

**Cost Comparison for Burned Area Emergency Response (BAER)
vs. Wildland Fire Suppression for FYs 2001 – 2003**

This cost comparison between approved burned area emergency response (BAER) costs and total projected or actual fire suppression costs was made to supply Wildland Fire Situation Analysis (WESA) teams with potential, reasonable future cost estimates of emergency stabilization response for active fires.

Analysis

For fires with BAER associated activities from FY 2001 – FY 2003, both direct and relative comparisons were made between approved BAER costs and estimated suppression costs on actual fires. Results are reported as cost ratio percentage values.

Cost data was obtained from several sources:

- National BAER activity tracking spreadsheets (FY 2001 – 2003)
- Burned-Area Report (FS 2500-8)
- Incident Information Summary (ICS 209; FY 2002 -2003)
- Transaction registers for P & H codes specific to the incident

Costs were stratified first by region and second by high or low impacts to values at risk to bracket potential BAER expenses. Some regions experienced similar costs, regardless of impacts, and are thus summarized by an overall percentage value. For those regions with differing costs by impacts to values at risk, fires with high impacts were separated from those with lower impacts when risks to life and property, and/or natural and cultural resources were significant enough to necessitate extensive or very expensive treatments.

Results

Ratio estimation table for BAER:Suppression costs

	Fires with Low Impacts to Values at Risk	Fires with High Impacts to Values at Risk	Average Cost Ratio for All BAER Fires
R1 - Northern Region	1.1%	11.0%	4.7%
R2 - Rocky Mountain Region	1.2%	15.5%	5.7%
R3 - Southwest Region			5.8%
R4 - Intermountain Region	3.2%	15.9%	9.2%
R5 - Pacific Southwest Region	2.1%	11.6%	5.0%
R6 - Pacific Northwest Region			2.3%
R8 - Southeast Region			9.7%

Uses

To use the results, multiply the suppression cost times the average cost ratio for all fires in that region; e.g. a fire in R1 with suppression costs of \$1,250,000 * 4.7% = \$58,750 estimated BAER costs.

If more information is known about potential impacts to values at risk, either the high or low percentage may be used; e.g. if that fire was expected to have low impacts to values at risk, $\$1,250,000 * 1.1\% = \$13,750$ estimated BAER costs. Teams should consider the assumptions and limitations of this analysis relative to the importance and risk of the incident prior when estimating the value of potential BAER costs.

Several block on the I-209 form may be helpful in determining potential impacts to values at risk:

- 24 – structure information,
- 25 – threat to human life/safety,
- 26 – communities/critical infrastructure threatened,
- 28 – major problems and concerns, and
- 29 – resources threatened.

Additionally, WFSA teams may consult with BAER team members, fire resources advisors, or line officers to get a better sense of the values at risk and the fire's potential impacts on them. If there is too much unknown information, select the average cost ratio and refine as more becomes known.

Assumptions

Suppression cost estimates from the 209 forms were used for FY 2002 & 2003, since these are the values WFSA teams will likely use to estimate potential BAER costs. When a suppression estimate was lacking from the 209 form and in absence of such information prior to FY 2002, either the estimated cost as reported on the FS 2500-8 or an actual cost from transaction registers was used. Suppression estimates are assumed to cover the entire cost of the incident, from initial attack through control for all jurisdictions impacted. Consequently, the cost may not directly reflect the amount of National Forest System (NFS) lands affected and may not directly correlate with FS BAER costs.

Total approved costs for BAER treatments as reported on the National BAER activity tracking spreadsheets were used. These costs included initial and interim requests that had been made through FY 2003; thus, interim requests made after September 2003 are not included. Additionally, these BAER costs are merely authorizations to spend up to the approved limit and may not reflect actual expenditures.

Limitations

Numerous variables contribute to the disparity of BAER costs on past fires as compared with suppression costs and thus preclude a meaningful comparison using regression predictions in most cases. Most notably, differences in values at risk, ecological context, political concerns, number of land owners/management agencies involved, and season may greatly affect costs of either BAER or suppression, thus influencing cost ratios. Since much of the information about BAER costs is not known until sometime after the fire has been contained and controlled, WFSA teams are at a disadvantage to accurately project these costs. Therefore, results of the comparison included here should be used as a guideline, with site-specific attributes and conditions taken into account to develop a better estimate.

The cost comparison is intended to assist WFSA teams in projecting potential BAER costs to FY 2004 wildland fire incidents. This cost ratio percentages may be revised in subsequent years to more accurately reflect the most current cost trends.