

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
EUGENE DISTRICT OFFICE**

**ENVIRONMENTAL ASSESSMENT NO. EA-03-018  
Travis Tyrell Seed Orchard Insect Control**

# **I. INTRODUCTION**

## **A. BACKGROUND**

This action proposes application of insecticide by capsule injection in February and March of 2004 within the fenced boundaries of Travis Tyrrell Seed Orchard, hereafter referenced as the Orchard, on orchard units located in Section 9 and 15, Township 20 South, Range 5 West, Willamette Meridian, Lane County, Oregon, in the Eugene District of the Bureau of Land Management (BLM). The 832.5-acre orchard is located about three miles west of Lorane, Oregon in the upper Siuslaw River basin (Figure 1). The seed orchard is managed on lands that are closed to all public use per Public Land Order (PLO) 6662.

## **B. PURPOSE AND NEED FOR THE ACTION**

The purpose of the action is to control cone insects which cause damage and seed loss to Orchard cone crops. There is a need for control of cone insects in eight seed production units (Figures 2 and 3) in which a cone crop is expected in 2004. A total of 70 acres were stimulated for cone production in Wells Creek, Lorane, Tyee 2, Gold Beach 1&2, Gold Beach 3, Coquille 16, Coquille 17 High, and Coquille 17 Low seed production units in spring 2003 using overlapping, half-circumference girdles, followed with an application of calcium nitrate fertilizer. This method is commonly used in seed orchards and is projected to stimulate a cone crop of about 3,600 bushels in late summer 2004.

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Manual treatments to reduce insect damage have been done the past four years. This has included removal of all visible cones during cone harvest in August and removal of conelets in younger orchards in May. This manual effort, referred to as sanitation, helps remove insects and insect habitat from the orchard trees. While the results of this control method have been hard to quantify, sanitation will continue to be practiced on all seed production units until a comprehensive integrated pest management program is in place.

In spite of this effort, seed extraction completed in 1999 through 2002 showed a considerable reduction in yield due to insect problems. An intensive cone dissection study was conducted in September 2000, 2001, and 2002 under the direction of Beth Willhite, U.S. Forest Service entomologist for the Westside Forest Insect and Disease Center. Her reports indicate that the Douglas-fir cone gall midge (*Contarinia oregonensis*), the Douglas-fir seed chalcid (*Megastigmas spermotrophus*), and Douglas-fir coneworm (*Dioryctria abietivorella*) caused notable damage to the 2000-2002 seed

crops at the Orchard. The level of total insect damage in 2000 was at least 34% and at least 25% in 2001 and 2002. Gall midge damage has increased over this timeframe, from 15% to 20%. It is conceivable that damage would be at the same or increased level in 2004. Based on the experience of other Douglas-fir seed orchards in the northwest, cone insect damage increases as orchards become older. The potential loss from insect-related damage in 2004 could be as high as 468 lbs. of seed (a \$468,000 loss).

Insects were controlled in two seed production orchards (Swisshome/Mapleton and Noti) in spring 2003 by aerial application of esfenvalerate. Results of this effort will not be known until cone dissection is done in September 2003 and seed extraction is completed in spring 2004.

The BLM has a projected seed need from the Orchard of approximately 425 pounds of improved Douglas-fir seed per year. In addition, private company cooperators are participating in and financing 56.7 acres of seed orchard management, with their anticipated yield being 283 pounds of improved Douglas-fir seed per year. This yield corresponds to approximately 7,750 acres of industrial land which can be reforested yearly with the cooperator's seed share. Protecting cone crops from insect damage is necessary to achieve this goal.

### **C. CONFORMANCE WITH LAND USE PLAN**

The Proposed Action and alternatives are in conformance with the Eugene District Record of Decision and Resource Management Plan (RMP)(USDI Bureau of Land Management 1995), which states that seed orchards will be maintained and managed to produce seed as needed for ecosystem management projects (RMP, p. 263). It also addresses the need to plant improved stock on most of the harvested acres on the District requiring reforestation (RMP, pp. 262-263). Beyond this direction in the Forest Genetics Program appendix and the provisions in the Resource Program sections for Energy and Mineral, Land Tenure Adjustments, Rights-of-Way, Access and Withdrawals, the RMP does not apply to the Orchard, which has been administratively withdrawn (RMP, p. 100).

The Proposed Action and alternatives are also in conformance with the Lorane Seed Orchard Development Project (EA-OR090-3-35) (USDI Bureau of Land Management 1983), which directs the development and management of the Orchard and states that insecticides may be applied during the cone production stages (USDA Bureau of Land Management 1983, p. 12).

### **D. RELATIONSHIP TO OTHER PLANS AND ENVIRONMENTAL ANALYSES**

An Environmental Impact Statement (EIS) is currently being written to address Integrated Pest Management (IPM) practices for the four BLM seed orchards located in western Oregon. The earliest the Record of Decision is expected to be completed for this document is early-to-mid 2004, making it necessary to address the immediate issue of cone insect control in February and March, 2004 in this separate analysis.

The Orchard is an administratively withdrawn area and does not fall under the standards and guidelines of the Northwest Forest Plan (RMP, p. 100).

Additional information is available in the Travis Tyrrell Seed Orchard Insect Control project analysis file. This file and documents referenced above are available for review at the Orchard.

## **II. ALTERNATIVES**

### **A. PROPOSED ACTION: Application of Imidacloprid by Capsule Injection.**

Approximately 2,826 trees located in eight seed production units would be treated in February and March 2004 with imidacloprid (trade name: Imicide) (Figures 2 and 3). All trees that are greater than two inches diameter at breast height (DBH) and bear reproductive buds would be injected with 3 ml pesticide capsules at the rate of one capsule per 4 inches of tree circumference at breast height (J.J. Mauget Co. 2003).

An 11/64 inch diameter hole would be drilled at a 45 degree angle at the base of a tree (about 4 inches above ground level) through the bark 1/4-3/8 inch into the trees xylem or sapwood. A pressurized capsule would be placed into the hole and activated by hitting it with a rubber mallet, releasing the chemical into the tree. Upon draining, the capsules would be removed, collected, and disposed of in a sanitary landfill.

### **B. ALTERNATIVE A: Application of Esfenvalerate Insecticide by Aerial (Helicopter) Equipment.**

The same treatment area described in the Proposed Action would be sprayed by helicopter in Spring 2004 with Esfenvalerate. All other design features of this alternative would be the same as described in the Proposed Action in the 2002 Travis Tyrrell Seed Orchard Insect Control EA (OR090-02-15) (pp. 3-4), which is incorporated here by reference.

### **C. ALTERNATIVE B: No Action**

The Orchard would not perform pesticide application to control cone insects. Manual pest management techniques such as clean picking cones at harvest time and removing conelets from unstimulated orchards would continue. Success or failure of seed crops would be regulated by natural conditions, with expected seed yields being smaller in quantity and lower in quality than if pesticides were utilized. All other activities related to seed orchard management would continue as usual.

## **III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS**

The Orchard has been intensively managed, resulting in ecosystems comparable to agricultural landscapes. The affected environment is described in detail in the Draft EIS for IPM at Travis Tyrrell Seed Orchard (USDI Bureau of Land Management 2003)(pp.3-1 to 3-25), which is incorporated here by reference. The following resources either are

not present or would not be affected by the Proposed Action or any of the alternatives: air quality, areas of critical environmental concern, cultural resources, prime or unique farmlands, Native American religious concerns, Wild and Scenic Rivers, wilderness, minority populations and low income populations.

**A. Proposed Action (Application of Imidacloprid by Capsule Injection):**

Imidacloprid (trade name: Imicide<sup>7</sup>) is a systemic, chloronicotinyl insecticide that kills insects by contact or ingestion, interfering with the transmission of stimuli in the insect nervous system. The acute toxicity to mammals is moderate. Chronic toxicity to mammals, which occurs as a result of small, repeated doses of pesticide over a long period of time, is considered low (Oregon State University 2003).

Because the imidacloprid is in an encapsulated form and pesticide applicators would be required to wear the minimum protective clothing listed on the Imicide<sup>7</sup> label, the effect of the proposed action to human health would be minimal.

Movement of Imicide is restricted to the vascular system of the tree. The potential for imidacloprid to enter air, soil or water is negligible when using Imicide capsules. Imicide products have been found in leaves and needles following application. Transport of the products of Imicide to water in leaves and needles has not been studied but may be remotely possible. Vegetation buffers, which average well over 100 feet between the project areas and live water, would be expected to intercept needles or leaves that may fall from treated trees.

The primary target of the Imicide treatment would be the Douglas-fir cone gall midge. Only the larval stage of the gall midge, which feeds on the developing seed, would be affected by Imicide<sup>7</sup> (Overhulser 2002). Thus, the adult gall midge, which might be eaten by birds or fish, would not carry imidacloprid residues.

Effects to non-target species are expected to be minimal. Only insects feeding directly on sapwood, foliage, or cones would come in contact with lethal concentrations of the insecticide. Some mortality to invertebrates directly exposed to imidacloprid is expected, but the effects on local populations are anticipated to be temporary. Populations of insects directly exposed to imidacloprid would be expected to decrease temporarily in the treatment area until the residues decrease and re-colonization occurs from surrounding areas. Some local insectivores may be temporarily affected by the decrease in insect populations until these populations recover.

There are no threatened, endangered or other Special Status wildlife species within the Orchard boundaries and therefore there are no effects to these species from the proposed treatment.

**B. Alternative A - Application of Esfenvalerate Insecticide by Aerial (Helicopter) Equipment:**

The effects of this alternative would be the same as those analyzed in the 2002 Travis Tyrrell Seed Orchard Insect Control EA (OR090-02-15) (pp. 9-33), and that analysis is

incorporated here by reference. The EA analyzed potential drift of esfenvalerate, calculated potential concentrations in streams, and analyzed effects on aquatic species. Although the specific modeling results would differ slightly for the different treatment areas here, the overall effects would be the same: there would be a low potential for esfenvalerate to reach streams, but potential concentrations would be below the amount likely to result in adverse effects to coho salmon.

**C. Alternative B – No Action:**

The effects of this alternative would be the same as those analyzed in the 2002 Travis Tyrrell Seed Orchard Insect Control EA (OR090-02-15) (pp. 8-33), and that analysis is incorporated here by reference. The EA concluded that No Action would result in increasing loss of Douglas-fir seed to insect-related damage and no changes to environmental resources.

**IV. CONSULTATION AND COORDINATION**

**A. Consultation:**

Federally-listed Oregon Coast Coho Salmon are found in Douglas Creek and Stream 8 within the Orchard. No habitat is located near proposed project areas. Imicide is only mildly toxic to fish. Application using injected capsules would remove potential pathways for Imicide to directly reach water in streams from aerial drift or overland flow. Imicide products may be found in needles falling from treated trees, but extensive vegetative buffers between the proposed project areas and habitat where listed fish are present would be expected to intercept the fallen needles, preventing the Imicide products from reaching listed fish habitat. For these reasons, a determination for the Proposed Action of No Affect is made for Oregon Coast Coho Salmon. The determination for Essential Fish Habitat for Oregon Coast Coho Salmon and chinook salmon is No Affect.

**B. Public Participation:**

The EA will be sent to the following list:

Albert Goins, Lorane, OR  
Bart Pratt, Springfield, OR  
Bruce and Sharon Malcom, Lorane, OR  
Cadore Timber Co., Eugene, OR  
Cascade Timber Consulting Inc., Sweet Home, OR  
Charles and Reida Kimmel, Eugene, OR  
Confederated Tribes of Coos, Lower Umpqua, & Siuslaw Indians, Coos Bay, OR  
Craig and Cindy Royce, Lorane, OR  
Craig Tupper, Eugene, OR  
David Simone, Eugene, OR  
Denise Ripellino, Noti, OR  
Donald Wagner, Veneta, OR  
Ira and Barbara Dare, Lorane, OR

James Johnston, Eugene, OR  
Jan Wroncy, Eugene, OR  
Jeffrey and Shelly Corl, Lorane, OR  
John and Barbara Robinson, Lorane, OR  
Rural Information Network, Creswell, OR  
John Poynter, Lorane, OR  
Kalapooya Sacred Circle Alliance, Springfield, OR  
Kris and John Ward, Eugene, OR  
Lane County Lands Department, Eugene, OR  
Lane County Land Management, Eugene, OR  
Lone Rock Timber Company, Roseburg, OR  
Margaret Miller, Harrisburg, OR  
Mark and Joyce Gorham, Veneta, OR  
Menasha Corporation, North Bend, OR  
Molly Widmer, Springfield, OR  
National Coalition for Alternatives to Pesticides, Eugene, OR  
NOAA Fisheries, Portland, OR  
Neil and Nancy Miller, Eugene, OR  
Norman and Sandra Maxwell, Lorane, OR  
Oregon Department of Environmental Quality, Portland, OR  
Oregon Department of Fish and Wildlife, Springfield, OR  
Oregon Department of Forestry, Roseburg, OR  
Oregon Department of Forestry - Western Lane District, Veneta, OR  
Oregon Department of Land Conservation and Development, Salem, OR  
Oregon Natural Resource Council, Eugene, OR  
Oregonians for Food and Shelter, Salem, OR  
Pacific Rivers Council, Eugene, OR  
Pam Chenoweth, Lorane, OR  
Pam Hewitt, Marcola, OR  
Peter Saraceno, Eugene, OR  
Ronald and Marla Norton, Lorane, OR  
Rosboro Lumber Co., Springfield, OR  
Roseburg Resources Company, Roseburg, OR  
Sandra Rhodes, Lorane, OR  
Seneca-Jones Timber Company  
Seneca Sawmill Company, Roseburg, OR  
Sierra Club - Many Rivers Group, Eugene, OR  
South Coast Lumber, Brookings, OR  
Swanson Group Inc, Noti, OR  
Tree Improvement Enterprises Inc., Cottage Grove, OR  
University of Oregon Library - Documents and Microforms Department, Eugene, OR  
Weyerhaeuser Co., Federal Way, WA  
Wildlife Management Institute, Bend, OR

### C. List of Preparers

The Proposed Action and alternatives were developed and analyzed by the following interdisciplinary team of BLM specialists:

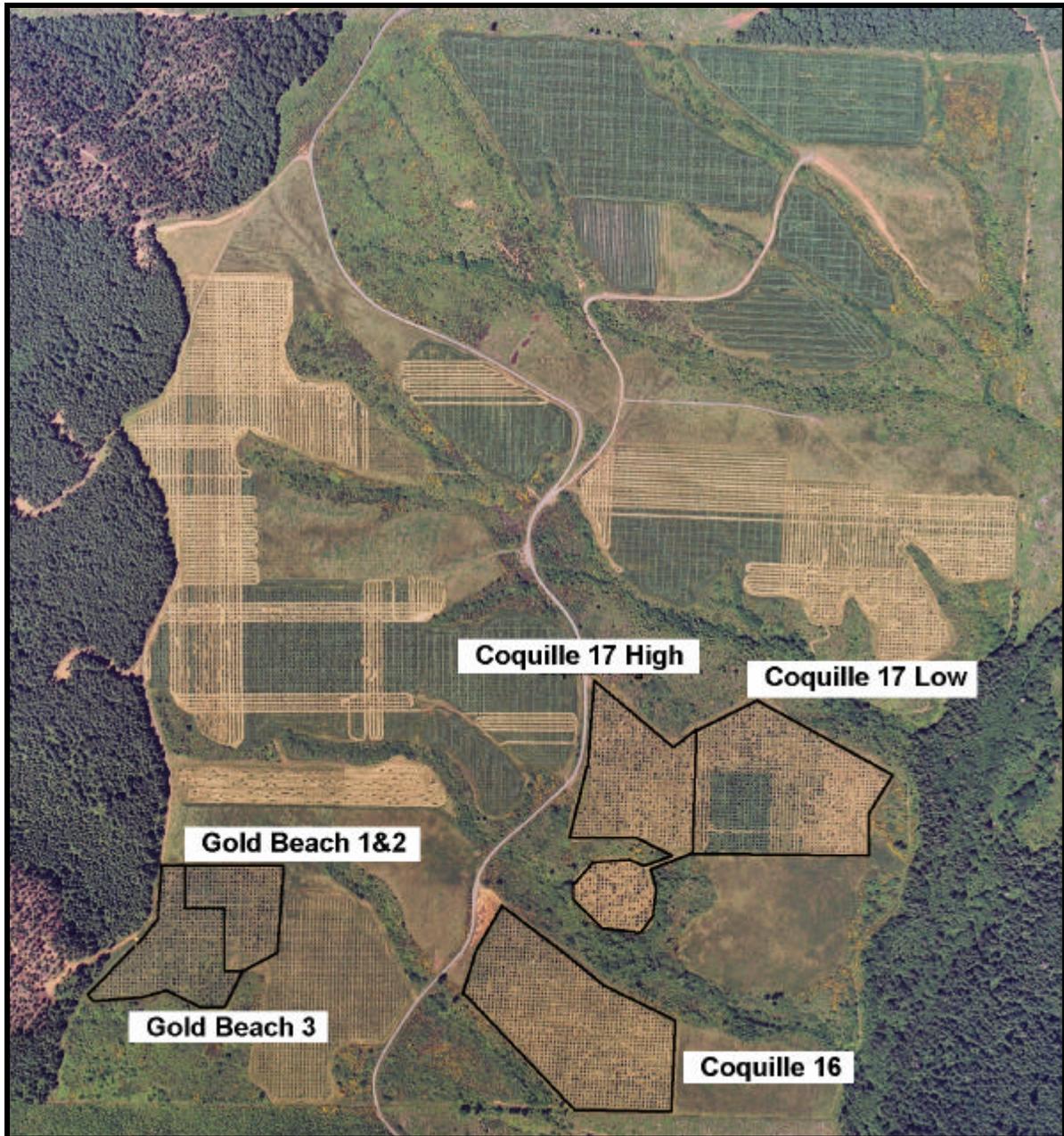
Carla Alford	Wildlife and Threatened and Endangered Species
Mary D'Aversa	Hydrology
Neil Armantrout	Fisheries
Nancy Brian	Botany
Rudy Wiedenbeck	Soils
Glenn Miller	Seed Orchard Manager
Michael Crawford	Forester (Author)

### V. REFERENCES CITED

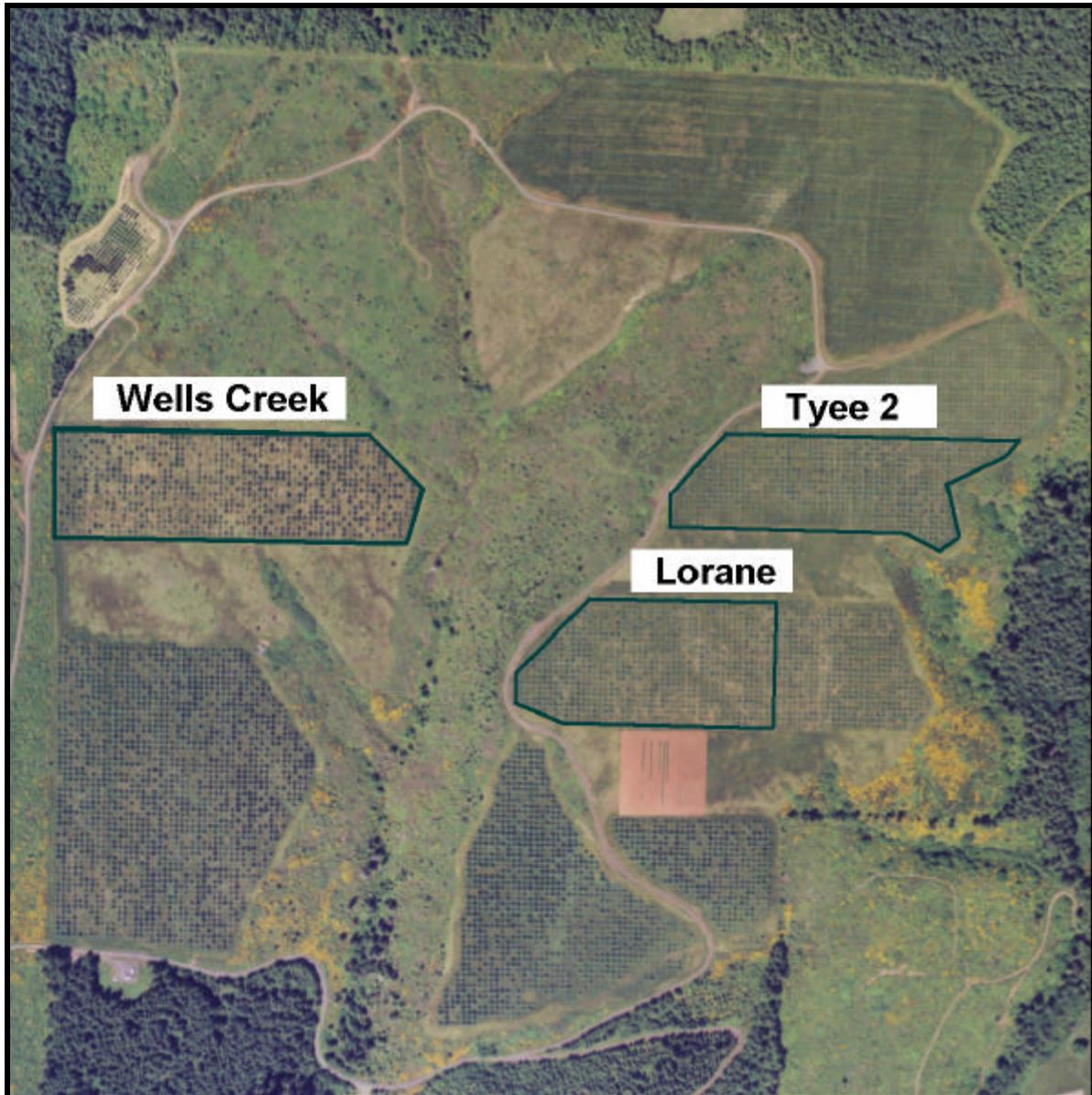
- J.J. Mauget Co. 2003. Micro-Injection Applicators Manual. Arcadia, California. <<http://www.Mauget.com>>.
- Oregon State University Extension Service. 2003. Extension Toxicology Network – Profile of Imidacloprid. <<http://ace.orst.edu/info/extoxnet/pips/imidaclo.htm>>.
- Overhulser, D. L. 2002. Evaluation of trunk injected imidacloprid for control of the Douglas-fir cone gall midge. Oregon Department of Forestry, Salem, Oregon.
- USDI Bureau of Land Management. 1983. Lorane Seed Orchard Environmental Assessment. Eugene District, Eugene, Oregon.
- USDI Bureau of Land Management. 1995. Record of Decision and Resource Management Plan. Eugene District, Eugene, Oregon.
- USDI Bureau of Land Management. 2002. Environmental Assessment No. EA-02-15: Travis Tyrrell Seed Orchard Insect Control. Eugene District Office, Eugene, Oregon.
- USDI Bureau of Land Management. 2003. Draft Environmental Impact Statement: Integrated Pest Management, Travis Tyrrell Seed Orchard. Eugene District Office, Eugene, Oregon.



**Figure 2 – DETAILED TREATMENT AREA MAP  
Section 9 Seed Production Orchards  
2004 Pesticide Treatment Units**



**Figure 3 – DETAILED TREATMENT AREA MAP  
Section 15 Seed Production Orchards  
2004 Pesticide Treatment Units**



PRELIMINARY  
FINDING OF NO SIGNIFICANT IMPACT

for

Travis Tyrrell Seed Orchard Insect Control

Environmental Assessment No. EA-03-018

United States Department of the Interior  
Bureau of Land Management  
Oregon State Office  
Eugene District

The Eugene District of the Bureau of Land Management (BLM) has analyzed a proposal for insect control at the Travis Tyrrell Seed Orchard in an environmental assessment (EA-03-018). The Tyrrell Seed Orchard is a centralized tree seed orchard designed to provide genetically improved Douglas-fir seed for BLM's Coos Bay, Roseburg and Eugene districts and for nine private timber and seed companies. Protecting cone crops from insect damage is necessary in order to meet the seed need for the BLM and private cooperators. The purpose of the action is to control cone insects which cause damage and seed loss to orchard cone crops. There is a need for control of cone insects in eight seed production units (70 acres) in February and March, 2004. The EA considered a Proposed Action (Application of Imidacloprid by Capsule Injection), Application of Esfenvalerate Insecticide by Aerial Helicopter, and the No Action Alternatives.

A summary of the environmental effects (as discussed in the EA) follows:

- The Proposed Action would have no significant impacts on the social and economic environment in the region or the locality.
- The EA analysis concludes that the application and mitigation measures would insure that the Proposed Action would have a negligible effect on public health and safety.
- There are no unique characteristics, such as prime or unique farmlands or wild and scenic rivers within the project area.

- Impacts on the quality of the human environment would not be highly controversial.
  - There are no highly uncertain, unique, or unknown risks involved.
  - The Proposed Action would involve application only in 2004 and would not establish any precedent for future action.
  - The EA analysis considered cumulative impacts and did not identify any that might be significant.
  - There are no known cultural resources within the project area.
  - The EA analysis showed that the potential for environmental problems occurring with the Proposed Action was minimal. The EA analysis also concluded that the Proposed Action would have no effect on any threatened or endangered species.
  - This action has no adverse energy impact, as outlined in the President's National Energy Policy (Executive Order 13212).
- § The Proposed Action would not violate Federal, State, and local law requirements imposed for protection of the environment.

Determination:

On the basis of the information contained in the EA, and all other information available to me, it is my determination that implementation of the Proposed Action would not have significant environmental impacts not already addressed in the *Eugene District Proposed Resource Management Plan/Environmental Impact Statement* (November 1994), and the *Eugene District Record of Decision and Resource Management Plan* (June 1995), with which this EA is in conformance, and does not, in and of itself, constitute a major federal action having a significant effect on the human environment. Therefore, an EIS or a supplement to the existing EIS is not necessary and will not be prepared.

Approved by: \_\_\_\_\_ Date \_\_\_\_\_  
 Julia Dougan  
 Eugene District Manager