EXECUTIVE SUMMARY

The Project was initiated as a result of a tussock moth outbreak. Based on the 1997 through 2000 results of the "early warning system", an outbreak of Douglas-fir tussock moth (DFTM) was predicted. The outbreak was validated by the occurrence of about 21,000 acres of light to moderate defoliation in 1999. An Environmental Analysis was conducted, an Environmental Impact Statement published and a Record of Decision signed (http://www.fs.fed.us/r6/nr/fid/eisweb/dftm_eis.htm) empowering action to be taken, if necessary.

The history of damage by this insect required the agency to be prepared to suppress its populations if significant resources were threatened. The tussock moth typically defoliates trees in patches, sometimes over large areas, which can result in significant tree mortality. In the early 1970s approximately 700,000 acres were defoliated in Oregon, Washington, and Idaho. There was approximately 17,270 acres of total mortality in patches, and 75 % tree mortality over 62,070 acres, and 10 % tree mortality over 275,660 acres (USDA Forest Service, 1974).

The Regional goal for the National Forests affected by the DFTM: To maintain existing desired vegetative conditions in Areas of Concern that are at risk from Douglas-fir tussock moth defoliation within the next two to five years. These areas include but are not limited to aquatic and terrestrial species habitat, areas for human use and enjoyment, and administrative areas.

There is a need for management intervention into the natural cycle of the DFTM: The need exists to protect specific Areas of Concern where tussock moth defoliation would jeopardize vegetative conditions in Threatened and Endangered (T & E) species habitat, threaten human health and safety, or adversely affect areas where the Forest Service has made substantial investments (such as a seed orchard). Preserving this vegetation would maintain desired habitats for fish and wildlife, preserve campgrounds, and maintain important scenic view sheds. Additionally, there is a concern for public health. The hairs on the larvae can cause welts, rashes, and other allergic reactions in some people.

Objectives for areas of the Okanogan-Wenatchee (Methow Valley Ranger Districts) National Forests:

- Protect riparian habitat where defoliation would cause unacceptable degradation of occupied habitat, especially critical spawning or rearing habitat for salmon, steelhead, and bull trout (loss of shade, increased sedimentation, etc.
- Protect designated old growth and late/old structure ("OG/LOS") stands where defoliation would substantially degrade habitat values.
- Protect nesting, roosting and foraging habitat for spotted owls where defoliation would reduce total crown closure so that an area could no longer function as a reproductive/fledging site.
- Protect residential and administrative sites where defoliation and the presence of large numbers of larvae would adversely affect people living or working there. This would

include work centers, special use permit summer home sites, resorts, or established camps.
- Protect high use recreation sites where defoliation and the presence of large numbers of larvae would adversely affect many forest visitors. This would include campgrounds, picnic areas, and interpretive sites.
- Protect designated foreground scenic Areas of Concern where defoliation would have a substantial adverse impact on scenery.

The proposed action was to spray TM Bio-Control on areas where outbreak or sub-outbreak populations of DFTM populations have been verified.

In mid-January 2001 we began to make plans to initiate an insect suppression project if a final decision was made to proceed. An organization was established using the Incident Command System as a model. In January 2001 the primary team had been assembled and we held our first meeting in Winthrop WA. Further planning meetings were held throughout the months of March, April and May. The project fieldwork started May 7th with both local employees and detailers.

Up to 75 personnel worked approximately 20,000 hours and drove several hundred miles. About 70.5 hours flight time were logged. We treated 16,690 acres with TM Bio-Control, had two minor personal injuries, no vehicle accidents, and no aviation SAFECOM filed.

Initial entomological analysis indicates how well the following objectives were achieved:

1. Identification of treatable populations of tussock moth was met.
2. The timing of application of the virus was met with a high degree of confidence.
3. The estimation of population densities (pre and post spray) was accomplished.
4. Initial estimates indicate that treatment objectives for foliage protection were met.
5. Success in interrupting the population cycle of the insect can only be determined in one to two years.

This Final Report provides summary information applicable to future project managers, especially the Project Critique chapter. All known relevant electronic files are made a part of this report on a CD-ROM. Hard copies of all maps, entomology field forms, lab results, and administrative paperwork are considered a part of this Final Report and are to be retained at the Methow Valley Ranger District, with duplicates of the maps and reports to be retained at the Pacific Northwest Regional Forest Insect and Disease Group.

The successful completion of this project is the result of everyone who worked on it, but especially the entomology crew from the Methow Valley Ranger District and the primary contractor, Heli-Jet of Eugene, Oregon.