

USDA UNITED STATES DEPARTMENT OF
AGRICULTURE
Forest Service
Region 8
Caribbean

Land and Resource Management Plan for the Caribbean NF

[Environmental Impact Statement - Summary](#)

EIS Alternative Maps

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**A Summary
of the
Environmental Impact Statement
for the
Revised Land and Resource Management Plan**

**Caribbean National Forest
Luquillo Experimental Forest
Puerto Rico**



United States
Department of
Agriculture

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Palmer, PR 00721

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Caribbean National Forest Luquillo Experimental Forest

A Summary of the Environmental Impact Statement for the Revised Land and Resource Management Plan

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A Summary of the Environmental Impact Statement

Introduction

The Final Environmental Impact Statement (EIS) presents five alternatives for revising the Forest Plan for the Caribbean National Forest/Luquillo Experimental Forest. All alternatives are feasible ways of managing the Forest over the next 10 to 15 years. These alternatives were developed to address major public issues. This summary describes the alternatives and some major conclusions.

Purpose

The purpose of the Revised Forest Plan is to provide broad direction for the management of the land and resources of the Forest.

Need for Change

Since 1976, federal law (the National Forest Management Act) requires that each national forest be managed under a forest plan. Forest plans--or land management plans--direct all resource management activities in the national forests.

The Forest Plan for the Caribbean National Forest/Luquillo Experimental Forest was approved by Regional Forester John E. Alcock in February 1986. The Plan was subsequently appealed by 12 Puerto Rican and North American mainland environmental and outdoor recreation organizations.

After a prolonged attempt to resolve the questions raised in the appeals, Forest Service Chief F. Dale Robertson directed the Regional Forester to revise the Plan.

A Draft EIS and Proposed Revised Forest Plan were prepared and submitted to the public for review. The public comment period extended from March 17, 1995 to July 17, 1995. Comments received have been used to develop this Final EIS and Revised Plan.

Issues Guide the Revision

Significant public and agency concerns and appeal issues are reflected in the 9 issues that are guiding the direction of the Forest Plan Revision. The topics addressed by the issues are:

- Issue 1 Timber Demonstration
- Issue 2 Wilderness
- Issue 3: Wild and Scenic Rivers
- Issue 4: Primary Forest
- Issue 5 Recreation
- Issue 6 Wildlife
- Issue 7. Water
- Issue 8· Roads
- Issue 9 Research

In addition to these issues, the public has expressed concern about the effects of Hurricane Hugo on the Forest. The Interdisciplinary Team determined that these concerns could be best addressed by discussing effects on each of the Forest's resources. Effects and recovery since the hurricane in 1989 are presented in Chapter III of this EIS.

Background discussions of each of the issues follows.

**Issue 1
Timber
Demonstration**

**Timber
Demonstration
Controversial
Issue**

Throughout the planning process, the public has indicated that any proposal to cut trees on the Forest will be controversial. The demonstration of sustainable timber production would include cutting trees, and that makes it controversial.

Discussion of this issue often involves many technical terms not familiar to the general public. Definitions are provided in the box on page 4.

**Why Do
Timber
Demonstration?**

Most of the Forest is not suited for timber production because of steep slopes, unstable and/or unproductive soils. Primary forest has ecological, research and wildlife habitat values that are irreplaceable, at least with our current knowledge. The Forest could supply only an insignificant amount of the wood consumed in Puerto Rico. So the obvious question is, "Why even consider doing timber demonstration on the Forest?"

Technical Terms

Sustainable Timber Production	Wood grown and harvested at a rate and using techniques that can be sustained indefinitely into the future.
Demonstration	A technique or concept developed through research is applied on a small, usually less than economically efficient scale, so that the technology may be shared with other forest managers and the public.
Commercial Timber Sales	Designated trees on a specific area sold for harvest through an auction to the highest bidder.
Suitable	Land ecologically and economically suited to growing timber for commercial sale
MBF, MCF	Measures of wood volume, MBF is 1000 board feet--each board foot is 1 inch X 1 foot X 1 foot, MCF is 1000 cubic feet
Primary Forest	Tropical forests essentially unchanged by human intervention; the tropical equivalent of temperate forest old growth.
Secondary Forest	Forests that have been altered by human intervention. The term here refers both to partially cutover stands, and to acres that have been cleared and which have subsequently grown back naturally, or have been re-planted.
Silviculture	The art and science of growing trees for specified objectives; often the objective is wood production for lumber, paper or fuelwood, but objectives could include watershed protection or wildlife habitat improvement, etc
Liberation	Partial cutting of secondary stands designed to provide more growing room for trees with the best potential for future growth and value. As this technique will be applied on the Forest, no more than one third of the canopy forming trees would be removed in any one treatment. It is expected that the canopy would be at least as dense again within 15 years, and thinning would be repeated.
Timber Stand Improvement	Cutting vines and trees in young plantations or native secondary forest to promote the growth of trees with the best potential for growth and value

**Secondary Forests
- A Key to Tropical
Forest Protection
and Management**

Prior to 1930, much of the lower slopes of what is now the Caribbean National Forest was cleared for agriculture, or had its biggest, most valuable trees harvested. The same things are happening today to vast areas of tropical forests around the world.

Since the 1930's, Forest Service tree planting and natural regeneration have converted the cleared and cutover lands of the Forest to new secondary forest. Throughout the tropics the processes of re-growth on abandoned slash-and-burn farms, and partial logging of primary forests, make secondary forests an ever-larger proportion of the world's tropical forests. These secondary forests are generally viewed as having little or no economic value, and so are often cleared for livestock grazing, crop production, and other uses.

Silvicultural techniques developed on the Forest over 50 years of research and management experience demonstrate that highly valuable timber products can be produced in plantations and in secondary tropical forests with appropriate silvicultural treatments. These managed stands include plantations of non-native species such as mahogany, native stands including species such as tabonuco and ausubo, and mixed stands of native and non-native species.

The perception of value in secondary forests could be a powerful incentive to their management and protection, and help reduce or reverse tropical deforestation. Timber production in managed secondary forests could also help reduce exploitation pressures on primary forests, and help meet increasing future demand for wood.

**Sustainability
Key**

Most timber harvest of tropical forests is viewed as a sort of tree mining--one time only removal of commercially valuable trees from primary forests. Such use is inherently unsustainable. It is commonly recognized that sound economic development must be ecologically and socially sustainable.

The Forest can demonstrate, at a very small scale, sustainable timber production from secondary forests. Applied at larger scales in other tropical countries, sustainable timber production in secondary forests could contribute to economic development that encourages protection and management of forests.

Issue 2 Wilderness

Wildernesses are areas of national forests where natural processes are predominant, and where the presence and effects of humans manifestations are minimal. Wilderness, unlike other management areas, must be designated by Congress

The Forest currently has no designated Wilderness. Two roadless areas, potentially suitable for Wilderness, have been identified. Together they include 85% of the Forest.

Recommendation for Wilderness designation was considered a facet of the recreation issue in the 1986 Forest Plan. In response to public comment, Wilderness is considered a separate issue in this Plan revision process.

Designation of Wilderness on the Forest would be particularly significant because it would be the only tropical forest in the National Forest Wilderness System, and would contribute toward the national goal of a more diverse wilderness preservation system.

The 1986 Plan proposed that 5,254 acres of the 9,561 acre El Toro Roadless Area be allocated for further Wilderness study. Many comments from individuals and environmental groups have been received advocating the allocation of more area to Wilderness.

Some concern has also been expressed that wilderness designation would invite increased recreation use into areas of the Forest currently receiving very little visitation, and that this increased use could adversely affect primary forests.

Issue 3

Wild and Scenic Rivers

Wild and Scenic River designation preserves selected rivers or river sections in their natural, free-flowing condition. To be eligible for designation, rivers must possess outstandingly remarkable scenic, recreational or other natural values. Wild and Scenic River designation also requires Congressional action.

The Forest currently has no designated Wild, Scenic or Recreation Rivers. Sections of six of the Forest's rivers has been identified as suitable for Wild, Scenic or Recreation River designation.

Recommendations for Wild and Scenic Rivers designation was considered part of the Wilderness issue in the 1986 Forest Plan.

The Revised Plan provides an opportunity to consider river segments on the Forest for recommendation for Congressional designation as Wild, Scenic, or Recreation Rivers.

Issue 4

Primary Forests

Most of Puerto Rico was cleared for agriculture between 1500 and 1900. By the late 1930's less than 1% of the forests of Puerto Rico remained in their original, or "primary", condition. Primary refers to tropical forests essentially unchanged by human intervention--the tropical equivalent of temperate forest old growth. The largest block of such lands is in the Caribbean National Forest, an area of approximately 13,700 acres.

Public comment has revealed broad support for the protection of the Forest's unique ecosystems. Concern has been expressed that the primary forest might be adversely impacted by timber demonstration, recreation use and development, or road construction.

Another facet of this issue is the question of which Management Area(s) designations--Wilderness, Research Natural Area, or Primary Forest--and what standards and guidelines, would best protect primary forest.

Issue 5 Recreation

The Caribbean National Forest is one of the most popular recreation areas in Puerto Rico. The recreation opportunities provided by the Forest's picnic areas, scenic vistas, trails and streams are scarce valuable resources, just as are the Forest's biological wonders.

The population of Puerto Rico increased by 9% from 1980 to 1990
Tourist visitation of Puerto Rico increased by 71% from 1982 to 1990
The number of people visiting the Forest is estimated to have increased from 290,000 in 1975 to 635,000 in 1988

The Forest has the potential to provide more recreation opportunities
The Forest has a small amount of recreation site development in comparison to demand, and most sites are concentrated in a small part of the Forest. The results are overcrowding of favorite sites, traffic congestion and parking problems

The trail system is also limited in comparison to demand. Secure trailhead parking is lacking for most trails. This has limited recreation use of the Forest's trails and back-country. Nonetheless, trail hiking is a popular activity. The potential exists to offer more

Public comment has revealed the desire for more interpretation and environmental education, and for more developed recreation facilities for picnicking and water play. Concern has also been expressed that the development and increased use of recreation sites and trails may adversely impact the unique natural qualities of the Forest. Concern was expressed that trail construction would increase public access to parts of the Forest which currently receive minimal human disturbance, adversely affecting wildlife and primary forests

Issue 6 Wildlife

The 1986 Forest Plan identified a wildlife issue. Public comment has confirmed that the protection of the Forest's diverse wildlife and vegetation remains a concern of many individuals and organizations. Comments indicate that threatened, endangered and sensitive (TES) species, especially the endangered Puerto Rican Parrot, are particular concerns. The main focus of this issue is how timber demonstration, road and trail construction, recreation use and development, and research might affect these species.

The Interdisciplinary Team determined that effects on wildlife can be divided into physical habitat change, and disturbance. Disturbance extends beyond the area of physical change. Different species and even individuals vary in their reaction to disturbance by humans. The ID Team found that calculating the area of the Forest within 0.5 kilometers of roads and developments was a useful index of disturbance to compare alternatives.

Issue 7 Water

The municipalities surrounding the Forest, and many individual households near the Forest, get some or all of their water from Forest watersheds. It is expected that this demand will increase as population and water consumption increase in communities around the Forest.

The 1986 Forest Plan identified a water issue. Public comment has confirmed that any activity that could affect the quantity or quality of water flowing from the Forest remains a concern of many people. The effects of water consumption on the Forest's fish, shrimp and other aquatic life, is another facet of this issue. Consumptive use has the potential to affect aquatic life by reducing stream flow, and by impeding migration of aquatic organisms.

The Revised Plan presents an opportunity to address the need to balance consumptive use and aquatic ecosystem protection through the establishment of instream flows. Instream flow is water left flowing in a stream (not removed for human use or consumption) to protect values such as fisheries, visual quality, and recreation.

Issue 8 Roads

Many comments have been received which favor limiting new road construction. Opposition was expressed to the construction of the Sonadora Road, which would have connected PR 191 and PR 186 on the northwest side of the Forest. Many comments have been received opposing the reopening of PR 191 on the south side of the Forest. A number of commentors, particularly from the community of Naguabo, favor the re-opening of PR 191. These commentors believe through traffic on PR 191 would improve economic opportunity in their community, and make access to recreation facilities on the north side of the Forest easier for residents of south side communities. Additionally, commentors are concerned that road construction could contribute to soil erosion and stream sedimentation.

PR 191 crosses the Forest from north to south. It is the main route into the Forest and has the heaviest traffic of any road in the system. During the 1970's a section of the road was destroyed by landslides, closing it to through traffic. The Puerto Rico Department of Transportation and the U.S. Department of Transportation Federal Highway Administration have proposed projects to re-open PR 191. During 1991-92 a re-opening project was the subject of a suit by local and U.S. mainland environmental groups. The U.S. Federal District Court directed the USDOT Federal Highway Administration and/or USDA Forest Service to develop an environmental impact statement before proceeding with the re-opening project, or any related action.

Re-opening PR 191 is not proposed in any of the alternatives considered in this EIS. All alternatives in this EIS estimate effects based on Highway 191 in its current condition: closed from Km 13.3 to Km 21.0.

Issue 9 Research

Research conducted on the Caribbean National Forest (which is also the Luquillo Experimental Forest) has made a significant contribution to the management and conservation of tropical forests worldwide. With the current global concern for tropical deforestation, the role that the Forest can play in improving the understanding of tropical forests biology and management is more important than ever.

Public comment has demonstrated strong support in the scientific community and the general public for a continued research program on the Forest. Some concern has been expressed that treatment vs. control research (as opposed to strictly observational research) could adversely affect natural values, such as primary forest and wildlife. The scientific community has also expressed concern that management activities, such as recreation development, could adversely affect ongoing and potential future research.

Decisions to be Made

The Regional Forester makes decisions on the following policies and publishes them in a Record of Decision document at the conclusion of this revision effort

- Determination of the multiple-use goals, objectives, and desired future conditions for the Forest
- Allocation of the Forest to management areas, and determination of management area prescriptions
- Determination of standards and guidelines for management of the Forest.
- Identification of land that is suitable for timber production, and amount (if any) of commercial timber sale volume
- Determination of area(s) to be recommended for wilderness designation
- Determination of river segments to be recommended for Wild, Scenic, or Recreation designation
- Determination of monitoring and evaluation requirements

Public Involvement

The public is very involved in the revision of the Forest Plan. The Interdisciplinary Team analyzed public comments expressed in letters, meetings and appeals, and the concerns of other Forest Service professionals, to clarify issues and formulate alternatives.

The public has played a key role in helping decide how the Proposed Revised Plan responds to the issues, and what needs to be changed in the approved Revised Plan.

Alternative Ways to Manage the Forest

This section describes alternative ways that the Forest might be managed. The National Forest Management Act requires that each alternative be implementable and address major public issues. It also requires that one alternative continue current management direction into the future (Alternative A).

The alternatives were developed by an interdisciplinary team. The alternatives combine compatible ways of meeting the need to change management direction, and of addressing the significant issues. The alternatives are products of interaction among the public, various organizations, state and federal agencies, and the Forest Service.

Alternative A (Current Direction)

This alternative would continue the direction provided in the current (1986) Forest Plan. Under National Forest planning regulations for plan revisions, current Plan direction must be one of the alternatives considered. It would include the commercial timber sale program that was suspended after the current Plan was appealed.

Alternatives B, C, C-mod and D Respond to Need for Change

Alternatives B, C, C-mod and D each comprise an integrated set of proposed changes to the Forest Plan. They respond to the need for change and significant issues by:

- Reducing the amount of timber harvesting, and eliminating commercial sales
- Recommending more area for wilderness designation,
- Recommending stream segments for Wild/Scenic River designation,
- Providing increased protection for primary forest,
- Proposing different mixes of recreation opportunities,
- Providing specific protection measures for threatened and endangered species such as the Puerto Rican Parrot and their habitats,
- Providing increased protection of aquatic ecosystems
- Permitting less road and trail construction

Alternative B Alternative B would emphasize Wilderness designation, and increase recreation opportunities

Alternative C Alternative C would emphasize protection of primary forests, while providing for a mix of other uses including timber demonstration and recreation.

Alternative C-mod Alternative C-mod is similar to Alternative C, but incorporates modifications based on comments on the Draft EIS and Proposed Revised Forest Plan .

Alternative D Alternative D would emphasize primary forest protection and research, while providing for modest levels of other uses including timber demonstration and recreation.

Alternative Eliminated from Detailed Study The ID Team considered the possibility of developing a "custodial" management alternative. This alternative would maintain the Forest as it exists now. No new recreation sites, trailheads, roads, or trails would be constructed. Existing facilities would be maintained, but not enlarged or improved. No areas would be recommended for wilderness designation. No rivers would be recommended for wild/scenic designation. No timber demonstration program would be developed. The ID Team concluded that this alternative did not satisfactorily address enough of the need for change and significant issues to merit detailed study

The Preferred Alternative Alternative C-mod has been identified as the Forest Service selected alternative in this environmental impact statement. The selected alternative is defined as being the one that the Forest Service identifies as maximizing net public benefits and best accomplishing the mission of managing the Forest

As the selected alternative, Alternative C-mod has been developed into the Revised Forest Plan and has been sent to the public, organizations, and agencies.

Comparison of Alternatives

This section compares the 5 alternatives. The information presented here is intended to highlight the major differences among the alternatives.

Table 1 displays how much land would be allocated to the different management areas in each alternative. Table 2 provides a brief summary of how the alternatives respond to each of the issues. Following Table 2 are discussions, tables and charts that display key comparisons in more detail.

Table 1: Management Area Acreages

Alternatives B, C, C-mod and D respond to the "need for change" by increasing management areas with emphasis on protection, and by decreasing management areas with emphasis on use.

Management Area	Description	Acres by Alternatives				
		A	B	C	C-mod	D*
1	Administrative Sites	0	334	320	204	204
2	Developed Recreation	1,290	2,514	865	1,158	843
3	Communication Sites	70	44	80	196	80
4**	Integrated	0	5,150	8,420	6,216	8,390
5	Wilderness	3,688	16,892	10,363	10,363	3,295
6	Research	3,714	784	1,450	919	1,450
7	Research Natural Area(RNA)	3,508	2,172	5,146	6,372	5,086
8**	Timber Demonstration	0	0	0	1,167	0
9	Scenic/Recreation River Corridor	0	0	0	1,295	0
10	Dispersed Recreation	8,140	0	0	0	0
11	Timber Management	7,480	0	0	0	0
12	Primary Forest	0	0	1,246	0	1,412
5/7*	Wilderness / (RNA)	0	0	0	0	1,430
5/12*	Wilderness / Primary Forest	0	0	0	0	5,700
TOTAL		27,890	27,890	27,890	27,890	27,890

** Alternative D includes areas with dual management area (MA) allocations*

*** Alternatives C and D would allocate 1,500 acres with Management Area 4 to the demonstration of sustainable timber production. In Alternative C-mod timber demonstration would occur in MA 8 (Timber Demonstration) Alternative B would not demonstrate sustainable timber production. Only Alternative A would include commercial timber sales.*

Table 2. Alternative Comparison Summary							
Outputs/Effects	Unit*	Existing**	(Average Annual Unless Otherwise Noted)				
			Alternatives				
			A	B	C	C-mod	D
Issue 1 - Timber Demonstration							
Timber Demonstration							
Commercial Sales	Yes/No	No	Yes	No	No	No	No
Area Classified Suitable	Acres	5,833	5,833	0	0	0	0
Sustainable Timber Production Demonstrated	Yes/No	No	Yes	No	Yes	Yes	Yes
Total Area Allocated to Demonstration of Sustainability	Acres	5,833	5,833	0	1,500	1,167	1,500
Timber Demonstration Treatments (First Decade)	Acres/Yr.	0	257	0	22	22	22
Issue 2 - Wilderness							
Area Recommended for Designation	Acres	0	3,688	16,892	10,363	10,363	10,425
Percent of Forest Recommended	Percent	0	13	60	37	37	37
Issue 3 - Wild/Scenic Rivers							
Segments Recommended Wild	Number	0	0	4	1	1	0
Segments Recommended Scenic	Number	0	0	4	3	3	2
Segments Recommended Recreation	Number	0	0	4	2	2	1
Issue 4 - Primary Forest							
Percent of Primary Forest Allocated to Wilderness, RNA and Primary Forest MA's	Percent	45	45	95	100	100	100
New Trail Construction in Primary Forest	Miles	5.3	6.4	4.4	0	0	0
Trail Reconstruction in Primary Forest	Miles		2.5	2.5	2.5	2.5	0
* Units: PAOT means people at one time, a measure of recreation site capacity; Ac Ft./Yr. means acre feet per year, a measure of streamflow							
** Existing: Refers to actual conditions or features of the Forest at the time of the writing of this Final Environmental Impact Statement. For example, there are currently 50 miles of roads on the Forest, and 24.3 miles of trails							

Table 2 - Alternative Comparison Summary							
Outputs/Effects	Unit*	Existing**	(Average Annual Unless Otherwise Noted)				
			Alternatives				
			A	B	C	C-mod	D
Issue 5 - Recreation							
Recreation Facilities							
Interpretation	No.	3	4	10	9	9	8
	PAOT	60	860	1080	1020	1020	990
Picnic	No.	4	9	9	7	7	6
	PAOT	600	1904	1704	1534	1534	1470
Observation	No	9	7	9	9	9	9
	PAOT	290	265	290	290	290	290
Camping	No	0	4	2	1	1	1
	PAOT	0	160	52	40	40	40
Trailheads	No.	3	4	12	10	10	9
	PAOT	136	93	188	160	160	140
Trail Construction (Total in 50 Yrs)	Miles	24	15	16	7	10	7
Trail Reconstruction (Total in 50 Yrs)	Miles		8	8	7	7	4
Issue 6 - Wildlife							
Habitat Modified by Timber Harvest, Recreation and Other Development	Percent of Forest	1	23	4	6	5	6
Area of Forest within 1/2 Km of Roads, Trails and Other Development.	Percent of Forest	49	68	70	52	52	52
Issue 7 - Watershed							
Municipal Watershed Designation	Yes/No	No	No	Yes	Yes	No	Yes
Water Yield	Ac Ft./Yr		226,000	226,000	226,000	226,000	226,000
Sediment Delivery from Timber Harvest, Road and Trail Construction, Recreation Development	Tons/Yr Decade 1 Decade 5		648	87	125	128	123
			664	0	162	104	162
Issue 8 - Road Construction							
Total for Timber Demonstration	Miles		22	0	2	2	2
Total for Recreation	Miles		1	1	1	1	1
Total for General Access	Miles		2	0	0	0	0
Total for all uses	Miles	50	25	1	3	3	3
Issue 9 - Research							
Research Natural Areas	Acres	3,508	3,508	2,172	5,146	6,372	6,516
Management Areas Where Treatment vs. Control Research Is Permitted	Acres	11,194	11,194	5,934	9,870	9,793	9,840

Issue 1. Timber Demonstration

Alternative A

Alternative A would continue the direction of the current (1986) Forest Plan. This plan was appealed, and the timber demonstration program was a significant point in the appeal. Pending resolution of the appeal, the Regional Forester directed the Forest not to implement this program.

Sustainable timber production would be demonstrated on about 5,800 acres (21% of the Forest). Timber harvest would be accomplished through commercial sales. Approximately 257 acres of secondary forest would be partially cut per year during the first decade. These acreages and the resulting volumes would gradually increase after the 10th year, as these secondary forests become more mature with larger trees.

Alternative B

Alternative B would not demonstrate sustainable timber production. It would provide small roadside areas demonstrating techniques and concepts for timber production that have been developed on the Forest over 50 years of research. A total of 120 acres would be used to demonstrate and interpret primary forest vs. secondary forest, successful reforestation, and silvicultural techniques.

Alternatives C and D

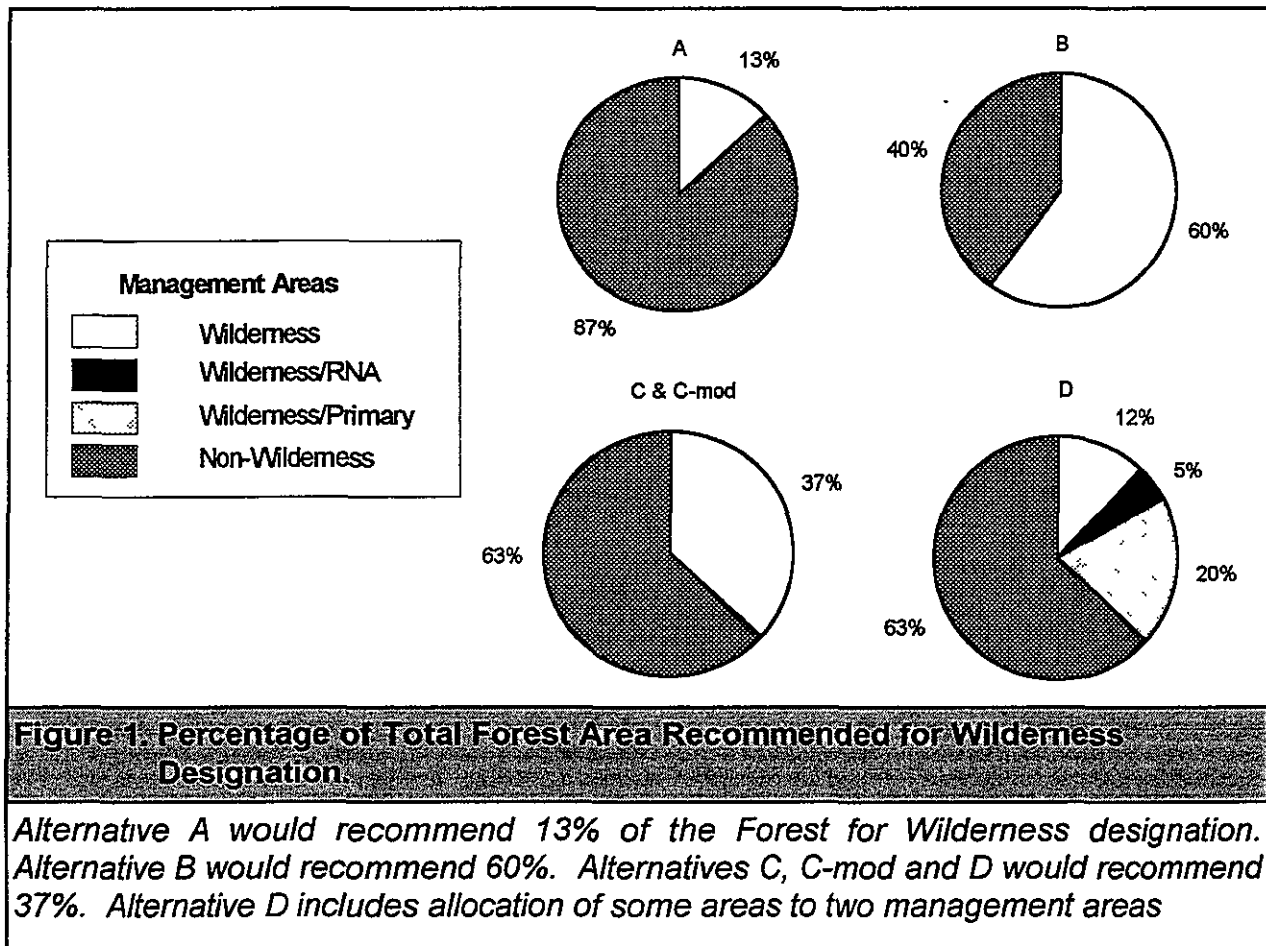
These alternatives would include a scaled down demonstration of sustainable timber production, and the roadside demonstration areas of Alternative B. An area of 1,500 acres (about 5% of the Forest) would be used to demonstrate sustainability.

Commercial sales would not be used to accomplish timber harvest. Timber harvested would be administratively transferred to the Puerto Rico Department of Natural and Environmental Resources (DNER) for milling. The Forest would work with DNER and other Commonwealth agencies to use the wood produced to stimulate the development of local artisan and wood craft businesses.

Alternative C-mod

Alternative C-mod is similar to alternative C, but would allocate 1,167 acres (4% of the Forest) to the demonstration of sustainable timber production.

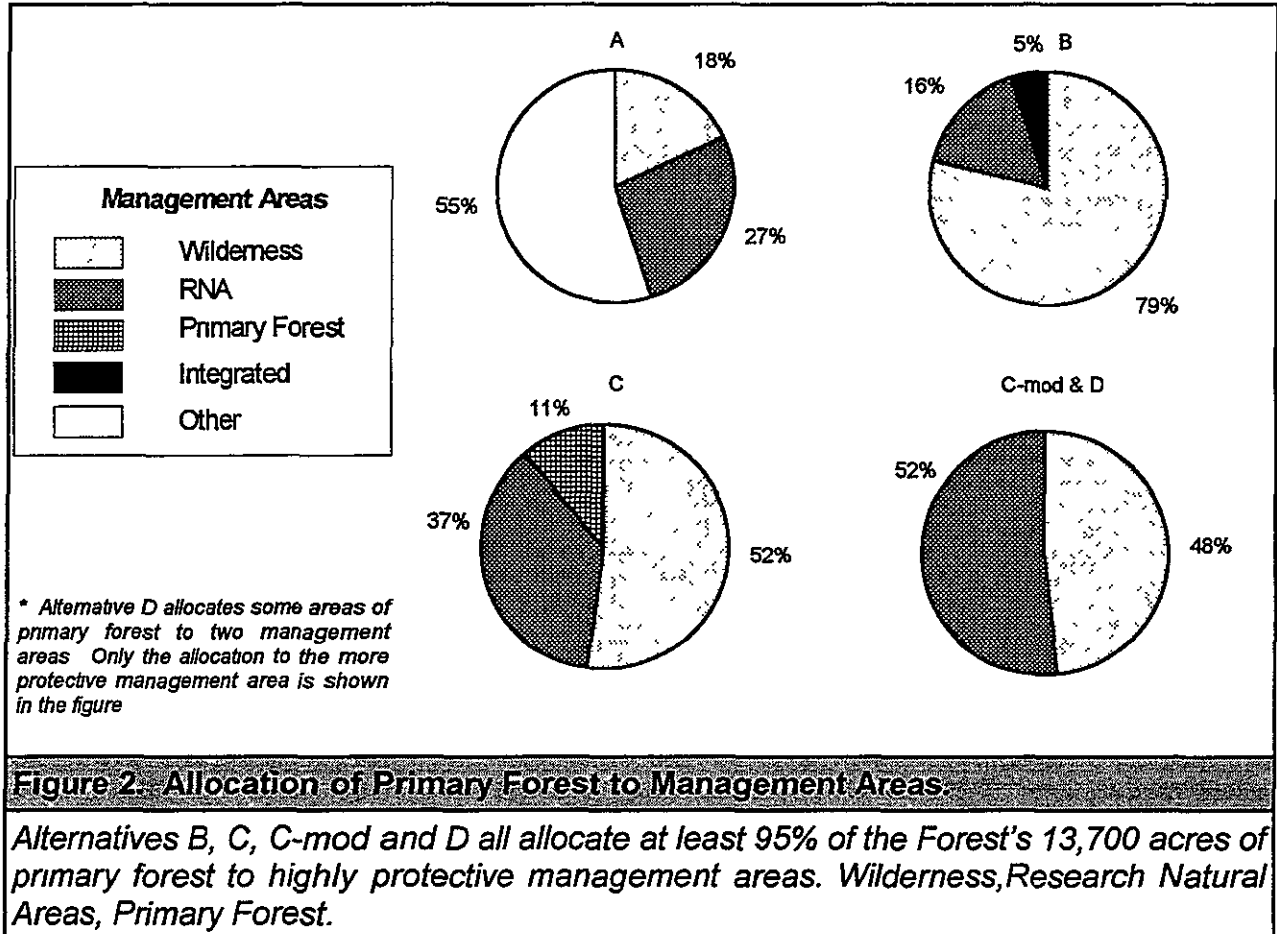
Issue 2. Wilderness



Issue 3. Wild and Scenic Rivers

Table 3. Wild, Scenic and Recreation River Recommendations						
<i>Alternative B recommends all eligible river segments for designation. Alternative A recommends none. Alternatives C, C-mod and D recommend some of the eligible segments.</i>						
River	Eligible Segment	Length Miles	Alternative			
			A	B	C & C-mod	D
Río Espiritu Santo/ Quebrada Sonadora	Wild	2.9		X		
	Scenic	0.8		X		
	Recreation	2.2		X		
Río Mameyes	Wild	2.1		X	X	
	Scenic	1.4		X	X	X
	Recreation	0.9		X	X	X
Río de la Mina	Scenic	1.2		X	X	
	Recreation	0.9		X	X	
Río Fajardo	Wild	3.4		X		
Río Icacos	Scenic	2.3		X	X	X
Río Sabana	Wild	2.3		X		
	Recreation	0.3		X		

Issue 4. Primary Forest



Issue 5. Recreation

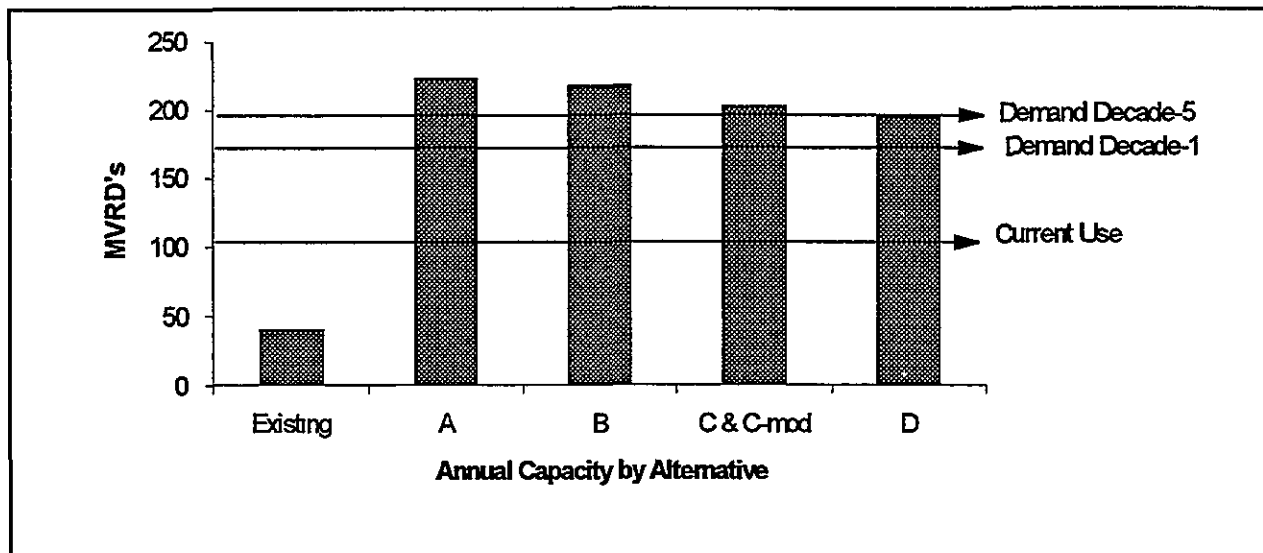


Figure 3a. Developed Recreation Supply vs. Demand.

Demand for developed recreation far exceeds existing capacity. Alternatives will increase developed recreation capacity by expanding parking at existing facilities, and by building new facilities. Demand is much greater than current use because a shortage of developed facilities is suppressing demand. Once facilities are expanded, more developed recreation use is expected.

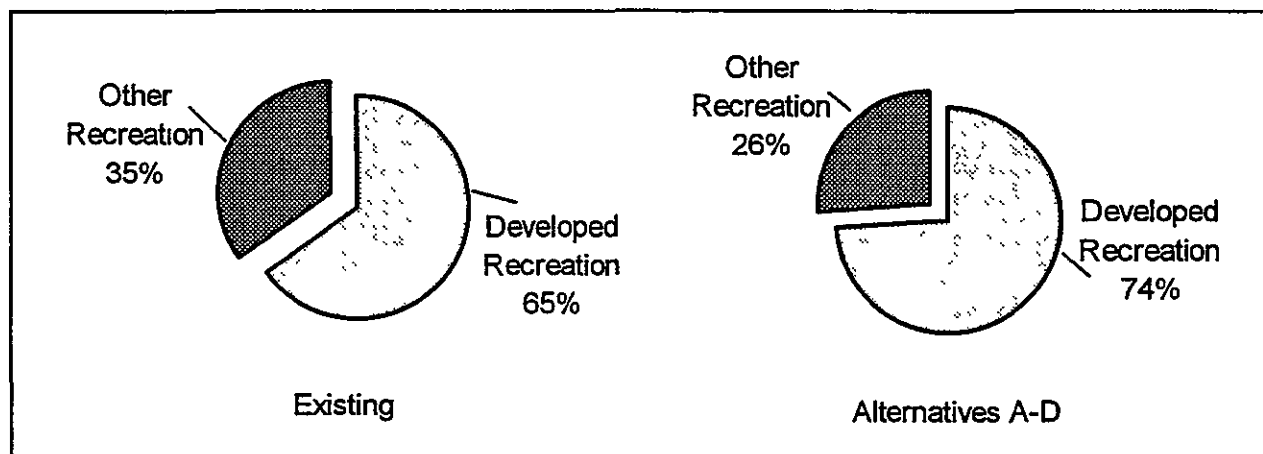


Figure 3b. Developed Recreation's Contribution to Total Recreation Use.

Developed sites currently receive 65% of total recreation use on the Forest. This proportion will increase under all alternatives to about 74% because of the increased capacity provided by El Portal Tropical Forest Center, and the conversion of some heavily used undeveloped sites to developed sites.

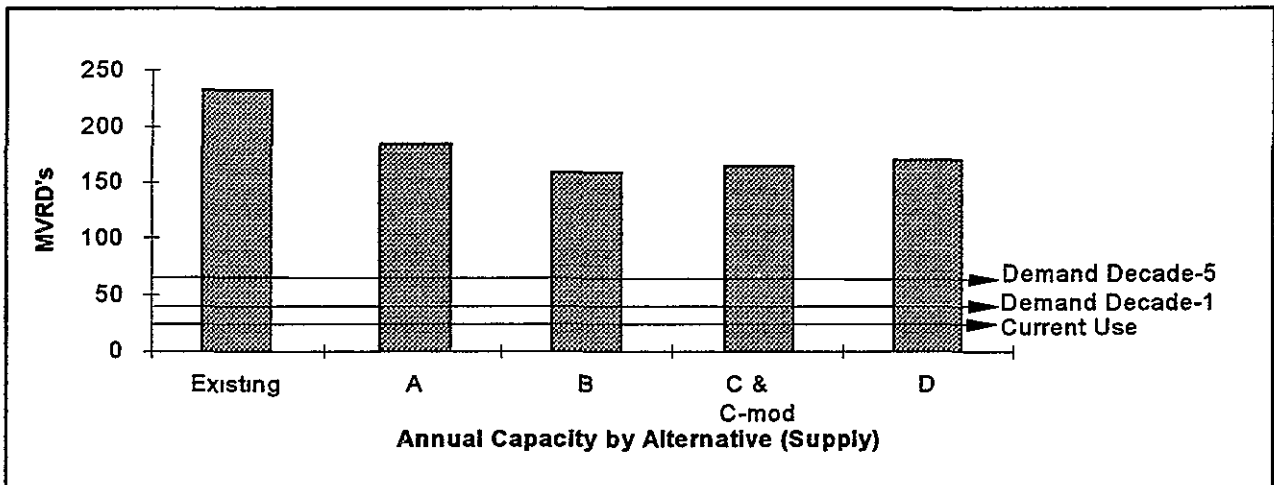


Figure 4a- Roded Undeveloped Recreation Supply vs- Demand.

The Forest's capacity to provide roded undeveloped recreation — scenic driving, bus touring, roadside picnicking and water play — far exceeds demand. However, capacity is regularly exceeded at popular spots such as Puente Roto. Crowding, chaotic parking and traffic jams result. All alternatives reduce roded undeveloped supply by providing development where concentrated use indicates a demand for it.

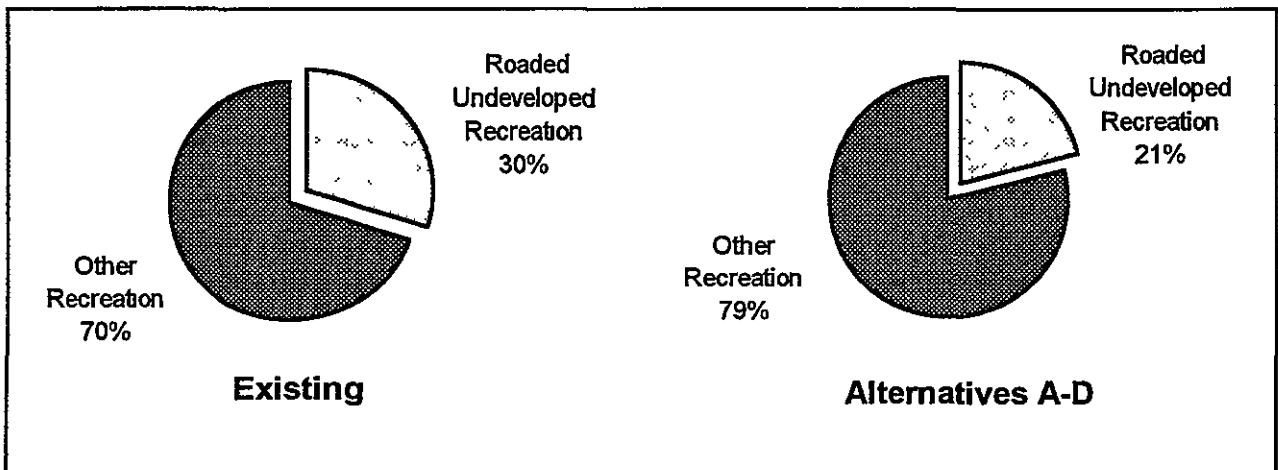


Figure 4b. Roded Undeveloped's Contribution to Total Recreation Use.

Roded undeveloped areas currently receive 30% of total recreation use on the Forest. This will decrease to about 24% under all alternatives as undeveloped sites, such as Puente Roto, are developed.

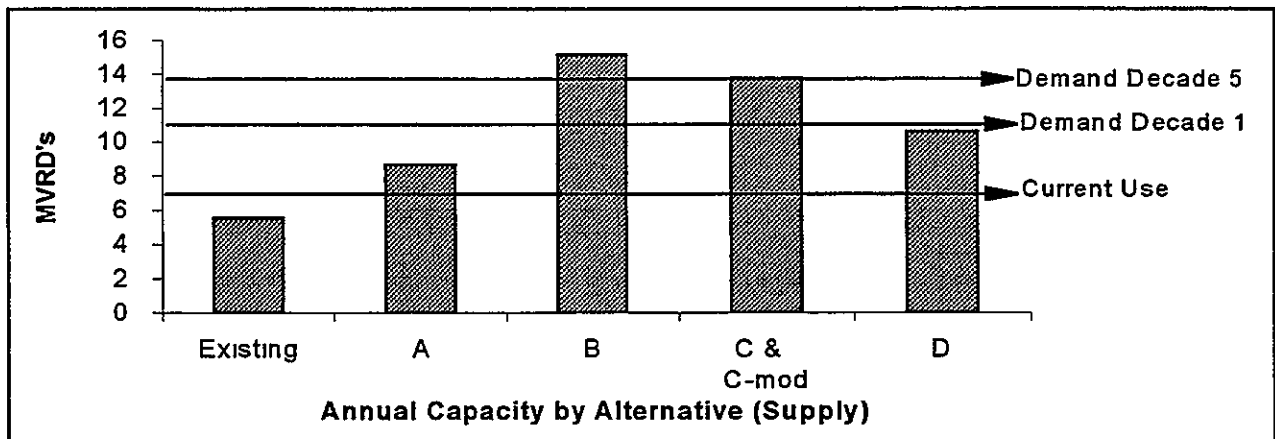


Figure 5a: Back-Country Recreation Supply vs. Demand.

This type of recreation opportunity is very limited in Puerto Rico outside the Forest.

Demand is greater than current use because lack of facilities—safe trailhead parking, trail information, and a trail network with a range of hiking experiences—is suppressing demand. Back-country use will increase in response to improved facilities, the attraction of more potential users by El Portal Tropical Forest Center, and the rising global interest in nature-based tourism.

Alternative B provides the most back-country recreation with its large Wilderness allocation and greater amount of trail construction. All alternatives increase supply by providing trailheads and improved parking for trails that access the Forest's back-country. Alternative D provides fewer trails and trailheads than Alternatives B, C and C-mod, therefore supplying less back-country recreation.

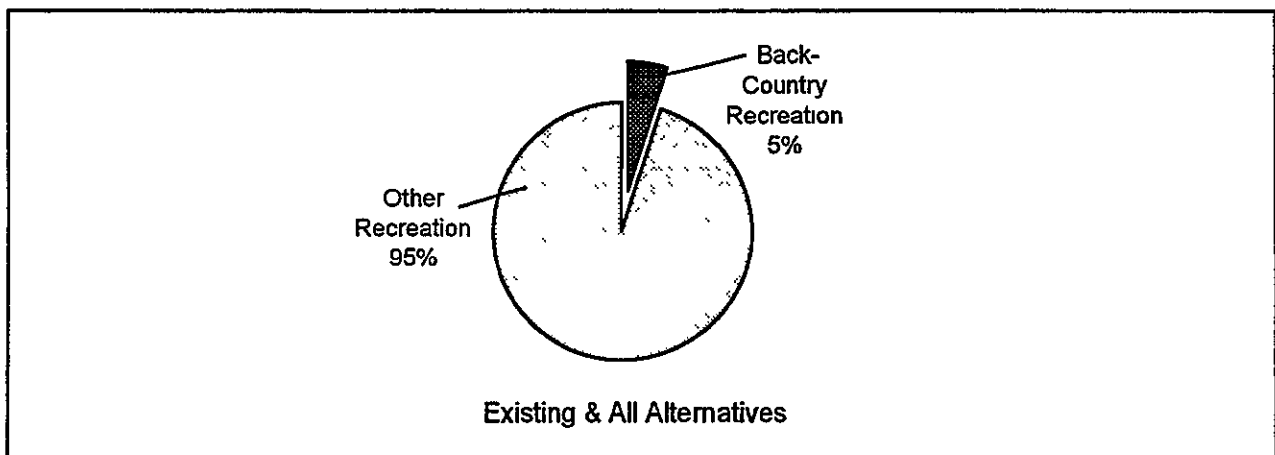
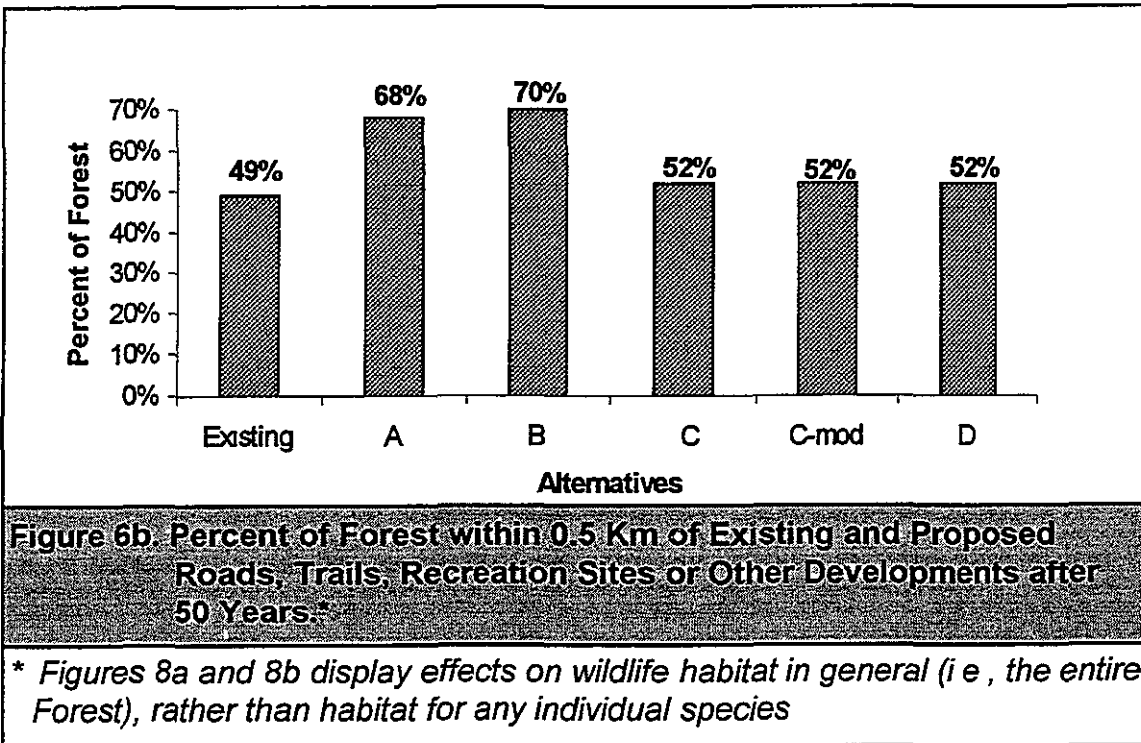
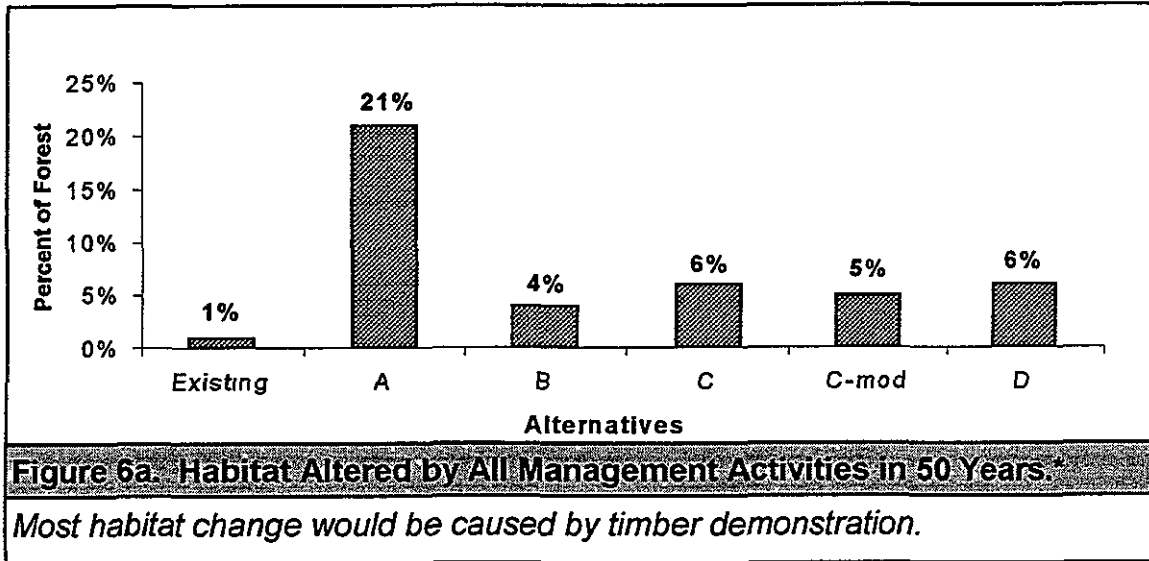


Figure 5b: Back-Country's Contribution to Total Recreation Use.

The Forest's back-country currently receives only about 5% of total recreation use. This proportion is not expected to change under any of the alternatives.

Issue 6. Wildlife



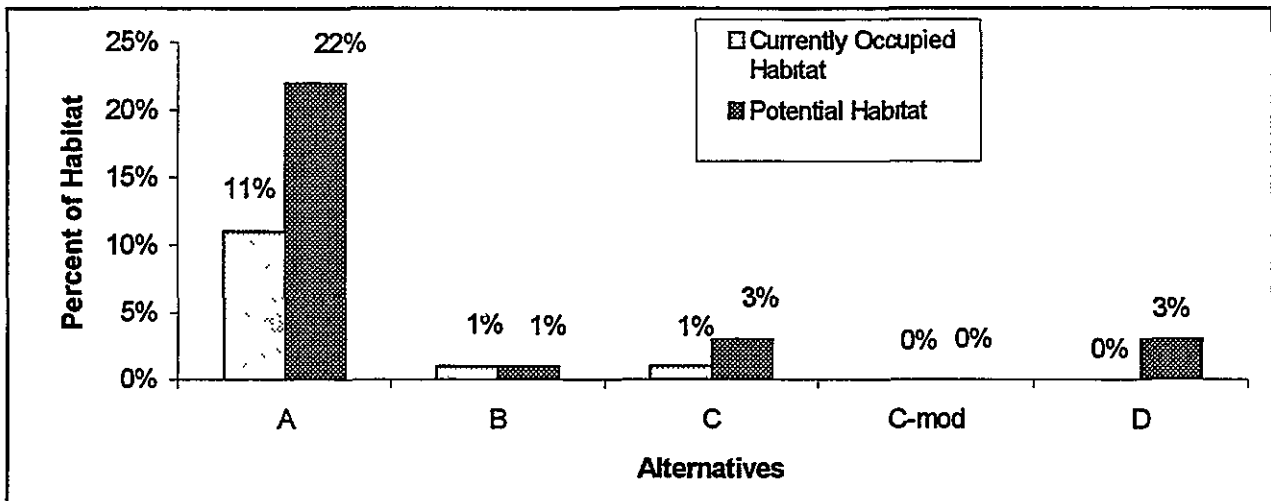


Figure 7a. Puerto Rican Parrot Habitat Altered by All Management Activities in 50 Years.

Alternative A would change more occupied and potential Puerto Rico Parrot habitat than the other alternatives, because of its larger sustainable timber production demonstration program.

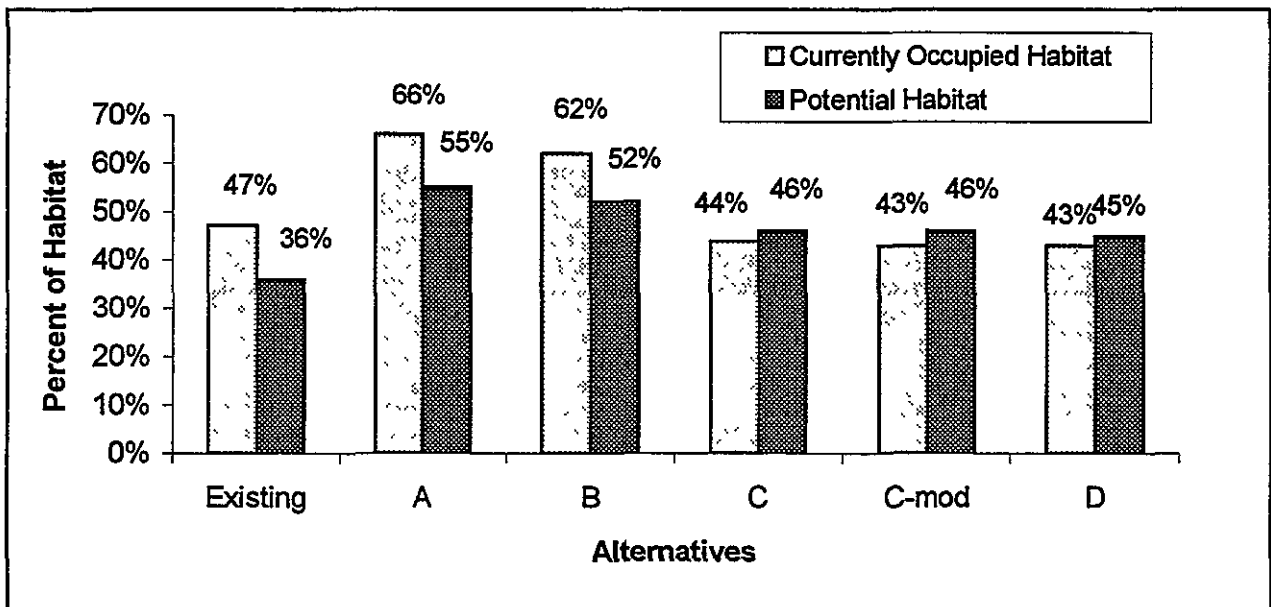


Figure 7b. Puerto Rican Parrot Habitat within 0.5 Km of Existing and Proposed Roads, Trails, Recreation Sites or Other Developments after 50 Years.

Alternatives A and B propose new trails within currently occupied Puerto Rican Parrot habitat; Alternatives C and D do not. All alternatives propose some new trail construction in potential habitat.

More Information



If you have specific questions, or would like more information than is provided in this summary, write or call the Forest Planner at:

Caribbean National Forest
Forest Plan Revision Team
PO Box 490
Palmer, PR 00721

(787) 888-1880

You may mail this page to request copies of the full Environmental Impact Statement, Revised Forest Plan, or Alternative Management Area Maps. Check off the document you need, provide the needed information on opposite side of this sheet, then cut on dotted line. Then fold and mail request.

English	Spanish
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<input type="checkbox"/>	<input type="checkbox"/> Environmental Impact Statement
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<input type="checkbox"/>	<input type="checkbox"/> Revised Forest Plan
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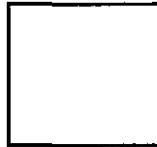
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Forest Plan Revision Team
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BOSQUE NACIONAL
DEL CARIBE
BOSQUE EXPERIMENTAL
DE LUQUILLO
PUERTO RICO
REVISIÓN DEL PLAN FORESTAL
ALTERNATIVA C-MOD
Declaración de Impactos Ambientales

LEYENDA

LEGEND

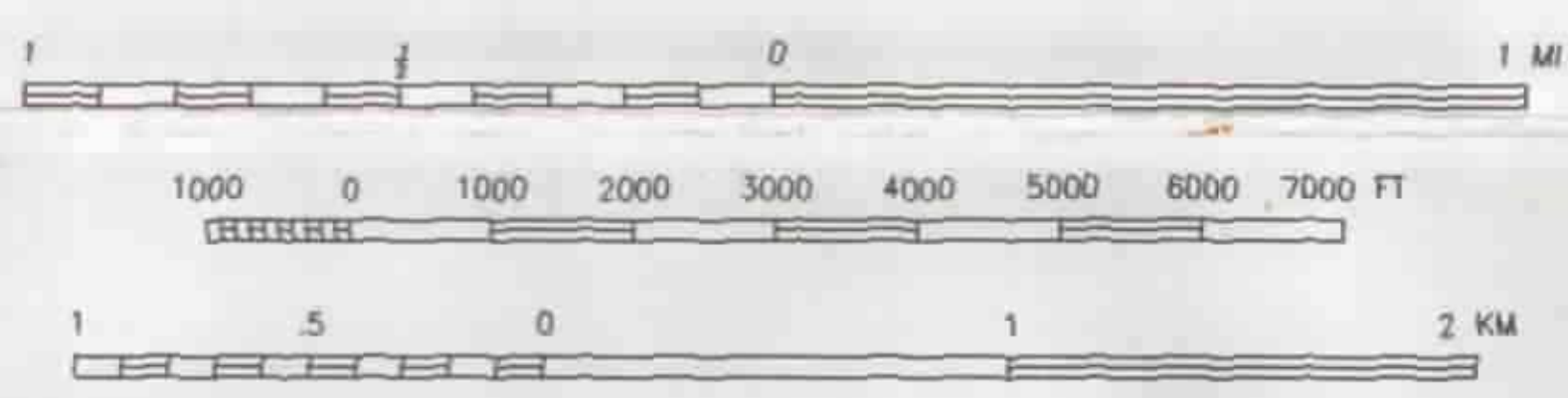
- | | | |
|--|--|--------------------------------|
| Terrenos Privados Dentro de los Límites del Bosque | | Private Land Inside Forest Bdy |
| Area de Manejo | | Management Area |
| Límite del Bosque Nacional | | National Forest Boundary |
| Camino Principal de Acceso al Bosque | | Major Forest Access Road |
| Camino de Uso Administrativo | | Administrative Road |
| Vereda Actual | | Existing Trail |

River Segments Recommended for Wild, Scenic, or Recreation Designation

Secciones de Ríos Recomendadas para la Designación del Río Silvestre, Panorámico, o Recreativo

- | | | |
|------------|--|------------|
| Silvestre | | Wild |
| Panorámico | | Scenic |
| Recreativo | | Recreation |

SCALE BAR



MANAGEMENT AREA DESCRIPTIONS

Management Area 1 - Administrative Sites

Areas totaling 204 acres occupied by El Portal Tropical Forest Center, Catalina Work Station, and other Forest Service administrative facilities.

Management Area 2 - Developed Recreation

Areas totaling 1,158 acres where emphasis is on developed recreation sites—picnic grounds, trailhead parking, de-centralized interpretive facilities.

Management Area 3 - Communication Sites

Areas totaling 196 acres on El Yunque Peak and East Peak used for communication facilities, associated access roads, and electrical transmission lines. Actual area under special use permits for communication sites is 31 acres.

Management Area 4 - Integrated

Areas totaling 6,216 acres where dispersed recreation and research are emphasized.

Management Area 5 - Wilderness

Area of 10,363 acres proposed for wilderness designation.

Management Area 6 - Research

Areas totaling 919 acres where research, including long-term watershed studies, and treatment/control studies, is emphasized.

Management Area 7 - Research Natural Area

Existing and proposed expansion of the Baño de Oro Research Natural Area totaling 6,372 acres; maintained in undisturbed condition for current and future non-manipulative research.

Management Area 8 - Timber Demonstration

Areas totaling 1,167 acres where sustainable production of timber is demonstrated.

Management Area 9 - Wild/Scenic/Recreation River Corridors

Areas totaling 1,295 acres which are managed to protect Wild, Scenic, and Recreation Rivers.

DESCRIPCIÓN de las AREAS de MANEJO

Area de Manejo 1 - Sitios Administrativos

Esta área consiste de 204 acres ocupados por El Portal Tropical Forest Center y la Estación de Trabajo Catalina, y otras instalaciones administrativas del Servicio Forestal.

Area de Manejo 2 - Recreación Desarrollada

Esta área consiste de un total de 1,158 acres, donde se da énfasis a los sitios de recreación desarrollada - sitios de picnic, estacionamientos en las cabeceras de las veredas, e instalaciones descentralizadas de interpretación.

Area de Manejo 3 - Sitios de Comunicación

Esta área consiste de un total de 196 acres en el Pico de El Yunque y el Pico del Este, que se usa para las instalaciones de comunicación, los caminos de acceso que les pertenecen, y las líneas de electricidad que les dan servicio. La área actual bajo permiso especial es de 31 acres.

Area de Manejo 4 - Integrada

Esta área consiste de 6,216 acres dedicados a la recreación, y a la investigación.

Area de Manejo 5 - Área Silvestre

Esta área consiste de 10,363 acres propuestos para la designación de área silvestre.

Area de Manejo 6 - Investigación

Esta área consiste de 919 acres, donde se da énfasis a la investigación, y a los estudios de largo plazo de la cuenca, además de los estudios de tratamiento y control.

Area de Manejo 7 - Área Natural de Investigación

Esta área abarca un total de 6,372 acres pertenecientes a la Área de Investigación Natural Baño de Oro, tanto actual como propuesta, que se mantienen en una condición prístina para los fines de la investigación actual y futura.

Area de Manejo 8 - Demostrada de Madera

Esta área abarca un total de 1,167 acres donde la producción sostenible de madera está demostrada.

Area de Manejo 9 - Corredores de Ríos Silvestres/Panorámicos/Recreacionales

Esta área abarca un total de 1,295 acres donde se da énfasis a la protección de Ríos Silvestres, Panorámicos y Recreacionales.

CARIBBEAN
NATIONAL FOREST
LUQUILLO EXPERIMENTAL FOREST
PUERTO RICO
REVISED FOREST PLAN
ALTERNATIVE C-MOD
Environmental Impact Statement

KEY HABITATS, TIMBER DEMONSTRATION
AND RECREATION DEVELOPMENT
ALTERNATIVE C-MOD

HABITATS CLAVES, DEMOSTRACIÓN DE MADERA,
Y DESARROLLO DE LOS SITIOS DE RECREACIÓN
ALTERNATIVA C-MOD

LEYENDA

LEGEND

- | | |
|--|---------------------------------|
| Terreno Privado Dentro de los Límites del Bosque | Private Land Inside Forest Bdy. |
| Hábitat Ocupado por la Cotorra Puertorriqueña | Occupied Parrot Habitat |
| Bosque Primario | Primary Forest |
| Demostración de Madera | Timber Demonstration |
| Camino Principal de Acceso al Bosque | Major Forest Access Road |
| Camino Administrativo | Administrative Road |
| Vereda Actual | Existing Trail |
| Construcción de Vereda Nueva | New Trail Construction |
| Re-construcción de Vereda Actual | Trail Re-Construction |
| Sitio de Recreación Actual | Existing Recreation Site |
| Sitio Nuevo de Recreación | New Recreation Site |
| Cabecera Actual de Vereda | Existing Trailhead |
| Construcción de Nueva Cabecera de Vereda | New Trailhead Construction |



SCALE 1:24000



SITIOS NUEVOS DE RECREACIÓN
NEW RECREATION SITES

- | | | |
|------------------------------|---------------------------------|-----------------------|
| 1 Dwarf Forest Interp | 8 Rio Chiquito Picnic | 15 Sabana Group Camp |
| 2 El Portal Interp | 10 Rio Cubuy Interp | 17 Stone House Interp |
| 3 El Yunque Pavillion Interp | 13 Rio Sabana/Rio Blanco Picnic | 18 Tabonuco Interp |
| 4 Puente Roto Picnic | | 19 Jiménez |

VEREDAS NUEVAS
NEW TRAILS

- | | | |
|-------------------------------|--------------------|------------------------------|
| 2 Caimitillo/La Coca Loop/Tie | 10 Rio Camandulas | 18 Rio Mameyes |
| 3 El Negro | 13 Rio del Cristal | 21 El Yunque/Roca Yunque Tie |
| 6 Grand Loop | 16 Rio Grande Loop | 22 Icacos |
| 8 Mt Britton Tie | | |

**Record of Decision
Final Environmental Impact Statement
for the
Revised Land and Resource Management Plan**

**Caribbean National Forest
Luquillo Experimental Forest
Puerto Rico**



United States
Department of
Agriculture

Forest Service
Southern
Region
1997

Caribbean National Forest
PO Box 490
Palmer, PR 00721

1997

Management Bulletin R8-MB 80H

**Caribbean National Forest
Luquillo Experimental Forest
Record of Decision
Final Environmental Impact Statement
for the
Revised Land and Resource Management Plan**

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Section I

Introduction

This Record of Decision (ROD) documents the basis and rationale for my decision to select Alternative C-mod, as the Revised Land and Resource Management Plan (Revised Plan) for the Caribbean National Forest/Luquillo Experimental Forest (Forest). Alternative C-mod is a modification of Alternative C, which was identified as the preferred alternative in the Draft Environmental Impact Statement (DEIS). The ROD presents my reasons for selecting Alternative C-mod to be the Revised Plan for approximately 28,000 acres of the Forest administered by the Supervisor's Office near Palmer, Puerto Rico. In making this decision I considered the environmental, social, and economic consequences of the alternatives disclosed in the Final EIS.

Purpose and Need to Revise

The purpose and need for the Revised Plan for the Forest is to provide a new framework or strategy for future site-specific decisions that maximizes net public benefits and accomplishes the USDA Forest Service mission.

The National Forest Management Act (NFMA) of 1976 requires each National Forest be managed under a Forest Plan. Forest Plans direct all resource management activities in the National Forests. NFMA also requires Plans to be reviewed every five years and revised "from time to time when the Secretary finds conditions in a unit have significantly changed, but at least every 15 years" (36 CFR 219.10 [g]). A Plan may be revised sooner if circumstances warrant. A formal review of monitoring and evaluation findings (See Plan Chapter 5) is required at least every five years to determine if resource conditions and issues and concerns have changed significantly enough to require change in management direction, further amendments, or revisions.

The Forest Plan for the Caribbean National Forest/Luquillo Experimental Forest (the Forest) was approved by Regional Forester John E. Alcock in February 1986. The Plan was subsequently appealed by 12 Puerto Rican and North American mainland environmental and outdoor recreation organizations.

Regional Forester Alcock directed the Forest to attempt to resolve the appeals through amendment of the Plan. From 1986 through 1991 two draft supplements to the plan were released for public comment.

In 1991 an analysis of the management situation (AMS) on the Forest indicated it was more appropriate to address the issues raised in the appeal through a revision, rather than amendment. Forest Service Chief F. Dale Robertson authorized a plan revision for the Forest on September 6, 1991. The reasons to revise rather than amend are:

- The AMS indicated the need to consider substantial change in existing Plan direction.
- The Forest would need to do a required plan revision beginning about 1996, even if a significant amendment were completed in 1991. Beginning the revision in 1991 was more efficient, and made better use of public comment received since 1986.

Authority to Plan and Revise

The CNF/LEF Revised Plan and EIS were prepared under the authority of the Multiple-Use Sustained-Yield Act (MUSYA) (16 U.S.C. 528-531), the Forest and Rangeland Renewable Resource Planning Act of 1974 (RPA), as amended by the National Forest Management Act (NFMA) (16 U.S.C. 1601-1614), the implementing code of Federal Regulations of NFMA (36 CFR Part 219), and the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321-4335) and its implementing regulations (40 CFR Parts 1500-1508).

What a Forest Plan Is

The Revised Plan is the product of a comprehensive notice and comment process established by the RPA and NFMA for management of the National Forest System lands in an environmentally sound manner to produce goods and services. The Revised Plan establishes a framework for future decision making by outlining broad general multiple-use programs, projections, or targets for achieving multiple-use goals and objectives. Information regarding outputs and effects beyond the first 10 to 15-year period is provided only to broadly indicate the anticipated consequences if continued into the future.

The Revised Plan is a strategy for applying general management practices at various intensities to land areas to achieve multiple-use goals and objectives in the most cost-efficient manner. To respond to changing needs and opportunities, Congressional land designations, catastrophic events, or major new management or production technologies, the Plan may have to be amended or revised. If there is a significant change to the Plan, it must be altered by a procedure identical to that used in developing and approving the original Plan. If changes are not significant, the Forest Supervisor may amend the Plan by less extensive procedures which would still include public participation.

All Forest management activities, many of which are interdependent, may be affected by annual budgets and other events like legislation or policy changes. If changes from the projected budget for any given year covered by the Revised Plan occur, projects proposed in the Revised Plan may have to be postponed. However, the goals and objectives in the Revised Plan would not change unless and until the Revised Plan was amended or revised.

Site-specific analyses are performed during Revised Plan implementation, when the various projects are proposed. Due to these analyses, significant changes may be required resulting in amendments or revision to the Revised Plan. Any resulting documents are to be tiered to the EIS for this Revised Plan, and other appropriate Regional EIS's, pursuant to 40 CFR 1508.28.

The Revised Plan replaces the previous Land and Resource Management Plan prepared for the Forest subject to existing rights, contracts, and specific direction established by law for special areas like wilderness, archeological sites, or national trails.

Affected Area

The Forest is located in the rugged Sierra de Luquillo Mountains, 25 miles southeast of San Juan, Puerto Rico. Puerto Rico is located between 17° 55' and 18° 31' N latitude and 65° 39' and 67° 15' W longitude, or about 1,000 miles southeast of Miami, Florida. Lying between the Atlantic Ocean and the Caribbean Sea, it is the easternmost island of the Greater Antilles. Total land area is 3,421 square miles.

The Forest contains 27,890 acres. Elevation ranges from 100 to 3,533 feet above sea level. The climate is tropical. Average annual rainfall over the Forest is 120 inches per year. Topography is rugged, with 24 percent of the Forest exhibiting 60 percent slope or steeper.

The Forest is located in parts of eight municipalities (approximately equivalent to counties in the U.S.): Canóvanas, Ceiba, Fajardo, Juncos, Las Piedras, Luquillo, Naguabo, and Río Grande. The Forest Supervisor's office is in the municipality of Río Grande.

Public Involvement

The following discussion provides information concerning how issues were developed for this Plan Revision. Issues are a point of debate, discussion, or dispute which are a matter of public concern. These were developed through a public involvement process which will be briefly described below.

The Forest Interdisciplinary Planning Team (ID Team) analyzed public comments in letters, meetings, and appeals, and the concerns of other Forest Service professionals. This analysis identified 9 significant issues to be considered in assessing the need for change in existing forest plan direction. Appendix A of the EIS details the procedure used to consolidate public and agency comments into issues.

The Notice of Intent (NOI) to prepare this EIS was first published in the Federal Register on September 18, 1991. This NOI, along with local media and individual notification requesting comment on the Revision by November 1, 1991, generated public and agency response which helped identify the nine major planning issues.

The Proposed Revised Plan and Draft EIS (DEIS) were released for public review and comment March 17, 1995. The comment period extended through July 17, 1995. The Draft documents were mailed to over 500 individuals, organizations and agencies. During the comment period, Forest staff held 5 community meetings, met with representatives of environmental groups in Puerto Rico and Washington, D C , made presentations at local universities, appeared on radio talk shows, and held numerous briefings with federal, Commonwealth and municipal governments and agencies, to explain the Draft and solicit public comment.

Fifty-four letters were received in response to the DEIS and Proposed Revised Plan. These letters played a key role in forming the EIS and Revised Plan, although it was stressed that the planning process and chosen management action was not a vote. However, the volume of comments did provide insight into the relative level of public interest in the issues. Substantive responses and comments helped to provide direction to alternative development and decision strategy.

Planning Records

The nine major issues, which seem to be consistent with well-reasoned management of public lands, were formulated and considered during the Revision process. These are discussed in greater detail in the "Rationale for Decision" section of this ROD.

The Forest ID Team developed the Revised Plan. The ID Team has provided detailed explanations of each Revision process step, which can be found in the process (or planning) records. The EIS contains summaries of the process records and includes references to the parent records which are on file in the Forest Supervisor's Office in Palmer, Puerto Rico. These records can be reviewed at

Forest Supervisor's Office
Caribbean National Forest
El Portal Tropical Forest Center
Highway PR 191
Palmer, Puerto Rico 00721

Section II

Decisions

Decision

It is my decision to select Alternative C-mod from the EIS as the Land and Resource Management Plan. This Revised Plan (Alternative C-mod) provides a framework for managing the Caribbean National Forest/Luquillo Experimental Forest (Forest)

The 1986 Land and Resource Management Plan is the current Plan for the Caribbean National Forest/Luquillo Experimental Forest and will be replaced by this Revised Plan

I believe it is essential to issue this Revised Plan now to provide an updated basis for sound site-specific resource decisions and to make adjustments through better monitoring actions. This Revised Plan significantly improves responses to issues and regulations, and the latest scientific, technical, and socio-economic information. This Revised Plan has been developed to consider these factors and will make dealing with future adjustments efficient, expedient, and environmentally sound

Forest Service Mission

The mission of the U S D A Forest Service is "caring for the land and serving people," which guides the multiple-use character of the agency. This mission and applicable laws require the integration and application of many ideas, practices, and knowledge gained through partnerships with organizations, other government agencies, and individuals. Through the Revised Plan, which is based on the mission and principal laws relating to Forest Service activities, we will see a conservation ethic and sound land stewardship protect the people's land and resources for the future

Programmatic Decisions

In my decision, there will be the following programmatic changes from the 1986 Plan

- **Forest-wide multiple use goals and objectives, 36 CFR 219.11(b):**

Chapter 4 of the Revised Plan establishes desired future conditions, goal and objective statements for biological, physical, social, economic resources, and any associated production through management as directed by the goals. The Revised Plan clarifies forest-wide goal and objective statements by defining direction within each management area tied to a descriptive desired future condition and goals and objectives for each management area.

- **Forest-wide management requirements, 36 CFR 219.27:**

Forest-wide Standards and Guidelines for management actions are established to apply to all forest and grassland conditions and ecosystems. These standards and guidelines, and associated desired future condition statements provide concise direction for management.

- **Management area direction, 36 CFR 219.11(c):**

The Revised Plan clearly states management area descriptions, desired future condition, area emphasis, and management standards and guidelines.

- **Lands suitable for timber production, National Forest Management Act (NFMA) Section 6(g)(2)(A) and 36 CFR 219.14; and establishment of Allowable Sale Quantity (ASQ) 219.16 and 219.27(c)(2):**

The Revised Plan establishes that no land on the Forest is considered suitable for commercial timber production. The Revised Plan does allocate 1,167 acres (4% of the Forest) to the demonstration of sustainable timber production from secondary forest. The determination of non-suitability of these 1,167 acres is based on the fact that no commercial sales are proposed in the demonstration program, not on a lack of productivity of the land allocated to timber demonstration.

The 1986 Plan established 5,833 acres as suitable for commercial timber production.

RECORD OF DECISION

- **Monitoring and evaluation requirements, 36 CFR 219.11(d) and 219.12:**

The Revised Plan clarifies monitoring actions in Plan Chapter 5 by basing them on forest-wide goals, objectives, and standards and guidelines

- **Recommendations for Wilderness, Wild and Scenic Rivers, 36 CFR 219.17:**

There are currently no designated wilderness areas on the Forest. The Revised Plan recommends 10,363 acres (37% of the Forest) for wilderness designation. The 1986 Plan recommended 3,797 acres for further wilderness study.

The Revised Plan recommends 6 segments on three rivers (Mameyes, La Mina and Icacos) for Wild, Scenic or Recreation River designation. The 1986 Plan did not address Wild and Scenic River designation.

- **Recommendations for Research Natural Areas, 36 CFR 219.25:**

The existing Baño de Oro Research Natural Area (RNA) covers 3,629 acres. The Revised Plan recommends that the Bano de Oro RNA be expanded to 6,372 acres. The 1986 Plan recommended no enlargement of Baño de Oro RNA, but did propose designation of El Cacique RNA, 1,457 acres, on the west half of the Forest.

Land Allocations

Management areas are “**areas of the Forest with similar management objectives, where compatible management prescriptions are applied.**” The Revised Plan is based on a system where lands managed to achieve complementary objectives under the same standards and guidelines are allocated to the same management area

Twelve management areas were developed to accommodate the variety of desired management activities, products, services, and conditions identified by the public and the Forest Service. Each of the five alternatives considered in detail in the Final Environmental Impact Statement (EIS) used a different combination of these management areas in achieving a distinct forest management emphasis

The Revised Plan—a detailed and expanded version of the preferred alternative—utilizes 9 of the 12 management areas (See the alternative management area maps in the map package of the EIS)

The Revised Plan makes the following land allocations to management areas

Management Area 1

Administrative Sites

204 acres or approximately 1% of the Forest

Area occupied by El Portal Tropical Forest Center, Catalina Work Station and other Forest Service administrative facilities

This does not differ significantly from the 1986 Plan

Management Area 2

Developed Recreation

1,158 acres or approximately 4% of the Forest

Area where emphasis is on existing or proposed developed recreation sites--picnic grounds, trailhead parking, de-centralized interpretive facilities

These areas are located on or near the Forest’s major roads PR 191, PR 186, PR 988, and PR 9966

This does not differ significantly from the 1986 Plan

Management Area 3
Communication Sites
196 acres or approximately 1% of the Forest

Areas on El Yunque Peak and East Peak used for communication facilities, and associated access roads and electrical powerlines

The area occupied by communication sites has not changed from the 1986 Plan. The management area is larger in the Revised Plan because access roads to the communications sites and the powerline corridor providing electricity to East Peak are now included in this management area.

Management Area 4
Integrated
6,216 acres or approximately 22% of the Forest

These are areas of secondary forest where dispersed recreation, research, and watershed and wildlife protection and management are emphasized.

This area is approximately equivalent to Management Area 6 in the 1986 Plan ("general forest land [where] dispersed recreation is emphasized with research secondary")

Management Area 5
Wilderness
10,363 acres or approximately 37% of the Forest

Area proposed for wilderness designation (or wilderness study in the case of Alternative A)

This is a contiguous block that encompasses all of the primary forest in the west half of the Forest. The 1986 Plan proposed a part of this same area for further wilderness study (3,797 acres or 14% of the forest)

Management Area 6

Research

919 acres or approximately 3% of the Forest

Area where research, including long-term watershed studies, and treatment/control studies, is emphasized

This is similar to Management Area 5 in the 1986 Plan, but the area allocated is reduced in the Revised Plan. The largest change is that La Condesa tract is now allocated to Management Area 8 - Timber Demonstration

Management Area 7

Research Natural Area

6,372 acres or approximately 23% of the Forest

Existing and proposed research natural areas (RNA), maintained in *undisturbed condition for current and future non-manipulative research*

The existing Baño de Oro RNA is expanded to encompass all of the primary forest area in east half of the Forest

Management Area 8

Timber Demonstration

1,167 acres or approximately 4% of the Forest

Area where the demonstration of sustainable timber production is emphasized

These are areas of secondary forest (i.e. cutover forest, or forest which has grown back or been planted on areas previously cleared) on the Forest's north and west periphery

The 1986 Plan included a timber management area of 7,189 acres (26% of the Forest)

Management Area 9
Scenic/Recreation River Corridors
1,295 acres or approximately 5% of the Forest

Areas approximately 1/4 mile wide on both sides of stream segments proposed for Wild/Scenic/Recreation Rivers, where protection of these rivers' outstanding characteristics is emphasized. These are protective corridors created where these recommended rivers are outside other highly protective Management Areas—Wilderness and RNA.

This is a new management area. The 1986 Plan did not consider Wild and Scenic Rivers.

Corridors along the Icacos River (recommended for Scenic River designation), and the Mameyes River (segments recommended for Scenic and Recreation River designation) are allocated to this management area.

Changes in Decisions from the DEIS

Based on public review and comment on the Proposed Revised Plan and DEIS, Alternative C-mod in the EIS is a modification of the Preferred Alternative (C) identified in the DEIS. These modifications include:

- Creation of an additional management area where timber demonstration can occur. In the Proposed Revised Plan timber demonstration was to occur within the Integrated Management Area.
- Dropping areas in the northwest part of the Forest from the timber demonstration program, and adding La Condesa Tract in the southwest part of the Forest, to reduce possible adverse impacts on the Puerto Rican Parrot.
- Dropping proposals to construct the Espíritu Santo Loop Trail and expand Quebrada Grande Picnic Area, to reduce possible adverse impacts on the Puerto Rican Parrot.
- Elimination of the Primary Forest Management Area. All primary forest is allocated to management areas proposed for either Wilderness or Research Natural Area.
- Adding proposals to construct a developed recreation site on PR 9966, and to construct a hiking and/or bicycle trail across the old landslide on PR 191 on the south side of the Forest.
- Identify proposed Río Sabana/Río Blanco Trail as all reconstruction, rather than part new construction.
- Dropping the proposal to designate the Forest a municipal supply watershed.
- Adding direction for integrated pest management.
- Clarifying direction for management of recreation residence permits.

Section III

Rationale for Decision

Background

I believe the Selected Alternative (Alternative C-mod) achieves a balance for economic benefits, environmental issues, and concerns voiced by the public. Most importantly, I am confident the management proposed in the Revised Plan is within the physical and biological capability of the land and can be accomplished without reducing that capability, or negatively affecting the socio-economic conditions of the area.

Many divergent opinions were considered in the development and selection of this Revised Plan. It would be impossible to meet all requests and desires in any one alternative. Considering the range and intensity of concerns expressed by the public on various issues, I believe the Revised Plan is responsive to most desires within the basic limitations of the resources available.

The decision was first approached by reviewing the major issues, the public's comments on these issues, and secondly how the various alternatives responded to these issues. The rationale for these decisions is presented in the same manner below. My decision to select Alternative C-mod in the EIS as the Revised Plan is based on my assessment that Alternative C-mod best maximizes net public benefits. It provides a high level of diverse benefits, and is highly responsive to public issues. Selected Alternative C-mod maximizes net public benefits through

- Providing improved protection of animals and plants known to be most sensitive to habitat change and human disturbance
- Providing improved protection for the most limited and sensitive habitats: primary forest and cloud forest
- Providing increased and improved recreation opportunities, while protecting other resources
- Recognizing the public's need for consumptive use of water, while establishing the principle that maintaining instream flows necessary to sustain aquatic ecosystems has first priority ahead of consumptive use

RECORD OF DECISION

- Providing a demonstration of sustainable timber production from secondary forest, with minimal adverse environmental impacts

No single factor or individual consideration predominates my decision. Alternative C-mod provides resource protection, as well as a long-term sustained yield of goods and services. I reviewed the environmental consequences of the Selected Alternative C-mod and the other alternatives. The Revised Plan complies with all legal requirements applicable to the National Forest.

The following discussion by issue showing how the selected alternative deals with those issues that arose during development of the Revised Plan provides further rationale for my decision. No new issues were identified after the Draft EIS and Proposed Revised Plan were made available for review identifying Alternative C as the Preferred Alternative; however, because of comments on those draft documents, changes were made in land allocations, direction, and standards and guidelines to design the Selected Alternative C-mod.

Issue 1

Demonstrating Timber Production While Assuring Compatibility with a Diversity of Other Forest Values

The Caribbean National Forest has a unique role as an experimental and demonstration forest. For over 50 years it has been the site of research on all aspects of tropical forestry. Expertise gained in reforestation and the application of silviculture on cutover and cleared land has become more important in light of current world-wide concern over the loss of tropical forests.

The 1986 Plan proposed to establish a small scale sustainable commercial timber harvest program on lands reforested since the 1920's. This was to serve as a demonstration of the application of the techniques developed over 50 years of research. The target audience was to have been tropical forest managers world-wide, and interested public generally.

The proposal for a commercial timber harvest program became highly controversial and the Plan was appealed. In response to the appeal and public concern, the Forest was directed to suspend the commercial harvest program pending additional analysis of the issue.

I believe the Revised Plan addresses concerns expressed by the public and the U S Fish and Wildlife Service (USFWS), regarding potential impacts of timber harvesting and associated road building on wildlife and water quality. Plantations in the northwest part of the Forest, included in the timber demonstration program in the Proposed Revised Plan, have been dropped in the Revised Plan (Alternative C-mod). The Revised Plan establishes the smallest scale timber program that will still convey the concept of sustainable production.

The Revised Plan is also responsive to the concern about commercial timber sales. In place of the commercial sale program of the 1986 Plan, the Revised Plan would permit the administrative transfer of timber harvested to the Puerto Rico Department of Natural and Environmental Resources or non-profit community development organizations. This will maximize the economic benefits of timber demonstration to the local economy.

I believe that the public comments make clear that some people oppose any cutting of timber or road building on the Forest. However, the Forest has a unique role to play in the Forest Service's mission to be a world leader in conservation. Much of the world's tropical forests are exploited, but only a small proportion of them are managed. The Caribbean National Forest (CNF) demonstrates that a tropical forest can be managed to sustainably provide a variety of goods and services demanded by the public. Under the Revised Plan this includes timber produced from secondary forests. I believe CNF's role as a demonstration forest would be significantly less valuable and convincing to many managers of tropical forests elsewhere in Puerto Rico, the Caribbean and Latin America, without the inclusion of the timber resource, which is a critically important issue for most of them.

Issue 2

Recommendation of Areas for Congressional Designation of Wilderness

Recommendation for wilderness designation was considered a facet of the recreation issue in the 1986 Forest Plan. In response to public comment, wilderness designation was treated as a separate issue in the Plan revision analysis.

The 1986 Plan proposed that 5,254 acres of the 9,561 acre El Toro Roadless Area be allocated for further wilderness study. Many comments from individuals and environmental groups have been received advocating the allocation of more area to wilderness. Several commentors questioned why none of the Mameyes Roadless Area in the eastern part of the Forest had been included in the area proposed for wilderness study in the 1986 Plan.

The Revised Plan recommends a contiguous block of 10,363 acres (37% of the Forest) for Wilderness designation. This includes virtually the entire El Toro Roadless Area. A total of 6,372 acres (23% of the Forest) of the Mameyes Roadless Area is recommended for an expanded Baño de Oro Research Natural Area (RNA). All primary forest is included in areas recommended for wilderness or RNA.

I believe the Revised Plan addresses the public's concern for protecting the Forest's most pristine areas. Wilderness and RNA boundaries are located so as to coincide with primary forest. I believe the Revised Plan's wilderness vs RNA recommendations strike an appropriate balance on a forest that is designated both the Caribbean National Forest and the Luquillo Experimental Forest.

Recommendation of Rivers for Inclusion in the National Wild and Scenic Rivers System

The 1986 Plan did not address Wild and Scenic Rivers

Recommendation for Wild and Scenic River designation was considered a facet of the wilderness issue in the DEIS and Proposed Revised Forest Plan. For clarity, Wild and Scenic Rivers have been treated as a separate issue in this Final EIS.

An eligibility study of the Forest's rivers was completed in 1989, which identified segments on 6 rivers as eligible for Wild, Scenic or Recreation designation. Comments on the Draft from some environmental groups recommended designating all eligible segments. Comments from the water and electric utility companies in Puerto Rico expressed concern over possible conflicts between Wild/Scenic River designation and use of these rivers for water consumption and production of hydroelectric power.

The Revised Plan recommends for designation eligible segments on the Río Icacos, the Río Mameyes and the Río La Mina (a tributary of the Río Mameyes). I believe these recommendations are consistent with the intent of the Wild and Scenic River Act to provide special protection for the nation's most outstandingly remarkable rivers.

The Mameyes has the highest aquatic species diversity and population densities of any of the Forest's rivers. It is also unique among all Puerto Rican rivers in having no major permanent water extractions or impoundments.

The Icacos has the most outstanding scenic, biological and recreation values of the Forest's south side rivers. These rivers have different geomorphological and geological characteristics than the north side rivers.

Most of the eligible river segments not recommended for designation in the Revised Plan (Espíritu Santo/Quebrada Sonadora, Fajardo and Sabana) are afforded protection equivalent to Wild/Scenic River designation by their location within management areas recommended for wilderness or RNA.

The recommended Wild, Scenic and Recreation River designations do not conflict with other existing water uses on or off the Forest. It is true that the Revised Plan's recommendations for Wild and Scenic Rivers should be considered in analysis of projects (e.g. water extractions, impoundments and effluent discharge) proposed in the future, that would affect these rivers. I believe it is completely appropriate that downstream projects consider upstream values and uses, including any Wild and Scenic River designations.

Issue 4

Protection of the Primary Forests

Intensive agriculture practiced by a growing population within the limited area of Puerto Rico was, until early in this century, largely at the expense of the standing forests. Up to that time forests were looked upon as an obstacle to the production of subsistence crops. With crops such as bananas and coffee, mountainous slopes were no impediment to production. The result was that until relatively recently, deforestation was considered synonymous with development, and was actually fostered by government incentives. By the late 1930's less than 1% of the forests of Puerto Rico remained in their original (primary) condition. The largest block of such lands was in the Caribbean National Forest, an area of approximately 13,700 acres.

The primary forests of the National Forest are the biggest and best remaining stands of their types in Puerto Rico (and the world). They also represent a heritage with special cultural values. They were set aside in 1876 by the King of Spain as one of the first forest reserves in the hemisphere. In 1898 most of the 12,400 acres transferred to the U.S. government was still in primary condition. Forest Service management since then has continued this tradition of leaving the primary forests largely as is. Primary forest on additional lands acquired by the Forest has also been preserved.

Public comment has revealed broad support for the protection of the Forest's unique ecosystems. Commentors were particularly concerned that the primary, "virgin" or "pristine" parts of the Forest might be adversely impacted by timber harvest, recreation use and development, or road construction.

The Revised Plan allocates all primary forest to management areas where either wilderness or RNA designation is proposed. The Revised Plan proposes no new trail construction in primary forest, reconstruction of one existing trail — the Río Blanco/Río Sabana Trail — is proposed.

The 1986 Plan allocated 45% of primary forest to wilderness and RNA, and proposed 8.5 miles of new trail construction in primary forest.

Issue 5

Providing Recreation Opportunities While Protecting the Ecological Values of the Forest

The Caribbean National Forest is one of the most popular natural recreational resources in Puerto Rico. The recreation opportunities provided by the Forest's picnic areas, scenic vistas, trails and streams are scarce valuable resources, just as are the Forest's biological wonders.

The population of Puerto Rico increased by 9% from 1980 to 1990. Tourist visitation of Puerto Rico increased by 71% from 1982 to 1990. The number of people visiting the Forest is estimated to have increased from 290,000 in 1975 to 635,000 in 1988.

While the Forest has the potential to provide a wide spectrum of quality recreation opportunities to a large number of people, the range of opportunities currently available is limited. The Forest has a small amount of recreation site development in comparison to the demand for such sites and the amount of visitation. This results in overcrowding of favorite sites, traffic congestion and parking problems, and potential conflicts between users.

The trail system also has a limited variety of lengths and difficulties. Many trails have fallen into disuse through lack of maintenance. Secure trailhead parking areas exist only at developed sites, most trailheads have inadequate and insecure parking. This has limited recreation use of the Forest's trails and back-country. Nonetheless, trail hiking is a popular activity. The potential exists to offer more.

A number of commentators expressed the concern that additional trail construction would increase public access to parts of the Forest which currently receive minimal human disturbance, and that this increased human disturbance could adversely affect wildlife and primary forests.

Public comment has revealed the desire for more interpretation and environmental education, and for more developed recreation facilities for picnicking and water play. Concern has also been expressed that the development and increased use of recreation sites and trails may adversely impact the unique natural qualities of the Forest.

I believe Alternative C-mod strikes the best balance between providing improved and increased recreation opportunities, and protecting the Forest's most sensitive habitats and organisms. Heavily used underdeveloped sites at Puente Roto and Río Sabana/Río Blanco will be developed to a level consistent with public demand for facilities and will reduce impacts on water quality at these sites. The trail system will be improved by providing more loop routes, which will reduce the number of hikers on roads with heavy vehicular traffic, particularly PR 191. Opportunities for back-country recreation will be increased and improved by trail construction and re-construction, developing trailheads, and improving signing and trail information.

The Revised Plan minimizes the adverse environmental effects of the proposed recreation developments by locating all developed sites on or near existing roads, and by proposing no new trail construction in primary forest.

Issue 6

Protection of Wildlife While Conducting Other Forest Management Activities

The 1986 Forest Plan identified a wildlife issue, and public comment has confirmed that the protection of the Forest's diverse terrestrial and aquatic wildlife remains a concern of many individuals and organizations. Comments received indicate that threatened, endangered and sensitive (TES) species, especially the endangered Puerto Rican Parrot, are particular concerns. How road and trail construction or reconstruction, recreation use and development, timber production demonstration, and manipulative research might affect these species, was the focus of most comments on the TES concern. TES plant species have come to be included in this issue also. Some questions have also been raised about how which management indicator species will be used to track changes in the Forest.

I believe the Revised Plan is responsive to the wildlife concerns raised by agencies and the public. The U.S. Fish and Wildlife Service's response to the Proposed Revised Plan recommended dropping certain plantations in the northwest part of the Forest from the timber demonstration program, and eliminating proposals to construct Espiritu Santo Loop Trail and to enlarge Quebrada Grande Picnic Area. The Revised Plan (Alternative C-mod) incorporates these recommendations.

The Revised Plan also includes the following direction to improve protection of wildlife, fisheries and plants:

- Potential disturbance to the Puerto Rican Parrot, the Puerto Rican Broad-Winged Hawk, and the Puerto Rican Sharp-Shinned Hawk is reduced by the implementation of a set of constraints on activities in their habitats.
- The principle of providing for instream flows to maintain aquatic ecosystems, before providing for consumptive use of water, is established.
- Habitats will be maintained to sustain viable populations of all native plant species in their existing or historic distributions.

Issue 7

Providing and Protecting the Forest's Water Quantity and Quality

The 1986 Forest Plan identified a water issue. Public comment has confirmed that any activity that could affect the quantity or quality of water flowing from the Forest remains a concern of many individuals and the municipalities surrounding the Forest, that get some or all of their water from Forest watersheds. It is expected that this demand will increase as population and water consumption increases in communities around the Forest.

The effects of water consumption on the Forest's aquatic life is another facet of this issue. Consumptive use has the potential to affect aquatic life by reducing stream flow, and by impeding migration of aquatic organisms.

The Revised Plan proposes less soil disturbing activities than the 1986 Plan: 3 miles vs. 25 miles of road construction; 22 acres per year vs. 257 acres per year of timber harvest; 10 miles vs. 15 miles of trail construction.

Alternative C-mod does not designate the Forest a municipal supply watershed, as did Alternative C, the preferred alternative in the Proposed Revised Plan. The selected alternative does retain direction to permit withdrawal of water from the Forest's streams through construction or modifications of intake systems, only after instream flow needs for ecosystem maintenance, research, and recreation are met. The Revised Plan also includes direction to cooperate with federal, commonwealth agencies and municipal governments to maintain instream flows, necessary to maintain aquatic ecosystems, downstream of the Forest boundary.

Issue 8

Providing and Managing Appropriate Forest Access

Most people commenting on the Forest Plan, who addressed the access issue, have favored limiting new road construction. Many comments have been received opposing the re-opening of PR 191 on the south side of the Forest, because of concerns for disturbance of wildlife and soil erosion and resulting stream sedimentation. A number of commentors, particularly from the community of Naguabo, favor the re-opening of PR 191. These commentors believe through traffic on PR 191 would improve economic opportunity in their community, and make access to recreation facilities on the north side of the Forest easier for residents of south side communities.

PR 191 crosses the Forest from north to south. It is the main route into the Forest and has the heaviest traffic of any road in the system. It was constructed during the 1940's as a through road from Mameyes on the north to Naguabo on the south. In the 1970's the road was closed by a landslides triggered by heavy rains associated with tropical storms. The road remains closed between gates at Km 13.3 and Km 21.0.

The Puerto Rico Department of Transportation and the U.S. Department of Transportation Federal Highway Administration have unsuccessfully attempted to re-open the Highway 191 since its closure in 1970. During 1991-92, a re-opening project was the subject of a suit by local and U.S. mainland environmental groups. The U.S. Federal District Court directed the USDoT Federal Highway Administration and/or USDA Forest Service to develop an environmental impact statement before proceeding with the re-opening project.

The Revised Plan does not resolve the question of whether or not to re-open PR 191, and the EIS does not assess possible environmental effects of re-opening the road. I believe the Revised Plan correctly indicates that the question of re-opening PR 191 needs to be analyzed within the broader context of the Forest's overall transportation needs. PR 191 has been closed for over 25 years. In that time the Forest's visitation has increased, other highways have been constructed (e.g. PR 53), and alternative transportation systems based on mass transit have become more widely accepted on public lands. Re-opening PR 191 may not be the most effective way to improve the public's access to the Forest.

I am directing the Forest Supervisor to work with PRDOT to complete a study of the Forest's transportation needs and alternatives. When this study is completed, additional direction on transportation management will be incorporated into the Plan through the appropriate NEPA process and amendment.

The 1986 Plan proposed the construction of 25 miles of roads. The Revised Plan proposes three miles of road construction.

Issue 9

Meeting the Needs of Tropical Forestry Research While Protecting the Forest's Environmental Values

Research conducted on the Caribbean National Forest (which is also the Luquillo Experimental Forest) has made a significant contribution to the management and conservation of tropical forests worldwide. With the current global concern for the rapid changes occurring in tropical forests, the role that the Forest can play in improving the understanding of tropical forests biology and management is more important than ever.

Public comment has demonstrated strong support in the scientific community and the general public for a continued research program on the Forest. Some concern has been expressed that treatment vs. control research (as opposed to strictly observational research) could adversely affect natural values, such as primary forest and wildlife. The scientific community has also expressed concern that some management activities, such as recreation development, could adversely affect ongoing and potential future research.

I believe the Revised Plan strikes an appropriate balance between the need to provide area for experimental research and the need to protect the Forest's most sensitive habitats. All primary forest is allocated to management areas proposed for wilderness or RNA designation, where only observational (or the "control" part of treatment vs control) studies can be conducted. Experimental treatments may be conducted in Management Areas 4, 6, 8 and 9 totaling 9,793 acres (35% of the Forest). These areas represent all the major forest and soil types found on the Forest.

Section IV

Alternatives

Introduction

The following discussions of alternatives summarize important factors which I considered and explain why I believe Alternative C-mod, as described in the Final EIS, will maximize net public benefits when compared to the other alternatives

Alternatives were developed through involvement by Forest, International Institute of Tropical Forestry and Southern Regional Office employees, other agencies, public groups, and individuals

Each of the five alternatives examined in detail in the EIS has an associated map displaying the allocation of different portions of the Forest to management areas. A management area (MA) is a land unit of the Forest having similar suitability, capability, and values where compatible management prescriptions are applied. Twelve major land allocations were developed into MA's and used in the application to the five alternatives. These MA's have prescriptions or management activities developed that are compatible to its management objectives. Management areas used in the alternatives are

- MA- 1 Administrative Sites
- MA- 2 Developed Recreation
- MA- 3 Communication Sites
- MA- 4 Integrated
- MA- 5 Wilderness
- MA- 6 Research
- MA- 7 Research Natural Area
- MA- 8 Timber Demonstration
- MA- 9 Scenic/Recreation River Corridors
- MA-10 Dispersed Recreation
- MA-11 Timber Management
- MA-12 Primary Forest

Management areas were defined based on ecological attributes (e.g. primary vs secondary forest), legislative or administrative (e.g. wilderness, RNA), and important Forest uses (e.g. developed recreation, research, timber demonstration)

The Selected Alternative

Alternative C-mod is the Forest Service's selected alternative from five in the EIS. The selected alternative for managing the Forest is defined as being the one maximizing net public benefits and that best accomplishes the mission of the Forest Service. The Selected Alternative C-mod accommodates a variety of uses and values that the public demands, it sustains these uses and values for future generations, and it does this in an economically efficient and environmentally sound manner. Alternative C-mod, with decisions identified in Section II of this ROD, is the Revised Plan.

Alternatives Considered

Five alternatives were analyzed in detail by the Interdisciplinary (ID) Team and Management Team. They included Alternatives A, B, C, and D considered in the DEIS and Alternative C-mod, developed in response to public comments on the DEIS and Proposed Revised Plan. Although Alternative C-mod included aspects of other alternatives considered in the DEIS, it was primarily developed to reflect different means of issue resolution based on public comments on the DEIS and Proposed Revised Plan.

Alternatives Considered, but Eliminated from Detailed Consideration

The ID Team considered the possibility of developing a "custodial" management alternative. This alternative would maintain the Forest as it exists now. No new recreation sites, trailheads, roads, or trails would be constructed. Existing facilities would be maintained, but not enlarged or improved. No areas would be recommended for wilderness designation. No rivers would be recommended for Wild/Scenic designation. No timber demonstration program would be developed. The ID Team concluded that this alternative did not satisfactorily address enough of the need for change and significant issues to merit detailed study.

Description of the Various Alternatives

The following discussion of alternatives summarizes the comparison of management strategies that could be used to manage the Forest.

A capsule description of the five alternatives is followed by two tables that compare the alternative in terms of management area allocations, and outputs and effects by issue.

**Alternative A
(Current
Direction, or
“No Action”)**

This alternative would continue the direction provided in the current (1986) Forest Plan Under National Forest planning regulations for plan revisions, current Plan direction must be one of the alternatives considered It would include the commercial timber sale program that was suspended after the 1986 Plan was appealed

Alternative B

Alternative B would emphasize Wilderness designation, and increase recreation opportunities

Alternative C

Alternative C would emphasize protection of primary forests, while providing for a mix of other uses including timber demonstration, research and recreation

Alternative D

Alternative D would emphasize primary forest protection and research, while providing for modest levels of other uses including timber demonstration and recreation

**Alternative
C-mod (Selected
Alternative)**

Alternative C-mod is similar to Alternative C, but with the following changes in response to comments on the Proposed Revised Plan and DEIS

- Reduce area allocated to timber demonstration to 1,167 acres (4% of the Forest) to avoid possible adverse impacts on the Puerto Rican Parrot
- Create a new management area where timber demonstration would occur, rather than including this use in the Integrated Management Area
- Create a new management area for protection of Scenic and Recreation River corridors, where these rivers are not within the Wilderness or RNA Management Areas
- Eliminate expansion of Quebrada Grande Picnic Area and Espiritu Santo Trail/Trailhead construction to avoid possible adverse impacts on the Puerto Rican Parrot
- Replace recreation sites and trails eliminated for Parrot concerns with a similar number of developed sites and trails outside occupied Parrot habitat
- Eliminate the Primary Forest Management Area, and allocate all primary forest to either Wilderness or RNA
- Drop the proposal to designate the Forest a municipal supply watershed because of lack of understanding or support for such designation

Table 1. Management Area Acreages.

Alternatives B, C, C-mod and D respond to the "need for change" by increasing management areas with emphasis on protection, and by decreasing management areas with emphasis on use.

Management Area	Description	Acres by Alternatives				
		A	B	C	C-mod	D*
1	Administrative Sites	0	334	320	204	204
2	Developed Recreation	1,290	2,514	865	1,158	843
3	Communication Sites	70	44	80	196	80
4**	Integrated	0	5,150	8,420	6,216	8,390
5	Wilderness	3,688	16,892	10,363	10,363	3,295
6	Research	3,714	784	1,450	919	1,450
7	Research Natural Area(RNA)	3,508	2,172	5,146	6,372	5,086
8**	Timber Demonstration	0	0	0	1,167	0
9	Scenic/Recreation River Corridor	0	0	0	1,295	0
10	Dispersed Recreation	8,140	0	0	0	0
11	Timber Management	7,480	0	0	0	0
12	Primary Forest	0	0	1,246	0	1,412
5/7*	Wilderness / (RNA)	0	0	0	0	1,430
5/12*	Wilderness / Primary Forest	0	0	0	0	5,700
TOTAL		27,890	27,890	27,890	27,890	27,890

* *Alternative D includes areas with dual management area (MA) allocations.*

** *Alternatives C and D would allocate 1,500 acres with Management Area 4 to the demonstration of sustainable timber production. In Alternative C-mod timber demonstration would occur in MA 8 (Timber Demonstration). Alternative B would not demonstrate sustainable timber production. Only Alternative A would include commercial timber sales.*

Table 2. Alternative Comparison Summary.

Outputs/Effects	(Average Annual Unless Otherwise Noted) Alternatives						
	Unit*	Existing**	A	B	C	C-mod	D
Issue 1 - Timber Demonstration							
Timber Demonstration							
Commercial Sales	Yes/No	No	Yes	No	No	No	No
Area Classified Suitable	Acres	5,833	5,833	0	0	0	0
Sustainable Timber Production Demonstrated	Yes/No	No	Yes	No	Yes	Yes	Yes
Total Area Allocated to Demonstration of Sustainability	Acres	5,833	5,833	0	1,500	1,167	1,500
Timber Demonstration Treatments (First Decade)	Acres/Yr	0	257	0	22	22	22
Issue 2 - Wilderness							
Area Recommended for Designation	Acres	0	3,688	16,892	10,363	10,363	10,425
Percent of Forest Recommended	Percent	0	13	60	37	37	37
Issue 3 - Wild/Scenic Rivers							
Segments Recommended Wild	Number	0	0	4	1	1	0
Segments Recommended Scenic	Number	0	0	4	3	3	2
Segments Recommended Recreation	Number	0	0	4	2	2	1
Issue 4 - Primary Forest							
Percent of Primary Forest Allocated to Wilderness, RNA and Primary Forest MA's	Percent	45	45	95	100	100	100
New Trail Construction in Primary Forest	Miles	5.3	6.4	4.4	0	0	0
Trail Reconstruction in Primary Forest	Miles		2.5	2.5	2.5	2.5	0
* Units: PAOT means people at one time, a measure of recreation site capacity, Ac Ft /Yr means acre feet per year, a measure of streamflow							
** Existing Refers to actual conditions or features of the Forest at the time of the writing of this Final Environmental Impact Statement For example, there are currently 50 miles of roads on the Forest, and 24.3 miles of trails							

Table 2. Alternative Comparison Summary.							
Outputs/Effects	(Average Annual Unless Otherwise Noted)						
	Unit*	Existing**	A	B	C	C-mod	D
Issue 5 - Recreation							
Recreation Facilities							
Interpretation	No	3	4	10	9	9	8
	PAOT	60	860	1080	1020	1020	990
Picnic	No	4	9	9	7	7	6
	PAOT	600	1904	1704	1534	1534	1470
Observation	No.	9	7	9	9	9	9
	PAOT	290	265	290	290	290	290
Camping	No	0	4	2	1	1	1
	PAOT	0	160	52	40	40	40
Trailheads	No	3	4	12	10	10	9
	PAOT	136	93	188	160	160	140
Trail Construction (Total in 50 Yrs.)	Miles	24	15	16	7	10	7
Trail Reconstruction (Total in 50 Yrs)	Miles		8	8	7	7	4
Issue 6 - Wildlife							
Habitat Modified by Timber Harvest, Recreation and Other Development	Percent of Forest	1	23	4	6	5	6
Area of Forest within 1/2 Km of Roads, Trails and Other Development.	Percent of Forest	49	68	70	52	52	52
Issue 7 - Watershed							
Municipal Watershed Designation	Yes/No	No	No	Yes	Yes	No	Yes
Water Yield	Ac Ft /Yr		226,000	226,000	226,000	226,000	226,000
Sediment Delivery from Timber	Tons/Yr	Decade 1	648	87	125	128	123
Harvest, Road and Trail Construction, Recreation Development	Tons/Yr	Decade 5	664	0	162	104	162
Issue 8 - Road Construction							
Total for Timber Demonstration	Miles		22	0	2	2	2
Total for Recreation	Miles		1	1	1	1	1
Total for General Access	Miles		2	0	0	0	0
Total for all uses	Miles	50	25	1	3	3	3
Issue 9 - Research							
Research Natural Areas	Acres	3,508	3,508	2,172	5,146	6,372	6,516
Management Areas Where Treatment vs Control Research Is Permitted	Acres	11,194	11,194	5,934	9,870	9,793	9,840

Alternative with Higher PNV

Present net value (PNV) calculations are required according to 36 CFR 219.12 (e)(f)(g)(h) and (j), and are used to measure economic efficiency of each alternative. PNV is the sum of priced benefits minus the sum of costs for the 150-year planning period, discounted to the present. However, PNV does not include all costs and benefits. Some of the more important nonpriced benefits include ecosystem diversity, habitat for threatened, endangered, or sensitive species, water quality, and scenic quality. Since PNV does not reflect the values of these benefits nor the costs associated with negative effects on them, and because the alternatives vary only slightly in PNV, it was not the primary criterion I used in selecting Alternative C-mod. PNV estimates for all alternatives in descending order are

- B
- C, C-mod, D
- A

All are detailed in the EIS Appendix B

Overall, Alternative C-mod provides nearly the same increase in recreation opportunities as Alternative B, while producing less impact on primary forest and Puerto Rican Parrot's habitat than Alternative B. Alternative C-mod also includes the demonstration of sustainable timber production, while Alternative B does not.

Environmentally Preferred Alternative

All alternatives considered in detail meet legal and environmental standards. A detailed discussion of the environmental effects of each alternative is included in Chapter III of the EIS. The environmentally preferred alternative is the one which would cause the least impact to the physical and biological environment of the Forest.

Alternative C-mod is the environmentally preferred alternative since it involves the least human-induced change to the natural environment. This assessment of changes in the natural environment is based primarily on the analyses in the EIS of wildlife habitat generally, and Puerto Rican Parrot habitat (Figures II-8a/b and II-9a/b). Alternative B would produce slightly less soil disturbance and sediment movement than Alternatives C, C-mod and D, but would cause more potential disturbance of the Puerto Rican Parrot than Alternative C-mod.

Section V Implementation

Implementation Schedules

The Revised Plan will be implemented through identification, selection, and scheduling projects to meet management goals and objectives

Schedules of proposed projects, published periodically and mailed to interested and affected persons, will be available for review at the Forest Supervisor's Office. Schedules of projects will routinely change as projects are implemented or removed from the lists for other reasons, and as new projects take their place. Adjustments to schedules may occur based on results of monitoring, budgets, and unforeseen events.

The Revised Plan provides direction with desired future condition statements, goals and objectives, standards and guidelines, monitoring requirements, and proposed projects and programs. It does not cover projects on specific sites except in a broad manner. The list of projects and objectives in Table 4-5 in the Revised Plan are not decisions for individual projects. Each proposed project will be subject to site-specific analysis in compliance with NEPA prior to a decision to complete the project.

The Revised Plan's proposed projects will be translated into multi-year program budget proposals. The proposals are used for requesting and allocating funds needed to achieve planned management direction.

The Forest Supervisor has authority to change the implementation of projects to reflect differences between proposed annual budgets and actual appropriated funds. As a result, outputs and activities in individual years may differ from those projected in the Revised Plan. Significant deviations that alter the long-term relationships between goods and services projected in the Revised Plan may result in an amendment or revision.

All new projects will be in compliance with direction contained in the Revised Plan after it goes into effect. In addition, all new permits, contracts, and other instruments for the use and occupancy of National Forest system land and resource uses must also be in conformance with the Revised Plan. Permits, contracts, and other instruments which were in existence prior to Revised Plan implementation will be revised (if needed) subject to valid existing rights.

In implementing the Revised Plan project activities, the Forest Supervisor will comply with the Record of Decision issued for these documents. The Revised Plan will be effective 30 days after the Notice of Availability of this Revised Plan, the EIS, and Record of Decision appears in the Federal Register.

Implementation and Budgets

Decisions to proceed with projects are made at the implementation phase of forest management. Project development and scheduling will be achieved through an integrated resource management approach, assuring interdisciplinary teamwork, and public involvement throughout the process. Site-specific analyses for projects will be conducted in environmental assessments, environmental impact statements, or categorical exclusions in accordance with NEPA, NFMA, and other environmental laws. NEPA analyses for projects will be tiered to the EIS for this Revised Plan pursuant to 40 CFR 1508.28.

Management activities and projects proposed in the Revised Plan will be used to plan multi-year program budget proposals. These proposals will be used to request and allocate funds. Outputs and activities in individual years may be significantly different than the averages shown in Chapter II of the EIS, depending on available funds.

Monitoring and Evaluation

The monitoring and evaluation program is the management control system for the Revised Plan. It will provide information on the progress and results of implementation. This information will be evaluated and used as feedback to the planning process for possible future change.

Chapter 5 of the Revised Plan outlines the specific process that will be used for monitoring. The overall objective of monitoring is to ensure that standards and guidelines and management area direction are being correctly applied and producing the desired conditions. The information gathered during monitoring will also be used to update inventories, to improve mitigation measures, and to assess the need for amending or revising the Plan.

The results and trends of monitoring and evaluation will be described in a periodic monitoring report. This report of monitoring activities and results will be available for public review. As part of the monitoring and evaluation plan, I am directing the Forest Supervisor to continue involving citizens to help ensure the Revised Plan is implemented as directed in this decision. Management is not static, and public involvement will be used to foster communication throughout the implementation of individual projects and activities scheduled in this Revised Plan.

Mitigation

Mitigation measures are an integral part of the standards and guidelines and management area direction. The management standards, developed through and ID Team effort, contain measures to mitigate or eliminate any long-term adverse environmental effects. Additional mitigation measures may be developed and implemented at the project level consistent with the measures identified in Chapter 4 of the Revised Plan.

Endangered Species Act Section 7 Consultation

This decision is made with the benefit of extensive informal consultation with the U.S. Fish and Wildlife Service (USFWS) on the Revised Plan and EIS. USFWS has reviewed the Biological Assessment (BA) for the Revised Plan, which assessed effects to federally designated threatened or endangered species that occur or could occur on the Forest. USFWS has concurred with the BA's determination that implementation of the Revised Plan is "not likely to adversely affect" federally designated threatened or endangered species. Further consultation with USFWS will be a part of site-specific evaluations for project-level decisions.

Amendment and Revision Process

The Revised Plan may be changed either by an amendment or a revision. An amendment or revision may become necessary as a result of situation such as (36 CFR 219 10(f))

- Recommendations based on the review of monitoring reports,
- Determinations that an existing or proposed permit, contract, cooperative agreement, or other instrument authorizing occupancy and use is not consistent with the Plan, but should be approved, based on project level analysis,
- Adjustment of management area boundaries or descriptions,
- Changes necessitated by resolution of administrative appeals, litigation, or legislation,
- Changes needed to improve monitoring plans or information and assumptions used in the Forest Plan, and
- Changes made necessary by altered physical, biological, social or economic conditions

Based on an analysis of the objectives, standards and guidelines, and other aspects of the Plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change to the Plan. If the change is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of the Plan. If the change is not determined to be significant, the Forest Supervisor may implement the amendment after appropriate public notice and compliance with NEPA. The procedure is described by 36 CFR 219 10(e) and (f), 36 CFR 219 12(k), FSM 1922 51-52 and FSH 1909 12, section 5 32

As Regional Forester, I will approve significant amendments and the Forest Supervisor will approve nonsignificant amendments

NFMA requires revision of the Plan at least every 15 years. However, it may be revised sooner if physical conditions or demands on the land and resources have changed sufficiently to affect overall goals or uses for the entire forest. If a revision becomes necessary, procedures described in 36 CFR 219 12 will be followed

Section VI

Appeal Rights and Approval

Appeal Rights

This decision may be appealed in accordance with the provisions of 36 CFR 217 by filing a written notice of appeal in duplicate within 90 days of the date of publication of the legal notice. The appeal must be filed with the Reviewing Officer.

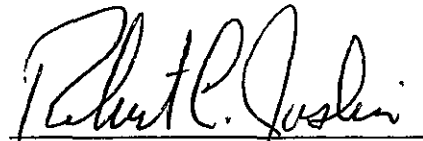
USDA Forest Service
Attn. NFS Appeals Staff/3NW
PO Box 96090
201 14th Street SW
Washington, DC 20090-6090

The Notice of Appeal must include sufficient narrative evidence and argument to show why this decision should be changed or reversed (36 CFR 217.9)

Decisions on projects proposed in the Revised Plan will be made after site-specific analysis and documentation is completed in compliance with NEPA. Decisions on site-specific projects are not made in this document.

If you would like more information about the Revised Plan or EIS, or would like to review planning records, please contact:

Ricardo García
Planning Team Leader
Caribbean National Forest
P O Box 490
Palmer, PR 00721
(787) 888-1810



Robert C. Joslin
Regional Forester
Southern Region
USDA Forest Service

April 17, 1997

Date

RECORD OF DECISION

The United States of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familiar status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2291.

To file a complaint, write the Secretary of Agriculture, US Department of Agriculture, Washington, DC 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

**END
OF
PHYSICAL
FILE**