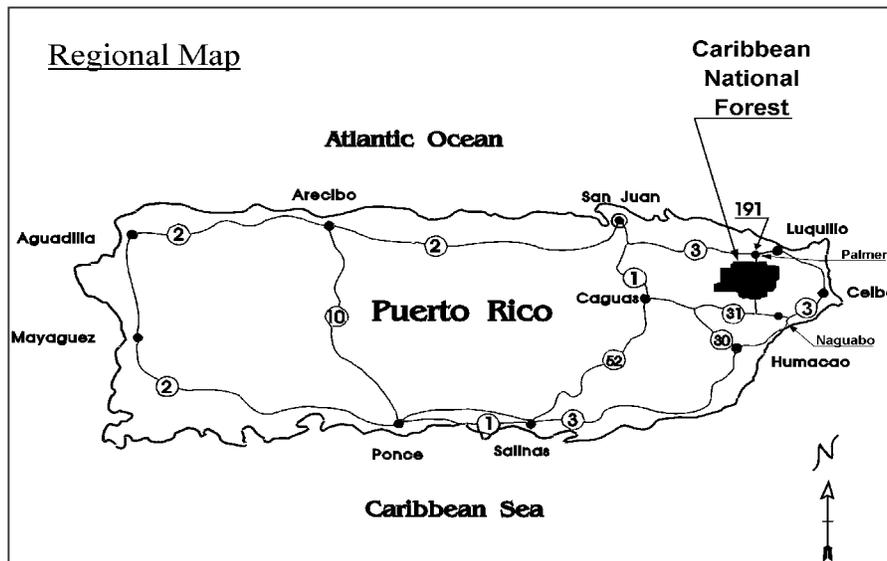


Forest Supervisor's Certification

I have evaluated the monitoring results and recommendations in this Report. I have directed that the Action Plan developed to respond to these recommendations be implemented according to the time frames indicated, unless new information or changed resource conditions warrant otherwise. I have considered funding requirements in the budget necessary to implement these actions.

With these completed changes, the Revised Forest Plan is sufficient to guide forest management for fiscal year 2004, unless ongoing monitoring and evaluation identify further need for change. Any amendments or revisions to the Revised Forest Plan will be made using the appropriate National Environmental Policy Act (NEPA) procedures.

Pablo Cruz
Forest Supervisor



2002 Monitoring and Evaluation Report Caribbean National Forest

Executive Summary

One highlight in 2002 was the designation of segments of Rio Mameyes, Rio de la Mina, and Rio Icacos as National Wild and Scenic Rivers.

A revision of the recent workforce reorganization effectiveness was an emphasis area for 2002. Standard operating procedures and streamlining operations were a major component of the workload analysis, in addition to a change of organization. Another emphasis area was the liaison establishment between our Law Enforcement with the US District Attorney's Antiterrorism Unit.

Introduction

The Caribbean National Forest (Forest) annually monitors and evaluates its programs and projects to determine progress toward achieving Revised Forest Plan goals, objectives, and standards and guidelines.

The approved Caribbean National Forest Revised Land and Resources Management Plan (Revised Forest Plan) was formally released to the public July 11, 1997. The appeal period extended from July 11 through October 14, 1997. No appeals of the Revised Forest Plan were received. No amendments have been made since completion of the Revision.

This 2002 report is structured to correspond with the monitoring direction in Chapter 5 of the Revised Forest Plan. Information for each monitoring element includes: desired condition(s); parameters to measure progress toward those conditions; and results of monitoring of these parameters during fiscal year 2002.

Monitoring and evaluation is an ongoing process, documented through annual reviews by the Forest Supervisor and Forest staff. Information is compiled in a comprehensive report. The 2002 report follows.

Monitoring indicates whether management direction in the Revised Forest Plan is being effectively carried out and points out needed modification of that direction. It also shows whether effects of implementing the Forest Plan are occurring as predicted; whether the application of management area prescriptions responds to public issues and management concerns; and if the costs of implementing the Forest Plan are on target.

Ecosystem Condition, Health and Sustainability

Watershed

Desired Condition: Watershed condition is restored, enhanced, or maintained.

Measurement: Water quality before and after treatments; sediment losses from treated vs. non-treated areas; assessment of vegetative cover.

Results: The Forest's watershed condition and water quality, adversely affected by Hurricane Georges in 1998, continued to improve after restoration of landslides triggered by the heavy rains of Georges. Erosion control plans were monitored on 6 landslides. Vegetative cover was successfully established in 5 landslides.

Certification of soils mapping units and descriptions was published in FY 2002. Copy of the publication can be found at [Caribbean Area Online Soil Survey Manuscripts | NRCS Soils](#).

Caribbean National Forest Soils Map

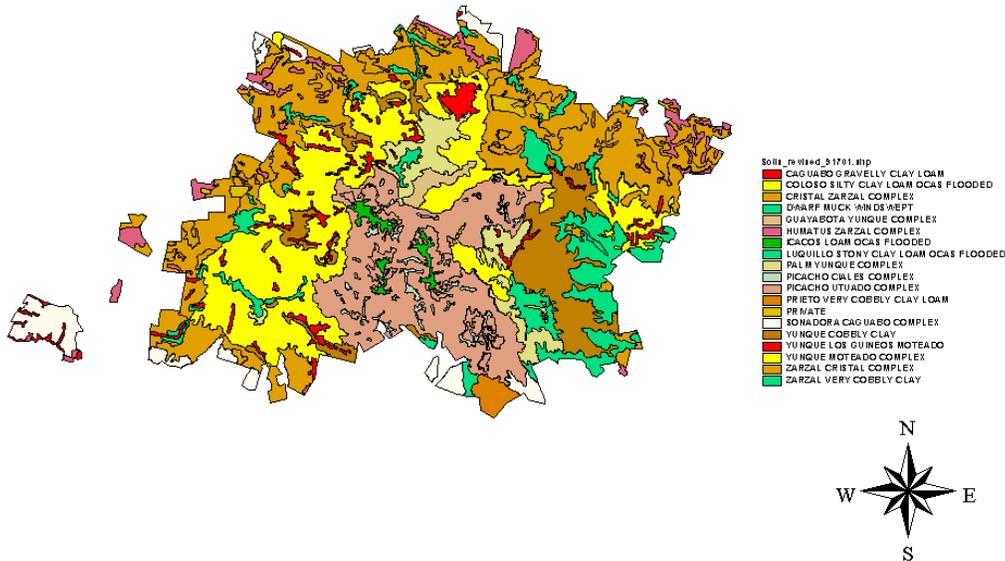


Figure 1. Soils Map for Caribbean National Forest.

Desired Condition: Water quantity and quality are adequate to support healthy populations of aquatic animals. Stream flows are not reduced below natural minimum flows.

Measurement: Water quantity at permanent gauging stations.

Results: Six permanent gauging stations are located on the Forest. They are located on the Sabana, Mameyes, Rio Icacos, and Espiritu Santo Rivers. Gauging station data indicates streams leave the Forest at substantially natural flow levels. Water intakes below the Forest do result in flows below natural minima, particularly on the Espiritu Santo and Rio Blanco.

The total amount extracted from the Forest was estimated to be 15 million gallons per day. A total of 36 water intakes for municipal, community and house use were permitted on the Forest in 2002. The special use permit issued to the Puerto Rico Aqueducts and Sewer Authority (PRASA) in 1998 was monitored. PRASA completed improvements in Rio Espiritu Santo Dam.

The Forest's water rights claims filed in 1985 have not been adjudicated by Puerto Rico Department of Natural Resources and Environment.

Water quality baseline measurements were collected as part of the Rio Sabana Recreation Site Environmental Impact Statement.

Desired Condition: Riparian areas are protected.

Measurement: Inventory riparian areas.

Results: A field investigation was completed on the PREPA Rio Blanco Right of Way for the second year. The investigation revealed no use of herbicide to control weeds.

Primary Forest

Desired Condition: Primary forest in all four-forest types is protected. Acreage of primary forest is not reduced.

Measurement: Visual inspection of primary forest to determine acres altered by trail construction or other development.

Results: No trail construction or re-construction or other development occurred in primary forest during 2002.

Desired Condition: Recreation has minimal adverse affects on primary forest.

Measurement: Work with research to develop techniques to assess impacts of recreation on primary forest.

Results: Although no research has been developed to address this issue, scientists and managers are in agreement that improved monitoring of the effects of camping is

necessary. The review of the camping policy occurred during FY 2001. No negative effects of camping on primary forest habitat have been observed.

Wildlife and Fish

Desired Condition: The Puerto Rican Parrot Population remains stable or increases

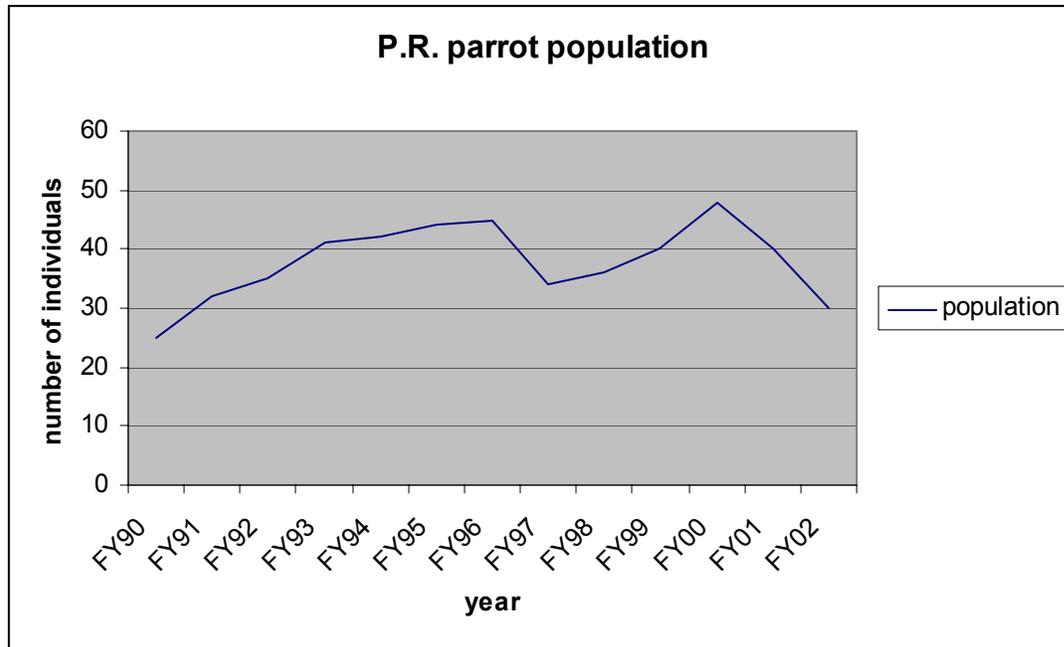
Measurement: Pre- and post-breeding point counts of the wild population. Sustain the number of units for habitat management of active parrot nests.

Results: U.S. Fish and Wildlife Services on the Caribbean National Forest coordinated two interagency population estimation indices.

CNF personnel constructed 3 new artificial/natural cavities and improved 7 nests for the recovery effort. The CNF also improved six lookout platforms to support the continuing index process. Access to the parrot nesting area and points of interests is a concern that the CNF met, improving 3 miles of existing trail.

The third release of Puerto Rican Parrots occurred in May to add to the number of wild parrots in the Forest. Plans to establish a second population of parrots in the wild is still in the planning process between the U.S. Forest Service, U.S. Fish and Wildlife Service and the Puerto Rican Department of Natural Resources.

Summary of Puerto Rican Parrot Recovery From 1990 to 2002												
Year	91	92	93	94	95	96	97	98	99	00	01	02
Successful Nesting Attempts	5	6	6	6	5	3	3	4	2	5	5	2
Total Young Produced in the Wild	8	10	13	13	14	7	7	10	3	13	14	2
Young Fledged into the Wild	7	11	15	14	15	8	7	9	3	7	5	1
Population Estimate	32	35	41	42	44	45	34	36	40	48	40	30



Desired Condition: Sharp-shinned and Broad-winged hawk populations are increasing.

Methodology: Point Counts. In coordination with the Puerto Rican Parrot Indices and a Red-tailed hawk study, the CNF also conducted counts to document any occurrences of the two endangered hawks subspecies.

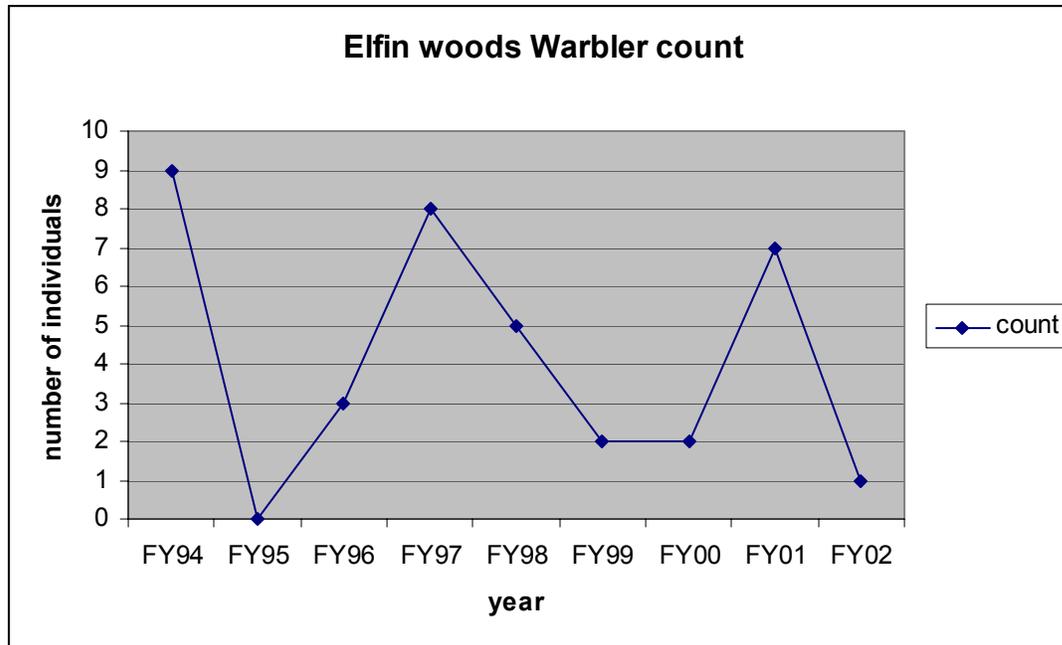
Results: No Sharp-shinned or Broad-winged hawks were observed in either of the indices. Indirectly, one Broad-winged hawk was heard in the area of the El Toro trailhead.

Desired Condition: Elfin woods warbler populations are stable or increasing.

Measurement: Breeding bird point counts

Results: Breeding bird point counts were not conducted, but the Christmas Bird Count for Caribbean National Forest does cover some of the warbler's habitat on the Forest. Numbers of elfin woods warblers on these Christmas counts for the past nine years:

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002
Elfin Woods Warbler	9	0	3	8	5	2	2	7	1



Desired Condition: Populations of the Forest’s birds are stable or increasing.

Measurements: FY02 Christmas Transect counts. As the survey shows, the general avifauna on the CNF is vigorous with representation from many species of frugivores, insectivores, nectarvores and graminivores. Even though some species show low occurrence levels throughout count, the fact that they were detected implies that more do occur in habitat that is similar to the survey transects.

The wide-ranging bananaquit again dominated the survey and the numbers of occurrences in comparison with prior counts show the population as stable, as with other species on the Forest.

No Endangered or Threatened species were documented, but two of the five management indicator species for birds were documented on the count. A special note is the new sighting of parakeets moving into the lower elevations of the Forest and the rising numbers of Greater Antillean Grackle.

Results:

	El Portal	Bisley & Roadside	Big Tree Trail	Icacos Valley	Yocaho Tower & Roadside	Colinas del Yunque
Cattle Egret	0	0	0	0	0	1
Red- tailed Hawk	0	2	0	0	0	1
American Kestrel	1	2	0	0	0	0
Merlin	0	1	0	0	0	0
Rock Dove	0	10	0	0	0	6
Scaly- naped Pigeon	8	37	32	9	3	2

Zenaida Dove	0	5	0	0	0	13
White-winged Dove	1	0	1	0	0	43
Common Ground Dove	7	0	0	0	0	6
Ruddy Quail- Dove	0	2	0	0	0	0
Orange-fronted Parakeets	0	0	0	0	0	5
PR Lizard Cuckoo	2	2	0	0	0	1
Smooth-billed Ani	0	1	0	0	0	3
PR Screech Owl	7	0	0	0	0	0
Antillean Nighthawk	0	0	0	0	0	1
Green Mango	1	0	0	0	0	0
Puerto Rican emerald	0	1	6	0	0	1
Puerto Rican Tody	4	9	4	0	0	0
Puerto Rican Woodpecker	0	0	2	0	0	0
PR Flycatcher	0	1	5	0	0	0
Gray Kingbird	9	19	0	0	2	22
Loggerhead Kingbird	2	0	0	0	0	0
PR Vireo	1	0	1	0	0	0
Black- whiskered Vireo	1	1	0	0	0	0
Red- legged Thrush	8	4	0	0	3	0
N-Mockingbird	0	0	0	0	0	11
Pearly-eyed thrasher	8	0	2	14	0	3
Cave Swallow	0	12	0	0	0	0
Warbling Silverbell	0	0	0	0	0	1
Chestnuts Mannikin	0	0	0	0	9	0
Nutmeg Mannikin	0	0	0	0	30	7
Black-thr. Blue Warbler	0	2	0	0	0	0
Yellow Warbler	0	0	0	0	0	1
Elfin Woods Warbler	0	0	0	1	0	0
Louisiana waterthrush	0	0	0	1	0	0
Hooded Warbler	0	0	1	0	0	0
American Redstart	0	0	0	2	0	0
Northern Parula	3	0	0	0	0	0
Bananaquit	19	28	49	9	6	44
Antillean Euphonia	0	0	1	0	1	0
Stripe-headed tanager	6	5	1	0	2	1
PR Tanager	10	2	1	2	0	0
Black-faced grassquit	0	2	1	2	0	16
Yellow -faced grassquit	1	0	0	0	0	0
PR Bullfinch	3	9	2	1	3	1
Greater Antillean Grack	0	2	0	0	0	43
Black- cowled oriole	1	0	0	0	0	1

Desired Condition: Coqui populations are stable or increasing.

Measurement: Transects

Results: No results to report due to a continuing study to develop a sound protocol by Dr. Richard Thomas.

Desired Condition: Sustain a healthy and robust aquatic ecosystem on the Forest. Monitoring any potential barriers to migration of fish or crustaceans.

Measurement: Electro-fishing and snorkel stream surveys developed by the Center of Aquatic Technology Transfer to establish data for aquatic species and habitats. Annual monitoring of selected stream reaches.

Results: The CNF accomplished a total of 12 miles of streams surveys. Stream surveys focus on habitat availability, while electrofishing centered on species occurrences. Since this is the first year of the new protocol devised by the Center for Aquatic Technology Transfer group this data set will be the baseline for the entire Forest concerning any aquatic resource issues. All stream surveys demonstrate there is ample habitat for pools and riffles for species requiring these habitat types. The long-term sites do entail detailed population information and those with dams on their respective rivers will be of interest to gauge whether these barriers influence the resident population.

All three Management Indicator Species for fish do occur in the surveys and signify for the present a healthy population. Most of the rivers of the Forest are the most ideal river habitats for aquatic species in the entire island due to the ecosystem management and stewardship by the Forest Service.



Photo of *Macrobrachium heterochirus* (langostino).

Fiscal Year sampling and survey data follows.

Streamside Survey Habitat Data, Caribbean National Forest, PR															
Stream : Chiquito															
Date: April 26, 2002															
Start Location: Bridge Rd. 988 Forest Boundary															
Recorder: Pedro Quinones, Bruce Drapeau															
Unit Type	Unit #	Dist	Area	Elev.	Depths		Substrate		Large Woody Debris						
					Max	Ave	Dom	Sub	1	2	3	4	5	6	7
R	3	57.4	75.5	120	20	15	6	5						1	75
P	3	65.9	37	120	50	40	5	6							85
SCH	IN	285.1	app 2m wide												
SCH	OUT	307.5	app 3m wide												
P	13	353.5	47.9	120	50	40	5	9				1		93%	
R	13	364.9	153.2	120	30	20	7	5	1	1				91%	
TRX	ON LEFT	433.5	app 1.5m wide												
TRIB	on right	433.5	app 1.5m wide												
G	23	616.7	28.4	130	20	14	4	6	1					80%	
R	23	648.5	19.7	130	25	10	6	7					1	70%	

Streamside Survey Habitat Data, Caribbean National Forest, PR															
Date: 6/3/2002		Stream: Chiquito													
Diver: A. Gomez		Recorder: Bruce Drapeau													
Unit Type	Unit #	Dist	Area	Elev.	Depths		Substrate		Large Woody Debris						
					Max	Ave	Dom	Sub	1	2	3	4	5	6	Canopy
P	33	276.5	21.3	135	55	31	4	6	4	2					76%
R	33	347.6	5.04	138	10	8	5	7							73%
P	43	543.8	59.76	142	85	53.8	6	7	3		1	4	1	84%	
R	43	622.4	10.49	145	10	7.9	7	6	3	2	1		1	95%	
P	53	878.8	29.12	150	50	3	5	7		3			2	95%	
R	53	905.7	9.84	152	25	1.5	8	9						72%	
		908.2													
P	63	1047.2	41.11	190	28	19.4	7	6						91%	
R	63	1053.2	1895.25	200	25	12.7	8	7	1					87%	
P	73	1193.1	2016.4	205	26	19.2	7	6	1	1				86%	
R	73	1202.6	91.2	205	30	17.3	7	6						90%	

Electrofishing Survey Data, Caribbean National Forest, PR
Stream: Rio Chiquito
Watershed: Pitahaya

Date: August 16,2002								
Crew: Cano/Krupp								
Unit Type	Unit #	Len1	Len2	Species	Dive Count	Efish Count	Measure Count	Efish Time
R1	1	6.9	1.9	XIEL		17		46
P1	1	9.5	5	XIEL		76		39
				ALTA		5		
R2		12.8	2.1	XIEL		45		18
				ALTA		9		
P2		10.3	5.6	ALTA		2		56
				XIEL		84		
R3		5.3	1.9	XIEL		24		12
P3		5.5	5.8	XIEL		26		34
				ALTA		1		

Electrofishing Survey Data , Caribbean National Forest,PR						
Stream: Q.Grande						
Date:08/19/02						
Crew: F.Cano,B.Drapeau,P.Quinones						
Unit Type	Unit #	Length1	Width2	Species	Dive count	Efish Count
Pool	P1			ATLA	13	9
Pool	P1			XIEL	16	25
Pool	P1			SIPL	2	
Riffle	R1			ATLA	4	7
Riffle	R1			SIPL	6	
Riffle	R1			XIEL	1	1
Pool	P2			ATLA	29	12
Pool	P2			SIPL	16	31
Pool	P2			XIEL	5	
Riffle	R2			ATLA	8	30
Riffle	R2			XIEL	4	
Pool	P3			ATLA	62	14
Pool	P3			XIEL	54	35
Pool	P3			SIPL	7	
Pool	P3			EPSI	1	
Riffle	R3			ATLA	3	9
Riffle	R3			XIEL	1	1
Riffle	R3			SIPL	5	
Riffle	R3			EPSI	1	

Electrofishing Survey Data, Caribbean National Forest, PR							
Stream: Rio Cubuy							
Watershed: 8/20/2002							
Crew: Felipe Cano, Pedro Quinones, Benjamin Fuentes							
Unit Type	Unit #	Len1	Len2	Species	Dive Count	Efish Count	Measure Count
P	P1	6.7	1.5	XIEL	16	55	10
P	P1			MAHE	1		
R	R1	2.8	2.2	XIEL	7	7	
R	R1			ATSC	1	13	
P	P2	4.4	1.6	XIEL	57	50	
R	R2	1.4	0.5	XIEL	6	3	
P	P3	3.5	1.3	XIEL	12	25	
P	P3			Guppie	2		
R	R3	5.9	1.1	AT NO ID.	14		
R	R3			ATSC	8	1	
R	R3			XIEL	37	19	
R	R3			ATLA		31	
R	R3			ATSP		1	

Electrofishing Survey Data, Caribbean National Forest, PR								
Stream: R. Mameyes								
Date: August 23/26, 2002								
Crew: F. Cano P. Quinones								
Water Temp. 26 C								
Settings: 350								
Unit Type:	Unit #	Len1	Len2	Species	Dive Count	Efish Count	Measure Count	Efish Time (min)
P1		5.9	8.4	AGMO	19			85sec.
P1				SIPL	18			
P1				ANRO	1			
R1		14	10.3	AGNO	26			3.06
R1				SIPL	78			
R1				MAC spp.	1			
P2		15	8.7	AGNO	98			3.3
P2				XIEL	35			
P2				SIPL	306			
P2				ANRO	2			
P2				MAFA	5			
P2				GODO	4			
R2		4	5.1	AGNO	15			54sec.
R2				GODO	1			
R2				SIPL	25			
R2		18.2	5.3	AGNO	65			94sec.

P3				GODO	23		
P3				SIPL	144		
P3		7	6.1	AGNO	16		66sec.
R3				SIPL	21		

Electrofishing survey Data, Caribbean							
Stream: R. Espiritu Santo							
Date: August 30th, 2002							
Unit Type	Unit #	Length (m)	Width (m)	Species	Dive Count	Measure Count	Efish Time(min)
P1		3	3.8	MAC Spp.	1		
				XIEL	1		
				SIPL	4		
R1		3.9	3.1	SIPL	6		P1
P2		4	6.1	SIPL	8	SIPL	1
				SIPL	5	XIEL	1
				XIEL	2	MAC Spp.	1
R2		20.6	3.3	SIPL	4		
				SIPL	3	P2	
				SIPL	13	SIPL	2
				SIPL	6	XIEL	1
				SIPL	1	P3	
				SIPL	19	SIPL	2
				SIPL	22	XIEL	1
				SIPL	17	R1	
				SIPL	9	SIPL	1
P3		5.1	4.6	SIPL	8	R2	
				XIEL	3	SIPL	9
				SIPL	14	R3	
R3		6.3	5.2	SIPL	28	ALTA	1
				XIEL	1	SIPL	2
				ALTA	1	XIEL	1
				SIPL	42		

Electrofishing Survey Data, Caribbean National Forest, PR								
Stream: Rio Sabana								
Date: 8/ 22/ 02								
Crew: Felipe Cano, Pedro Quinones								
Unit Type	Unit #	Length (m)	Width (m)	Species	Dive Count	Efish Count	Measure Count	Efish Time
Pool				XIEL	138	91		43sec.
Pool	P1			ATLA	29	20		
Pool	P1			GUPP.SPP.	48	88		
Pool	P1			SIPL	7			

Riffle	R1			XIEL	9			21sec.
Riffle	R1			ATLA	4			
Pool	P2			XIEL	45	59		22sec.
Pool	P2			ATLA	22	7		
Pool	P2			GUPP.SPP.	27			
Riffle	R2			XIEL	32			34sec.
Riffle	R2			ATLA	12	16		
Riffle	R2			MAHE	2			
Riffle	R2			SIPL	6			
Pool	P3			XIEL	56	68		56sec.
Pool	P3			ATLA	11	4		
Pool	P3			GUPP.SPP.	9			
Pool	P3			SIPL	1			
Riffle	R3			XIEL	20	47		35sec.
Riffle	R3			ATLA	8	56		

Desired Condition: Populations of the Endangered Puerto Rican Boas are stable or increasing.

Measurement: Delineated Road night surveys.

Results: The survey is derived by the same survey method used in Dr. Joseph Wunderle's initial study into the biology of the endangered boa on the island.

	<i>Total Length (cm)</i>	<i>S-vent length (cm)</i>	<i>Weight (g)</i>	<i>Capture Place</i>
1	118	108	515	Close to bridge 191
2	192	183	124	Close to sign on 988
3	170	146	1502	Next to Fence on 988
4	54	44	30	R. 192 platform house

	<i>Capture date</i>	<i>Capture time</i>	<i>Pit Tag Number</i>	<i>Sex</i>	<i>Additional notes</i>
1	4/29/2002	8:23	36096859	M	30.6 mileage (New tag)
2	5/7/2002	9:21	36098515	M	New tag
3	5/8/2002	10:00	36026595	M	New tag
4	5/10/2002	7:48	///////	F	Newly born

Integrated Pest Management

Objective: Identify forest pest problems through routine observations. Implement control in an integrated pest management approach.

Results: A total number of 66 mongoose, 1 domestic dog and 2 cats were trapped in developed recreation sites in 2002. The Forest has determined that the mongoose removal strategy will be only selectively applied, when “problem” animals—individuals that appear to have become habituated to seeking food from humans—are found in recreation areas.

The honeybee is an introduced species, which can be undesirable in developed recreation areas and is a major problem for the Puerto Rican parrot recovery effort. The recent arrival in Puerto Rico of the more aggressive Africanized honeybee has made the problem more acute. 30 Bee traps baited with attractant pheromones are placed around parrot nests and in high human-use areas in order to intercept swarms. Monitoring of bee activity indicates that bee populations are highly variable from year to year. The most active year recently was 1994, with a dramatic decrease in 1995. Activity was low during 1998, but increased during in 1999 & 2000. Activity was moderate in 2001 and 2002, with honeybees removed from 7 parrot nests.

Other pest management activities related to parrot recovery included control of rats and pearly-eyed thrasher management. The thrasher is a competitor of the parrot, and a potential predator of parrot nestlings. Thrasher management strategy consists of providing them 6 nest boxes near parrot nests so that thrashers don't try to usurp the larger cavities the parrots need, while also establishing a territory around the nest they defend against other thrashers.

Many exotic animal species (in addition to honeybees and mongoose) have become established in Puerto Rico, posing varying degrees of threat to native species island-wide and within the Forest. For example the common iguana, *Iguana iguana*, of Central and South America, has become very common in coastal Puerto Rico. Populations appear to be increasing within the Forest; during 2002, 2 individuals were identified as nuisance. Contrary to previous indications, it now appears that the iguana is capable of nesting within the Forest. Possible effects on native species remain unknown.

Rare Plants

Desired Condition: Populations of proposed, endangered, threatened, and sensitive species are stable or increasing.

Measurement: Surveys of known populations every two years during flowering and fruiting seasons. Reconnaissance for new populations.

Results: *Styrax portoricensis* (Palo de Jazmin) is an endangered tree species, native only to the Luquillo and Carite Mountains of Puerto Rico. Fiscal Year 2002 was the third year

of Forest's authorization from the USFWS to collect seeds to be cultivated for later replanting in suitable habitat in accordance with the Recovery Plan. Eight seedlings successfully germinated in the Forest's nursery. The seedlings were transferred to the Puerto Rico Conservation Trust nursery and seed orchard at Rio Piedras, Puerto Rico. Six sites on National Forest were monitored. The total population estimate at the end of the Fiscal Year was 9 individuals.

Year	1999	2000	2001	2002
Palo de Jazmin Individuals	2	6	9	9

Sustainable Forest Benefits

Lands and Special Uses

Desired Condition: Landlines around all National Forest system property are established to standard within 10 years. Established landlines are maintained every 5 years.

Measurement: Miles of landlines established and maintained.

Results: The contract for clearing and marking of 28.88 miles of landlines damaged by Hurricane Georges awarded in FY2000 was completed early in FY2002. Six additional miles around the PR 191 inholding area were added to the contract under a change order and completed. This included more frequent boundary markers at problem areas. One mile was completed under regular program for a total of 7 miles maintained in FY2002.

Signed MOU with the Puerto Rico Conservation Trust to develop a partnership with the organization for 3rd party purchases. Initiated relation with the purchase of 100-acre tract on the southeast side of the Forest currently in progress.

Desired Condition: Special use permittees comply with all provisions of their permits.

Measurement: Special use permit compliance inspections.

Results: Long-term (more than one year) special use permits issued or administered in FY 2002 included:

- 40 outfitter-guides
- 1 organization camps
- 3 water diversions/pipelines
- 3 road rights-of-way
- 8 communication facility sites
- 1 electrical transmission line
- 3 recreation residences

10 research permits

Temporary permits of less than one year in 2002 included:

11 scientific research projects
11 filming/commercial photography
20 non-commercial group events

Five permit amendments were issued in FY 2002.

The outfitter-guide permits require annual operating plans and visitation numbers of Forest visitors coming in outfitter/guide vehicles are tracked at the entrance to El Portal Rain Forest Center.

Scenery Resource

Desired Condition: Visual quality of communications sites improves from Maximum Modification toward Modification.

Measurement: Visual inspection to determine progress toward desired visual quality objective.

Results: Impact of Hurricane Georges on visual quality is not evident at the end of FY 2002. All communication equipment was removed from the El Yunque peak and the area dedicated to dispersed recreation.

Transportation System

Desired Condition: The Forest's road system is maintained to Commonwealth or Forest Service standards to serve public demand for access, to meet management needs, and to protect resources.

Measurement: Annual inspection of maintenance of road system.

Results: The contract awarded in FY2001 for drainage improvements and asphalt overlays at several spots on PR 191 from km 4.6 to 12.6 using emergency funds appropriated after Hurricane Hortense was completed. Roadside maintenance on PRDOT jurisdiction roads continue to be below desired standards. Major effects are on inadequate sight distances and poor visual quality caused by high roadside vegetation.

A total of 11.3 miles of Forest Service Roads were inspected and 5 miles maintained to standard.

Implemented the prohibition of large buses along the PR 191 corridor on June 1, 2002. This effort was initiated to address visitor and employee safety because these vehicles did not fit in the highway geometry. There is a direct benefit to air quality as a result of this

regulation.

Administrative Sites

Desired Condition: Administrative sites are safe, esthetically pleasing and are universally accessible.

Measurement: Building inspection.

Results: Safety inspections were performed on all occupied administrative sites. The Catalina Service Center site and all buildings were operated and maintained to Forest Service Safety and Health standards throughout the year.

Recreation

Desired Condition: A wide range of recreation opportunities is provided.

Measurement: Developed site capacity (persons at one time or “PAOT”). Miles of trail constructed, re-constructed, and maintained to Forest Service standards. Use levels (thousands of recreation visitor days or “MRVD”).

Results: The offered Forest capacity during FY 2002 was 536,158 PAOT-Days. This is considerably higher than the 382,280 in FY2001 because El Portal was closed in FY 2001 for near 7 months and the Yokahu and Palma de Sierra sites were also closed for 4-1/2 months. Total visitation to the Forest during FY 2002 was 694,196 visitors.

The conditions at El Portal Rain Forest Center continued to be excellent with no accumulation of deferred maintenance as a result of ongoing preventive maintenance and landscaping contracts.

Five miles of recreation trails were maintained to Forest Service Standards.

Desired Condition: Forest visitors enjoy safe and enriching environmental and recreational experiences.

Measurement: Evaluation of recreation and interpretation/environmental education opportunities offered. Customer surveys.

Results: Visitation registered at El Portal during FY2002 was 180,738 people. This includes 99,678 customers brought to the Forest by outfitters that check in at El Portal but not necessarily enter El Portal. The Forest Visitor fees collected under the Recreation Fee Demo program were \$414,529. This is a significant increase from FY 2001 when \$206,000 was collected. The main reasons for the increase is due to a use fee increase for outfitters from \$1.00 to \$2.00, and operating El portal year-round during FY2002 vs. only half of the year in FY2001. Ninety five percent of the fees collected remain on site to be

used for fee collection services, maintenance, and improvement of facilities and services.

The Forest Adventure Program, which was introduced in FY1999, and provides guided hikes by trained Forest Service interpreters continued in 2002 but experienced a decrease from 9300 customers and revenues of \$34,000 in FY 2001, to 6300 customers and revenues of \$21,300 in FY2002. This is one program that apparently was impacted by the prohibition of large buses since a high percent of the customers are groups and schools.

Wilderness

Desired Condition: Recreation use occurs at levels that do not detract from wilderness qualities, including primary forest, dwarf forest, and rare plants and animals.

Measurement: Limits of acceptable change analysis.

Results: Wilderness values were not altered during 2002.

Wild, Scenic, and Recreation Rivers

Desired Condition: River segments recommended for Wild, Scenic, or Recreation (W/S/R) designation retain the qualities that qualify them for such designation.

Measurement: Projects proposed within river corridors recommended for W/S/R designation are evaluated for potential effects on river qualities, as part of the project environmental analysis. Visual evaluation confirms that visual quality objectives are maintained within river corridors recommended for designation.

Results: River corridors retained the qualities that qualified them for designation.

Research

Desired Condition: Research conducted on the Forest contributes to improved management of the Forest.

Measurement: Assessment of application of research in management.

Results: In partnership with International Institute of Tropical Forestry (IITF), major research accomplishments and impacts on management are summarized in Lugo and Lowe (1995), including their application to forest management. Following is a list containing completed research products that are used continuously by land managers, conservation organizations, other professionals, and the public in general:

- Tree and vine identification
- Parrot recovery techniques
- Tree species selection for different sites

- Reforestation techniques
- Tree nursery techniques
- Urban tree plantings
- Silvicultural treatment for cutover and volunteer forests
- Properties of Caribbean woods, drying and preservative treatments
- Rehabilitation of landslides
- Wood production via plantations
- Research techniques for long-term monitoring of
 - Tree growth
 - Tree turnover
 - Wildlife abundance

Forest Research Map

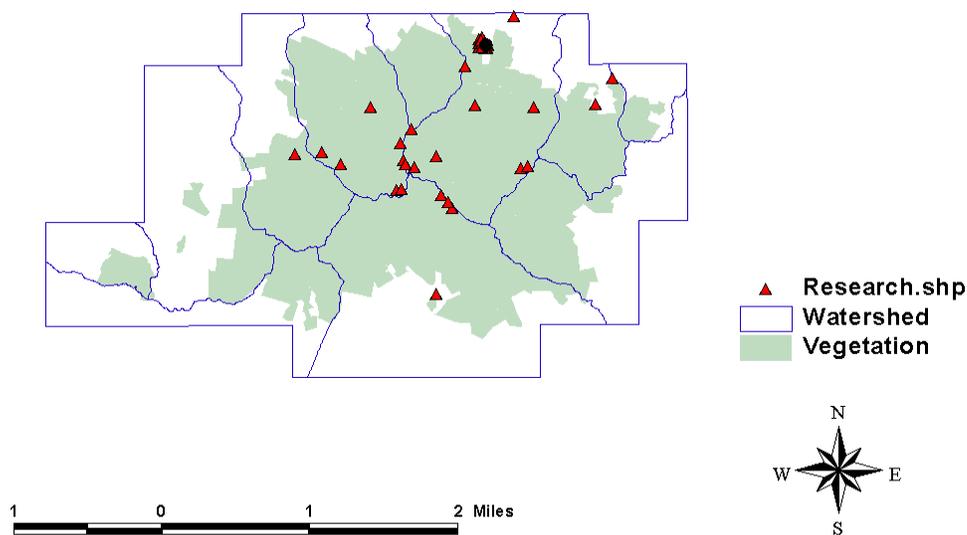


Figure 2. Map of Research Sites under Special Use Permit.

Desired Condition: Instrumentation, temporary facilities and materials are removed from study areas after completion of research projects. Impacts to trails and other facilities and resources are restored.

Measurement: Field inspection of study areas as they are completed.

Results: Limited monitoring indicates a need for additional attention to this issue by managers and scientists.

Heritage Resources

Desired Condition: All potentially significant heritage resources are protected.

Measurement: Inspection of projects during implementation, where surveys detected presence of potentially significant heritage resources. Inspection of known heritage sites every two years, where projects are not occurring.

Results: Five ongoing projects were inspected and monitored for potential impacts to heritage resources. No heritage sites were adversely impacted by management activities during 2002. No undertaking resulted in the discovery of unanticipated archaeological property. Significant heritage sites were monitored.

Five areas were intensively surveyed, in which two newly discovered historic sites were recorded; this encompassed a total of 250 acres newly surveyed for Heritage Resources. Two stabilization projects of historic properties were conducted, one at Mt. Britton Tower and the other on Mt. Britton Trail spur.



Sixteenth Century historic Spanish olive jar found on the Caribbean NF.

CNF provides archaeological expertise to USDA Natural Resources Conservation Service and the Puerto Rico Highway Department and continues to lend support to the

Puerto Rico Army National Guard by conducting an archaeological properties survey of the Camp Santiago Training Site in Salinas.

Law Enforcement

Objectives: The objective of the Caribbean NF, Law Enforcement and Investigations Division personnel is to ensure the public and employee safety while providing protection of Forest Resources, Cultural Resources, Wildlife and Property. Communication between Law Enforcement, the public and all other FS employees is vital for the LE program to meet its objectives.

Results: During FY 2002, the CNF law enforcement personnel have been assisting local authorities providing them with vital information for the investigation of several state violations, which occurred inside the NF. Also, during this period the unit had worked in conjunction with the FBI and the Federal Protective Service on the investigation of the theft of US Government license plates and other government property. A big concern about the use of these government license plates was potential for terrorism acts. Liaison with the US District Attorney's Antiterrorism Unit was established. Assistance to the US Fish and Wildlife Service on the acquisition of a coop agreement with the Rio Grande Municipal Police was provided. Search and Rescue assistance was provided on several occasions during this period.

Fire and Other Emergencies

Objective: The Plan has no objectives for fire. Evidence indicates that fire was not a natural part of the Forest's ecology, although limited areas of the Forest with non-native vegetation can occasionally support limited fire activity during periods of drought. The Forest is tasked to support major fire suppression efforts and other emergency responses on mainland forests.

Results: No wildfires occurred on the Forest in FY 2002. This compares with two fires on the Forest during FY 2000, which burned a total of 9 acres. The Forest dispatched twelve 20-person suppression crews to Virginia, Arizona, Utah, California, North Carolina, Tennessee, and New Mexico 2002 fire season. The Forest established the Multi Agency Coordination Group. The group composed of federal land management agencies with interest in risk management. The Forest filled 7 overhead requests of Southern Area States.

Business Operations

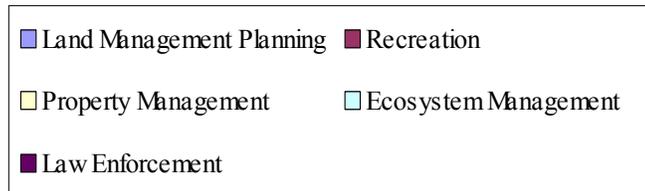
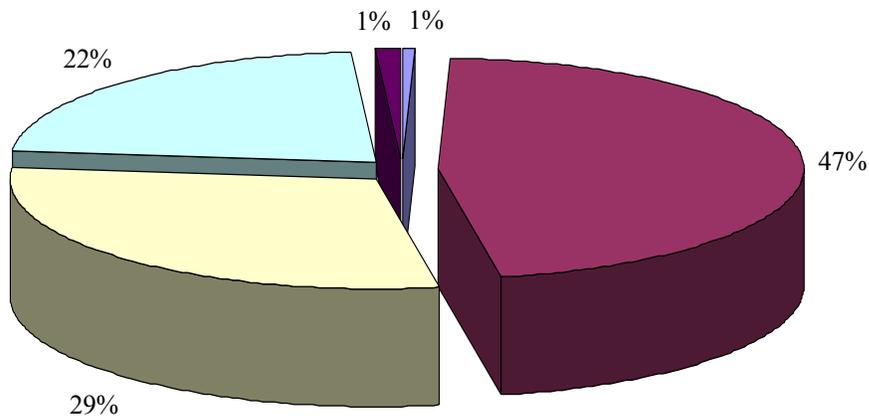
Budget

The Forest financial assets added to 3.8 million dollars. This amount included \$ 444,720 in Senior Community Service Program, \$ 300,000 in collection from the use of recreation areas, and \$ 266,000 from Cooperative Work and services provided to Federal Agencies

thru agreements. The highest Congressional allocation was received for management of recreation, heritage and wilderness resources for an amount of \$1,030,432. The lowest Congressional Allocation of \$ 4,000 was received in Quarters Maintenance.

The Agency continues to distribute a high portion of funds in the area of recreation management.

FY2002 Budget



Budget	Fiscal Year 2002 (\$)
Land Management Planning	15,984
Landownership Management	76,894
Recreation/Heritage/Wilderness	1,030,432
Site Specific Special Fund	300,000
Facility Capital Improvement & Maintenance	694,693

Roads Capital Improvement & Maintenance	59,433
Trails Capital Improvement & Maintenance	100,824
Land Acquisition	47,811
Quarters Maintenance	4,000
Wildlife Management	297,213
Vegetation & Watershed Management	128,916
Inventory and Monitoring	215,838
Forest Fire Management	37,977
Law Enforcement	35,517
Total Appropriations	3,080,532
Additional Funds	
Cooperative Work	110,000
External Reimbursable	156,000
Senior Community Service Employment Program	444,720

Personnel

Permanent Employees	34
Temporary Employees	2
Senior Community Service Employees (SCSEP)	84
Volunteers	731
Youth Conservation Corps (YCC).....	4

Youth Conservation Corps (YCC)

The Youth Conservation Corps provides employment for 15 to 18 year-old youths to help them develop an understanding and appreciation of their natural environment and heritage. During 2002, four young adults participated in this program on the Forest. Their value was appraised at 8,417 dollars.

Senior Community Service Employees (SCSEP)

The Senior Community Service Employees Program provides part-time, local training opportunities for elderly low-income individuals. Our seniors are one of the Forest's most valued human resources. Their many contributions include providing information and interpretation to Forest visitors, recreation site and trail maintenance and construction, and clerical support. The value of seniors work was appraised at 562,344 dollars.

Volunteers

In 2002 volunteers contributed labor with an estimated value of 105,099 dollars. Seven hundred and thirty one volunteers assisted with trash removal, interpretive programs, trail maintenance, wildlife habitat improvement and monitoring, and clerical support. For more information on volunteering, contact Elizabeth Trevino at (787) 888-5667 at the Catalina Service Center office.

Monitoring and Evaluation Interdisciplinary Team

M&E Team Member	M&E Data Analyzed	Position
Carolyn Pabon	M&E Report editor, Research Programs, Budget and Finance, and Business Operations including Human Resources.	Forest Planner and Administrative Team Leader
Manuel Ortiz	Recreation, Special Uses, Wilderness and W/S Rivers, Scenery Resource, and Engineering.	Customer Service and Property Management Team Leader
Pedro Rios	Watershed, Wildlife and Fish, Rare Plants, Pest Management, Heritage Resources, and Emergency Response.	Ecosystem Management Team Leader
Jose Ayala	Law Enforcement	Patrol Captain

FY 2002 Action Plan

A General Management Review (GMR) was completed on August 18, 2000. The objective of the GMR is to review Forest operations within the context of National, Regional and Local emphasis areas. The GMR Team look into: Delivery Structure and Available Funds, Natural Resource Projects, Financial Management; and Administrative Strategy for the Future. As a result of the GMR, a series of tasks were identified for FY

2001. These tasks are divided into two categories. The first category is actions not requiring Forest plan amendment or revision. The second category includes actions, which require amendments.

Actions Not Requiring Forest Plan Amendment or Revision

1. Complete EIS for the Rio Sabana Picnic Area and Trail and related reconstruction of a section of Highway PR191, together with the Puerto Rico Department of Transportation and Public Works as joint lead agencies.

Responsibility: Forest Planner.

Completion date: September 2003

Status: Record of Decision was signed in September 2003. Document will be published in October 2003. And a 45-day appeal period completed in November 2003.

2. Work with Resident Commissioner Animal Acevedo Vila's office and the Forest Service Washington Office on legislation for Congressional designation of wilderness, as recommended in the Revised Land and Resource Management Plan.

Responsibility: Forest Supervisor and Forest Planner

Completion date: September 2000.

Status: Legislation for Wilderness, and Wild and Scenic Rivers was introduced on 3/13/02. The designation of certain waterways as National Wild and Scenic Rivers in the Caribbean National Forest in the Commonwealth of Puerto Rico was signed by the President and became Public Law on 12/19/02.

3. Complete transportation study with P.R. Department of Transportation. Coordinate local community involvement.

Responsibility: Forest Supervisor and Property/Customer Service Team Leader.

Completion date: September 2003.

Status: Final report published in June 2002. Plan Implementation scheduled for 2005.

Proposed FY 2004 Action Plan

Actions Requiring Forest Plan Amendment or Revision

1. Complete amendment of proposed Wilderness boundary. This is a correction to current map of Land and Resource Management Plan. The proposed correction excludes existing water intakes from proposed wilderness areas.

Responsibility: Forest Supervisor and Forest Planner.

Completion date: September 2004.

2. Complete analysis of the management situation for 148 acres acquired in Rio Mameyes Watershed.

Responsibility: Forest Supervisor and Forest Planner.

Completion date: September 2004.