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First name: Peter L.

Last name: Weaver, PhD

Organization:

Title:

Comments: QUICK REVIEW OF EL YUNQUE FOREST MANAGEMENT PLAN

Peter L. Weaver (former research forester)

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INTRODUCTION

Background -- Weaver did both his MS and PhD research in the forests of El Yunque. He wrote some 50 papers about the forest, including one each on the Ba[ntilde]jo de Oro Research Natural Area and the Wilderness Area, neither of which is cited in the references for the El Yunque Management Plan. Many national forests do not have this information. It seems that a management plan would want to highlight what is known for interested readers.

EYNF (El Yunque National Forest) has piles of information on plants, animals, and the environment, probably more than any other national forest. EYNF has a unique research-management relationship and is the only tropical forest in the system, but introductory statements gloss over what that means. Should it be pointed out better? On a small, unique piece of property like the EYNF, managers should be advised to act cautiously. Astute planners should question a heavy reliance on traditions, rules, and formats developed for larger pieces of land in the temperate zone. Trying to do everything on a small piece of land is not advisable.

From 1968 through 2012, Weaver had hiked, often alone and most frequently cross-country (not on trails), as follows: (1) from El Verde Station to El Yunque Peak; (2) from El Verde Station through the forest to the El Toro Trail entrance on route 191; (3) from the entrance of East Peak Road to R[acute] Fajardo; (4) Down the south slope of R[acute] Blanco to the water retention dam at 2000 feet; (5) along the El Toro Trail from route 191 to 186; (6) to the summits of El Toro, El Cacique, and La Mina peaks; (7) to the Valley of the Giants; (8) up and down and all around both the East Peak Radar dome and the El Verde Field station; (9) along several portions of the old East Peak Trail; and (10) throughout the Ba[ntilde]jo de Oro Natural Area several times. In addition, hikes were made on numerous occasions to 24 permanent plots in different forest types, to the airplane wreck near East Peak, many of the 400 subplots in the four 100-plot studies, to another 132 temporary plots in the study of El Yunque's forest types, and with students to different sites in all forest types. Weaver has also lived at four different locations within El Yunque for a total of nearly one year.

Purpose [ndash] Review of the El Yunque draft forest management plan was requested by EYNF through the local newspapers. This is a review of portions of the plan. The job is to consider what seems appropriate, make observations, ask questions, and forward suggestions. The review is in plain English. If there are questions, please contact me. Also, my comments submitted on the last version of the EYNF management plan were either discarded or lost. I was forced to rewrite them and submit them again on June 9, 1995. I would be grateful if these comments were not subjected to a similar fate.

MANAGEMENT PLAN COMMENTS AND QUESTIONS

Philosophy:

* What If [ndash] Let[rsquo]s suppose that a block of absolutely undisturbed land with the same dimensions and attributes as the island of Puerto Rico were available for management planning (cities, roads, forest reserves, etc.). What would the planners do with the small piece of land (about 1% of the island) known as EYNF with its limited size, natural beauty, endemic plants and animals, rare and endangered wildlife species, scenic vistas, and abundant water. The entire land mass might be set aside for public benefit. Just think about that for a moment. That thought should always be in the back of a local planner[rsquo]s mind. Development should not damage a country[rsquo]s heritage or its natural resources so that humans can have fun. That[rsquo]s not management. Protect the forest, first and foremost, as a forested unit and not as a developed playground.

* Money -- The U.S. government is broke. As part of the national debt, Time magazine says that every citizen of the USA owes the government \$43,000. Therefore, it[rsquo]s not recommendable to propose costly, money-losing projects. In fact, it[rsquo]s our duty as citizens to manage wisely, to see that our great nation doesn[rsquo]t [ldquo]perish[rdquo] from the earth.

* EYNF Values -- The most important values and uses of EYNF are for wildlife (plant and animal) protection, water supplies, passive recreation, and environmental education. All of these functions have greater value than disturbing the environment for other purposes.

* Change and Future -- Global warming is real and forest protection is imperative. Scientists, despite their models, are unsure what will happen. Planners should not help global warming by disturbing forest cover or forest borders to please what some perceive as human desires. Don[rsquo]t fragment the EYNF. Protect it as a block of tropical forest.

* Feasibility -- Is the EYNF plan a wish list? Propose what is correct and possible. Then prioritize feasible activities and make sure that they are done.

* Tree Cutting -- Timber harvest should only be carried out if the government makes money, and simultaneously, other more meritorious objectives are implemented (for example, restoration of lowland tabonuco forest, an endangered forest type). Many of the favorite timber species for artisans are relatively rare.

* It took about 70 years of reforestation and succession to achieve decent forest recovery at the base of EYNF.

* Logging means fragmentation, road damage, soil disturbance, impacted water supplies, economic studies, accounting, field supervision, possible damage to future parrot habitat, and so on. Do economic studies describe probable environmental impacts? How about a guaranteed profit for the government?

* Cut for what purpose? Demonstration is not a justifiable reason. Making money is. Is there any money to be made? Is cutting EYNF worth the effort?

* Support timber cutting on managed properties outside of the EYNF. The EYNF is practically sacred to many folks on the island. Let[rsquo]s keep it that way. Forests outside of the EYNF could be cut by private owners. Can EYNF help them?

Editorial (bunch of questions):

The document appears to be a pasted pile of papers. Here[rsquo]s the question always asked of researchers [ndash] is this the best job that you can do? Did anybody read it from cover to cover? The document needs a knowledgeable writer with all important materials who can also edit, and with access to a lab to produce standard figures and tables. Otherwise, a comprehensive, well-organized, and readable document won[rsquo]t be ready for a while. Some questions:

* Does EYNF have anybody on its staff who has publication experience? A good writer writes and edits continuously, thus, he or she really doesn[rsquo]t need an editor. What can editors do? Editors can only do a

job if all of the relevant material is within the document (can't edit what isn't there). Is all relevant information there?

* Has the current EYNF staff studied the comments made on the last management plan (after 1990)? They were written about the same forest.

* Who is the plan for? What do you want to tell them? Is the document written in such a manner that the audience will want to read it (at least certain sections)?

* Should the document assume that the reader does not know Puerto Rico? Should it contain a locator map in the beginning for orientation, showing El Yunque boundaries, major roads, and major towns?

* Would the document be better if the information were in easier to read format? Are all tables and figures really needed? Should they have a standard format? Should some be omitted or combined? Is all repetitive text really necessary, or could some of it be presented more efficiently in tables or in figures?

* Is the document in metric or English units? Is it appropriate to jump back and forth in text, tables, and figures within the same document?

* Should the figures be legible and completely labelled? Should each have a north arrow and scale of miles, kilometers, or both? Should there be some discussion in text of what appears in the figures so the readers know precisely what they are looking at? Should print be standardized along with (font) size and colors?

Some Thoughts, Concerns, and More Questions:

* Planning Process -- The involvement of [appropriate agencies] (Federal and Commonwealth) in EYNF planning was mentioned in a EYNF meeting held years ago on the forest. Weaver questioned, should the EYNF staff plan in conjunction with state and other Federal agencies on the island? The reply ran something like this -- [it's] doubtful that will ever happen. The statement was made by a visitor from the regional office. Does the USFS plan in conjunction with other Federal and state agencies? Would Puerto Rico, which has an area equivalent to a square 58.5 miles on a side (about 70% of metropolitan Los Angeles), not benefit from good cooperative planning?

* Tourism -- Does the Tourism Company promote Puerto Rico's 15 Commonwealth forests and 13 or so Conservation Trust properties, along with other potential tourist sites? Is El Yunque the only well-advertised landscape on the island? Spreading the visitor load around different sites could help during times of maximum use. Has anybody in EYNF talked directly with Tourism and expressed concerns?

* EYNF Size [ndash] Is the forest large enough to survive uncertain global warming changes? Will any of the proposed management interventions (logging, and borderline recreational activities) cause potential long-term damage? Will these activities fragment the forest boundary? Fragmentation, itself, introduces changes in climate and may compound the global warming problem on the forest.

* Uniqueness -- EYNF has more tree species than any national forest in the USA; also, more rare and endangered plants and animals. Some 99.6% of the island has been cut at one time or another, so the EYNF is very important as a block of forest. On the island, and within the EYNF, more tabonuco forest has been destroyed than any other type. The amount of so-called [novel] (secondary) forest inside EYNF boundaries substantiates that claim. Lowland tabonuco forest is a relatively rare. Should it be restored at lowest elevations where tree size and plant diversity were the greatest in the past?

* Literature -- The reference section of the management plan does not reflect the amount of work that has been done in the forest. At least two citations are repeated. Should readers have a better idea of what is known?

* Congested Forest -- EYNF sometimes is seriously overcrowded, destroying any notion of being in a forest environment. There is illegal road parking (often blocking the East Peak Road) and garbage strewn about. Should crowding be controlled for the sanity of people who go there because they love the forest?

* Interpretation [ndash] Could a much better [interpretation] job be done in the forest and in El Portal? Could existing signs be improved and better maintained? Could more (different) information be presented at the El Portal? Improving this aspect of EYNF, however, is extremely difficult. Management has shown minimal interest.

* Recreation Trails -- More recreation trails are suggested for the forest borders. EYNF cannot maintain the current system. Will more trails encourage more motorcycles, mountain-biking, and disturbance along the lower

forest boundary. The Angelito Trail is an example of a new trail in bad condition. Shortcuts have destroyed parts of the trail.

* Past Recreation Trail [ndash] EYNF reopened a trail from the southern recreation site on route #191 so that people could enter the forest from that point. As Weaver recalls, that trail [ldquo]re-reconstruction[rdquo] deviated in areas from the old trail, and led hikers into the Wilderness Area. EYNF cannot maintain its current trail system. Are more trails advisable?

* Development and Species [ndash] Several times in the report a statement something like [ldquo]development will improve aquatic habitat and more native species.[rdquo] Could somebody please explain how human use of riparian sites will achieve that objective?

* La Mina Falls [ndash] Use of La Mina Falls should be restricted for safety reasons. Bathing at should be prohibited (flash floods, slippery rocks). Kenah Huggins slipped on wet rocks and died there on August 26, 2012. Weaver has seen people bathing babies (under 1 year) at La Mina Falls. More drownings could happen. Carting ice boxes to the Falls should be prohibited for garbage control (Scenic and Wild Rivers). Advertising the La Mina as a swimming hole all over the world should stop. Bathing at lower elevations and guided tours at Big Tree Trail should substitute for dangerous aquatic activities.

* New Lands [ndash] Acquiring new lands on the forest border sounds good. But why? To consolidate the EYNF some might say. However, the plan proposes to link new trails and border area recreation sites to communities. That[rsquo]s not consolidation but fragmentation. The plan here is confusing [ndash] buy land to consolidate and simultaneously fragment border areas for recreation sites and trails. EYNF cannot manage the recreation areas and trails that it has now. Making more sounds inadvisable.

* Parrot [ndash] Somebody has declared that EYNF is not preferred habitat for the Puerto Rican Parrot. Therefore, that makes it okay to cut trees, develop recreation sites, and make new trails to communities along the border, and so on. If that is done, will the parrot ever return to lower elevation tabonuco forest? The parrot thrived there during the 18th, 19th, and into the early 20th centuries, until loggers cut nesting trees and food sources. Trees take time to grow and parrots need old trees. With current parrot planning, the central and western part of the island will ultimately have parrots but not the east (the place where they survived). Should EYNF not encourage recovery of the tabonuco forest with its native species as future parrot habitat? How could this be best done?

* Airplanes -- Noel Snyder suggested prohibiting planes from flying at low elevation over the forest. That idea may benefit the parrots, but it[rsquo]s even a better idea for the survival of local pilots. EYNF has had five plane crashes since the 1940s. Is it safe to fly at elevations lower than the mountain tops? On five occasions pilots showed that it wasn[rsquo]t!

* Camping [ndash] Garbage and the introduction of alien plants are associated with campers. Camping below clouds that dump 180 inches per year can be slightly uncomfortable for most people. How do garbage and introduced plants help pristine forest?

* All lands Approach [ndash] Not sure that the concept is easily understood. All lands where? On the forest border or on the entire island? The second makes more sense but the comment made by the regional visitor (see planning process paragraph on page 3) seemed to indicate otherwise.

* Poverty [ndash] Is Puerto Rico poor? It doesn[rsquo]t look that way when one compares it with the rest of Latin America. Islanders eat well, have access to welfare, cell phones, TVs, vehicles, and so on. The island has a pleasant climate. Does anybody freeze to death in the winter? Politicians talk poverty all of the time looking for more money.

Brief Summary [ndash] Philosophical and editorial comments along with thoughts, concerns, and questions regarding the document were mentioned above. EYNF belongs to all the people of Puerto Rico -- those who live along the EYNF border and those who don[rsquo]t. To some, EYNF is almost sacred. Management ideas devised in the USA for large, species-poor temperate zone national forests should not be transplanted verbatim to a small, unique, species-rich tropical forest with an abundance of rare and endangered wildlife (plants and animals) and critical water supplies. The effects of global warming are real and crucial. Border fragmentation is

unwise and non-reversible. Poor decisions regarding border integrity won't help conserve EYNF during global warming. Improved environmental education will require dynamic, well-versed biologists (foresters), who know the EYNF on the ground.