



# Forest Facts

## SWISS NEEDLE CAST

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Swiss needle cast (SNC) is a native fungal disease that causes the needles of Douglas-fir trees to turn yellow and prematurely fall from the tree. This ultimately reduces growth of the tree and its survival, although tree mortality is rare and occurs only after many years of defoliation. The less foliage retained on a tree, the slower a tree will grow.

Because Swiss needle cast affects tree growth, it can reduce the options foresters, forestland owners and operators have in managing their forests. This can affect productivity. In Oregon, it is estimated that growth loss due to Swiss needle cast is equivalent to more than 100 million board feet per year. Wildlife habitat can also be affected, and unhealthy trees can increase the risk of catastrophic fire.

### **Aerial surveys monitor damage**

Since the late 1980's, the disease has become particularly damaging to Douglas-fir forests on the west slopes of the Oregon Coast range. Starting in 1996, aerial surveys for SNC damage have been conducted each year during April and May. The aerial observers map areas of Douglas-fir forest with obvious yellow to yellow-brown foliage, a symptom of moderate to severe Swiss needle cast damage.

During 2006, a survey covering approximately 2.9 million acres of forest showed a marked increase in the area with symptoms of Swiss needle cast compared to the previous three years. These symptoms developed rapidly following a period of low temperatures in late February and warm sunny weather in April and early May.

### **Survey information helps guide the way our forests are managed**

Observers mapped 325,500 acres of Douglas-fir forest with obvious symptoms of the disease in 2006. This is a conservative estimate of damage because only those areas where the disease has caused significant needle discoloration are detected by air. The survey does, however, provide a reasonable map of detecting areas with moderate to severe damage. This information helps document trends over time so that forests can be managed accordingly. Forest researchers are recommending that new forests in high-risk zones be stocked with a variety of tree species to limit the economic and environmental impacts of the disease.

### **To view maps**

Maps of SNC aerial surveys are available at <http://www.odf.state.or.us/pcf/fh/surveys.asp>.