

## **News from the Inventory Section, Forest Analysis and Inventory Branch, Ministry of Forests Lands and Natural Resource Operations**

**June 21, 2011**

### **Inventory program planned for 2011-2012**

The Inventory Section has a large program planned for this year including air photo acquisition in six management units, photo interpretation work in 10 management units, ground sampling (VRI phase II and/or NVAF) in five management units, site productivity work in eight management units, the development of a young stand growth and yield monitoring program, update and projection of the provincial inventory, projects to improve the ministry's stand growth models (i.e., TASS, TIPSYP, and VDYP), and projects developing new methods and incorporating new technology into forest inventory. For more information on program planned for 11/12, contact Gary Johansen ([Gary.Johansen@gov.bc.ca](mailto:Gary.Johansen@gov.bc.ca); 250-356-0633).

### **Haida Gwaii**

The Province and the Haida Nation are initiating an inventory on Haida Gwaii. This is the first time that inventory section staff have co-managed an inventory project with a First Nations partner. For more information on this unique project, contact Roman Bilek ([Roman.Bilek@gov.bc.ca](mailto:Roman.Bilek@gov.bc.ca); 250-387-6043) or Kevin Johnston ([Kevin.A.Johnston@gov.bc.ca](mailto:Kevin.A.Johnston@gov.bc.ca); 250-371-3715).

### **Monitoring**

The inventory section is developing a re-measured permanent plot program to monitor young stand growth and yield. This program will provide data to check the growth and yield predictions employed in TSR, silviculture planning, yield modelling, and other key forest management tools and processes. The program will target beetle-impacted areas where young stand growth rates are critical to mid-term timber supply. For more information on the design of this program, contact Tamara Brierley ([Tamara.Brierley@gov.bc.ca](mailto:Tamara.Brierley@gov.bc.ca); 250-356-0703).

### **Tree Volume**

Improvements to the estimation of gross and net tree volume are ongoing through the testing of an improved version of the taper equation and the calculation of statistically based net volume correction factors (NVAFs) that will be applied to all ground samples using the net factoring process. Presently, NVAFs have been calculated for all Interior locations, and by the end of July the coastal NVAFs should be calculated. Once the NVAFs are completed and applied, work will commence on the calculation of tree level gross and net volume adjustments for all taper equations and loss factors. For more information on this work, contact Will Smith ([Will.Smith@gov.bc.ca](mailto:Will.Smith@gov.bc.ca); 250-356-6853).

## **Volume to biomass conversion & VDYP7 implementation**

The biometrics group has developed equations to convert inventory volume to biomass last year (2010). In 2011/12 they will be improving on methodology they initially developed, and will provide new conversion factors. Regarding VDYP7, the key applications of the model are now implemented. New updates have been produced and are being tested prior to production use. The biometrics group is also involved in supporting and completing VRI data analysis for management units. For further information on biomass estimation or VDYP7, contact Wenli Xu (250-387-5598) or Sam Otukol (250-387-2659).

## **Yield prediction for beetle-impacted stands**

How will the stands develop that are impacted by beetle but not harvested? The inventory section is bringing together the ministry's stand modellers (Dave Coates, Jim Goudie, and Sam Otukol) with other specialists to address this question. Important outputs of this group include: 1) assembling all available data to characterize post-beetle stand conditions (i.e., secondary structure), 2) refining growth models to improve yield prediction for these stand types, 3) developing first approximation yield predictions for these stand types, and 4) improving the modelling of these types in TSR. For more information on this work, contact Graham Hawkins ([Graham.Hawkins@gov.bc.ca](mailto:Graham.Hawkins@gov.bc.ca); 250-387-8893).

## **Site Productivity:**

This fiscal the inventory section is running a large program to improve site productivity estimates. The program has four main components: 1) improving user access to site productivity information, 2) SIBEC sampling in Williams Lake and Morice TSAs, 3) completing a PEM in Kootenay Lake TSA, and 4) updates to BEC in the southern interior that will allow future PEM, TEM, and SIBEC projects. For more information on this work, contact Ron Planden ([Ron.Planden@gov.bc.ca](mailto:Ron.Planden@gov.bc.ca); 250 387-6867).

## **LVI (Landscape Vegetation Inventory)**

The inventory section is innovating to utilize new technology, keep pace with technological change, and adapt traditional methods to address contemporary issues. One such innovation is the LVI (Landscape Vegetation Inventory) that we are developing. LVI utilizes Landsat data, low level photography, and nearest neighbour matching to map forest cover polygons and assign attributes. Currently, we are completing an operational test of the method in the western half of the Quesnel TSA. LVI provides inventory information that is current, relatively inexpensive, but lower resolution than conventional VRI. LVI may provide an interim inventory product for portions of some beetle-impacted management units – to be replaced with a new, conventional VRI when that is feasible. For more information contact any one on the remote sensing team: Xiaoping Yuan ([Xiaoping.Yuan@gov.bc.ca](mailto:Xiaoping.Yuan@gov.bc.ca); 250-953-3626), Ann Morrison ([Ann.Morrison@gov.bc.ca](mailto:Ann.Morrison@gov.bc.ca); 250-953-3625), and Chris Butson ([Christopher.Butson@gov.bc.ca](mailto:Christopher.Butson@gov.bc.ca); 250-953-3720).

## **Cleaning up the RESULTS backlog**

Data on the location and forest cover on harvested areas is submitted into the RESULTS software application. The RESULTS Reader extracts spatial and attribute information from RESULTS and prepares it for integration into the Provincial Forest Inventory. While the vast majority of RESULTS submissions are successfully integrated into the provincial inventory – some fail for various reasons, and a backlog has developed. The Update unit of the inventory section is working to reduce this backlog of RESULTS submissions. For more information on this work, contact Marc Rousseau ([Marc.Rousseau@gov.bc.ca](mailto:Marc.Rousseau@gov.bc.ca); 250-828-4426).

### **Year of Science**

2011 is the Year of Science in BC. Recently, Jim Goudie, leader of the Stand Development Modelling group, participated in a Science Expo in Prince George to help encourage high school students to pursue science in their education. Jim's presentation was covered in the April 13<sup>th</sup> edition of the Prince George Citizen (<http://www.princegeorgecitizen.com/article/20110413/PRINCEGEORGE0101/304139984/science-expo-draws-a-crowd>). The newspaper article noted: "At the end of a presentation on how advances in computer technology have improved the ability to predict the growth of forests, Jim Goudie had some advice for those thinking of a career in science. It's the right field for someone who likes to figure things out. "Do you like to just drive the car or do you like to dive into the mechanics?" Goudie asked. Curiosity, competence -- if not excellence -- in math, ability to write, discipline, self-motivation and patience were some of the other attributes Goudie listed. Other than those who "hit on something marketable" most scientists won't become rich, he warned, but will have fun. "I love to go to work most days," he said. "Meetings can be a bit of a problem sometimes." For more information, contact Jim Goudie ([Jim.Goudie@gov.bc.ca](mailto:Jim.Goudie@gov.bc.ca); 250 387-6535).