

Monitoring Plan for Soil and Water Impacts In the Monday Creek ORV Trail Extension Project Area

Purpose and Need for Plan: Implementation of this project will designate, construct, or re-construct 6.1 miles of new off-road vehicle trail in Unit 2 of the ORV Management Area on the Athens Ranger District. It is desired to establish the current condition of soil and water resources in the project area and to monitor changes during project implementation and use of the new trail segments.

Construction and use of ORV trails are likely to increase erosion potential due to increases in soil compaction, loss of organic matter from the soil surface, and expansion of bare soil area. ORV trails are similar to roads in that they tend to concentrate water flow, increasing velocity. Increased velocities and energies of overland flow can accelerate erosion, resulting in sediment deposits below the trail. Construction of trails can potentially destabilize slopes due to excavation or change in the hydrologic balance, potentially impacting soil productivity. (USDA-FS, 2001, Daniel Boone National Forest Monitoring Plan)

Construction standards which will decrease erosion during and after construction were described in the environmental analysis for this project. It is desired to monitor the effectiveness of these standards for use in future projects.

What to monitor?

Monitoring will occur in three separate phases. The first phase will be to establish the current condition of the project area prior to implementation. Illegal trails will be documented with estimated distance, an approximate mapped location, and a description of impacts. The condition of existing oil and gas roads and their impact on streams will be examined to determine where sediment may be entering the streams. The small streams in the project area will be examined to identify any sediment fans or other evidence of soil movement from the illegal trails and roads. Problem areas will be mapped and given to the engineer responsible for project implementation.

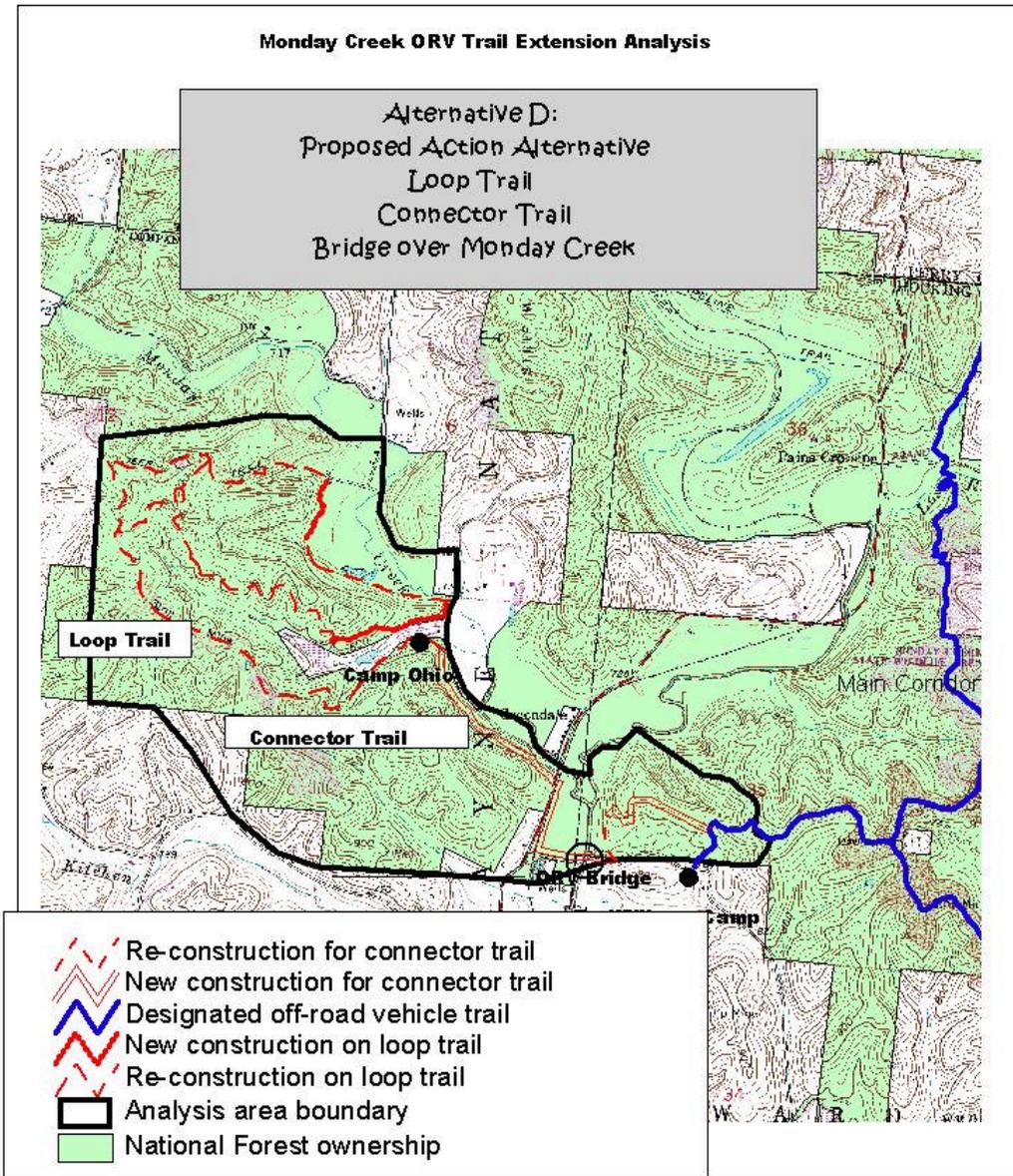
The second phase will be monitoring during trail construction to verify that the mitigations or construction standards are being applied to control construction-related erosion. Attention will be given to problem areas identified in Phase I.

The third phase will occur after construction and during use of the new trail segments. Problem areas identified during Phase One will be re-checked to see if re-construction succeeded in controlling erosion. Trail use in the bottomland segment will be monitored to determine if signage, enforcement, and existing vegetation are keeping users on the designated trail and away from bottomland pools.

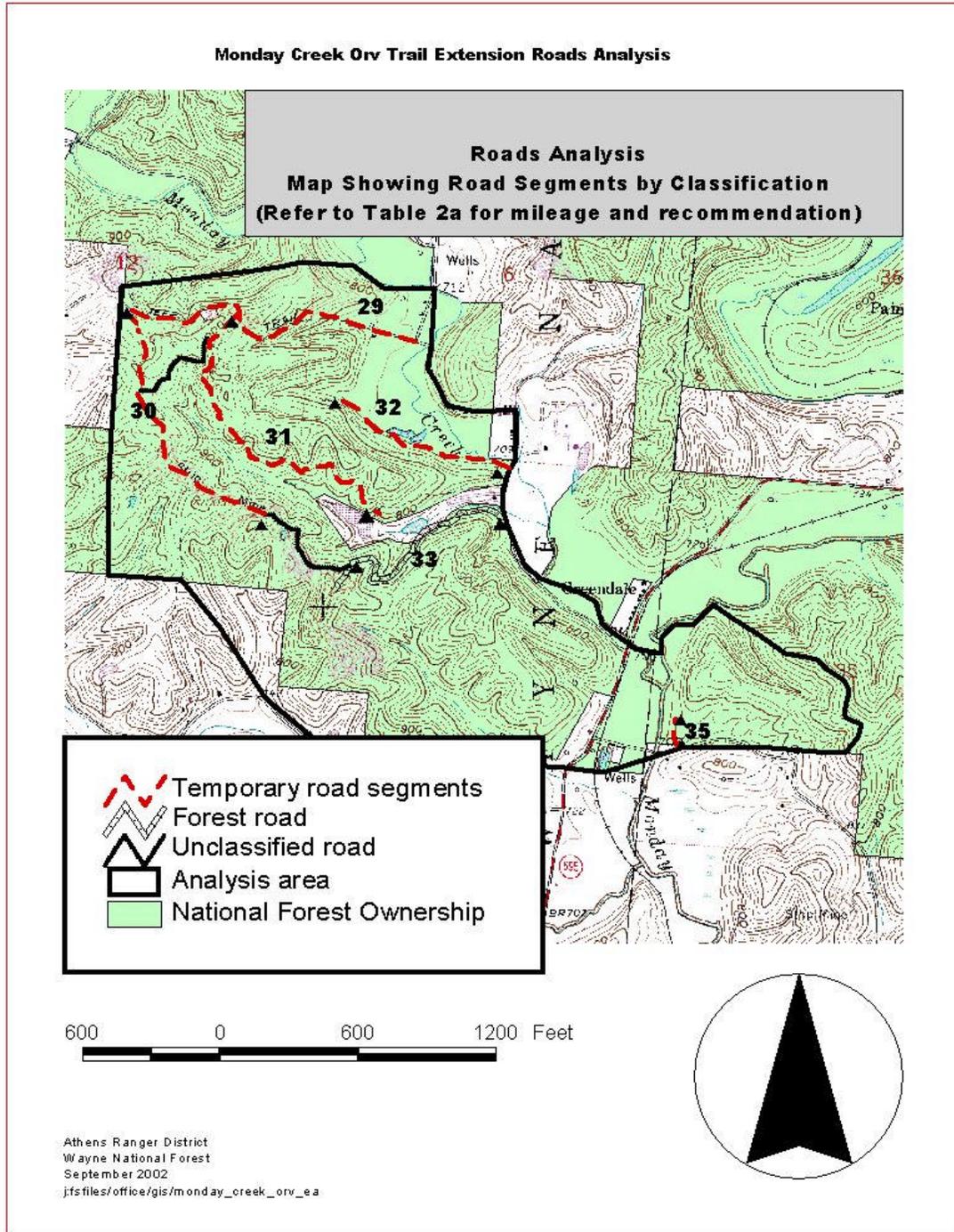
Timing:

It is estimated that Phase One will occur during FY 2003. Phase Two will occur during construction. Use monitoring will occur beginning the first year the trail is designated open and will continue for at least two open seasons.

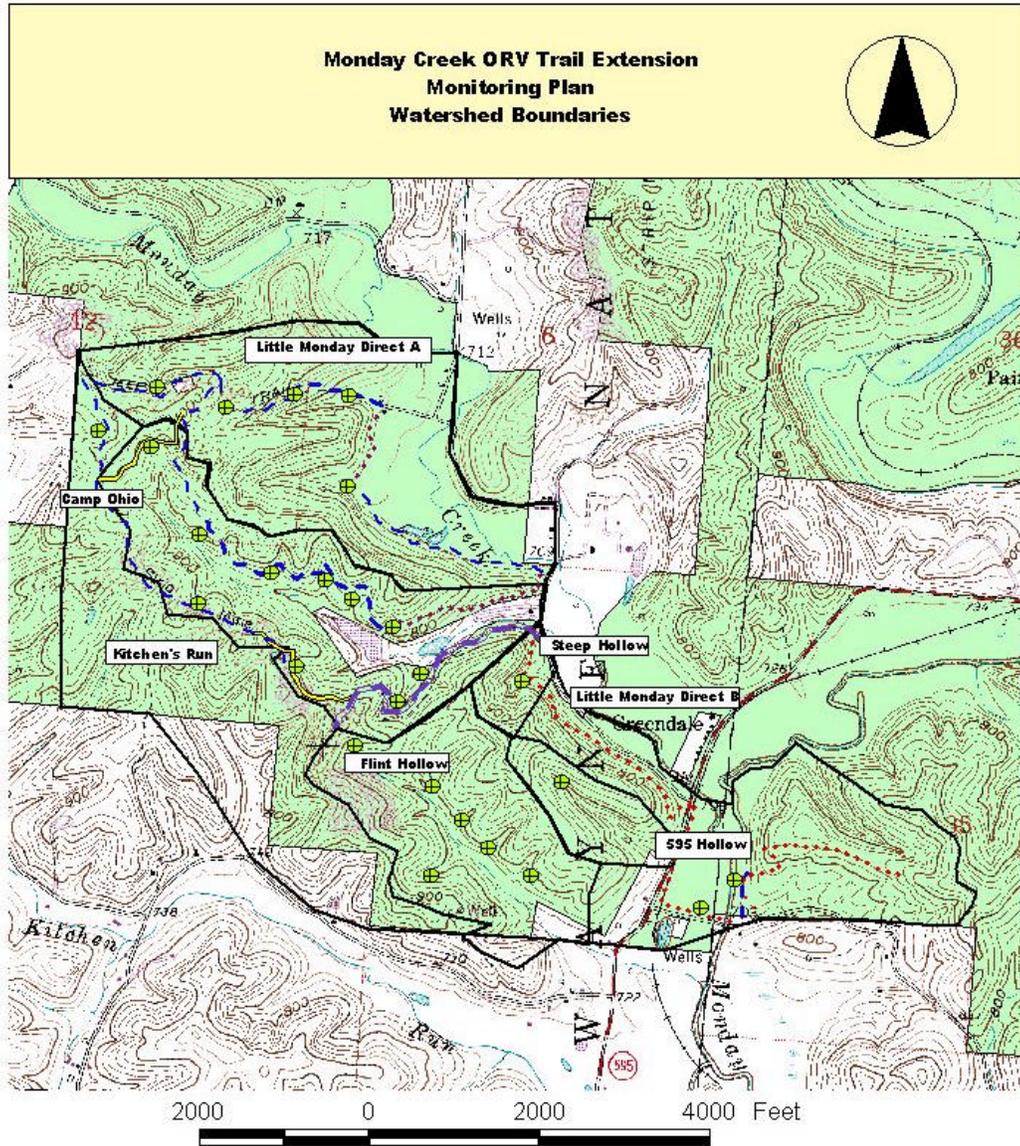
Maps:
Map 1: Proposed Action showing new trail segments



Map 2: Roads Re-classified in Analysis



Map 3: Delineation of Sub-watersheds



- Sample Points
- New construct - Loop Trail
- Northwoods Lease Road
- Belden & Blake Lease Road
- Classified Forest Road
- Unclassified road Forest Road
- Connector Trail - Re-construction
- Connector Trail - New Construction
- Sub-watershed Boundaries
- Project Area Boundary
- National Forest Ownership

Table 1: Sub-watershed Sample Points

Sub-Watershed	Point #	Observations
Little Monday Direct A	1	
	2	
	3	
	4	
	5	
Camp Ohio	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	

Kitchen's Run	1	
Flint Hollow	1	
	2	
	3	
	4	
	5	
	6	
595 Hollow	1	
Little Monday Direct B		
Steep Hollow	1	

