areas, with the first catch of *M. perturbans* adults in Prince George preceding the first catch at the Research Forest by about one week. Our catches of adults at the Research Forest suggest that this species is not limited to urban areas in north central BC.

The lack of successful sampling techniques for *M. perturbans* larvae continues to pose difficulties. We were unable to determine the ponds from which the adults emerged, as they are strong fliers. The hand operated bilge pump does show promise as a sampling method, but will be more effective when the water is cold in fall and spring. We plan to test it in early 2006.



Emergence trap.
(Photo: L. Poirier, 2005)

Other news...

Research: Five year re-measurements of 15 landing rehabilitation sites (Dr. Paul Sanborn, UNBC, and MoF) were completed in August by ALRF's summer student and UNBC Forestry major, Michelle White. Michelle will be using this year's data for her undergraduate report.

Dexter Hodder (John Prince Research Forest) completed a tree climbing course in Oregon, and used his new skills to assess black bear tree dens at the ALRF.

Monitoring: ALRF initiated several pilot wildlife surveys over the past summer. This year these focused mostly on birds at ALRF and included owl surveys, a wetland bird survey, and a boat survey of the Bowron River. A roadside scat survey was also implemented to complement other mammal surveys such as winter tracking, and wildlife sighting reports.

Teaching: This semester Mike Jull taught a module in Dr. Scott Green's Silviculture class which included a field day at the Research Forest. Students completed field exercises at the ALRF, and observed examples of silviculture systems and brushing treatments.



Dexter Hodder climbs a cottonwood tree near the Bowron River to assess a black bear den (Photo: J. Hooper, 2005).

Aleza Lake Research Forest

STAFF CONTACTS

Manager: **Mike Jull, RPF**
Phone: 250.960.6674
Email: jullm@unbc.ca

Project Coordinator: **Melanie Karjala, MNRES**
Phone: 250.960.6338
Email: karjal0@unbc.ca

Operations Forester: **Matt LeRoy, RPF**
Phone: 250.960.5322
Email: mleeroy@unbc.ca

Office Administrator: **Kathleen Olson**
Phone: 250.960.6339
Email: olson@unbc.ca

Phone: **250.960.6339** • Fax: 250.960.5851
Mailing Address: 3333 University Way, Prince George, BC • V2N 4Z9
Street Address: 4055 15th Avenue, Prince George, BC
Website: <http://alrf.unbc.ca>

BC Research Forest Project Database:
<http://www.rpd.forestry.ubc.ca>



Aleza Lake Research Forest

Aleza Lake Research Forest Society

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