

**Forest Service Handbook  
National Headquarters (WO)  
Washington, DC**

**Forest Service Handbook 2309.18 – Trails Management Handbook**

**Chapter 4 - Trail Operation and Maintenance**

**Amendment:** 2309.18-1991-2

**Effective date:** November 08, 1991

**Duration:** This amendment is effective until superseded or removed.

**Approved by:** F. Dale Robertson, Chief

**Date approved:**

**Responsible Staff:**

**Last Change:** 2309.18-1991-1

**Superseded Document(s):** 2309.18-91-1, March 21, 1991; 1, June 1987; New, June 1985

**Digest:** Following is an explanation of the changes throughout the directive by section.

This amendment is a reissuance of FSH 2309.18 to conform the format and structure of the Handbook to the requirements of electronic directive issuance.

This amendment makes no substantive changes to the text. The only changes made are those necessary to meet new format requirements or to correct spelling, punctuation, unit names or coding errors.

This Handbook is now available electronically in the National Information Center in the same format as the paper copy. Henceforth, amendments to this Handbook will be issued to Forest Service units electronically on a document basis.

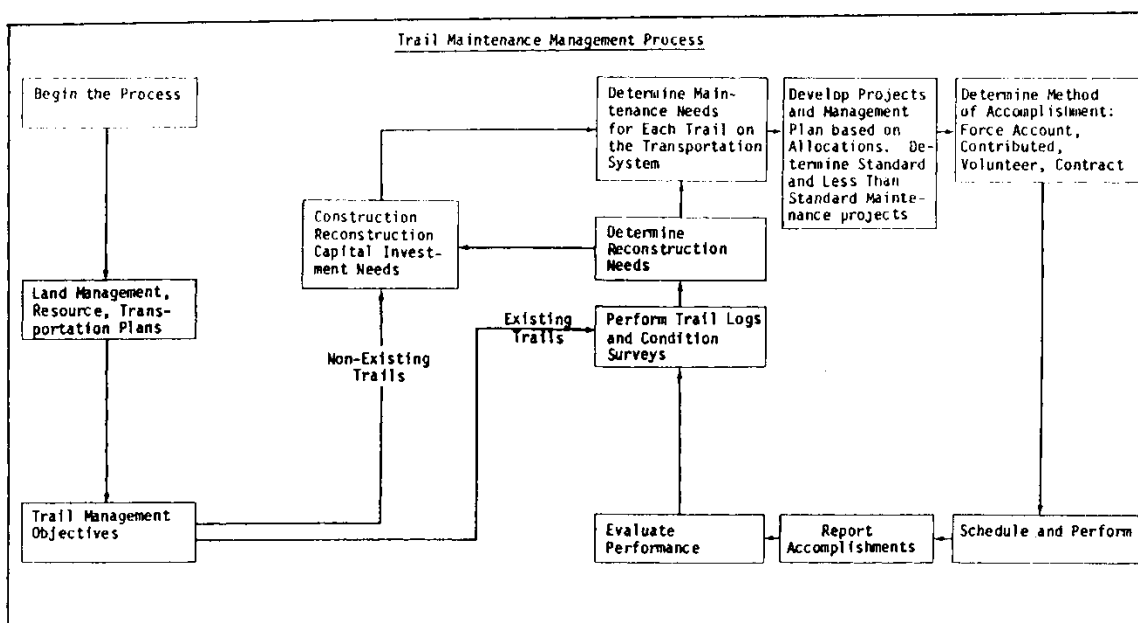
Forest Service Manual-Handbook 2309.18 – Trails Management Handbook

Chapter 4 - Trail Operation and Maintenance

Amendment: 2309.18-1991-2

Effective date: November 08, 1991

4.21 Exhibit 01



WO AMENDMENT 2309.18-91-2  
EFFECTIVE 11/8/91

4.21 - Exhibit 01

2309.18.4  
Page 4 of 21

Forest Service Manual-Handbook 2309.18 – Trails Management Handbook

Chapter 4 - Trail Operation and Maintenance

Amendment: 2309.18-1991-2

Effective date: November 08, 1991

4.21 Exhibit 01

TRAIL LOG AND CONDITION SURVEY

Trail Name & No. Gold Springs 03W16

Sheet 1 of 5

| LOG                      |  | PRESCRIPTION OR CONDITION SURVEY  |  |
|--------------------------|--|---|--|
| Made By <u>Don Smith</u> | Made By <u>Don Smith</u>                         |   |  |
| Date <u>4/83</u>         | Date <u>4/83</u>                                 |   |  |
| Sta. 0                   | Intersection with 13N25                          | 998 - Sign missing. Post ok.  |  |
|                          | Sign - Gold Springs Lake                         |   |  |
| 1                        | Rock Retaining Wall                              | 991 - Rebuild 200 S.F. (Rock locally available)                                     |  |
|                          | Drainage Dig                                     | 974 - Clean   |  |
| 2                        | Water Bar (log)                                  | 971 - Replace log. Native logs are locally available                                |  |
| 3                        | Switchback - Log Barrier and Rock Retaining Wall | 990 - Replace 20' of log barrier. Logs are locally available.                       |  |
|                          | Turnpike Section - 50'                           | 992 - Replace logs and resurface 50' of tread. Surfacing available from borrow pit. |  |
| 4                        | Borrow Pit - 50 ft.                              | Sta. 4+00. Logs locally available.  |  |
|                          | 12" Metal Culvert                                | 970 - Clean inlet and outlet.   |  |
| 5                        |  | 980 - Log out 2-24" trees.  |  |
|                          | Gold Springs Creek - Ford                        |   |  |
| 6                        | Wiley Crossing                                   | 973 - Riprap spill point 15x  |  |
| 7                        | Timing Turn w/ 16' log barrier                   | 990 - Extend log barrier 16'  |  |
|                          | Intersection w/ Trail 03W15                      | 980 - Log out 36" pine  |  |
|                          | Sign ← Big Creek Trail →                         |   |  |
| 8                        | No. 03W15  |   |  |

Forest Service Manual-Handbook 2309.18 – Trails Management Handbook

Chapter 4 - Trail Operation and Maintenance

Amendment: 2309.18-1991-2

Effective date: November 08, 1991

4.21 Exhibit 01

Sheet 5 of 5

LOG

PRESCRIPTION OR CONDITION SURVEY

| General Comments                      |  | Summary of Work Needed |      |                            |         |         |          |         |
|---------------------------------------|--|------------------------|------|----------------------------|---------|---------|----------|---------|
| Terrain - Mostly south exposure       |  | Pri.                   | Act. | Description                | Planned |         | Accompl. |         |
| side slopes vary from 30-60%          |  |                        |      |                            | Q       | Man Hrs | Q        | Man Hrs |
| discomposed granite soil              |  | 3                      | 960  | Loose Rock Removal         | 1000    | 1       |          |         |
| Ground Cover - Dense sagebrush        |  | 3                      | 961  | Rock + Root Removal        | 500     | 10      |          |         |
| and scattered ponderosa pine          |  | 3                      | 962  | Slough Removal             | 1000    | 12      |          |         |
| Trail Bed - Width varies from         |  | 2                      | 962  | Berm Removal               | 500     | 20      |          |         |
| 24-48" Grade - 2% to +8%              |  | 2                      | 967  | Borrow                     | 500     | 40      |          |         |
|                                       |  | 2                      | 970  | Rt. Drainage Mtrs          | 2       | 5       |          |         |
| Inventory of Structures               |  | 2                      | 971  | Maintain Water Bar         | 3       | 3       |          |         |
| Culverts 3-12" Metal                  |  | 2                      | 973  | Maintain Gully Xing        | 3       | 3       |          |         |
| Switchbacks - 3                       |  | 2                      | 974  | Maintain Drainage Dip      | 4       | 3       |          |         |
| Timber Turns - 2                      |  | 1                      | 980  | Logging Out                | 10      | 10      |          |         |
| Rock Boulders - 4                     |  | 1                      | 981  | Brush Cutting (Uphill)     | 1300    | 4       |          |         |
| Gully Crossings - 10                  |  | 1                      | 981  | Brush Cutting (Both Sides) | 1000    | 6       |          |         |
| Stream Fords - 1                      |  | 1                      | 982  | Danger Tree Removal        | 5       | 10      |          |         |
| Drainage Dips - 13                    |  | 4                      | 990  | Log + Stone Barrier        | 3       | 12      |          |         |
| Water Bars - 14                       |  | 1                      | 991  | Rock Retaining Wall        | 200     | 32      |          |         |
| Turnpike Sections - 1(30')            |  | 4                      | 992  | Turnpike Section           | 50      | 24      |          |         |
| Punchon Sections - 1(30')             |  | 1                      | 993  | Punchon Section            | 30      | 32      |          |         |
| Barriers - 2 logs, 1 rock             |  | 4                      | 994  | Sign Replacement           | 1       | 2       |          |         |
|                                       |  |                        |      |                            |         | 229     |          |         |
| Costs:                                |  | Miscellaneous Items    |      |                            |         |         |          |         |
| Labor 340 x \$12/hr = 4080            |  |                        |      | Brought Forward            | 229     |         |          |         |
| Trans. 1 Ton 600 mi @ \$7.30/300      |  |                        |      | Crew meetings              | 4       |         |          |         |
| Tools (chainsaw, Axe, shovel, McLeod) |  |                        |      | Move in - Move Out         | 8       |         |          |         |
| Sign                                  |  |                        |      | Travel Time                | 30      |         |          |         |
| 4510                                  |  |                        |      | Servicing Equipment        | 10      |         |          |         |
|                                       |  |                        |      |                            | 281     |         |          |         |
|                                       |  |                        |      | Leave - nonproductive      | 59      |         |          |         |
|                                       |  |                        |      |                            | 340     |         |          |         |
| Work to be accomplished by            |  |                        |      |                            |         |         |          |         |
| from account                          |  |                        |      |                            |         |         |          |         |
| Crew of 2 men - 22 working days       |  |                        |      |                            |         |         |          |         |
| Scheduled May 1-31, 1983              |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |
|                                       |  |                        |      |                            |         |         |          |         |

Forest Service Manual-Handbook 2309.18 – Trails Management Handbook

Chapter 4 - Trail Operation and Maintenance

Amendment: 2309.18-1991-2

Effective date: November 08, 1991

4.28a Exhibit 01

NO AMENDMENT 2309.18-91-2  
EFFECTIVE 11/8/91

2309.18.4  
Page 18 of 21

4.28a - Exhibit 01

Trail Maintenance Schedule

FY80

Preliminary District Park Forest Lake Made by Jones Date 9/28/80  
X Final

| Project                  | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|--------------------------|------|------|------|------|------|------|------|-----|------|------|------|-------|
| Gold Spgs. No. 01W16     | →    |      |      |      |      |      |      |     |      |      |      |       |
| Bear Creek No. 11W12     |      |      |      |      |      |      |      | →   |      |      |      |       |
| Slide Canyon No. 13W16   |      |      |      |      |      |      |      | →   | →    |      |      |       |
| Burnt Creek No. 12W06    |      |      |      |      |      |      |      |     | →    | →    |      |       |
| Bear Lake No. 11W12      |      |      |      |      |      |      |      |     | →    | →    |      |       |
| Spring Creek No. 09W18   |      |      |      |      |      |      |      |     |      | →    | →    |       |
| Bldgs. & Grounds Cleanup | →    |      |      |      |      |      |      | →   |      |      |      |       |
| Tampa Pass 15W22         |      |      |      |      |      |      |      |     |      |      |      | →     |
| Fire Training            |      |      |      |      |      |      |      | →   |      |      |      |       |
| Lava Dunes 12W08         |      |      |      |      |      |      |      | →   |      |      |      |       |
| Mill Falls 13W14         |      |      |      |      |      |      |      | →   |      |      |      |       |
| Jays Lake 12W36          |      |      |      |      |      |      |      |     |      |      |      | →     |
| Logs & Condition Surveys |      | →    |      |      |      |      |      | →   |      |      |      |       |
| Logging Out All Trails   |      |      |      |      |      |      |      | →   | →    |      |      |       |