

**USDA FOREST SERVICE  
WALLOWA-WHITMAN NATIONAL FOREST  
UMATILLA NATIONAL FOREST  
DOUGLAS-FIR TUSSOCK MOTH PROJECT  
2000**



An outbreak of Douglas-fir tussock moth is threatening forest resources on portions of the Pine Ranger District and the Pomeroy and Walla Walla Ranger Districts. A decision has been made by the Regional Forester to protect specific areas of concern where surveys determine that heavy defoliation by tussock moth will likely cause unacceptable impacts. This leaflet provides information about the project.

***Douglas-fir Tussock Moth*** – Tussock moths damage trees by eating their needles and are a major defoliator of fir forests in western North America. Douglas-fir and true firs are the tussock moths preferred food source; however the insect will feed on other tree species when it has eaten all the fir needles available. The caterpillar, or larval stage of the insect, does all the feeding; the moths do not feed. Larvae reach a length of about 1.25 inches, are very colorful and have tufts of long hairs.

The tussock moth is a native inhabitant of fir forests in Eastern Oregon and Washington. Tussock moth populations are cyclic, with an increase in population every 7 to 13 years. Each outbreak lasts 2 to 4 years and ends with a sudden crash. The outbreaks usually occur in mature and over-mature multi-story stands with a high density of host trees; trees on ridge tops and south facing slopes are the most vulnerable. A very large number of larvae can completely strip trees of all their foliage within a few weeks. Trees without their needles are more susceptible to attack by other insect pests, particularly bark beetles.

Because of an outbreak in the early 1970s, the United States Department of Agriculture initiated a program to research the moth. The objective was to better anticipate future outbreaks and to develop management options. One result of this program was a

survey technique, the “Douglas-fir Tussock Moth Early Warning System”, which monitors population trends. According to data from this “early warning” monitoring, tussock moth populations have been increasing. The anticipated outbreak is expected to occur primarily in the years 2000-2002 and could last through 2004 in the Pacific Northwest.

In many places, the tussock moth can act as a natural disturbance agent by reducing overstocking and creating stand openings. However defoliation in some areas would cause unacceptable harm to fish and wildlife habitat (including species federally listed as threatened or endangered) or to areas where people live and work.

The Final Environmental Impact Statement for the tussock moth project analyzed short-term management strategies that would maintain existing vegetative conditions in specific areas and would protect specific resources until long-term management actions restore a more balanced forest condition over the landscape. It is not the intent of this project to stop or prevent the overall tussock moth outbreak, or to prevent defoliation over the entire area where the outbreak may occur.

***Insecticide*** – Aerial application of TM-BioControl will be used to protect specific areas of concern from defoliation. TM-BioControl is an insecticide made from a natural virus of the tussock moth. This virus is the primary cause of the collapse of Douglas-fir tussock moth outbreaks under natural conditions. This virus is specific only to Douglas-fir tussock moth and two other species of western tussock moth.

Exposure to the Douglas-fir tussock moth larvae and TM-Biocontrol each cause similar effects on humans. About one third of the people who come in contact with the hairs of tussock moth larvae have an allergic reaction of skin, eye, and respiratory tract irritation. People who are sensitive or allergic to other insects tend to be more sensitive to the tussock moth larvae. These effects are not life threatening or debilitating and are reversible. First aid treatment includes flushing with a stream of water or washing thoroughly with soap and water.

**Treatment Criteria** – Application of TM-BioControl will occur only after sampling has confirmed the presence of treatable populations of tussock moth larvae and that they are in a stage of development most vulnerable to treatment. TM-BioControl will be applied by helicopter. Generally, spray operations will occur between 5 a.m. and 7 a.m. each day, but may last longer if weather conditions permit. Weather conditions include wind between 1 and 8 MPH, relative humidity more than 50 percent and a temperature between 34 and 70 degrees.

**Project location** – The project area includes about 57,000 acres on the Pine Ranger District from Eagle Creek on the west to the Imnaha River on the east. Also included are about 42,000 acres on Pomeroy Ranger District and in the Mill Creek Watershed on the Walla Walla Ranger District. Current insect surveys indicate that about 50,000 acres will actually be treated.

The area to be treated has been divided into more than 300 individual spray blocks. Treatment for each block depends on weather conditions, elevation and tussock moth larval development and will be determined about 2 days prior to spraying. Notices will be posted at campgrounds and along roads and public contact will be made daily within the treatment area. All treatment will be on National Forest System lands.

**Staffing** – Approximately 75 people have been working at Halfway, Oregon and Pomeroy, Washington since May 8 surveying the tussock moth population. These crews will continue working through the entire project monitoring population levels. Additional people will be assigned to the project when application begins, some only for a few days. Forest Service employees, local temporary hires, and contractor personnel will work together to complete the project.

**Contractor** – TM-Biocontrol will be applied with a helicopter by a private contractor under the supervision of the Forest Service. Heli-Jet Corporation headquartered in Eugene, Oregon has been awarded the contract. They have conducted similar projects throughout the United States. They will operate from an airstrip near Halfway and an area near the Upper Tucannon drainage.

**Project Schedule** – Application of TM-BioControl will begin in mid June and end in early July. An approximate schedule of key events is listed below. This schedule is subject to change due to weather and larval development.

- May 8 – Crews begin monitoring insect population levels at Halfway and at Pomeroy.
- May 26 – Record of Decision on the Final Environmental Impact Statement signed by Regional Forester.
- June 13 – Open House at Pomeroy Ranger District.
- June 11 – First spray blocks released.
- June 14 – Tentative day to begin application.
- June 20 – Media Day at Halfway.
- July 5 - Tentative completion of application.
- July 15 – Crews monitor effectiveness of treatment.
- August 15 – Tentative end of project.

**Project headquarters** – The tussock moth project is operating out of the Lions Club in Halfway, Oregon and the Pomeroy Ranger District in Pomeroy, Washington. If you are interested in more information about the project, contact the Forest Service at either location:

Halfway: Nick Greear, Project Manager  
Judy Wing, Information Officer  
541-742-6645

Pomeroy: Ed Stocks, Deputy Project Manager  
509-843-4690

