United States Department of Agriculture | Forest Service | Black Hills National Forest | Highway 385 North RR 2, Box 200 Custer, SD 57730

Reply to: 2523 **Date:** February 12, 1991

FS RECEIVED FEB 26 1991 DIV. OF WS&MA

Subject: Swedlund Fire Rehab

To: Regional Forester, R-2

Enclosed is the accomplishment report (FS 2500-8) and a narrative on rehabilitation of the Swedlund Fire.

for Stanley G. Sylvia
DARREL L. KENOPS
Forest Supervisor

Sent copy to Larry Schmidt 4/16/91

Enclosure

USDA FOREST SERVICE

Date of Report: February 7, 1991

BURNED AREA REPORT
(Reference FSH 2509.13, Report FS-2500-A)

PART I - TYPE OF REQUEST

1. Type of Report

[ ] A. Funding (Request for estimated FFF funds)
[X] B. Accomplishment Report

2. Type of Action

[ ] A. Initial (estimated funding is first requested)
[ ] B. Interim

a. [ ] Updating the initial funding request.
b. [ ] Supplying information for accomplishments to date on emergency work underway.

[X] C. Final

a. [ ] Best estimate for funds needed to complete eligible rehabilitation measure.
b. [X] Following completion of funded work.

PART II - FIRE LOCATION

a. Fire Name (from Form FS-5100-29): **Swedlund**
b. Forest Supervisor's Fire No. (from Form FS-5100-29): **SD-BKF-126**
c. State: **South Dakota**
d. County: **Custer**
e. Region: **02**
f. Forest: **Black Hills**
g. Ranger District: **Custer**
h. Date Fire Started: **September 12, 1990**
i. Date Fire Controlled: **September 17, 1990**
j. Estimated Suppression Costs: **$2,000,000+**
k. Fire Suppression Damages Repaired with FFF 102 Funds:

1. _____ miles (firelines waterbarred)
2. _____ acres (firelines seeded)
3. _____ Other (identify)

l. Fire Intensity: _____ % (low) _____ % (medium) _____ % (high)

PART III - NATIONAL FOREST SYSTEM PROBLEM INVENTORY

a. Watershed No.:
b. NFS Acres Burned:
c. Water Repellent Soil: _____ % of NFS acres burned

PART VI - ELIGIBLE EMERGENCY REHABILITATION MEASURES OR TREATMENTS AND SOURCE OF FUNDS

NOTE: Emergency rehabilitation is work done promptly following a wildfire and is not to solve watershed problems that existed prior to the wildfire.

			NFS Lands			Other Lands			All Lands
Line Items	Units	Unit Cost	No. of Units	FFFS $ FW22	Other $ ident.	No. of Units	Federal $ ident.	Non-Federal $ identify	Total $
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
A. 1) Land									
a. Seeding	Acres	15.43	3350	51,700					
b. Contour tree felling	Acres	872	25	21,800					
c.									
d.									
e.									
A. 2) Channels									
a. Opening water courses	Miles								
b. Stabilizing streambanks	Miles								
c. Sediment barriers	Struc	600	5	3,000					
d. Sediment fence	Struc	150	60	9,000					
e.									
B. ROADS AND TRAILS									
a. Maintain drainage				9,500					
b.									
c.									
d.									
e. ID Team Costs				6,000					
C. MAJOR STRUCTURES									
a. Preplanned - from Forest Plans									
D. TOTAL				$101,000	$		$	$	$

PART VII - APPROVALS

1. /S/ Jared L Kraggs — Forest Supervisor (Signature) — Date 2/19/91

2. /S/ Charles J. Kendrick — Regional Forester (Signature) — Date 2/27/91

for

FS-2500-8

SWEDLUND FIRE REHABILITATION REPORT

Aerial seeding by helicopter was completed on 3,350 acres of National Forest System lands. Seeding cost was $51,700 ($15.43/acre). It included grass seed, helicopter time, fuel truck and driver, and salaries for Forest Service helitack crew. Grass seed cost was $7.11 per acre and the application cost was $8.32 per acre. The helicopter seeded about 110 acres per hour.

A Bell 206 helicopter from Hawkins-Powers Aviation, Greybull, WY, was used for seeding. The R-2 seeder from JEFFCO was used for most of the seeding. This seeder was severely damaged when a relief pilot hit some trees with his first load. Hawkins-Powers shipped in their seeder to complete the seeding.

Custer Ranger District stated in a report that the helicopter was capable of handling the JEFFCO seeder but could only carry 300 to 450 pounds of seed (dependent on fuel). The seeder pulled the helicopter on turns (sailing). The District recommended matching the seeder more carefully with the ship and pilot in future projects.

Helicopter costs were higher than the original estimate. Seeding was suspended several times due to high winds, seeder damage or malfunction, mandatory pilot days off, or ice and frost buildup on rotor blades. Contract specifications provided a minimum daily payment of 2 hours of flight time at $488 per hour. Lower rates were negotiated for some of the non-flight days.

Approximately 3500 feet of fabric sediment fence was installed (60 structures). Some of the fences are 100 to 250 feet long and were installed near the base of stony sideslopes. The sideslopes are too stony to effectively place and embed trees felled on the contour. The original estimate of 100 structures was not achieved due to the longer structures. Consequently, there are fewer structures and a higher unit cost.

Straw bales were used in five sediment barriers. One long barrier is located between the French Creek fishery and steeper sideslopes. The other barriers are also located near the French Creek fishery. Contour felled trees are on sideslopes above the bale barriers.

Felling trees on the contour, limbing, bucking into shorter lengths, placing sections across the slope, and filling voids with soil is very labor intensive. Stony soils presented problems for limbing, bucking, placing sections of trunks across the slope, and filling voids with soil. Small diameter trees, in much of the area of contour felling, limits sediment storage.

Custer Ranger District plans to monitor success of grass seeding and sediment reduction measures.

Trees will be limbed where felled during salvage operations, for the area draining directly into French Creek (no whole tree skidding). Salvage operations on slopes 20 percent and steeper in other areas of the burn will require trees to be limbed where felled. The slash will provide additional ground cover which reduces soil erosion. Some other areas with less than 20 percent slopes will have trees limbed where felled to provide a more favorable microclimate for establishing tree seedlings.