

Compaction

Activities, Effects and Resources To Be Measured.

Compaction

Methods.

Measurement of bulk density and/or pore space on 2 timber sales per year.

Location.

Two sites were monitored in FY2004:

- South Creek Salvage Timber Sale
- Rhyolite Salvage Timber Sale

Variation.

15% increase in bulk density or 50% decrease in pore space.

Results.

Monitoring Site Name	% of the timber that exhibited an 15% increase or greater in bulk density
South Creek TS	2.75%
Rhyolite TS	2.90%

Interpretation.

Compaction monitoring was completed on 2 timber sales in 2004. This monitoring confirms that compaction does occur during skidding operations, with the results showing that an average of 2.83% of a sale unit having a 15% increase in bulk density. This is well within the Intermountain (R4) Soil Quality Guidelines to not exceed more than 15 percent detrimental soil disturbance (by aerial extent) after the completion of all management activities on a sale unit. (FSH 2509.18, Page 6 of 15).

Monitoring Resources Available.

Adequate funding and staffing was available for this project from the forest inventory and monitoring funds.

Recommendation.

We should continue to monitor this item. Timber sale contract provisions will need to be reviewed to insure compaction thresholds are not exceeded. Training of sale administrators has been done and will continue.

Long-Term Soil Productivity

Activities, Effects and Resources To Be Measured.

Long-Term soil productivity.

Methods.

Fabric dams, erosion pins, visual estimates, photo points, and/or other accepted methods on 2 locations per year. Fabric dams, visual estimates and photo points were used in monitoring in fiscal year 2004.

Location.

3 sites were monitored in FY2004.

- Navajo Ridge Prescribed Fire Soil Erosion Monitoring
- Smith Canyon Curl Leaf Mountain Mahogany Prescribed Fire Soil Erosion Monitoring
- Sanford Fire Soil Erosion Monitoring

Variation.

Exceeding established soil loss tolerance levels. (The T factor is the soil loss tolerance. It is defined as the maximum amount of erosion at which the quality of a soil as a medium for plant growth can be maintained.)

Results.

Monitoring Site Name	Soil Loss Tolerance (tons/acre/year)	Recorded Soil Loss (Movement) (tons/acre/year) in 2004
Navajo Ridge	5	0.36
Smith Canyon	1	2.99
Sanford Fire	5	5.90

Interpretation.

The results show that 2 of the 3 sites are exceeding soil loss tolerances during the FY2004 monitoring. This is not atypical for soil loss tolerances to be exceeded in the short-term (2-5), until sufficient vegetative cover is available to protect the soil resources. Further evaluation will be needed on these sites to understand when then soil erosion rates will stabilize below threshold levels.

Monitoring Resources Available.

Adequate funding and staffing was available for this project from the forest inventory and monitoring and burned area emergency response funds.

Recommendation.

We will continue to monitoring this items at the same levels as in the past.

Soil and Water Resource Improvement Needs Inventory

Activities, Effects and Resources To Be Measured.

Soil and water resource improvement needs inventory.

Methods.

Annual Update

Location.

The following FY2004 Soil and Water Resource Improvements were put into NRIS Watershed Improvement Tracking system.

Variation.

Detection of improvement needs requiring early treatment of higher priority needs other than on the current list.

Results.

The following projects were added to the NRIS Watershed Improvement Tracking module in FY2004:

- Cameron Troughs – Cedar City Ranger District
- Pass Creek Snow Fence – Cedar City Ranger District
- Duck Swains Area Road Closures – Cedar City Ranger District
- Lars Fork Water Development – Cedar City Ranger District
- Blubber Headcuts – Powell Ranger District
- Cottonwood Culvert Area Road Improvement – Powell Ranger District
- Dry Hollow Fence – Powell Ranger District
- East Fork Dispersed Camping Management – Powell Ranger District
- Griffin/Iron Springs Wetland Enhancement – Escalante Ranger District
- Antimony Road – Escalante Ranger District
- Griffin Top Road Relocation – Escalante Ranger District

Interpretation.

The district hydrologists have begun to update forest-wide watershed improvement needs inventory, (NRIS-WATER Watershed Improvement Tracking) to develop proposals for out-year project planning to define improvement objectives. District resource specialists and the hydrologists will continue to coordinate on implementation of watershed improvement projects, by clearly defining objectives and developing plans well in advance of implementation.

Monitoring Resources Available.

Adequate funding and staffing was available for this project from the forest inventory and monitoring funds.

Recommendation.

We will continue to monitor this item to better understand our backlog of watershed improvement projects.

Soil and Water Resource Protection - Project EA Mitigating Requirements

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Soil and water resource protection – project EA mitigating requirements.

Methods.

Visual estimates on 1 project per year per Ranger District.

Location.

Coarse woody debris recommendations were randomly monitored on each district in 2004. Ponderosa pine ecosystems were targeted in this evaluation on the following sites:

- Pine Valley Recreation Area (D1)
- White Bridge Area (D2)
- East Creek Area (D3)
- Water Hollow Area (D4)
- Singletree Area (D5)

Variation.

Mitigating requirements not implemented or not working.

Results.

Monitoring Site	Recorded Coarse Woody Debris (tons/acre)
Pine Valley Recreation Area (D1)	0.3
White Bridge Area (D2)	1.4
East Creek Area (D3)	7.3
Water Hollow Area (D4)	8.8
Singletree Area (D5)	11.5

Interpretation.

Coarse woody debris is desired to maintain nutrient and moisture supplies of soils. The target recommendation for the Ponderosa Pine ecosystems is 5 to 10 tons/acre. Our results show that we meet these objectives except in areas that appear to be heavily utilized near recreational areas where wood gathering is excessive.

Monitoring Resources Available.

Adequate funding and staffing was available for this project from the forest inventory and monitoring funds.

Recommendation.

We will continue to monitoring this items at the same levels as in the past.

Soil Survey Activities

Activities, Effects and Resources To Be Measured.

Soil survey activities.

Methods.

Progress reviews, management attainment report annually during years of programmed survey work.

Location.

No soil survey activities occurred in 2004.

Variation.

± 15% of plan direction

Results.

Forest Plan direction is to complete the soil resource inventory at an Order 3 level on the productive forest and rangeland, and an Order 4 level on lower producing lands (Dixie LRMP page II-52). Forest-wide field soil inventory data collection has been completed. The National Soil Information System (NASIS) and the Natural Resource Information System (NRIS) TERRA module is available to view the soil survey information.

Interpretation.

Future analysis of this data will determine if additional fieldwork is needed. Soil survey work will now shift to population and utilization of the NRIS-TERRA database to assist with project and above project level analysis.

Monitoring Resources Available.

Only funds for NRIS-TERRA database maintenance has been used this last year; which was adequate.

Recommendation.

The forest needs to move into the utilization of the NRIS-TERRA program to better understand the need for future soil survey activities.

Upland Areas Adjacent to Riparian Management Areas

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Upland areas adjacent to riparian management areas.

Methods.

Fabric dams, erosion pins, visual estimates, photo points, and/or other accepted methods on 2 locations per year

Location.

Visual estimates and photo points at 2 sites were monitored in 2004:

- LBS Timber Sale on Escalante RD
- Rhyolite Timber Sale Snow Road on Cedar City RD

Variation.

Exceed Forest Standards and Guidelines; which are 3 fold (See specifics in Dixie LRMP IV-49). 1-To have a minimum upslope boundary (buffer) adjacent to riparian management zones. 2-To ensure sediment is not moving offsite. 3-To ensure that 80% of the original ground cover is returned within a reasonable amount of time.

Results.

LBS Timber Sale – The riparian management areas adjacent to this aspen sale were well protected. No sediment movement was observed and the aspen recovery in this the sale was recovering in good health with over an 80% of original ground cover present.

Rhyolite TS Snow Road – Logs left at stream crossing and tread pattern left on meadow.

Interpretation.

LBS Timber Sale – The riparian management areas adjacent to this aspen sale were managed to the forest plan standards and guidelines.

Rhyolite TS Snow Road – Logs left in the channel are causing high flow damage to banks, and further use of road during end of cold season has left a noticeable two-track pattern on the meadow. This is not meeting the original objective of the snow road, which was to leave no trace. This site needs to be revisited each year after the use of the snow road and adjustments made to the following years plan.

Monitoring Resources Available.

Adequate funding and staffing was available for this project from the forest inventory and monitoring funds.