

Meet the AMAT

Submitted by: Greg O'Neill, Research Scientist Research Branch

In April, staff of the Research Branch (Vicky Berger, Michael Carlson, Greg O'Neill and Nick Ukrainetz) planted the first of 48 long-term field trials that will be established over the next 4 years. The project, known as the Assisted Migration Adaptation Trial (AMAT) <http://www.for.gov.bc.ca/hre/forgen/interior/AMAT.htm> will help address climate change by providing a better understanding of the climate and latitudinal tolerances of BC's reforestation materials in order to identify the species and seed sources best adapted to future climates of planting sites.

A handful of seed sources from each of 16 species from BC and neighbouring states will be planted from central Yukon to southern Oregon. Relationships between the test site climate and the growth and health of each seed source will be determined starting at age 10, and will enable the growth of each seed source to be predicted in any current or future climate in the province. This information will greatly improve the ability to select the most appropriate seedlots for the future.

With the recognition that transplant (provenance) trials serve as de facto climate change laboratories, and of assisted migration (moving organisms to

new environments where they may better tolerate climate change) as a key climate change mitigation strategy, there has been a resurgence in interest in such tests. The project's scope—its wide range of seed sources and test sites and large number of species—is unique in the world and makes it particularly attractive to researchers. The project's American collaborators—Weyerhaeuser and the Inland Empire Tree Improvement Coop—are very excited about the project, having provided several seed sources and test sites.

O'Neill, the lead investigator, was intrigued by the startling results of a multi-species transplant trial by his colleague, Barry Jaquish. In that trial, a western larch seed source from the east Kootenays was one of the tallest sources after 20 years at locations in the Bulkley Valley, leading O'Neill to consider a similar trial with a broader scope.

The project's coordinators thank the many licensees for providing seed and test sites and invite other researchers to collaborate. The project has received funding from the BC Forest Genetics Council and from the Forest Investment Account – Forest Science Program.



AMAT Species (16) for 2008/09
Trial Series (13 sites)