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**AGENDA COVER MEMO**

**Date:** July 26, 2006  
**To:** Lane County Board of Commissioners  
**Dept.:** Public Works/Parks Division  
**Presenter:** Todd Winter, Parks Manager

**Agenda Item Title:** IN THE MATTER OF AUTHORIZING THE FRIENDS OF BUFORD PARK TO APPLY FOR AND ACCEPT GRANT FUNDING ON BEHALF OF THE LANE COUNTY PARKS DIVISION TO CONTROL THE INVASIVE WEED FALSE BROME ON HOWARD BUFORD RECREATION AREA.

**I. MOTION**

IN THE MATTER OF AUTHORIZING THE FRIENDS OF BUFORD PARK TO APPLY FOR AND ACCEPT GRANT FUNDING ON BEHALF OF THE LANE COUNTY PARKS DIVISION TO CONTROL THE INVASIVE WEED FALSE BROME ON HOWARD BUFORD RECREATION AREA.

**II. ISSUE OR PROBLEM**

Lane County Park's Howard Buford Recreation Area (HBRA, aka Mt. Pisgah) is a natural area of regional significance, as recognized in Oregon Wildlife Plan (Oregon Dept. of Fish & Wildlife, 2005) and the Willamette Subbasin Plan (Northwest Power and Conservation Council, 2004). It contains some of the largest remnants of "globally endangered" plant communities, such as oak savanna, upland prairie and wetland prairie. These habitats provide spectacular wildflower displays and support the diversity of birds and wildlife that park visitors enjoy.

A number of invasive species threaten these botanical and wildlife resources. Many scientists view the invasive grass False Brome (*Brachypodium sylvaticum*) as one of the greatest weed threats. False Brome converts areas rich in native wildflowers and grasses into a dense, single species mat of non-native grass. The native plants and wildlife that depend on them are lost.

Mt. Pisgah is on the cusp of a False Brome explosion. The weed occupies about 25 acres of 600 acres surveyed to date by volunteers and is spreading quickly (see attached map: "False Brome Distribution on HBRA).

In addition, False Brome contains a toxic fungus that threatens the health of horses, cattle, and wildlife that graze upon it. The fungus, *Epichloe sylvaticum*, produces extremely toxic alkaloids that act to deter feeding of both insect and mammalian herbivores (Clay 1990, Clay & Schardl 2002). If mammals eat sufficient endophyte infected grasses, they develop neurological and circulatory disorders, including blindness, staggering about without feeding, and gangrene (Clay 1990). Recent research by Dr. Barbara Roy at the University of Oregon (Simmons, Stewart, & Roy; unpubl. data) found that 100% of tested samples in the United States were infected. All European plants that have been examined were also infected (Adrian Leuchtmann, pers. comm.).

The longer an effective control strategy is delayed, the more money and effort it will take to address the problem, until eventually, nothing will prevent this weed from overwhelming the native vegetation.

The Parks Division's budget is inadequate to address this high priority weed control task. However, Friends of Buford Park and other agencies are willing to collaborate to secure funds and mobilize volunteers to control this weed on the park.

### III. DISCUSSION

#### A. Background

Since 2004, Friends of Buford Park & Mt. Pisgah (FBP) has worked under the direction of Lane County Parks to control False Brome on the park, testing non-herbicide control methods, mobilizing volunteers to clip seed heads, pull the weed by hand, and replant with native plants.

In addition, volunteers with GPS units have surveyed over 600 acres of the park's 2,300 acres so far, mapping the weed's extent. Volunteer scientists have researched its life cycle, pathogens, and control methods. Key findings are that:

- False Brome is dispersed widely across the 600 acres surveyed. It currently occupies a total of 25 of those acres.
- Because the seed is short lived, a three-year control effort can exhaust the seed bank.
- For small, isolated populations, hand pulling followed by native seeding and weeding appears to work.
- Large infestations (spread over 1000 acres) in the Willamette Valley have been successfully controlled with the herbicide glyphosate.

#### ***Proposed Control Methods***

After several years of research, inventory, analysis, testing control methods, and consultation with weed control experts, FBP proposes an integrated vegetation management approach to False Brome control, which includes:

- 1) **hand pulling** of isolated populations along trails,
- 2) **mowing** before seed maturation along trails where possible, **then smothering** the weeds with black fabric,
- 3) applying **hot "Waipuna" foam** along service roads that provide access for the equipment,
- 4) **careful application of herbicide** on large, dense, populations in inaccessible areas away from trails, and
- 5) replanting treated areas with a native seed mix, produced at FBP's native plant nursery.

This integrated approach seeks to minimize the use of herbicides in general and specifically within areas adjacent to trail corridors while maximizing effectiveness of control and achieving economic efficiency. The project's goal is to restore self-sustaining native plant communities that can maintain the park's botanical and wildlife diversity for future generations.

#### **B. Analysis**

The Friends of Buford Park must seek resources from agencies and grants to fund the control program.

The longer an effective control strategy is delayed, the more money and effort it will take to address the problem, until finally nothing will prevent this weed from overwhelming the park's native vegetation.

Without control, the park is likely to become a seed source for new False Brome infestations in other parks and lands in Lane County. Because an estimated 100,000 visitors hike Mt. Pisgah annually, hikers and their dogs, equestrians and their horses, and maintenance workers are likely to unknowingly transport the "hitchhiking" seed on their shoes, feet or hooves to other recreation areas and private lands.

If False brome spreads across the HBRA, wildlife, horses, dogs and other livestock may eat enough of the weed to suffer toxic effects, which include neurological and circulatory disorders, including blindness, staggering about without feeding, and gangrene.

Each of the three adjacent large landowners have been informed of the problem and invited to collaborate on survey and control efforts. As of June 24, one landowner, Giustina Resources, has committed to collaborate and the other two are still deciding.

Application for grant funding by FBP to the Oregon State Weed Board.

- 1) What is the match requirement? There is no match requirement for Lane County. Any match requirements will be met through volunteer hours from the Friends of Buford Park (FBP).
- 2) Will the grant require expenditures for material, services, or capital not paid for by the grant? The grant will require no additional expenditures by Lane County.
- 3) Will the grant funds be fully expended before County funds need to be spent? Yes. It is not foreseen that any County funds will be required for this program.
- 4) How will the administrative work of the grant be covered? The FBP will assume responsibility for grant administration except for the ongoing oversight by Lane County for all FBP administered grants.
- 5) Have the grant stakeholders been informed of the grant sunset policy? Yes, this grant would be no different than any of the grants currently sought and administered by FBP.
- 6) What accounting, auditing, and evaluation obligations are imposed by the grant conditions? Grants from State agencies are fairly standardized and this will be consistent with other grants administered by FBP.
- 7) How will the department cover accounting, auditing, and evaluation obligations? The Department provides oversight for grants administered by FBP. No additional departmental resources will be required and any additional oversight obligation will be incidental to current obligations.
- 8) Are there any restrictions against applying the County full cost indirect charge? The County will assume no cost obligation, therefore this does not apply.
- 9) Are there unique or unusual conditions that trigger additional county work effort or liability? None outside of coordinating appropriate signage and site isolation.
- 10) Grants involving technology issues require Information Services department review. N/A.
- 11) Information Services department signoff required? None, N/A.
- 12) Is this grant funded computer/software applications? N/A.

### **C. Alternatives**

- 1) Authorize Parks Division, through the Friends of Buford Park (FBP), to apply for and accept grant funding for efforts to control False Brome;
- 3) Do not authorize the grant application.

### **D. Recommendation**

Authorize Parks Division to apply for and accept grant funding for a program to control False Brome, through the Friends of Buford Park (FBP).

**E. Timing**

Board authorization of the project by mid-August would allow submission of a grant proposal to Oregon State Weed Board by its deadline.

**F. Implementation**

FBP's volunteer-supported survey and hand-pulling will continue this summer. As partner agencies commit resources, control efforts would increase, possibly as soon as August 2006.

**G. Attachments**

- 1) Executive Summary of Friends of Buford Park & Mt. Pisgah False Brome Control Project Proposal
- 2) Map: *Distribution of False Brome on HBRA*
- 3) Informational Flyer: Inter-agency False Brome Work Group
- 4) Letters of Support
- 5) False Brome Weed Alert

IN THE BOARD OF COMMISSIONERS OF LANE COUNTY STATE OF OREGON

ORDER No. \_\_\_\_\_

) IN THE MATTER OF AUTHORIZING THE  
) FRIENDS OF BUFORD PARK TO APPLY  
) FOR AND ACCEPT GRANT FUNDING  
) ON BEHALF OF THE LANE COUNTY  
) PARKS DIVISION TO CONTROL THE  
) INVASIVE WEED FALSE BROME ON  
) HOWARD BUFORD RECREATION AREA.

**WHEREAS**, the Howard Buford Recreation Area Master Plan supports efforts to restore natural habitats within the Recreation Area; and

**WHEREAS**, the invasive plant, False Brome is considered a threat to the natural habitat; and

**WHEREAS**, the Lane County Parks Division has identified a 600 acre already affected by the spread of False Brome; and

**WHEREAS**, the Lane County Parks Division doesn't have the necessary resources to implement a control strategy to control this invasive weed and; **NOW THEREFORE**

**IT IS HEREBY ORDERED** that the Lane County Parks Division, in collaboration with the Friends of Buford Park, may apply for and accept grant funding to implement a program to control the invasive weed False Brome on the Howard Buford Recreation Area; and

**IT IS HEREBY FURTHER ORDERED** that the acceptance of grant funding by Lane County shall occur as provided by LM 21.137, which may include a return to the Board for acceptance of a grant award in excess of \$100,000 or acceptance of grant awards of at least \$5,000, but not more than \$100,000, by the County Administrator.

DATED this \_\_\_\_\_ day of August, 2006

\_\_\_\_\_  
Chair, Lane County Board of Commissioners

APPROVED AS TO FORM

Date 7-26-2006 Lane County

  
OFFICE OF LEGAL COUNSEL

# HBRA FALSE BROME CONTROL PROJECT

## Proposed by Friends of Buford Park & Mt. Pisgah

May 8, 2006

### EXECUTIVE SUMMARY

Howard Buford Recreation Area (HBRA, aka Mt. Pisgah) is a 2,363-acre Lane County park that is a natural area of regional significance. It contains some of the largest remnants of "globally endangered" plant communities, such as oak savanna, upland prairie and wetland prairie. That translates to spectacular wildflower displays and a diversity of birds and other wildlife for visitors to enjoy.

Few people realize that invasive species threaten all of this. Invasive exotic species are the second biggest cause, after habitat destruction, of the decline of rare species. Scientists tell us that the invasive grass False Brome (*Brachypodium sylvaticum*) is probably the greatest threat to what people love about Mt. Pisgah. False Brome converts areas rich in native wildflowers and grasses into a dense, single species mat of non-native grass.

Mt. Pisgah is on the cusp of a False Brome explosion. An effective control program, combined with native revegetation, should be developed and implemented as soon as possible.

#### WHAT WE'VE LEARNED

For three years, Friends of Buford Park & Mt. Pisgah (FBP) has tested non-herbicide control methods, mobilizing volunteers to clip seed heads, pull the weed by hand, and replant the weeded areas with native plants. Volunteers with GPS units have surveyed over 600 acres of the park's 2,300 acres so far, mapping the weed's extent. Volunteer scientists have researched its life cycle, pathogens, and control methods. Key findings are that:

- False Brome is dispersed widely across the 600 acres surveyed. It currently occupies a total of 25 of those acres.
- Because the seed is short lived, a three-year control effort can exhaust the seed bank.
- For small, isolated populations, hand pulling followed by native seeding and weeding appears to work.
- Large infestations (spread over 1000 acres) in the Willamette Valley have been successfully controlled with the herbicide glyphosate.

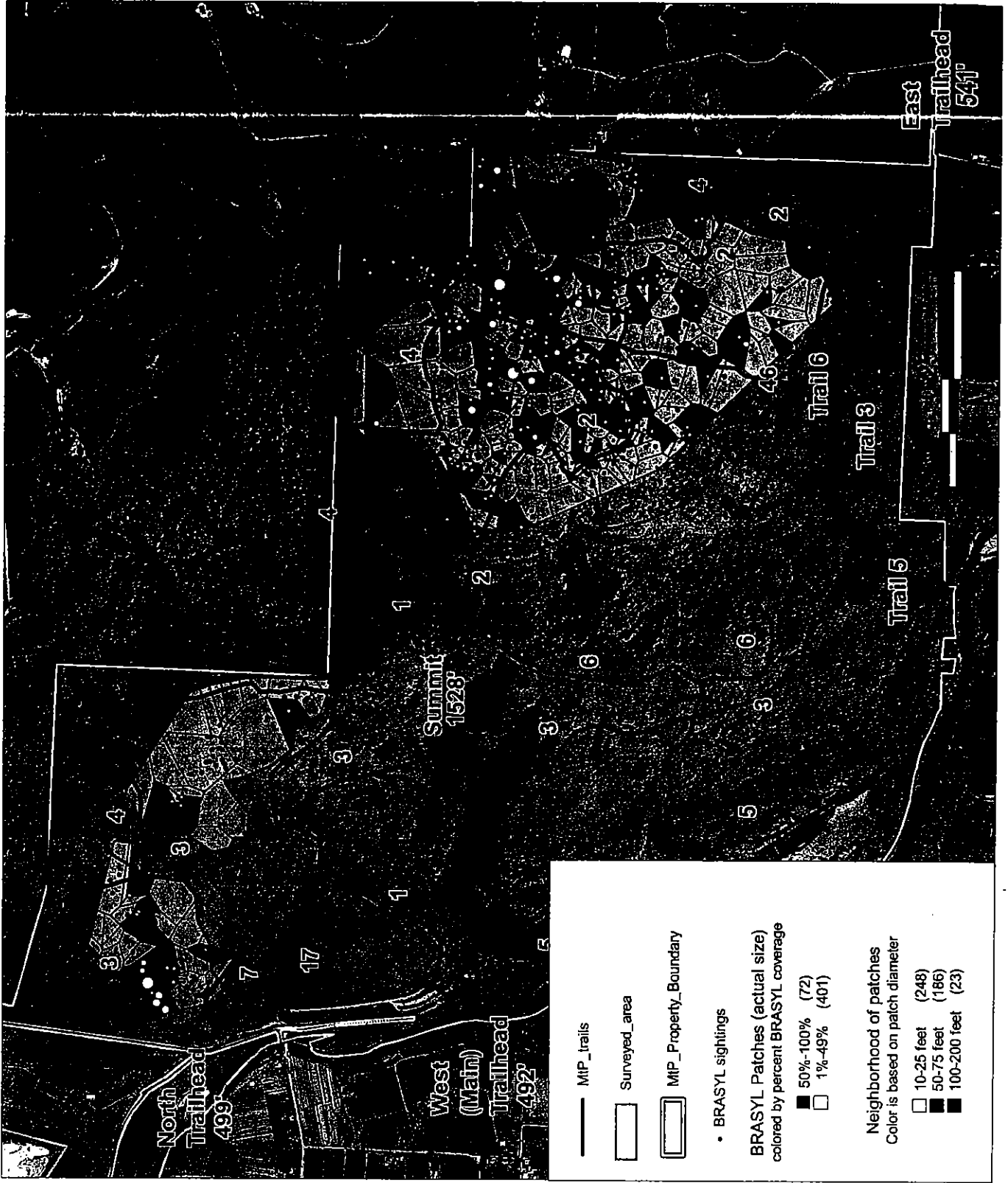
#### PROPOSED CONTROL METHODS

After several years of research, inventory, analysis, and consultation with weed control experts, FBP is proposing that Lane County use a combination of five control methods:

- 1) **hand pulling** of isolated populations along trails,
- 2) **mowing** before seed maturation along trails where possible, **then smothering** the weeds with black fabric,
- 3) applying **hot "Waipuna" foam** along service roads that provide access for the equipment,
- 4) **careful application of herbicide** on large, dense, populations in inaccessible areas away from trails (on a total of less than 10 acres of the 600 acres surveyed area, or less than one percent of the park), and
- 5) **replanting treated areas with a mix of native seed**, produced at FBP's native plant nursery.

This integrated strategy prioritizes four non-herbicide methods. The goal is to restore self-sustaining native plant communities that will maintain the park's botanical and wildlife diversity for future generations. If the county approves an effective False Brome control program, FBP will seek grants so that the project does not compete for Lane County's scarce general fund dollars. The longer we wait, the more money and effort it will take to address the problem, until finally nothing will prevent this weed from overwhelming the native vegetation.

Distribution of False Brome (*Brachypodium sylvaticum*) at Mt Pisgah as of 3/3/06



- MIP\_trails
- ▭ Surveyed\_area
- ▭ MIP\_Property\_Boundary
- BRASYL\_sightings
- BRASYL Patches (actual size)  
colored by percent BRASYL coverage
  - 50%-100% (72)
  - 1%-49% (401)
- Neighborhood of patches  
Color is based on patch diameter
  - 10-25 feet (248)
  - 50-75 feet (186)
  - 100-200 feet (23)

# Invasive Plant Alert

## False-brome

*(Brachypodium sylvaticum)*

### False-brome Working Group

A partnership of: USDA Forest Service, USDI Bureau of Land Management, Oregon Department of Agriculture, US Army Corps of Engineers, OSU College of Forestry, Institute for Applied Ecology, Starker Forests Inc., The Nature Conservancy, Native Plant Society of Oregon

revised January 2003

## False-brome invading habitats in the Pacific Northwest

False-brome, or slender false-brome (*Brachypodium sylvaticum* (Huds.) Beauv.), is an invasive grass species that is rapidly expanding in the Pacific Northwest. This exotic perennial is native to Europe, Asia and North Africa, but is invading habitats in western Oregon, and possibly elsewhere in our region, at an alarming rate. It is capable of completely dominating understory and open habitats to the exclusion of most other native species. The earliest record of the species in North America is a 1939 collection from near Eugene in Lane County, Oregon. By 1966, the species grew in at least two large colonies in the Corvallis-Albany area of Benton County, Oregon, where it was well established (Chambers 1966, Madroño 18:250-251). Currently, it is officially known only from Oregon, where it occupies habitat in and around the Willamette Valley, coastal forest, and as far south as Josephine County (a few miles from the California border). The species seems likely to spread rapidly to California, Washington, and British Columbia.



False-brome (*Brachypodium sylvaticum*).

## Identification

False-brome can be distinguished from most other grasses by its hairy leaf margins and lower stems, broad (4-10 mm) lax leaves, and a long-lasting bright green color (leaves often remain green through fall and at least part of winter). It differs from native perennial bromes (*Bromus* species) in having sheaths open to the base, flowers borne in a true spike, and spikelets with no or only short stalks. The flower spikes droop noticeably. In contrast, the perennial bromes in this region have sheaths closed >1/4 of their length, their flowers are in more open, branched panicles, and their spikelets are generally strongly stalked. Although spikelets droop on one native, Columbia brome (*B. vulgaris*), the spikelets are clearly stalked.



Leaf margins of false-brome are hairy (left) and the flowers are borne on drooping spikes (center and right).

In the Willamette Valley and surrounding foothills the species may occur with native perennial grasses such as Columbia brome (*Bromus vulgaris*), bearded fescue (*Festuca subulata*), and oniongrass (*Melica subulata*) in forest understories, and blue wildrye (*Elymus glaucus*), California brome (*Bromus carinatus*), California oat-grass (*Danthonia californica*), and California fescue (*Festuca californica*) in open areas such as upland prairies and along forest edges. False-brome does not appear to be rhizomatous, but forms large clumps that tend to coalesce, and it reproduces rapidly from seed.

## Impact

The species has an exceptionally broad ecological amplitude, occupying forest floor and open environments such as pastures and prairies at a variety of aspects and elevations. Populations are known from riparian forests as well as upland hardwood and conifer forests under patchy and closed canopies at elevations of 200-3500 feet. Vigorous populations also occupy forest edges and upland prairies in full sun. When invading an area, it may first disperse along roadsides, then move out into undisturbed areas or forest clearcuts. The palatability of this grass for wildlife appears to be very low. It may inhibit tree seedling establishment and displace threatened and endangered species, such as Kincaid's lupine (host plant for the endangered Fender's blue butterfly).





**False-brome can become the dominant plant and nearly eliminate native species on forest floors beneath a closed canopy (left) and in completely open habitats, such as pastures and prairies (right).**

One characteristic of false-brome that appears to make it successful in the Pacific Northwest is its ability to tolerate a wide range of habitats, particularly with regard to light availability. Most of the invasive plants in our region tend to favor either open conditions, shade, or edges. False-brome can successfully dominate in all of these conditions to the near-complete exclusion of native herbaceous plants.

Dense growth of false-brome may alter fire regimes, and, especially where the species builds up a heavy layer of thatch, may increase the risk and rate of spread of wildfire. The species itself appears to be fire tolerant, resprouting within two weeks of a burn.

False-brome becomes a serious pest after forest harvest and may inhibit tree seedling establishment. It may also invade pastures and reduce forage quality for livestock. When the species dominates the vegetation, it may have negative effects on small and large mammals, native insects, lizards and snakes, and even song birds. Efforts to restore fish habitat may be impaired when dense patches of false-brome are present. This grass may reduce establishment of planted riparian trees that provide shade and structure to streams.

## Control

Control of false-brome should focus first on prevention of spread through cleaning of machinery used in forest management; boots, clothes and equipment of forest workers and recreationists, and removal of infestations along roadsides. Seeds from roadside patches disperse on passing vehicles, people, and wildlife.

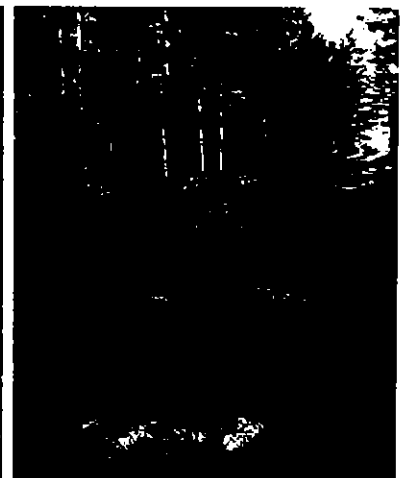
Where the species is already established, herbicides (e.g., glyphosate/Roundup) are an effective control method in some environments, but non-chemical methods are urgently needed. Mowing and burning alone appear to be ineffective for controlling the species. Hand removal may work in small patches, but care must be taken to remove all root fragments.

Additional information on false-brome is available on the internet at these sites:

- [□incweeds.ucdavis.edu/alert/alrtbrac.html](http://incweeds.ucdavis.edu/alert/alrtbrac.html)
- [□www.ou.edu/cas/botany-micro/ben/ben277.html](http://www.ou.edu/cas/botany-micro/ben/ben277.html)
- [□www.appliedeco.org/reports.html](http://www.appliedeco.org/reports.html)



**Application of herbicide (glyphosate) with a backpack sprayer may be an effective means to control small infestations of false-brome.**



**Super-heated foam applied with a Waipuna machine is an experimental method for controlling false-brome on roadsides.**

*Prepared by:*

**Thomas Kaye**, Institute for Applied Ecology, 227 SW 6<sup>th</sup>, Corvallis, Oregon 97333

email: [kayet@peak.org](mailto:kayet@peak.org)

22 June 2006

Lane County Board of Commissioners  
125 E. 8<sup>th</sup> Ave.  
Eugene, Oregon 97401

Dear Lane County Commissioners:

I'm writing you to express my support for the integrated pest management approach being proposed by the Friends of Buford Park (FBP) in the Howard Buford Recreation Area (HBRA), and the limited herbicide use as an appropriate part of the approach for the reasons listed below.

The FBP is working hard to help Lane County protect the natural values that have made the HBRA famous as a recreation destination and an outstanding natural history study site. The most serious threat presently damaging those natural values are two new weeds: false brome (*Brachypodium sylvaticum*) and shining geranium (*Geranium lucidum*). They currently are exploding in the forest understories.

Both species are very effective at forming monocultures; their "poisonous" effect on native habitats is awesome, discouraging and overwhelming. They act as "erasers" of the native biological diversity in our native and partly native habitats, by overtly out-competing native plants (and those plants are then gone from the local area), and secondarily, by causing the loss of the invertebrates, fungi and other wildlife that depend on those native plants. It is possible that they impart toxic chemicals into the soil allowing them to very successfully outcompete native plants (allelopathy), or that they interfere with native plant - endomycorrhizal fungal relationships -- as was recently documented with *Alliaria petiolata*, garlic mustard. These and other potential topics are subjects of several research projects currently underway addressing the origins, ecology and impacts of these two species -- at Mt. Pisgah, as well as in other areas in the Willamette Valley (and elsewhere).

Perhaps the most blatant example of the negative impacts of false brome is in Butterfly Meadows in MacDonald Forest northwest of Corvallis, where both Kincaid's lupine (*Lupinus sulphureus* ssp. *kincaidii*, federally listed threatened) and the Fender's blue butterfly (*Plebejus icarioides fenderi*, federally listed endangered) -- which depends on the lupine for its larval host plant -- are being negatively impacted by false brome invasion. The false brome had mostly invaded forest understories in that area until recently, and now it is moving into meadows.

One of the essential tools needed in protecting native biodiversity against invasion is herbicides. Herbicides must be used with sensitivity so as to avoid negative impacts to native plants and fungi, terrestrial and aquatic wildlife, and humans. In spite of these limitations, the damage being done to those same flora and fauna by weed invasion is far greater than the potential damage that may be done with intelligent application of herbicides. Many experienced restorationists are familiar with the timing, type, application rates and mixes, and other variables which can make the difference between intelligent, low-impact, one-time use of an herbicide to restore habitats, and higher impact, ongoing use as a replacement for prevention and lower impact control methods. I support the former use, and discourage the latter.

If herbicides are used at Mt. Pisgah, I know it will be done as part of an integrated pest management program, where the many other weed control techniques already being practiced (as well as new ones), are used in the effort to protect our remnant native habitats and species. For example, the Friends of Buford Park has mobilized dozens of volunteers logging hundreds of hours in collecting and transporting false brome seed heads off Mt. Pisgah, and in some cases, pulling plants. Although this slows the spread somewhat, the aggressive weed continues usurping native plants from native habitats on many tens (or

low hundreds) of acres on the mountain -- documented, again, by hours of dedicated volunteer effort by people who care about tracking the loss of native species. Add to that the acreage now occupied by shining geranium (for which there is no volunteer power left to even survey, let alone attempt control), and the combined effects on HBRA habitats are enormous. I greatly admire the Friends of Buford Park's integrated control strategy, based on caring volunteers manually removing Armenian (aka Himalaya) blackberry, Scot's broom, and other "classic" weeds, and more recently, attempting to control false brome -- the first superweed on the mountain.

I have been an active contributor to the FBP as a member, and for two years, chair of their Stewardship Technical Advisory Committee. As a current committee member, I look forward to completion of a weed white paper this summer or fall giving more background on weeds and impacts at the HBRA. In the meantime, we are "losing ground," and action against false brome is needed.

For all these reasons, I support trial use of herbicides to aid in the control false brome, monitoring of effects of application, and evaluation of any positive and negative impacts. Documentation and publication of the results on a web site or elsewhere will contribute to the scientific knowledge base which is building in regard to control of these two superweeds.

Best,



Bruce Newhouse  
2525 Potter  
Eugene, Oregon 97405

June 12, 2006

Todd Winter  
Lane County Parks  
90064 Coburg Road  
Eugene, OR 97408

Dear Mr. Winter:

I am writing in support of the FBP HBRA integrated approach to controlling an invasive grass, *Brachypodium sylvaticum*, at Mt. Pisgah.

As you are aware, I have been examining the population growth rates of this species at Mt. Pisgah and at several other sites in the area. A preliminary analysis of the data showed that we are in the exponential growth phase with this species. In other words, its populations are rapidly expanding. This grass is extraordinarily aggressive, and is forming "lawns" in oak woodlands and conifer forests. It is dangerous because it is taking up space that used to be occupied by native species. While this grass prefers shady habitats, it can also adapt to full sun, and I expect that it will continue to expand into other parts of the Park if left unchecked.

I strongly support an aggressive program with this grass, including the use of herbicides. I believe this grass could significantly reduce the biodiversity at the Park and this justifies the use of herbicides. In addition, the size of the area needing treatment is huge, and it is unrealistic to treat by hand, and the process of pulling the grass would expose more seeds, which will then simply germinate. I recommend using a grass-specific herbicide such as Poast because there is still some native broad-leaf diversity under the oaks, and this herbicide would not harm these species. Furthermore, if we could knock back the grass, then the broad-leaves would rapidly fill in.

If I can be of help in supplying additional information, please let me know. Also, I am willing to take you and other interested parties on a field trip to discuss this problem, should you find this helpful.

Best Regards,

Dr. Barbara A. Roy ("Bitty")  
Associate Professor, University of Oregon

(The views expressed in this letter are my own and do not necessarily represent that of the University)