

## Appendix C

# Potential Roadless and Wilderness Areas Inventory

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## Introduction

Forest Service planning regulations require that the roadless character of National Forest System land be evaluated when forest plans are revised.

To be recommended for wilderness, an area must first qualify as roadless. Criteria for identifying roadless areas in the eastern half of the United States recognize that much, if not all, of the land will show some signs of human activity and modification even if it displays high recuperative capabilities (FSH 1909.12, 7.11b, p. 3).

When the Wayne National Forest (WNF) was evaluated during the development of the *1988 Forest Plan*, no areas were found to possess either roadless or wilderness characteristics.

Since the previous evaluation, the Forest Service has acquired more than 50,000 acres now included in the WNF. In 2003, the entire Forest was inventoried for wilderness/roadless potential as part of the *Forest Plan Revision*. There is a vocal sector of the public that supports designating a roadless area on the forest, or for “growing” areas that could become roadless or wilderness at some point in the future. As this inventory was started, it was deemed important to not eliminate areas too quickly to ensure all potential areas were fully considered. This became a guiding premise for the inventory due to the WNF’s unique status as being one of the few national forests across the country to not have any designated roadless areas.

Three references guided the evaluation/inventory:

- 1) Forest Service Manual (FSM) 1920, Section 1923;
- 2) Forest Service Handbook (FSH) 1909.12, Chapter 7; and
- 3) USDA Forest Service Region 9 Direction for Roadless Area Inventory for Forest Plan Revision (August 13, 1997).

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## Inventory Process

Three-steps were used to identify and inventory potential roadless areas for the 2005 *Plan Revision*. In addition, the guiding premise used in this analysis was to use the criteria from the three references listed above, but at each Step to look beyond the hard number criteria so that areas which might otherwise qualify, were not eliminated when they were close to, but did not meet the number criteria.

## Step 1

Using Geographic Information System (GIS) technology, the WNF mapped all three of its administrative units (Athens, Marietta, and Ironton) in search of contiguous land bases that might meet the size criteria for roadless areas as shown below.

- Areas containing 5,000 acres or more. (FSH 1909.12, 7.11, Criterion 1)
- Areas containing less than 5,000 acres but:
  - Due to physiography or vegetation, are manageable in their natural condition;
  - Are self-contained ecosystems such as an island; and
  - Are contiguous to existing wilderness, primitive areas, Administration-endorsed wilderness, or roadless areas in other Federal ownership, regardless of size. (FSH 1909.12, 7.11, Criterion 2)

### Size Criteria were determined as follows:

- 1) 5,000 acres: Based on Criteria 1 above;
- 2) 2,500 to 4,999 acres: Areas within this size class could potentially meet Criteria 2a above. Including these areas was in keeping with the analyses' guiding premise. These areas would be based on the recreation opportunity spectrum (ROS) setting of semi-primitive, non-motorized. No areas met Criteria 2b or 2c above; and
- 3) 1,500 to 2,499 acres: Areas within this size class could potentially meet Criteria 2a above. Including these areas was in keeping with the analyses' guiding premise. Such areas, when combined with larger adjacent areas, could potentially provide the solitude that recreationists seek in semi-primitive areas and therefore could possibly be managed as such.

Federal, State, county, township, and/or Forest Service system roads open and maintained for passenger cars (operation maintenance level 4 or 5) were used to delineate boundaries of the areas. An alphanumeric naming system was used to label each area (i.e. I-1 is the first area located on the Ironton Unit; I-2 is the second area located on the Ironton Unit; A-1 is the first area located on the Athens Unit, etc.). Table B-1 displays the results from this initial step.

**Table B-1. Forest Areas with Contiguous Land Base by Size Criteria and Administrative Unit**

| Size Criteria      | Athens Unit                                                                                                          | Marietta Unit    | Ironton Unit                                                                                                                                                                                                |
|--------------------|----------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5000 acres or more | None                                                                                                                 | None             | I-6 (5265 acres)<br>I-11 (5234 acres)                                                                                                                                                                       |
| 2500 – 4999 acres  | A-2 (3077 acres)<br>A-4 (4636 acres)                                                                                 | M-1 (2629 acres) | I-2 (2546 acres)<br>I-3 (4457 acres)<br>I-7 (3897 acres)<br>I-10 (2922 acres)<br>I-12 (3761 acres)<br>I-13 (2838 acres)<br>I-14 (4897 acres)<br>I-15 (2510 acres)<br>I-17 (2502 acres)<br>I-18 (4573 acres) |
| 1500 – 2499 acres  | A-1 (1806 acres)<br>A-3 (1725 acres)<br>A-5 (2126 acres)<br>A-6 (1996 acres)<br>A-7 (1578 acres)<br>A-8 (1877 acres) | None             | I-1 (2074 acres)<br>I-4 (1671 acres)<br>I-5 (1881 acres)<br>I-8 (1633 acres)<br>I-9 (1586 acres)<br>I-16 (1861 acres)<br>I-19 (2258 acres)<br>I-20 (1577 acres)<br>I-21 (2474 acres)<br>I-22 (1541 acres)   |

## Step 2

All 31 areas identified in Step 1 were carried forward to Step 2 so that no areas would be eliminated based solely on acreage. Keeping all areas in the analysis at this point was in keeping with the analyses' guiding premise. In Step 2, roadless eligibility was further analyzed to determine which areas warranted further consideration for roadless designation, looking at road density and other improvements.

Specifically, the following criteria were used in that analysis:

- The area contains evidence of historic mining (50+ years ago), excluding areas of significant current mineral activity, such as prospecting with mechanical earthmoving equipment. (FSH 1909.12, 711a, Criterion 4)
- The area contains no more than a half-mile of improved road for each 1,000 (K) acres, with road under Forest Service jurisdiction. (FSH 1909.12, 711b, Criterion 5)
- The location of the area is conducive to the perpetuation of wilderness values. Consider the relationship of the area to sources of noise, air, and water pollution, as well as unsightly conditions that would have an effect on the wilderness experience. The amount and pattern of federal ownership is also an influencing factor (FSH 1909.12 7.11b Criterion 4).

Historic mining in southeast Ohio was largely for coal, iron ore and clay. In addition,

oil and gas wells have been operating in the area for over 100 years. Most of the evidence of older mining operations (50 years or more) has been overgrown with vegetation. Some exception to this are the old mine entrances and waste piles (called gob piles) primarily from underground coal mines. While the gob piles and other mine related sites are causing watershed issues of acid mine drainage they have largely become visually subordinate except in their immediate location. These older, historic mining locations are reverting to mainly native vegetation and were not deemed to be excluding for any of the areas being considered in this inventory.

Existing minerals activity including existing oil and gas well developments on the WNF were identified. Existing underground coal mining did not impact any of the areas being inventoried. Area M-1 on the Marietta Unit was the only area with a high number of existing, producing wells with associated access roads and storage tanks such that it would not be able to be managed for roadless characteristics.

The density of Forest Service system roads of maintenance levels 2 through 5 was also computed. Roads with maintenance levels of 2, 3, 4, and 5 are improved roads that can be driven by low clearance passenger vehicles. Many of these roads access private land inholdings, access producing wells, or other developments. Some traverse an area but are maintained at a lower standard than roads used as boundaries. Table B-2 displays the results from this second step.

**Table B-2. Density of Improved Roads within Forest Areas Carried Forward from Step 1.**

| Road Density Criteria                  | Athens Unit                                                                                                                                                                  | Marietta Unit      | Ironton Unit                                                                                                                                                                                                                                                                                         |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ½ mile or less per 1000 (K) acres      | None                                                                                                                                                                         | None               | I-1 (0.44 mi/K ac)<br>I-6 (0.47 mi/K ac)<br>I-22 (0.05 mi/K ac)                                                                                                                                                                                                                                      |
| ½ mile to 1 mile per 1000 (K) acres    | None                                                                                                                                                                         | None               | I-2 (0.55 mi/K ac)<br>I-3 (0.77 mi/K ac)<br>I-4 (0.56 mi/K ac)<br>I-7 (0.71 mi/K ac)<br>I-10 (0.59 mi/K ac)<br>I-20 (0.90 mi/K ac)                                                                                                                                                                   |
| Greater than 1 mile per 1000 (K) acres | A-1 (5.66 mi/K ac)<br>A-2 (6.25 mi/K ac)<br>A-3 (5.45 mi/K ac)<br>A-4 (5.15 mi/K ac)<br>A-5 (2.48 mi/K ac)<br>A-6 (3.50 mi/K ac)<br>A-7 (2.59 mi/K ac)<br>A-8 (3.80 mi/K ac) | M-1 (2.77 mi/K ac) | I-5 (3.98 mi/K ac)<br>I-8 (1.73 mi/K ac)<br>I-9 (2.99 mi/K ac)<br>I-11 (3.00 mi/K ac)<br>I-12 (2.31 mi/K ac)<br>I-13 (1.60 mi/K ac)<br>I-14 (3.35 mi/K ac)<br>I-15 (2.41 mi/K ac)<br>I-16 (2.37 mi/K ac)<br>I-17 (3.87 mi/K ac)<br>I-18 (2.83 mi/K ac)<br>I-19 (1.50 mi/K ac)<br>I-21 (1.32 mi/K ac) |

## Analysis

Areas with more than one mile of improved road per 1,000 acres were eliminated from further consideration for roadless designation because they did not meeting Criteria 5 of FSH 1909.12, 711b.

While realizing that the areas with ½ mile to 1 mile of improved road per 1,000 acres also did not meet this criterion, they were kept in the analysis at this point to prevent eliminating an area that might otherwise be a potential roadless area except for this one factor. This was in keeping with the analyses' guiding premise.

Of the areas with less than one mile of improved road per 1,000 acres, areas I-1, I-2, I-4, I-10, I-20 and I-22 were eliminated because their narrow, irregular shape, or small size, and the close proximity of improved roads and private lands, could not be managed as a separate ecosystem and they are not conducive to providing wilderness values.

The first and second screenings yielded only three areas that met the size and/or road density criteria. All three areas were on the Ironton Unit. They include:

- 1) I-6 met all criteria used in the previous two steps and was larger than 5,000 acres;
- 2) I-3 did not meet the road density criteria, but contains between 2,500 and 4,999 acres and lies adjacent to I-6, separated only by a

county road. This area could potentially be managed in conjunction with I-6.

- 3) I-7 did not meet the road density criteria, but contains between 2,500 and 4,999 acres and lies adjacent to I-6, separated by a major Forest Service road (maintenance level 4). This area could potentially be managed in conjunction with I-6.

### Step 3

Using GIS, the roadless eligibility of the three Ironton areas that passed the first and second screenings were further scrutinized. These areas were examined against the following criteria:

- 1) The area has existing or attainable National Forest System ownership patterns, both surface and subsurface, that could ensure perpetuation of identified wilderness values. Region 9 Guidelines for Completing Roadless Area Inventories states that this is “a critical issue for roadless area inventories”. (FSH 1920.12, 7.11b, Criterion 3, and R9 Directions for Roadless Area Inventory for Forest Plan Revision, Aug. 1997, page 4, Criterion G)
- 2) When evaluating a possible expansion of an existing wilderness, or wilderness study area (WSA), consider National Forest System lands that adjoin the designated area but with no major barriers separating the two. There should be no improved road, railroad, or utility corridor separating the existing area from the expansion area. If a barrier separates the areas, evaluate the areas independently, each on its own merits. (R9 Directions for Roadless Area Inventory for Forest Plan Revision, Aug. 1997, page 3, Criterion C)

Review of areas I-3 and I-6 found a major utility corridor dissecting the east half of area I-6 and the west section of area I-3. Factoring in the utility corridor, the size and road density changed as follows:

| Area | Acreage             |                     | Road Density (mi / k ac.) |                     |
|------|---------------------|---------------------|---------------------------|---------------------|
|      | Results from Step 1 | Results from Step 3 | Results from Step 2       | Results from Step 3 |
| I-3  | 4,457               | 3,416               | 0.77                      | 0.66                |
| I-6  | 5,265               | 4,378               | 0.47                      | 1.00                |
| I-7  | 3,897               | 3,897               | 0.71                      | 0.71                |

Applying the boundary criterion of not crossing major utility corridors resulted in none of these three remaining areas meeting the size criterion (FSH 1909.12, 7.11, Criterion 1). They also do not meet the road density criterion (FSH 1909.12, 7.11b, Criterion 5). In addition, areas I-3, I-6, and I-7 each have substantial reserved and outstanding subsurface mineral rights over which the

Forest Service cannot control potential development. Because of the reserved and outstanding mineral rights, the Forest Service cannot ensure perpetuation of potential roadless values.

Because these areas did not satisfy the several of the inventory criteria for roadless areas (FSH 1909.12, Chapter 7.11), they were dropped from further consideration for roadless area nomination.

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## Conclusion

In summary, upon completion of the 2003 Wayne National Forest roadless area inventory, the Forest Service found no areas eligible for roadless nomination.

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