Kenai Peninsula Borough Spruce Bark Beetle Hazardous Fuels Mitigation and Reforestation Project

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Twenty-one communities across Alaska's Kenai Peninsula Borough are rated at extreme risk for wildland fire. Through the 2005-2009 *All Lands/All Hands* program, community wildfire protection plans (CWPPs) were developed for these at-risk communities. Landowners currently in these CWPP areas express that one of their major wildland fire concerns is the hazard created by the presence of grass fuels.

Alaska Department of Forestry crews select spruce trees with the best forms and most cones.

This concern escalated during the spruce bark beetle outbreak of the 1990s. The death of mature spruce trees results in the loss of canopy cover. This in turn allows more light to reach the forest floor, promoting the abundant growth of native bluejoint grass *(Calamagrostis Canadensis)*.

The most destructive wildfires on the Kenai Peninsula get started or spread in bluejoint. This grass forms root mats and thickets so dense that trees and other plants cannot get established. It reproduces both vegetatively (through its roots) and through seed production.

Bluejoint can cover large tracts of land for relatively long periods of time and can reach heights of six feet or more. When burned, it can produce flame lengths of ten to twenty feet, and more, if downed dead woody fuels are present. Fire can travel through blue grass at over three miles per hour with a little wind, and that is an extremely fast rate of spread among forest fuel types. It responds rapidly to changes in relative humidity, and it can carry fire almost any time of the year, if it's not covered by snow.

Bluejoint is one of the most common and widespread tall grass species in North America. It can be found from Labrador to Alaska and south to the mountains of North Carolina, New Mexico and California. It grows very well at sea level in the North and Northwest, and it can be found at elevations over 12,000 feet in the mountains of New Mexico. For this reason it is a difficult species to treat and control. With funding provided by the American Recovery and Reinvestment Act, the Kenai Peninsula Borough Spruce Bark Beetle Mitigation Program (SBB) cooperators are addressing this concern.

After felling trees, cones are handing picked and placed into burlap sacks for transport.

Agency partners—including the U.S. Fish & Wildlife Service, Chugachmiut, and the Alaska Division of Forestry—created a research project to evaluate different types of treatments that can be used to reduce native bluejoint grass growth. A systematic design was established where treatments will be applied and tested against control plots over a four-year period. The goal is to provide tried and true methods to deter grasses that can be applied by local landowners. The SBB is taking the lead on developing the plots and completing the first series of applications. Each member of the *All Lands/All Hands* fuels treatment committee will be taking responsibility for successive seasonal actions required for the project, and will share their findings with the group.

ARRA funds are also being used to reduce hazardous grass fuels on a borough-wide landscape level. This fuels-reduction project involves searching SBB vegetation management database records to find parcels

Sacks of cones are stored at the Kenai-Kodiak Area until transported to Palmer. Adequate ventilation helps prevent heating and opening of the cones.

otherwise covered with grassy fuels. More than 220 parcels were located, covering some 5,100 acres. Borough foresters evaluated each parcel and developed reforestation prescriptions for them. The goal of this project is to convert these parcels from grass- dominated vegetation to tree stands. This would reduce the risk of wildfire significantly.

Reforestation using seedlings grown from local seed sources will increase the success rate of establishing tree stands where grass had been the dominate vegetation. Alaska Department of Forestry crew members collected 56 bushels of spruce cones from which 4 million seeds were harvested. These seeds will provide seedlings for reforestation efforts for the next 15 years. As landowners authorize their parcels to be reforested, the seedlings will be grown at the DOF nursery in Palmer, Alaska, and shipped to the Kenai Peninsula for planting each spring.