



United States
Department of
Agriculture

Forest
Service

National Forests in North Carolina
Pisgah National Forest
Appalachian Ranger District
Burnsville Station

PO Box 128
US 19 Bypass
Burnsville, NC 28714-0128
828-682-6146

File Code: 1950-1

Date: July 3, 2003

Dear Interested Citizen:

I have signed a new Decision Notice (DN) and Finding of No Significant Impact (FONSI) for the renovation of the septic system and paving of the parking lot at the Rhododendron Gardens area at Roan Mountain Gardens. Enclosed is a copy of the DN and FONSI and the Environmental Assessment for this project. The DN and FONSI discuss in detail my decision and rationale for reaching that decision.

Previously, on September 30, 2002, Acting District Ranger James Lee Thompson signed a DN and FONSI for this project. The Southern Appalachian Highlands Conservancy (SAHC) appealed his decision to the Regional Forester on November 18, 2002. The appeal was prepared for SAHC by the Southern Environmental Law Center (SELC). On December 18, 2002, the Regional Forester overturned the decision. I have been working with SAHC and SELC to address their concerns regarding the project proposal. My signing the July 2nd DN and FONSI documents a new decision for this project.

This decision is subject to appeal pursuant to 36 CFR 215.7. A written Notice of Appeal must be postmarked or received within 45 days after the date this notice is published in the Asheville Citizen Times, Asheville, North Carolina. The Notice of Appeal should be sent to USDA Forest Service, Southern Region, ATTN: Appeals Deciding Officer, 1720 Peachtree Road, N.W., Suite 811N, Atlanta, Georgia 30309.

If no appeal is received, implementation of this decision may occur on, but not before, 5 business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 days following the date of appeal disposition.

Sincerely,

/s/ Paul Bradley
PAUL BRADLEY
District Ranger, Appalachian Ranger District

Enclosures



DECISION NOTICE
AND
FINDING OF NO SIGNIFICANT IMPACT

for

Roan Mountain Septic System II

USDA Forest Service
Southern Region, Pisgah National Forest
Appalachian Ranger District
Mitchell County, North Carolina

INTRODUCTION

An environmental assessment (EA) has been written that documents the results of site-specific analysis concerning a proposal to renovate the 40+ year-old septic system, construct a new building to house new bathrooms and a seasonal visitor information station, and pave the parking area at the Rhododendron Gardens in the Roan Mountain area on the Appalachian Ranger District. This Decision Notice (DN) and Finding of No Significant Impact (FONSI) documents my decision to install a new septic tank and drainage lines, construct a new building that will contain bathrooms and a seasonal visitor information station, and pave the Rhododendron Gardens Parking area and road to connect to the existing paved road.

DECISION

I have decided to select Alternative B (Replace Septic System and Pave Parking Area) based on the analysis in the Environmental Assessment. I am approving the following activities:

- ❖ Install a new septic tank for the new bathrooms in the existing parking lot.
- ❖ Install new drainage lines through the existing parking area and road to connect the new bathrooms to the drainage lines and drain field constructed in Phase I.
- ❖ Install four pre-cast manholes along the route of the drain line.
- ❖ Construct a new building that will contain new bathrooms and a seasonal visitor information station at the current location of the seasonal visitor information station at the Rhododendron Gardens. The new building would not exceed 537 square feet which is the combined square footage of the two existing buildings it would replace. The new building would be rustic in character with a stone and wooden exterior.
- ❖ Pave the Rhododendron Gardens parking lot and road out to the existing paved road using asphalt.

We will reduce impacts by implementing the following mitigation measure:

- Transplant all three (3) individuals of *Lilium grayi* from the activity area to similar habitat within the local area. This transplanting should be done under the direct supervision of a botanist or equivalently qualified person.

REASONS FOR THIS DECISION

I selected Alternative B because it meets the purpose and need for action. This alternative provides for the health and safety of the public visiting the Roan Mountain Gardens and protects the environment of the sensitive natural resource values of the Roan Massif. Heritage resources, rare species, vegetation, and water quality will be protected during the implementation of this project. This alternative will help to meet the objective of providing bathroom facilities that are dependable and able to accommodate the number of visitors that the gardens receive without disturbing sensitive habitat.

Alternative B would replace the existing bathrooms and seasonal visitor information station with one new building that would be approximately equal to or less than the combined size of the existing buildings. The placement of the new building would avoid disturbance of any new areas including surrounding sensitive habitat. A net reduction of disturbed development on the mountain would result from rehabilitating and returning to a vegetative condition the pathway leading to the current restrooms. The Rural character of the site would be maintained by designing the new building with a stone and wooden exterior that would be rustic in appearance.

I considered paving the parking area with four different types of surfacing material before selecting asphalt. I selected asphalt because the environment will be protected at a cost just slightly higher than the cost of maintenance of the current gravel parking lot. In addition, I also considered leaving the parking lot gravel even with the construction of a new building to house the bathrooms and visitor information station. However, due to health and safety concerns with the current gravel parking area, I decided to pave the parking area to provide a smooth, even parking surface to accommodate the many elderly and handicapped individuals that visit the Roan Mountain Gardens area and reduce the dust associated with the parking area during dry and high traffic conditions.

I considered the no action alternative (Alternative A) but it does not meet the purpose and need for action. Under Alternative A, it is expected that due to the age of the current septic system that the septic system would begin to malfunction with continued and increasing use by the public. Septic systems are not designed to last indefinitely and have a limited lifespan. A negative affect to public health could occur if the current septic system malfunctions and exposes the public to raw sewage. This could occur as a result of a leaking septic tank or drainage lines. Failure to replace the existing system would eventually result in closing of the facility.

I considered an alternative that would connect the only approved drain field to the existing location of the bathrooms. This would have required placing the drainage lines through sensitive habitat in a direct route to the drain field to maintain a downhill flow to the drain field; or installing a pumping station to get the sewage uphill until gravity would move sewage downhill to the drain line via sewer lines under an existing parking lot and road. Considering the

uniqueness and sensitive resources of the Roan Mountain area, installing the drainage lines through the sensitive habitat was eliminated from detailed study for the protection of these resources. The only electricity on Roan Mountain is a generator that periodically powers a water well pump to fill the reservoir. The development of an alternative that would require a sewage pumping station was eliminated from detailed study due to the lack of an adequate power source.

I also considered an alternative that would have placed a new building housing the bathrooms (singly or in combination with the seasonal visitor information station) away from the currently disturbed area and into the grassy area to the east or northeast of the current information station. This alternative was eliminated from detailed study because it would have encroached on previously undisturbed areas including sensitive habitat.

PUBLIC INVOLVEMENT

A letter describing the proposed action and requesting comments on the proposal to renovate the septic system at the Rhododendron Gardens was mailed to 144 individuals, groups, and organizations on June 18, 2002. The letter sent by the District Ranger requested comments by July 18, 2002. We received responses to the proposal from eight individuals, groups, and organizations.

Alternative B was identified as the preferred alternative on July 26, 2002 when the EA for the Roan Septic System II Project was mailed to agencies and individuals who commented on the project proposal. A request for comments was published in the Asheville Citizen Times on July 30, 2002. The formal 30-day notice and comment period ended on August 29, 2002. In total, thirteen individuals, groups, and organizations commented on the project.

Acting District Ranger James Lee Thompson signed a Decision Notice and Finding of No Significant Impact on this project on September 30, 2002. The Southern Appalachian Highlands Conservancy (SAHC) appealed his decision to the Regional Forester on November 18, 2002. The appeal was prepared for SAHC by the Southern Environmental Law Center (SELC). On December 18, 2002, the Regional Forester overturned the decision.

I have been working with SAHC and SELC to address their concerns regarding the project proposal. This document issues a new decision for this project.

FINDING OF NO SIGNIFICANT IMPACT

The actions of Alternative B are consistent with the Land and Resource Management Plan for the Nantahala and Pisgah National Forests (Forest Plan) and the National Forest Management Act. The following paragraphs discuss my reasoning for the finding:

1. The actions of this project are consistent with the forest wide Forest Plan management objectives given in Chapter III (127-131) and in the general forest direction. The proposed activities are located in Management Area (MA) 9. These actions are consistent with the management prescriptions and practices for MA 9 and with general forest direction.

2. The actions of this project are consistent with the Forest Plan. The project is feasible and reasonable and will result in applying management practices that meet the Forest Plan overall direction of protecting the environment while producing goods and services.
3. The actions of this project have met all requirements of the Endangered Species Act and all agreements with the State Natural Heritage Program, in that the impacts to Proposed, Endangered, Threatened, or Sensitive (PETS) species or critical habitat for these species are minor in scope and will not affect the population viability of any PETS species with the implementation of the required mitigation measure.
4. There are no known heritage sites located in the project area.
5. There are no significant irreversible or irretrievable resource commitments.

I have determined that Alternative B is not a major federal action, individually or cumulatively, and will not affect the quality of the human environment. Therefore, an environmental impact statement will not be prepared. I have considered both context and intensity in my determination that is based on environmental analyses documented in the environmental assessment.

Context: The actions of Alternative B are limited in context. Effects will not go beyond the local area.

Intensity:

1. Both beneficial and adverse impacts have been considered (EA pp. 11-18).
2. Public health and safety will be protected or improved by the proposed actions (EA pp. 11-12).
3. No historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas will be impacted (EA pp. 5 and 6).
4. The effects on the quality of the human environment are not highly controversial (EA pp. 11-12).
5. The effects on the human environment are not highly uncertain and do not involve unique or unknown risks (EA pp. 11-12).
6. This action does not set a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration. The physical and biological effects are limited to the area of planned activity.
7. There are no apparent significant adverse cumulative effects between this project and other past, present and reasonably foreseeable actions. Other Federal, State and private projects have been considered (EA pp. 5, 12-17).

8. This action does not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places and will not cause loss or destruction of significant scientific, cultural, or historical resources (EA p. 5).
9. The degree to which this action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973 has been considered. No direct, indirect or cumulative effects are anticipated to any PETS species (EA pp. 12-14 and Appendix B of the EA).
10. This action does not threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment. North Carolina Best Management Practices will be met through application of LRMP standards.

APPEAL RIGHTS AND IMPLEMENTATION

This decision is subject to appeal pursuant to 36 CFR 215.7. A written Notice of Appeal must be postmarked or received within 45 days after the date this notice is published in the Asheville Citizen Times, Asheville, North Carolina. The Notice of Appeal should be sent to USDA Forest Service, Southern Region, ATTN: Appeals Deciding Officer, 1720 Peachtree Road, N.W., Suite 811N, Atlanta, Georgia 30309.

Appeals must meet content requirements of 36 CFR 215.14. For additional information on the appeals process or this decision, contact Karen Compton at USDA Forest Service, P.O. Box 128, Burnsville, North Carolina 28714, or phone (828) 682-6146.

If no appeal is received, implementation of this decision may occur on, but not before, 5 business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 days following the date of appeal disposition. Implementation of this decision is expected to begin in the late summer of 2003.

/s/Paul L. Bradley
PAUL L. BRADLEY
District Ranger

7/2/2003
Date



United States
Department of
Agriculture

Forest
Service

June 2003



Environmental Assessment

Roan Mountain Septic System II

**Appalachian Ranger District, Pisgah National Forest
Mitchell County, North Carolina**

Compartment 93

For Information Contact: Paul L. Bradley, District Ranger
Appalachian Ranger District
P.O. Box 128
Burnsville, NC 28714

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1 PURPOSE AND NEED FOR ACTION

1.1 Introduction

This environmental assessment (EA) documents the results of site-specific analysis concerning a proposal to renovate the 40+ year-old septic system, construct a new building to house new bathrooms and a seasonal visitor information station, and pave the parking area at the Rhododendron Gardens in the Roan Mountain area on the Appalachian Ranger District. The EA discusses why the project is needed, the issues of concern, the existing condition of the project area, alternative ways to implement the project so that various interests and concerns are considered, and the expected consequences of each alternative, including a "no action" alternative.

1.2 Proposed Action

Proposed activities within the Rhododendron Garden area include installation of a new septic tank and drainage lines to connect to the drainage line constructed in Phase I of this project, construction of a new building to house new bathrooms and a seasonal visitor information station, and paving the existing Rhododendron Gardens parking lot. The project area is located in Compartment 93 in the Roan Mountain area of Mitchell County.

1.3 Purpose and Need

The purpose of the proposed actions is to provide for the health and safety of the public visiting the Rhododendron Gardens at Roan Mountain and to protect the environment of the sensitive natural resource values of the Roan Massif.

All actions contribute to achieving the goals, objectives, and desired future conditions identified in the Land and Resource Management Plan for the Nantahala and Pisgah National Forests issued in April 1987 and as amended (here after referred to as the Forest Plan). This EA is tiered to the Forest Plan and its Final Environmental Impact Statement (FEIS) and the Vegetation Management in the Appalachian Mountains (VMAM) FEIS issued in July 1989. The Forest Plan establishes general management direction for specific areas called "Management Areas". The project area is within Management Area (MA) 9. The management direction for MA 9 is as follows:

- Management Area 9: This area will be managed to maintain distinctive outstanding scenic qualities, wildlife and plant communities, spruce-fir and northern hardwoods. Balds within the management area will be maintained through appropriate methods. No land is classified as selected for timber production. The area is a major recreation site and an area of high scientific and natural heritage interest.

1.4 Project Objectives

According to the Forest Plan, Roan Mountain Gardens is to be managed as Rural as described in the Recreation Opportunity Spectrum (III-128). The Forest Plan characterizes the setting of areas to be managed as Rural as substantially modified natural environment. These areas have a considerable number of facilities that are designed for use by a large number of people (Forest Plan, p. G-4).

Due to the age (40+ years-old) of the septic system at the Rhododendron Gardens, the current system is decaying and is no longer able to provide a reliable sanitary facility to the recreating public. Failure of the existing system would result in untreated sewage being discharged. Renovation of the septic system would provide for the health and safety of the public and prevent pollution from the discharge of untreated sewage. Renovation of the septic system would provide for the health and safety of the public by providing bathroom facilities that are dependable and able to accommodate the number of visitors that the gardens receive.

Locating the bathroom building in an area that does not require impacting undisturbed areas for the new sewer line or for power lines to power a pumping station would require moving the bathroom facilities closer to the parking area than the current location of the bathrooms. The existing seasonal visitor information station is located adjacent to the parking area. Locating the new bathroom facilities and the seasonal information station together in one building adjacent to the parking area would accomplish the purpose and need without disturbing any currently undisturbed areas. Rehabilitation of the existing bathroom location would also result in a net reduction of disturbed development on the mountain.

Paving the parking lot at the Rhododendron Gardens at Roan Mountain would improve the health and safety for many of the visitors to the area. There is a paved handicapped trail that is accessed from the parking area. Providing a smooth, even parking surface would provide a safer environment for the many elderly and handicapped individuals that visit the Rhododendron Gardens at Roan Mountain. The reduction of dust in and around the current gravel parking area would reduce potential breathing problems for visitors with asthma and other respiratory ailments and provide healthier air for all visitors.

1.5 Decision to be Made

The District Ranger will use the information in this analysis to decide whether or not the Forest Service will renovate the septic system, replace the bathrooms and the seasonal visitor information station, and pave the parking area at the Rhododendron Gardens, and if so, how to proceed. Other government agencies, groups, individuals, and Forest Service personnel interested and concerned about the potential outcome of this project will also use this publication as a basis for critiquing the various courses of action. If the action alternative is chosen, Forest Service personnel will use this document to guide in implementation and monitoring.

1.6 Scoping

A letter describing the proposed action and requesting comments on the proposal to renovate the septic system at the Rhododendron Gardens was mailed to 144 individuals, groups, and organizations on June 18, 2002. The letter sent by the District Ranger requested comments by July 18, 2002. We received responses to the proposal from thirteen individuals, groups, and organizations.

Acting District Ranger James Lee Thompson signed a Decision Notice and Finding of No Significant Impact on this project on September 30, 2002. The Southern Appalachian Highlands Conservancy (SAHC) appealed his decision to the Regional Forester on November 18, 2002. The appeal was prepared for SAHC by the Southern Environmental Law Center (SELC). On December 18, 2002, the Regional Forester overturned the decision.

District Ranger Paul Bradley, along with other district employees, has met several times with SAHC and SELC to address their concerns concerning the proposal.

1.7 Key Issues Considered and Discussed Throughout this Analysis

1.7.1 Issue 1: Health and Safety

The septic system located at the Rhododendron Gardens is over 40 years old and is decaying and no longer able to provide a reliable sanitary facility to the recreating public. The Roan Mountain Gardens area is receiving increasing numbers of visitors and renovation of the septic system would provide for the health and safety of the public by providing bathroom facilities that are dependable and able to accommodate the number of visitors that the gardens receive.

**Indicators: New Septic Tank (Yes/No);
New Drain Line (feet)
New Bathrooms (Yes/No);**

The current gravel parking lot presents a rough, uneven surface that generates dust during dry and high traffic periods. Paving the parking lot at the Roan Mountain Gardens would improve the health and safety for many of the visitors to the area. There is a paved handicapped trail that is accessed from the parking area. Providing a smooth, even parking surface would provide a safer environment for the many elderly and handicapped individuals that visit the Roan Mountain Gardens area. The reduction of dust in and around the current gravel parking area would reduce potential breathing problems for visitors with asthma and other respiratory ailments and provide healthier air for all visitors.

**Indicators: Smooth Parking Surface (Yes/No)
Dust Abatement (Yes/No)**

1.7.2 Issue 2: Rare Species

Replacing the Septic System at the Rhododendron Gardens may adversely affect rare species in the project area including Federally Threatened and Endangered species, Regional Forester's Sensitive species, and Forest Concern species.

Indicator: Rare Species Protected (Yes/No)

1.7.3 Issue 3: Vegetation and Water Quality

Asphalt surfaces may produce toxic runoff, which could create microclimatic conditions and negatively impact surrounding biota. An impervious paved surface allows collection and concentration of petrochemicals from auto traffic that is then washed into the adjacent ecosystem with the first substantial rain.

Indicator: Vegetation and Water Quality Protected (Yes/No)

1.7.4 Issue 4: Visual Resources and Character of Area

The color of the surfacing material and the size and design of the facilities could impact the visual character of the Roan Mountain Gardens and affect the Rural setting of the gardens.

Indicators: Color of Surfacing Material (Color)
Size of Facilities (Square Feet)
Character of Facilities (Descriptive Terms)

1.7.5 Issue 5: Economics

The various types of surfacing materials have different economic impacts associated with them. There will be a cost associated with the construction of a new facility to house the restrooms and the seasonal visitor information station.

Indicators: Cost of Installing and Maintaining Surfacing (\$)
Cost of New Facility (\$)

1.8 Other Issues Considered

The Roan Mountain Septic System Interdisciplinary Team (IDT) eliminated the following issues from detailed study in this Environmental Assessment as directed by CEQ Regulation 1500.1(b), 1500.2(b) and other sections because the project would cause only inconsequential effects to these issues.

1.8.1 Protection of the Appalachian Trail

Issue A: Due to the proximity of this project to the Appalachian Trail there is a possibility that this proposal might have adverse affects on the Appalachian Trail or its users.

The proposed action would take place in the existing parking area and along FS road 130. There would be no direct, indirect, or cumulative impacts on the Appalachian Trail or its viewshed from the proposed project.

1.8.2 Protection of Heritage Resources

Issue B: This project may adversely affect heritage or cultural resources in the project area.

An archeologist has conducted heritage resource surveys of the proposed project area. There are no known Class II sites located in the project area that are considered potentially eligible for inclusion in the National Register of Historic Places. There would be no direct, indirect, or cumulative effects on heritage resources from any of the alternatives.

1.8.3 Creation of a Heat Island

Issue C: Paving the parking lot with asphalt may create a heat island effect in the project area.

Studying the articles provided to the Forest Service by the Southern Appalachian Highlands Conservancy (SAHC) and an independent search of the literature provided a lot of information about the heat island effect. The “Urban Heat Island” effect has been well studied and is defined as an increase in air temperature of up to 8° in cities on calm clear nights and warm summer days. This phenomenon occurs because urban development results in large amounts of paved and dark colored surfaces like roofs, roads, and parking lots that absorb rather than reflect, the sun’s heat, causing the surface and ambient air temperature to rise (Rosenthal et al, 1997). The literature shows that this phenomenon is a product of urban environments and not the rural environment found in the Rhododendron Gardens area.

Data have shown that asphalt absorbs more radiant energy than some alternative paving sources; however, this fact alone does not support the idea that the area would become a heat island. The

mild air temperatures and the overcast and cloudy conditions common in the area would reduce the opportunities for absorption of radiant energy to cause large increases in surface or air temperatures. In addition, the large amounts of vegetation in the Rhododendron Gardens area would help mitigate any minute increase in temperature resulting from the use of asphalt as a paving material.

1.8.4 Special Geographic Areas

Issue D: This project must be evaluated for its effects on unique characteristics of the geographic area in the project area.

There are no park lands, prime farmland, wetlands, or wild and scenic rivers that will be affected by the proposed actions. The Roan Mountain area itself is an ecologically sensitive area. The effects to the Rhododendron Gardens area are discussed throughout this document.

1.9 Issues Beyond the Scope of this Analysis

The Roan Mountain Septic System Interdisciplinary Team (IDT) has determined that the following issue is beyond the scope of this Environmental Assessment.

1.9.1 Additional Improvements to Roan Mountain Gardens

Issue AA: Suggestions were made for additional improvements to the Roan Mountain Gardens area such as a covered picnic shelter and a storage building.

Response: The decision to add these facilities or make additional improvements at Roan Mountain Gardens is outside the scope of this analysis. However, these suggestions have been shared with the recreation staff on the district and will be considered separately.

2 ALTERNATIVES

2.1 Introduction

The Alternatives Chapter is the heart of the Environmental Assessment. This chapter briefly describes Alternative A: No Action and Alternative B: Replacing the Septic System and Paving the Parking Area at the Rhododendron Gardens.

2.2 Alternatives Considered

2.2.1 Alternative A: No Action

This Alternative serves as the no action alternative. The current septic system at the Rhododendron Gardens area would remain in place. No new septic tank or drain lines would be located within the project area. The bathrooms and seasonal visitor information station would remain in their current locations and the parking lot would remain gravel.

2.2.2 Alternative B: Replace Septic System and Pave Parking Area

This alternative was developed to meet the objectives of the project as described in Section 1.4. Alternative B would provide for the health and safety of the recreating public by providing bathroom facilities that are dependable and able to accommodate the number of visitors that the gardens receive. In addition, paving the parking area would increase safety for those who have trouble walking or operating a wheelchair on rough, uneven surfaces and provide for the health of visitors with respiratory problems by reducing the dust. The following activities are proposed in Alternative B:

- ❖ Install a new septic tank for the new bathrooms in the existing parking lot.
- ❖ Install new drainage lines through the existing parking area and road to connect the new bathrooms to the drainage lines and drain field constructed in Phase I.
- ❖ Install four pre-cast manholes along the route of the drain line.
- ❖ Construct a new building that will contain new bathrooms and a seasonal visitor information station at the current location of the seasonal visitor information station at the Rhododendron Gardens. The new building would not exceed 537 square feet which is the combined square footage of the two existing buildings it would replace. The new building would be rustic in character with a stone and wooden exterior.

- ❖ Pave the Rhododendron Gardens parking lot and road out to the existing paved road. The materials being considered for paving are asphalt, resin based products, pervious concrete, and soil cement.

2.3 Alternatives Considered But Not in Detail

An alternative was considered that would connect the only approved drain field to the existing location of the bathrooms. This would have required placing the drainage lines through sensitive habitat in a direct route to the drain field to maintain a downhill flow to the drain field; or installing a pumping station to get the sewage uphill until gravity would move sewage downhill to the drain line via sewer lines under an existing parking lot and road. Considering the uniqueness and sensitive resources of the Roan Mountain area, installing the drainage lines through the sensitive habitat was eliminated from detailed study for the protection of these resources. The only electricity on Roan Mountain is a generator that periodically powers a water well pump to fill the reservoir. The development of an alternative that would require a sewage pumping station was eliminated from detailed study due to the lack of an adequate power source.

An alternative was considered that would have placed a new building housing the bathrooms (singly or in combination with the seasonal visitor information station) away from the currently disturbed area and into the grassy area to the east or northeast of the current information station. This alternative was eliminated from detailed study because it would have encroached on previously undisturbed areas including sensitive habitat.

2.4 Summary Comparison of Actions

Table 2-1 SUMMARY OF ACTIONS

Actions	Alternative A (No Action)	Alternative B (Replace Septic System and Pave Parking Area)
Replace Septic Tank	No	Yes
Install New Drain Lines	0 feet	1150 feet (approx.)
New Bathrooms and Seasonal Visitor Information Station	No	Yes
Pave Parking Lot and Road	No	Yes

Table 2-2 SUMMARY OF EFFECTS Continued

Issues	Indicators	Alternative A (No Action)	Alternative B (Replace Septic System and Pave Parking Area)
Issue 5: Economics	Cost of Installing* Surfacing	\$0 - Existing Gravel Surface	Asphalt \$57,500 Resin \$86,250 Pervious Concrete \$172,500 Soil Cement \$129,375
	Cost of Maintaining* Surface over a 15-year period	\$60,000	Asphalt \$7,500 Resin \$7,500 Pervious Concrete \$20,000 Soil Cement \$15,000
	Cost of New Facility* (Restrooms and Seasonal Visitor Information Station)	N/A	\$150,000

*All Costs are Estimates

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

3.1 Introduction

This section describes the existing environment in and around the project area and forms the scientific and analytical basis for the comparison of alternatives as required by the National Environmental Policy Act (NEPA). This chapter presents the predicted effects of the two alternatives, focusing on the project objectives listed in Section 1.4 and the five issues listed in Section 1.7.

3.2 Impacts to Health and Safety

3.2.1 Existing Conditions (Health and Safety)

Septic System

The existing septic system at the Rhododendron Gardens is over 40 years old. The current system is decaying and is no longer able to provide a reliable sanitary facility to the recreating public. The failure of the existing septic field is resulting in incomplete treatment of sewage and a high risk of surface and subsurface pollutions from the existing facility.

Parking Area

The current gravel parking lot is a rough, uneven surface that generates dust during dry and high traffic periods. The rough, uneven surface of the parking area could create unsafe conditions for the many elderly and handicapped individuals that visit the Roan Mountain Gardens area. Dust in and around the gravel parking area could cause potential breathing problems for visitors with asthma and other respiratory ailments.

3.2.2 Environmental Effects of Alternative A on Health and Safety

Septic System

It is expected that due to the age of the current septic system, that the septic system would begin to malfunction with continued and increasing use by the public. Septic systems are not designed to last indefinitely and have a limited lifespan. A negative affect to public health could occur if the current septic system malfunctions and exposes the public to raw sewage. This could occur as a result of a leaking septic tank or drainage lines. Failure to replace the existing system would eventually result in closing of the facility.

Parking Area

Negative affects to public health and safety could result if the parking area remains gravel. The gravel parking area would continue to expose the many elderly and handicapped individuals that visit the Roan Mountain Gardens area to rough, uneven surfaces that could pose a safety risk to certain individuals. In addition, the transition from a paved driving surface at the fee station to a gravel driving surface could create a safety concern. Dust would continue to be a problem during dry and high traffic periods. Visitors with respiratory difficulties could experience health risks in high dust conditions.

3.2.3 Environmental Effects of Alternative B on Health and Safety**Septic System**

Installation of a new septic tank and drain lines would replace the aging, existing septic system. A new system would be made of new, modern materials that would not be prone to malfunctions and would be able to accommodate the increasing number of visitors the garden area is receiving. Renovation of the septic system would provide for the health and safety of the recreating public by providing dependable bathroom facilities.

The septic system at the Cloudland parking area was replaced and a new drain field installed with Phase I of this project, completed earlier this year. The cumulative effects would be that all bathroom facilities within the Roan Mountain Gardens would be dependable, safe and modern.

Parking Area

Paving the parking lot at the Roan Mountain Gardens would improve the health and safety for many of the visitors to the area. There is a paved handicapped trail that is accessed from the parking area. Providing a smooth, even parking surface would provide a safer environment for the many elderly and handicapped individuals that visit the Roan Mountain Gardens area. The reduction of dust in and around the current gravel parking area would reduce potential breathing problems for visitors with asthma and other respiratory ailments and provide healthier air for all visitors, especially during dry and high traffic periods. The cumulative effects would be a safer and healthier recreation site for visitors.

3.3 Impacts to Rare Species**3.3.1 Existing Conditions (Rare Species)****Aquatic Resources**

There are no aquatic resources, including floodplains or wetlands, or aquatic habitat located in the project area; therefore, there are no aquatic Federally Threatened and Endangered species, Regional Forester's Sensitive species or Forest concern species known or likely to occur in the project area.

Botanical Resources

There are no Federally Proposed or listed Threatened or Endangered plant species known or likely to occur in the project area.

A small population of *Lilium grayi*, a Regional Forester's sensitive plant, is known to occur within the proposed activity area. Three non-flowering individuals were observed in the proposed activity area and six individuals were found outside the activity area. The Roan Mountain population of this species contains approximately 300 plants in 12 locations.

There are no Forest concern plant species known or likely to occur in the proposed activity area.

Wildlife Resources

There are two Federally Endangered wildlife species known to occur in the wildlife analysis area. The Carolina northern flying squirrel (*Glaucomys sabrinus coloratus*) and the spruce-fir moss spider (*Microhexura montivaga*) are known to occur in the Roan Mountain area. These species are not known to occur within the proposed activity area.

There are no other Federally Threatened or Endangered wildlife species known or likely to occur in the project area. There are no Regional Forester's sensitive or Forest concern wildlife species known or likely to occur in the proposed activity area.

3.3.2 Environmental Effects of Alternative A on Rare Species

With implementation of this alternative there would be no direct, indirect, or cumulative effects to any aquatic, plant or wildlife Federally Threatened or Endangered, Regional Forester's Sensitive, or Forest concern species or their habitat.

3.3.3 Environmental Effects of Alternative B on Rare Species

Aquatic Resources

There would be no direct, indirect, or cumulative effects to any aquatic Federally Threatened and Endangered species, Regional Forester's Sensitive species or Forest concern species as a result of this alternative.

Botanical Resources

There would be no direct, indirect, or cumulative effects to any Federally Threatened or Endangered plant species as a result of this alternative.

The three known individuals of *Lilium grayi* may be directly negatively affected by this proposal. It is not expected that this proposal would significantly reduce or modify the habitat (indirect effects) for *Lilium grayi* or cause the population not to remain viable.

The following mitigation measure will be required for the protection of the *Lilium grayi*:

Transplant all (3) individuals of *Lilium grayi* from the activity area to similar habitat within the local area. This transplanting should be done under the direct supervision of a botanist or equivalently qualified person. With the implementation of this mitigation measure, this proposal will likely have an effect on individuals of *Lilium grayi*, a regionally sensitive plant species, but it will not cause a trend to extinction. This proposal will have no cumulative effect on the Forest viability of *Lilium grayi* since there are no other known impacts to the species across the forest.

There will be no direct, indirect, or cumulative effects on any Forest concern plant species.

TABLE 3-1 Summary of Expected Impacts to Federally Listed, Sensitive or Forest Concern plant species.

SPECIES	ALTERNATIVE B: Replace Septic System and Pave Parking Area
FEDERALLY LISTED PLANT SPECIES (Located within the Proposed Activity Area)	
None Known	N/A
SENSITIVE PLANT SPECIES	
<i>Lilium grayi</i>	D/I: May impact individuals C: None
FOREST CONCERN PLANT SPECIES	
None Known	N/A

D/I =Direct/Indirect Impacts, C= Cumulative Impacts

Wildlife Resources

There would be no direct, indirect, or cumulative effects to any Federally Threatened and Endangered, Regional Forester’s Sensitive, or Forest Concern wildlife species as a result of this alternative because there are none of these species located within the proposed activity area. The proposed activity area does not contain habitat for the two Federally Endangered wildlife species (Carolina northern flying squirrel and spruce-fir moss spider) present in the wildlife analysis area. The USDI Fish & Wildlife Service concurred that Carolina northern flying squirrel, *Glaucmys sabrinus coloratus*, and spruce-fir moss spider, *Microhexura montivaga*, would not be affected by this proposed action. No further consultation is required.

3.4 Vegetation and Water Quality

3.4.1 Existing Conditions (Vegetation and Water Quality)

There are no water sources or aquatic habitat located within the project area. The vegetation surrounding the project area consists of the grassed areas and other vegetated areas that contain herbaceous vegetation, shrubs including the famous Catawba rhododendron, and trees including red spruce, Fraser fir, and mountain ash.

The surface of the existing gravel road and parking area is a combination of both coarse stone and finely crushed rock the size of sand and silt. In a rainstorm, the fine particles will be eroded by raindrops and moved off the road by runoff. When this happens the gravel will be pushed farther into the surface thereby exposing more fines allowing more, small particle erosion. Any petrochemicals or other pollutants could be washed off the traffic surface either attached to fine particles or in solution in the runoff. This runoff will either infiltrate on the road edge or, if it reaches the ditch, will be deposited in the undisturbed soil adjacent the road. Currently there are no known negative effects to the surrounding vegetation and water quality from the gravel surface.

3.4.2 Environmental Effects of Alternative A on Vegetation and Water Quality

Impacts from the gravel surface would remain the same as existing conditions. Currently these impacts are not having noticeable negative effects on either the vegetation or the water quality in the project area.

3.4.3 Environmental Effects of Alternative B on Vegetation and Water Quality

The buildings housing the restrooms and the seasonal visitor information station would be replaced with a new building that would serve both functions. Replacing both building would accomplish the objective of connecting restrooms to the approved drainage field without disturbing sensitive habitat. In addition, approximately 1040 sqft of asphalt would be removed and returned to vegetation where the asphalt walkway to the restrooms currently exists.

With any impervious surface (asphalt, resin, or soil cement), any petrochemicals or other pollutants could be washed off the traffic surface in solution in the runoff. Gravel and impervious surfaces shed about the same amount of runoff in any given rainstorm. The main difference is the quality of the runoff. Runoff from impervious pavement would follow the same pathways as that from gravel roads; however, it would infiltrate more quickly since it would be physically cleaner with the absence of fine particle material resulting from gravel surfaces. Vegetation along the road edges and ditches would serve as filter strips to trap pollutants and

sediment in the runoff. Soil cement, which is calcium based, could result in damage to or death of roadside vegetation as a result of migration of calcium compounds.

Effects to surrounding vegetation from asphalt and resin are expected to be similar to those experienced with the current gravel surface. No noticeable direct, indirect, or cumulative negative effects to surrounding vegetation have been observed due to runoff from the existing gravel road and parking area. Effects to surrounding vegetation from soil cement remain uncertain due to the concerns over the migration of calcium compounds.

Impervious pavement surfaces (asphalt, resin, or soil cement) result in higher runoff velocities which mandate design considerations to prevent roadside sedimentation. There are no water sources near the road or the parking area; therefore, any pollutants and sediment washed from the surface would not affect water quality in the project area.

Pervious concrete is a porous paving material which permits rain and storm water run-off to percolate through it rather than move as runoff into adjacent vegetation. The pervious concrete acts as a filter catching much of the oils and chemicals that flow dissolved in or suspended by the storm water. There are no direct, indirect, or cumulative effects to water quality expected with any of the proposed paving materials.

Asphalt results in volatile organic compound (VOC) releases in the air during and for short periods after placement of the material. These VOC releases would be short term in nature and would not have lasting effects to air quality. Resin as a bio-based binder (pine pitch and rosin) does not release VOCs into the air or hydrocarbons in the run-off.

3.5 Visual Resources and Character of Area

Roan Mountain Gardens is to be managed as Rural as described in the Recreation Opportunity Spectrum (Forest Plan, III-128). The Forest Plan characterizes the setting of areas to be managed as Rural as substantially modified natural environment. These areas have a considerable number of facilities that are designed for use by a large number of people (Forest Plan, p. G-4).

3.5.1 Existing Conditions (Visual Resources and Character of Area)

The current facilities at Roan Mountain include a paved road to the fee station and paved parking lots at Carver's Gap and the former Cloudland Hotel site, a gravel road through the remainder of the area, two gravel parking lots, a paved handicapped trail, restrooms and picnic tables at both the Cloudland and Gardens sites, and a seasonal visitor information station at the Gardens site.

The building housing the seasonal visitor information station is a wooden structure that is rustic in character. The restrooms at the Rhododendron Gardens are constructed out of cinderblock. The restrooms are approximately 345 square feet (sqft) in size. The imprint of the building, which includes roof overhang, is about 572 sqft. The seasonal visitor information station is approximately 192 sqft in size with a building imprint of about 333 sqft.

3.5.2 Environmental Effects of Alternative A on Visual Character of Area

The facilities would remain the same under Alternative A. The road from the fee station and the parking area at the Rhododendron Gardens would remain gravel. The existing buildings would remain in place. The area would continue to meet the characteristics of a “Rural” setting as defined by the Forest Plan.

3.5.3 Environmental Effects of Alternative B on Visual Character of Area

The buildings housing the restrooms and the seasonal visitor information station would be replaced with a new building that would serve both functions. The exterior of the new building would be built using stone and wood and would be rustic in character. The size of the new building would be approximately equal to or less than the combined size of the existing buildings which is 537 sqft with a building imprint of about 905 sqft.

A conceptual drawing located in Appendix A shows approximately how the new building would be oriented in relationship to the existing information station and where landscaping could be placed. Landscaping around the building with native vegetation would help soften the visual impact of the building. Rehabilitation of the existing bathroom location would also result in a net reduction of disturbed development on the mountain; thus, reducing the visual impact of development.

Under Alternative B, the road from the fee station and the parking area at the Gardens would be paved with one of four surfacing materials. The surfacing materials under consideration are asphalt, resin, pervious concrete, and soil cement. Asphalt surfacing would result in a dark surface that would match the existing pavement and the paved handicapped trail located at the Rhododendron Gardens. Resin surfacing retains the color of whatever aggregate is used in mixing; therefore, can be blended to more naturally match the surrounding environment. Pervious concrete is lighter in color and more reflective than asphalt, providing better visibility and retention of less heat. Soil cement pavements have a natural appearance, taking on the color of the added aggregate or sand.

The cumulative effects of paving and replacing the bathroom and information station building location would not increase the area of disturbance. In fact, with the rehabilitation of the current bathroom area, the overall area of disturbance would be less than the current area of disturbance. The area would meet the characteristics of a “Rural” setting as defined by the Forest Plan. The visual impact of the improvements would not substantially alter the appearance of the Roan Mountain Gardens.

3.6 Economics

3.6.1 Existing Conditions (Economics)

The cost of maintaining the current road and parking lot is approximately \$4,000 per year which includes the cost of equipment and grading and replacement gravel as needed. The estimated cost of maintaining the gravel parking area and road over a 15 year period is \$60,000.

3.6.2 Environmental Effects of Alternative A on Economics

There would be no changes to the economic effects of maintaining the parking area and road. Estimated maintenance costs per year would be \$4,000. The estimated cost over a 15 year period would be \$60,000.

3.6.3 Environmental Effects of Alternative B on Economics

The costs associated with installation and maintenance of different paving surfaces varies. The chart below shows four different surfacing materials and the costs associated with each:

Surfacing Material	Installation Cost*	Maintenance Costs* (Annual)	Total Cost* 15-Year Period
Asphalt	\$ 57,500	\$ 500	\$ 65,000
Resin	\$ 86,250	\$ 500	\$ 93,750
Pervious Concrete	\$172,500	\$2,000 (yrs 6-15)	\$192,500
Soil Cement	\$129,375	\$1,000	\$144,375

*All Costs are Estimates

The cost of the facility that would house the bathrooms and the seasonal visitor information station is estimated at \$150,000. This cost is rough estimate since final design plans for the facility would not be completed until a decision is made whether or not to construct the building.

4 LIST OF PREPARERS

Name	Title	Project Role
Karen Compton	Planner	Team Leader, Documentation, Health and Safety, Vegetation, Visual Character, Economics
David Danley	Botanist	Botanical Resources
Sandy Florence	Wildlife Biologist	Wildlife Resources
Kelly Howell	Fisheries Biologist	Aquatic Resources
Bob Noel	Archeologist	Heritage Resources

Other Forest Service Personnel Providing Input

Name	Title
Paul Bradley	District Ranger
Lee Thompson	Operations Assistant
David Velez	Engineer
Tim Chesley	Engineer
David Wright	Recreation Program Manager

Others Providing Input

Affiliation	Name
North Carolina Wildlife Resources Commission	Bob Brown
Southern Appalachian Highlands Conservancy	Stewardship Committee
Tennessee Department of Environment and Conservation	Reginald Reeves
Tennessee Eastman Hiking Club	Steven T. Perri
United States Department of Interior Fish and Wildlife Service	Brian Cole
	J.P. Barrett
	Leah Karpen
	Travis W. Knowles
	Jerry W. Nagel
	Alan Smith
	Ed Stein
	Sue Watts
	Hazel Byrd Yelton

APPENDIX A

ROAN MOUNTAIN SEPTIC SYSTEM II

MAPS OF THE PROJECT AREA

General Vicinity Map

Replacement of the Septic System at the Rhododendron Gardens

Conceptual Drawing of Orientation of New Building

APPENDIX B

ROAN MOUNTAIN SEPTIC SYSTEM II

BIOLOGICAL EVALUATION

BIOLOGICAL EVALUATION
SEPTIC SYSTEM BATHROOM REPLACEMENT, ROAN GARDENS
APPALACHIAN RANGER DISTRICT
PISGAH NATIONAL FOREST

I. INTRODUCTION

The purpose of this Biological Evaluation is to document the effects of the proposed action, listed below, to federally Endangered and Threatened (T.&E.) and Forest Service Regionally sensitive (S.) and Forest concern (FC.) species and to ensure that land management decisions are made with the benefit of such knowledge. This encompasses all State and Federally listed species. Possible direct, indirect, and cumulative effects to these species are considered and discussed in this document.

II. PROPOSED ACTION

The Appalachian Ranger District proposes to remove an existing bathroom in the Roan Mountain “Rhododendron Gardens” and replace it adjoining the site of current visitor information booth. The proposed septic line for the proposed new bathroom would be put under the existing road surface and tie into the existing septic drain field. The total amount of ground disturbance (other than existing road and parking lot) is less than 1/10 of an acre. The site of the proposed activity area is in northern Mitchell Co., on Roan Mountain, North Carolina. See the project map.

III. EXISTING BIOLOGICAL CONDITION

Spruce-Fir Forest/Heath Bald

The proposed site of the activity is located on the Roan Mountain massif. The Roan Mountain massif has several thousand acres composed of natural biological communities including: Fraser Fir Forest, Red Spruce-Fraser Fir Forest, Grassy Balds, High Elevation Rocky Summits, High Elevation Seeps, Heath bald and Northern Hardwood Communities (Schafale and Weakley). These communities on Roan Mountain are known to contain a significant amount (approximately 70 species) of rare plant and animal species. Eight of these species are federally listed as Endangered or Threatened. Most of the USFS portion of the Roan Massif is a North Carolina State Registered Natural Area. The proposed activity is within a Spruce-Fir Forest/ Heath Bald natural community.

The proposed activity site (existing biological condition):

The proposed activity will directly affect less than a 1/10 of an acre of Heath Bald and early successional path/picnic ground habitat. It is anticipated that most of the disturbance caused by the proposed action will be within 30 ft. of the existing parking lot. Therefore, most of the habitat that this proposal would affect is anthropogenic. There are no large rock boulders, or streams at

or near the site that may be affected by this proposal. The proposed activity site does not contain any Federally or Threatened species. A population of Grays Lily (*Lilium grayi*) (S.) is known to exist directly adjacent the current visitor booth. No other populations of T.&E., S. or FC. exist in the activity area.

IV. METHODS

Potentially affected T.&E., S. or FC. species were identified after (1) reviewing the list of T.&E., S. or FC. species of the Pisgah and Nantahala National Forests and their habitat preferences; (2) consulting element occurrence records of T.&E. S. or FC. species as maintained by the North Carolina Natural Heritage Program; (3) consulting with individuals both in the public and private sector who are knowledgeable about the area and its biology, and (4) conducting field surveys in areas designated for ground disturbing activities. A portion of a population of *Lilium grayi* (S.) is known to occur within the proposed activity area. Because the activity site is close to several federally listed species, an informal consultation with the US Fish & Wildlife Service was initiated.

V. EFFECTS, THE ACTION ALTERNATIVE

There are three general types of effects this proposal may have upon T.&E., S. or FC. species: direct effects, indirect effects and cumulative effects. A direct effect occurs when a T.&E., S. or FC. species is damaged by the actual proposed action, such as animals or plants injured by removing the existing asphalt. Direct effects are almost always negative. Indirect effects are those effects that result from habitat changes caused by the proposed action for example, mortality caused by possible toxic effect of new asphalt, temperature changes, or species changes. Indirect effects can be either negative or positive depending upon the species. Cumulative effects are those effects to T.&E., S. or FC. species that are a result of past or planned actions in combination with currently proposed actions. The effects, direct, indirect and cumulative, to T.&E., S. or FC. species are discussed below as: a) botanical, b) aquatic, and c) wildlife effects.

A. BOTANICAL RESOURCES

David M. Danley, Forest Botanist, surveyed and evaluated the proposal for T.&E., S. or FC. plants and botanical resources (botanical survey was conducted 7 May, 2002). Of the total of 42 T.&E., S. or FC. plant species known or likely to occur on Roan Mountain, only *Lilium garyi* is discussed in further detail. All others were dropped from the list for further consideration and discussion for one of the following reasons: 1) lack of suitable habitat for the species in the project area, 2) the species has a well-known distribution that does not include the project area, or 3) based on field surveys of potential habitat, no habitat was seen in the activity areas.

Habitats, community types and ranges of plant T.&E., S. or FC. species are derived from information in Classification of the Natural Plant Communities of North Carolina, the Natural Heritage Program's List of Rare Plants of North Carolina or personal communication with other botanists. Because of the small number of square feet of ground disturbing activity proposed and the extensive amount of existing botanical knowledge in this specific area, this analysis will discuss only the possible effects to the one known Regionally Sensitive plant species (*Lilium garyi*) currently known to be in the proposed activity area. A discussion of the possible effects of this proposal to *Lilium garyi* follows. There are no known effects to any other T.&E., S. or FC.

plant species.

Lilium garyi

Description: Perennial herb.

Status: Federal, Federal Species of Concern; State, Threatened; Forest, Forest Sensitive

Local Population: Activity Site: A small population of *Lilium garyi* is known to occur within the proposed activity area. Three non-flowering stems (individual) were observed in the proposed activity area and six individuals adjacent outside the activity area. Roan Mountain Population: About 300 individuals in 12 sites.

Possible Impacts: Three individuals are a very small percentage of the local (Roan Mountain), population of *Lilium garyi* population that may be negatively directly affected by this proposal. It is not expected that this proposal will significantly reduce or modify the habitat (indirect effects) for *Lilium garyi* or cause the local population not to remain viable.

On a Forest wide scale, this proposal will have very little effect on *Lilium garyi*. There are many populations known to be distributed over such a wide area across the Forest and Roan Mountain that impacting a few individuals (three) will have little effect on the total numbers of *Lilium garyi* individuals throughout the Forest. This proposal will have no effect upon the Forest viability of *Lilium garyi*. There are no other known (cumulative) effects to *Lilium garyi* within the Forest. This proposal is not expected to negatively affect the viability of *Lilium garyi* within the project area, Roan Mountain or the Forest. However, to mitigate the possible negative effect, it is recommended that the (3) individuals of *Lilium garyi* should be transplanted from the activity area to the local area with similar habitat. This transplanting should be under the direct supervision of a botanist or equivalently qualified person.

ROAN MOUNTAIN REGISTERED NATURAL HERITAGE AREA.

The proposed activity area is within the Roan Mountain Natural Heritage area (State of North Carolina). This proposal will not jeopardize the natural character or integrity or violate the terms of the agreement of this natural area because the proposal would involve an insignificant amount of new ground disturbance and the visitor use is expected to be similar after completion.

B. AQUATIC RESOURCES

Kelly Howell, Fisheries Biologist, evaluated the project. She found no aquatic T.& E. or S. species occurring, or are likely to occur, in the activity area. The proposal will not affect any aquatic system. Therefore, there is no effect to T.&E., S. or FC. aquatic species. This judgment is based upon available species habitat information and existing known occurrences of aquatic species. See the attached note.

C. WILDLIFE RESOURCES

Sandy Florence, Wildlife Biologist, evaluated the project by the above stated method. She found no wildlife T.& E. or S species occurring, or likely to occur, in the activity area that might be affected by the proposed activity. This judgment is based upon, available species habitat information, existing known occurrences of T.& E. or S species, and consultation with other biologists. Therefore, this proposal is not likely to affect any T.&E., S. or FC. wildlife species. (See attached wildlife evaluation)

VI. EFFECTS OF THE NO ACTION ALTERNATIVE.

There are no known effects to any Federally listed, sensitive or Forest concern species for no action.

VII. REQUIRED RECOMMENDATIONS TO THE ACTION ALTERNATIVE TO MITIGATE POSSIBLE EFFECT TO THE FEDERALLY LISTED OR SENSITIVE SPECIES:

1) Transplant all (3) individuals of *Lilium garyi* from the activity area to the local area with similar habitat. This transplanting should be under the direct supervision of a botanist or equivalently qualified person.

There are no other recommendations.

VIII. SUMMARY AND DETERMINATION OF EFFECT

This proposal will likely have an effect on individuals of *Lilium garyi*, a Regionally sensitive species, but will not cause a trend to extinction. This proposal will have no effect upon any other species that is federally listed. This project will have no effect or impact on any Forest concern or sensitive species. Formal consultation with the USDI, Fish and Wildlife Service not required. An informal consultation was requested. The “No impact to federally listed species” opinion from the US. Fish and Wildlife Service (Asheville field office) is attached.

Prepared by:

_____/s/David M. Danley _____
David M. Danley, Forest Botanist

Date: ___6/28/2002_____

Roan Septic II Proposal

Appalachian Ranger District

The proposed project is located at the Rhododendron gardens at Roan Mountain. The project consists of installing new bathrooms and new drainage lines that would connect to those currently under construction as part of the Phase I project.

Implementation of the proposed project will not have any effects upon aquatic resources due to the absence of aquatic habitat. The proposed project will have no effect on aquatic threatened or endangered species or their habitats. Consultation with the United States Fish and Wildlife Service is not required.

Implementation of the proposed project will have no impact on aquatic Regional Forester's sensitive or Forest concern species or their habitats. There will be no loss of species viability at the local, regional, or range-wide scales, nor will biodiversity be negatively affected at these scales as a result of this project

/s/ Kelly Howell
Kelly Howell

06/12/2002
Date

Roan Septic

The proposal is to build a new flush toilet facility on the site of the small information booth adjacent to the upper parking area. The sewer drainage will be buried from the facility to the existing roadbed and from there, under the roadbed to the existing drainage field. By constructing the new facility on the site of the information booth, no new habitat will be disturbed and no tree removal will be necessary. Therefore, there will be no direct, indirect, or cumulative effects to any 2002 Regional Forester's Sensitive wildlife species.

The USDI Fish & Wildlife Service concurred that the T&E species of *Glaucomys sabrinus coloratus*, Carolina N. Flying Squirrel and *Microhexura montivaga*, Spruce-fir moss spider, will not be affected by this proposed action. No further consultation is required.

Sandy Florence

SANDY FLORENCE
Wildlife Biologist

06/06/02

Date

BIOLOGICAL EVALUATION AMENDMENT
SEPTIC SYSTEM BATHROOM REPLACEMENT, ROAN GARDENS
APPALACHIAN RANGER DISTRICT
PISGAH NATIONAL FOREST

INTRODUCTION

The proposed action is amended to include paving of the existing adjacent parking lot. By addition of the paving, no added ground disturbance is anticipated outside of the existing gravel parking lot.

POTENTIAL EFFECT

T&E. and S. species considered for this evaluation are the ones included on the National Forest in North Carolina lists, and Regional Foresters list. This list includes all State and Federally listed species.

Lorie Lewis (Fisheries Biologist), David Danley (Botanist) and Sandy Florence (Wildlife Biologist) of the Appalachian Ranger District evaluated the amended proposal. They found no aquatic, botanical or animal T&E. and S. species are known to occur or are likely to occur, in the parking lot area. Therefore, this action will not affect any aquatic, botanical, or animal T&E. or S. species. This judgment is based upon lack of available aquatic habitat that this proposal may affect, and existing known occurrences of T&E. or S. species.

CONCLUSION

The addition of paving will not change the original biological evaluation conclusions of: “This proposal will likely have an effect on individuals of *Lilium garyi* a Regionally Sensitive species but will not cause a trend toward federal listing. This proposal will have no effect upon any other species that is federally listed. This project will have no effect or impact on any other Forest Concern or Sensitive species. Formal consultation with the USDI, Fish and Wildlife Service is not required.”

/s/David M. Danley

David M. Danley March 20, 2003
Botanist

APPENDIX C

ROAN MOUNTAIN SEPTIC SYSTEM II
RESPONSE TO COMMENTS AND ISSUES

Response to Comments and Issues
Roan Mountain Septic System II
Appalachian Ranger District

1. Comment: Alternative technology to the proposed septic system such as vermicomposting with native worms, Clivis Multrum, or Sweet-smelling toilets should be considered to potentially eliminate the continued need for a drain field and to retain the facility at the current location.

1. Response: These alternative technologies were considered by our engineers and it was determined that technologies such as composting toilets would require higher maintenance costs than the proposed system. In addition, the proposed system is considered to be well suited to the site. The drain field was approved in Phase I of this project and was reviewed for impacts to the environment at that time.

2. Comment: Consider alternative technologies, such as Road Oyl or Resin Pavement, as alternative paving material to the traditional asphalt.

2. Response: Four types of paving materials were studied by our engineers. The results of these studies are shown in Sections 3.4, 3.5, and 3.6 in the Environmental Assessment.

3. Comment: Asphalt surfaces may produce toxic runoff, which could create microclimatic conditions and negatively impact surrounding biota. An impervious paved surface allows collection and concentration of petrochemicals from auto traffic that is then washed into the adjacent ecosystem with the first substantial rain.

3. Response: Gravel and paved roads shed about the same amount of runoff in any given rainstorm. The main difference is the quality of the runoff. The surface of gravel roads is a combination of both coarse stone and finely crushed rock the size of sand and silt. The fine particles will be eroded by raindrops and moved off the road by runoff. When this happens the gravel will be pushed farther into the surface thereby exposing more fines allowing more, small particle erosion. Any petrochemicals or other pollutants could be washed off the traffic surface either attached to fine particles or in solution in the runoff. This runoff will either infiltrate on the road edge or, if it reaches the ditch, will be deposited in the undisturbed soil adjacent the road. Runoff from paved roads will follow the same pathways as that from gravel roads, except that it will infiltrate more quickly since it is physically cleaner.

4. Comment: Recommend keeping the size of the bathroom facilities to a minimum and keeping these facilities as unobtrusive as possible. Size and design of the building are important considerations in retaining the integrity and character of Roan Mountain, where the natural resources, not the facility, should dominate.

4. Response: The size of the new building would not be any larger than 537 square feet which is the combined size of the existing buildings. Combining the bathroom and seasonal visitor information station at the location of the existing seasonal information station will not further intrude on the garden area and will not expand use beyond currently disturbed areas. The area would meet the characteristics of a “Rural” setting as defined by the Forest Plan. This is discussed further in Section 3.5 of the Environmental Assessment.