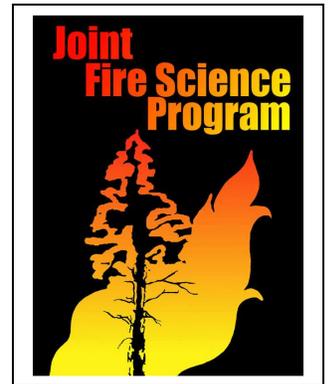

A Synthesis of Post-Fire Road Treatments for BAER Teams: Methods, Treatment Effectiveness, and Decision-Making Tools for Rehabilitation



Appendix A: Example Data and Interview Forms

Final Report to the Joint Fire Sciences Program

JFSP Project # 06-3-4-03

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October 31, 2008



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Appendix A—Example Data and Interview Forms

Interview Questionnaires for BAER teams

Survey date: *14 Mar 07*

Survey location: *Grangeville, ID*

Interviewee name:

Address: *Nez Perce National Forest, Grangeville, ID*

Telephone number:

E-mail:

Please provide the information of BAER activities that you participated in as much as you can remember, starting from the most recent BAER activity to year 1999.

Year	Fire name	Region	National Forest
2000	<i>Three Bears, Wilderness Cx</i>	<i>1</i>	<i>Bitterroot and Nez Perce</i>
2000	<i>Burnt Flats</i>	<i>1</i>	<i>Nez Perce (Clearwater)</i>
2000	<i>Valley Cx</i>	<i>1</i>	<i>Bitterroot</i>
2001	<i>Taco</i>	<i>1</i>	<i>Nez Perce (Salmon River)</i>
2002	<i>Kelly Creek</i>	<i>1</i>	<i>Nez Perce (Salmon River)</i>
2003	<i>Berg 3</i>	<i>1</i>	<i>Nez Perce (Salmon River)</i>
2003	<i>Fiddle</i>	<i>1</i>	<i>Nez Perce (Salmon River)</i>
2003	<i>Wilderness Cx</i>	<i>1</i>	<i>Nez Perce (Moose Creek)</i>
2003	<i>Slims Cx</i>	<i>1</i>	<i>Nez Perce (Red River, Moose Creek)</i>
2005	<i>Blackerby</i>	<i>1</i>	<i>Nez Perce (Clearwater)</i>
2005	<i>China 10</i>	<i>1</i>	<i>Nez Perce (Clearwater)</i>
2005	<i>Upper Meadow</i>	<i>1</i>	<i>Nez Perce (Moose Creek)</i>
2005	<i>West Fork</i>	<i>1</i>	<i>Nez Perce (Salmon River)</i>
2006	<i>Heavens Gate</i>	<i>1, 6</i>	<i>Nez Perce (Salmon River), Wallowa-Whitman (Hells Canyon NRA)</i>
2006	<i>Meadow</i>	<i>1</i>	<i>Nez Perce (Moose Creek)</i>
2007	<i>Poe Cabin</i>	<i>1, 6</i>	<i>Nez Perce (Salmon River), Wallowa-Whitman (Hells Canyon NRA)</i>
2007	<i>Rattlesnake</i>	<i>1</i>	<i>Nez Perce (Red River, Salmon River)</i>

Please let us know if you have **ANY** BAER reports (FS-2500-8) including initial, interim, and final reports and any BAER related information (gray literature).

BAER Report Questionnaires

What kind of method did you use to calculate/estimate the values in the following section in a BAER report? For example, if you came up with that value from your experience, write “Personal Experience”. If you have the reference publication that you used for that method, please let us know.

Part IV – Hydrologic Design Factors

- A. Estimated vegetation Recovery Period, (years): *Personal experience, forest ecologist*
- B. Design Chance of Success, (percent): *Professional judgment*
- C. Equivalent Design Recurrence Interval, (years): *Usually 10 years*
- D. Design Storm Duration, (hours): *For snowmelt, 24 hours; for low elevation storm flow, 6 hours; sometimes 30 min*
- E. Design Storm Magnitude, (inches): *NOAA Atlas*
- F. Design Flow, (cfs/mi²): *For low elevation storm flow, NRCS CN method; for mid, high elevation, spring snowmelt RO, USGS StreamStats*
- G. Estimated Reduction in Infiltration, (percent): *Actual infiltration tests on burned/unburned area*
- H: Adjusted Design Flow, (cfs/mi²): *For low elevation storm flow, NRCS CN method; for mid, high elevation, spring snowmelt RO, USGS StreamStats; modify moderate and high severity burn area $RO \times 2$ (100 % increase) and estimate peak flow for 1st year after fire*

Road Treatment Questionnaires

Please answer following questions based on your general experience.

What are the three most frequently used road treatments?

The most: *Culvert upsize*

Second most: *Rolling/armored dips*

Third most: *Additional relief culvert*

Reason to choose the treatment: *Values at risk*

Was there an alternative road treatment available?

What do you think are the three most effective road treatments?

The most: *Culvert upsize*

Second most: *Culvert removal*

Third most: *Rolling/armored dips*

Reason to choose the treatment:

How do you calculate road treatment cost (be careful to ask this; i.e., was there a standard/guideline to estimate road treatment cost)?

Engineer's suggestion; regional cost guide

Any comment on BAER road treatments: *NRCS CN method is highly subjective to CN input by user; Nez Perce not using WATBAL; check upstream to include debris to estimate RO; too much debris expected, trash rack and outburst (winged) inlet is recommended; hydromulch culslopes; usually BAER team members have BAER case or bag*

Aftermath Road Treatment Questionnaires

Please answer the following questions using the table below. If you have any written report or documentation related to the following questions, please let us know. (This questions best to ask to local district hydrologists).

Was there a large (or damaging) storm/runoff event in BAER road treatment areas?

If so, please let us know the following information.

- (1) **Name** and (2) **Year** of BAER treated fires, and (3) **Location** of BAER road treatment areas.
- (4) **When** the large (or damaging) **storm/runoff** events occurred (after the road treatments).
- (5) **Magnitude of storm** and (6) **Magnitude of runoff**, such as precipitation and runoff amount.
- (7) Did the road treatment **fail or hold**?
- (8) If failed, what do you think is the primary **reason** for this road treatment to fail?
- (9) If failed, did the treated **road section fail too or did only the road treatment fail**?
- (10) After this road treatment failed, what did you do (**failure aftermath**)?

(1)	Fire name	<i>Blackerby Fire</i>	
(2)	Fire year	<i>2005</i>	
(3)	Fire/BAER location	<i>Grangeville, ID</i>	
(4)	When storm/runoff?	<i>19 May 06</i>	
(5)	Storm magnitude (inch)	<i>0.78 inch for 30 min</i>	
(6)	Runoff magnitude (cfs)	<i>71 cfs (56 cfs per square mile) for flood flow; 620 cfs (492 cfs per square mile) for debris flow</i>	
(7)	Fail/Hold	<i>Storm flow failed to pass</i>	
(8)	Reason for failure	<i>Exceeding culvert capacity (35 cfs)</i>	
(9)	Road section failed/only treatment?	<i>Only treatment</i>	
(10)	Failure aftermath	<i>Cleanout</i>	