TOWARDS A RESOURCE MANAGEMENT PLAN FOR KIPAHULU VALLEY

Clifford W. Smith,
Department of Botany,
University of Hawaii at Manoa,
3190 Maile Way
Honolulu HI 96822

Kipahulu Valley was added on to Halekala National Park in 1969. The Valley contains a number of valuable natural resources (e.g., endangered forest bird habitat, an extensive low elevation koa forest, a stream system recently added to the national inventory as well as a large number of rare and unusual organisms. The Valley was initially managed as a closed scientific reserve because it was thought that there were few if any threats to the area other than overutilization by man. This attitude was reinforced by the Kipahulu Valley Expedition Report (Warner 1967) in which it was recommended that pigs be eradicated but was followed by Banko and Wilson's (op. cit.) statement that the "magnificient ... forests of Kipahulu Valley ... bear witness to the compatability of wild pigs and a wide variety of indigenous plant species". The revelations of extensive damage by feral pigs in the Valley by Lamoureux and Stemmermann (1976) came as a very unpleasant surprise especially after a letter from R. Becking (op. cit.) blamed the observed increase in weeds in the Valley on the 1967 Expedition.

The currently identified major threats to the integrity of the Valley include:

Pigs
Strawberry Guava
Goats
African Tulip
Roseapple

They are listed in my ranking of urgency of required management. It is a formidable list when one considers that there are only three permanent and two seasonal ranger positions for the Kipahulu area. It is obvious that the Crater area with its problems and only six permanent and eight seasonal ranger and technical positions cannot be utilized in Kipahulu. Haleakala National Park has some very unique resources and a multitude of resource management problems that need attention now. It is impossible to design an effective resource management plan using the currently available facilities and manpower. The National Park Service can no longer afford to delay acting on several of the more severe resource management problems in this park.

There are at least three options available for the future management of Kipahulu Valley:

1. Do nothing more than is done today.

2. Protect specific areas: Those protected by law, e.g., endangered species habitat. Those deserving protection by implication of various listings, e.g., national rivers inventory. Unique or rare habitats, e.g., low elevation koa forest.

3. Protect the whole valley by eradication efforts and the formation of bufer zones.

The first option is unacceptable. The current degradation of the ecosystem above 2000 feet would continue and perhaps accelerate. Such an effect would be contrary to the principles and policies of NPS. It would also be contrary to the the intent of both the State of Hawaii and The Nature Conservancy in handing over the valley to the National Park Service. It would leave NPS open to litigation in years to come as endangered species habitat would almost certainly be impaired. It would be a serious blow to the NPS image as the leading federal agency in conservation.

The second option is subject to many of the same criticisms as above. It would probably be unfeasible to implement because of its piecemeal approach. It would almost certainly be more expensive in the long run because most of the problems related to specific areas are not confined to those areas. Even if feasible, economic, and actually implemented, the approach could create enormous difficulties for resource managers in Haleakala. For example, if a species was later declared Endangered and its critical habitat was or had been in an unprotected area, the recreation of the appropriate habitat and ecological processes could impair the whole resource management program in the park as resources are directed by legal edict.

The third option is the only one open to the resource managers within the administrative policies and legislative mandates of the Service. The conservation of the total valley ecosystem, at least above 2000 ft, will require several different programs which should operate concurrently. They are: feral animal control and eradication; exotic plant control and eradication, and; the establishment of zones to control new invasions into the valley.

Exotic animals

Feral pigs are the most serious threat to the valley ecosystem. They should be controlled and then eradicated according to a plan that should be devised on the basis of the soon-to-be-released study by C. H. Diong. Banko and Wilson's (1967) statement notwithstanding, the ultimate objective of this program should be to eradicate the feral pig from Kipahulu Valley and then keep it out. It will be an expensive proposition that will require constant monitoring but there is no evidence to suggest that these forests can accomodate to the animal.

Feral goats should be controlled at the same time as they are dealt with in the Crater. Care should taken not to drive the goats into the valley or fence them into the valley. Though it has generally been assumed that goats do not inhabit rainforest, the recent invasion of rainforest on Kuiki clearly demonstrates that goats can survive in those conditions. Their impact is as detrimental in forest as it is in scrub- or grassland.

Exotic plants

Strawberry guava.--An eradication zone below 4000 ft on the upper valley and 3600 ft on the lower valley should be established. Initially the lower level of this eradication zone should be at Dogleg. This control zone should be established immediately and should not be dependent on the implementation of a pig control program. After the pig control program is begun, the lower boundary of this control zone should be lowered in feasible increments. Damage to the fern understory should be minimized because it appears that the heavy shade provided will prevent the strawberry guava seedlings growing into mature trees.

African tulip tree.--The numbers of this tree are increasing rapidly on Kaumakani Ridge. These trees and the trees in Kipahulu Valley should be eradicated on a two or three year cycle. The most effective potential technique would be to use Roundup injected with a hypohatchet.

Roseapple.--This plant shades out everything in the areas in which it grows, e.g., Palikea peak. It should be eradicated whereever it grows in the valley by the same technique as for the African tulip tree.

Asscoiated exotics should also be eliminated in areas being treated for the above species on a time available basis.

Buffer zone

A buffer zone between the agricultural area below 2000 ft and the conservation above 2000 ft needs to be established to prevent the spread of further exotic species into the valley. The buffer should include the area from Palikea down to Puu Ahuula and a similar elevation zone on Kaumakani Ridge. but since state and private property negotiation on managing those lands should begin as soon as possible. In the valley proper, it may be more feasible to enourage intensive monoculture agriculture in a region across the valley floor from the Gaging Station downhill for a couple of Ideally the weed control program above 2000 ft would move down the valley and fuse with the lower buffer zone.

However, until the NPS is able to devote more manpower to the resource management program in Haleakala National Park these suggestions are a pipedream. It is important that the adverse impact of feral animals and plants be dealt with immediately

because as the disturbance and seed bank increases the chances of reestablishing the native ecosystem become increasingly remote. The threshold point for an irreversible change is fast approaching.

Literature Cited

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