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22 October 1984

MEMORANDUM

TO: Al Katekaru
THROUGH: Brian Kanenaka
FROM: Don Hoacock
SUBJECT: Na Pali Coast Management Plan - Management of Marine Resources

*(my review comments
on 1984 Plan)*

The Na Pali Coast Management Plan establishes a monitoring program for, among others, living aquatic resources, both marine and freshwater; these resources are to be monitored on five year intervals. In March, 1981 a, "Draft EIS for the Plan was developed and listed the following aquatic resources management objectives:

1. fisheries surveys will be conducted every five years in order to monitor trends and to re-evaluate management concerns;
2. public fresh and marine fishing will be continued under various existing regulations;
3. **should endangered marine animals (monk seals and/or green sea turtles) become regular visitors to Na Pali beach areas, human visitors should be informed that these animals are protected by Federal laws and that they should not be harassed;**
4. need to establish baseline data on recreational fishing activities within, and adjacent to, the Park.

Obviously, the primary objective of the monitoring program is to be able to detect changes in abundances of living aquatic resources, correlate these changes with either changes in user activities or environmental conditions, and act accordingly (eg. set management regulations) to conserve these valuable resources.

Baseline data were collected on the diversity and relative abundance of marine organisms (particularly fish) between June 4-8, 1979 for use in developing the, "Na Pali Coast Management Plan". The first monitoring survey of marine organisms took place on June 4-8, 1984, five years after the baseline data were established. My comments on the, "Preliminary Report " of the Na Pali Coast marine survey are as follows:

1. Page 2, 1st and 2nd P.-- Objectives A and B do not quite coincide with objectives listed above;
2. Page 2, 3rd P. -- boat was used (not utilized);
3. Page 2, 4th P., last sentence -- ...and conspicuous (not certain- implies bias) invertebrates and algae.;
4. Page 2, 6th P. --Eight fish counts...and ten within 100-foot dia. circles using snorkel and SCUBA (list number and places where Scuba was used - and where only snorkeling done);
5. Page 3, 1st P., 3rd sentence -- At Nualolo Kai #9...move to less turbid waters (water at this site was not turbid- visibility 75ft.);
6. Page 3, 2nd P., last sentence--The total standing crop... decreased from 10,470 to 4,885 pounds from 1979 to 1984, respectively, due mainly to the lack of piha and large surgeonfishes. (compare the 1979 and 1984



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- biomass data without the piha included - how does it compare? Next, which species of "large surgeonfish" are you referring to? Are they highly sought after, fished for, species?);
7. Page 5, 8th P.-- The apparent decrease of stony corals noted in the 1984 survey demonstrates the need to monitor these resources on an annual basis rather than once every five years. The "sensitivity" of a monitoring program in detecting trends is positively correlated with frequency of observations. Coincidentally, while I was surveying the macrofauna of Kalalau Stream (July 16-17, 1984) I had the opportunity to discuss this topic in detail with Mr. Bill Gorst, State Park's Planner. He stated to me that, "the five year interval was only a guideline, arbitrarily set, for monitoring Na Pali Coast natural resources, and that the interval could be shortened if the need were demonstrated.
 8. Page 5, last P.-- Green sea turtles appear to be "regular" visitors to some Na Pali beaches. In both the 1979 and 1984 surveys sea turtle tracks were observed on Milolii beach (DOFAW and DAR observations). Over the past few years Mr. Jack Harter (pers. comm.) has seen and photographed several sea turtles basking on both Milolii and Nualolo Kai beaches. We need to more closely monitor sea turtle activities in these areas and make human visitors aware that these animals are protected and should not be harassed. Such information could be included on Na Pali Coast camping permits.
 9. Page 6, 1st sentence -- (sea turtle) tracks were photographed and measured 97.5 cm (39.0 in.) from side to side;
 - 10) Page 6, 1st P.--Vessel activity...appeared to have increased since 1979. Although no fishing activities were seen....During July 16-17, 1984 while surveying Kalalau Stream macrofauna, I observed the following fishing activities: 3 people whipping for papio, in 3 hours caught 2 (2lb) papio and 3 (1 lb) oio; 2 snorkelers picked bag (approx. 3-4lb) of large (over 5.0cm shell length) subtidal opihi near river mouth; 2 fishers with one 16 inch diameter 'opae net caught 2 lbs of opae kalaole in 15 minutes; and several people told me that they regularly collect hihiwai and o'opu nakea from the stream ; also, on 2 September 1984 while collecting ciguatera information with Mr. Rick York at Nualolo Kai we observed: 3 Zodiacs, 2 "tour boats (fiberglass hulled - about 22 feet each) and 4 inflatable kayaks- at least 3 people were carrying spears; it is also important to note that the 11 cases of ciguatera fish poisoning that occurred in August, many of the fish were speared at Nualolo Kai and sold commercially.

In summary, we need to more closely follow the aquatic resources management objectives stated in the Na Pali Coast Management Plan-EIS. The overall objective of field-monitoring studies is to assess impacts of user group activities or environmental perturbations on living aquatic resources. Many monitoring studies fail to achieve their objectives because problems and goals are poorly defined and studies are poorly designed. We need to target our monitoring program after highly sought after species and user group activities that affect them, especially

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in "high use" areas like Nualolo Kai, Kalalau, and Milolii. It may be necessary, in the long run, to limit specific resources (like opihi) to recreational use only, in order to promote conservation and generate the greatest amount of benefit, in a socio-economic context, to the majority of Hawaii's people.

Donald E. Heacock
Aquatic Biologist - Kauai District