

WARM FIRE REHABILITATION AND RECOVERY PLAN AND STATUS SUMMARY

December, 2008

This plan provides an overview of the rehabilitation and recovery needs for lands burned in the 2006 Warm Fire and the current status of that work. This plan will be updated as progress occurs and as additional needs are identified. The 2007 Warm Fire Assessment identified the following needs in the burned area, and these are correlated to each of the rehabilitation and recovery actions in the table below:

1. Provide for public safety
2. Prevent further fire-related resource damage
3. Restore the structure and function of the forest
4. Support the local community and economy
5. Learn through monitoring and research to improve management over time.

Rehab/Recovery Action	Planning Status	Implementation Status	Comments
Fire suppression damage repair (Need #2)	Completed with suppression resources.	Approximately 30 miles of fire lines water-barred and seeded. Spike camp, safety zones, helispots, and drop points stabilized as needed (none of these features were constructed or during fire suppression, all were pre-existing features).	Stabilization work completed July, 2006. Monitoring of stabilization work in 2007 verified that it was effective in preventing or minimizing erosion.
Soil stabilization on areas of high severity burn (Needs #2 and 3)	Approved BAER Report, 7/12/06 and Approved Interim BAER Report 7/27/07 with supplemental treatments and monitoring. Interim 2 BAER report approved July 22, 2008.	Aerial seeding with annual rye or triticale on approximately 10,040 acres (in 3 areas, per 2006 BAER report) completed on 8/13/06. Monsoon rains in 2006 after seeding washed some of the seed on slopes into drainages, particularly in the Pinyon Juniper area (area 3). Seed germination and revegetation monitoring conducted in spring and summer of 2007 and 2008. Additional aerial seeding of Area 3 (pinyon juniper / Pediocactus community) occurred in February 2008 (per Interim 2 BAER report). Vegetation response monitored in 2008.	Seeding germination and vegetation recovery monitoring in 2007 showed that seeding in areas 1&2 (ponderosa pine/mixed conifer communities) was relatively effective and that native grasses and forbs were also responding favorably and will continue to improve (2007 ground cover averaged 19%, with 28% native grasses, 36% forbs/shrubs, 36% annual rye). Area 3 seeding was found to be less successful (2007 ground cover averaged 5%, with 54% forbs, 41% triticale, and 5% native grasses), which lead to reseeded in 2008. The second seeding on seed area 3 occurred in February 2008 with a mix of sterile annuals and native perennials. Monitoring performed in June 2008 found improvements in ground cover (32%), composed of 18% grass species and 82% forbs/shrubs. Native species component had also improved. District coordinator: Dustin Burger.

Rehab/Recovery Action	Planning Status	Implementation Status	Comments
<p>Weed colonization prevention in Pediocactus habitat where high severity burn effects occurred. (Needs #2 and 3)</p>	<p>Integrated Treatment of Noxious or Invasive Weeds FEIS/ROD, 11/8/04. Approved BAER Plan, 7/12/06. Approved Interim BAER Reports (7/27/07 and 7/22/08) with supplemental treatments and monitoring.</p>	<p>Aerial seeding with triticale on approximately 1710 acres completed on 8/13/06. Monitored seed germination summer and fall, 2006 as described above. Monitored seed germination and NNIS during spring 2007. Aerial seeding was repeated in February 2008, as described above.</p>	<p>First aerial seeding result determined to be insufficient. Second aerial seeding occurred in February 2008, increasing competition with cheat grass and providing additional ground cover. Effectiveness will continue to be monitored in 2009. Monitoring in 2007 found 13 populations of cheat grass in Area 3. The majority of the detected sites were treated fall 2007 for pre-emergent control of infestations. These areas were monitored and in some cases retreated April 2008. Additional populations were detected and treated at that time. These are priority for ongoing monitoring and treatment as needed in spring 2009. District coordinator: Dustin Burger.</p>
<p>Noxious Weed Detection Noxious Weed Control (Needs #2, 3 and 5)</p>	<p>Approved BAER Plan, 7/12/06 Integrated Treatment of Noxious or Invasive Weeds FEIS/ROD, 11/8/04. Funding for additional noxious weed control has been received for 2009.</p>	<p>Initial surveys completed September 2006 and no weed germination observed.</p> <p>Monitoring in spring 2007 found 17 cheat grass sites in the burned area, but were detected too late to effectively treat (already had seed heads formed).</p> <p>Monitoring and treatment of cheatgrass continued in the spring and fall 2008 and to be continued in spring 2009 and beyond.</p> <p>Spotted knapweed populations were detected along SR67 August 2008. Plants were manually removed by District personnel with ADOT planning to provide follow up monitoring and herbicide treatment. Additional knapweed monitoring and treatment will occur throughout 2009.</p>	<p>Newly detected weed populations will be controlled in accordance with the 2004 Weed Management FEIS/ROD.</p> <p>The majority of the 2007 detected cheat grass sites were treated in the fall 2007 for pre-emergent control of infestations.</p> <p>The 2007 detection areas and additional populations were monitored and retreated in April 2008. Treated 68 acres of cheatgrass in October, 2008.</p> <p>Monitoring and treatment of weeds will continue in 2009.</p> <p>District coordinator: Dustin Burger.</p>

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<p>Road storm patrol, stream crossing hardening, and flood warning sign installation.</p> <p>Ongoing maintenance on Road 220.</p> <p>(Needs #1, 2, and 5)</p>	<p>Approved BAER Plan, 7/12/06 Approved Interim BAER Report 7/27/07 with supplemental storm patrol.</p> <p>Storm patrol and road maintenance continued in 2008 (NFN3 funding).</p> <p>Storm patrol and road maintenance has been funded in 2009 (WFW3 funding).</p>	<p>Storm patrol monitoring after rain /runoff events completed in 2006 and 2007. Drainage ditches and culverts were cleaned following storm events. Road stream crossing hardening completed in September 2006. Flood warning signs installed in September, 2006. FS Road 220 closed fall 2006 and repaired summer 2007. Road maintenance and repairs were ongoing in 2008. Minor repairs continued after monsoon rains in September 2008.</p>	<p>Maintenance and repairs will continue as needed in 2009</p> <p>District coordinator: Ed Kolle.</p>
<p>Determine Pediocactus (PEPA) status (Needs #3 and 5)</p>	<p>PEPA conservation strategy and agreement (1998)</p> <p>Continued surveys and monitoring of Pediocactus has been funded in 2009</p>	<p>Surveys of Pediocactus populations conducted in the burned area by Dr Robert Frye during fall 2006. Additional surveys throughout the range of PEPA were conducted in 2007 and 2008. PEPA conservation strategy being revisited with USFWS. Initiated discussions in 2008.</p>	<p>Survey and monitoring of Pediocactus will continue in 2009. Population status evaluations to continue with USFWS in 2009. District coordinator: Dustin Burger. Forest coordinator: Barb Phillips</p>
<p>Public safety on Hwys 89A and 67 outside ADOT R/W and along open FS roads and the AZ trail (Need #1)</p>	<p>EA and Decision (Hazard Tree Removal along Hwys 67 and 89A, Arizona Trail, and Selected FS System Roads.</p>	<p>Stewardship contract awarded October, 2007. Hazard tree removal in progress since November, 2007.</p>	<p>District coordinator: Paul Callaway.</p>
<p>Erosion stabilization in Trail Canyon drainages above Hwy 89A. (Needs #1 & 2)</p> <p>Erosion stabilization in Moquitch Valley. (Needs #1 & 2)</p>	<p>Evaluation of possible stabilization work above Hwy 89A coordinated with ADOT in 2006 and 2007. Possible practices identified include installation of porous check dams, seeding with erosion control matting, and/or culvert installation.</p> <p>Gully head-cutting problem in Moquitch Valley identified in 2008.</p>	<p>Soil stabilization work in Trail Canyon completed in 2008(NFN3 funds). Small natural material check dams were installed in 8 places of the upper Trail Canyon channel as well as straw wattles installed and seeding of sterile annuals and native grasses on hill slopes with exposed soil in May 2008. Funding for additional stabilization work in Trail Canyon received for 2009 (WFW3 funds). Funding also received in 2009 for gully stabilization in Moquitch Valley</p>	<p>No reported flooding across Highway 89A in 2008 monsoon rains.</p> <p>Erosion stabilization will continue in Trail Canyon and Moquitch Valley in 2009.</p> <p>District coordinator: Dustin Burger</p>

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Repair Wildlife water exclosures (Need # 3) Exclosures keep livestock out of riparian areas and water developments reserved for wildlife use.	Funding has been received in 2009 to repair or rebuild seven water exclosures that were damaged by the fire (Murray Lake, Glen Lake, two trick tanks, and three guzzlers).	Exclosures will be repaired in 2009.	District coordinators: Angela Gatto and Dustin Burger
Heritage site inventory in the Warm Fire WFU and suppression areas (Need #2)		FS Archeologists conducted surveys with assistance from volunteers in 2007. Additional survey needs exist in the pinyon juniper woodlands.	District coordinator: Connie Reid.
Heritage site protection (Need #2)	Approved NFN3 funded projects, 2007 and 2008.	Stabilized 95 heritage sites in 2007 by felling and removing dead trees in sites and hand seeding in / around sites for soil stabilization. An additional 25 sites were stabilized in 2008.	District coordinator: Connie Reid.
Repair damaged infrastructure (trail signs, and range fences) (Needs #1 and 4)	Range fence repairs were an approved NFN3 project in 2007. Repair and/or replacement of corrals and maintenance of stock tanks are funded in 2009 (NFN3). Funding requested for additional Arizona Trail repairs and range fence repairs in 2009.	Damaged trail signs replaced in 2006. Three miles of range fence were replaced in 2007. No structural work was approved in FY08. Several corrals will be repaired or replaced and a number of stock tanks will be cleaned out in 2009. Funding request for 2009 trail and fence repairs pending approval.	Trail coordinator: Kevin Larkin Range coordinator: Dustin Burger
Reforestation of burned plantations (past regeneration harvest units) where no salvage is proposed. (Need #3)	Decision Memo (Warm Fire Reforestation Project) of October, 2007. Plantation survival surveys have been funded for 2009 (NFN3).	Planting of 1600 acres occurred in spring 2008. Second year plantation survival exams will be conducted in 2009.	First growing season survival was over 90%. District coordinator: Garry Domis
Reforestation outside of burned plantations. (Need #3)	Warm Fire Recovery FEIS / ROD (expected January 2009). Funds have been received for nursery sowing of conifer seed that will provide seedlings to be planted on 900 acres in 2010 (WFW3).	Pending decision	IDT Leader: Lois Pfeffer. District coordinator for reforestation: Garry Domis
Salvage of dead timber to recover economic value, progress toward desired future conditions, and break up fuel continuity. (Needs #3 and 4)	Warm Fire Recovery FEIS /ROD (expected January 2009)	Pending FEIS and ROD	IDT Leader: Lois Pfeffer.

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Big game habitat winter range improvement (Need #3)	Discussions with AZGFD held in 2007 and 2008 regarding habitat needs and improvement opportunities in big game winter range affected by the Warm Fire. Pending District capability to conduct necessary surveys and complete planning.	Pending NEPA analysis and decision	West side Habitat Improvement Project currently in progress (located on west side of Kaibab Plateau outside of Warm Fire area). District coordinator: Angela Gatto
North Kaibab District-wide roads analysis and motorized travel management planning, including the Warm Fire area.	Travel Management planning and NEPA scheduled to occur in FYs 09 and 10.	Pending completion of District-wide Roads Analysis and NEPA decision.	District coordinator: Todd Allison
Monitoring and research opportunities (Need #5) <ul style="list-style-type: none"> • Vegetation recovery study • Erosion monitoring • Vegetation plot inventories • Goshawk Populations and Prey monitoring • Vegetation and fuels monitoring • Research to determine effects of alternative grazing strategies post-fire. • 25 ten acre blocks proposed for paired research studies within salvage/planting units in the Warm Fire Recovery Project 	<ul style="list-style-type: none"> Preliminary opportunity identified Joint Fire Sciences Project Joint Fire Sciences Project Warm Fire Recovery FEIS /ROD (expected January 2009) 	<ul style="list-style-type: none"> Study plots seeded in 2006 and data collection ongoing. Plots located and inventories ongoing Transects established and data collected 2007 and 2008. Request for funding to be continued in 2009 pending approval. Plots inventoried in 2007 and continuing in 2008 Ten enclosures established in 2008 within the grazing allotment boundaries affected by the Warm Fire. Vegetation has been measured at all 10 plot locations and then grazed with livestock as planned. Study to continue through 2010. Plot locations and studies to be determined during project implementation. 	<ul style="list-style-type: none"> Sieg, RMRS Robichaud, RMRS NAU/Grand Canyon Trust Reynolds, RMRS Fule', Northern Arizona University Northern Arizona University & Grand Canyon Trust Ideas for potential research opportunities discussed with representatives of the Kaibab NF, RMRS, NAU, and Grand Canyon Trust in 2008.

