



United States Department of the Interior
FISH AND WILDLIFE SERVICE
Fire Management Branch
National Interagency Fire Center
3833 South Development Avenue
Boise, Idaho 83705



September 12, 2007

To: Regional Director, Region 1, Portland, Oregon
From: Chief, Fire Management Branch, Boise, Idaho /s/ Brian McManus
Subject: Overlook Fire Emergency Stabilization Plan Approval

It is obvious that the refuge worked hard to put this plan together. An in depth review of the plan was completed by Fire Management Branch staff and revealed a few policy and information issues that require resolution.

The following information is needed regarding plan specifications:

- The “Determine Whether Known Historic Properties Are at Risk of Further Degradation” specification does not clearly identify planned initiation date or planned completion date. The use of the Department of the Interior planning templates found at <http://fire.r9.fws.gov/ifcc/Esr/Planning/BAERplan.htm> would assure all NFPORS information is included in the plan.
- The “Non-Native Invasive Species Control- Integrated Pest Management and Ecological Stabilization- Native Seeding” specifications reference an Effectiveness Monitoring specification that is not in the plan. The specific monitoring protocols should be added to the areas in the plan where this reference occurs.

The main policy issue of significance relates to the Ecological Stabilization - Native Seeding treatment specification. The stated purpose of the treatment is *to promote ecological recovery of native shrub/steppe ecosystem and riparian zones, to prevent invasion by non-native species and noxious weeds, and to stabilize soils*. Departmental policy (620 DM 3.7.M) identifies three emergency stabilization allowable actions relative to seeding:

- *Actions to stabilize soil to prevent loss or degradation of productivity.*
- *Seeding or planting to prevent permanent impairment of designated Critical Habitat for Federal and State listed, proposed or candidate threatened and endangered species. This is irrelevant since the burned area is not designated Critical Habitat.*
- *Seeding to prevent establishment of invasive plants, and direct treatment of invasive plants. Such actions will be specified in the emergency stabilization plan only when immediate action is required and when standard treatments are used that have been validated by monitoring data from previous projects, or when there is documented research establishing the effectiveness of such actions.*

Departmental policy 620 DM 3.6.B requires the use of standard treatments *that have been validated by monitoring data from previous projects, or when there is documented research establishing the effectiveness of such actions*. There is no evidence in peer reviewed research and project monitoring publications¹ that post-fire seeding prevents the establishment of invasive species or significantly reduces soil erosion over natural recovery.

The seeding proposed is unlikely to limit erosion and stabilize the soil significantly better than natural recovery. In a synthesis of post-wildfire seeding erosion control studies, Beyers (2004) found that less than half of the studies reviewed showed any reduced sediment movement with seeding and in all vegetation types and where there was successful growth of seeded grasses (i.e., enough to affect erosion) the seeded plants displace native or naturalized species, including shrub and tree seedlings. Thompson et al. (2006) also found that neither seeded (drilled or aerial) or unseeded plots showed significant signs of wind erosion or deposition throughout the study as evidenced by little difference (<2mm) in the height of washers on erosion measurement stakes. Although no data was collected, Evans and Lih (2005) observed that natural recovery had moderated wind erosion to some degree in the 24 Command Fire burned area.

There is no evidence that seeding prevents the establishment of invasive species. Keeley et al (2003) found that alien plant species richness as well as alien cover increased with increasing native species richness in all communities and reported that they found no support for the hypothesis that community diversity inhibits alien invasions. They concluded that alien plant species are limited not by the number of competitors, but by resources that affect establishment of both natives and aliens. Hunter et al. (2006) also found that non-native plant cover in burned areas was correlated with high native species richness, low native dominant species cover, and post-wildfire seeding operations (i.e., seeding operations contaminated with non-native plant seeds). In a Utah study, cheatgrass and three annual forbs made up the majority of plant density and cover and by the third year following seeding the density of annuals more than doubled, whereas there was little change in seeded native species density (Thompson et al. 2006).

Promoting ecological recovery of native shrub/steppe ecosystem and riparian zones is not an allowable emergency stabilization action; although, *repairing or improving lands unlikely to recover naturally from wildland fire damage by emulating historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with existing land management plans* is an allowable burned area rehabilitation action. The proposed seed mix given sufficient winter and spring rainfall may prove beneficial in initiating post-wildfire rehabilitation.

It is important that plan implementation begin as soon as possible. The following emergency stabilization treatments are approved and \$13,483 in subactivity 9142 for Fiscal Year 2007 will be budget allocated to Region 1 immediately.

Specification Title	FY07	FY08
Law enforcement monitoring of cultural resources exposed by fire	\$2,515	\$35,207
Determine whether known historic properties may be at risk of further degradation	\$4,043	\$7,507

Non-native invasive species control- Integrated Pest Management	0	\$456,450
Emergency Stabilization Plan Development	\$6,925	0
TOTAL	\$13,483	\$499,164

At this time the Ecological Stabilization – Native Seeding is approved **as a burned area rehabilitation treatment**.

Specification Title	FY07	FY08
Ecological Stabilization – Native Seeding		\$5,677,834

A total of \$24.3 million is expected to be available for Departmental burned area rehabilitation actions in FY 08. All burned area rehabilitation treatments are funded on a priority basis as established by the NBAER Coordinators in consultation with the Department’s Office of Wildland Fire Coordination. Priority selection for FY08 treatments is scheduled for October 3, 2007. Emergency rehabilitation funding will be distributed to the bureaus and budget allocated to the regions upon passage of the Interior Appropriation bill based upon Departmental prioritization. It should be understood that there is no guarantee that this project will be selected as a high priority in this process, and it is possible that none or only a portion of the requested funding would be available in FY-2008.

If the refuge can provide research or monitoring documentation in accordance with the Service Director’s September 5, 2007 Emergency Stabilization Cost Containment Memorandum that demonstrates that the proposed treatment can prevent the establishment of invasive species or is significantly more effective stabilizing soil than natural recovery, we will reconsider approving these funds for emergency stabilization funding.

The cost structures established for the Overlook Fire emergency stabilization and burned area rehabilitation actions are 9142-DQE2 and 9262-DQE2.

The Branch of Fire Management Staff has entered plan data into NFPORS. However, because of the lack of NFPORS related information for The Determine Whether Known Historic Properties Are at Risk of Further Degradation specification, the planned initiation and completion dates are only estimates and should be reviewed and validated at the earliest convenience. It is also important that when a treatment or activity is completed, those accomplishments are entered into NFPORS immediately in order to release any unexpended funds for others projects.

The required electronic version of the plan with above changes (planned initiation and completion dates and monitoring protocols) needs to be sent to this office as soon as possible. This memo will suffice as amending the plan to identify that the Ecological Stabilization – Native Seeding specification is a burned area rehabilitation treatment. However, if in the future this plan needs to be amended or a burned area rehabilitation plan is developed, these changes should be incorporated into the plan at that time.

As a reminder, Annual Accomplishment Reports must be completed no later than the end of each

fiscal year. These reports should document actual accomplishments, costs, and monitoring results, and be kept in field unit project files. For national office use, annual accomplishments are summarized and reported in the NFPORS Actual FY 20XX Accomplishment and Notes fields on the NFPORS treatment/activity form no later than the end of each fiscal year. The Final Accomplishment Report will report plan activities in sufficient detail to document all accomplishments, implementation costs and monitoring results. For this plan the Final Accomplishment Report must be completed no later than September 2010. An electronic copy of the Final Accomplishment Report is to be provided to the Branch of Fire Management in Boise, Idaho, and is posted on the Service's Emergency Stabilization and Burned Area Rehabilitation web site. Reporting requirements are contained in Chapter 11 of the Service Fire Management Handbook.

If you have questions or need additional information pertaining to this plan or post-wildfire recovery policy and process, please contact Bill Leenhouts – National Burned Area Emergency Response Coordinator - in this office at 208-387-5584.

cc:

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Regional Fire Management Coordinator, Portland OR
Chief, Division of Natural Resources, Washington DC
National BAER Coordinator, Boise ID

¹ Literature Reviewed:

- Beyers, J. L. 2004. Postfire seeding for erosion control: effectiveness and impacts on native plant communities. *Conservation Biology* 18(4):947-956.
- Conard, S.G., J.C. Regelbrugge, and R.D. Wills. 1991. Preliminary Effects of Ryegrass Seeding on Post-fire Establishment of Natural Vegetation in two California Ecosystems. In: 11th Conference on Fire and Forest Meteorology. Missoula, Montana. 8 pp. Keeley, J.E. 2004. Ecological impacts of wheat seeding after a Sierra Nevada wildfire. *International Journal of Wildland Fire*, 2004, 13, 73–78.
- Eiswerth, M.E. and J.S. Shonkwiler. 2006. Examining post-wildfire reseeding on arid rangeland: a multivariate tobit modelling approach. *Ecological Modelling* 192:286-298.
- Evans, J.R., and M.P. Lih. 2005. Recovery and rehabilitation of vegetation on the Fitzner-Eberhardt Arid Lands Ecology Reserve, Hanford Reach National Monument, following the 24 Command Fire. *The Nature Conservancy of Washington*, 217 Pine St. Suite 1100, Seattle, Wa. 246p.
- Floyd, M.L., D. Hanna, W.R. Romme, and T.E. Crews. 2006. Predicting and mitigating weed invasion to restore natural post-fire succession in Mesa Verde National Park, Colorado, USA. *International Journal of Wildland Fire* 15:247-259.
- Hunter M.E., P.N. Omi, E.J. Martinson and G.W. Chong. 2006. Establishment of non-native plant species after wildfires: effects of fuel treatment, abiotic and biotic factors, and post-fire grass seeding treatments. *International Journal of Wildland Fire* 15:771-281.
- Keeley, J.E., D. Lubin and C.J. Fotheringham. 2003. Fire and grazing impacts on plant diversity and alien plant invasions in the Southern Sierra Nevada. *Ecological Applications* 3(5):1355-1374.
- Kruse, R., E. Bend, P. Bierzychudek. 2004. Native plant regeneration and introduction of non-natives following post-fire rehabilitation with straw mulch and barley seeding. *Forest Ecology and Management* 196(32/3):299-310.
- Thompson, T.W., B.A. Roundy, E.D. McArthur, B. D. Jessop, B. Waldron, and J.N. Davis. 2006. Fire Rehabilitation Using Native and Introduced Species: A Landscape Trial. *Rangeland Ecol. Manage.* 59:237-248.