



Assessing Post-Fire Conditions: Burned Area Emergency Response

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Post-Fire Rehabilitation on Federal Lands


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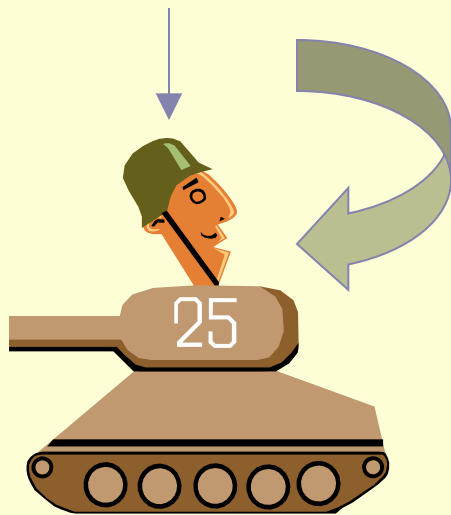
Different Types of Post-Fire Rehab:

- 1) Suppression rehabilitation- repair or rehab damage to lands, resources & facilities directly attributable to fire suppression effort.
 - 2) Emergency stabilization- emergency actions to stabilize and prevent unacceptable resource damage or minimize threats to life and property (a.k.a. BAER)
 - 3) Rehabilitation & restoration- non-emergency restoration of ecosystem structure or replacement of facilities.
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Post-Fire Rehab Responsibilities

Incident Command

Agency Administrator



Suppression Rehab



Emergency
Stabilization
(BAER)



Rehab/Restoration

Suppression Rehabilitation

- Suppression-caused damages
- Immediate actions
- IC responsibility
- Suppression funds

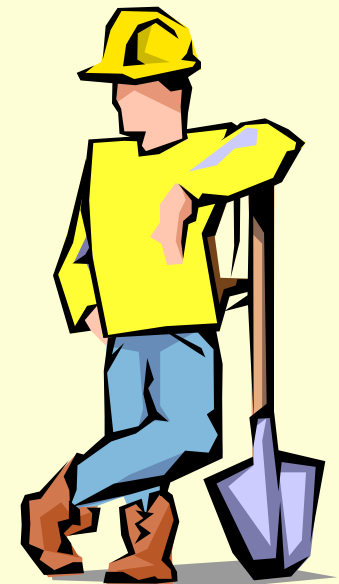


Suppression Rehabilitation




Major Areas of Concern

- ✓ Firelines
- ✓ Helispots
- ✓ Base/spike camps
- ✓ Roads

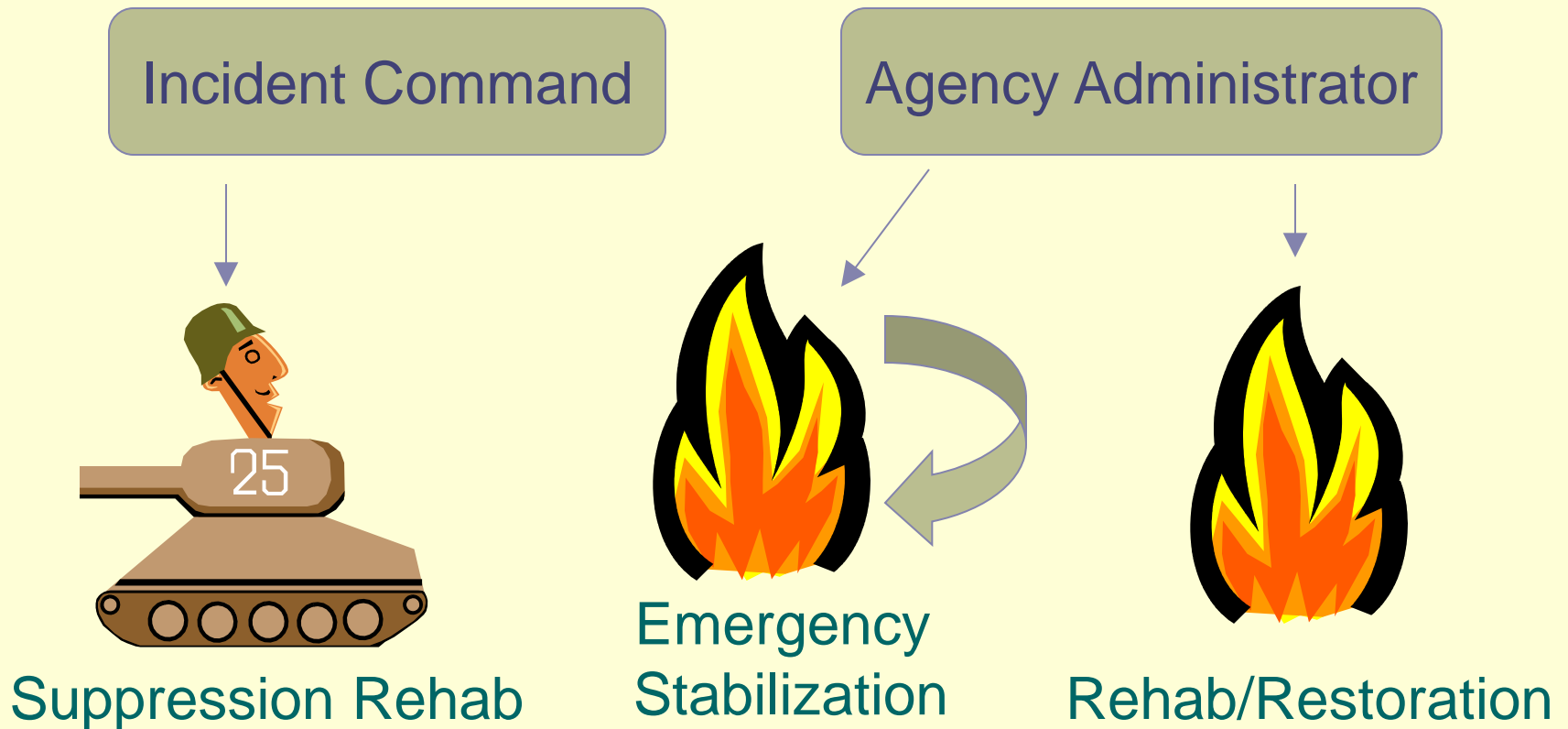




Suppression Rehab- Relationship to BAER


- Suppression rehab technical expertise may be supplied by the BAER team
 - Facilitates IC/BAER relationship
 - Suppression rehab needed after IC team is gone must have Regional Forester approval.
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Post-Fire Rehab Responsibilities





Emergency Stabilization

- Addresses increased vulnerability & unacceptable risks due to fire
 - Immediate, preventative actions
 - Agency (not IC) responsibility
 - Funding
 - Fire suppression-rehab activity (FS)
 - Burned Area Emergency Response (**BAER**) teams assess & prescribe
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The BAER Program


The BAER program addresses immediate post-fire **EMERGENCY** situations with the goal of protecting life, property, and natural and cultural resources.



Forest Service Policy for BAER/Emergency Stabilization

Definition: Identify imminent post-wildfire threats to human life and safety, property and critical natural or cultural resources on NFS lands and take immediate actions to manage unacceptable risks.

Timeframes: Assessments done immediately. Actions undertaken within one year of the fire.





Agency Coordination

- BAER assessment and implementation are often cooperative efforts with federal, state and local agencies
 - Natural Resources Conservation Service (NRCS)
 - National Park Service
 - Bureau of Land Management
 - U.S. Fish and Wildlife Service
 - Bureau of Indian Affairs
 - State Water Quality Control Boards
 - Local emergency service organizations (police, fire, flood control districts, public works, etc.)

Emergency Stabilization/Response Examples

- Erosion prevention
- Flood mitigation
- “Storm proofing” of roads, trails, buildings
- Prevention of permanent impairment to native plant communities
- Safety hazard removal/hazard warning
- Minor facility repair (safety)





Mechanical Shredding

Land Treatments

Mulch

Provide immediate soil cover to reduce rain impact and soil erosion.

Seeding

Increase vegetative cover to reduce soil erosion, out-compete invasives

Runoff Barriers

Shorten slope length to reduce erosion & runoff



Aerial Straw Mulch (Heli-mulch)



Aerial Hydromulching



Log Erosion Barriers



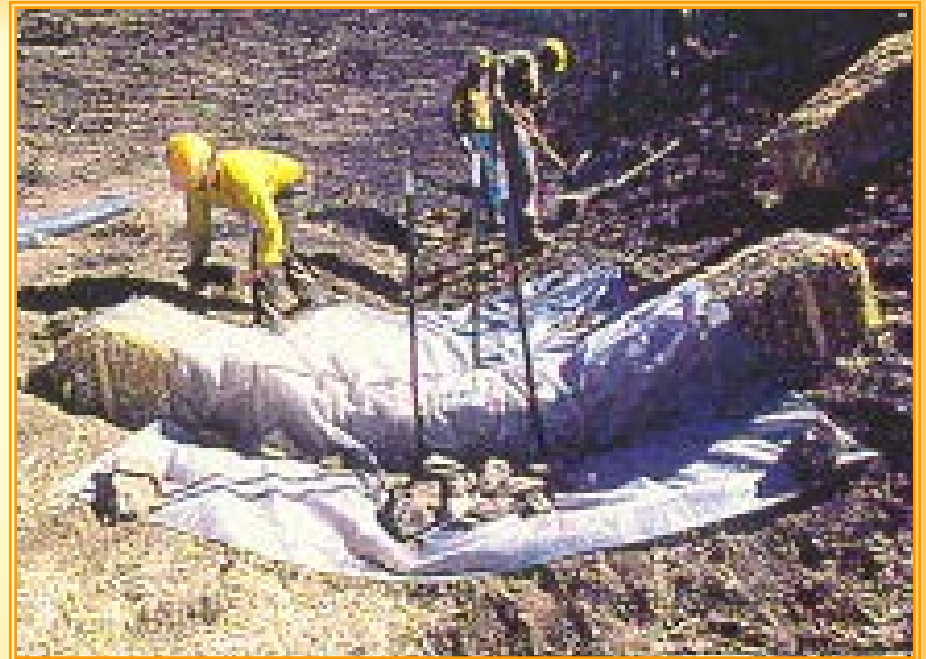
Aerial Seeding

Channel Treatments

In-stream Structures

Small straw or log dams

Rip-rap



Debris Removal

Clearing obstructions



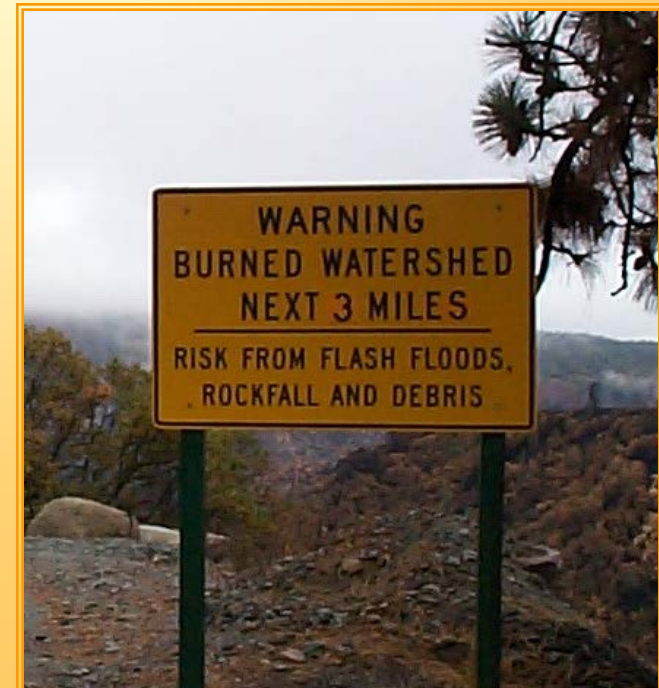
Road & Trail Treatments



- Supplement drainage features along roads and trails
- Patrol roads during storm season

Safety & Protection Measures

Road Closures





Recent BAER Changes

-Revised BAER objective

To identify imminent post-wildfire threats to human life & safety, property and critical natural or cultural resources on National Forest System lands and take immediate actions, as appropriate, to manage unacceptable risks.

-Assessments on fires > 500 acres

-All unplanned ignitions eligible for BAER

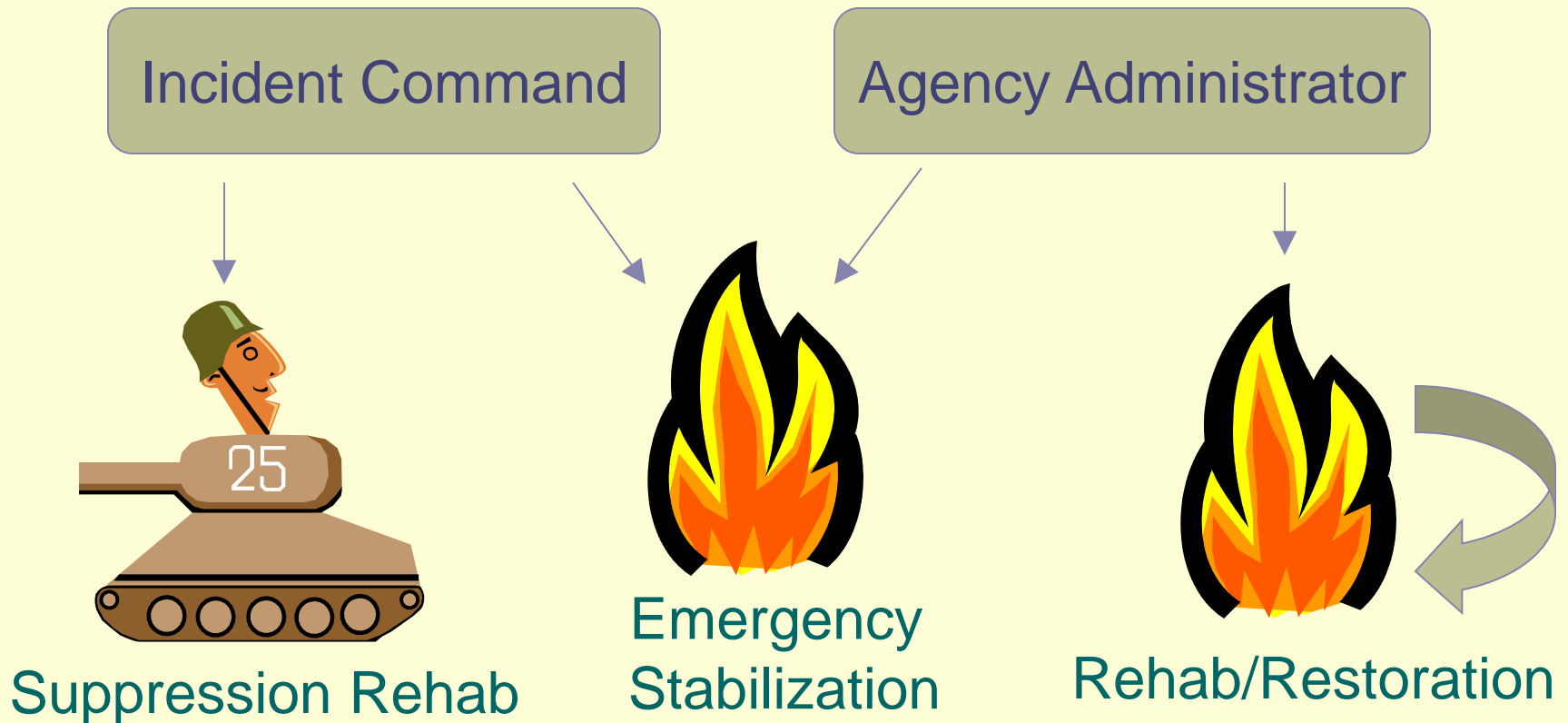
-Improved risk assessment process

-Invasive treatment limited to one year

BAER Risk Assessment

Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
	RISK		
Very Likely	Very High	Very High	Low
Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

Post-Fire Rehab Responsibilities



Fire Damage Rehabilitation & Restoration

Repair or improve lands unlikely to recover naturally from wildland fire damage.

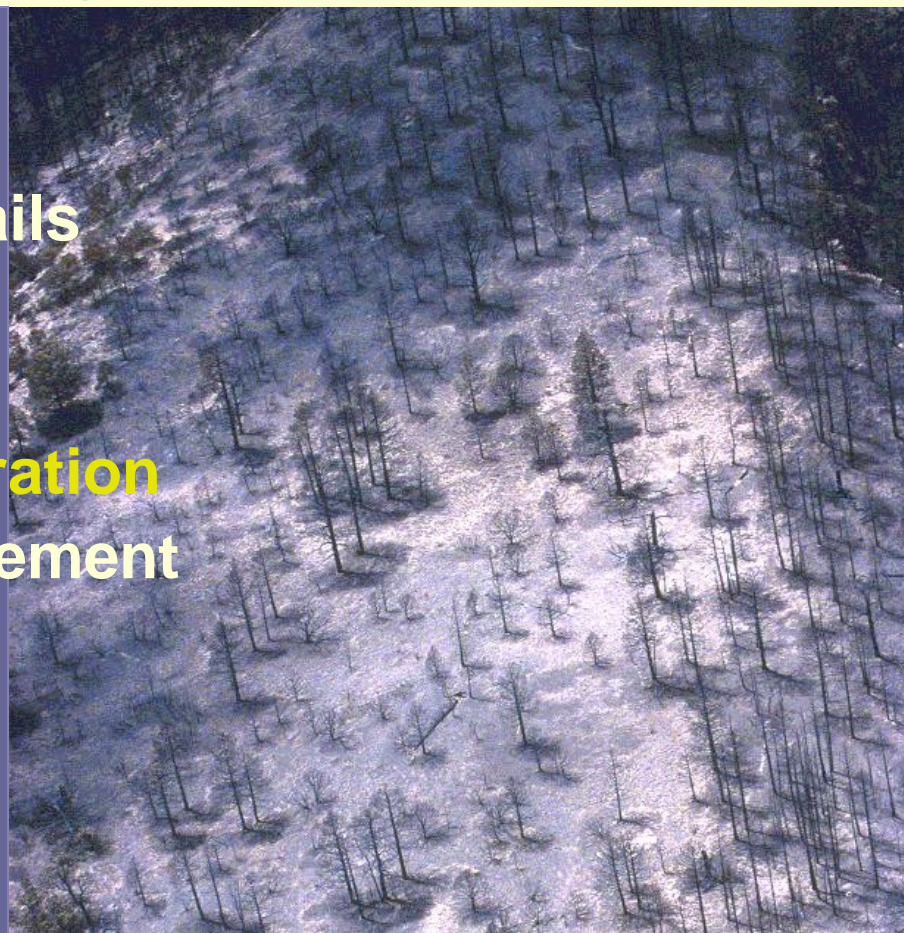


- Replace minor facilities damaged by fire
- Longer-term actions (1-3+ years)
- Agency responsibility
 - FS - regular program funds

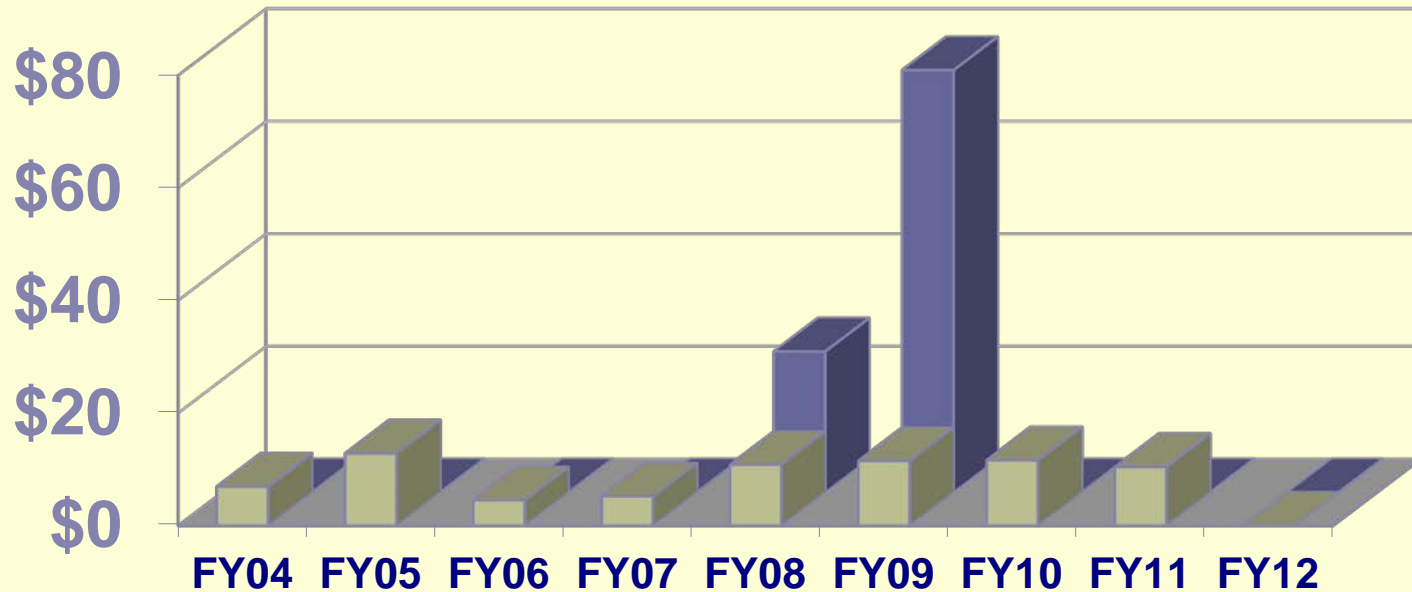
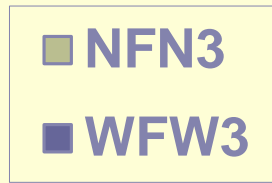
Rehabilitation and Restoration

Types of Projects:

- Heritage site restoration
- Repair/maintenance of trails
- Rebuild burned facilities
- Landline survey
- **Wildlife/fish habitat restoration**
- Road repair; fence replacement
- **Reforestation**
- Resource damage repair



Forest Service Rehab and Restoration Funding (Million \$)




	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12
NFN3	6.9	12.8	4.5	5.2	10.8	11.5	11.6	10.4	0
WFW3	0	0	0	0	25	75	0	0	0



Rehab Recap

	Suppression Rehabilitation	Emergency Stabilization	Rehabilitation & Restoration
Objective:	Repair damages	Prevent further damage	Repair damages
Damage due to:	Suppression activities	Post-fire events	Fire & post-fire events
Urgency:	Before incident closeout	1-12 months	1-3+ years
Responsibility	Incident commander	Agency Administrator	Agency Administrator
Funding type:	Suppression (P-code)	BAER (H-code)	NFN3 (Regular program)



For More Information...

FS BAER Website:

<http://fsweb.wo.fs.fed.us/wfw/baer/index.html>

BAER Catalog:

<http://www.fs.fed.us/eng/pubs/pdf/BAERCAT>

RMRS Treatment Effectiveness Monitoring:

<http://forest.moscowfs.wsu.edu/engr>

