

DECISION MEMO

Aspen Grove Fuel and Insect Treatment

USDA Forest Service
Uinta National Forest
Pleasant Grove Ranger District
Utah County, Utah
T. 5 S., R. 3 E., Sec 4 and 9

1. BACKGROUND

An avalanche, originating in the Mount Timpanogos Wilderness, occurred on January 12, 2005, near the Mount Timpanogos Trailhead. The avalanche affected thousands of Douglas-fir, Engelmann spruce, subalpine fir, white fir, and quaking aspen trees. Some of the avalanche and associated debris came to rest outside of the Wilderness, covering the lower portion of the Mount Timpanogos Trail 052 and temporarily blocking the Alpine Loop Scenic Backway. The project area is located within the Lower Provo Management Area about two miles northwest of the Sundance Resort along the Alpine Loop Scenic Backway (State Route 92), in T. 5S., R. 3E., Sections 4 & 9, Salt Lake Base Meridian. The junction with SR 92 is located about six miles from the mouth of Provo Canyon.

The downed trees created a preferred food source for the following insects:

- Douglas-fir beetle, *Dendroctonus pseudotsugae* Hopkins (Douglas-fir)
- Spruce beetle, *Dendroctonus rufipennis* (Kirby) (Engelmann spruce)

A field visit by Uinta National Forest staff and a USDA Forest Health Protection Entomologist in late June of 2005 confirmed that downed Douglas-fir trees had already been infested by the Douglas-fir beetle. Downed Engelmann spruce made up a smaller percentage of the downed timber and no evidence of spruce beetle activity was observed.

2. PROPOSED ACTION

Pheromones are beetle-produced chemicals that beetles emit to either attract a mate or affect populations to their advantage. The antiaggregation pheromone, methylcyclohexenone (MCH), has received EPA registration for operational use, and has been used successfully to protect both stands and individual trees from Douglas-fir beetle attacks. MCH is currently available in a semi-permeable bubble cap to be deployed in an even grid pattern across the adjacent stands containing susceptible Douglas-fir trees. These bubble caps are stapled to any object as high as possible at 32 to 40-foot intervals (40 per acre) throughout the susceptible site. This pheromone is an important component of forest health protection that functions by signaling to incoming beetles that a susceptible host tree is too crowded, thereby acting as a repellent to beetle attack.

In addition to MCH deployment, 12-tiered Lindgren funnel traps baited with a 3-component Douglas-fir beetle lure would be placed in and along the periphery of the avalanche area (at least 75 feet away from standing host trees) to attract, trap and kill beetles before they disperse and infest adjacent trees. To maximize trap effectiveness and to monitor beetle populations, the traps would be emptied and counted weekly over the course of the flight period. Based on the dimensions of the avalanche area, about 15 funnel traps with lures would be required.

Depending on the size of local beetle populations, suitability of downed host material, and the effectiveness of these treatment strategies, these treatments may continue for a period of up to 3 years.

The project, as originally proposed, included a second stage of treatment that would have involved machine piling infested avalanche debris from operable slopes (<30%) outside of the Wilderness to be disposed of through prescribed burning. This second stage was subsequently dropped from consideration because the area available for pile-burning constituted less than 20% of the avalanche area and contained the least amount of susceptible host material. The main objective of the mechanical treatment was to pile the host material in the operable areas and then burn it before the flight period began in mid-May to kill any beetles that had infested the downed timber before they could disperse and attack adjacent stands. However, it was recognized that weather, snow pack, and fuel moisture conditions at the time of the proposed mechanical treatment may not be conducive to accomplishing that objective. The disturbance associated with the pile and burn operation did not warrant the limited results expected from the treatment.

3. PURPOSE AND NEED

The purpose of the proposed action is to deploy the anti-aggregation pheromone in adjacent stands of susceptible timber to repel dispersing bark beetles before they can attack healthy trees or migrate into nearby private lands. In addition, funnel traps would be placed in and along the avalanche area to attract, trap and kill dispersing beetles to reduce populations and spread. Traps would be emptied and counted weekly over the course of the flight period to monitor beetle populations.

These treatments are needed to reduce beetle populations that could expand into adjacent standing green timber. If populations of either insect species increase within the downed Douglas-fir and Engelmann spruce, infestations could spread to nearby susceptible host trees. Extensive mortality in adjacent stands would increase dead standing trees that could affect public safety, reduce visual quality, and potentially increase fire hazards.

4. PUBLIC INVOLVEMENT

The Pleasant Grove Ranger District initiated scoping for this proposal on December 14, 2005, by sending a letter describing the proposal to 72 known interested parties. A legal notice requesting comment was published in the Provo Herald on December 17, 2005.

The project proposal also appeared in the Winter 2005/06 and Spring 2006 editions of the Schedule of Proposed Actions.

In response to these solicitations, the Forest received written comments from two groups: the Utah Environmental Congress and the U.S. Fish and Wildlife Service, as well as one electronic mail comment from a private individual. The project was also scoped internally. Based upon public comments and interdisciplinary team review, eight issues were identified:

1. Vegetation/Forest health. Timber stands adjacent to the avalanche are densely stocked and composed of a mixture of Douglas-fir and true firs. Active beetle mortality pockets currently exist that, with the availability of an abundant food source provided by the avalanche debris, could cause beetle populations to rapidly expand killing large groups of green trees. Infestation could spread onto nearby private lands.

Deployment of the pheromone MCH is an effective treatment measure to protect stands of timber from infestation by the Douglas-fir beetle. Similar MCH treatments have been used on neighboring private lands (Sundance) and other national forests with positive results. This pheromone is an important component of forest health protection that functions by signaling to incoming beetles that a susceptible host tree is too crowded, thereby acting as a repellent to beetle attack. Used in conjunction with Lindgren funnel traps baited with a 3-component Douglas-fir beetle lure, dispersing beetles can be attracted, trapped and killed before they can infest large numbers of susceptible trees adjacent to the avalanche area.

Populations would be monitored weekly by emptying the traps and recording the count of trapped beetles. Depending on the size of local beetle populations, suitability of downed host material, and the effectiveness of these treatment strategies, these treatments may continue for a period of up to 3 years.

2. Threatened, Endangered, and Sensitive Plant Species/Invasive Plants. There was concern with the original proposal that use of mechanized equipment to pile and burn avalanche debris could introduce noxious or invasive weed species or negatively impact Endangered, Threatened and Forest Service Sensitive plants or their habitats occurring in the project area.

*The general area was surveyed in the summer of 2005 in relation to a different project. The determination based on this survey was that the project would have **no effect** on the Deseret milkvetch, clay phacelia or Ute ladies'-tresses orchid, because there is no habitat for these species in the project or analysis areas; and, that there is no suitable habitat for Garrett bladderpod, Rockcress draba, Wasatch jamesia, Barneby woody aster, slender moonwort or dainty moonwort in the project area, therefore the project would have **no impact** to these species.*

Because the mechanized portion of the proposed action has been dropped and no ground-disturbing activities will take place, the project would not provide a likely source of introduction for noxious or invasive weed species.

3. Effects on Threatened, Endangered, Forest Service Sensitive, and Management Indicator wildlife species. Northern goshawks are known to nest within the management area, and flammulated owls may nest in aspen stands in this management area.

*A report entitled **3-Methylcyclohexen-1-one (MCH) Human Health and Ecological Risk Assessment** prepared for the U.S. Forest Service by Syracuse Environmental Research Associates, Inc. analyzed the hazards and risks associated with the use of MCH. The report indicates that there are low risks associated with the limited use of MCH proposed by the Forest Service and the Uinta National Forest for Aspen Grove project. Two exposure scenarios were identified in the report: tampering with a bubble cap and exposure to very low levels of MCH in the air. If an animal were to tamper with a bubble cap, the amount of MCH that could be consumed or otherwise absorbed ranges from negligible to approximately 390 mg (the total amount of MCH in a bubble cap). Consumption of 390 mg of MCH could cause mortality of mammals the size of a mouse, shrew, or rat and similar-sized birds. Somewhat larger animals about the size of small raccoons, crows, or gulls would be likely to become ill but less likely to die. Larger animals would probably show no signs of adverse effects. The report indicates that the probability of wildlife species consuming lethal amounts of MCH cannot be assessed because of limited available data. Numerous field studies have been conducted on the efficacy of MCH, however, and Forest Service workers involved in these studies found no indication that wildlife consume or otherwise tamper with MCH.*

*The wildlife biologist concluded, based on the description of the refined proposed action (excluding mechanized treatment) and information found in the report **3-Methylcyclohexen-1-one (MCH) Human Health and Ecological Risk Assessment**, that the proposed action would have no negative effects on wildlife species listed under the Endangered Species Act and considered by U.S. Fish and Wildlife Service for Utah County (i.e., bald eagle [Threatened], Canada lynx [Threatened], and western yellow-billed cuckoo [Candidate]); Forest Service Sensitive wildlife species considered for the Uinta National Forest (Columbia spotted frog, northern goshawk, flammulated owl, American three-toed woodpecker, greater sage-grouse, spotted bat, Townsend's big-eared bat, and fisher); Uinta National Forest wildlife Management Indicator Species (northern goshawk, American three-toed woodpecker, and American beaver); boreal toads; or any species of migratory bird.*

4. Effects to Visual Quality. The avalanche left an 83-acre “footprint” which includes the actual path and associated debris. Visual concerns originally involved impacts from the proposed piling and burning of avalanche debris.

Under the proposed action, no mechanized piling or burning treatments would occur. Vegetation would be allowed to reestablish itself naturally. The portions of the area proposed for MCH treatment lie almost entirely in acres classified with a Visual Quality Objective (VQO) of Retention, which states “management activities may only repeat the form, line, color, and texture frequently found in the characteristic landscape” and “changes should not be evident to the casual forest visitor”. The MCH bubble caps are small (approximately 2 square inches), and would not be readily noticeable by forest visitors. Deployment of the MCH as proposed will comply with the more stringent VQO of Preservation which allows for ecological changes only and “very low visual impact” management activities at recreation facilities.

5. Fuels/Fire Hazard. Visual estimate of the fuel load as a result of the avalanche ranges from 45-90 tons per acre. A wildfire would be difficult to suppress and could threaten adjacent private land.

The majority of the avalanche debris occurs in Wilderness, limiting treatment options. Mechanical treatment of accessible fuels, as originally proposed, would have made little impact on the fuel load, leaving roughly 80% of the debris untreated. While prescribed fire is allowed within Wilderness, the proximity of the slide to high value resources (wilderness, watershed, wildlife) and private lands increases the complexity and risk of implementing such a burn. Anything less than full consumption of the large timber on the steep slope of the avalanche could lead to increased public safety hazards through rolling debris, while increasing runoff and erosion.

Other areas within the Uinta and Wasatch-Cache National Forests that have experienced avalanches and the associated increased fuel loading have not demonstrated a higher fire occurrence from pre to post-slide in most instances.

6. Soil disturbance. Concerns over soil disturbance were related to the original proposal that include piling and burning of debris.

Because the pile-burn portion of the proposed action has been dropped, and no ground-disturbing activities would take place, the project would have no impact to soils.

7. Water Quality. The Lower Provo Management Area provides municipal water for Springville, Lindon, Salt Lake City, the Bureau of reclamation, and other smaller entities. Both Orem and Provo Cities use springs located within Provo Canyon for culinary water. The North Fork Provo River is classified as a Wild and Scenic River and Class I Riparian Habitat Conservation Area (RHCA).

The project does not include ground disturbance and would not result in an adverse impact on flood plains, wetlands, or municipal watersheds. Application

of MCH to uplands within the project area does not pose a significant impact to water quality. MCH would not be stored on site or applied within proximity to live water courses within the project area.

8. Effects on Fish, Aquatic Species and Habitat. Streams within the Lower Provo Management Area were historically inhabited by Bonneville cutthroat trout (BCT) and some genetically pure populations may still reside in isolated stream reaches. BCT are identified as aquatic Management Indicator Species (MIS) for the Uinta National Forest and listed as a United States Forest Service Region 4 and State of Utah sensitive species.

The project would not include ground disturbance and would not result in an adverse impact on flood plains, wetlands, or municipal watersheds. Application of MCH to uplands within the project area would not cause any adverse impacts to aquatic organisms. MCH would not be stored on site or applied within proximity to live water courses within the project area.

5. DECISION

I have decided to implement the placement of pheromones and funnel traps to reduce and monitor beetle populations. This action is categorically excluded from documentation in an environmental impact statement or an environmental assessment because the project is listed as one of the excluded categories in Forest Service Handbook (FSH) 1909.15. The FSH states that a proposed action may be categorically excluded from further analysis and documentation in an environmental impact statement (EIS) or environmental assessment (EA) only if there are no extraordinary circumstances related to the proposed action and if:

- a. The proposed action is within one of the categories in the Department of Agriculture (USDA) NEPA policies and procedures in Title 7, Code of Federal Regulations, part 1b (7 CFR part 1b), or
- b. The proposed action is within a category listed in section 31.12 or 31.2 of this Handbook. (FSH 1909.15, 30.3 (1)).

This project is described at FSH 1909.15, 31.12 (5), Repair and maintenance of recreational sites and facilities.

FSH 1909.15 (1909.15-2004-3), Section 30.3(2) lists the following resource conditions that should be considered in determining whether extraordinary circumstances related to the proposed action warrant further analysis and documentation in an EA or an EIS are:

- a. Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species. It is the conclusion of the wildlife biologist, based on the description of the proposed action and information found in the report *3-Methylcyclohexen-1-one (MCH) Human Health and Ecological Risk Assessment*, that the proposed action would have no negative effects on

wildlife species listed under the Endangered Species Act and considered by U.S. Fish and Wildlife Service for Utah County (i.e., bald eagle [Threatened], Canada lynx [Threatened], and western yellow-billed cuckoo [Candidate]); Forest Service Sensitive wildlife species considered for the Uinta National Forest (Columbia spotted frog, northern goshawk, flammulated owl, American three-toed woodpecker, greater sage-grouse, spotted bat, Townsend's big-eared bat, and fisher); Uinta National Forest wildlife Management Indicator Species (northern goshawk, American three-toed woodpecker, and American beaver); boreal toads; or any species of migratory bird.

Upon review of the proposal and the health and risk assessment concerning MCH and its potential effects on aquatic organisms, the fisheries biologist determined that the use of MCH as proposed in this project will not cause any adverse impacts to aquatic organisms.

- b. Flood plains, wetlands, or municipal watersheds. The project does not include ground disturbance and will not result in an adverse impact on flood plains, wetlands, or municipal watersheds. Application of MCH to uplands within the project area does not pose a significant impact to water quality. Although it is possible to construct numerous accidental exposure scenarios involving relatively small amounts of MCH (i.e., a bubble cap dropped into a pond), generating the scenarios would lead to trivial levels of exposure (MCH Risk Assessment, Section 4.3.3 Aquatic Organisms, pg 4-9). According to the write-up, the MCH is soluble in all organic solvents; sparingly soluble in water. In order to further mitigate potential contamination of water within or immediately below the project area, MCH should not be stored on site or applied within proximity to live water course within the project area.
- c. Congressionally designated areas, such as wilderness, wilderness study areas, or national recreation areas. The project area includes the upper portion of the avalanche that originated in the Mount Timpanogos Wilderness. Some funnel traps may be placed in and along the avalanche area within the wilderness. Anti-aggregation pheromones will not be located in, nor would their deployment have any negative direct, indirect, or cumulative impacts on, any congressionally designated areas.
- d. Inventoried roadless areas. Some funnel traps may be located in the Mount Timpanogos Roadless Area; however, they will have no negative effects on the roadless or wilderness characteristics of the area.
- e. Research natural areas. The project area is not located in, nor would it have any effects on, the sole Research Natural Area located on the Forest on the Heber Ranger District.

- f. American Indians and Alaska Native religious or cultural sites. There are no known religious or cultural sites of importance to American Indian or Alaska Native Tribes in the project area (Thompson, March 15, 2006).
- g. Archaeological sites, or historic properties or areas. The proposed pesticide and the methods proposed for its use are both materials or activities that do not have the potential to affect heritage resources under 36 CFR Part 800.3.a.(1). (Thompson, March 15, 2006).

6. FINDINGS REQUIRED BY OTHER LAWS

This decision is consistent with the Uinta National Forest's 2003 Forest Plan as required by the National Forest Management Act. This project will be located in the Lower Provo Management Area within management prescriptions 3.1 - Aquatic, Terrestrial and Hydrologic Resource Emphasis, 4.4 - Dispersed Recreation, 4.5 - Developed recreation, and 1.4 - Wilderness. In addition, management prescription 2.2 - Wild & Scenic Rivers (Scenic designation) overlays the project area within the Wilderness, and prescription 2.3 - Wild & Scenic Rivers (Recreational designation) overlays the majority of the project area outside of Wilderness. The ROS for the area outside of the Wilderness is Roaded Modified, and Primitive for the area inside the Wilderness. The VQO (Visual Quality Objective) is 'Preservation' in the Wilderness, 'Partial Retention' on the steepest slopes below Elk Point outside of the Wilderness, and 'Retention' over the rest of the avalanche area outside of the Wilderness.

The project is consistent with Forest-wide and Management Area specific direction as described below.

- "The Forest coordinates and cooperates with other tribal, federal, state, county, and city government agencies to mitigate, prepare for, and respond to major natural disaster emergencies. **Sub-goal-1-7, 2003 Forest Plan, page 2-4.**
- "Management actions maintain ecosystem health and encourage conditions that are within the historic range of variation. Management actions remain within the variability of size, intensity, and frequency of native disturbance regimes characteristic of the subject landscape and ecological processes. **Sub-goal-2-10, 2003 Forest Plan, page 2-6.**
- "Integrated pest management systems and strategies that provide protection of forest resources with the least hazard to humans and the environment are developed, practiced, and encouraged. **Sub-goal-2-36, 2003 Forest Plan, page 2-11.**
- "Direct, non-spray application of pesticides to individual plants or other similar narrowly targeted treatment needs (e.g., gopher, or insect control) that avoids application to the ground may be conducted within the specified buffers for live water as stated in Aqua-10." **Guideline Aqua-11, 2003 Forest Plan, page 3-3.**

The project does not include ground disturbance and will not result in an adverse impact on flood plains, wetlands, or municipal watersheds. Pheromone application to uplands

within the project area does not pose a significant impact to water quality. The decision is consistent with the Clean Water Act. The proposed action was reviewed by a Forest Service wildlife biologist and was determined to have no negative effects on wildlife species listed under the Endangered Species Act and considered by U.S. Fish and Wildlife Service for Utah County; Forest Service sensitive wildlife species considered for the Uinta National Forest; Uinta National Forest wildlife Management Indicator Species; boreal toads; or any species of migratory bird. No adverse impacts on birds are anticipated. This decision is consistent with the Migratory Bird Treaty Act. A Biological Assessment/Evaluation for plants completed in November 2005 determined that there was no suitable habitat and, therefore, no effect for any Endangered, Threatened or Forest Service Sensitive plant species in the project area. This decision is consistent with the Endangered Species Act.

No cultural resources will be affected by the project. The decision is consistent with the National Historic Preservation Act, the American Indian Religious Freedom Act, and the Native American Graves Protection and Repatriation Act.

In accordance with Executive Order 12898, this action will not result in any disproportionate impact to minority or low-income populations.

Implementation of this proposal is consistent with other Federal, State, and local laws for the protection of the environment.

7. IMPLEMENTATION DATE

This decision may be implemented immediately.

8. ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES

Pursuant to 36 CFR 215.8 (a)(4), this decision is not subject to a higher level of review or appeal.

9. CONTACT PERSON

For further information about this decision or project, please contact Pam Gardner, Pleasant Grove District Ranger, Pleasant Grove Ranger District, at 390 North 100 East, Pleasant Grove, Utah, 84062, or by phone at (801) 785-3563.

/s/ Pamela J. Gardner

April 24, 2006

Pamela J. Gardner
District Ranger
Pleasant Grove Ranger District

Date