

GERTIE BROWN WILDLAND FIRE
ST. MARKS NWR
3/7/01 - 3/17/01
BURNED AREA FIRE REHABILITATION PLAN

1. Background

The Gertie Brown wildland fire was an escaped trash burn that originated on private land near Sopchoppy, FL. The fire burned approximately 98 acres (5 acres -USFS ; 93 acres -private) west of HWY 319 about 2 miles south of Sopchoppy, FL and crossed the highway and burned III acres of Refuge lands. Total acres on all lands were 209 acres.

2. Identification

A. Location and size.

T5S, R3W, Sec.23, 24, 25, 26

North 30 degrees, 01 minutes, 44 seconds; West 84 degrees, 29 minutes, 35 seconds

III acres -USFWS 5 acres -USFS

93 acres -private

B. Soils

Soils in this location are Leon-Scranton-Rutledge which are nearly level, poorly drained and very poorly drained, sandy soils, and some areas have an organic-stained subsoil.

C. Topography

Topography is flat adjacent to the Sopchoppy River.

D. Climate

Sub-tropical climate. The day of the burn the following weather observations were taken: Temp. 63 ; RH 23% ; Winds 15-20 mph out of the NW; KBDI 369; BI 56

E. Vegetation prior to fire

Slash pine plantation -private lands

Longleaf pine/wiregrass -USFWS lands

Slash pine/saw palmetto/gallberry -USFWS lands

F. Intensity of fire

BEHAVE Run:

Rate of spread 52 chains/hr.

Heat per unit area 515 BTU/Sq.Ft. Fireline Intensity 489 BTU/Ft/Sec. Flame Length 7.8 ft.

Reaction Intensity 2084 BTU/Sq.Ft./Minute Effective Windspeed 10 mph

G. Hydrology

Poorly drained soils adjacent to Sopchoppy River

H. Land Ownership(s) involved

USFWS, USFS, private lands

2. Resource Uses

Public use is moderate for hunting, birdwatching, hiking, etc. during winter months.

Wildlife use is federally endangered red-cockaded woodpecker, federally threatened flatwoods salamander, gopher tortoise, indigo snake, white tailed deer, florida black bear, etc.

3. Evaluation and Analysis

A. On-site physical factors damaged are mature longleaf pine and wiregrass (4 acres), as well as one year old planted longleafpine tubelings (3 acres). Watershed damage will be minimal due to flat terrain and erosion potential is moderate due to poorly drained soils after understory vegetation burned.

B. Physical damage to existing roads (1000 feet) due to road used as fireline.

C. Off-site nonphysical factors damaged is minimal to water quality and sedimentation.

D. Wildlife habitat damage is moderate due to loss of mature longleaf pine (potential rcw cavity trees) and wiregrass disturbance due to fireline construction which will affect future prescribed burning.

E. Benefits of completing the rehab projects will be to re-establish wiregrass where fireline construction destroyed mature wiregrass savannah and transition zones. Total area effected is approximately 3.74 acres. Re-grading of roads will provide better access for any future wildland fires. Fill dirt and rock used to repair roads will also provide better access for firefighters responding to wildland fires in the future.

4. Rehabilitation Needs and Objectives

Estimated fire perimeter, excluding areas parallel to US 319 -8,146 feet

Estimated fireline length in Refuge -16,292 feet

Estimated fire line width in Refuge -10 feet

Estimated fireline square feet in Refuge -162,920 square feet Estimated fireline disturbed acreage in Refuge -3.74 acres

A. Rehabilitation Alternatives:

Groundcover Rehabilitation:

1. Plant with wiregrass plugs at natural density (approximately 5 per square meter, equivalent to 1.8 square feet per plant) = 90,511 plugs. Estimated time = crew of 10 people, 7 days labor. Estimated cost of crew time = \$8/hr/person x 560 person hours = \$4480. Estimated cost of plant materials = \$.18 per plant = \$16,292. Materials = 10 dibbles, 10 planting bags. Time frame: contract; grow plugs in spring 2002 or spring 2003. Plant plugs in summer 2002 or summer 2003. TOTAL ESTIMATED COST = \$20,772.

2. Direct seeding with native flatwoods wiregrass seed mix collected locally at recommended density (approximately 40 pounds per acre at 10% pure wiregrass seed by weight and no less than 25% germination rate). Estimated collection time = crew of 2 people, 7 days labor collecting seed from approximately 200 acres of optimal habitat burned in May-July 2001. Estimated cost of crew time for seed preparation and harvesting = \$16/hr/person x 126 person hours = \$2016. Estimated seedbed preparation time = crew of 10 people, 3 days labor. Estimated cost of crew time for seedbed preparation = \$8/hr/person x 240 person hours = \$1920. Estimated direct seeding time = crew of 4 people, 3 days labor, Estimated cost of crew time for direct seeding = \$16/hr/person x 108 person hours = \$1728. Materials = seed collector (\$7500 -already have), hay blower rental (estimated \$400), farm tractor (already have), 8' water-filled roller drum rental (estimated \$200). Time frame: burn suitable public lands acreage in May-July 2001, harvest seed in late fall 2001, plant seed in early winter 2002. TOTAL ESTIMATED COST = \$6,624 + COST OF PRESCRIBED BURN DURING 5/01- 7/01.

3. Same as #1 above, but St. Marks staff collect seed to be grown by Andrews Nursery in Chiefland, FL. Estimated seed collection time for 15 pounds wiregrass seed = crew of 2 people, 1 day labor. Estimated cost of crew time for seed collection = \$ 16/hr/person x 18 person hours = \$288. Estimated plant cost reduced by \$.05 per plant to \$.13 per plant x 90,511 plugs = \$11,766. TOTAL ESTIMATED COST = \$16,534.

4. Same as #3 above, but wiregrass plugs planted at reduced spacing of approximately 4 plants per square meter, equivalent to 2.25 square feet per plant = 72,406 plugs. Estimated plant material cost = \$.13 per plant = \$9413. Estimated cost of crew time for planting = \$8/hr/person x 480 person hours = \$3840. TOTAL ESTIMATED COST = \$13,541.

B. Preferred Alternative' #4 is the Refuge's preferred alternative as it has the highest chance of success (plant survival), least lag-time until plant establishment and developed fire-resistance of wiregrass (critical to survival during prescribed burns), makes the most economical use of locally collected native plant material, and requires fewer refuge staff hours to implement. Direct seeding (#2) may be the cheapest method when priced per acre, but drawbacks and disadvantages include potential germination failure and/or lack of plant establishment, significant seedbed preparation necessary that may further impact recovering native plants already at the site, reliance upon a large area prescribed burned during the growing season for optimal seed production, as well as greatly increased workloads for refuge staff to conduct this specialized native seeding program.

LongleafPine Regeneration:

Approximately three acres of one year old longleaf pine tubelings suffered mortality as a result of the fire. These tubelings were planted during FY2000. Approximately 1200 tubelings will need to be purchased at a cost of \$150/1000 tubelings which equates to approximately \$175. TOTAL ESTIMATED COST = \$175 + COST OF PLANTING DURING FY2002.

Fireline and Road Rehabilitation:

In addition to above recommendations, some immediate resource actions need to be undertaken for resource protection.

1. Restore firelines that were plowed for initial attack.
2. Re-grade Rd. 416 (approximately 1320') that was used as fireline during initial attack.
3. Re-fill holes (limerock and fill dirt) that were developed when heavy equipment was brought in on lowboy trucks and tractor-plow transports during initial attack phase on existing Refuge roads. TOTAL ESTMATED COST = \$3000.

5. Environmental Considerations

A. There are potential negative impacts to the resource if actions are not undertaken to restore this ecosystem. The area burned is located within one mile of five RCW clusters and their associated foraging habitat. The area disturbed is foraging habitat and needs regular intervals (2-3 years) of prescribed burning to maintain a healthy habitat. Wiregrass is a key component (1 hr. fuel) that is used to carry fire in the prescribed burning process. The entire disturbed fireline perimeter lies within high quality potential flatwoods salamander habitat of which intact groundcover is the key component. Restoration of this ground cover, primarily wiregrass, is critical to maintaining healthy habitat for this federally listed species.

The potential negative impact on road damage is for continual rutting that will take place during heavy rains and prevent adequate wildland fire response on these de-graded roads.

B. This BAER plan follows current guidelines established in the St. Marks NWR Fire Management Plan (8/14/96) which states that all lines constructed during wildfire operations will be evaluated and rehabilitated if necessary for resource protection. The Fire Management Plan supports the five Refuge Objectives, of which the first objective listed is "To provide habitat and protection to enhance the survival of endangered and threatened species of wildlife". This BAER plan is necessary to implement in order to continue to provide protection of the red-cockaded woodpecker habitat and maintain continuity of flatwoods salamander habitat.

C. Environmental Compliance

An EA, FONSI, and Section 7 were approved for the St.Marks NWR Fire Management Plan on August 14, 1996. These documents determined that the implementation of the 1996 Fire Management Plan for St. Marks NWR would have no significant environmental effect as determined by the environmental assessment and finding of no significant impact.

6. Monitoring and Evaluation

The treatments that are implemented as a result of this plan will be closely monitored by the Refuge Forester (Fire Management Officer) and Refuge Biologist during the implementation stage as well as after the treatments are completed. Annually, the refuge completes a prescribed burning prescription which is reviewed by the Refuge Manager, Refuge Forester (FMO), and Refuge Biologist. These plans are approved at the regional level before implementation. Each of these plans states the objectives of the prescribed burn and these BAER plan treatments will be incorporated in these prescriptions in order to ensure that they are successfully implemented. The results and accomplishments will be documented in the monitoring section of the appropriate prescribed burn prescription.

7. Summary

This section covered in Section 4 above.

8. Maps

In project file.

9. Cost/Risk Analysis

This section covered in Section 4 above.