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H22/D

September 1, 1972

Memorandum

To: Director, Western Region

From: Superintendent, Hawaii Volcanoes

Subject: Administrative History of Hawaii Volcanoes; Haleakala

Enclosed are two copies of Miss Frances Jackson's "Administrative History of Hawaii Volcanoes and Haleakala National Parks." Also enclosed is a copy of General Superintendent Barrel's letter to the Hawaii Natural History Association which explains the status of the manuscript and distribution of copies. Please note on page 2 of this letter that he recommends sending two copies to the Western Region; one to be retained in Region and the other to be forwarded to either WASO or the Denver Service Center. Of the total five copies, we are retaining the remaining three here in Hawaii.

Bryan Harry

G. Bryan Harry

Enclosures

cc:
General Superintendent, Hawaii Group

ON MICROFILM

United States Department of the Interior

NATIONAL PARK SERVICE

COPY

Mr. Arthur F. Hewitt, Jr.
Executive Secretary
Hawaii Natural History Association
Hawaii Volcanoes National Park
Hawaii 96718

Dear T:

Miss Frances Jackson, in partial completion of her contract with the association, has delivered five copies of her "An Administrative History of Hawaii Volcanoes National Park; Haleakala National Park," to this office. To complete the contract and warrant final payment, Miss Jackson must still deliver one copy of a final volume which will contain the bibliography and copies of selected rare or now unavailable documents found during her search, as well as her handwritten notes as required in the contract. Upon delivery of this final volume, we believe the terms of the contract will have more than been met and final payment should be made.

What Miss Jackson has written far exceeds that contemplated in the original contract and the value exceeds the money spent. Many of the documents used by Miss Jackson are no longer in the files and her pages contain the only existing written records of the matters covered. Her work appears to be complete and exhaustive. Use by present and future superintendents of Hawaii Volcanoes and Haleakala, their staffs, and by others who must make or recommend decisions, will insure a thorough understanding of the backgrounds and climate in which contemporary decisions must be made and of the existing inherited situations. Those who make use of Miss Jackson's monograph will be forewarned and forearmed and be aware of the unique events, people, and history behind the many park matters covered.

One copy of the administrative history has been forwarded to former Superintendent Wingate with the request for review and comments. His written comments will of themselves be historical documents and make available the views of a major participant. The Superintendent, City of Refuge, has been requested to deliver a copy to Mr. Wingate, and upon completion, forward the marked copy and comments to this office. It is contemplated that a Xerox copy of his comments and marked pages will be made and retained here for use by the Pacific-Hawaii Historian and others. At this time the copy of Miss Jackson's monograph held here will be forwarded, together with the original Wingate copy and comments, to you.

Three copies of the five delivered by Miss Jackson are being sent to you under separate cover. One copy has been retained here; one sent to Mr. Wingate. As noted above, these two copies will eventually also be forwarded to you.

Of the five copies, we recommend this eventual disposition:

1. Superintendent, Hawaii Volcanoes
2. Superintendent, Haleakala
3. Hawaii Volcanoes Library (Wingate, annotated)
4. Director, Western Region
5. Director, Western Region for forwarding to either WASO or DSC.

As noted above, the final reference copy at the Hawaii Group Office will be a Xerox of the one reviewed and marked by Mr. Wingate. Any office may, of course, make copies for another office.

As prepared by Miss Jackson, the monograph is for in-house use by NPS personnel. In discussions over the years with Russ Apple as to form, it was agreed that due to the extent of the work and the intended use, certain shortcuts would be permissible. For instance, the Volcano House is referred to frequently as the "VHse." Such shortcuts are readily understood by those familiar with the Hawaii parks and saved Miss Jackson's time in typing the 354 pages.

In its present form, the manuscript is not intended for publication. Like any in-house government document, it is covered under the Freedom of Information legislation and regulations, and thus may be read on-site by anyone who so requests. Miss Jackson may also re-write and publish under her by-line as a professional paper any or all sections, with credit to the National Park Service and the Hawaii Natural History Association. She has indicated intent to do so with some of the material on Haleakala. Anyone using her monograph should also credit her, the Service, and Association.

Miss Jackson's administrative history and Russes' master's thesis (and supplements) on land acquisition give NPS personnel the necessary historical backgrounds for present and future park management and public relations matters in Hawaii. Both should be readily available to Park Superintendents and their staffs.

Sincerely yours,

Robert L. Barrel
General Superintendent

cc:
Director, Western Region
Director, Denver Service Center
Superintendents, HAVO, HALE

No history is ever finished. There are always things undone -- a new source to check, another promising clue to follow out -- and they are left undone for the very good reason that if the historian were allowed to indulge his inclinations, nothing would ever be written.

This history, then, pretends to be nothing more than an essential core of organized information, drawn largely from the files and records created by the administration of Hawaii National Park, Hawaii Volcanoes National Park and Haleakala National Park. To the countless kind people who have offered their help and encouragement we owe a heartfelt thank you. The work has been funded by the Hawaii Natural History Association, Ltd. We hope it will prove a useful guide.

Frances Jackson

Honolulu, Hawaii
June 1972

An Administrative History of

HAWAII VOLCANOES NATIONAL PARK

HALEAKALA NATIONAL PARK

by

Frances Jackson

Honolulu, Hawaii
1972

ABBREVIATIONS USED

AH	Archives of Hawaii, Honolulu.
BLM	Bureau of Land Management, Department of the Interior.
BPR	Bureau of Public Roads, Department of Commerce.
CCC	Civilian Conservation Corps. (Created 1937, liquidated 1943)
ECW	Emergency Conservation Work. (Succeeded by CCC in 1937)
HALE	Haleakala National Park.
HAVO	Hawaii Volcanoes National Park.
HNP	Hawaii National Park.
HVRA	Hawaiian Volcano Research Association.
HVO	Hawaiian Volcano Observatory.
KMC	Kilauea Military Camp.
NARS	National Archives and Records Service.
NPS	National Park Service.
VHse	Volcano House.
WPA	Works Progress Administration, 1935. Name changed to Work Projects Administration in 1939. Absorbed by Federal Works Agency, which was terminated in 1942.

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INTRODUCTION

The chain of islands known as the Hawaiian Archipelago stretches across the central Pacific for over a thousand miles, from Ocean Island in the northwest, to Hawaii Island at the far southeastern end. They are the result of a rift in the ocean floor through which lava poured, building the Hawaiian chain. Today the chain exists in the north only as subterranean mountains topped by barely exposed coral reefs. At the southern end are the deeply eroded volcanic islands of Mauai and Oahu, recently dormant Maui, and Hawaii which is still being built by two of its five volcanoes. One of these two active volcanoes, Mauna Loa, stands 13,680 feet above sea level, one continuous mountain rising nearly 30,000 feet from the floor of the ocean, and probably the greatest single mountain mass in the world.

Although lying along the Tropic of Cancer, the almost constant northeast winds, combined with the moderating expanses of ocean, serve to keep the islands both green and cool. Temperatures range from seashore-balmy to mountain-top-cold; climates from desert-dry to rain-forest-wet. The high mountains, catching the rain-bearing clouds, are the major determinants; areas or even whole islands such as Kahoolawe, lying in the lee of the mountains, tend to be dry.

At about the same time that the Vikings were exploring across the narrow North Sea to America, the Polynesians were sailing from island to tiny island across the southern Pacific

Ocean, settling, then sending voyagers out again. Only during the last wave of exploration did these sailors venture far to the south to settle New Zealand, and even farther to the north to settle Hawaii. Although the settlers to Hawaii maintained an infrequent contact with their Tahiti home, the nearest inhabited area was still a thousand miles away across open sea and for all practical purposes the Hawaiian culture developed in isolation. The settlers in Hawaii found fertile lands, good fishing, and a generally pleasant environment lacking both noxious animal life and undesirable climatic conditions. They brought with them their basic food plants, including the taro, coconut, and sweet potato. They also brought the dog, pig, chicken, and a stow-away rat. They lacked metals (except as extracted from driftwood) and the larger animals.

The Hawaiians also brought with them their system of naturalistic religion, centered about four great gods, each of whose several distinct attributes was worshipped as a separate individual. While there may have been the concept of one supreme god, such things as the time of year, the waxing of political power by the god's chiefly descendents, or immediate practical considerations usually determined godly importance. Thus, south Hawaii, frequently volcanic, had great concern for the care and honor of Pele, goddess of volcanoes. In the same way, the demi-god Maui, a trickster known throughout Polynesia, is associated with the crater of Haleakala for his efforts to make the sun move more slowly across the sky.

Legend has it that at one time Pele lived on Kauai, but finding it not to her taste, had moved down the island chain, most recently vacating Maui in favor of Hawaii. She maintained two homes, Mokuaweoweo atop Mauna Loa, and Halemaumau at Kilauea. The ohelo berry is her sacred fruit.

As a goddess, Pele was honored at heiau near the craters she visited. It was essential to keep this violent-tempered goddess in good humor: what Hawaiian had not heard of the girl who refused to give an old woman a bite of food, whereupon the girl and her family were wiped out by a sudden lava flow? The old woman had been Pele in one of her many disguises. Pele was fond of going abroad in disguises, preferably an old woman or pretty young girl, and in whatever form, she brooked no refusal in affairs of the heart -- her rejected lovers stonily sit out eternity. Pele had several gentler sisters whose duties were in the mists and clouds and glow of fire, and a brother who guarded the crater of Kilauea from the bluff at Uwekahuna.

Just before the middle of the 18th century, at about the same time the colonies in the new world were getting ready to break away from England and become the United States, the chief Kamehameha was born on Hawaii island. The Hawaiian islands, isolated from the rest of Polynesia, had developed with no outside influence beyond a stray Spanish galleon plying the Manila route and an occasional shipwrecked Japanese fisherman. A feudal sort of system had developed composed of high chiefs ruling part or all of an island, and gaining their positions through inheritance and ability.

They in turn delegated power and land to lesser supporting chiefs. By a series of fortuituous events, Kamehameha extended his physical control from one district of the island of Hawaii, to all the major islands except Kauai and Niihau. On the death of their chief, he was to control these, also. He had quickly discovered the values of both western goods and western knowledge. He had godly assistance as well. In his personal keeping was Hawaii's war god, Ku-kailimoku. In 1790, while marching across a plateau south of Kilauea, an opposing army was destroyed in an explosive eruption of mud and hot ash, leaving behind only their fleeing footprints which may still be seen. With Pele also on his side, Kamehameha had a powerful assistant. By the time of his death in 1819, Kamehameha had ruled the entire island chain in peace for nearly a dozen years.

Kamehameha had been a bright young chief of about 25 in the court of his uncle, the high chief of Hawaii, when over the horizon sailed some large canoes with great white sails. It was the time of the makahiki when the annual tax was collected, games were played, and war was prohibited. The god of this months-long event was Lono-i-ka-makahiki, highly honored as he moved leisurely around each island. Based perhaps on earlier visits by Japanese fishermen or Spanish sailors, Hawaiian tradition held that a fair-skinned god Lono would one day return. The newcomers appeared during the annual religious ceremonies presided over by Lono, and then anchored in the bay of Kealakekua just offshore from the major heiau dedicated to Lono. The Hawaiians reasonably

concluded that this indeed was the returned god Lono.

To the western world it was Captain James Cook, in late 1778 many months out on his third and final exploring voyage into the north Pacific ocean. He had visited Kauai and Oahu, then sailed to explore the Northwest Coast, returning some months later to these previously uncharted islands, and after coasting along Maui, had anchored at Kealakekua in the Kona district of the island of Hawaii.

The expedition and its leader were provided with all necessities by the Hawaiians and good sense on both sides kept minor irritations between these quite different peoples from getting out of hand. Cook had barely weighed anchor on his continuing voyage when storm damage forced him to return to the Bay. During repairs, a boat was stolen for the metal in it, and the resulting fray did get out of hand. Cook, leading his forces was knocked down -- a most ungodly lapse -- and promptly killed. The Hawaiians, however, provided his body with the funeral services reserved for a high chief. They were able to return only parts of it to the expedition for Christian burial, an event which has given rise to volumes of somewhat grisly folklore. Cook's men sailed home without their leader, but with the knowledge of a new group of islands on the direct route between the important fur centers of the northwest coast of North America and the trade centers of China.

No other Europeans visited Hawaii until 1786, but after that, traders and explorers came in increasing numbers. Captain Vancouver introduced horses and cattle, which

Kamehameha placed under strict protection until they could establish themselves. By the turn of the century the islands were supplying food for the visiting ships, and under the careful control of Kamehameha, the spicy sandalwood for the China market. In return, the Hawaiians were traded all manner of costly new clothes and furnishings, as well as metal tools and weapons.

It is well to remember that Hawaii had developed a foreign population over the forty years between her discovery by Cook in 1778 and the arrival of the Protestant missionaries in 1820. Sailors had jumped ship or were left behind to recover from the accidents and diseases then common aboard sailing vessels. Some came as merchants and travellers. A few, such as John Young and Isaac Davis, were captives of war who remained with Kamehameha, became his trusted advisors, and were treated as chiefs of high rank. All of this new population, however, was male, and too many had "left god behind the Horn." It was to this group, as well as the heathen Hawaiian, that a band of New England missionaries directed itself in the fall of 1818.

The first missionaries sent out by the American Board of Commissioners for Foreign Missions included a farmer and teachers, as well as preachers. They brought with them the tools of their various trades. Even more important, they brought their wives and families, although except for the farmer who had five young children, most of this first group had sought out and married suitable mates mere weeks before sailing. This group arrived off Kailua Bay in the Kona

district of Hawaii in April 1820. Besides their youthful enthusiasm (they had concientiously undertaken to learn the Hawaiian language from some returning youths,) these first missionaries were aided on arrival by an unexpectedly favorable political situation.

Kamehameha I had died shortly before their arrival. He had prepared his island kingdom so well that the succession of his son Liholiho as Kamehameha II was accomplished with none of the usual revolt and chiefly re-alignments. The young king Liholiho had for his advisor the strong-willed Kaahumanu, a favorite wife and now widow of Kamehameha I. She disliked the religious tabus (in Hawaiian, kapu) surrounding food and women and encouraged Liholiho to end them. The breaking of the tabus brought about a sharp battle between the old and new ways of life, and in some places resulted in the wholesale destruction of the old religion. Hawaiian culture in 1820 was thus politically solid, but lacked a religious form to replace the old tabu-enforced god system.

With little enthusiasm but only infrequent actual opposition, the missionaries were allowed to establish themselves at stations around the islands. They began to teach reading and writing to the chiefs, set up a printing press, and were soon serving as advisors to the kingdom. In some areas the missionaries were actively aided by their chiefly converts. One, the high chieffess Kapiolani of the Kona district of Hawaii, marched to the crater at Kilauea and declared herself a follower of the new god Jehovah.

When Pele made no response to this impious act, another aspect of the old religion was found wanting and the temples dedicated to the volcano goddess were soon abandoned.

The missionaries' attempts to establish new tabus based on a Congregationalist interpretation of the ten Commandments met with opposition from some seamen and merchants which grew into armed conflict at times, but the chiefs supported their new teachers and the islands gradually became Christianized and westernized, with a king and court rivaling those of Europe. During the 19th century political and economic conditions brought European powers with offers of assistance, or threats of take-over, but the kingdom survived as a political entity until an internal revolt overthrew the monarchy and solicited a political alliance with the United States, whose territory Hawaii became in 1898.

EARLY EUROPEAN VISITORS

Not until 1823, nearly forty years after the islands were discovered, did a European record a visit to Kilauea. The Reverend William Ellis liked to visit all the sights wherever he stopped and fortunately, he also liked to record in splendid detail his impressions of life along the way. With some of his missionary brethren, and the usual complement of native bearers, he undertook to visit Kilauea in July of 1823. As they neared the crater, the natives expressed fear of the place, and expected retribution from Pele when Ellis and his party ate some of Pele's sacred ohelo berries to quench their thirst. Ellis wrote:

> We travelled on, regretting that the natives should indulge notions so superstitious, but cleaning every ohelo bush that grew near our path, till about two p.m. when the Crater of Kirauea suddenly burst upon our view.
>
> We expected to have seen a mountain with a broad base and rough indented sides...forming the rim of a mighty caldron. But instead of this, we found ourselves on the edge of a steep precipice, with a vast plain before us, fifteen or sixteen miles in circumference, and sunk from 200 to 400 feet below its original level.
>
> (They descended the steep precipice and) after walking some distance over the sunken plain, which in several places sounded hollow under our feet, we at length came to the edge of the great crater, where a spectacle, sublime and even appalling, presented itself before us--
>
> We stopped, and trembled.
>
> Astonishment and awe for some moments rendered us mute, and, like statues, we stood fixed to the spot, with out eyes riveted on the abyss below.
>
> Immediately before us yawned an immense gulf, in the form of a crescent, about two miles in length, from north-east to south-west, nearly a mile in width, and apparently 800 feet deep.
>
> The bottom was covered with lava, and the south-west and northern parts of it were one vast flood of burning matter, in a state of terrific ebullition,

rolling to and fro its "fiery surge" and flaming billows.

Fifty-one conical islands, of varied form and size, containing as many craters, rose either round the edge or from the surface of the burning lake.

Twenty-two constantly emitted columns of gray smoke, or pyramids of brilliant flame; and several of these at the same time vomited from their ignited mouths streams of lava, which rolled in blazing torrents down their black indented sides into the boiling mass below.

The streams of lava which were emitted rolled down into the lake, and mingled with the melted mass there, which though thrown up by different apertures, had perhaps been originally fused in one vast furnace.

The sides of the gulf before us, although composed of different strata of ancient lava, were perpendicular for about 400 feet, and rose from a wide horizontal ledge of solid black lava of irregular breadth, but extending completely around.

Beneath this ledge the sides sloped gradually towards the burning lake, which was, as nearly as we could judge, 300 or 400 feet lower. It was evident that the large crater had been recently filled with liquid lava up to this black ledge, and had, by some subterranean canal, emptied itself into the sea, or upon the low land on the shore....

After the first feelings of astonishment had subsided, we remained a considerable time contemplating a scene, which it is impossible to describe, and which filled us with wonder and admiration at the almost overwhelming manifestation it affords of the power of that dread Being who created the world, and who had declared that by fire he will one day destroy it. We then walked along the west side of the crater, and in half an hour reached the north end.

Ellis and his party left their baggage and went off to see the sights. They found water "a luxury which...we did not expect to meet with in these regions of fire" in the neighborhood of a number of columns of vapor.

These pools appeared great natural curiosities. The surface of the ground in the vicinity was perceptibly warm, and rent by several deep irregular chasms, from which steam and thick vapours continually arose. In some places these chasms were two feet wide, and from them a volume of steam ascended, which was immediately condensed by the cool mountain air, and driven, like drizzling rain, into hollows in the compact lava on the leeward side of the chasms.

> The pools, which were six or eight feet from the chasms, were surrounded and covered by flags, rushes, and tall grass. Nourished by the moisture of the vapours, these plants flourished luxuriantly, and, in their turn, sheltered the pools from the heat of the sun, and prevented evaporation.
>
> We expected to find the water warm, but in this we were also agreeably disappointed.
>
> When we had quenched our thirst with water thus distilled by nature, we directed the natives to build a hut in which we might pass the night, in such a situation as to command a view of the burning lava...

The next stop was at the sulphur banks, "a hundred and fifty yards long, and in some places upwards of thirty feet high, formed of sulphur, with a small proportion of red clay or ochre." The ground was very hot, they were enveloped in thick vapours from the many cracks, and finally a fog and rain shower drove them back to camp, but not before breaking off samples of sulphur crystals "full an inch in length."

"On our way to the sulphur banks, we saw two flocks of wild geese, which came down from the mountains, and settled among the ohelo bushes, near the pools of water." These were the Nene, once seen in great numbers, but now reduced to a carefully protected flock of a few hundred.

About sunset they returned to their baggage and found that the natives "with a few green branches of trees, some fern leaves, and rushes, had erected a hut. We were none of us pleased with the site which they had chosen. It was at the north-east end of the crater, on a pile of rocks overhanging the abyss below, and actually within four feet of the precipice. When we expressed our disapprobation, they said it was the only place where we might expect to pass the night undisturbed by Pele, and secure from earthquake

and other calamity, being the place in which alone Pele allowed travellers to build a hut." The missionaries said it was much too near and decidedly unsafe, but the natives refused to move. The location proved magnificent for night viewing of the crater.

> Between nine and ten, the dark clouds and heavy fog, that since the setting of the sun had hung over the volcano, gradually cleared away, and the fires of Kirauea, darting their fierce light athwart the midnight gloom, unfolded a sight terrible and sublime beyond all we had yet seen.
>
> The agitated mass of liquid lava, like a flood of melted metal, raged with tumultous whirl. The lively flame that danced over its undulating surface, tinged with sulphureous blue, or glowing with mineral red, cast a broad glare of dazzling light on the indented sides of the insulated craters, whose roaring mouths, amidst rising flames, and eddying streams of fire, shot up, at frequent intervals, with very loud detonations, spherical masses of fusing lava, or bright ignited stones.
>
> The dark bold outline of the perpendicular and jutting rocks around, formed a striking contrast with the luminous lake below, whose vivid rays, thrown on the rugged promontories, and reflected by the overhanging clouds, combined to complete the awful grandeur of the imposing scene.
>
> We sat gazing at the magnificent phenomena for several hours, when we laid ourselves down on our mats, in order to observe more leisurely their varying aspect; for, although we had travelled upwards of twenty miles since the morning, and were both weary and cold, we felt but little disposition to sleep. This disinclination was probably increased by our proximity to the yawning gulf, and our conviction that the detachment of a fragment from beneath the overhanging pile on which we were reclining, or the slightest concussion of the earth, which every thing around indicated to be no unfrequent occurrence, would perhaps precipitate us, amidst the horrid crash of falling rocks, into the burning lake immediately before us.*

Asking the natives to wake them if by chance Pele or any of her relatives should appear in the fire, they went to sleep.

* Ellis, William. A Narrative of a Tour Through Hawaii in 1823. (Reprint of the London 1827 edition.) Honolulu, 1917. See page 172 and on.

The following year, in 1824, George Anson, the Seventh Lord Byron (and cousin of the poet,) arrived in the islands. He was commander of the English frigate HMS Blonde which had been dispatched to convey home the bodies of their Hawaiian Majesties, King Liholiho and Queen Kamamalu, who had died in London while on a world tour. This unhappy duty discharged, Byron explored around Hawaii, anchoring for a time in Byron's -- now Hilo -- Bay. Several parties went up to see the volcano at Kilauea. They stayed in the hut originally prepared for Chieffess Kapiolani's visit. This was a simple shed open on one side and situated within a few feet of the crater on the plateau between Kilauea nui (big Kilauea) and Kilauea iki (little Kilauea.) Byron was the first to use these designations for the two craters, and the plateau separating them is known today as Byron's ledge.

The expedition's naturalist, Macrae, was among those visiting the volcano. He indulged his curiosity by descending into the crater as far as the "black ledge," a hazardous trip taking up most of one day.

> By noon, with difficulty and danger, some of us had reached the nearest smoking pillar, about 30 feet high and covered with sulphur, which gave it a beautiful yellow appearance. We waited here some time for the natives to come up who had hurt their naked feet and legs in falling through the hollow lava that lay in places resembling flues on the top of more solid material underneath, which required the greatest caution to try it first out with sticks to see whether it would break before we attempted to advance a step upon it. We crossed many wide rents. Some of these openings were constantly smoking and smelt so strong of brimstone that got up our nostrils when going over them, as nearly to suffocate us.*

* Macrae, James. With Lord Byron at the Sandwich Islands. Honolulu, 1922. p. 63-64.

Another report from the same party, from the diary of Andrew Bloxam, gave additional details.

> The circumference of the crater (the sides of which are nearly perpendicular all around) as measured with line by Mr. Goodrich and other missionaries a short time previous, was found to be 7½ miles, and the depth supposed to be about 1300 feet. About two-thirds of the way down, there is a large black ledge of solid lava, in some places 30 or 40 yards in breadth, in others, contracted to a few feet. This ledge goes around the whole of the crater, being, I should suppose, the former level of the vast lake of burning and liquid fire; the combustion of matter had probably caused the rest to sink down three or four hundred feet, leaving at the sides immense chasms and rough masses of loose broken lava. The bottom of the crater abounds with innumerable small craters and pyramidal cones, out of which fire, smoke, sulphurous vapors, and red hot lava are constantly issuing, and from some red hot stones are ejected with considerable force to a great height.
>
> About the middle and southwest end, the action is more violent and the craters much large, and particularly one with a cone in the middle which was constantly ejecting stones and red hot lava. The smoke and vapors are entirely sulphurous, and sulphur abounds in several parts in great quantities but more particularly on the south side, the whole of which from its yellow appearance seemed to be composed of it. Altogether the quantity of white smoke and vapor emitted from innumerable mouths and crevices, red hot stones ejected in one spot, a large crater full of bubbling and boiling lava in another, and the numerous burning fires on every side, presented to our eyes a most terrific and awful sight. These were accompanied by a sound resembling that emitted from the bellows of an immense blast furnace, coming out in puffs at regular intervals of about a second intervening, so loud is this noise sometimes that it has been heard several miles distant. The above will give but a faint idea of this extraordinary scene.*

As a naturalist, Macrae had noted the bronze color of the cones, the sulphur banks to the south "looking like the chalky cliffs of Dover and Gravesend," and the pools of water, and the abundant wild strawberries and ohelos. Near the water he saw "some sheds used by the natives when

* Bloxam, Andrew. Diary of Andrew Bloxam. Honolulu, 1925. p. 64-65.

cutting trees for canoes. We also saw some remains of cooked fern (cythea) which our natives are glad to eat, and which we found not at all unpalatable."

This casual touring of the very heart of the active volcano was only the first of many similar trips. The missionaries often recommended the trip and frequently accompanied their guests; recorded accounts of Kilauea volcano grew quickly. Everyone was impressed with the accessability of the crater, the ever-changing spectacle of the active cones, the sulphur deposits, the roar of fire and smell of brimstone.

A comfortable feature was the relative safety of the volcano, although the record of near-mishaps was also growing. The Reverend Thurston, visiting in 1823 with Ellis, was almost given up for lost when he failed to return to camp until well after dark; he had been delayed by the numerous cracks in the earth which forced detours. A boy sent out to look for him sustained extensive bruises when he broke through the thin crust of a hidden tunnel.

The missionary doctor, G. P. Judd, suffered a particularly harrowing experience during his trip to Kilauea with the Wilkes party. He had advanced into the main crater and was getting lava specimens down in one of the smaller craters which contained a small lake. Suddenly the crater began to jet molten lava, causing the lake to surge. A projecting ledge prevented ascent; the lava fountain, near enough to singe his clothes, blocked retreat over his original path.

Fortunately, one of his native friends had not fled; leaning over the ledge he grabbed Judd and pulled him to safety, although both suffered severe burns. According to Wilkes, another moment and they both would have been lost.

Most overnight tourists to the volcano stayed on the northern bank of the crater in quarters variously described as a rude native hut, lean-to, or shed, often located precariously close to the edge on overhanging piles of rock. It seems probable that the Ellis location continued popular despite the hazards: a visitor in 1841 wrote that the hut was only 3 feet from the brink of a perpendicular precipice of four hundred feet, with more of the ledge looking ready to fall in at any minute. The north ledge had the advantage of being near the steam cracks which provided a condensed-steam water supply, and were handy ovens for fast dinners.

Only one enterprising group records using a steam crack for warmth. Charles Stewart, chaplain of the USS Vincennes, returned for a second visit in 1829; while a missionary at Hawaii he had visited Kilauea with the Byron group in 1823. The old shed on Byron's ledge was gone and the only hut now standing was at a different place.

> The rude lodge we were to occupy, open in front, and only slightly thatched on the side next the wind, stands two or three hundred yards from the edge of the crater on the north end.../and/we thought for a time very comfortable, and wisely located as to temperature; being on a spot of ground of such grateful heat, compared with the rawness of the mountain air, as to lead us to congratulate ourselves in the advantages it afforded, as we sat on our packages in front, and partook of our evening repast, within a foot of a crevice, from which steam issued of such power as to cook our potatoes, in a short time, without the aid of fire. But when we

came to take possession of the mats, strewn inside of it for beds, we found ourselves in quarters considerably hotter even than Coleman's LODGINGS FOR SINGLE GENTLEMEN. You will scarce believe, that we all slept on a temperature of 120° Farenheit -- but such is the fact. And it was well, the air above was as low as 56° or 60°, so that by frequent turnings, we could get one side cool while the other was cooking, or we should have been well-nigh parboiled by morning. There was no alternative however; We therefore, made the best of the necessity and after many a twist and toss of restlessness, an occasional groan of impatience, and not a few forebodings, from one part of our bower or another, that we should be steamed to skeletons before morning, we made out a tolerable night's rest; and were quite in good humour with our dormitory, to find, on rising, that the continued vapor bath had dissipated, almost entirely, the stiffness of limb with which most of us had suffered.*

Charles Wilkes commanded an official U. S. Exploring Expedition which brought a well-equipped group to Hawaii in 1840. Among other things he was to explore and map the volcano of Kilauea, and measure the mountains of Mauna Loa and Mauna Kea to determine, once and for all, just how tall they were and which was the highest. Mauna Kea was usually thought to be the higher as it kept its snow cover longer, but Mauna Loa was deceptively long; estimates of their height ran up as high as 18,000 feet. In December of 1840 Wilkes set out from Hilo to accomplish his two appointed tasks. He described his party as follows:

It will scarcely be possible to form a full idea of our company; that of my Lord Byron is described as a sort of triumphal procession; ours was very different from this, and was more allied to a May-day morning in New York, or a vast caravan, consisting, as it did, of two hundred bearers of burden, forty hogs, a bullock, and a bullock-hunter, fifty bearers of poe (native food,) twenty five with calabashes of different sizes and shapes, from two feet to six inches in diameter....Then there

* Steward, C. S., A Visit to the South Seas...1829 and 1830. New York, 1833. V. 2, p. 73-74.

were lame horses, which, instead of carrying riders, were led by them; besides a large number of hangers-on, in the shape of mothers, wives, and children, equalling in number the bearers, all grumbling and complaining of their loads....I felt happy in not understanding the language.

Just as we reached the great plain of the volcano, we approached the southern limit of the wood, and, on turning its corner, Mauna Loa burst upon us in all its grandeur. The day was extremely fine, the atmosphere pure and clear, except a few flying clouds, and this immense dome rose before us from a plain some twenty miles in breadth. I had not, until then, formed any adequate idea of its magnitude and height. The whole dome appeared a bronze colour, and its uninterrupted smooth outline was relieved against the deep blue of a tropical sky. Masses of clouds were floating around it, throwing their shadows distinctly on its sides, to which they gave occasional relief and variety. There was a bluish haze resting on the plain, that apparently gave it great distance, though this was partially counteracted by the distinctiveness of the dome. I now, for the first time, felt the magnitude of the task I had undertaken.

By comparison Kilauea looked "a huge pit, black, ill-looking," with no eruption, no cones, nothing but a depression. From the edge of the cavity, however, its size became apparent. "To give an idea of its capacity, the city of New York might be placed within it, and when at its bottom would be hardly noticed, for it is three and a half miles long, two and a half wide, and a thousand feet deep. The bottom looks, in the daytime, like a smouldering ruins. The descent to the ledge appears to the sight an easy task, but it takes an hour to accomplish." Wilkes camped in tents on the north end, and also commented on the beauties of the crater at night.

After arranging for an accurate survey of the crater, he and part of the group went on to the top of Mauna Loa. Their guide proved to be less than adequate, taking them

via a route both long and waterless. Some of the packages had to be left behind, and the higher they ascended, the greater the number of deserters. Nearly to the summit, they ran into a snow storm; the Hawaiians with little protection against the cold, either fled or were sent back. Finally, Wilkes and one companion reached the summit of the terminal crater. They determined that a descent to the floor would not be practical, so they set up camp on the rim in a foot of snow.

Next morning a permanent camp was located on the rim at a spot some of the group officially named Pendalum Peak. Within a walled area the tents were set up and made weather-proof. "While the rest were employed in making our tents as tight as possible, in the one Dr. Judd and myself occupied, we discovered a great amount of moisture, which, on examination, was found to be caused by steam issuing through a crack in the lava. On placing a thermometer in it, it rose to 68°.... As it somewhat annoyed us, we pounded and filled the seam full of broken pieces of lava. This circumstance led to the discovery of a small piece of moss, the only living thing, either animal or vegetable, that we found within six miles distant, or within four thousand feet of the height of the terminal crater. This moss was here nourished by the steam that escaped, which supplied it with warmth and moisture." The next day a lieutenant found a small piece of fern in the rich earth of the crater, "a great curiosity." Why the party failed to use the steam cracks for either warmth or a limited water supply is not known.

The weather was generally wretched, with winds, more snow and a general storm, but on the better days they set to work. The walls of the crater were measured during the survey of it, and they recorded the name of the main terminal crater as Mokuaweoweo.

> The view from the western side of the dome of Mauna Loa, was, as we saw it, surpassingly grand. In the distance, the island of Maui emerged from and broke the line of the deep blue horizon, while its lower side was dimmed by a whitish haze, that seemed to unite it to the island of Hawaii....Nearer to us was Hualalai, the third great mountain of Hawaii, up whose sides a compact mass of white fleecy clouds was impelled by the sea-breeze. To our right rose in bold relief Mauna Kea, covered with its snowy mantle; and at our feet was spread out, between the three great mountains, the black plain of lava, overhung by a dusky pall of clouds.
>
> All other features were so blended into each other by the mist, as to exhibit a tone of harmony that could hardly be conceived, considering the variety of the forms, characteristics, and distances of the objects, and which seemed to blend earth, sea and sky into one. I can never hope again to witness so sublime a scene, to gaze on which excited such feelings that I felt relieved when I turned from it to engage in the duties that had called me to the spot.*

Previous measurements had favored Mauna Kea as to height, but they had measured Mauna Loa three hundred feet higher than it had been reported to be. There was "some nervous excitement" as, from the highest point of Mauna Loa, Wilkes turned to measure the difference in the height of these "twin giants of the Pacific." Mauna Kea was the higher by one hundred and ninety three feet. Modern measurements make them 13,680 and 13,784 feet respectively.

The Wilkes expedition was probably the first to reach the top of Mauna Loa. It was certainly the best equipped

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* Wilkes, Charles. U.S. Exploring Expedition... Philadelphia, 1845. In 5 volumes. Vol. 4.

and left the most complete record of its investigations. The "twin giants" of Mauna Kea and Mauna Loa were tempting peaks to conquer. A. Menzies, a naturalist with Vancouver in 1793, recorded an effort to reach the top of Mauna Loa but found no adequate path through the thick forests of the upper Kona slopes.* Mauna Kea was more easily conquered. It was no longer an active volcano and the Hawaiians had explored it well enough to locate and quarry axe blades from a deposit of basalt located above 10,000 feet. Some of the Byron party had gone up in 1825, and, in 1838, not long before his death in a wild cattle pit on its slopes, the botanist David Douglas, for whom the Douglas fir is named, had climbed to the summit. Today, both peaks are accessable by jeep trail, and Mauna Loa has a rough road to serve a U.S. Weather Bureau station at 11,000 feet on the north flank.

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* There is a report that Menzies made it to the summit, but Vancouver makes no mention of the achievement in his official report.

THE VOLCANO HOUSE

Three uses of the area preceeded the establishment of the Park, and continue to this date. They are the Volcano House, the Volcano Observatory and Kilauea Military Camp.

By the 1840's, the Kilauea volcano region had become a regular stop for any respectable tourist to Hawaii. This stream of visitors had to make do with a native hut, or pitch their own tents for shelter. All supplies they brought with them. About 1846 a structure was built near the bluff behind the present Volcano House -- a native style house with eventually a lauhala mat over the earth floor. A very uncomfortable pole framework covered with ferns and mats at one time served as a community bed. There was no permanent host, and the house was sometimes locked, but it provided shelter of a sort. Over the years the place underwent some changes and by 1860 it was described as a large grass house, 12 by 18 feet, with a thatched roof and verandah in front, capable of holding forty people.

When someone has built a house of entertainment at the Volcano, Kilauea will be resorted to from far and near as one of the wonders of the world. So wrote an 1850 visitor. In 1866 a Honolulu newspaper carried this report:

> The Volcano of Kilauea is to be honored with a new hotel soon, erected expressly for the comfort of travelers. Mr. Julius C. Richardson has for several weeks been making preparations for erecting a suitable building on the site of the old "crater house" which every traveler who has visited Kilauea during the past

twenty years will remember. He has purchased the materials, lumber and furniture necessary for such an establishment, and shipped them by the schooner Alberni, which takes them to Keauhou, a small port near the crater, where J. C. King's pulu establishment is located. From Keauhou there is said to be a good road to the volcano, distant twelve miles. Mr. Richardson proposes to establish and keep open a good hotel, not on a large scale, of course, but sufficient for the accommodation of travelers. During 1865, there were over four hundred visitors at the volcano; and with the improved lodgings and comforts and an enterprising foreigner to look after them, it is not unlikely that there will be fully one thousand during the present year.*

Mr. Richardson, with George Jones and others, had been engaged in the pulu business, with headquarters at Keauhou landing. Pulu, the silky covering of young tree fern fronds, was dried, baled and sold for stuffing pillows and mattresses. A thriving business during the 1850's, the market faded when it developed that pulu tended to absorb water readily, and with age crumbled to dust. Of the several drying stations, the remains of one near Napau crater was visible for many years. Old Keauhou landing was destroyed in the earthquake and tidal wave of 1868.

Touring the islands in 1866, Samuel Clemens stayed in the new Volcano House. In his letters to the Sacramento Union, and later in Roughing It, he described the place as well-furnished, neat, and with a good table. "The surprise of finding a good hotel at such an outlandish spot startled me considerably more than the volcano did." The facilities included a lookout "like a tiny martin-house clinging at the eaves of a cathedral." The Volcano House had a visitor's book, and in this Twain wrote his delightful Dream.

* Pacific Commercial Advertiser. January 13, 1866.

An 1873 visitor, Isabella Bird, left a more vivid picture of both the Volcano House and its guest book.

> This inn is a unique and interesting place. Its existence is strikingly precarious, for the whole region is a state of perpetual throb from earthquakes, and the sights and sounds are gruesome and awful both by day and night. The surrounding country steams and smokes from cracks and pits, and a smell of sulphur fills the air. They cook their kalo in a steam apparatus of nature's own work just behind the house, and every drop of water is from a distillery similarly provided. The inn is a grass and bamboo house, very beautifully constructed without nails. It is a longish building with a steep roof, divided inside by partitions which run up to the height of the walls. There is no ceiling. The joists which run across are concealed by wreaths of evergreens, from among which peep out here and there stars on a blue ground. The door opens from the verandah into a centre room with a large, open, brick fireplace, in which a wood fire is constantly burning, for at this altitude the temperature is cool. Some chairs, two lounges, small tables, and some books and pictures on the walls give a look of comfort and there is the reality of comfort in perfection. Our sleeping place, a neat room with a matted floor opens from this, and on the other side, there is a similar room, and a small eating room with grass cookhouse beyond from which an obliging old Chinaman who persistently calls me "sir" brings our food. We have had for each meal, tea, preserved milk, coffee, Kalo, biscuits, butter, potatoes, goat's flesh, and ohelos. The charge is five dollars a day, but everything except the potatoes and ohelos has to be brought twenty or thirty miles on mule's backs. It is a very pretty, picturesque house both within and without, and stands on a natural lawn of brilliant but unpalatable grass surrounded by a light fence covered with a small, trailing double rose. It is altogether a most magical building in the heart of a formidable volcanic wilderness.
>
> I have been looking over the "Volcano Book," which contains the observations and impressions of people from all parts of the world. Some of these are painstaking and valuable as showing the extent and rapidity of the changes which take place in the crater, but there is an immense quantity of flippant rubbish, and would-be wit, in which "Madame Pele" invariably occurs.*

The visitor's book began with the 1846 house, and over the years proved a popular feature -- it was good for several

* Bird-Bishop, Isabella. Six Months in the Sandwich Islands. Honolulu, 1964. p. 62.

hours of reading before adding one's own bit to the record. The observations were varied at best. A lady spending One Summer in Hawaii in 1890 wrote of the book: "I turned to the visitor's book and searched its olla podrida for something wise or witty. The nearest approach to it was a single sentence in an uncertain hand; it might has been wise, and under the stress of circumstance, it might even have ranked as wit, but alas! it was not original. It read, without quotation marks, 'There is no fool like an old fool.' The sad truth was perhaps forced from unwilling lips; and the writer may have deemed it common property like the Lord's Prayer or the multiplication table. Another, written in a bold hand, was to the point and certainly original. It read, 'This is a grand place for wearing out shoes."*

Three years later, Charles Nottage, a more caustic English visitor wrote: "Everyone visiting the volcano seems to be seized with a species of cacoethes scribendi. The result is that the hotel register contains some of the greatest nonsense conceivable."** For all the trash in it, the volumes also hold the record of impressions and adventures of guests of more careful scientific bent, and as such are uniquely valuable for the data they contain.

From the time of Stewart's unplanned overnight vapor bath in 1829 to about 1860, steam bathing was a somewhat haphazard affair. The new hotel venture apparently saw the possibilities of adding this as a regular feature, and from

* Mather, Helen. One Summer in Hawaii. New York, 1891. pp 240-241.

** Nottage, Charles. In Search of a Climate. London, 1894. p. 87.

1866 on there are frequent reports of sulphur steaming. The early arrangements were fairly simple. Isabella Bird, though somewhat apprehensive, admitted the efficacy of the procedure. She "limped and groaned down to it...a most spasmodic arrangement, singularly independent of human control, and I have not the slightest doubt that the reason why Mr. Gilman [host at the Volcano House] obligingly remained in the vicinity was lest I should be scalded or blown to atoms by a sudden freak of Kilauea, though I don't see that he was capable of preventing either catastrophe!" She remained the recommended length of time and then managed to limp a little less.

Another intrepid English lady visitor, Constance Gordon Cummings, wrote in 1879:

> I...halted at the Sulphur-Banks, which lie a short distance below the house, and indulged in the luxury of a sulphur steam bath. The bath-room is built over a steam crack, above which is placed a wooden box, with bench and blankets on which to sit. The lid of the box shuts down in two halves, forming a circular hole so as to leave the head of the bather outside; and though it is difficult to avoid some qualms as to a possible scalding, no one seems to have come to grief yet! A few seconds produced profuse perspiration, then with a bucket of tepid water, followed by one of cold water to prevent subsequent chill, the process is complete; and I, for one felt...much refreshed by my bath.*

The Volcano House food was another feature of note. James Jarves, editor of the Polynesian, reported the rates after a visit in 1847: 37½ cents for a fowl; 62½ cents for a hen turkey; 25 cents for a small calabash of potatoes. The fare at the 1866 hotel was even better, including,

* Gordon Cummings, Constance. Fire Fountains. London, 1883. Vol. 1. p. 176-177.

beside the goat and ohelos reported by Isabella Bird, "a strawberry fed goose which had been enveloped in leaves and baked in a hole in the heated earth." This was again the Nene, still to be found in great numbers near the water pools, feeding on ohelos and wild strawberries. In fact, one could locate the wild strawberries by searching out a flock of Nene. And in 1879 there was reference to a supper of roast suckling pig, "also a delicious tart of Pele's ohelo berries." There is no mention of serving cooked fern, either the starchy core Macrae found "not unpalatable" in 1824, nor the tender young fronds eaten like asparagus.

As for water, the early supply was dipped from the pools back of the steam cracks, an adequate enough supply when the use was limited to only 400 visitors a year. With a permanent hotel, a more reliable supply was needed. After one report in 1872 that the water was "scanty and reddish, with a decided flavor of musty straw, most of it being caught in an old canoe set under the eaves to receive the drippings from the thatched roof,"* visitors began to mention that "an ingenious arrangement has been made of to supply fresh water, which has proved very successful. A cistern is constructed near the steam ledges back of the hotel, with a roof over it, on which the steam condenses, and flows into the cistern."** There is no record of the first wooden storage tank used with a roof catchment system.

* Kneeland, Samuel. Volcanoes and Earthquakes. Boston, 1888. p. 22.

** Hawaiian Gazette. December 30, 1874.

By 1877, George Jones had become the sole owner of the Volcano House project, having bought out his former partners. With the aid of William H. Lentz, later to manage the hotel, he undertook to remodel and partially rebuild the Volcano House. All building material was again transported by oxcart from the nearest port, except for rafters, studs and posts, hewn on the spot from ohia and naio logs. This building, although frequently remodeled, still stands today as the old Volcano House Museum. By 1889 the Volcano House venture had been bought by Wilder Steamship Company, and the hotel was managed by John H. Maby. A brochure put out by the company discussed the accommodations: "These are confined to what is known as the Volcano House, where everything within reason can be obtained. This substantially built and comfortable house is of one story and has a wide verandah over 100 feet long. The main building is 110 feet by 35 feet wide; and there are six bedrooms which accommodate three persons each... The parlour and dining rooms adjoin each other in the middle part of the main building, and both of these are large and convenient. The former has several sofas and a superior melodion of large size. There is also a comfortable and roomy fireplace, with rocking and easy chairs around. A well selected library and medicine chest are also there." Outside in front was a flower garden, to one side a vegetable garden. Everything was done to make the stay pleasant. "...indeed, there are few hotels or boarding-houses in Honolulu that are so well supplied with conveniences as the Volcano House at Kilauea."*

* MacDonald, J. W. The Great Volcano at Kilauea. Honolulu, 1889.

A new hotel was built in 1891, a two story frame building with a tower in one corner. The old 1877 house became part of the new building, as a social room with fireplace and billiard table -- the latter serving as emergency bed on occasion. A new hotel corporation had bought up Peter Lee's Punaluu hotel and Lee now managed them both. He had come to the islands as a cabin-boy from his native Norway and, liking the islands, had stayed. To facilitate his Punaluu route to the crater he built the first road from Pahala to the Volcano. He could tell wonderfull tales and was as much at ease entertaining Her Majesty Queen Kapiolani, who arrived without warning one day, as he was with anyone. Peter Lee left the Volcano House in 1898, set up a half-way house at Eleven Miles-Olaa on the Hilo-to-Volcano road, and later, in 1911, established the Crater Inn just outside the present Park boundary, which operated until 1922 when it was bought and the furnishings used in the remodeled Volcano House.

The best known and most durable Volcano House host was "Uncle George" Lycurgus. He had come from his native Greece and on December 4, 1904, he bought out Lorrin A. Thurston and acquired control of the Volcano House from the Volcano House Company. On July 2, 1902, the Volcano House Company (Robert Shingle, president; J. Ena, vice-president; and F. W. Hobson, secretary) had negotiated a lease with the trustees of the Bishop Estate for 29.75 acres and the buildings thereon for 15 years, beginning October 1, 1906, at an annual rent of $500. The four year gap between the

two dates is not clear. On April 18, 1910, the Kilauea Volcano House Company arranged a six year extension of the original lease, from October 1, 1921 to October 1, 1927. The provisions remained the same, except the annual rental during the extension was increased to $900. Lycurgus still "operated" the Volcano House and served as its manager. When George Lycurgus left to visit his home in Greece, his nephew Demosthenes Lycurgus took over as manager. In 1921 Demosthenes Lycurgus died, and in the ensuing shuffle, the Inter-Island Steam Navigation Company purchased 11 shares of Kilauea Volcano House Company stock from Lycurgus for $62,000, thereby gaining control of the Kilauea Volcano House Company and of the Volcano House itself. They installed a Mr. P. T. Phillips as manager.

This was the situation when Boles arrived in April 1922 to assume administration of the Park. He noted in his first report that the Company (he called it the Kilauea Volcano Hotel Company) was building a new garage and doing some landscaping. In April the Company began construction of a new wing, adding 38 rooms to the facilities for a total of 101, ten of which had private baths. This wing was finished in August and in September some old cottages were moved to provide a better view of the crater. Water storage had been nearly doubled with a new tank holding 400,000 gallons. The Hotel Company was also constructing a 9-hole golf course nearby as an added attraction; the hotel already had tennis courts. Boles noted that the Company was making a strong effort to attract local residents, although there were still

frequent complaints of poor service. The low stone walls along the road, ending with "two massive posts of rough lava surmounted with 18 inch white electric globes" gives the hotel an excellent appearance, he reported. According to the Annual Report for 1922, over $200,000 was spent on the Hotel over the past year.

In December 1922 the Crater Hotel just outside the Park was closed and the Volcano House purchased it at public auction, dismantled the buildings and with the materials thus gained, constructed two new cottages and an addition to the garage. The Annual Report for 1923 noted that the establishment now had 120 rooms, and was contemplating a Summer Camp operation as well. Although approved in March 1924, final construction for the Camp was deferred pending the return of volcanic activity to Kilauea crater.

On July 1, 1926, a new 20 year lease was negotiated between the National Park Service (NPS) and the Kilauea Volcano House Company. It provided adequate NPS control of the services and future developments at the Volcano House (VHse) and set the franchise fee at $1000 per year. The lease did not include any control of transportation to or through the Park; the Hilo cab company then providing transportation to the Park was the only one capable of handling it at the time.

With the new lease, the Company went ahead with the Summer Camp project. Twelve 3-room cottages with a capacity of forty people were constructed in November, along with a central assembly hall and thirteen water tanks. Early the

next year it was decided to operate the Camp on the American plan at $3.00 per day, rather than as housekeeping units. Some additional shower and toilet facilities were added before summer and the place was opened for business on June 1, the first guest appearing on June 10. The Hotel Company, considering it an experiment, proceeded slowly with improvements, but recognizing the isolation of the Camp -- 5 miles from the VHse -- authorized a telephone line which was completed on August 13. The Camp had fair patronage the first few years, but it not not prove successful over the long run, due in great part to the general economic decline of the period. By 1929 the concessioner had advised that if business did not improve, they would request permission to discontinue the Camp.

The lack of volcanic activity was a decided factor in VHse business. In October 1927, they received NPS approval to increase their rates in an effort to make some kind of a profit. Only July and August of any year showed a profit, but the staff had to be kept on the year around to accommodate the occasional tour group. The new rate was also to cover additional improvements, such as telephone room service.

In November 1927 James N. Gandy took over as manager, replacing Channing T. Lovejoy. (Lovejoy had replaced Phillips on April 1, 1924.) He immediately began improving the place with new paint, flooring, general redecoration and the installation of a telephone in every room. Over the next few months a new Post Office room was added next to the Hotel office, and the sulphur bath facilities were

improved. However, by early 1929, the Park was beginning to receive complaints about the hotel, dealing mainly with the lack of heat, hot water and bathroom facilities. Every room had a telephone but they didn't all have plumbing. The manager was aware of the complaints but was unable to remedy the situation. Part of the problem was due to the fact that Inter-Island's subsidiary, the Kilauea Volcano House Company, had undertaken in March 1928 to build a hotel in Kailua Kona to accommodate Inter-Island's guests at that port, and the Company preferred to put its funds into the modern and more lucrative Kona Inn.

By 1930, a NPS specialist had rated the VHse as definitely not up to NPS standards, and went so far as to recommend the removal of the hotel entirely, as it was both ancient and architecturally not a park type. He suggested a hotel operation in Hilo, with only a lunchroom at the volcano. Or, if a hotel was desirable, rebuild at Aloha Point, a few miles down the Crater Rim road beyond the residence area. Two years later Landscape Architect Wosky reported that it was highly unlikely the hotel would ever leave the Park, or for that matter, its present location. He recommended that at least the conspicuous red roof and yellow walls be toned down. This was done in 1935, when the building was painted a dark brown with a lighter trim and a black roof. The VHse did cooperate with the Park by removing some unattractive fencing, especially around the tennis courts, and eliminating the exotics in their garden. However, they refused to consider the installation of heat, or baths at that

time, and a problem involving the manager's wife was far from solved. Apparently the Superintendent had agreed to withhold requesting removal of the hotel manager providing his wife resided off the island. This she did for three months before moving to a cottage outside the Park. Whatever the problem, the VHse management did not appear to be acting in good faith.

Complaints continued to be received during 1930 concerning the facilities and service at the VHse. In February 1931, the Superintendent contacted the Secretary of the Kilauea Volcano House Company in an effort to effect improvements. Promises were extracted and a meeting arranged with the Board of Directors. The Superintendent, however, felt that nothing but talk would come of it, which belief was justified in March when the Directors, meeting with the Superintendent, refused to agree to any plan of improvement at the time, on the grounds that they were financially unable to do so and the prospective business did not justify it. The Directors claimed it would cost between $30,000 and $50,000 to remodel the hotel to the standards the NPS was requesting.

The situation was resolved late in 1932. The Kilauea Volcano House Company was adjudged indebted to its parent, the Inter-Island Steam Navigation Company, and the property was offered at sheriff's sale on December 29, 1932, where it was purchased by the only bidder, George Lycurgus, for the sum of $300. Lycurgus began the necessary improvements within two weeks by installing hot water in all rooms. Upon his request, the remainder of the lease was transferred

from the Kilauea Volcano House Company to Lycurgus. He also initiated a bus service, in competition with the Hilo rental cars, with a schedule that was timed so teachers and business people could get back to Hilo early Monday morning.

The new management faced stiff competition. On January 20, 1933, Inter-Island changed its Hilo and Park tour schedules so that tourists spent the night at the Kona Inn and only enough time in the Park to eat Inter-Island prepared box lunches: every cent of revenue remained with Inter-Island. Pressure from the Chamber of Commerce and the NPS finally forced them to reschedule for more time in the Park, with lunch revenues to the VHse and the Waimea Hotel.

The loss of the tourist trade made it impossible to make any profit; however, a local trade was being developed by the special low rates offered. The Superintendent's Annual Report for 1934 indicated that business had indeed improved, but a new contract might be necessary and NPS accountants took the matter for study. In January 1934, Lycurgus had asked for a new contract, or some relief from the franchise fee of $1000 per year. On April 28, 1936, this was granted, to be replaced by a formula requiring a percentage payment when a given profit had been achieved. Appraised at $108,242 in 1932 when sold, the buildings were worth only $86,152 in June 1936. They were being maintained with the aid of WPA, but the structures were in such poor condition that Landscape Architect Sager echoed his predecessors in suggesting the whole thing be razed.

In 1935 a wine-club room was added, which immediately helped revenues, and by the end of 1936 -- at long last -- many of the rooms had private baths. There were not many guests to fill them. The volcano remained quiet, and the new Kilauea Military Camp (KMC) lease allowed that facility to deprive the regular Park operator of a substantial amount of business, according to the Superintendent's Annual Report of June 30, 1936.

The VHse continued in precarious financial condition through 1939. The Reconstruction Finance Corporation refused a loan for rebuilding a part of the hotel, and the Superintendent then recommended approval of a re-assignment of the VHse lease from George Lycurgus as trustee, to George Lycurgus as individual, in an effort to facilitate securing a private bank loan.

Superintendent Wingate saw this as the best of a bad situation. He would have preferred that the government build a new VHse at a different location and lease it to the operator. The present hotel was too small and needed repairs badly. Wingate also noted that the operator only carried $10,000 in fire insurance, which should be increased. It wasn't. In September 1939 the VHse celebrated its 75th anniversary with a big luau, during which the old 1877 Volcano House was presented to the NPS to be preserved as a museum.

Then on February 6, 1940, the VHse burned to the ground in an early morning fire thought to have started in the kitchen. Some of the cottages were saved, but the guests and George Lycurgus himself lost everything but the clothes

they were wearing.

Lycurgus immediately asked the NPS for the use of the 1877 "museum" building, which had been donated only the week before. This was granted and with the museum and the surviving cottages, Lycurgus continued to operate the hotel.

The site for the new hotel became the next item for consideration. The Aloha Point location was rejected by Lycurgus who was "appalled" by the suggestion and offered the following arguments:

With Halemaumau inactive, the guests might be enticed by sulphur-steam baths, which were not available at Aloha Point;

The view was not as good, and the steep cliff made unattractive fencing necessary. He intimated the place ran the risk of becoming known as the "suicide hotel";

The water supply would have to be piped over, an unnecessary expenditure;

The gardens now were close enough to be able to run out and add to the pot should unexpected guests arrive. (The VHse maintained its own kitchen gardens on the flats above the hotel.)

Finally, the new location would require a large outlay for new roads and trails.

Lycurgus recommended the new VHse be kept in its historic location immediately above and behind the old one where there was plenty of level ground. While this location was not chosen, neither was the one at Aloha Point, as both lacked the room needed for expansion. The new VHse was located

across the road and on the crater edge in the area then occupied by the Hawaii Volcano Observatory's (HVO) Whitney Laboratory of Seismology.

A new VHse lease, number I-lp-252, was signed July 1, 1940, replacing the 1926 lease Lycurgus has purchased in 1932. The cornerstone of the new hotel was laid in July and the hotel opened for business on November 8, 1941. It had one month of operation before World War II shut off local travel, and the only income for the fiscal year ending July 1942 came from the club room sales and military rental of the hotel and cottages. However, during the calendar year 1942 the VHse operated at a profit for the first time in many years.

Immediately after the war the VHse and NPS went ahead with other work that had originally been scheduled in conjunction with the new hotel. Old structures came down, others were moved, and the general area rejuvenated. In 1949 the old Park Administration building (#44) was assigned to the concessioner by Special Use Permit for use as an Annex to the VHse. There had been some plan in 1944 to build additional rooms to accommodate the increased number of local visitors, but this was not done as there was no help to staff the addition. The old Administration building was remodeled by the concessioner to five modern rooms and a visitors' lobby on the second floor, and a three room apartment for the manager on the ground floor. The neighboring garage (#11) was assigned to the VHse by the same Special Use Permit, which provided that there would be no charge for the use of the building through December 31, 1960, because of the

extensive improvements to be made by the company.

Under the provisions of the 1952 lease, the government assigned to the concessioner, in October 1952, two parcels of land. One was the 4.6 acre horse pasture on the bluff behind the old VHse. This area was withdrawn October 2, 1959, when the concessioner (as of August 19, 1959) relinquished his preferential rights to provide saddle and pack animal service in the Park. The other area was a 7.8 acre parcel which covered the site of the new VHse, the old Administration building and the garage, the old VHse site, VHse museum and cottages, and the two cottages on the hill. With the Administration building and garage now part of the property assigned to the concessioner, they were listed as government-owned structures assigned to a concessioner on an "Inventory of Government Buildings and Improvements" dated November 10, 1953. Under the same date a Building Use Permit for the two structures was also issued which merely continued the 1949 Special Use Permit. With the decision that the Old VHse Museum was also government-owned, the inventory was provided with Amendment #1 dated February 15, 1954, covering the Museum building. When the 1953 Building Use Permit for the Administration building and garage expired in 1960, a new one was issued covering the period January 1, 1961 to December 31, 1971, and providing for an annual rental fee of $300.*

An April 1965 request for a list of government-owned facilities assigned to the concessioner showed: #42, the

* File: C3823, 1953-66. Director, Region Four to Supt. HAVO, 6 April 1960.

VHse Museum (reported as built in 1855), and #11 and #44, the old Administration building and garage. On June 17, 1965, the camp cabins and restroom at Namakani Paio were also assigned to the concessioner, who waived any possessory rights to the buildings. Late in 1966 the Director of Western Region asked the Superintendent of Hawaii Volcanoes for the list of those government-owned buildings used by the concessioner, to which the Superintendent responded on November 16 with a list showing the old Administration building, garage, and Namakani Piao structures, but not the VHse museum.*

In 1952 the concession arrangement was re-negotiated. Executed August 15, 1952, the new lease was given the number 14-10-0100-65, and replaced contract number I-1p-252. It ran from January 1, 1952 to December 31, 1971. Section #1 of the agreement, which was the consideration for issuing a new contract, required the VHse to build an addition of no less than 8 rooms with 8 baths for occupancy prior to December 31, 1953. This was completed as of October 1, 1953, and Director Wirth notified Lycurgus on November 16 that the new contract was therefore in effect.

In 1955 a much-needed improvement to the dining hall was completed, as well as an addition which doubled the width of the porte-cochere. The dining room was again expanded in the summer of 1960. Uncle George Lycurgus died August 6, 1960 at the age of 101. His son Nick had taken over the management of the VHse some years earlier.

* File: C3823, 1953-66. Supt HAVO to Director, Western Region, 16 November 1966.

In late 1964, Lycurgus wrote to Superintendent Johnston that the VHse Company was ready to build new employee housing. When completed, two old buildings could be removed and the old VHse museum turned over to the Park. He again asked for assurances of a contract renewal which would justify the expenditure. Johnston notified the Regional office of this request and on October 2, 1964, received a reply stating that before construction could begin, it was necessary to revise the HAVO Master Plan (which, among other things, required the removal of the VHse museum building.) Then the concessioner's site plan and architectural drawings would have to be approved. As of 1970, the project was still pending.*

In 1962 the contract was amended by an Agreement (listed as Amendment #1) dated March 27, 1962. This revised the franchise fee percentages, and added a lengthy non-descrimination section. The franchise revision was the result of negotiations begun in 1960 toward a new contract for the VHse, which would guarantee a continuation of the concession and allow the VHse to obtain financing for improvements and additions that were needed. It was noted that the 1940 contract had been replaced when it still had nine years to run for the consideration of the 8 new rooms. It was suggested that a similar consideration might be part of a new contract. While a new contract was not issued, the franchise fee was revised in 1962. Again in 1966 the concessioner opened negotiations with the NPS for a

*File: C3823, 1953-66. FTJ, HAVO to Dir WR, 22 Sept 1964; N.Lycurgus to FTJ, HAVO, 18 Sept 1964; Fagerlund, WR to FTJ, HAVO, 2 Oct 1964.

guarantee of a continuing lease, with which to obtain funds for necessary improvements. These negotiations continued through 1970.

Volcano House Museum

The old VHse museum (building #42) which Lycurgus presented to the NPS at the September 1939, 75th anniversary, was officially donated to the Service on January 29, 1940.* When the VHse burned down a week later, there had been no time for the structure to have been accepted at any level of the NPS and there was no question of Lycurgus again occupying the structure which still "belonged" to the VHse.

There was no further consideration of the ownership of the old building until 1948 when a tabulation entitled "Individual Building Report - Government Owned Structures Assigned to Concessioners, Region Four" listed the old VHse by name as being assigned to the Kilauea Volcano House, Ltd., under contract number I-1p-252.** This reference was unearthed in late 1953 in the Region Four files and forwarded to the Director to assist in determining the ownership of the structure, an item that had been the subject of considerable correspondence.

Then on January 20, 1954, Assistant Director Thomas Allen wrote to the Director of Region Four. Was it possible that the 1902 lease from Bishop Estate allowed some interest in the building which survived the period of the lease? A

* See: VHse file for February 5-6, 1940, dealing with the fire. No written notice of the donation has been found.
** File: C3823, 1953-66. Tabulation dated March 15, 1948.

copy of the 1902 lease was finally located in the Archives.* The lease provided that the lessee would give up the land and all improvements thereon upon termination of the lease. The lease of June 7, 1926 included Article VIII which provided that "all buildings, fixtures, and appurtenances, whether now on the land or hereafter placed thereon, shall at all times be part of the realty and the property of the U.S." It was therefore determined that Building #42, the old VHse museum, should be carried on Hawaii National Park inventory as government-owned. It was noted, however, that in accord with the applicable contract provisions, the government did recognize concessioners as having a possessory interest in the improvements which they had made to a government-owned building.

With this information, the "Inventory of Government Buildings and Improvements" was provided with Amendment #1, dated February 15, 1954, covering "the assignment of the Old Volcano House, building no. 42, to the Kilauea Section concessioner." As this building had been occupied by him since 1932, the concessioner felt he had spent approximately $5000 in improvements. With this as his possessory interest, the building was listed as owned 1/4 by the concessioner and 3/4 by the government.

Ten years later, HAVO Chief Naturalist Hamilton directed a memo to his Superintendent requesting retention of the old

* Archives of Hawaii. Part I, File #609, Hawaii Leases general, covering the period April 24, 1919 to July 16, 1930. Allen's letter says copies were being forwarded to HAVO, but they were not found in File C3823.

Volcano House museum because of its historic value, and asked that the Master Plan be revised to permit its retention. This memo Superintendent Johnston approved on March 5, 1964.* On July 27, Johnston forwarded a copy of the Historic American Buildings Survey Inventory form on the VHse museum, along with maps, photographs and a copy of Olson's Story of the Volcano House, to the Director of Region Four. He recommended classifying it as a CC structure exhibiting a way of life. It went from Region Four to the Chief, WODC, to the Director of Region Four who passed it on to the Director NPS. Along the way it had been re-classified as "BB - Structures Part of Historic Scene - Stabilized, Rehabilitated, or Remodeled." There is no written approval from the Director NPS, but a news release of November 6, 1964, says it was approved by Hartzog in September.**

The news article produced some local response and interest in preserving the building. Nothing more was done at the time, although on September 18, 1964, Nick Lycurgus wrote Superintendent Johnston to say the the VHse Company was ready to build new staff housing and as soon as new quarters were completed, they would turn the VHse museum building over to the Park. Johnston wrote on September 22 saying the building had recently been designated "a historical structure" (this would be about the time Hertzog could have given his approval) and as "soon as it is returned to us we will rehabilitate it

* File: H30 "Archaeological and Historic Structures."
** For listing of this progression see: HAVO Supt Tobin to Assoc Dir Baker, May 17, 1967.

and use it as a public historical exhibit."* A year later, Lycurgus advised Hui O Pele that as soon as the new servants quarters were ready, the old Volcano House would be vacated.** The new servants quarters were tied to general rebuilding and a new lease for the concessioner and had not been constructed as of 1970.

Superintendent Tobin was not convinced of the necessity of preserving the old building. He wrote Associate Director Baker on May 17, 1967 to this effect, and in August, Connally of the Office of Architecture and Historical Preservation, wrote to the Associate Director requesting a Historic Structures Report, Part I. This would provide the basis for a decision on the building which should remain classified as a BB structure until then. In March 1968 Connally requested Region Four to have the HAVO Superintendent prepare a Resource Study Proposal, which was the first step in getting the Historic Structures Report. Although the Western Regional office could find no official notification that the building had been approved by the Director as class BB, nothing should be done to the building until the Historic Status Report was prepared. The necessary RSP was prepared and submitted March 15, 1968.

* File: C3823, 1953-66. FTJ to Dir, WR, 22 Sept 1964.
** File: A42. Minutes of Meeting, Hui O Pele, 26 Oct 1965.

HAWAIIAN VOLCANO OBSERVATORY

A volcano is simply a crack, or weakness in the earth's crust through which magma can force its way to the surface. The Pacific Ocean is ringed with cracks of this kind. These cracks produce two geological phenomena: first, when a part of a weak area slips, an earthquake is produced, and, if the slippage occurs below a body of water, the earthquake may generate a tsunami, often incorrectly called a tidal wave. Coastal areas of California and Chile are regularly devastated by tsunami, and Hawaii, in the path of tsunami from cracks all around the Pacific, maintains a regular tsunami warning system. The second phenomenon is volcanism.

Lava is molten rock, composed of silicates and oxides, various mineral crystals, and gases. The same material when still confined below the earth's surface is called magma. In Hawaii, this magma originates at a depth of probably thirty or forty miles, then seeps upwards to accumulate in holding chambers only a mile or so below the surface. When the pressure has built up enough, there is an eruption.

Hawaii's two currently active volcanoes have over thousands of years built up their distinctive shield-shaped mountains of Mauna Loa and Kilauea. Both have main vents at the summits of these mountains, and both have rift zones, areas of weakness extending away from the central summit vent. Eruptions may occur at the summit or along these rifts as flank eruptions. The rifts are marked at the surface by

cones of volcanic material. These are especially noticeable across the floor of Haleakala following its northeast-southwest rift zone. The Chain of Craters is a series of pits along one of Kilauea's rifts.

Kilauea and Mauna Loa erupt so gently because of the relative fluidity of their lavas which are low in silicas, and thus less viscous -- the gases in them can escape without building up an explosively high pressure. Fluidity is also helped by the relatively high temperature of the Hawaiian lava. Only two violently explosive eruptions are known to have occured at Kilauea, and one of these was due to water seeping into hot vents, creating steam which blew out debris. This 1924 eruption involved no new lava.

By the end of the last century geologists had become fascinated with volcanoes. In 1882 Krakatoa, in the Sunda strait between Java and Sumatra, had literally blown itself up in an explosive eruption which threw out dust clouds that girdled the globe for months. The attraction at Kilauea was a volcano which erupted sedately into a large, conveniently located crater. Beginning with Lord Byron in 1824, each official visitor surveyed the crater, drew maps, and reported at length on the volcanic processes observed. Up to 1924, the eruption was almost constant. Mauna Loa is less accessable, but is also frequently and quietly active. All in all, admirable volcanoes for geologists to observe.

Observe they did. The 1883-84 report of the U.S. Geological Service to the Secretary of the Interior included a special paper on Hawaiian Volcanoes by a staff geologist.

Dana in 1890, Brigham (director of the new Bishop Museum in Honolulu) in 1891, Hitchcock in 1909 all prepared volumes on Hawaii's volcanoes. All urged the wisdom of a regular, long-term investigation of volcanism, based at Hawaii, where both Kilauea and Mauna Loa were so easily observed. Wrote Brigham in 1908 after a visit to Kilauea: "The desirability of a permanent scientific observatory at Kilauea was strongly impressed at this visit, more strongly than ever before. Not merely a hut with a seismometer, but a scientific laboratory with a competent observer. A tower from which could be measured the diurnal rise and fall of the domed floor of the crater; where tests of temperature in the pit could be registered; where gases and ejecta could be analysed and spectroscopic investigations be carried on."*

At this time the Massachusetts Institute of Technology had on its staff, as head of the geology department, a young volcanologist of outstanding worldwide reputation by the name of Thomas A. Jaggar. Widely traveled and familiar with most of the world's volcanoes, he stopped to visit Kilauea in 1909 on his way to view an eruption in Japan. In July of the same year, the Whitney Trust gave MIT $25,000 to further their volcanology research and requested that a study, to specifically include the new field of seismology, be made in Hawaii. Jaggar was enthusiastic about such a study and interested Lorrin Thurston and several other Hawaiian businessmen in a five-year pilot study. MIT was

* Thrums Hawaiian Annual 1908, p. 144.

not ready to support this kind of a program, but in 1910 they purchased a thermometer and seismograph with which to begin the work. The next year Dr. E. S. Shepherd and Dr. F. A. Perret went out to Hawaii and began issuing weekly volcano reports which Thurston published in his newspaper, the Honolulu Advertiser. Shepherd, Perret and Thurston also managed to get the first recorded temperature of the lava lake (1832°F) by stringing a line 1200 feet across the crater and lowering a series of recording instruments into it.

Meanwhile, Jaggar had been seeking additional private support for the Observatory, and in 1911 the new Hawaiian Volcanoes Research Association (HVRA) pledged funds to the amount of $5000 per year, above and beyond the Whitney funds, with which to get the Observatory started. The project, as they envisioned it, was to provide for continuous, permanent observation of the volcanoes, and to offer scientific hospitality and an idea exchange. The Association negotiated with MIT for the services of Dr. Jaggar, and for contributions from the Whitney Fund for the seismological work.

On January 17, 1912, Dr. Jaggar arrived at Kilauea. By February funds had been raised in Hilo for an observatory on the crater rim to replace Dr. Perret's modest hut and the new Whitney Laboratory of Seismology was under construction below the road directly opposite the Volcano House, on a site leased by the HVRA from the VHse. It was 18 feet square with a basement of concrete set on a solid ledge of basalt -- the cellar had been dug through five and a half feet of ash and pumice.

Jaggar submitted a Special Report to MIT on his work at the Observatory during January-March 1912 which listed his accomplishments. Besides building the new Whitney Lab, he was again issuing the weekly bulletins on the volcano, had re-built the old Perret observatory cottage nearer the pit, was helping the USGS team with their topographic survey of Kilauea, had investigated a road to Mokuaweoweo atop Mauna Loa, and was now contemplating the construction of a new instrument house on the very lip of the crater for possible magnetic studies.

Dr. Jaggar remained director of the Hawaiian Volcano Observatory until his retirement in 1940, then continued as a research fellow at the University of Hawaii until his death on January 17, 1953, forty-one years to the day after his arrival at Kilauea.

The Hawaiian Volcanoes Research Association remained an active supporter of volcano research in the Park. It is not known how long their $5000 annual pledge continued, but for many years the Superintendent's Annual Reports listed the HVO as maintained by a federal organization with "aid from private sources." Besides the Whitney Lab of Seismology, they also promoted and built the original Puu Uluulu (Red Hill) resthouse and summit trail as an aid to volcano research on Mauna Loa. The Whitney Lab building and equipment were leased by the HVRA at $1 per year to the Department of Agriculture, Weather Bureau, from 1918 to 1924, and to the Department of Interior, USGS, from 1924 to 1935. In 1935 the HVO was placed under the NPS adminis-

tration and it is not known what arrangements were made with the HVRA for the use of the Lab building between 1935 and 1940, when it was removed to make way for the new VHse.

The HVRA also constructed the Uwekahuna museum-exhibit building in 1927. This was a project originally planned in 1915 to provide an exhibit room and lecture system. It was implemented when a generous Congressional appropriation for volcano research in 1926 paved the way for equally generous contributions to HVRA. The plans were drawn up by Jaggar in 1926 and changed somewhat by the NPS. They called for a T-shaped building 42 x 20 feet, with an alcove on one side to contain a seismology exhibit prepared by some Japanese professors. This building would provide space for an educational program on volcanology, under the supervision of the NPS, and it would also replace the museum Jaggar had been keeping at the old Observatory site which was open for only one hour a day from 11 to noon.

The new building was started on February 21 and dedicated on April 19, 1927, with Governor Farrington, Secretary of Interior Work, NPS Director Mather and Dr. Jaggar in attendance. Uwekahuna Observatory (as the Superintendent's Report for April 1927 called it) was presented by Jaggar, on behalf of the HVRA, to the USGS and NPS jointly and was accepted by Interior Secretary Work on April 19, 1927.

Uwekahuna provided an educational facility, but the Hawaiian Volcanoes Observatory still needed adequate quarters for its scientific work. As early as 1930 the NPS was exhibiting concern over the location of the HVO building.

The Observatory and its related buildings and Jaggar's own house were all located on the very crater rim in what Superintendent Wingate called a "sacred" area. Furthermore, they were so located as to interfere with the Crater Rim trail which was forced to swing around them. Landscape Architect Vint's report in 1930 hoped the USGS (then administering the Observatory) would rebuild the Observatory facilities elsewhere, locate the laboratory at Uwekahuna, and house their employees in the government residential area.

Jaggar was contemplating a new building in 1931. He felt there would be better results away from the rim and the traffic of the VHse and headquarters area. He had planned a two story structure, earthquake- and fire-proof, and selected a site for it southwest of the Summer Camp area. Both Wingate and Landscape Architect Sager approved the site and Wingate, in a letter to the Director dated November 24, 1933, pointed out that the NPS would be remiss if it did not assist the HVO which was helping to make the islands a scientific and educational center of the Pacific.

Sager wrote in 1935 that the Public Works department had $40,000 budgeted for a building of the sort required and asked for plans to be drawn up. Nothing more is heard until late 1937 when Wingate wired the Director of Region Four asking for the status of the preliminary plans for the building, which was now quoted at $100,000. Money was not forthcoming, however, and it was decided to delay the entire project rather than go ahead piece-meal with what small amounts were on hand.

In late 1938 Wingate again wrote the Director noting that the HVRA could barely provide funds for even a greatly reduced salary for Jaggar. Since 1933 the federal government had been paying 2/5 while the HVRA paid 3/5 of the HVO staff salaries and nearly all of the operating expenses. In 1935 the position of seismologist was abolished and on June 30 the volcanologist -- Jaggar -- was transferred from the USGS to the NPS as an employee of HNP, where, it was hoped, the "important scientific investigation conducted under Dr. Jaggar's direction will receive the benefit of stabilized appropriations." By 1938 even the NPS was feeling the pinch. Wingate felt it would still be a strong point if NPS could at least help with the physical plant, to be built with CCC funds since Public Works had recently eliminated Hawaii from its upcoming budget. Wirth replied that when funds were available, the Volcano Observatory and Naturalist building had priority.

By 1940 the project showed signs of life and Sager re-worked the plans to fit within the limits of the $15,000 CCC funds available for materials and skilled labor. With the destruction of the old VHse in February 1940, it became imperative that a new structure be built to accommodate the Observatory, as the Observatory site was Wingate, Sager and Lycurgus' first choice for the location of the new VHse. Apparently it was no longer such a "sacred" area. The new "Volcano Observatory and Naturalist Building" became CCC job #54 with the $15,000 for materials allocated on August 12, 1940. The fiscal year report of June, 1941 listed it as 45% completed.

The new building was located on the site of the old VHse garage, just Hilo-side of the VHse destroyed in 1940, and across the road from Park headquarters.

The buildings comprising the old Volcano Observatory were dismantled and the materials stored, pending a decision from the Department as to whether the buildings were the property of the government or the HVRA. The equipment and other material, which had been purchased by the Association, were donated to the government by the Director of the Association.

Jaggar, in a memo dated June 3, 1940, discussed with Wingate the possibility of using the Uwekahuna Museum building for the Observatory's work. He did not like moving the Observatory away from the crater rim. The Uwekahuna building had been built by the HVRA and then given to the Park and it was surely the most likely structure to house the Observatory. Jaggar indicated that the crater-rim location had the approval of Sager, who had also agreed to the desirability of preserving the old Main Whitney Lab seismograph cellar, now under the new VHse. Jaggar suggested transferring the research offices, library and instrument-making shop to the new Observatory and Naturalist building, and putting the actual observing instruments at Uwekahuna. This would be the daytime working ground of the Observatory staff, and would still allow public use of the museum and esplanade area at Uwekahuna.

Jaggar was particularly concerned about clarifying the future of the Observatory. Not only was its location to be changed, he himself was stepping down as director, to take the chair in Volcanology at the University of Hawaii. And,

he wrote, "The Hawaiian Volcanoes Research Association in conjunction with the University is on a new footing for publication of Volcano Letter and monographs, supplying of instruments and employing research associates." He clearly hoped to keep all the possible benefactors happy with the new Observatory.

By December 1941 the basement of the new building was complete, concrete floor poured, sidewalks and roof up. The Observatory staff had moved to the basement room and a machine shop was set up. All work halted on December 7, 1941. On April 13, 1942, the Army requisitioned the building and by April 18 the building was 90% completed. The work had been done in 72 hours by 20 CCC enrollees, and eight carpenters, two electricians and a plumber supplied by the U.S. Engineers.

The location of the HVO at this time is not clear. Files do not show if the Observatory was indeed moved to Uwekahuna, pending the return of the Volcano Observatory and Naturalist building, if activity was suspended entirely, or if Jaggar simply retired to his own crater-rim home and went ahead with the work.

What is clear is de Vis-Norton's continuing dislike of Jaggar. He claimed Jaggar had manipulated the HVO into the University, which was funded by the Legislature. The Legislature was not interested in volcano research, he claimed, but the wealthy citizenry were, provided it was more "popular." Recalling the early days of HVRA, he felt that unlimited funds could be raised for popular science but not for the pure science Jaggar persisted in doing.

After the war, the HVO again came under the direction of the USGS. In a memo of agreement between the USGS and NPS it was agreed that the Observatory, with its records, library as needed (the rest of the library would remain at the Observatory and Naturalist building), office and lab were to go to the unoccupied museum building at the outer crater, ie, Uwekahuna. Ruy Finch, then volcanologist-in-charge, and instrument-maker Burt Loucks, would become employees of the USGS. Necessary budgets would be adjusted to cover the change in administration. Ranger Howard Powers was to stay on as a NPS employee until the Park could find a suitable naturalist to replace him, when he would go to the USGS as a seismologist. With the fiscal year beginning July 1, 1948, the HVO would be wholly under the USGS. The transition period, implemented by the memo, began December 28, 1947. The old Uwekahuna museum was immediately repaired and improved for its new occupants, the USGS to furnish funds for the job and reimburse the NPS for actually doing the work.

The changes and improvements included new water storage facilities and a generator in the old Naturalist's office. This would eliminate the necessity of installing power lines to the Observatory. The plans for all this work were approved by the NPS. "Standardizing this plan was not deemed necessary as the work is to be done in a building which is not the property of the NPS." The work to be done also included a new seismograph cellar nearby, so the "property" apparently included the land as well.

The matter of USGS occupancy of the Uwekahuna location

required clarification in 1954. Gordon Macdonald wrote Superintendent Wosky asking about the permanency of the Volcano Observatory at Uwekahuna, as the USGS had plans for some revisions and wanted a policy statement from the NPS, whose Master Plan included the eventual removal of the Uwekahuna building. This had originally come up in 1950 when Superintendent Oberhansley noted the heavy picnic use in the area and hoped to relocate the Observatory, perhaps to the headquarters area where the Observatory had started in its old Whitney Lab.

Wosky replied that the Service did not intend to resume operation of the Observatory and Museum, the 1947 agreement between the NPS and USGS was on a "permanent basis" and there was no time limit on it. He then requested clarification from the Director, NPS, which was provided on April 5, 1954.

> We feel that it is the sense of the Memorandum of Agreement dated November 17, 1947, that it be permanent in nature. The Agreement provides for a transfer of functions, records, equipment, and personnel, but with respect to buildings for the Observatory it provides only for use of certain existing ones and by implication use of the lands on which they are located....Thus the Agreement is silent on authority to use Park lands for the erection of additional buildings.
>
> Notwithstanding the technical deficiencies in the Memorandum of Agreement in this respect, it is the position of this Service that Geological Survey may, nevertheless, continue to use Park lands in the Uwekahuna Site for the Observatory, including the erection of buildings thereon. Such site we regard as a permanent location for the Observatory.*

With their permanent occupancy of the site assured, the USGS went ahead with their new geochemical buildings which were completed and accepted in May 1958.

* Conrad Wirth, Director, NPS, to Supt, HNP. April 5, 1954.

Relations between the USGS and NPS have generally been excellent except for a period in the 1950's when the matter of housing threatened to alienate the two Interior Department services.

In the earlier years, the HVRA had helped with housing for the HVO staff by acquiring old summer home leases #1281 and #1318. Jaggar's own home, as previously noted, was on the crater rim. As early as 1930, the Vint report recommended removing the scattered HVO staff quarters to the government residence area and two years later the Wosky report reiterated the need for either removing or "harmonizing" the USGS structures in the Park. Wosky suggested the possibility of the NPS building the structures and renting them to the USGS. This report produced some re-arrangement, improvement, and repairs to the USGS buildings, as noted in Superintendent Leavitt's Annual Report of 1932, but the following year appropriations were drastically cut and nothing more was done along this line until after World War II.

In 1952 the NPS and USGS arranged for additional housing to be built for USGS personnel with USGS funds, but within the Park and subject to Park rules. In 1956 there was a brief exchange of correspondence on the matter of who should occupy which quarters. At the time, a structure built by the USGS housed the Assistant Superintendent, but Volcanologist Gordon Macdonald, in charge of the Observatory, happily occupied the old Jaggar place as it offered the best view of the crater. He felt no cause for alarm in the nearness of the cliffs.

The following April, however, the problem became more

difficult when the USGS asked Superintendent Wosky for aid in housing two new USGS families. Wosky replied that there was nothing available expect temporary quarters, although three places were rented to Kilauea Military Camp personnel. One of the new families to be accommodated was that of the new Volcanologist-in-charge of the Observatory, Dr. Murata. On arrival in August 1957, he was given his choice of the available housing from amongst the "Park" quarters. There were no "USGS" quarters then available.

It soon became apparent to Dr. Murata that his housing was not satisfactory and he initiated action to obtain the USGS quarters occupied by the Assistant Superintendent. On July 24, 1958, Regional Director Merriam wrote the Superintendent to say that the USGS quarters Must be made available for USGS personnel if they wanted them. Wosky replied four days later that the USGS was occupying four NPS houses to the single USGS house occupied by Assistant Superintendent Evans, and that Murata had chosen a NPS house. On August 14 Murata wrote to say that NPS quarters #4, the oldest and least comfortable, was not suitable, and he requested the USGS house occupied by Evans. He noted that the house traditionally reserved for the Assistant Superintendent was available, and he suggested now would be a good time to make the move.

All should have been well with this new arrangement, except that Wosky noted that new NPS people were due soon and would be given first choice amongst the NPS houses occupied by USGS.

At this point the Regional Director called a conference. These talks produced a better understanding between the two

groups, and an admission that both were necessary in their present location. It also produced a new Agreement, whereby the USGS would build additional housing as soon as possible, that the NPS would have first choice of NPS housing, but that the NPS would aid the USGS by making empty housing available to them on a rental basis which would be the same as the rent charged a NPS family. Wosky also asked that the USGS housing be turned over to the NPS for maintainance. Such housing, however, would continue to be assigned by the Observatory Director. Finally, it was agreed that Quarters 1 would be torn down eventually and the USGS need not repair them. This Agreement would replace the Memorandum of December [sic] 17, 1947. A final draft was signed on March 17, 1959.

Since that date there has been general good will between the sister services. The USGS has requested NPS approval of new USGS facilities, including the construction of additional housing in 1962. The NPS has granted special permits for drilling and other experiments after eruptions, and the Observatory has sent the NPS full reports of all its scientific activities.

KILAUEA MILITARY CAMP

Contrary to popular belief, a National Park is not necessarily a recreation area, unless the unique feature to be preserved, for example, is a vast acreage of snow which would almost guarantee its doubling in a recreational capacity. In Hawaii National Park, however, the military maintains the Kilauea Military Camp as a rest and recreation facility unique in National Parks.

By the turn of the century the volcano area had developed as a popular summer-vacation home area, a favorite amongst kamaainas for its invigorating climate and volcanic display. The U. S. Army also had made use of the steaming flats area below the old hotel for recreational purposes in the form of self-contained tent camps. To take advantage of these features, a group of Hilo businessmen banded together in the spring of 1916 to obtain a lease from the Bishop Estate of some 49 acres on which to develop a "regimental camp and maneuvering ground for the National Guard of the Island of Hawaii, and...a vacation and health recruiting station for the regular Army located in Hawaii."* The idea was that while the National Guard was not using the area for maneuvers, the regular Army could use it for rest and recreation. The Commander of the Hawaiian Department and of the Hawaii National Guard both expressed their satisfaction with the plan, and the promoters of the camp set about obtaining the funds necessary to develop

* For details of the Bishop Estate lease, and the early history of the Camp to 1929 see: History of Kilauea Military Camp, Hawaii National Park (to May 1929.) Prepared by the Army. File: 9-3-1. See Appendix.

the site. Approximately $24,000 was obtained by subscription and on August 19, 1916, the Board of Trustees held their first meeting. The Trustees were five in number: General R. K. Evans, then Commanding General of the Hawaiian Department; General Samuel Johnson, then Commanding General of the National Guard of Hawaii; Lieutenant Colonel John T. Moir of the National Guard, Island of Hawaii; Mr. H. G. Vicars of Hilo; and Mr. L. A. Thurston of Honolulu.

By November 1916, the initial buildings were up, at a cost of approximately $17,000. These consisted of an officers building, and cooking, eating and latrine facilities. No housing was provided -- tents were to be used. The first group of Army regulars came up on November 27, 1916.

Although the area was considered healthful, it was somewhat distant from Schofield Barracks on Oahu, the major regular Army station. The steamship lines were prevailed upon to offer a special military rate between Honolulu and Hilo, and the bus to the Volcano, or train to Glenwood, also offered special rates. Large groups, however, might be expected to march at least part of the way.

The next few years were not auspicious. Between 1917 and 1922 the Camp was not used by the National Guard at all, and during World War I regular Army use totaled less than one thousand. For two years after the war, "not a single soldier of the Regular Army used the Military Camp for recreation or other purposes."

In 1919 the Trustees, faced with no funds and only limited use of the Camp by those for whom it had been

established, considered three possible solutions: allow the camp to be used by other groups so that it could become self-supporting; turn the camp over to the NPS for a consideration which might partially re-imburse the subscribers for funds already expended on equipment; or, clear the existing debt and then turn the camp over to the Military to conduct and maintain at their own expense. The military had, so far, consistently refused any financial involvement in the camp. The terms of the lease, however, prevented the Trustees from negotiating its transfer under any of the above arrangements. A 1919 "Summer School" plan for use of the area by the Department of Education only incurred additional bills.

During 1919, General Morton of the Hawaiian Division had made several overtures with the object of having the Army take over the entire administration of the camp. The Trustees and the NPS both rejected these plans. Apparently in a fit of spite, Morton thereupon refused to allow the men under his command to use the area, and there ensued the two year period during which not a single member of the Hawaiian Department visited the camp.

General Summeral replaced Morton as head of the Hawaiian Department in August 1921, and recognized the value of the camp as a recreation area. He also recognized that it would not be available for exclusive Army jurisdiction. On November 1, 1921, a memorandum of agreement was executed between the Trustees of the Kilauea Military Camp and the Hawaiian Department of the U. S. Army whereby the Army took over the

operation and maintainance of the camp, and the payment of $50 annually to the Trustees. This $50 was the ground rent due to the lessor under the terms of the original Bishop Estate lease.

In the meantime, the fourth and final bill to establish a national park in Hawaii had been introduced on January 20, 1916, signed into law on August 1, 1916, and the new Hawaii National Park officially dedicated on July 9, 1921. The Kilauea Military Camp idea had been developed during the same spring of 1916 (Thurston wrote to the Hawaii National Guard on May 8, 1916, and the Hawaiian Department on June 24, 1916), the Bishop Estate lease to the Trustees was dated October 2, 1916, and the camp was first occupied on November 27, 1916. Thus, the establishment of the Hawaii National Park by Congressional action pre-dated the establishment of KMC by its Trustees by two months. However, it was not until June 4, 1920 that the KMC land (land included within the boundaries of the new national park) was transferred from the Bishop Estate to the Territory of Hawaii, at which point the Territory became lessor of the camp lands; and only on October 3, 1921 did the NPS become lessor of the area when the Territory transferred its HNP land acquisitions to the NPS. The NPS were lessors of the KMC site for not quite a month before the new agreement between the Trustees and the Hawaiian Department was signed, marking the beginning of a permanent military-run camp at Kilauea. During the five years from 1916 to 1921 the Park had existed only on paper and the camp, although established, saw little use and had been in

financial difficulty.

Under the new agreement with the Trustees, KMC was placed under the administration of the Recreation Officer for the Hawaiian Department and on October 30, 1921, the first Commanding Officer for KMC arrived with a detachment of 24 enlisted men, three Army trucks, and assorted camp equipment and supplies. Use of the camp began immediately, with a small daily charge for use of the facilities, so as to keep government appropriations for the new KMC at a minimum.

Although the backers of the original KMC idea had hoped for trade benefits to Hilo merchants, the Army soon found local food prices too high, and requested permission to purchase through the Honolulu Commissary. Although it was felt that KMC was not an established post, permission to use the Commissary was granted and funds appropriated to that end in late 1923.

As time went on, the Trustees appeared increasingly anxious to rid themselves of the white elephant of KMC and give it over to the exclusive control of the Army. In 1924 efforts were made to interest the Army in a new sub-lease with the provision that the Army assume the still outstanding debts. The Army was agreeable, but only if KMC were to be made a permanent military reservation. This was a step to be promoted by "keeping Mr. Boles in line as favorable."

The existing indebtedness of KMC was still some $3500, but by 1927 all merchants who held accounts against KMC, with the exception of Hilo Electric Light Company (which had installed the lighting system for the 1919 Summer School) had

stricken such accounts from their books. There is no record of the Army having assumed any of these debts. It is not known what finally became of the remaining $900 due to Hilo Electric.

In spite of the fact that exclusive Army control was not in line with the terms of the original Bishop Estate lease, the Trustees went ahead with efforts to clear away National Guard and Navy rights to the camp. The National Guard agreed to withdraw their interest in favor of the Army, but the Navy, only just discovering they had any rights to the area, promptly insisted on exercising them. A plan of joint occupancy was finally worked out whereby the Navy was to use approximately 15 acres and pay $15 a year toward the ground rent of $50. The Navy camp was absorbed into the main camp when the KMC lease expired in 1936.

The Army wanted to guarantee the permanency of KMC by obtaining exclusive military jurisdiction over the area. They recognized that to remove the desired land from the HNP area would require Congressional action. The Interior Department was approached by the War Department to this end, and in a letter dated November 17, 1925, the Interior Department replied by flatly refusing to concur in the removal of any lands from the Hawaii National Park on the grounds that such a move would establish an undesirable precedent and result in similar applications from others.

The Interior Department, in informal conferences, indicated that "it does not object to the presence of Military Personnel within the Hawaii National Park, nor the development

of the recreation camp there. They are willing to execute a lease to the War Department but do not desire to transfer jurisdiction unless such jurisdiction is a manifest advantage to the War Department."*

The Advocate General of the Army then prepared an outline of the present situation regarding KMC, dated September 1, 1926. This noted that the Act establishing the new Hawaii National Park allowed the Secretary of the Interior, at his discretion, to grant leases for terms not exceeding 20 years, to parcels of land of not more than 20 acres, for visitor accommodation facilities. It was determined that the Trustees, who still held the original Bishop Estate lease, although they had been inactive since 1924, could not give it to the Army, as this would result in the U.S. being both lessee and lessor of the land in question. However, "it is believed that the Secretary of the Interior under the broad authority conferred upon him by the terms of the Act creating the Hawaii National Park might permit or license the War Department upon the expiration of the existing lease to continue to occupy and use the property as a military recreation camp. Such a license would be in accord with the general purpose for which the park was created and is now being administered by the Interior Department."**

And there the matter rested for the time being. The Army wanted complete jurisdiction over the camp; the NPS hoped to remove as soon as possible all its inherited Bishop Estate leases so that the NPS might have complete jurisdiction over

* See: History of KMC, HNP, Section II, p. 27.
** Maj. Gen. J. A. Hull, Judge Advocate General, to C. H. Bridges, Adjunt General, War Department.

the land of Hawaii National Park, given into its jurisdiction by Act of Congress.

The NPS especially wanted to eliminate the KMC lease as this area had been difficult to administer from the first. Boles and succeeding Superintendents were in frequent disagreement with the commanding officers and personnel of KMC over basic policies governing a NPS area, especially when it came to the preservation of natural features. Such things as landscaping and new construction; removal of sand and gravel from areas outside the KMC lease; vandalism and destruction of property and natural features; exotic animals including livestock; and discipline and jurisdiction over criminal acts including theft, prohibition and rape by KMC personnel and guests were among the more vigorously debated problems.

Problems with the camp and its visitors pre-dated the establishment of both KMC and the Park. One of the early tent encampments had resulted in a complaint of indecent exposure by a soldier from the principal of Keakealani School, 29 Miles. Relations between KMC and the new Park administration after 1921 continued bad. 1924 was a particularly bad year. Soldiers from KMC reportedly broke into the garage leased by the Mana Transportation Company and proceeded to make themselves at home. The building had been vacated by the tenant after a bootlegger was found operating there. A few nights after the garage escapade, soldiers made themselves obnoxious at the servants' quarters of the VHse, demanding liquor and robbing employee clothes-lines when ordered away -- three went

AWOL and remained away from camp as well. A brush fire on the Mauna Loa trail the same month was probably set by soldiers who "roam the area, making campfires and carelessly dropping matches." In April, the Superintendent reported "very little trouble given." Five cases of KMC men drunk of the highways were turned over to the U. S. Commissioner. July, an Army truck struck an auto. That August, Boles wrote on KMC highway manners generally. Drivers of trucks serving KMC from Hilo were refusing to allow passenger cars to pass -- on one occasion a sick child being brought home from Hilo was delayed one hour, another time 17 cars were lined up behind the truck by the time the Park entrance was reached. The same month, the Report again mentioned harrassment of employees by soldiers, as well as five soldiers lost on Mauna Loa. Boles felt these were desertion cases, as at least one earlier "lost" soldier later turned up in jail for stealing an auto. 1925 was not much better. During March, 2 sargeants and the official photographer from KMC were "taken in charge" by the Superintendent who found them racing their car around Park roads more or less under the influence of alcohol. One bottle was confiscated.

The Superintendent's Report for January 1930 catalogued a series of problems still originating at KMC. "For several years it has been a custom for soldiers from KMC to form their initials or company insignia on the smooth floors of extinct craters by the use of large loose rocks. This has so disfigured some of the craters as viewed from their rims that orders were issued by this office stopping the practice.

In order to eliminate formations already in place, the officers of the military camp furnished us fifty men who thoroughally cleaned up everything.

Two soldiers from KMC were arrested by Ranger Brumahgin for rolling rocks over the Uwekahuna cliffs and they were turned over to military authorities for discipline.

Discovery was made on January 6 of three small trees and a park sign deliberately shot into pieces. Search of the area revealed a quantity of army regulation rifle shells. Three different partys of soldiers had been given leave by officers to hunt outside the park boundaries that day and the usual permission of the Superintendent had been granted to carry their rifles through the park. All men involved denied the shooting of trees and the offense could be proven on no particular person. In order to prevent further offenses the commander of the camp issued an order entirely revoking the hunting privileges of the entire camp. A copy of the order furnished this office."

Complicating matters during the earlier period was the lack of any clear authority to enforce park regulations within the KMC area. In 1924 the solicitor of the Interior Department held that the only rights the US held over lands included in the inherited Bishop Estate leases were those of lessor, and thus the rules and regulations of the NPS would not apply to the lands until the leases were no longer in effect. And, of course, the original lease was to the now inactive Trustees of KMC, through whom all negotiations with their Army and Navy sub-leassees theoretically should go.

Personalities doubtless played a part, and when it became impossible to solve the problems locally, both sides deferred to their superiors for a solution. In 1924, Superintendent Boles reported to Director Mather that the Trustees had failed to pay their rent within the thirty day grace period allowed, and by the terms of the lease it could thus be cancelled. Mather preferred to work things out with the War Department rather than resort to a technicality. As late as 1933, Superintendent Leavitt expressed concern over the lack of any written agreement between the NPS and the KMC, and wanted to write an office order to remedy the situation.

In March 1933, General Wells of the Hawaiian Department re-opened the matter of the disposition of KMC by requesting the War Department obtain Congressional approval of the KMC as a permanent military post. With an eye to the future (the original Bishop Estate lease was due to expire in 1936) both the Army and Navy sections went ahead with a number of rather permanent-looking improvements. Landscape Architect Sager noted pointedly in his quarterly report for October-December 1933 that the new Navy structures marked the first time either camp had requested the Park to pass upon a building design, or participate in its location. Both camps, he reported, were feeling somewhat insecure.

On June 2, 1933 the War Department asked for a permit or license for another 20 years. On September 9, Secretary of the Interior Harold Ickes replied. Quoting the Act of 1916 creating the HNP, he noted that while the Secretary of the Interior had authority to grant leases, these were limited to

such leases as were necessary to provide accommodations for the general public. They could not be granted for individual or limited group use. He stated that the inherited Bishop Estate leases within the Park were "utterly contrary" to the policies and laws and purposes that control the administration of national parks. While there was no alternative but to let these leases run their course, he also pointed out that "this is the only instance on record where such a use foreign to park policies and purposes occurs, and it is important that the anomalous situation be cleared when the lease expires in 1936." The Secretary of the Interior concluded that he was, therefore, without authority to grant the request.*

The heart of the matter was the issue of jurisdiction: the Army wanted to control the area without having to defer to NPS rules and regulations; the NPS wanted to rid itself of this constant source of opposition to Service policies and park values. When, early in 1934, the camp authorities took the matter to the American Legion, the press, and the general public, a loud and heated campaign developed, with the local press and merchants in favor of retaining the camp. Although 1934 was "National Park Year," the NPS was at a disadvantage in that it had not made clear to the local populace the policies which governed the administration of a park area, and therefore NPS decisions seemed capricious and negative. From the general noise, several major points emerged.

The Army claimed the camp in its present location was

* File: 609-01. See also: Sager Report of February 3, 1934 giving background to that date.

absolutely vital to their needs because: there had already been a heavy outlay of funds in building and maintaining the facility; the volcano area was the very best location for a rest camp; and, Army purchasing gave the merchants of Hilo a handsome source of income.

The NPS wanted to be rid of the camp because: it did not legally conform to the size and use requirement for NPS leases; the military were not particularly conservation-minded and the staff and guests of the camp, when free of discipline, were a constant hazard to Park values and occasionally to Park personnel; and, the military were race-concious and arrogant, a touchy matter in multi-racial Hawaii.

The NPS could also see some advantages in keeping the camp: it provided a large group of trained men in case of emergency; it was a good opportunity for educational contact; and, the camp's medical facilities were available to Park personnel. The administration at HNP, however, did not feel these were adequate to outweigh the negatives of retaining the camp. They reviewed the Army's claim and found them full of holes.

First, the volcano location was wet, lacked a reliable water supply, and was not so necessary to the War Department as some had alleged. While a camp with a change of climate was desirable, even General Wells had agreed that there were better locations which would "serve as well or better." Schofield Barracks itself, Hawaiian Department headquarters, was located in a cool upland area not unlike the volcano district. As a rest site for cases of melancholy (which the Army claimed were minimal due to the availability of Kilauea

rest camp,) Wingate remarked that it was hardly the place to send depression cases, with the sheer crater of Halemaumau so temptingly close. (See: Accidents)

Secondly, the original investment of $24,000 was rather hard to value after 18 years of use. None of the present structures were class A, and only the recently built Navy cottages even came close. This aspect was badly distorted in the press.

Finally, the financial loss to the Hilo merchants was not a valid consideration. The Park had not been created for them, nor was it supported by them. There was a claim that some $150,000 found its way each year into the local economy, which worked out at approximately $28 per person using the camp. However, the Army was actually buying its food supplies through the Oahu commissary and shipping it to Hilo, in direct competition with private merchants. There was also unfair competition for the VHse in the low rates charged the military for the use of the KMC facilities. While there was certainly some commercial benefit to the community, it was not NPS policy to allow commercial interests to outweight other considerations.

The NPS was very well aware that the longer the camp remained, the more difficult it would be to ever remove it, and the greater the pressure from the Army to obtain complete Army jurisdiction over the area. They saw three possible solutions to the problem:

1) Encourage the Army to rebuilt its rest camp in another location well away from the Park boundary. This would be the ideal solution. However, a camp of any size close to the

boundary would merely mean all the old problems, plus no possibility of controlling the development of the site. (To this day KMC looms on the landscape.)

2) Transfer the area to the War Department. This would mean a boundary change, requiring Congressional action which would probably fail without the support of the Secretary of the Interior. It was a generally inadvisable solution. Said Sager, "If the parks are to serve their ultimate and higher purpose it must never be easy to slice portions from their boundaries."* This solution would also leave the camp so near the Park as to retain all the past problems, and no control over future developments.

3) Allow the Army to remain on a permit or lease from the Interior Department. Such an agreement should limit the size of development, provide full jurisdiction over the area, and require the Army to bring the camp to NPS standards of both buildings and landscaping.

There was also the possibility of allowing some kind of public concession at the camp to avoid the legal problem of a facility whose resources were restricted to use by only a limited group. This device was suggested by Secretary of War George Dorn, and seconded on the local level by John Doerr, Chief Naturalist at HNP.

The concensus of opinion at HNP was contained in Superintendent Wingate's Confidential Report of June 17, 1934.** It was felt that the camp was there to stay and, while they

* File: 609-01. Sager Report of Feb. 3, 1934.
** File: 609-01.

certainly should not offer such a thing, Interior would eventually be forced to grant a new 20 year lease. This lease, however, should limit the development to no more than 20 acres, as authorized by the Act of August 1, 1916. There were then only about 20 acres developed out of the 49 covered in the original lease, and this specification would effectively limit the development of the camp. Under no circumstances should the Interior Department allow a transfer of land to the War Department. Wingate did suggest the possibility of a "trade" of the KMC site for the lands then being considered for the Kalapana extension of the Park.

Then there occured a shift in official NPS policy. "Director Arno B. Cammerer wrote to Superintendent Wingate that the Service must recognize the camp as an exception to the rule because of its outstanding value to the three branches of the military service and because the Park Service has 'inherited the situation.' Cammerer said the Park Service would take the view that it had no legal right to permit the camp to exist after the lease expired, but that this might be done by contract with the Army. He wrote it was wise and in the best interests of all to cooperate in continuing the camp."*

And so, on July 14, 1934 the Interior Department notified the War Department that they were agreeable to a five year extension of the original lease. At the same time Ickes asked for continuing talks with the War Department to work out the eventual elimination of the camp. By extending the original

* Apple, Land Acquisition, p.73-4. Original letter from Cammerer to Wingate not located in HAVO files.

lease, the Federal government avoided the problem of being both lessor and lessee of the land. However, this agreement to any kind of a lease was felt to have badly weakened the position that a lease to such a group was not legally defensible and set an unfortunate precedent for this case and for future requests of a similar nature.

On November 5, 1934 Cammerer advised Wingate that the extension should be drawn up in the form of a permit, and by the following June a draft had been prepared by the staff at the Park and at KMC. The Army spent the intervening time in renovating the old buildings, repairing the walks and roads, and building a few new cottages.

The Army was not satisfied with a mere five year extension, nor with the prospect of eliminating the camp entirely. They planned an extensive development at KMC which they did not think would be financially feasible under a short-term lease. The Trustees of KMC weren't satisfied with the five year lease, either. Inactive since 1924 when they arranged to have the Army administer the camp, they did not want to become involved in it again. They explained that the extension had some clauses in it which they could not accept as they would not be in a position to enforce them.

In October 1935, the Army arranged to guide a Congressional delegation through both the Haleakala and Kilauea sections of the Park, carefully shielding their charges from contact with Park personnel, while providing them with information on KMC. Both Cammerer and Assistant Director Demaray noted that a showdown could be expected that winter.

It came on January 3, 1936 when Representative John D. Dingell of Michigan introduced a bill into Congress to create the "Kilauea Military Reservation." This bill had the backing of Hilo businessmen and the Hilo Chamber of Commerce and was designed to remove the camp from NPS jurisdiction. In defense of the bill, Major General Hugh A. Drum, Commanding General of the Hawaiian Department, gave an interview in which he again mentioned the value of the camp as a rest facility and then gave his version of the history of the camp.

"Several years ago through the courtesy of several Hawaiians the land was leased by the army for a recreation camp at high altitude near Kilauea volcano on Hawaii." The small profits from the operation of the camp were used to build up the camp which now had stone and wooden buildings adequate to house 70 officers and 300 enlisted men. "A short time ago the whole of the volcano area was declared a national park, including the army recreation camp. While we have the camp on a short lease an effort is being made to take that away from us. In fact, such a decision has been made. The military camp has no direct bearing upon national park affairs, unless the officials of the park desire the buildings, paid for by soldiers, to use for their homes."

This remarkable interview with General Drum appeared in the Hilo Tribune-Herald of February 11, 1936 and aroused considerable heat. Wingate prepared a rebuttal to Drum two days later which corrected some of the more blatant errors, and also wrote the Director of the Park Service.

As the NPS could not allow a portion of the Park to be

"sliced away" they accepted the lesser of two evils and re-opened negotiations with the War Department. On April 6 Cammerer wired Wingate that the pending legislation for the establishment of the Kilauea Military Reservation was assured of War Department approval unless Interior would grant a 20 year permit. Such a permit was deemed better than no control at all. Reciprocal good will, he added, was essential. Ickes had already advised the Secretary of War on March 16, 1936 that he was "glad things have worked out for a 20-year lease instead of a five-year lease" and explained that it was "mandatory" for his Department to oppose any bill which was designed to remove land from a National Park.

Once removed, it would be impossible to get the area back. On March 19, 1936 E. E. Tillett of Emergency Conservation Works (ECW) wrote the Director of NPS that the Army was planning to build a Schofield type base on Hawaii, preferably on the plateau between Mauna Loa and Mauna Kea. So far there was only a CCC trail into this Pohakuloa area, but on April 4 the Honolulu Star-Bulletin advertised a "Saddle Road." Tillett also noted that rancher Herbert Shipman had offered to donate a parcel of land near the Park for an Army camp. The NPS still hoped that the Army could be persuaded to remove their rest camp to some other location.

The 1936 lease covered all that certain parcel of land containing an area of 49 acres more or less for a period of 20 years beginning September 1, 1936. It included a clause for reversion to the Park in case of non-use or abandonment, as well as the statement of termination in paragraph 19:

"That at the expiration of the period of agreement or sooner determination, the War Department will deliver up to the Secretary of the Interior or his agent possession of the said premises; provided that in the event the Secretary deems it inexpedient or undesirable to renew this agreement, the War Department may remove from said premises any or all physical improvements thereon."

The Secretary of the Interior agreed:

(4) "To allow the said camp to cultivate exotic plants of such species on said premises as are approved by the Bureau of Plans and Design of the NPS."

Superintendent Wingate hoped to keep the developed area limited to the 20 acres allowed in other such permits, thus controlling the size of the camp and the number of patrons it could serve. He felt the camp, with its subsidized rates, was already a source of unfair competition for the Park concessioner at the VHse.

With a new lease, the Army undertook to improve their facility. New cottages were built, tennis courts added and the landscaping improved somewhat. With better NPS control over the area, relations between the two groups became more cordial. This amicable situation remained throughout the early years of World War II, although the Park suffered extensive damage at the hands of other military departments.

The next clash came in 1944. Beginning in 1943 the camp was used as a rest center for war-weary troops and in September 1944 the Army urged approval of plans for extensive additions to the camp, designed to accommodate the visitors. The new

facilities were "artificial recreational" -- a recreation hall, officers' club, enlisted men's club and the like -- and Wingate felt these did not belong in the camp, and would defeat the purpose for which the area had been put aside. In a memo to Regional Director Tomlinson, he noted that now was the time to push for a relocation of the camp, perhaps to the Pohakuloa region and the old CCC camp there. That area had a road and water and was as close to Hilo as was Kilauea. Any more permanent buildings at Kilauea would merely nail the present development in place.

On October 2, 1944, Tomlinson replied that the Director of the NPS would request the War Department to consider other locations for their recreational camp. He asked for the total cost value of the existing structures and utilities on the Park land in question. Wingate wired a cost of $350,000. The original cost was much lower, replacement would be higher. On October 21, Interior Secretary Fortas wrote War Secretary Stimson, firmly requesting the Army find another site, as the requested expenditures for permanent structures did not fit with Park policy and should not be forced to do so.

On November 1, 1944, KMC Commanding Officer Muller wrote directly to Regional Director Tomlinson saying that "if the present modest program is turned down in any one (1) feature, the entire project will likely be disapproved by higher military authority." The Regional Director replied in December that this was a major policy decision and the Army would be notified as soon as word came from the Director of the NPS. In the meantime, Wingate asked KMC for data on

the use of the camp for the Park's travel records, and was turned down on the grounds that there was a restriction on the dissemination of information concerning military personnel.

Through the early months of 1945 the Army continued to press for the new buildings and the NPS continued to press for a relocation of the entire camp. In February the camp pushed for a new office building and "lounging lanai" on the crater side of the road, using the magnificent view from Uwekahuna Observatory as a build-up for this project. In March, the Regional Director advised the Superintendent that his office and the Director were in agreement on policy as far as it concerned continued Army occupation. The Army's latest proposals confirmed the NPS stand that they should allow NO additional developments, and that pressure should be brought to push the Army to a new camp location.

The Army was once again thinking in terms of gaining complete jurisdiction over the area. On March 12, 1945, Secretary Stimson replied to Secretary Fortas saying that the need for the KMC facilities was pressing, and the proposed expansion was of a type of construction and permanency no greater than other buildings put up under the same use permit. The Army felt it was not practical to rebuild the camp elsewhere. Fortas again responded by pointing out that the Interior Department was without authority to permit the permanent use of National Park lands by the War Department as such use would not be compatible with the purposes for which the Park was established. Because of the emergency, however, temporary structures would be permitted, to be removed within

six months of the end of the war. To this Stimson agreed, and construction went ahead. In December, however, Maier wrote the Director that the construction at KMC did not look ready to be removed within six months of the end of the war (which had ended the previous August) and that the Army now assumed they had carte blanche to do anything they wished.

Late in November Wingate discovered that the Commanding Officer of the Army in Hilo planned to move his headquarters to KMC, which clearly was not in accord with provisions of the KMC lease. In December the NPS was advised that the Hilo Army Garrison was to be disbanded and the only transfer was of "command" responsibility. Under this guise some 50 men were moved to KMC on January 25, 1946.

The Secretary-level maneuvering continued, with Interior pressing for a relocation of the camp. On January 7, 1946 Interior wrote to say that KMC seemed to be becoming permanent, which was not compatible with NPS policy and Interior definitely looked forward to its removal "not later than 1956." Interior also mentioned the growing public interest in other sites for the camp and urged the War Department to investigate these areas for a new camp.

In March the Secretary of War replied that they had spent a lot of money on the camp and couldn't afford to move. Besides, all the buildings at KMC conformed to their agreement with Interior.

Two months later Interior wrote again. There was no question of the right to occupy the camp under the present lease. However, the camp was incompatible with Park policy

and therefore "We do not intend to renew the permit when it expires in 1956."* Interior further noted that the additional buildings had been allowed only with the provision that they be removed within six months of the end of the war. That period had now passed. Interior could not approve of extending the use of temporary buildings and approving new ones when the whole had to be removed in 1956. Would the War Department, therefore, please remove their temporary buildings and seek a new site for the camp.

The NPS found itself with the proverbial camel already well into the tent. On April 16, Tomlinson reported to the Director the findings of his inspection trip: several of the "temporary" structures were of permanent construction, nicely connected with permanent concrete sidewalks. The Hilo Army Garrison still had its "command" force of 40-50 men at KMC, and there were also some 80-140 prisoners of war at the camp, in sight from the main road. The place, wrote Tomlinson, was being run as a real military camp.

Nor was the MIDPAC Real Estate Officer reassuring. The buildings were indeed permanent and for that reason the Real Estate Officer was recommending the area be transferred to the Army. Other proposed sites would be expensive to develop and it was illogical to abandon KMC which had already cost the Army over one million dollars.

Wrote Tomlinson: "After inspecting the camp and discussing matters both with the Commanding Officer and the Real Estate office, I am more convinced than ever that the camp should be

* File: 609-01. May 2, 1946. Interior Secretary Fortas to War Department.

removed from the Park at the very first opportunity, since it is pretty certain that with changing Commanding Officers there will be more or less difficulty in requiring them to live up to the terms of the special use permit issued by the Secretary."*

At about this time the Navy approached Superintendent Oberhansley with an eye to a Navy rest camp in the area. The Superintendent outlined the problems and suggested perhaps they join with the Army in developing a new camp outside the Park.

During the next few months both the Interior and War Departments took the matter of KMC under study. On October 16, 1946 Interior Secretary Krug wrote War Secretary Patterson outlining Interior's position. Interior would issue a revised permit to continue the camp with such additional facilities as were essential. This tentative permit included special provision number 1 which continued the camp to April 8, 1956 the original expiration date but added, "If there is continued need for such a camp after that date, your Department will provide facilities in another location outside of Hawaii National Park."

The War Department found item number 1 unacceptable and asked that it be stricken, to which Interior Secretary Chapman agreed "Upon written confirmation from you that your Department will do everything possible to carry out the intent of this provision prior to the expiration date of the original

* File: 609-01. Tomlinson to Director, NPS, April 16, 1946.

permit, which is April 8, 1956."* War Under Secretary Royall, whose office had responsibility for real estate and leases, responded that as this required the War Department to make a decision concerning conditions ten years hence, War could not at the present time commit itself to a move. He asked to have the agreement signed without special provision number 1.** Royall also asked that the permit be revocable by the Secretary of War only, which Krug refused on legal grounds.***

Finally, on March 5, 1947 Royall asked that the termination date be changed from April 8 to September 1, 1956. To this Secretary of the Interior Krug, on March 29, 1947 replied as follows: "Since it is my desire that this permit continue indefinitely, the termination date has been eliminated from the permit. I hope that this change will make the permit even more acceptable to you than the one which you suggested." Along with this letter went a new permit. This was a complete reversal of Interior's stand of March 2, 1946 when Secretary Krug has written: "We do not intend to renew the permit when it expires in 1956."

Director Drury, on reviewing a draft of Krug's letter, noted that as the Secretary felt the camp should be permanent, it was assumed the Secretary wanted the permit to continue indefinitely but that the land should not be eliminated from the park.****

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*	File:	609-01.	November 18, 1946. Interior to War.
**		"	December 3, 1946. Royall to Interior.
***		"	March 29, 1947. J. A. Krug to War.
****		"	March 25, 1947. Director Drury to Krug.

On June 18, 1947, the Secretary of War returned the permit unsigned as he objected to the revocable clause which could be employed by either the Interior or War Department, and requested that the 1936 permit be amended to authorize the use of the new buildings and other new features. To this end, the permit was amended by letter of July 9, 1947 from the Secretary of the Interior to the Secretary of War, who countersigned it, signifying his agreement. The permit extended the expiration date to August 31, 1956.

The camel was in the tent. The Park Service could only accede to the plan prepared by its parent body, whose stated position was that the camp should continue "indefinitely." There was, however, an expiration date.

During the next two years, the Army prepared a master plan of the area, the Park Service received requests for and approved a number of new buildings for the camp, and the two parties generally got along well. Part of the good will was certainly due to Superintendent Oberhansley, a Navy man during the war, who knew the military mind.

By early 1949 military use of KMC had decreased markedly and the Army was faced with "drastic economies." Lt. General H.S. Aurand wrote on September 19 that it might be necessary to "discontinue the operation of Kilauea Military Camp," and Superintendent Oberhansley immediately wrote to his superiors asking if he should attempt to get the camp "intact, with all furnishings and equipment." On October 11 he asked for confirmation of Regional Director Maier's recommendation to

procure the camp intact.

The situation received the usual loud and enthusiastic debate in the press and public houses. Oberhansley stressed that were the camp to be turned over to the Park, it would continue to be run on a "modified basis" as a military rest camp. And this was exactly what the Army finally proposed to do, rather than give up the camp entirely. By the end of 1949 a new plan had been worked out for the camp to be operated with a resident staff from the several branches of the military service, and the camp remained open, though with continued very light usage. This situation lasted until spring 1951 when the Korean war provided new reasons for retaining the camp. It was fully activated again by May 29, 1951 and use of the area rose quickly.

With the need for KMC obvious by its suddenly increased popularity due to the Korean war, the military began again to consider a permanent camp at the KMC site. In December 1952, Oberhansley forwarded the latest requests for certain "temporary buildings" and a ball park, recommending approval. Merriam, Director of Region Four, wrote Director Wirth of December 16 noting that the approval for occupancy was covered in the July 9, 1947 amendment to the original permit and then went on to say: "While it has been our hope consistently that the Military Camp, as such, could and would be ultimately eliminated, there appears to be no other course we can take at this time than to go along with the Army occupancy of this site until August 31, 1956, as herein requested."*

* File: 609-01. December 16, 1952. Merriam to Director, NPS.

Director Wirth replied early in 1953 saying that the NPS had hoped for a final solution just before the Korean action developed, but due to the present problem, they would not ask the military to discontinue use of the areas mentioned. In March, Assistant Director Thomas J. Allen (who had once been superintendent of HNP) recommended the NPS let the problem lie for the time being. "If the Department of the Army requests an extension of the over-all permit for Kilauea Military Camp in 1956, the situation will have to be reviewed for detailed agreement in accordance with the conditions prevailing at that time."* The original permit was amended to accommodate these new requests on April 16, 1953.

As usual when pressure mounted between the Park Service and the military, tension at the Park itself produced some petty problems. The number of Park personnel who could have PX and medical aid privileges expanded and contracted in direct correlation to the state of affairs in Washington. Personalities also played a part. In September 1952, the precise form of medical aid available to Park Personnel was carefully and coldly detailed by the KMC medical officer, the day after he had been denied permission to hunt goats in the Park.** (He may have had a case; although technically illegal to hunt in the Park, consistent rumor suggests that hunting the unwanted, exotic and rapidly increasing goat was a past-time available to the favored.)

The Army, of course, did request an extension of the permit due to expire in 1956. On December 22, 1955, Colonel

* File: 609-01. March 19, 1953. Asst Director Allen to Director, Region Four.

** File: 609-01. September 10, 1952. Dr. Mosak, KMC to Supt, HAVO.

Harris, Commanding Officer at KMC, wrote to the Commanding Officer at HUSARPAC. He pointed out the coming expiration date and reported, "Mr. Wosky, Superintendent of Hawaii National Park, would like to see the present arrangement renewed to be effective immediately upon expiration of the present agreement."* KMC was then asked to take steps necessary to renewing the agreement, and to prepare a draft letter for the Secretary of War to send to the Secretary of the Interior on the matter. In the meantime, Headquarters, by command of Lt. General Clarke, would initiate action to "transfer to the Department of the Army the land comprising the Kilauea Military Reservation now under Department of Interior permit."** If this didn't succeed, action would be taken to renew the permit.

The program for transfer of the area never came to pass and so action was initiated on a renewal of the permit. On April 25, 1956 Regional Director Merriam wrote Superintendent Wosky that the Army had requested a new 20-year permit and would Wosky please comment. Wosky replied on April 30 that the camp was providing recreation and conservation education to many of the military. The demand was so great that guests were limited to a one week stay. Relations with the Park were good. In view of the type of service being provided, "We recommend that the present permit be extended for a period of 10 years from September 1, 1956."***

This recommendation went to the Regional Director, who

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* File: 609-01. December 22, 1955. CO, KMC to CO, HUSARPAC.
** Ibid.
*** File: A-7019. April 30, 1956. Wosky to Dir, Region Four.

passed it with his concurrence to Director Wirth. The Director sought out Chester R. Davis, Assistant Secretary of the Army for a general review of the agreement so as to incorporate in the new one any changes that were appropriate. Director Wirth also asked for information on the desirability of a ten year agreement as opposed to the 20-year one the Army requested. There is no mention of refusing a new permit outright. Merriam cited the U.S. Code and a Solicitor's Opinion dealing with the leasing of a camp in Shenandoah National Park to the Boy Scouts of America as providing legal precedent for renewing the KMC permit.

Wosky then prepared a Special Use Permit for 20 years, which Merriam reviewed and passed on to the Director on July 10. He noted that the Army had rejected the 1947 agreement because of the revocable clause and recommended that it not be included now. "We recommend," Merriam wrote, "the issuance of the permit and see no real objection to granting the 20-year authorization requested by the Army but in many respecte we would prefer a ten-year permit." Wosky, according to Merriam, had recommended a 10-year agreement because "he thought the Service would prefer a shorter period."*

By August 15, 1956 an agreement replacing the previous permit #1-3-5 had been signed by all. It included the following points: KMC to comply with Park regulations; to conform to Park approval of architecture and landscaping; to cooperate and render assistance as needed; to extend to

* File: A-7019. July 10, 1956. Merriam to Dir, NPS.

permanent Department on the Interior personnel employed within the Park medical aid, except for chronic conditions, and privileges of the PX, recreation areas and so on; violators to be turned over to the Commanding Officer if they are military personnel assigned to KMC; and the NPS to maintain the Golf Course Road.*

In October 1956, the military asked that the clause on medical aid be clarified to make if clearly dispensary-type service only. Wosky recommended the change be approved and by December 1956 a final draft of the new agreement had been signed and filed. KMC would remain within Hawaii National Park for another 20 years.

Relations between KMC and the Park continued generally pleasant with the Park superintendent and KMC commanding officer exchanging compliments whenever one of them was transferred away from Kilauea. The volcanic eruption of 1959 required clarification of the "cooperation" clause. The KMC commanding officer pointed out that the Army could not be used to enforce state or federal laws and so his men could not be used in directing the heavy traffic. Also, KMC was on an "austere" budget and so assistance would have to be limited to the first day or two, until other measures could be worked out.**

The Mamalahoa by-pass road alignment required some land from the rear of the KMC leased area next to the pali, and an exchange was arranged whereby a piece 40 feet beyond the

* File: A-7019.
** File: A-7019. December 14, 1959.

mid-stripe was taken for the road and KMC received in return some new land to the east, giving KMC 54.6 acres more or less instead of the previous 52.7 acres. (The original Bishop Estate lease had been for 49 acres more or less.) This agreement had been signed by all parties by August 22, 1960 and became part of the 1956 Permit file.

The next year the Army Real Estate officer wrote the Director of the NPS on Army needs in the area: they expected to use the camp through 1964 and wished to have their views transmitted to the Bureau of Budget.

In 1964, however, KMC came under fire from Comptroller General Joseph Crawford who reported to Congress that the facility cost some $350,000 per year over receipts of $250,000, and recommended that the Department of Defense make it self-sufficient or close it down. Fees were low, transportation for cars and people between Honolulu and KMC was free, only 8% of military personnel and dependents used it at a mere 40% capacity. The need for this costly facility was questioned in view of the numerous recreational facilities that were available. The local newspapers carried the story and so did one in Columbus, Ohio, which felt it was expensive and unnecessarily fancy. They added that the Department of Defense did not subsidize this sort of low-cost recreation for military families in places less drab than Hawaii, and they came to the same comclusion: make it self-sufficient or close it. The Department of Defense countered that closing would have an undesirable effect on morale. They had no plans on how to lower costs beyond cutting staff and

raising food rates. The largest expense was the free transportation via LST. Despite a suggestion to turn the whole thing over to the Park Service in lieu of closing it, KMC remained open under military operation, but without the free transportation.

The austerity aspects appeared elsewhere. In 1962 it was determined that KMC could no longer provide school bus service to the nearest intermediate school 15 miles away to Park children as well as to KMC children. The same year the Park arranged to use the chapel building for a Sunday school for Park people when KMC discontinued Sunday services. This problem was under study by KMC in 1963, at which time the Sunday School enrollment of 56 persons was broken down as follows: 29 Miles - 26; Park - 18; KMC - 12. Other important things like who could play bingo, or go to the movies, or use the Post Exchange at KMC were also clarified -- generally, all HNP and USGS personnel and families residing in the Park were eligible for KMC privileges. As of the late 1960's, the three federal agencies had developed a successful troika administration of the Kilauea Park area, even to providing, one each, a gift-bearing king for the annual Christmas pageant.

Other Military Use of Kilauea

One military facility encouraged by Superintendent Boles for the development of the Park was a landing field. He felt such a field could be used by the Air Service in preparing arial photographs, especially for use with the proposed Mauna

Loa road, as well as for general military use. The U.S. Army, Hawaiian Department, had requested a landing field, preferably in the Uwekahuna area, of about 400 by 200 yards, and on February 4, 1925 Director Mather radiod permission for a temporary airplane landing field per Boles' recommendation.

The landing field thus granted approval was to replace one destroyed by bombardment during the May 1924 eruption. The old one was on a sandbar of volcanic ash close to Halemaumau; the new one was to be outside Kilauea crater about one half mile NorthEast of Uwekahuna toward KMC, close to the belt road. The supervision of the field was under Park jurisdiction, but it was available for use by any visitor.*

This field (location uncertain) was used for the next fifteen years for various searches and for volcano watching atop Mauna Loa, apparently with no questions being raised by any federal agency.

As part of a war preparedness program, in October 1940, the Army surveyed possible sites for airfields at Keauhou koa mill, Puhimau crater, Peter Lee corral area at Ohiakia and other locations between Glenwood and Mountain View. The Keauhou site, although the most desirable, was rejected as too costly to develop.

The following year, increased use of the army field within [sic] Kilauea crater triggered a memo from the Park to the CAA on the stability and safety of the field. The Army apparently felt it was dangerous and suggested obliteration, It was impossible to enlarge, due to the terrain, and was of

* See: un-marked file titled "Landing fields."

doubtful use even for emergencies, being only 1600 feet long by 300 feet wide, unmarked, and with a rolling surface of volcanic ash. The CAA replied that the field was safe for class one land planes in emergency, but military craft would have trouble. As there were few suitable emergency fields in the islands, they recommended it be retained.

This field was plowed up by military order shortly after the start of World War II, then re-levelled by the Army in December 1943 to allow small planes to observe military firing in the "Kau Desert Impact and Training Area." Superintendent Wingate noted this was the same site as the earlier field, on the sandbar SouthEast of Halemaumau, about 1/4 mile long, and he had authorized the leveling on the grounds the area had been used for a landing field earlier, and the NPS would destroy it again on the termination of hostilities.*

The question of the landing field came up after the war and on August 2, 1945, Director Drury indicated it was still NPS policy to exclude planes from parks, although the rising post-war experimentation with aircraft might require modification of the position. A CAA survey in 1946 agreed there was no need for a field in the Park. The no-landing-fields policy was re-inforced by subsequent legislation and in 1950 even the Civil Air Patrol was denied a Kau road site for a landing field they proposed to furnish and maintain, out of view of all roads and with minimal alteration to the environment. The matter of aircraft <u>over</u> the Park remains a minor problem.

* File: 601-04.1

Bombing Range:

In view of the present European situation, Congress will pass "anything that seems to have military significance... without any consideration of the consequences. With all the terrific destruction going on in the world today, the still small voice of conservation is going to have a more and more difficult time making itself heard." So wrote Richard W. Westwood, managing editor of Nature magazine. The date was 1940, and the occasion was the introduction of a bill to remove from HNP 9 square miles of Kau coastline for an Army bombing range.

Late in 1938, the Army Air Corps decided it needed a bombing range and after reviewing all possible areas in the Territory of Hawaii, they decided that a location on the Kau coast of the HNP was the only suitable site. The Park site, they insisted, met all their needs; the Park site, however, had been set aside by Act of Congress to preserve its natural features un-impaired for public use. Utilization of the Park area for this intended military use would necessitate its withdrawal from public use as the two uses were in conflict. Military use, furthermore, was in conflict with the Act of 1916 which established the Park. Such Army use, and the necessary withdrawal of land from the Park, would establish a precedent difficult to control and dangerous to the whole park system.

Superintendent Wingate, meeting with the military in November 1938, indicated he would not object to an application from the Army for use of the area for a specified time, with

no permanent structures, and after every effort had been made to locate a suitable range outside the Park. The Army, however, had already selected the site they wanted and applied for use of 9 square miles of Kau seacoast the following April. In response to a wire from Demaray, Wingate reported his November 1938 meeting with the military, and indicated the Army had not looked for other areas -- such as the uninhabited desert site at Manuka which was available. Furthermore, they had talked of seven square miles, not the nine they were now requesting. He recommended that no more than six miles be made available, after the Army had explained what other sites they had investiagted and why those were unavailable, and he urged that any withdrawal not be effected until the Territory had taken the necessary action toward transferring the Kalapana extension lands to the Park.*

The Army persisted and on May 26, the Secretary of the Interior wrote the Secretary of War that, "if you say" this is the only suitable site, Interior would make no administrative objections. This use of the area, however, per provisions of the Act of 1916, would require that it be "eliminated" from HNP by legislation. The War Department felt they had the necessary legislative support and the necessary bill was introduced by Senator Sheppard in spring 1940 for the larger area of 9 square miles [6450 acres] plus a number of Park roads and trails and the scenic Hilina Pali cliffs, to be known as the Na Puu o Na Elemakule Range.

The bill set off a flurry of protests from the Audubon

* File: 601-04. April 19, 1939.

Societies, the Isaak Walton League and a number of other conservation minded groups and individuals whose complaints were much the same as Wingate's: the area had been set aside in perpetuity and this withdrawal set a dangerous precedent. The bill was eventually amended to the smaller area of 3052 acres, and General Herron, Commanding Officer of the Hawaiian Department, agreed to the inclusion of the same terms as found in other U.S. agreements, ie, that with non-use or abandonment the area would revert to its previous owner. The withdrawal was effected in summer 1940.

On December 4, 1940 Wingate notified the Director of NPS of the sites the Army proposed to use on Mauna Loa and at Haleakala [see Haleakala section] and in September 1941, received additional complaints from conservation minded citizens protesting a bombing range in the Park, especially as rumor had it the Army had since acquired lands for an additional range near South Point.

The Army Air Corps had its necessary bombing range in mid-1940; World War II began in December 1941, nearly 18 months later; in 1943 the Navy used the bombing range briefly. The Army did not use it at all during the entire 10 year period it was withdrawn from the Park. In fact, little is heard of the bombing range until March 25, 1945 when a plane strafed the area around Apua point and slightly injured two fishermen. Protests to the Army brought disclaimers that they had anything to do with it, that it must have been Navy planes. Col. Muller also sent a brisk memo to Navy officials to the effect that they were to "eliminate this

hazard." In December 1945, the Army formally relinquished an area of two acres at Apua point, but even then did not mention the Elemakule bombing range.

The following spring, Acting Superintendent Baldwin wrote to ask if it wasn't about time to re-open the Kau question. Before retiring, Superintendent Wingate had indicated he felt there was no need for congressional action as Congress had left the precise area of the withdrawal to be decided between the Interior and War Departments. Baldwin noted the area had never been used by the Army and if they were giving it up, it should go to the NPS, not to the Navy. The area was a goat patrol problem -- access for goat drives had been refused and when they were allowed in, they were fired on.* Secretary of the Interior Krug agreed and on April 23 invited the Secretary of War to join in sponsoring legislation for its return. War, however, wanted a study of this joint legislation and the matter faded from view until April 1948, when the Army reported it could foresee no use for the area and would not object to legislation authorizing its return to the NPS. Tolson had, in June 1947, asked for a list of war use permits scheduled to expire six months after duration [March 1946] which showed the two Haleakala sites, KMC, and the Kau Bombing Range still in military hands.

On September 30, 1948 the area was again used for bombing, with no prior warning. A request to the Air Force for an explanation brought a surprised reply from the Army Air

* File: 601-04.

Commanding Officer at Hickam who again disclaimed responsibility but reported the Navy had posted a newspaper notice of possible use. General Travis followed this with a memo dated October 5, 1948 saying that there would be no more bombing there under any circumstances as there were other adequate ranges elsewhere. He promised advance notification should an "unsettled situation" require use of the area.

The Army was out but the Navy wanted in. The NPS staff urged immediate legislation to return it to the NPS, if necessary asking the Army Air Force to sponsor it. Such a bill was proposed for introduction to the 81st Congress but apparently nothing came of it. The Army undertook to clear and restore Park areas of unexploded projectiles -- it is not known if they also cleared the bombing range -- and finally in May 1950, the Secretary of War and Secretary of the Interior agreed on revoking the order of withdrawal. This was dated June 14, 1950. There was a question of the need to actually repeal the Act of 1940, which matter was presumably resolved in the codification of permanent laws of the NPS then under review.

Kau Desert Impact and Training Area

Although the Elemakule Bombing Range received light use, the Park did not escape unscathed. Immediately after December 7, 1941 the 27th division under General Ralph McT. Pennell moved into the Park and took over several buildings and other facilities. Although on their departure in October 1942, several small tools had disappeared, some expensive

glassware had been broken, and a tractor-grader had been damaged (repaired eventually by the Army Engineers), their commanding officer had cooperated fully in protecting the Park. Shortly after their departure, a "bothersome problem" arose through use of the Park by various Army units for motorized and infantry maneuvers and firing practice without reference to the Park administration. Wingate's Report to the Director for the fiscal year 1943 is a masterpiece of understatement in reporting this invasion. This use, he reported, was doing extensive damage to the forests and desert terrain and was observed carefully for some time before the matter was taken up with the new commander. The best that could be gotten from these negotiations was his approval of a tentative agreement to confine the Army activity to a specified area and on certain days each week and the assurance that as rapidly as possible this use would be lessened and if possible discontinued. Though this tentative agreement could not be approved by the NPS it was reasonably adhered to locally, although it had been necessary to call the General's attention to violations of the agreement that he had put in the form of an order to personnel under his command. The assignment of a range officer at KMC to control Army activity helped, but the roads were still deteriorating badly, minimum restoration costs of damaged areas was already over $50,000 and some sections could never be restored. So long, wrote Wingate, as Martial Law remains in effect no further alleviation can be expected, except possibly through a change in local commanders, since the Army has authority

under this law to do whatever it deems necessary to promote the progress of the war.

Regional Director Tomlinson had long since sent Wingate's reports on to the Director, with the notation that Army use of the area was a mere convenience, but not a necessity, and the Secretary of War could, if he wanted, issue blanket instructions in respect to Park areas. At the very least, training in the Park should be limited to Territorial defense needs. The Martial Law aspect, however, made it futile to forbid Army use and even with the tentative agreement, Wingate had an uphill fight to preserve Park values. He was in regular correspondence with General Gibson, Commanding Officer of the Hawaiian Department, on many violations of the agreement in respect to: the area to be used (expanded at will beyond the original agreement); the degree of damage (Gibson felt it was minimal, but in April Wingate was protesting wilfull damage with restoration costs of over $100,000 in an area set aside and dedicated "by Congress as a public park and pleasure ground for all people"); and unnecessary hazards and harassment (trip wires across patrol and public trails with no warning of their installation; permission to clear the roads of boulders in preparation of an eruption, which included explicit instructions that each boulder was to be placed just off the edge of the road clear of the shoulder "to a position directly opposite the one it now occupies.") He also asked that the entire operation be moved to available private land.

The protests eventually reached the Departmental level

and on January 30, 1944 Interior Secretary Fortas wrote the War Department that there was no debate on the use of the Kau Reservation (bombing range), but there was a definite protest on the use of unauthorized areas in the Park referred to informally as the Kau Desert Impact and Training Area. Specifically, Interior wanted the Army to withdraw from the latter area. On November 27, 1944 Secretary Fortas tried again, pointing out that for two years, with no permit, the Army had been using the Kau area of HNP with resulting heavy damage. Martial Law had been terminated in the Territory on October 24, 1944 and there was no longer a need to train men, even for Territorial defense, in a National Park. He again asked the Secretary of War to instruct the Army to withdraw from the area and restore it to its original condition.

In January 1945, they finally discontinued their unauthorized use of the Kau Desert area for training purposes and maneuvers, involving both heavy and light weapons, although they retained warning signs for months after that.

In April, Wingate was still having to explain, this time to a Major Bryan, that "at no time was permission requested to make use of park land for these activities and none was ever given since this office and the Park Service is without authority under law to grant permission for activities of this nature."* At Army request, an estimate was made of the amount of work necessary to clean up the area, obliterate scars and do such restoration work as was still possible. Damage in many places was so grave as to be impossible of

* File: 601. April 7, 1945.

repair, koa groves had been blasted, nene nesting sites were gone, the intensive use of the desert had thoroughly broken the crust of the desert ash, and the aesthetic values of the area had been largely destroyed for years to come, as well as its values for studies of plant invasions and successions.*

In December 1945, the Army finally relinquished one acre at the end of the Chain of Craters road; in April 1946, they restored some of the damage done outside of the Kau area; and in the spring of 1949, Army Engineers proposed clearing only trails and a buffer zone around trails and auto areas and leaving the other areas "unsearched." This was rejected as inadequate and between June and November, Kilauea and most of the Kau sections were cleared of unexploded shells by a Schofield Army Ordinance team. The Superintendent's Report for January 1955, noted duds were still being found in the Kau desert. There is no mention of "restoration," and several areas still show this damage 25 years later.

Post war use**

In August 1955, Superintendent Wosky wrote the Regional Director of the latest case of an agency which at first felt it must carry on a project within an area, finding it could get along just as well elsewhere. A U.S. Air Force Major Caplan from Wheeler Air Force Base called and "boldly" announced that the Air Force had decided to construct a radar station at Uwekahuna adjacent to the Observatory, and asked for a permit covering several acres of ground. This

* Superintendent's Report to the Director for fiscal year 1945.
** File: L-30.

was apparently the same officer to whom the NPS had addressed a recent letter on military use of Red Hill at Haleakala. Superintendent Wosky reported little success in explaining the NPS position, as "defense" was all-important, but mentioned Secretary Lewis' "strongly worded" letter of August 8 to the Secretary of the Air Force, relative to the proposed Air Force installation at Red Hill. The Air Force, reported Wosky, then decided it was at least willing to look for a site outside the Park, perhaps near Kulani.*

The next request was the Navy experiment in the area between Maina Loa and Mauna Kea which was in the works from July 1956 to July 1957. They planned to use the Weather Bureau station at 11,000 feet, and Superintendent Wosky suggested they get Washington clearance for these "classified" experiments. As it turned out, all areas needed by the Navy were outside the Park.

In March 1957, the Navy made an overture for some 30,000 acres of Park land in Kau for a jet bombing range. They were discouraged.

In May 1961, overtures were made in behalf of the Missile Tracking station to be operated by the University of Hawaii and the Smithsonian Institution, planned for Haleakala. They opposed the radar installation proposed for the top of Haleakala by Hawaii Air National Guard (HANG) and wondered if perhaps the HANG facility might be installed atop Mauna Loa. Superintendent Johnston indicated the NPS had the same objections to Mauna Loa as to Haleakala for tracking stations and other

* File: L-30. August 22, 1955. Wosky to Act.Reg. Dir. Maier.

such developments. The matter was dropped.

Then in September 1961, the Air Force was back at KMC with a project for the KMC ballpark area. The previous April 17, the Air Force, through the Commanding Officer at KMC, asked to use the ballpark for some kind of radio station. The Park was assured this would set no precedent, and if the station proved satisfactory, it would be removed to the Shipman property in Puna. They were given a verbal OK and promptly put up a 2-acre spider web. It was all removed by May 31. Then on September 13, an officer appeared who said that everything had been worked out in Washington and they wanted the KMC ballpark again for "emergency tests." Superintendent Johnston called Tolson and found the NPS was indeed committed to a special use permit for one year beginning September 15. The Shipman Ranch station was not to be ready before March; the alternate CCC site was not usable as there was no power. They remained at the conspicuous ballpark site until November 6, when the Air Force called to say the project was complete except for hauling away supplies, and they were cancelling the rest of the permit, with thanks.

A NATIONAL PARK

The idea had been drifting about for some time when, in 1903, William R. Castle wrote in the Volcano House Guest Book: "The time has come when the U.S. Government might well reserve the whole region from Mokuaweoweo to the sea in Puna." Three years later a visiting lady journalist, Mrs. Edith Tozier Weathered, was even more specific. She felt the volcano should be a National Park. The Honolulu Advertiser editorialized in favor of the idea and the Hilo Tribune did the same. They both noted that the Park idea was popular with the man in the street and with businessmen and they suggested that interested Hawaiians should push for at least a Congressional investigating committee. A Tribune editorial on March 20, 1906, after remarking that the idea was a natural one, went on to say: "It is eminently proper and in line with national policy that the volcano and its environs should be in the keeping, and under the care of the federal government, for the benefit of the people and in order that its surroundings may be both protected and improved."

Lorrin Thruston led the fight for a National Park of Hawaii's volcanoes. He had lived on Maui and served as a guide at Haleakala. He found Kilauea so fascinating he undertook the operation of the Volcano House for thirteen years. The Hawaiian Revolution of 1893 found this missionary grandson a leader in the group working for the short-lived Republic of Hawaii, and with Sanford B. Dole he co-authored

its constitution. In 1900 Thurston became the publisher of the Pacific Commercial Advertiser, and from its pages kept the Park proposal alive.

The Thurston Lava Tube, one of the popular attractions of the Park, is named for him. Formed by lava cooling over molten material flowing below, such tubes are quite common around Kilauea, running for miles with skylight openings where the tunnel roofs have caved in. Some of Thurston's relatives had a home near Kilauea, back of which was such an opening into an unexplored channel, and one day Thurston, a neice of his, and the ever-curious Jaggar undertook to follow the tunnel to its outlet. They ended up above a black hole in the side of a small crater only yards from Kilauea iki. Jaggar christened it "Thurston's Cavern," and today it is known as Thurston's Lava Tube. The tube runs for some distance down the flank of Kilauea volcano, but only the first few hundred yards of it are open to the public.

In 1907 the Hawaii Territorial legislature approved a special appropriation to bring 50 Congressmen and their wives to Hawaii to see the proposed Park area at first hand. They visited Haleakala and Kilauea and were served a complete dinner which had been cooked over hot lava vents at the side of Halemaumau. Secretary of the Interior James A. Garfield was converted to the idea during a visit in 1908. Another Congressional party toured and was won over the following year. Thurston had accompanied them all.

The Park plan also had the support of Territorial

Governor Walter F. Frear. Beginning in 1910 he annually recommended to the Secretary of the Interior the desirability of appropriate legislation. In 1911 Frear sent to Washington the draft of a bill for a "Kilauea National Park." Thurston urged Frear to seek from the Hawaii Legislature a resolution supporting the Park. It was readily obtained and made the support almost unanimous. The opponents were C. Brewer and Company and the Bishop Estate, both of whom owned cattle land Thurston hoped to include in the new Park. Thurston countered their protests with a front page Advertiser article headlined: "National Park Bill is in Danger. Land Wanted as Pasture for Steers." This was followed by a series of endorsements of the Park proposal from such persons as Theodore Roosevelt, John Muin and Henry Cabot Lodge. The 1911 bill in the form presented to Congress ran into a snag over boundaries and the proposal was tabled.

In 1912 Thurston was joined by Dr. Jaggar, lately hired as director of the Hawaiian Volcano Observatory, and equally as enthusiastic as Thurston about making Kilauea a National Park. Jaggar wanted to include Hualalai, most of Mauna Loa, and the summit of Haleakala as well as Kilauea. Jaggar was also urging the establishment by Congress of a "Bureau" to administer the National Parks, at the time rather loosely operated by the Department of the Interior. No newcomer to National Parks, he had helped to survey Yellowstone, the first National Park and the Devil's Tower which became the first National Monument.

Lucius Pinkham, the next Territorial Governor, continued

to push for the Park in his reports to the Secretary of the Interior and in 1914 the entire project moved forward when Stephen Mather accepted Interior Secretary Lane's to-the-point invitation: "If you don't like the way the national parks are being run, come on down to Washington and run them yourself." Within months, Mather had the nation National Parks concious, and Congressmen were again junketing to Kilauea. Thurston and Jaggar toured with them all, gaining support for a Kilauea National Park, and also for the proposal to turn over to the federal government the Hawaii Volcano Observatory. The financial arrangements with the Whitney Fund at MIT were soon to expire. Late in 1915 Jaggar was sent to Washington as spokesman for both the Park and the Observatory proposals.

On January 20, 1916 Hawaii's Delegate to Congress, Jonah Kuhio, introduced the fourth and final Hawaii National Park bill which had been carefully drafted by Jaggar, Lane and Mather. Committee hearings were enthusiastic, and on April 17 the House approved the bill. The Senate followed suit and on August 1, 1916, President Wilson signed the bill into law. Hawaii National Park was the twelth National Park to be established, and the first established after the creation of the new National Park Service the month before.

The five year lapse between establishment and dedication of Hawaii National Park was caused by a restrictive feature of the enabling legislation which required that the Park be "reasonably accessible in all of its parts" before public funds could be appropriated for maintainance and development. The bill also provided that no public funds could be spent

on land acquisition. Territorial Land Commissioner, B. G. Rivenburgh, had immediately begun the necessary land acquisitions while serving as National Park Representative in Hawaii. By 1922 the Park was "accessible" and Albert O. Burkland, an engineer with the U. S. Geological Service, was appointed Acting Superintendent. With the first appropriation of $10,000 for fiscal 1922, he officially began the development of the Park by repairing the Crater road.

The Park was not totally devoid of facilities. A new "driveway around Kilauea iki" had been constructed a decade earlier, providing access from the Volcano House to the Halemaumau end of the crater via the "Fern Forest." A trail had also been built along the present Chain of Craters road as far as the Devil's Throat. This work had been done by prisoners camped at the Old Summer Camp. This site was used by the Volcano House for their Summer Camp and was covered by ash during the 1959 Kilauea Iki eruption. In 1915, other prisoners based at Namakani paio -- the Old Prison Camp -- had constructed a Kau road to replace the Peter Lee trail from Pahala. The prisoners had also reconstructed an old trail across the floor of Kilauea from the Volcano House to Halemaumau which came to be called the "World's Weirdest Walk." Jaggar and Thurston also developed a trail from Kilauea to Mokuaweoweo atop Mauna Loa. This was built with the assistance of the 25th Infantry using funds collected from Hilo business leaders and included a rest house at Red Hill.

GENERAL IMPROVEMENTS

Park Office and Headquarters

Boles arrived in early 1922 and set up an office somewhere. In May, he purchased at auction a complete set of Art Metal office furniture from a defunct Hilo bank, and in January 1923, he obtained a set of drawers for storing supplies, and a glass front bookcase 10 feet long to use for storing "specimens" until a real museum was available. His first Annual Report of 1922 listed the most pressing needs as an Administration Building with at least one large room for a Museum (the HVRA had offered to donate their collection), and a residence for the Superintendent.

An Office was the most important -- per diem allowed the Superintendent to live at the VHse -- and by March 1923, plans were approved for a $1500 building. As bids were too high, Boles hired three or four local Japanese carpenters, bought lumber, supplies, and $50 worth of carpenter's tools, and built the office himself. Work commenced May 28th with Congressman Raker from the Mt. Lassen district of California turning the first spadefull. Completed in July for $1470, it contained an Information Room and Museum 20 x 20 feet, an office 10 x 14 feet, and drafting room, 10 x 14 feet. It had a basement for storage with 7 feet of headroom, hot and cold running water in the lavatory, electricity, and a steam heating system designed by the Superintendent which enabled the office to be "kept at a uniform temperature through controlled volcanic heat. Being a Department of Interior

structure, it was quite proper that we should obtain the heat from the Interior Department of the Earth." Congressman Linthicum of Maryland turned the valve to send steam through the heating plant. The approach to this office was over a rustic bridge across a steaming earthquake crack.

The volcanically heated office was worth no little in publicity value, although Cammerer reported there had been some ill feeling because a local contractor was not able to make a large profit off the government when Boles build by day labor an office which had been bid in at twice the cost finally expended.*

It was planned to convert this structure into a Ranger cottage when a new Administration office could be built.

In 1930 Landscape Architect Vint located a new site for the Park headquarters north of the USGS building, which allowed a view of the crater and traffic control. The Superintendent's Annual Report of October 1931 noted an appropriation of $8800 for a new Administration building, completed by the following June. The lower story had reinforced concrete floors and walls, the outside walls covered with a veneer of lava stones. The upper story was frame with rustic finish, a galvanized roof and an attractive fireplace in the public room. The plans were those prepared by Vint, but the building was located on a rise near the road rather than at the Vint site nearer the crater rim and observatory. The grade was utilized for a two-car garage under one end, easily converted to clerical space when needed, thus

* Cammerer Report, 1926.

eliminating the necessity of building a wing. There was a parking area in front, which became a pond during the rain, and a proposed office parking space in back which required the re-alignment of the auto trail to the rim. The building, reported the Superintendent, was attractive, well arranged, and would serve the Park for many years.

By 1937 even this headquarters building was fully utilized and Superintendent Wingate reported the need for more space. The building also needed extensive repairs. Due to constant seeping of steam through walls and floors, timbers had decayed and it was necessary to tear up and replace the lobby floor and outside walls.

In 1940 some $15,000 in CCC funds were available with which to build a new Volcano Observatory and Naturalist quarters on the site of the Volcano garage, below the VHse on the main road. The CCC, who were also to provide the labor, had the old garage down and approximately 45% of the new building completed by the end of June 1941. By June 30, 1942 it was finished except for some interior painting and linoleum. The cost was now reported as $45,000 and the building itself had actually been completed and promptly commandeered for use by the Army, to be returned to the Park in October 1942. Nothing could be done during the war years -- staff was cut in half during the fiscal year 1943 alone, and Superintendent Wingate wrote bitterly that this so-called economy would result in a later expenditure of over $100,000 for roads alone which might have been kept in repair with at least an adequate staff. He was quite correct.

Nine years after it was started, the Park administration moved into what had been the Naturalist and Observatory building, still undergoing construction in 1949. A museum was still lacking and Hui O Pele began a fund drive to add a Museum wing to the new building. This structure was built with over $11,000 donated by Hui O Pele and dedicated on May 23, 1953 as the Jaggar Memorial Museum. The entire building was re-roofed in 1962 and the next year the auditorium was enlarged and the complete building refinished to match the addition. Other additions for visitors comfort in getting from the parking area to the Museum and Auditorium have since been built.

Entrance Checking Station

In 1923 Superintendent Boles was considering a checking station as one of several new structures needed. A three-room cottage purchased in May 1923 (with 1924 appropriations) was moved inside the Park limits "near the entrance" and set up with added bunks for the road gang. Boles hoped to use it later as a Ranger cottage for the checking station. The station itself appeared as one of two recommendations in his 1924 Fiscal Year Report.

In April 1930, a bid was received on materials and supplies for the erection of an entrance building, but due to heavy rains no work was started until the following month. It was completed in June. Built of lava rock masonry and fronted by a lava flag-stone terrace, it was reportedly a very attractive design.

According to Coffman, the checking station required extensive repairs in 1937 for mildew and rot. Close landscaping had contributed to the problem.

It is not clear where this structure was located or what became of it or of the laborer-Ranger cottage moved to the Park in July 1923.

Staff Quarters

Boles' second most pressing need was a residence for the Superintendent and cottages for all the permanent staff. In January 1923, he got a small, 3-room cottage, 15 x 18 feet from the old Crater Hotel site and moved it into the Park about 150 feet from the new office site. This housed Ranger Lancaster in two rooms and the third room became the paint shop. Another second-hand cottage was moved to the area back of the main entrance to provide bunks for day laborers working on the belt road. When the road was finished, it could be remodeled for the Ranger manning the entrance checking station. Other buildings were purchased and dismantled for their lumber and the equipment they contained. With this, Boles went ahead with minor repairs and construction using his own crews.

Another Ranger cottage with tank and water supply was built in the Administration area in 1926, and a room was added to the paint shop. The same year, the Superintendent finally had a residence of his own, built on the crater rim. It had hot and cold water, electricity from the VHse plant, and a lava rock fireplace. The cornerstone was a boulder hurled out during the explosive eruption in May 1924, and

signs at the trails to the house welcomed visitors to enjoy the view.

Superintendent Boles' second recommendation in his Annual Report for 1924 was for living quarters for all permanent employees. Additional homes were added slowly. A residence section for the Park was clearly identified by 1927 and subsequent construction was pretty much confined to this area. In 1932 Landscape Architect Wosky reported the area had five permanent homes, five temporary ones, and a temporary 5-car garage. The suggestion for putting the "staff residences" on the Hilo road on the Bishop Estate leased land, so as to separate the employees into classes, was firmly rejected. Wosky also recommended that the USGS housing be located in the Park residence area as there was no reason why two units of the same Department should have separate housing areas.

Housing was always critically short. The Report for Fiscal Year 1938 mentioned five new employee cottages at Kilauea and one at Haleakala, built for the most part with CCC funds and labor. Nevertheless, some of the Kilauea staff were still boarding and living at the VHse. Five new employee quarters were mentioned in the 1940 Fiscal Year Report. Then nothing more is heard until after the war when the rapid development of the USGS Volcano Observatory necessitated new housing and an adjustment in staff housing policies. (See: HVO section.)

A roof overhead was not enough. The residences had to be heated, ventilated and kept free of mold and rot in the

cold and damp Kilauea climate. This is a problem not yet satisfactorily handled. Bolos used volcanic steam for heating his office, and other structures have been located over steaming areas for the same purpose. The usual result has been the woodwork rotting away in the damp steam. Wood stoves, kerosene stoves, oil burners and various forms of central heating have all been tried in an effort at warming and drying the Park buildings.

The drying problem was no less severe than the heating one. To avoid wood rot, concrete slab floors were tried, which reduced to zero the below-ground ventilation. They also negated the possibility of a basement laundry-drying, play, and storage area, another desirable feature in the damp climate.

In 1937 the year the Park headquarters building had to have major repairs due to rot, Coffman outlined the basic problems and offered a solution. He felt that the weather had not been properly considered when designing local buildings. They should have great areas of ventilation, not the tiny, infrequent openings adequate for mainland structures. Due to this, most Park buildings suffered from dry rot and steam damage in a very short time. Close landscaping did not help, either. Single wall construction, he wrote, was adequate and there was no need for heavy supports for snow. There must be attic ventilation as well as basement. Treated wood might also help. Brush treatment at the site was not effective.

And his obvious solution: "This writer concurs with

local officers in the suggestion that it would be well worth while for the architect who usually prepared the plans and specifications for the buildings at Hawaii National Park to make a visit to the park in order to study personally on the ground the local problems and needs in this respect."

Roads and Trails

In the early days of travel to the volcano, it took fully two days to make the trip from any nearby port, and a vital feature was the half-way house. If one arrived at Hilo, the path ran through dripping rain forest to a stop at the Mountain View House, until rather late in the century merely a native dwelling remembered mainly for its fleas. Then there was another fifteen or so miles through more damp forest, beyond Oilskin Flats (now Glenwood) named for an old coat which some tourist had left for anyone who might need its services, then on the last few miles to the Volcano House.

The other major route was from Punaluu, on the southeast coast, where Peter Lee kept a hotel, to Pahala on the "train," on to the Kau half-way house in a eucalyptus grove, then on to the crater. This Kau road, built in 1884, was not much better than the trail from Hilo.* T. G. Thrum, publisher of the Hawaiian Annual, wrote in 1886 of these last few miles beyond the Kau stop: "This section of the road is said to be about eleven or twelve miles, but to jog-trotters meandering over and around lava humps in two hours of drizzling rain, we may be pardoned if we question the accuracy of the survey, for

* Hawaiian Gazette, March 12, 1884, p. 3 for details of the road.

it struck us as the longest twelve mile ride we had experienced. But then, as lava fields have no very high market value per square foot, I do not wonder a few feet are thrown in every rod or two."*

For a time the Wilder Steamship Company landed passengers at the rebuilt port of Keauhou, from whence they were taken up the bluff to a "station," then to the volcano in a small cart. Keauhou landing exists now only as a few coconut trees, and the "station" is part of Ainahou Ranch. The old Keauhou trail became a bridle path when a new road to the Ranch was built from the Chain of Craters road.

In 1888, the Minister of the Interior reported to the Legislature a plan for a new road.** A Puna resident, using only a "traction engine" had pushed a road across the aa lava "equal to the best macadamized street in Honolulu." It was proposed to build such a road from Hilo, following a continuous line of aa flows, all the way to the volcano at Kilauea, thereby bringing the two points within three hours communication of each other. Tourist travel could be expected to increase, fully repaying the cost of $30,000, the proposed budget for a 12 foot road with turnouts.

Construction began in March 1889. Some ten miles were completed the first year at a cost of nearly $40,000. The work was done with day laborers and prisoners, and it moved slowly due to financial problems and inadequate field engineering. One section with a 55 foot grade descent across

* Thrum's Hawaiian Annual, 1886.
** AH. Report to the Legislative Assembly from the Minister of Interior, Minister of Finance, 1888-1897.

the hard-to-work pahoehoe lava was finally abandoned. There were dangerous holes alongside the road and an extra $1200 was needed to fill in these "man-traps." One stretch in the Panaewa woods needed a drain and re-alignment as it collected six feet of water in heavy rains and "several animals have been drowned in the attempt to pass this place."

The new Hilo-Volcano road was finally completed in September 1894. In December 1892, the Bureau of Public Works had purchased the Peter Lee road from Punaluu and was also upgrading it for vehicular traffic.

The Hilo road was gradually improved and transportation facilities progressed from the early weary horse, to a four horse stage in 1894, to an actual railroad line as far as Glenwood in 1901. The stage provided more than mere transportation, according to one lady writer. One left Hilo immediately after breakfast, and if the rain ceased for a moment, the peaks of Mauna Loa and Mauna Kea were in view. The stage, a dilapidated vehicle drawn by four gaunt horses in rather rusty harness and driven by a bashful, goodnatured Scotchman, distributed people, luggage, newspapers, letters, parcels and a "good-sized box of joints and steaks" along the way, the latter hooked over a roadside crane or deposited in a box out of reach of hungry animals. The Hilo-Pahala sanpan is the lineal discendant of this old stage, pursuing a meandering round trip once a day, as the only scheduled, public transportation to the Volcano area.

By 1922 when Superintendent Boles began on-the-scene administration of the Park, the belt road -- Mamalahoa Highway -- ran from Hilo through the Park to Pahala and on to Honuapu landing in Kau. Within the Park proper, a side road led from Peter Lee's Crater Hotel over to the cauldera, around Kilauea Iki and on to the vicinity of the crater overlook and parking lot. The "Crocket Trail" led down the Chain of Craters. From the VHse, a trail crossed the cauldera to Halemaumau; another skirted the crater rim around to Uwekahuna. A third route led the way to the koa grove, tree molds and on up to Bird Park and the start of the Mauna Loa trail. This last crossed private lands and was something of a nuisance. There was no way to circle the cauldera, and going from the overlook to Uwekahuna required backtracking via the VHse.*

In-Park Roads

Boles devoted his first "modest appropriation" to repair of roads and trails, most of which had been neglected since 1916. The old wagon road from the VHse to Halemaumau along Waldron's Ledge was widened, oiled and re-opened for traffic. Three view points along the way were selected, cleared and provided with "rustic" railings. The Crater Road was repaired and a half-mile addition built to a turn-around and parking area for the greater accommodation of elderly visitors. A mere 100 yards from the crater rim, this parking area was

* For information of early road programs see Report of F.A. Kittredge, Highway Engineer, USBPR, to L.I. Hewes, Deputy Chief Engineer, USBPR, November 1925. 72 pp., maps, phots.

obliterated in the explosive eruption of 1924, and a new parking lot had to be constructed in a safer place. The roadway followed the line of the approach road destroyed by lava in 1918.

Boles also widened the Mauna Loa trail, enough to allow cars to drive to the edge of Bird Park. This project resulted in private ranch gates being left open even more frequently than previously, and so a bypass road was run outside the fence, to the koa groves and Bird Park. The new route not only solved the gate problem and kept the cars off the golf course (where they wandered looking for lava molds), it also gave the Park control of the entire road. In his Report for July 1923, Superintendent Boles wrote that visitors could now go to any part of Hawaii National Park without having to cross private lands. By late that year, he noted some 14 miles of good auto road within the Park itself.

The May 1924, eruption dumped ash and pumice on roads, but did no permanent damage. It did, however, mark the end of continuous activity in Halemaumau and Boles began to consider other attractions. A "chain crater road" is first mentioned in April 1924 and his Annual Report for that year pressed for development in this rift zone area to open up 12 craters and the area of lava activity in late 1923 which could be reached by the Keauhou "road", actually a trail accessible to light autos. Boles went ahead with this new road development and had a right-of-way cleared to the second crater by the end of 1925. Unfortunately, construction was delayed until land ownership matters could be settled.

(Cammerer was shocked to discover two lots over which the road was to pass were still in private hands, although Boles had the entire area grubbed, and urged Land Commissioner Bailey to acquire them with speed!) The road had popular approval and the county of Hawaii indicated it would construct a road from Kalapana to meet the Chain of Craters road as soon as Park construction was complete. The OK to go ahead with actual construction was not received until March 1927; work began in April and proceeded rapidly. The 7 mile new road was opened to the public in April 1928. Appropriations for Hawaii county to build a connecting road from Kalapana were defeated in the 1927 Legislative session -- Oahu, paying 75 percent of the taxes, wished to retain a larger share of the improvement dollars.

The county road from Hilo to the Park and beyond was being improved with reinforced concrete, macadam with an oiled surface, or asphalt in the very wet spots. In 1922, of the 29 miles from Hilo to the Park boundary, 11 were already concrete 18 feet wide, and additional miles were contracted out each year. Various other sections of the road were almost constantly under repair by county work crews and the resulting detours wandered off into cane fields or damp forests. The Park section of this around-the-island road was advertised in late 1927 for a gravel-type construction. This gravel construction was cheaper but a continual maintainance problem and the approach roads from both sides were being built to a higher standard. Protests, however, came to naught. Work began in November and was completed in June 1928.

The Superintendent's Report for October 1, 1928 listed Park road construction to that date:

The Volcano road, east of the Park, became an unbroken concrete highway for its 30 miles from Hilo when the last 6-mile unit was completed and opened for travel on October 22, 1927;

Chain of Craters road, begun April 11, 1927 under a contract for $148,000 was opened to travel on April 16, 1928. It stretched eastward for 7 miles from the Crater road and made accessible more than 12 pit and cone craters on the Puna rift;

Kau road, for a distance of 3.25 miles immediately west of the Park, under contract for $45,485, was given an asphalt macadam surfacing, 10 feet wide. Done between February and July, this completed a smooth highway from Hilo to Waiohinu, some 70 miles;

The Around-the-island road, approximately 4.24 miles within the Park, was begun November 9 and completed on June 2, 1928. The reconstruction job was done to modern standards. Between August 11 and September 15, the gravel surface was given an oil process treatment for which a contract was let for $9,963.

The Uwekahuna Observatory, built in 1927 with funds raised by HVRA, was reached by a gravel auto-trail from KMC. The Museum-Observatory was developing as a tourist interest and the next logical step was to continue the road beyond Uwekahuna to join the Crater road at the parking lot, thus allowing a circuit of the Kilauea cauldera. In 1931, Superintendent Leavitt had a road graded between Uwekahuna

and Halemaumau for the grand sum of $600, which shortened the distance by 4 miles and immediately became very popular with visitors.

A complete rebuilding of the 11 existing roads in the Park had been recommended by Superintendent Allen in October 1929. Except for the roads constructed the year before, all were obsolete and worn out. He also wanted all roads given an oil process surface. Early in 1930, the Park began a major road building program.

To bring the roads up to standard, Projects 1 and 2 were initiated to improve sections of the Crater road from Park headquarters to Halemaumau. This work was done in 1931-32. The newly opened Uwekahuna-Halemaumau road-trail needed upgrading and, with additions, became Project 4. Plans had been drawn in 1932 showing three sections: Halemaumau-Uwekahuna, Uwekahuna to belt road, and belt road to Bird Park turnaround and parking lot. The Halemaumau-Uwekahuna section followed the line of Leavitt's 1931 auto trail and was completed just in time for the September 6, 1934 eruption. Included was a parking lot designed for 550 cars. The Uwekahuna-belt road section presented two alternatives. Line B, the more scenic, followed the old auto trail from Uwekahuna to KMC along the crater rim. Line A, the one finally adopted, angled to cross the belt road between the old Prison camp and KMC and then continued across to the new Bird Park turnaround. This last section replaced the koa grove-tree molds-golf course road to Bird Park. Work began in August 1933, and was basically complete the following May. Ditching, walling, widening, and

finally oiling and laying an asphalt surface continued to 1940. This work was done by local crews after the major building had been done under contract to E.E. Black for a sum in excess of $100,000.*

The addition of the Footprints acreage put some 4.9 additional miles of the belt highway within the Park for maintainance and necessary rebuilding. In 1933, Job 3-B completed a new road to the Kau boundary using funds saved from other projects. As an interesting aside, in 1947, a C. Brewer and Company representative asked for the specifications on this section of the highway. It had held up excellently with a minimum of repair under heavy truck traffic and was in the best condition of any in the Territory. They wanted to duplicate it for some of their plantation roads. The result of this enquiry is not known.**

Job 3-C covering the new Park portion of the belt highway acquired with the Footprints addition moved less rapidly. There were quarrels over the standard to be used if the road was scenic or if it was to be considered mainly for through traffic; there was hesitation over committing Park funds until the county had its portion well under way; and there was a lack of funds for Park projects generally, becoming more and more severe each year of the advancing 1930's. The basic problem was one of too many agencies having the administration of Federal Route No. 6, the belt highway. Most of it was improved to 16 feet wide with narrow shoulders and barely adequate for traffic. Outside the Park, the county road was

* File: 631.05 for details of these projects.
** Superintendent's Monthly Report, December 1947.

eight to 10 feet wide; the present in-Park section had a 14 foot bed with 8 feet of paving. A high-speed highway, proposed by those who saw little of scenic value in the Footprints addition, should have at least a 32 foot roadway.

In 1939 Superintendent Wingate asked BPR for funds to bring the road up to the standard of the recently completed Territorial section just outside the park. In 1940 a bad curve at the new boundary (near the old Half-way House) was finally eliminated (by whom is not clear) presumably in connection with other road improvements. In 1945 this section was again given consideration. It was never up to standard and, as the main highway around the island, had been heavily used during WWII. The repair work was scheduled for fiscal year 1946 and plans were prepared for a 34 foot road with 23 feet of paving. Apparently this was done. This same section was widened and straightened in 1957. Additional Park road improvements were scheduled for Mission 66.

Hilina Pali Road

The Chain of Craters road was opened in April 1928, to be followed quickly by other road and trail construction in the area newly opened up. The old Kau trail from Devil's Throat to Kipuka Keana Bihopa was re-opened in 1929. Superintendent Leavitt's Annual Report dated October 1931, reported that the secondary road from the Devil's Throat to Hilina Pali was improved so as to make it passable for light cars at a cost of $890.79. Presumably, at least a portion of this auto trail followed the Kau trail opened in 1929.

Hilina Pali became the headquarters for trail trips into the south side of the Park. A stone shelter with water had been built there in 1930, and a horse corral, earth toilets and telephone were added the next year. From Hilina Pali, a trail was built to Halape opposite the island of Keaoi via the Puna trail and Puu Kapukapu. This was some 8 miles long and cost $70.55. Another trail was built westward to Kipuka Pepeiau over the Kamooalii flow, around Mamakaia Hills, past Mauna Iki to Uwekahuna Observatory, a distance of 22½ miles at a cost of $805.23. This opened up portions of the Footprints Mauna Iki area. Shelters with water were built at Kipuka Nene, Kipuka Pepeiau, and Halape.*

Hilina Pali had been suggested as the terminus for a road system as well. An undated report by Ranger Christ sometime after 1930 and possibly as late as the 1940's, surveyed a road from the Hilina Pali resthouse at 2200 feet down to the sea-coast. The only access to the coast at the time of the report was via foot or horse, and the trail was poor, having been developed primarily for use during goat drives. The survey proposed a road 9½ miles long with a 3½ to 5 percent maximum grade. An auto trail would be a nice, easy trip with good views. The upper terminus might be considered for possible extension to the west entrance of the Park, and the lower might be extended eventually to Keauhou. The proposed road location, however, was not dependent on these possibilities.**

Probably due to lack of funds generally, nothing more was heard of the Hilina Pali road -- any portion of it --

* File: 640-21.1.
** Ibid.

until August 1938 when a set of plans for a Hilina Pali road were forwarded from the Regional Office. In December, they forwarded tracings for a proposed Hilina Pali "truck trail." The appropriations or funding was not clear -- Park or CCC -- until 1939 when Superintendent Wingate wrote to the Director asking for funds from the Roads and Trails allottment to improve the truck trail, rather than use CCC funds merely to repair. He noted a recent heavy rain had badly damaged the trail, especially several culverts put in by CWA four years before. He had a new alignment surveyed, but the title for this work suggested a new trail rather than a reconstruction.

It is not clear who did what or when. The Superintendent's Report to the Director for the fiscal year 1940 reported the start of "erosion control" by the CCC, the completion of a gravel truck trail part way down to Hilina Pali (report with photographs), and a reference to the Hilina Pali truck trail job being incomplete due to the termination of the CCC camp and the removal of the boys to war jobs. The Park, he added, was doing whatever was necessary to keep the project from deteriorating.

Apparently the Park was not able to keep it from deteriorating. The Army used it for two years during World War II and it was badly washed. In 1944 the Hilina Pali truck trail appeared on a "Deferred Maintainance Program," which reported that the last three miles of construction were already started and needed finishing, this last a reference to the job left incomplete four years before.*

* File: 600-04.

In 1949 Superintendent Oberhansley undertook to finish the road once and for all. He claimed the last three miles were rehabilitation work and could therefore be considered maintainance. According to nearly everybody else, it was construction. The work was finished as maintainance (fortunately within the maintainance budget) but the Regional Director suggested that in future, if there was any doubt on such borderline cases, it would be well to clear the job with his office prior to starting work. The route had been re-staked and at least the lower three miles graded before being opened to the public on November 10. The November 14, 1949 press release called the result a newly-oiled road for light travel, and proposed future developments were to include picnic and camping areas. Oberhansley obtained additional emergency repair funds of over $10,000 during 1950 as a result of heavy rains washing the road, and yet more repair money was made available in September 1953. How Oberhansley's "resourcefulness" got the Hilina Pali road was the subject of a Honolulu Star-Bulletin article on March 3, 1951.

The road has received moderate maintainance since then. The earthquakes attending the Halemaumau collapse in 1960 cracked and pitted the road, and volcanic activity since then has necessitated closing it for repairs.

Belt Road By-pass

The biggest post-war road problem had to do with the Mamalahoa highway, better known as the "around-the-island" or "belt" road. It was heavily travelled, passed between

the headquarters building and the VHse, and was a continual maintainance and safety problem as well as a jurisdictional tangle. The NPS wanted the belt highway outside the Park so that all in-park roads could be built, maintained and used in accordance with NPS regulations. Coloring the problem was the long-deferred Kalapana-Chain of Craters road and a new south entrance to the Park.

The situation was reviewed in a letter from Charles C. Morris, Division Engineer, to Dr. L. I. Hewes, Chief, Western headquarters, dated March 15, 1948.

> Beginning about 1927, the Volcano Road from Hilo to Park headquarters was improved to standards then in use with Federal Aid.
>
> In 1931 and 1932, the road through the Park was improved with Federal funds providing a 16'-18' bituminous surface.
>
> From the Southwest Park boundary approximately 6 miles of road has been constructed without Federal funds, and from the end of that section to Honuapo about 15.5 miles was graded and surfaced 21 feet wide in 1937-38 and 1940.
>
> In 1945 exceptional heavy rains washed out approximately 4 miles between 6 and 10 miles southwest of the Park boundary and this section has been reconstructed, generally on new alignment, as an Emergency Relief project financed entirely with Federal funds at a cost of approximately $437,000.
>
> During the war years the road between Hilo and the northeasterly Park Boundary was damaged by extraordinary traffic volume and the increased traffic demands repair and higher standards of width and alignment.
>
> The Commissioner has approved the program of construction in 1948 of approximately 14.2 miles between Olona Street in Hilo and Mountain View as combined War Damage Rehabilitation and Federal Aid Projects.
>
> The work will consist of widening the graded roadway, some improvement in alignment and the construction of a new bituminous surface at a total estimated cost of approximately $1,200,000.
>
> Program approval has been recommended on a similar combined project for the improvement of some 8.6 miles between Mountain View and a point approximately 4.4 miles northeasterly of the Park Boundary at an estimated cost of $425,000.
>
> The section between the end of that improvement and

the Park Boundary is to be rehabilitated on present standards and alignment at an estimated cost of $178,000, anticipating a possible future relocation of the highway which would replace this 4.4 miles of Park Approach road."

Where to put the Mamalahoa highway, inside and outside the Park, took a decade to decide.

In 1947 the site of the old Crater Hotel, just outside the Park, was cleared for a quonset hut motel development, which, with the general growth of the vacation community at 29 Miles, forced serious consideration of a road which would by-pass this boundary development. A scenic road swinging north around this area led reasonably to a more northerly route through the Park, and this became the favored in-Park alignment.

There was citizen support for a new approach road with a protected right-of-way, and the Territorial government as long ago as 1930 had agreed to "proceed with any plan the Park Service would present toward retaining the present natural beauty of all both present and future territorial and county roads leading to Hawaii National Park,"* but not if the new approach road forced area residents to go an added two miles to get to the Park. Plans to close the present Park entrance met strong opposition. Volcano residents received their mail at the VHse postal station. They also felt they had been there long before any Park, and any attempt to restrict their access to it was met with outraged opposition. Part of the new Park Access road proposal was an entrance gate and annual fee.

* Superintendent's Report for March 1930, reporting a conference between Mr. Vint, Mr. Gable, Governor Lawrence Judd, the Territorial Land Commissioner, and the Park Superintendent.

In 1950 the Territorial Legislature even went on record in favor of retaining the present Hilo entrance, if and when a new approach road was built. The fee proposal went into limbo with the repeated delays in deciding on a new road alignment, and the Post Office problems were handled by providing a "Volcano" post office station at 29 Miles. The VHse station became "Hawaii Volcanoes National Park."

To facilitate control of access to the Park, however, the Peter Lee cut off road at the Park boundary, a short cut going over to the Crater Rim road, was eliminated in early 1949, after a rash of raids on young tree fern fronds which were cut and found their way to local markets as fresh greens.

While the exterior approach road problem simmered, the internal by-pass road went forward. Relocation of the entire road through the Hilina Pali area was considered and rejected as being too damaging to scenic values, as well as retaining the heavy traffic volume within the Park, a situation the NPS considered undesirable. The northerly alignment, mauka of KMC along the rim of the cauldera, appeared most likely as it was outside the Park and separated from it by a natural bluff. Early plans called for a route at the top of the rim along the golf course, but in attempting to avoid the golf course greens, the route ran through several house lots leased out by Bishop Estate. To the Park, this alignment had the double advantage of avoiding the Park and eliminating a residential development which the Park viewed as objectionable. Prospective home-owners, however, viewed the highway as equally objectionable. The site belonged to Bishop Estate which felt it had already

provided enough land to Hawaii National Park, and so that portion of the by-pass road was relocated to the base of the bluff directly in back of KMC.

The KMC-golf course section of the by-pass road was planned to extend directly to the proposed north approach road which passed around 29 Miles with access to that community via Wright Road. 2-mile Wright Road, about which the area residents were so upset, was under construction in the fall of 1952. From the approach road, a feeder road -- Route 8 -- would run in to Park headquarters. One possible line for Route 8 ran along the top of the cauldera bluff back through the old VHso area to headquarters; the other line was farther away from the rim and in part followed the abandoned RR line developed to serve the koa mill in operation at the turn of the century. This line swung completely behind the VHse area to join the existing Mamalahoa highway beyond the headquarters complex. Both routes and the tie to the approach road required an extension of the Park boundary into land controlled by the Bishop Estate.

The north approach road and attendant in-Park by-pass road remained unsettled through the 1950's. Bishop Estate was not agreeable to any boundary change involving any more large areas of their land, and the county of Hawaii saw ever-increasing costs for building a road on a new alignment, even on Territorial land, these last several miles to the Park boundary. The county, meanwhile, had upgraded its road in the Kau section and the Park was under no little pressure to get its portion of the belt road up to modern standards. The

Territorial Highway Department expressed no preference for any of the proposed routes but did want to know if they should prepare to build a new road, or widen the present one up to the Park entrance -- which would destroy much of the screening vegetation and produce a strip development at 29 Miles.

The Territory, apparently, was going ahead with widening the old road. A letter from Governor King to Superintendent Wosky on July 18, 1956 said that the new aligament would require condemnation of lands for the Park which the Territory could not afford.* The Territory was also going ahead with rebuilding the old road from Mountain View, start of any proposed new approach road, and a Park by-pass would be an unnecessary duplication. That pretty well killed any major northerly re-routing of the approach road.

In-Park alternates were then investigated. In one, the highway swung away at the Hilo boundary up to the RR bed, then to the golf course and on to join the present highway. This plan was abandoned because of the continuing necessity of obtaining Bishop Estate lands. A more likely alternate followed the same general route but kept the road entirely on Park lands. Superintendent Wosky met with Governor Quinn in January 1960 and a route was finally selected. The in-Park by-pass road would leave the present alignment at the boundary, swing north to the vicinity of the bluff below the cauldera walls, passing well behind the headquarters and VHse area, and directly behind KMC to join the belt road near the Bird Park road. This road would be entirely on Park land. The

* File: D-30, 7/56-12/64.

Federal government would assume the cost of the road; the State would do the actual work; they would all collaborate on the design; and the State would assume the maintainance and operation of the finished road.

The road plan, nobody's first choice, was finally approved, funds were transferred from the again-delayed Kalapana road, and a contract let to Black & Kuwaye Bros., in April 1961. There were delays occasioned by the loss of survey notes in the May 1960 tidal wave (tsunami) at Hilo; a difficulty with the Bishop Estate borrow pits; and a delay in a FAP road to which the by-pass road was somehow tied. Money remained a problem -- the lowest bid came in 25% over NPS estimates and 21% over FAP estimates. Left-over Crater Lake NP funds were diverted to Hawaii NP. The new 7-mile Park by-pass road was finally inspected and passed on January 10, 1962.

An auto accident death on the highway in April 1966, focused attention on a lingering by-product of the new road, the matter of jurisdiction. The original plan was for the Federal government to pay for building the road, and the State was to assume operation and maintainance on completion. The State asked for title in fee, rather than a Special Use Permit as offered by the NPS. Fee would require Congressional action, and an easement, available under present law, was suggested.

At the same time, the NPS asked for a quitclaim from the State when the old road was abandoned. Although the NPS had exclusive jurisdiction within the Park, it also sought legal ownership of the land. An area extending 40 feet on either side of the center line was agreed on, but quitclaim

action by the State was dependent upon new legislation through which the County could formally abandon the road. On September 5, 1961 Hawaii County took action in Resolution 603 to allow the State to quitclaim to the NPS. The action moved slowly through channels and was eventually recorded in Bureau of Conveyances Liber 4396, page 211.

The legal difficulties continued. The Park wanted to turn over the entire length of the road within the Park to the State, not just the new headquarters by-pass section, with the State recognizing both legal and administrative jurisdiction. To do this, the State had to apply to BPR as the representative of the Department of Commerce, which in turn had received the lands from the Interior Department, as the only legal way to provide for the transfer of the road right of way. The State Transportation Department and Federal BPR continued their correspondence, the State seeking full jurisdiction of the road if they were also to have full responsibility; the Federal offices saying full jurisdiction would require legislative action. In January 1963, the Director of the NPS gave his approval to an immediate transfer of the road with the necessary legislative matters to be cleared up as soon as possible, with the one stipulation that the right of way was subject to termination at the option of the Secretary of the Interior in the event of a breach of terms or conditions under which it was granted.

The matter dragged on through 1963 as the appropriate maps were made and signatures obtained. The Federal Bureau of Land Management closed the case without prejudice in

January 1964, because the State Division of Highways had failed to agree to the Director's stipulation. The matter was re-opened in March and again delayed as the BPR began to process a stipulation of their own. The BLM granted a right-of-way for 50 years on April 14, 1964 after four years of processing, and even this was not correct -- the road description prepared by BLM excluded Parcel 1, the new by-pass road. The State, still seeking legal jurisdiction, pressed for a perpetual easement. To clarify the road description, the State had to re-apply with the BPR, sending an amended application with the proper description, which the BPR would send on to BLM for an amended decision. This was done, but BLM returned yet another incorrect decision, having this time deleted the 50 year provision, while failing to add Parcel 1.

State Director of Transportation Matsuda, understandably annoyed, wrote on August 26, 1964 that the State would assume maintainance of this section of the Hawaii Belt Road "when the right of way is transferred to the State, and when Congress relinquishes jurisdiction, the State will assume same." The State finally assumed maintainence and administration of the road on November 17, 1964, nearly two years after completion.

The NPS meanwhile began the slow process of assembling the information necessary to draft legislation for a transfer of land to the State. Superintendent Johnston submitted material in September and October of 1964. Nothing more was heard. Superintendent Bean, in reporting the April 1966, accident pointed out the serious consequences of divided jurisdiction should a tort claim result. He pointed out that

failure by the NPS to follow through on its obligations was used against them by its critics, especially in reference to the Kauai park proposal. Furthermore, Bean pointed out in November 1966 that legislation to cede jurisdiction of the highway was not included in suggested legislation for Parks. Failure to do this had already been cited as the reason the State refused to fix the rest of the highway within the Park.

Perhaps it took another 4 years; during late 1970 the Kau end of the in-Park highway was being widened and repaired.

Kalapana Road

When the Chain of Craters road was first proposed, Hawaii County had promised to build a road up to the Park boundary from Kalapana. The legislature refused a direct request for funds in 1927, but granted the county the right to sell $30,000 worth of road bonds during the 1929 session. They were never sold and in 1931 the authority was again given to sell $30,000 worth for the Kalapana road, a sum far below the projected $400,000 cost of the project. The County then asked Territorial Governor Judd to get permission of the President to issue bonds for $400,000. County roads were poor, the Olaa to Kalapana section was hardly up to Territorial standards and even the $25,000 allotted to the Park for the Makaopuhi to Park boundary section of road had been diverted to the Uwekahuna-KMC road.*

The deteriorating economic situation pushed the County's Kalapana road well into the background, although the Park continued to consider various routes down to the coast to meet

* File: 631-01, 1925-1948. Leavitt to Director, NPS, July 31, 1931.

the county road. One such road went via Hilina Pali to meet the Chain of Craters road; another which went via Hilina Pali but kept closer to the cliff was considered as a replacement for the belt road; another would open up the coast and the Mauna Iki area at the top of the pali. Superintendent Wingate, during the 1930's fight for the Park extension authorization, would not push for any kind of Kalapana road until the coast area this road would open up could be provided with some protection, either as an extension of the Park, or as a Hawaiian "reservation." He wanted to preserve one of the few remaining Hawaiian communities for its residents and also as a Park attraction.

By 1941 the extension bill was law, but no funds were available until the acquisition was completed. The Park, however, reiterated the obligation to build a road through the extension. Wingate had a tentative alignment, based on an early WPA project, and declared the area involved was no longer occupied by Hawaiians although still owned by some. The Territory wished to obtain the road alignment parcels promptly, but found themselves faced with the rumor that the Park was trying to run the people off the land. The Territory remained reluctant to proceed with the land acquisition -- it was, after all, an expense to them and not to the Federal government. Wingate felt the acquisition would be complete by 1945 and urged an early road survey.

The land acquisitions were not complete by 1945 and Road and Trail funds were limited for several years after the war. By 1948 Superintendent Oberhansley had managed the reconstruction

of the Hilina Pali road and was actively pushing this route for the Kalapana road on the grounds that it had the best scenic approach. He suggested a second spur to tie the beach road to the Chain of Craters road if necessary, although it would be an added expense. Along the beach to Hilina Pali was the route favored by most planners not only for the views, but also to save the Chain of Craters-Kalapana foot trail.

In 1953 the County of Hawaii passed a resolution and sent it to Delegate Farrington asking for funds from Congress to build the park road. They were informed that everything was held up until such time as the land acquisition was complete. If Hawaii county wanted the money the road would bring, they would have to help the Territory acquire the new Park lands. This situation dragged on for another 7 years.

Finally in 1961 money became available. In June the firm of Harland Bartholemew was contracted to survey an alignment. The survey was essentially that of the proposed Bishop Museum routing although it extended from the end of the Chain of Craters road down the pali closer to Kalapana than had previous plans.

By February 1963 the centerline had been staked, and a contract was granted for the first 8.82 miles the following month.

A Honolulu Advertiser article of January 30, 1963 reported on the new road. 17 miles long, it was to cost some 2½ million dollars and was part of an Accelerated Public Works Program. The public could have full access, but, in accord with the 1938 Park act, only native Hawaiian residents

of Kalapana, Kaimu and Kupaahu and their friends could fish without a Park permit. This raised an immediate cry from other local fishermen and the provision has not been enforced. Superintendent Johnston hoped to fence the new area as part of a Park-wide fencing program. This also has not been done.

In November of 1963 a contract was let for another 9 miles of the Kalapana road and a year later it was ready for final paving. The new road was dedicated at Waahila heiau on June 19, 1965.

Pessimism over the propriety of a road built beyond the Chain of Craters terminus has been borne out. Volcanic activity along the rift has destroyed sections of the highway and it is not now a circle route.

1959 Kilauea Iki Changes

In 1959, volcanic activity in dormant Kilauea Iki crater necessitated re-routing the Crater Rim road. Puu Puai cut the road in two; cinders obliterated the summer camp picnic area, and covered over nearby roads, trails and vegetation. Some $600,000 was diverted from the Kalapana road fund to build a new section of the Crater Rim road. Overlooks, parking and an interpretive trail through the destroyed ohia forest were also constructed and plans were drawn for future emergency escape roads and trails should another eruption sever the road.

The eruption brought staff to the Park and several other road problems were decided at the same time. The headquarters by-pass route was reviewed from the Hilo boundary to its junction with the old road beyond KMC. A new steaming bluffs-

Uwekahuna route was developed. A new access road to Bird Park was laid out, eliminating much of the road from Uwekahuna to the belt road. Several road junctions were also re-designed to abrupt right angles. Abandoned roads were torn up and the areas replanted but with little success. The scars are still visible in the 1970's.

Trails

The crater trail from the VHse to the firepit was in use long before the Park was established. It is assumed that this route down the face of the cauldera below the VHse has remained essentially the same over the years, with the route across the floor being repaired and rebuilt after each lava flow. There may have been side trails not now known. There is a reference in late 1922 to the trail through the new lava tube on the crater floor, and to the "Postal Rift Tunnel." In 1926 the new Sandalwood trail to the crater floor was opened. This provided an alternate route along the upper fault bluff of Kilauea cauldera, then joined the old Crater trail to the floor. At the pit itself, trails were built around the crater, marked with cairns or white painted slabs of lava. Eruptions often forced new trail building to disperse the crowds for better viewing, and to avoid a concentration of weight at one point on the rim.

Superintendent Boles devoted the little money he had to repair and rebuilding of old trails and the construction of new ones. As old ones were put in order, they were extended to new points of interest. In May 1922, he was working on

the Waldron Ledge Trail between Kilauea Iki and a point one mile south of the VHse. From there to the VHse the Waldron trail was re-opened as the Rim Road. Two months later Boles was constructing a trail from Byron's Ledge, between Kilauea Iki and Kilauea cauldera, down to the floor of Kilauea Iki. With access by a second trail into Kilauea Iki from the road opposite Thurston's Lava Tube, this loop trail became one of the most popular. It was rebuilt in 1930 and again after the eruption of 1959.

The Thurston Lava Tube trail was another popular pre-Park trail. A new bridge and stairway to the lava tube were constructed in 1924, and it was "permanently improved" in 1930 by widening, constructing dry walls and surfacing with cold asphalt emulsion. As the Superintendent pointed out, it was used by all Park visitors and had assumed more the character and needs of a walk way for persons in street clothing rather than a trail for those equipped to hike.

The improvements continued as the visitors became less and less inclined to even leave their tour buses. In 1955 the trail was re-surfaced, all steps relaid with hand rails and a blacktop trail laid through the tube itself with warning lights at low spots, etc. This made it "much safer" and the Superintendent reported that "no additional work should be required for years."* Three years later it required new work in the form of new guardrails at sheer drops and new surface for the treads. In September of 1958 some 18 tons of hot mix were used to prepare a walkway in the tube proper. The

* Superintendent's Report for July 1955.

following year a new protective wire was installed along the concrete bridge and HELCO installed lights through the tube. No longer is it necessary to carry a kerosene lantern and duck around stalagmites and stalagtites. Modern tour drivers deliver bus-loads of often elderly visitors for the half mile stroll into Kaula Crater, all on well tended walks with sturdy guard-rails, and through the Tube itself, now smooth underfoot and lighted electrically.

In 1927 some 1800 feet of trail on 16% grade was built from the Summer Camp down the pali to the crater floor. Extended to Halemaumau in 19--, this became the Little Beggar trail. In 1930 the Summer Camp trail was extended north across Byron's Ledge, along the rim of Kilauea Iki to the talus slopes at the foot of Waldron Ledge to connect with the existing trail from the VHse across the crater floor. This allowed many new circle trips.

The Crater Rim trail was relocated in December 1922, and a new section by the Superintendent's residence built in 1926. The Steaming Bluff trail between the VHse and Uwekahuna was developed in 1930. The Uwekahuna bluff trail down the face of the north bluff and used mainly by KMC personnel was badly damaged in the May 1924, eruption and was repaired with KMC aid later in the year.

The Puna rift area was reached by "Cockett's trail" and/or the 6 Craters trail, a ten mile loop passing the Thurston Lava Tube and 10 craters of various sizes, two of which were usually steaming. The 6 Crater trail was replaced in 1928 by the Chain of Craters road , and the

next year a trail was built from the end of the road over to Napau crater. Neglected for some years, this trail was repaired and re-opened again in February 1959. In 1934 the Puu Huluhulu trail was built. For the first time since the Park was established, trail work was done under the direct supervision of a Landscape Architect and this project of 1½ miles became the standard for trail construction in the Park. The Hilina Pali truck trail, a spur from the Chain of Craters road, and the trails to Halape, Kipuka Keana Bihopa (finished in October 1929), Kipuka Pepeiau, and the loop trail to Mauna Loa through Mauna Iki and Footprint area were opened in the 1930's.

In 1932, Landscape Architect Wosky reported that of the over 100 miles of trail in the Park, only three were of major importance: the Mauna Loa trail of 38 miles; Halemaumau trail of 3.2 miles; and the Mauna Loa-Hilina Pali loop trail. It was the rare visitor who used any trail but the Halemaumau and KMC used more than most. He also pointed out that there were no streams in the Park so shelters were equipped with sheds for water collection. Most shelters had been built by Hui O Pele with salvaged material and should be replaced. He felt these shelters were as important to trails as were the culverts or surfacing.

Getting lost was a hazard. The Kalapana trail was cleaned in 1962 to avoid any other users getting lost on it, and the Mauna Iki trail may have claimed a life of a KMC visitor back in the 1930's (or he may have gone AWOL, which also happened from KMC, although the rugged terrain provided

a usually satisfactory explanation should a hiker be "found" before he had time to make his way out of the Park.) Steam and other cracks were also hazards and needed guardrails, as at Steaming Bluffs. The Fern Jungle trail, a short rainforest hike beyond Thurston Lava Tube, was entirely abandoned in early 1959 when the parking and pick-up areas at either end proved hazardous.

The next year, following the 1959 Kilauea Iki eruption, a trail was built across the new cinder fields and through the burned out ohias and called Desolation Trail. Constructed as a boardwalk, it had a framework salvaged from old redwood water tanks, covered with 1 inch rough cut boards for tread. It has proved very satisfactory.

Signs

The lack of available water mentioned by Wosky had already attracted the attention of Superintendent Boles, who likewise feared for lost hikers. His answer was to properly mark all points of interest, trails, and directions. To this end he prepared and installed over 200 signs the first year, mostly on 1 x 6 boards, but many as big as 2 by 3 feet.

In May 1923, he had erected a large entrance sign, consisting of a dead koa tree, arched over the road and supported on two boles of ohia, from which was suspended a "suitable inscription." This sign, 2 feet by 10 feet, read:

U.S. Department of the Interior --- National Park Service
H A W A I I N A T I O N A L P A R K
"Set aside for the pleasure of the People."

It was deisgned to not only identify the area, but as an

invitation, and caused quite a bit of favorable comment, Boles reported. How long this sign survived is not known.

About ten signs a month were added during the rest of his administration when plants and shrubs were also identified -- he did make an effort to verify Hawaiian names with authorities. All these signs had green lettering on a white background, edged in green. Boles felt these signs were most satisfactory, but old time residents were less than enthusiastic about the sheer number of them in evidence.

A dozen new bulls-eye reflector danger signals were installed at sharp curves in the road in 1927 and by the end of the year another dozen information signs had been prepared and installed. These signs were to bring Park regulations to the attention of the public. Of 1 inch redwood, 24 inches wide by 27 long, carved in the shape of a shield, the information consisted of 3 columns with 10 items. The first four items were the same on each sign, the last six varied with the location. These shields were placed at the hotel, military camp, Uwekahuna Observatory, and in every Park shelter. Sign manufacture, with everything else, declined during the depression and war years.

The post-war signs were of routed wood, replacing older metal and painted wood ones. Trails were measured in the Chain of Craters and Kilauea area and in July 1947, 80 sign texts were prepared. The Superintendent's Annual Report to the Governor for 1949 reported over 200 directional and interpretive signs of carved wood had been made and installed along trails. It was also noted that the Bird Park trail had

been made a self-guiding nature trail with leaflets explaining natural features along the way. This technique is now used for most major trails in the Park -- a vast improvement over the hiker maps of 1922 printed by courtesy of the Honolulu newspapers.

A handsome aluminum routed sign with text and sketch for Halemaumau crater was donated in October 1957 by Hawaii Natural History Association. Ten years later, the Park was switching to routed plastic signs for most Park areas. These were both light and attractive. In December 1959, the Park began changing signs and exhibits to show the physical changes caused by the Kilauea Iki eruption. With the 1961 separation of Haleakala, the Kilauea section modified its name by adding "Volcanoes" and installed concrete and stone entrance signs at both entrances on the belt highway. The next year most of the trail signs were refurbished.

Camogrounds and Picnic Areas

Campgrounds and picnic areas for the more passive visitors were also developed by Boles. The "ohia grove near Kilauea Iki" and Bird Park had been selected by early users and these sites were improved with at least a water supply. In February 1923, 10 acres were officially set aside for a public camp site near the beginning of the Cockett trail and the east rim of Kilauea, above Byron's Ledge. A tool house already constructed there had a tank with 3000 gallons of fresh water. Underbrush was cleared and tent locations established, with rock fireplaces and rubbish pits. This area, known as the

public auto camp site, was improved in 1926 by the addition of a rain shed and water tank. The same year, Bird Park was provided with "similar buildings, with toilets." There is no specific mention of toilets for the Ohia grove camp. Visitors apparently used these camps, but not heavily. The Superintendent's Annual Report of October 1928 reported increased interest in the campground facilities with 9 cars and 22 persons using them as against 2 cars and 5 persons the previous year. The return of lava to the pit was expected to stimulate overnight use. Bird Park had already been closed to camping, and the Superintendent's Annual Reports do not refer to public overnight camp areas after 1928.

Day use areas for picnic parties were set aside in Bird Park and at a location about 100 feet back from the crater, where cooking grates were built over hot cracks. Boles reported a temperature of 150 degrees over these steam cracks which issued forth only heated air, no gases. He noted the convenience of fire, smoke, and ash-free cooking. There is no reference to these Park-maintained, steam crack grates after 1923 and it is assumed they were discontinued as the noxious fumes from the crater increased prior to the 1924 drainback and eruption.

Civilian Conservation Corps Projects

In January 1934, work was started on the construction of the first CCC camp in the Territory, designed to provide useful training and employment of young men on work projects in the nation's forests, water sheds, etc. One 200-man camp was

originally authorized for the Park, later increased to 250 men with the additional 50 assigned to the Haleakala section. These 50 were later transferred to the Territory of Hawaii CCC in order to assist in Territorial Forestry work on Maui. 25 of these men were later returned to the Park and were formed into a unit at Haleakala.

A report to December 1940 listed the important projects completed or undertaken by the CCC:

(1) Construction of 52 miles of goat-proof fence along the Kilauea Section boundaries and the subsequent elimination of approximately 8,000 wild goats. These pests were causing enormous damage to the park forests, in certain places denuding the land to such an extent that heavy erosion had set in and the soil was being completely washed away. The CCC is now engaged on an extensive erosion control project which is already showing beneficial results;

(2) Almost the entire park trail system was improved and many new miles of trail added including the bridle path around Kilauea Crater, the connecting trail through Kilauea Iki, the summit trails on Mauna Loa, trail to the Lava Trees near Napau Crater and the spectacular Halemauu trail at Haleakala;

(3) Restoration of Kipuka Puaulu (Bird Park). This spot one of the most beautiful and botanically interesting in the whole park was endangered by the extensive intrusion of foreign plants, particularly a morning glory which had gained such a foot-hold that it was smothering the native forest. The CCC undertook the eradication of all foreign plants in this area besides constructing a foot path for public use and a small picnic ground conveniently located adjacent to the Kipuka. Throughout the six years of its work in the park the CCC has continuously engaged in removal of dangerous foreign plants which by their rapid spread threatened to a considerable extent the native Hawaiian forest. The park was established, not only to preserve the interesting volcanic features but, to preserve for the enjoyment of all people everything which was native to Hawaii. It was, therefore, necessary if the Hawaiian landscape was to be preserved that this work be carried on;

(4) It constructed 26 miles of permanent telephone line from Kilauea to the summit of Mauna Loa for use by parties making the summit trip and for use during volcanic activity on the mountain. It also placed underground the Headquarters telephone system;

(5) It constructed 10 miles of truck trail on the slopes of Mauna Loa for fire protection and to facilitate patrol on Mauna Loa during eruptions. This trail is opened to the public on guided trips each Sunday. It is now engaged in reconstructing the 9 miles Hilina Pali auto trail which when completed will provide the public with comfortable access to one of the most scenic portions of the Kilauea Section;

(6) It constructed three public information cases at Kipuka Puaulu, Thurston Lava Tube, Makaopuhi Crater, and a public information building and ranger shelter at Halemaumau beside several information pointers at different points in the park and completed work on the Footprints area museum structure together with several water-proof cases to preserve the historic footprints in the Kau Desert. This latter work was done with funds provided by the Hui-O-Pele;

(7) It constructed five employees quarters at Kilauea and one at Haleakala and three laborers' cottages at Kilauea besides one duplex quarters for employees burned out in the Volcano House fire;

(8) It completed work on an extensive water system for Haleakala;

(9) It is now engaged on one of the most important projects undertaken in recent years; the construction of a new Volcano Observatory and Naturalist Building;

(10) It is now also engaged in miscellaneous work connected with rebuilding the Volcano House on a new site including grading approach roads, construction of parking areas, and landscaping.

The above are the more important projects, but it has assisted materially each year in maintainance of the park roads, trails, telephone lines, and buildings.*

Communication

Prior to 1930, HNP had no telephone system whatever. That year, with an allotment of $3250, supplies were purchased and telephone lines were strung on trees or poles as necessary through the Park. In barren areas, iron poles were used, salvaged from local Army discard, with the last few hundred feet to a station put underground in conduits. The entire system was hand ringing, through a Kellogg switchboard. It

* "Resume of Park Activities from January 1933 to December 1940 covering principally travel and important visitors, personnel, improvements and appropriations." 10 p. Material for a Hilo Tribune-Herald, 45th Anniversary Issue, December 1940.

served 34 telephones, mostly the wall variety, along 36.75 miles of cable. In his Annual Report for 1930, Superintendent Allen wrote that the 25 miles of metallic circuit telephone line so far installed were the first telephone communication construction completed in HNP and served the Park headquarters area, Halemaumau fire pit, Thurston Lava Tube and the Summer Camp. By the time the job was completed on June 30, 1931 the line had been extended to Bird Park, the end of the Chain of Craters road, Kau and Hilo boundaries, Ainahou ranch, and from the Devil's Throat down to Hilina Pali. All lines had been carefully hidden, whenever possible without too great expense. In 1931 the Hawaiian Telephone company had moved its line off the road between the Hilo entrance and the VHse, materially improving the landscape in that vicinity.

The new system had some temptations. In 1935 Superintendent Wingate had to remind his staff that the Park switchboard was not to be used for personal calls. These were to be made from the VHse or the pay telephone.

With the exception of a reference in the 1939 Superintendent's Report to the Governor to laying an underground telephone cable at Kilauea headquarters, and a 1944 telephone inventory and map of lines,* nothing more is heard in reference to telephones until the 1950's when the Park attempted to replace its old handcranked field telephones with new dial telephones as part of the island-wide commercial system.

In September 1951, the Mutual Telephone system advised the Park that its present manual system was to be replaced

* File: 660-04.1. July 17, 1944.

with dial telephone service by June of 1951. As of that date there was no dial service, but rather a note from Superintendent Oberhansley to Mutual Telephone Company asking for the history of the telephone line across the Park. Apparently a smoldering disagreement between the Park and the telephone company had finally come to a head. In July, J. Ballard Atherton, President of Mutual Telephone Company, responded with a detailed history of the line. Said he, a line had existed prior to 1915, when the company had presented a map in evidence in a rate case, showing a line between Hilo, Volcano and Kau. The "subject line" appeared on other maps prior to 1915 as well. Furthermore, records dated March 1891 had been found indicating an intention on the part of the Hilo and Hawaii Telephone and Telegraph Company, the predecessor of Mutual Telephone Company, to commence at once the line connecting Hilo and the Volcano. A letter dated March 2, 1891 from the Kingdom's Department of Interior tells the Treasurer of the Hilo and Hawaii T&T that he is authorized to draw upon the Interior Department against an appropriation of $1250 for the construction of telephone lines across this area. A record in the State Archives indicated the complete payment of $2500 was made, probably the appropriation mentioned in "Chapter 51, Session Laws 1890, p. 102: aid to telephone company, Hawaii - $2500."

Atherton continued: besides rights obtained through long and undisputed use, there were other rights based on charters to the companies later absorbed by Mutual Telephone Company. Contained in these charters were grants of all

privileges of Chapter LV, Statutes of 1874. This allowed the companies to put pole lines over public highways. There were rights to transmit intelligence by electricity over streets and highways granted by the Kingdom of Hawaii which were not abrogated when the land became Hawaii National Park in August 1916, at least as concerned the lines already in existence.

Finally, wrote Atherton, if the park felt these rights should be more specifically evidenced by the execution of a long term easement from the Government to the Company, the Company was willing to review terms, etc.

The Company, in brief, wanted to run their telephone lines through the Park and the Park did not want the unsightly lines on its property. The Company wanted an easement, which was out of the question under the provisions of the Act of 1916; and furthermore, it was hardly necessary if the Company truly had a vested interest in the right of way. The allowable Special Use Permit was refused as being too uncertain. No one seemed to have maps of precisely where that early line went, whether through the Park proper or merely through Bishop Estate land but outside what was to become the Park.

Someone found a letter from Superintendent Wingate dated June 18, 1935 in reference to an ECW project for the relocation of the telephone line, in which Wingate wrote that Hawaiian Telephone Company maintained and operated a line across the Park, apparently without any legal right to do so, although the line appeared to have been in existence at the time the Park was established. Wingate felt the

situation could be remedied by issuance of a proper permit from the NPS. The Service reply of July 8, 1935 suggested a five year permit, as they did not wish to issue a long term permit of easement in this case. The reply also pointed out that general NPS policy was for the Service to own and operate telephone systems within parks. If the pole line to which Wingate referred was only to serve the Park, then the Service should relocate and reconstruct it. If it was a commercial line, the Park should have the privilege of connecting the Park line to it, and the operating company should obtain a permit to cross the Park.* Apparently nothing at all was done.

According to another item dated December 8, 1937 Mutual Telephone had a line of 264 poles along the main highway from the Hilo entrance to the Kau entrance with a branch line to the CCC camp and another to Keauhou Ranch, the VHse and the Park headquarters area.**

In 1951, the best the Service could offer was a Revocable Special Use Permit for a term of 20 years with renewal privileges. A draft was prepared in April 1952, and sent to Atherton for company approval. Atherton, meantime, had visited Washington offices on a recent trip and re-iterated the company's position. He was advised that with a Special Use Permit the company would not lose any of its rights even if the permit was revoked. If desired, a clause could be included saying any rights vested in the company before the Park was established are saved. A Special Use Permit with these provisions was

* File: 855.
** Ibid.

prepared and sent to Mutual Telephone Company. This was agreeable and a Revocable Use Permit for a right of way in Hawaii National Park was approved from July 1, 1952 to June 30, 1972.

This took care of the matter of a telephone line across the Park. In 1952 service from the Park to the outside was still via a single party line, satisfactory but not good, and the Park field system was still in operation but badly deteriorated and a maintainance problem. If it was to be retained, it would require major repairs. The system was of no value to Hawaiian Telephone Company (successor to Mutual Telephone) which had been approached to provide all the communication service in the Park. Talk went on until 1956 when the Company installed a dial system for the Park, with joint use of the utility poles. The old field lines remained on the ground, deteriorating. In March 1957, the telephone switchboard was removed and the next month the old system came out except for a few field lines for emergency use. The old fire alarm system, tied to the telephone switchboard, was retained until new fire alarm boxes could be installed on the utility poles. This was done the summer of 1957. By June 1961, all the old field telephones were out, although lines and poles remained, and the system was shipped to Haleakala National Park to serve as a field system in the crater.

Replacing the field system of telephones was a leased radio system. The Kilauea Iki eruption of late 1959 proved the usefulness of a radio system -- Honolulu Police radios were loaned for the duration -- and by an agreement dated

December 31, 1959 it was agreed there was an immediate need for a mobile and portable radio system with a headquarters base set. Director Wirth was to obtain funds to try contracting for such a service for one year. The minimum requirement was for an FM system as follows: 1 base set, 150 mc, 60 watt; 8 mobile sets, 25 watt; 2 pack sets, 1 or 1½ watt. It was expected that an equipment rental and service contract could be obtained at a cost of approximately $3300 per year. The radios borrowed from the Honolulu Police were returned in February 1960, and bids went out on a Park radio system. In July, a contract with General Electric, Ramsay division, was signed for a local FM system. By November, a new tower had been constructed and some of the cars had radios installed. A base station and mast were constructed at the old rainshed area in June 1961, at which time the field telephone system was completely abandoned. This FM radio communication system seems to be satisfactory.

The private communication system between headquarters at Kilauea and at Haleakala was never satisfactory. According to the Superintendents' Reports, a two-way radio telephone system was set up in August 1948. The system required daily contact at a specified time and worked well for a while. A new FM inter-park system was proposed when the in-park system was switched to FM in 1960. This was delayed due to contract complications and when Haleakala became a separate park, there was some question of the need. The need continued, however, especially in late 1962 when Landscape Architect Vint was residing at HAVO and supervising the new construction

at HALE. A radio system was preferred as the telephone tended to go out during storms and winter weather -- in July 1960, there was no radio contact with HALE on eight different days. The General Electric affiliate, Ramsay, quoted $54 a month for this service, compared with $13 an average month for telephone service, and it was concluded to try a rental-service contract for a year, rather than purchase the equipment outright, and see if the result was more satisfactory communication. As of late 1963 this service was apparently in operation; there is a reference to the inter-island radio mast and its frequent relocation in the Superintendent's Report for November.

Electricity

Until 1934, Park electricity was bought from the VHse plant. The cost, in 1931, was $.07 per kilowatt hour, the plant and line were overloaded, and the service was poor.* Finally, in December 1934, the Hilo Electric Company line was extended from Olaa. Poles were carefully hidden in the Park and the residence area was served by an underground cable with part of the expense for burying it borne by Public Works funds. Then in June 1953, HELCO was given a Special Use Permit to construct lines of Kau, providing that area with commercial service for the first time. This line was on poles above ground, along the Park right-of-way, with an underground cable to serve Uwekahuna Observatory. In 1956 HELCO revised the Park system, by this time badly deteriorated,

* Superintendent's Annual Report, October 1931.

by stringing lines from utility poles used jointly with the Hawaiian Telephone Company. The Telephone Company crews did the tree-trimming in the headquarters area to keep the lines clear. By May 1957, the new system was completely installed and the above-ground facilities left over from the old system were removed. Apparently the system went partially underground again in 1963 when the lines from headquarters to Uwekahuna were put underground. As far as aesthetics and utility poles are concerned, the Park had been either 20 years ahead, or behind, the times.

Water

There are no streams of running water in the Park, and the nearest large body of water is the Pacific ocean. Tank storage of roof and rainshed water, collected during the rainy season, remains today the source of Kilauea's water supply.

All private residences are supplied with a roof catchment system feeding to a storage tank for immediate use. The VHse, with heavy public demands for water, early increased its catchment surface by building rain sheds and a tank farm behind the hotel. In 1922 Superintendent Boles noted the VHse had tank storage of over 300,000 gallons and was starting construction of a new single tank with a capacity of 400,000 gallons. Filled to capacity by winter rains, the hotel had 750,000 gallons in storage by February 1923. In 1922 the Volcano Research Association furnished a 2000 gallon tank from which they drew water for their drilling force.

The Park built tanks at each shelter or campground, at

the Summer Camp going as far as to install showers under the tanks. Tanks in shaded areas had to be protected from falling flora: the tank and shelter at Bird Park, originally located in a fine grove of trees, had to be moved to an open space because of soapberries falling and rendering the water unfit for use. The frequent references to water tank building and repair led to a note in the Superintendent's Report of February 1929, explaining to his readers that all water for HNP was from rainfall collected on building roofs and stored in redwood tanks.

A dry spell meant a short supply of water. The drought of winter 1930-31, lasting till March, found some stations entirely without water except for what could be pumped back to them, and the Military Camp managed to get along only by extreme conservation. To guard against shortages in the future, a 66,000 gallon underground concrete reservoir was constructed to store surplus water during the rainy season. A gravity flow system of collecting mains, 2200 feet long, the pipe ranging in size from two to four inches, was also put in. A small pump house was built and a gasoline engine installed for pumping water back to the tanks at each building when needed during periods of low rainfall or when a water shortage existed. The pump also furnished an auxilliary fire protection service in that water could be pumped back through the mains for this purpose. This system was built in 1933.

The added storage was not adequate to compensate for the serious and protracted drought during the 1940 fiscal

year. Rainfall was only 50.52", about half of normal, and the result was frequent serious water shortages and subsequent danger to government and other buildings from fire. The VHse burned to the ground in February. Even the new CCC camp suffered from an insufficiency of water storage capacity.

The dry weather continued through the calendar year 1942, with total precipitation for that year 30 inches below normal, to which was added the drain of a large number of army personnel in the area. They did begin work on additional water catchment and storage reservoirs, but work stopped in October when the group left. Their departure allowed the Park to get by until the January 1943, rains began to refill tanks. The process was slow and wasteful as the upper portions of many tanks had dried out and leaked badly. At one time, there was less than 180,000 gallons of water available for Park, hotel and KMC.*

The drought continued. In November 1943, the VHse offered to build new 10,000 or 20,000 gallon tanks at their own expense if they could have whatever surplus water the Park couldn't store from the Observatory Building roof during rains. 1945 was dry, followed by heavy rainstorms which washed out roads and trails. In 1945 and again in 1946, memos went out to all Park residents to use water sparingly until the next rainfall. By September 1946, the shortage was acute and hauling water was considered. KMC was already hauling. On arrival, Superintendent Oberhansley found the situation critical. He obtained some 3000 feet of 2½ inch pipe from

* See: Superintendent's Annual Reports for 1940, 1943.

the Naval Air Station at Hilo and tied in the CCC camp tanks to the Park reservoir in mid-September.

The water problem was strongly focused by the collapse of the VHse's 40 year old 400,00 gallon redwood tank. It was beyond repair and reduced the concessioner's water supply by half. Oberhansley wrote to the Director of Region Four on December 6, 1946 asking for emergency funds with which to construct concrete storage reservoirs to compensate that loss and to dispose of the "entire mess of assorted unsightly tanks of ancient vintage now dotting the landscape adjacent to park headquarters."* He hoped to secure the necessary supplies from the Surplus Property Office. A 2 million gallon storage reservoir was preferable with 500,000 gallons as the minimum. Oberhansley urged the Service not to temporize by merely replacing the wood tanks, as the Regional Office seemed tempted to do.

Oberhansley wrote the Surplus Property Office hoping to locate some steel tanks for emergency use. Nobody had them, but the Engineers at Ft. Armstrong in Honolulu did have a dozen 100,000 gallon redwood tanks, still packaged for shipment, and ready to be auctioned off to the public. Oberhansley grabbed them at a cost of $1920 each under the provisions of Public Law 478. They were shipped to the Park via Pearl Harbor at no cost, and the entire transfer seems to have involved no paperwork, for some unspecified reason. Superintendent Oberhansley had served in the Navy during WWII.

During their five years of storage, however, the 12 tanks

* File: 660-05.

had been attacked by termites, borer bees and dry rot and only 8 complete tanks were salvaged from the lot. These were installed with $10,605 in emergency repairs funds in late 1947 and the gutters of the Observatory Building, now headquarters, were finally connected to the water collection system in December.

If no paperwork surrounded the transfer, a large file developed after discovering the actual condition of the tanks. Superintendent Oberhansley wrote Government Surplus asking for a downward revision in the price of the tanks to $1000 each. They had only cost $1755 FOB Portland in 1941 and it was common practice to at least downgrade the condition of "guess estimated" lots to conform to their actual condition on opening. Government Surplus claimed the sale was "as is" and "where is" with ample time for inspection, and the final outcome of the requested price revision is not clear.

Longer term solutions were also being considered. Superintendent Oberhansley had originally called for a full water engineer survey and report, but the more pressing need became an improved collection and pressure system, including replacing the tanks at the CCC area where approximately half the water was collected. As no additional surplus tanks were available, this had to be delayed except for replacing the water pipe to the reservoir from 2½ to 6 inches in diameter.

During the summer of 1947, rumored springs and streams that might supply the Park area were checked out. Kulani was reported to have discovered an apparently inexhaustable water supply, but this turned out to be water draining from one small

crater to another, and the known Kulani spring was not reliable. Pumping water from Mountain View, 15 miles away, would cost 50 cents per 1000 gallons, and KMC was not able to contribute to such a project. The Horita tunnel at the head of Wood Valley near Pahala, used by the Hawaiian Agricultural Company in 1900-1905, was adequate for plantation use but not always strong and had been muddied by cave-ins. Geologists working on Hawaiian ground water sources had found nothing near the Park.

Regional Engineer Crawley, in a report dated August 12, 1947, reviewed the situation to date. He recommended a water survey when funds for it and for construction were available. Upon completion of the eight new tanks, he felt the water system was in good condition, and felt it would allow for orderly development, such as a pipeline from a new source or construction of additional collection and storage facilities at Kilauea, whatever proved most economical. He pointed out that wooden tanks were not decorative but they were the safest, as pipes and reservoirs in earthquake areas were subject to damage. He also suggested that watersheds need not be unsightly, nor need they be painted red, as those at Kilauea were. Finally, with an annual rainfall of over 100 inches, he suggested that the development of another watershed near the KMC source should be seriously investigated.*

The Park preferred a collection and storage facility separate from KMC, but perhaps in the same area, where elevation would allow good gravity flow. KMC had no funds for immediate

* File: 660-05.

construction but planned to install steel tanks at their rainshed area above the Park boundary. For the time being it was agreed that KMC and the Park would each independently provide for collection and storage by expanding their existing installations as required. The Park would concentrate its collection and storage in the vicinity of the large rainshed which, with the large tanks in the area, it was in the process of taking over from the VHse concession.* This should provide a total of 1,650,000 gallons at the shed, 360,000 in the utility area, and another 200,000 at the CCC area for a total of 2,210,000 gallons. With a modest expenditure for moving the concession tanks to a less visible location behind the rainsheds, and an extension of the sheds and the tanks themselves. it was expected that a water system would be developed to serve the Park and the concession for the next 20 years.**

By December 1947, the 8 new tanks were in, the VHse was on a meter using Park water, and plans were being drawn for the removal of the remaining tanks on tank hill and the construction of the catchment system in the rainshed area. The last of the obnoxious tanks by the VHse Museum were gone by September 1949. In 1950 the system was hooked to a chlorinator. It sprang a leak in 1952, the same year that the three-year-old water system was found, once again, to be inadequate to carry the Park through a dry spell. In 1954 the system was not adequate to meet the minimum requirements of the Hawaii Fire Rating Bureau. The 100,000 gallon Navy

* Additional information on the VHse water system is reported in File 900-01.7, not located.

** File: 660-05, Oberhansley to Dir, Region Four, August 19, 1947.

redwood tanks were in need of constant maintainance, they all leaked when dry, and a 50,000 gallon tank was rotted.

Throughout late 1954 and all of 1955, Superintendent Wosky pleaded for help in repairing and eventually replacing the deteriorating Park water system. An earthquake in April 1955, damaged two more of the 100,000 gallon tanks, as well as the ground water lines. On inspection it was found that many of the 1 inch lines laid in 1937 were so corroded that only 3/8 of an inch was left. Through this passed assorted vegetable matter from the roof catchment which clogged the already limited system.

This time, tank repair took the form of dis-assembling the wooden tanks, pouring concrete bottoms, and re-assembling them. 6 tanks had been re-bottomed by December 1955, and all 14 were finished and again in use by February 1957. This necessity mothered the invention of a device for tightening tank straps which won its inventor an award.

In 1947, a complete overhaul of the water system had been recommended; in 1954 it was recommended again. The 1947 crisis had resulted in a report dated November 6, 1947 giving data on rainfall at Park headquarters monthly from January 1899 to October 1947, the extent of storms and droughts (the 1919-20 season was the worst drought it was felt necessary to prepare for), visitor use, and storage facilities.* The 1954 crisis resulted in a lengthy report on HNP by the US Public Health Service, and one year later, the start of correspondence with the Western Regional Office on a

* File: 660-06.

comprehensive water supply system.

In March 1957, one month after the 14 old wood tanks had been put back into service with new concrete bottoms, a contract was let for new steel tanks. These were set on bedrock. A concrete ring was poured, then the interior filled with crushed rock, then a 6 inch sand base. These new tanks held 500,000 gallons of water each. When completed, the new water system incorporated the old rainshed building and 14 wood tanks with concrete bottoms for raw water storage and a wood tank for treated water storage; plus the new construction consisting of a new rainshed building, started in June 1957, a conduit system to connect raw water to the wood raw water storage tanks, a sand filter tank and pumphouse, and four steel, 500,000 gallon tanks for treated and chlorinated water.* The water distribution system was completed on December 18 and all buildings, hydrants and residences were hooked up.

A few bugs in the system had to be worked out. An unpleasant sediment was found in the new lines, possibly due to reaction of the water with the coral sand used in the filter system. It was also reported that the acid rain water was attacking the galvanized roofs and producing zinc oxide. New filters were suggested, or, they could completely discontinue the roof collecting if the new collection system was adequate. Final decision not known.

A more troublesome problem developed in connection with the paint on the interior of the new steel tanks. It was

* Superintendent's Report for August 1958.

necessary to hire a man to inspect the interior of the filled tanks and determine the precise problem. Superintendent Johnston was concerned over who was to pay the bill for this work. Inspection turned up heavy rusting on the insides of all four of the 500,000 gallon steel tanks necessitating draining them and sandblasting and painting them. Who paid for this was another question. The original constructing and painting companies refused to accept the responsibility -- or liability -- for rusting in the tanks. How this was solved is not clear. In June 1960, a contract was let to the Modern Painting Company to re-do two of the steel tanks, the others to be done later, at a cost of approximately $5000 per tank. When re-painted, the tanks still made the water smell and taste bad, which required more investigation by the contractor. The investigation turned up nothing which appeared to be the cause of the continuing bad odor. In March 1963, Superintendent Johnston applied to the Public Health Service for assistance, samples were taken of water from every possible spot in the system, and sent to the laboratory for investigation. Paint chips were also sent, along with material from the carbon filters. In late December 1963, the lab report came back -- there was nothing in the paint job to account for the problem. The musty odor suggested algae or some other biological growth. The carbon filter suggested that both the taste and odor were present in the original water supply. The interesting feature was in the fact that each of the four tanks had a different effect on filtered and chlorinated water stored in it: one did no harm; the second was satisfactory for some time after

painting and then the water deteriorated; the third was unsatisfactory immediately, but after the tank had been drained and filled the water was satisfactory; the fourth had remained unpalatable since painting and was removed from service, except for storage of water for the fire system. This tank showed some chlordane contamination and it was recommended that this chemical not be used in future tank painting. The chlordane, in fact, probably came from spray from nearby vegetable farmers, which the wind then carried to the tanks. Through 1964 the correspondence continued with the Public Health Service and the County Board of Water Supply. The water supply was found to have met standards for bacteriological quality. All suggested solutions to get rid of the taste and odor had been tried with no great success. The rust problem might have been algae with high iron oxide concentration. The last possibility was to repaint the tanks with a different paint. Bids for this job were solicited, but none were within the funds available, and no contract was let.*

The distribution system also needed improvement. Those 1937 lines had corroded to pencil-lead size by 1961 and a new distribution plan to Uwekahuna Observatory was approved in late 1961. This line, connecting the Observatory with the headquarters system was not completed until July 1962, the delay being caused by the maritime strike. The next year this line was extended to Namakani Paio in preparation for the cabin camp being planned there.

* File: D5039, Dec. 26, 1963 for the lab report.

In 1958 the water problem at Thurston Lava Tube had been alleviated by the installation of a 10,000 gallon wood tank, with a plastic line connecting it to the headquarters pumping area. The plastic line was experimental, required frequent repairs, and was replaced in December 1963, with galvanized pipe.

INTERPRETATION AND EDUCATION

Ranger-Naturalist Programs

Owing to the large number of women and children in the park during August, wrote Boles, a lady guide was added to the staff, a Miss Barrette of Honolulu. She was to organize hiking parties and help ladies and children. Until authorized to add her as a Temporary Ranger, she was being employed as a laborer at $3.00 per day. This made a staff of: one Superintendent, one Ranger, and three laborers.* The "lady guide" ex-laborer remained until October 8, 1922.

After this hopeful start, the interpretive facilities under Boles resumed the form of multitudinous signs, and thousands of hiker maps printed through courtesy of the Honolulu newspapers. Ranger Alex Lancaster, a carry-over from pre-Park days, added color and served as guide and general assistant. Non-Park agencies helped some. The newly established Hui O Pele was prepared to provide funds for whatever might be deemed "contributory to the comfort or pleasure of those who visit Pele's domain." These contributions resulted in the construction of several shelters, but early requests for funds for interpretive activities met with disapproval. The HVRA maintained a museum in the old Whitney Lab building, open only from 11 to noon, and in 1926 they provided funds for the new Uwekahuna museum-exhibit building. The Uwekahuna Observatory, as it came to be called, was presented by Jaggar on behalf of the HVRA to the USGS and NPS jointly, in 1927,

* Superintendent's Report for August 1922.

and an interpretive program began under the staff of the Observatory. The display ran to volcanic specimens and charts, an operating seismograph and at stated hours, lantern slides and moving pictures. The NPS coordinated with the HVRA in engaging Dr. Paul Kirkpatrick of the University of Hawaii for the heavy tourist season from June 24 to August 14, 1927 to take charge of the Observatory and twice daily give lectures and show pictures. His audience that summer numbered 2656 people. Dr. Kirkpatrick left at the end of the tourist season and programs were limited to steamer days and on Sundays at 2 and 3 p.m. During the 10 months ending July 31, 1928 there were 197 lectures given to 9216 people. Dr. Jaggar gave 5 lectures by request (to visiting Japanese scientists) and his clerk, Mr. Hodges, gave 29, most of them before December 1927. That month newly appointed park Ranger George D. Douglas took exclusive charge of the Observatory, generally refurbishing the exhibits and also preparing a lecture to accompany slides and movies of volcanic activity.

In the fall of 1928 Douglas ran afoul of the law and the interpretive programs for the park, offered only at Uwekahuna, languished until the summer of 1929 when Otto Degener, formerly Professor of Botany at the University of Hawaii, took over. He assumed duty as temporary ranger-naturalist, pending the examination for permanent filling of the position. He conducted lectures on volcanic activity at Uwekahuna each steamer-day afternoon, plus 14 evening lectures on natural history topics at the VHse to a total of 3205 persons during July alone. Lectures and field trips

covered volcanology, volcanic history, geology, botany, bird life and other items of natural history. Dr. Jaggar also continued his lectures to special groups.

No properly qualified naturalist was available following the departure of Degener at the end of the summer and the Park Rangers and Superintendent carried on the educational program of lectures and hikes through the winter and next spring. Already the audiences overflowed Uwekahuna. During June 1930, the Superintendent reported 17 lectures given 515 people, and 102 persons on field trips. Others visited the Observatory but did not stay for the lectures. The Superintendent in his Annual Report for 1931 recommended that in educational work the Park had possibilities second to no other and urged their use. The new educational program, he wrote, should include a new museum building, nature trails, wayside shrines and perhaps a live exhibit showing the life and customs of the Hawaiians.

Implementing these proposals went ahead slowly. In 1934 Naturalist John Doerr drew up a Museum Development Plan which was reviewed and revised at the Western Museum Laboratory in Berkeley, California. By late 1937, several small units of this plan had been implemented. The Tree Molds and Bird Park had simple trailside shrines consisting of a glass display case with maps, charts and diagrams. A more extensive shrine was scheduled for the Halemaumau crater area.

A Development Plan for Museums, dated October 1, 1938 listed the following structures as built: the Uwekahuna Museum and Observatory, Mauna Loa trailside museum at 7000

feet, Halemaumau Exhibit and Ranger Station (of stone), and Lava Trees and Bird Park Exhibits (mentioned in 1937.) Similar shrines were to be constructed at Lava Tube and Makaopuhi as well as a series of informational pointers and the new Observatory and Naturalist building. When the land was finally acquired, an aquarium was planned for the Kalapana extension, perhaps using the open pools along the quiet seashore. An ethnological museum at Kalapana and the Footprints shelter and shrine were both to be built. With the exception of the Kalapana projects, most of these exhibits were eventually built as planned.*

1931 did see the start of a new Summer Session educational program, and the firm establishment of the Park Naturalist program.

The Summer Session was the first formal educational effort since the 1919 Summer School at the KMC location, although Boles had attempted to interest the Hawaii Education Association in a special teachers' summer camp (both an area and a program) in 1924. A nature study class of 10 assorted school teachers and University of Hawaii students, headed by Extension Forester Theo. C. Zschokke, for four weeks made its headquarters at the Kilauea Summer Camp. Zschokke was assisted by newly appointed Park Naturalist John Doerr and Ranger Everett Brumaghin, who handled geology and botany respectively. The program proved so popular, the University asked Doerr to give a nature study course to 21

* Old file: 620-46, Museums; 833-05. The Museum Development Plans mentioned have not been located.

teachers in Pahala starting in February 1932. The class was worth 2 credits and included lectures, field trips and classroom discussion. The summer of 1932 the University continued the formal Summer School, offering two courses: Hawaiian flora by Zschokke, and Hawaiian Volcanoes by Jaggar. Credit was offered for both and drew 59 students, 55 of whom took both classes. The entire Park staff participated, serving as guides and general resource people. The lectures were open to Park visitors as well as students and many attended. The University, well pleased, planned a branch at Kilauea for the following year, with a staff and faculty to handle approximately 100 students. Doerr continued his program with an extension course in nature study in the volcano region, under the auspices of the University, to a class of 40 school teachers.

The 3rd season of Summer Session courses consisted of 5 classes with an enrollment of 63. The faculty of 5, headed by Benjamin O. Wist, offered 1 class in botany, 2 in geology, 2 in education, and 1 in English. The next year, 1934, the enrollment reached over 100, with 8 classes offered. Classes were given in the sun parlor of the VHse and on the Lanai. Supplementing the regular courses were a series of weekly evening community lectures given by members of the faculty, the program conducted by the Park Naturalist. The 5th Summer Session of 1935 found enrollment down to 84, nine courses offered, the whole again supplemented by faculty public lectures.

There was no 6th. The Volcano Summer School was abandoned in favor of a school of graduate research in science, approved

by University of Hawaii President Crawford, and Jaggar, who was appointed head of the new school and a professor on the staff of the University. Money to continue the work of the volcano observatory was becoming increasingly scarce -- Federal funds for all of 1935 amounted to only $600 -- and Jaggar was appointed to the University staff, with the Observatory itself transferred from the USGS to the NPS, with hopefully a more secure source of funding. These moves would allow Jaggar's work to continue. The 1937 program of the new Summer School of Science was undertaken by Dr. Stanley S. Ballard and Dr. Iwao Miyake. Dr. Ballard was officially appointed Resident Assistant in Geophysics to serve without compensation (from the NPS.) Apparently this arrangement, which appears to be more a technique for staffing the Observatory than one for running a school, lasted only the one summer.

In the mid-1940's, the Summer Session surfaced again, briefly. Leavitt, then Superintendent at Crater Lake NP, wrote in November 1944, to ask how the HNP Summer School had worked out, as a similar program was being considered for Crater Lake. He recalled refusing buildings in the Park for the University, but had recommended they locate space just outside the Park as the program appeared very successful. Wingate responded that the University had been under pressure to establish similar summer schools on other islands, and the one in HNP was no direct use to the Park (a program in Hilo or Kona would serve more area residents) and it had overcrowded the hotel. Sufficient accommodations at moderate rates would make such a school very useful to the Park and he

hoped that the post-war years would see greater use of the Park facilities. The Park now had a building for lab and office space in the Naturalist and Observatory building.

In late 1945, President Gregg M. Sinclair of the University of Hawaii, in contact with the NPS, wrote Wingate to ask about the possibility of establishing a Volcanology School at the Park with the aid of Rockefeller funds. What Sinclair proposed was an expanded geophysical program built around the HVO and with HNP providing some of the personnel. Wingate hoped to see fields other than geology, as the Park was a natural lab for botany, ornithology, archaeology, entomology and engineering, but the Geophysical Institute concept had Wingate's approval. However, he resigned about that time (March 1946) and nothing more is heard of it.

During 1935 the Park initiated action on another kind of educational program. Superintendent Wingate asked the Hawaiian Historical Society, Bishop Museum and others for help with a survey of names so that HNP names would be properly Hawaiian, or could be changed to something Hawaiian. All correspondents suggested Professor Coulter of the University of Hawaii as a major source of Hawaiian name information. Kenneth P. Emory of the Bishop Museum wrote, in September 1937, to say that it was still possible to get good information via field trips. He suggested arranging with Mary Kawena Pukui for a 6-8 week field trip. Wingate approved and suggested the project for the 1939 budget, but it was not included. In 1941 Ranger Olson and Naturalist Fagerlund suggested HNP compile a list of Hawaiian place names for all the islands,

expanded from a file Olson had been keeping. Nothing more is heard of this project.

The first full-time, permanent Park Naturalist, John Doerr, was appointed in 1931. He had been preceeded by Kirkpatrick and Degener as summer naturalists, Jaggar and his HVO staff, and the ranger (but not officially naturalist) Douglas. Doerr immediately threw himself into developing the naturalist program. He continued the lectures, led the regular trail trip from the hotel across the crater to Halemaumau, and in June, issued the first volume of Hawaii Nature Notes, a mimeographed newsletter containing natural history articles. 1931 was the same year the Park obtained the services of a seasonal ranger-naturalist, got a new lecture hall at Uwekahuna, built with Hui O Pele funds, and added to its stock of descriptive lantern slides and movies. The year before, the Park had received from James Henderson of Hilo a three year lease of an educational film on volcanoes which showed how volcanoes are formed and included scenes of various active volcanoes around the world, including Kilauea. This gift came immediately after Hui O Pele had refused Superintendent Allen's request in late 1929 for funds with which to obtain slides and movies for the education of Park visitors.

After 1933 a park ranger was assigned to assist regularly in the educational work and other rangers were called as needed. Trips to points of interest were developed and the next year a new ranger, who had passed the Junior Park Naturalist examination, Ranger Samuel Lamb, was assigned to this duty and served as the Park Naturalist's regular assistant.

With the increased educational work -- the Summer and extension programs were in full swing -- it was found desirable to use both ranger and naturalist staffs for public contact work. A rotating schedule was developed which improved the morale of the rangers on the staff, who previously had been engaged solely in maintainance and protection activities. The change resulted in increased enthusiasm on the part of the rangers, and increased favorable comments from visitors.

Naturalist activities during the war were limited to fending off war-related destruction. Naturalist Fagerlund was assigned other chores during 1943 to 1946 and during that time the position is listed as vacant. The post-war Park visitor was a new sort of individual and the growing tourist industry developed package tours with little time for more than the lecture-show and either lunch or a quick stop at the crater overlook. Naturalist activities stressed information and the passive pleasures of the headquarters museum. Programs of lectures and films are shown on a regularly scheduled basis to accommodate visitors, and rangers may escort tours through the Thurston Lava Tube. During crater volcanic activity, rangers are present at the viewpoints during heavy-use periods. The little newsletter Hawaii Nature Notes, started in June 1931, continues to appear irregularly.

One mercifully short-lived visitor entertainment must be mentioned here. "To meet a popular demand for the World's Grandest Hole in One Club, the Service threw up a tee 10 x 6 x 1 on the rim of Halemaumau and marked it with two signs. Hawaiian Transportation Company supplies the new golf balls

and clubs. For 50¢ per ball anyone may drive off into the pit, achieve the feat of making a hole in one, and receive a card certifying to the same. This was started on the 25th - and by the end of the month 89 cards had been issued. Tourists are wild for this stunt, begun with Mather at the Pan Pacific Conference -- to which Pele responded with two subsequent eruptions." Thus reported the Superintendent in his report for January 1928. The new members totaled nearly 1500 by the end of September 1928, among whom, it was reported, were many prominent and distinguished people (none of whom presumably had time to play the "sporty" 9-hole Kilauea Golf Club.) During the early part of January 1929, a considerable area of the Halemaumau crater wall fell in, including not only the visitor view point but the "19th tee of the World's Greatest Hole in One Club." A new tee was built upon a safer site along the pit edge. The date of the final demise of this gimmick is not at present clear. (It was killed by Executive Order obtained through Superintendent Leavitt.) Perhaps the new tee also fell in, taking with it a prominent or distinguished person, as sacrifice for the sacrilege.

The early days of the Park saw a number of special events. Boat traffic resulted in a fluctuating stream of visitors and steamer day, with its extra load of visitors, was usually worth some extra effort. The arrival of an entire boatload of scheduled tourists, such as the Shriners in June 1922, the Los Angeles Chamber of Commerce the next year, and the various visiting warships, all required extra temporary help to keep order, scheduling of special tours of the Park, and

sometimes the erection of additional facilities: two primitive bathroom structures established near the crater viewpoint to handle the needs of the crowds attracted during one tour were promptly named after the most distinguished of the visitors and were known thereafter as "Lord and Lady Jellicoe."

As a final event of the Cook sesqui-centennial a Hawaiian pageant was given on the edge of the pit on the night of August 18, 1928. It was divided into three parts: dancing and hulas; a re-enactment of Kapiolani's defiance of Pele; and prayers by the 99 year old kahuna Kalama, for the return of Pele to the still quiescent crater. The effort produced continuous avalanches only.

Two years later the volcano's continuing quiet drew another group trying to induce Pele to return. On February 17th, 1931, Mrs. Kaoiliokalani Pihanaokalani, an aged Hawaiian woman from Honolulu who claimed to be 100 years old, together with five generations of her own immediate family, arrived in the Park bearing letters of introduction from the Hawaii Tourist Bureau, asking the support of the Superintendent and cooperation in her efforts to induce "Madama Pele" to return to her abode and renew activity in the fire-pit. Through members of her family who interpreted for her as she spoke no English, she said she was a direct descedant of Madame Pele and knew the proper chants and prayers and offerings necessary to persuade the goddess to bring about an eruption. She was sure she could bring the volcano into activity immediately or cause its cessation after activity had once been produced. She asked

for the special presence of the Park Superintendent as well as other witnesses to see a demonstration of her powers and there were over a hundred to see her on the day of her arrival, publicity having been given the matter through the press and over the radio.

She and her party were given every courtesy and consideration possible. The volcano failed to show any special signs of life in spite of her offerings or prayers, and she explained that it would take a little time -- maybe that night or the next day before the volcano would erupt. She and all the members of her family camped at the pit for some time, but the next eruption did not occur until 1934.

One of the Park attractions in the 1960's was a lady, dressed in a red muumuu, who offered chants to Pele while flinging into the crater various packages and parcels.

The official establishment of the Park in 1921 had been celebrated with a large party of guests and a luau at crater's edge. The 20th Anniversary in 1936 was the occasion of a special dinner and dance at the VHse with a program of Hawaiian music and entertainment. Some 250 couples made reservations for this festive event. In contrast, the 50th Anniversary in 1966 lacked luau, eruption or pageant. Perhaps sharing the anniversary with the Park Service itself dulled the event.

Library

The Park library, like Topsey, just grew. Each staff man at the Park and at HVO had a collection developed around his particular interest. The result was extensive duplication

of periodical items, and a fine mish-mash of books purchased privately, by HVRA, USGS or NPS, and some valuable gifts.

The HVO collection moved around as the staff moved from administrative agency to administrative agency. Finally, in 1946, Lorrin Thurston suggested the great need of having the HVO library organized. The HVRA, with which he had been associated for years, agreed to underwrite $3000 for a one year job with the expectation that the Park would provide funds to continue. The funds were made available -- for salary only -- and University of Hawaii Librarian Dr. Carl Stroven arranged for one of his catalogers, Miss Priscilla Griffey, to make a preliminary three-months survey. The Park paid for supplies, office space, furniture, general assistance and quarters, the University of Hawaii directed the program, and the HVRA paid her salary, via the University.

Miss Griffey's report of March 6, 1947 indicated there were over 23,000 volumes, of which 6000 were in Jaggar's office, 17,000 in the HVO library (housed in the Naturalist-Observatory building, apparently soon after completion -- certainly Jaggar has recommended this move in a memo dated June 3, 1940), and some 150 in Park headquarters. She felt it was an archives and should be handled as such with very simple cataloging and classification and no more than a single subject entry. Thus, the catalog would be a guide to the books on the shelf and not a bibliographic tool. She recommended procedures for this work and felt a book buying budget was a necessity, both to guarantee new acquisitions and to avoid the present duplication.

Finally, all scattered holdings were to be consolidated into one collection, but with a very simple charge-out system for easy circulation.

The actual work began July 1, 1947 under Miss Mary Melton. She worked the remaining 9 months of the one year authorized by the HVRA and prepared a final report dated May 1948. She arranged the library and developed a policy and procedures handbook which would allow a non-professional to continue the work.

On July 1, 1948, the HVO came under the administration of the USGS again, and the office, lab and as much of the library as they needed, moved back to the Uwekahuna Observatory building, where it has remained. There is nothing in Miss Melton's reports to indicate which titles or subjects were selected for the HVO library.

Although the cataloging was incomplete when she left, the material had been organized and weeded, with duplicates set aside for use in exchanges. Naturalist Douglas Hubbard carried on the library work by soliciting material from the Smithsonian Institute, which promptly put the HNP on its mailing list for selected subject areas; purchased the publications of the Bishop Museum still in print, and wrote directly to the authors for out of print material; sent to the Director, NPS, for books on National Parks; wrote Territorial Delegate Joseph Farrington for copies of the Annual Yearbook of Agriculture; and sent books to the NPS Director and to other parks, many of them items he had

personally purchased in the second hand bookstores in San Francisco. The major series and the Library of Congress cards were purchased with funds made available by the Hawaii Natural History Association (HNHA.)

In 1951, the HNHA obtained the services of Miss Margaret Titcomb, then librarian at the Bishop Museum, who came for a week or so each year to catch up the library work. The general arrangement has been for the Museum to carry her on leave, with pay; for the HNHA to pay expenses; and for the Park to provide quarters, usually at the VHse. This arrangement has continued for 20 years and provides continuity in the maintainance of the library. Between her visits, the work has been done by volunteers and by part-time staff paid by the Hawaii Natural History Association.

After the spurt of acquisition activity in the 1950's, the number of additions each year has settled down to a small but steady stream of private gifts, and a small but less steady stream of purchases made by the Park or by HNHA. A library buying budget, if there is one, is very limited. The library was moved to basement quarters in May 1961, and provided with a dehumidifier and heater. There is no information as to the state of the separated HVO library.*

* For information on the library see: Griffey Report of March 6, 1947; Melton monthly and final reports of 1947 and May 1948; Melton article in Hawaii Library Association Journal, December 1947.

Hui O Pele

The early days of Hui O Pele have been ably outlined in an article by former Superintendent Oberhansley which appeared in the Hilo Tribune-Herald in August 1951, portions of which follow.

> Hui O Pele was organized upon the suggestion of Charles C. Moore, the late renowned engineer of San Francisco following his first visit to Kilauea in 1922. Mr. Moore was so impressed by his visit to the fiery domain of Pele that he convinced the Honolulu Advertising Club in an address before that group on May 9, 1922, that it would be desirable to form some sort of an organization or society that would grant membership certificates to those who, in his terms, have "actually stood on the brink of what is without doubt the most fearsome spot on earth accessible to man."
>
> Mr. Moore left a $100 check with the President of the Ad Club upon his departure from Honolulu May 30, 1922, with a request addressed to Governor Wallace R. Farrington that the organization he had proposed and made the original contribution for be implemented. After several meedings by interested persons and groups, on February 16, 1923, the present name of the society was adopted, together with a plan for organization and certificate of membership. To make the organization self-supporting, a $1 life membership fee was fixed, each member to receive a certificate and a pin. Gift memberships, numbers 1 to 12, charter memberships at $10 each, numbers 13 to 200, and life memberships 201 onward were decided upon. The first $10 charter membership was issued to L. W. de Vis-Norton and gift memberships 1 to 5 were issued (in order named) to founder C. C. Moore, U. S. President Warren G. Harding, Governor Wallace R. Farrington, Dr. Thomas A. Jaggar, and Thomas Boles, Superintendent of Hawaii National Park, who accepted the office of Kuhina Nui (Prime Minister) of Hui O Pele, an office since held by succeeding park superintendents.
>
> On August 10, 1923, a final report on organization of the society was filed by Chairman George Mellon defining certain rules and procedures as follows:
>
> "The president of the Ad Club shall be ex-officio president of Hui O Pele, the Ad Club secretary-treasurer ex-officio secretary-treasurer, the executive board of the club perpetual trustees, and the superintendent of Hawaii National Park shall be ex-officio Kuhina Nui. The funds of the Hui are to be kept in a separate account and used only for such purposes connected with the Hui as the trustees may approve."
>
> On November 17, 1923 it was further ruled as follows:

"Should there be receipts for memberships over the cost of certificates, buttons, postage and incidental running expenses, it is to be used by the trustees for some purpose connected with the volcano, such as a rest house, or whatever may be deemed contributory to the comfort or pleasure of those who visit Pele's domain."

The first notable growth in membership occurred on December 4, 1923 when the entire visiting delegation to Hawaii of the San Francisco Chamber of Commerce numbering 250 joined Hui O Pele, and by December 18, Deputy Kuhina Nui de Vis-Norton reported 400 enrolled members of the Hui, some 30 of which were charter members at $10 each.

On January 29, 1924 lapel buttons for men, bearing the insignia of Hui O Pele were adopted and buttons mailed to members who had already received their certificates."

By 1927 adequate funds had been collected for the Hui to consider expending them, and rest houses received the primary attention. Several suggested plans, including one for a simple shelter were forwarded to Superintendent Evans in May and then forwarded to the regional Landscape Architect for final approval. By the following May, Hui O Pele had issued its first 25 checks and Evans accounted for the total of $511.46 expended:

Shelter #1 at Thurston Lava Tube, built of lava masonry in September 1927 at a cost of $272.18;

Shelter #2 at E. Pauahi crater, built from the same design as #1 in October 1927 with a cement touch-up in April, at a cost of $83.83;

Shelter #3 on Halemaumau trail 500 feet below the junction with the Sandalwood trail. This was a double bench affair of lava masonry with iron roof built in April 1928 at a cost of $130.81;

Souvenir ribbons for autoists using the Chain of Craters road on opening day. Cost of $24.65.

Later in the same year, there was mention of checks spent

for clerical work and for book acquisitions. These may have been issued by the Park before Certificate revenues were forwarded to the Hui O Pele account in Honolulu, as they do not appear in later Hui O Pele accounts.

In May of 1928 Hui O Pele received a membership boost with the arrival of the U. S. Fleet in Hilo. There was a flurry of correspondence to guarantee an adequate supply of both the emblem buttons and emblem brooches; apparently one could choose whichever one preferred and brooches were at least equally popular as buttons required lapel space often occupied by some other emblem.

Most of 1929 was spent in building up the bank balance for what Hui O Pele hoped would be a major building project. An accounting for May 1929, shows no expenditures beyond the $511.46 already accounted for the preceeding year, although the Superintendent's Report for January 1928, mentions the planned construction of a shelter at the 7000 foot level on Mauna Loa.

In December of that year, an accounting showed $3700 on hand and Superintendent Allen wrote asking for funds for four projects and precipitated a minor policy disagreement between Hui O Pele and NPS. He recommended the funds be used for: #1, an overnight shelter at Kipuka Ahiu lookout; #2, lease of a film on volcanoes; #3, a movie camera outfit to be used to publicize the Park; and #4, funds for lantern slides to be made and distributed to other park areas. The board of trustees discussed the projects and came to the conclusion that project #1 was acceptable; numbers 2 and 3 were only

to attract visitors already in the Park; and #4 simply was not a part of their work. They noted that the Haleakala road was progressing and a shelter would soon be needed there. A shelter at the Mauna Loa summit was also needed. They clearly wanted to stay with the familiar and successful rest-house-and-bench-building program they had followed so far. Superintendent Allen, having been advised that the funds could be spent on any project deemed worthy by the Superintendent, as long as it was educational and not mere amusement, pressed for greater flexibility.

By June 1930, it had been agreed to spend Hui O Pele funds on the construction of a shelter at Hilina Pali, which was completed in August for a total cost of $824.06.

What to build was not the only problem; several other policy matters had to be clarified. In April 1930, Director Albright wrote pointing out that if Hui O Pele was to do any actual construction work, all plans would have to be approved by the NPS, and if the NPS staff was to do the work, then Hui O Pele funds had to be transferred to them before work could begin. The previous year, the NPS had had to explain that its policy would not allow the placement of a brass sundial, being built by students at Kamehameha School, to be installed on the terrace before the Uwekahuna Observatory without the approval of the Landscape Architect. Hui O Pele felt that as the sundial was for the Hawaiian Volcanoes Research Association building at Uwekahuna, it was not contemplated that NPS would administer it. Final location of the sundial is not known.

A third problem had arisen over "memorial" benches, shelters and trails, paid for by, or dedicated to, a particular individual. Again, the NPS indicated that this was against its policy, although all facilities built with Hui O Pele funds were so identified with a discrete sign.

While the Hilina Pali shelter was being built, plans were being drawn up by the NPS Landscape Architect for a museum-lecture hall addition to the Uwekahuna Observatory. In September, Allen sent the plans to Hui O Pele and asked for $4400 for construction. He noted that a new road to the Observatory was scheduled for the following year; the addition would allow the program to be expanded to include a permanent scientist with a ranger assistant; and the NPS was already constructing comfort stations to accommodate the larger building. Again Superintendent Allen was met with resistance. De Vis-Norton claimed insufficient funds to cover such a large outlay and mentioned that the original estimate had been somewhere between three and four thousand. He also noted that the NPS had funds with which to build comfort stations, but no funds with which to build and furnish the structure the comfort stations were to serve. The matter of personalities appears clearly in ensuing correspondence. Hui O Pele eventually furnished $3650 with which to begin the work, and Allen promised he would try to make that amount cover the cost of necessary furnishings as well. Hui O Pele had actually pledged up to the $4400 originally requested with the additional revenue to come from future membership sales, but the society was in no way obligated to provide the additional $800 and the NPS

would simply have to stall any bills if funds were not available. Work on the new Uwekahuna museum began in September and showed an expenditure of $3736.98 as of December 31, all funded by Hui O Pele. Not until September 1931 was the building declared fireproof, and only in March 1932 were funds available for the purchase of the chairs which would allow a transfer of museum and lecture activities to the new location at Uwekahuna.

With the depression, new memberships lagged, and so did funds for Hui O Pele projects. Albright had written in 1930 that, while the availability of Certificates could be mentioned to tour drivers, it would not be desirable to have NPS personnel push the Certificates in the Park. Sales by drivers were not great, however, nor were tourists fond of the approach. A way was needed to push Hui O Pele Certificate sales that met with NPS approval. Most Certificates were sold by hotel clerks, and a few by the KMC staff, the agents getting a 10% commission. Superintendent Leavitt suggested that perhaps the Tourist Bureau could sell the Certificates. They were already using the membership lists in some of their promotional work. A few were also sold at the "19th Hole," the Boles gimmick of a hole-in-one into Halemaumau. De Vis-Norton deplored this commercialism and under Leavitt, the "hole-in-one" was killed by Executive Order. Very few memberships were sold during these years except to visiting military personnel. Both the VHse and the NPS were protesting a new Inter-Island package tour which kept 100% of the revenue with the Inter-Island company, and allowed visitors no time at all in the Park.

Adding to the problem, the Honolulu Ad Club, original sponsor of Hui O Pele, fell upon bad times in the early 1930's. There was a feeling among some of the members that since Hui O Pele was their "child" they should have the freedom to expend its funds as they saw fit. The NPS opposed this position in principle and cited the earlier refusal of the Club to part with Hui O Pele funds for any Park project that was not directly designed for the comfort of Park visitors. De Vis-Norton, to safeguard Hui O Pele funds, simply called no meetings of the Hui O Pele Committee for several months.

In the summer of 1933 the Ad Club elected a new president, one Spud Murphy. This person was a relative newcomer to Honolulu and at the time was suspended from using the US Mails due to a charge of fraud. His election had taken place under curious circumstances. A special meeting had been called to which only a select few were invited, the rules were then suspended, and his election was by acclaim of the 7 members present. This procedure resulted in large numbers of resignations from the Ad Club itself, including that of the chairman of the Hui O Pele Committee, de Vis-Norton. Hui O Pele funds were in danger.

With de Vis-Norton resigned and another Hui O Pele Committee member dead, the new regime sought to gain control of its funds by controlling the newly appointed Hui O Pele Committee. The first step was to eliminate the Park Superintendent as a member, on the grounds that he was merely an honorary Ad Club member. However, pressure was brought to bear by some of the oldtimers still in the Club,

and the new Hui O Pele Committee included both the Superintendent and Harry Field as chairman, people that de Vis-Norton felt were honest.

Leavitt immediately suggested that one way to safeguard the funds was to spend them on a trail and shelter for Mauna Loa. With the possibility that the Ad Club might give it up, he and Jaggar also discussed the possibility of joining Hui O Pele to the infant Hawaii Natural History Association, a small informal holding group of sorts which as yet had made no effort to attract members.

The Ad Club actually controlled only some $2700 of Hui funds at the time. Park headquarters still sold most of the Certificates and funds went first into a Government account before being transferred to the Hui O Pele account in Honolulu. Murphy and his supporters, including Ad Club Treasurer Henley (at the time general manager of radio station KGMB) first attempted to subvert some funds to cover expenses of the president during a trip to Hilo to "look over" Hui O Pele. Even this was rejected by the new Committee as quite unacceptable, and Leavitt continued to push for a release of funds for a Mauna Loa rest house.

In December 1933 Wingate (who had replaced Leavitt as Superintendent) wired Murphy for a release of Hui funds for the Mauna Loa shelter, plans for which had been approved by Landscape Architect Sager. The summit eruption of Mauna Loa made a shelter there a popular project. Murphy, apparently seeing the handwriting on the wall (de Vis-Norton had mentioned the possibility of an injunction) replied that the funds would

be available after January 1, the delay being necessary to gain the year-end interest. Riley Allen also pressed editorially for donations with which to furnish the new shelter. Murphy released $2500 on January 3, 1934 and by March, in bitter cold weather, work was started on the new shelter. Pack animals were loaned by nearby ranchers and KMC. The shelter cost all but $37.70 of the $2500 appropriation.

The Ad Club continued in difficulty. Wingate requested an accounting of Hui O Pele funds in October 1934 and followed this with a demand note against the Club for some $310 of Hui funds that had already been expended on unauthorized projects. The Club was near bankruptcy and Murphy made a special appeal to members for funds with which to clear the books. Murphy was finally forced to sign a demand note, and steadfastly promised to repay the missing Hui funds. In due course the Ad Club did entirely disband, Treasurer Henley left the Islands rather abruptly, and president Murphy's affairs went into litigation. Not until February 1936 did District Attorney Ingram M. Stainback arrange for a repayment of the $310 to Wingate in return for the demand note signed by Murphy in 1934. This was the last contact between the Ad Club and Hui O Pele.

The collapse of the Ad Club left Hui O Pele with no reputable sponsor. Superintendent Wingate had been given custody of the Society in September 1934, to do with as he saw fit. His first concern was a new sponsor for the group, and by the end of the year, he had definitely decided on the Honolulu Outdoor Circle. Ex-Hui O Pele Committee Chairman

Field approved this move although a few old Ad Clubbers preferred the Tourist Bureau and had made some moves in that direction. By January 1935, Wingate, Field and de Vis-Norton (now a member of the Outdoor Circle's Hui O Pele Committee) had prepared a new set of by-laws for the club. (These have not been located.) They broadened the scope of the group's functions to allow the expenditure of funds for projects other than buildings, a move long sought by the NPS staff. NPS Director Cammerer actually wanted to get rid of this problem child entirely, but Wingate wrote in February 1935 that the Outdoor Circle had agreed to take it on and that the Hui could not simply be disbanded. The Director finally gave his approval for this move, but noted that a NPS man ought not to head the group. On April 3, 1935 the Hui O Pele files were turned over to the Hui O Pele Committee of the Outdoor Circle, consisting of Mrs. Cooke, chairman, Mrs. Robert White, treasurer, and Superintendent Wingate. The Hui had a balance of $680.54 in savings and $00.45 in its checking account. With the addition of the $310 from Murphy in February 1936, the available funds were close to $1000. Although Wingate suggested a list of projects at this time, there was no action.

By 1939, Riley Allen and de Vis-Norton both were expressing concern over the apparent lack of action since the Outdoor Circle had taken over the sponsorship of the Hui. They suggested the possibility of a separate organization for Hui O Pele in Honolulu. Nothing came of this, but in October 1939, money for the Footprints area Museum was donated by the club, and the work was done by CCC boys as job B-19.

On May 27, 1941, a special meeting was called, out of which came a new constitution and by-laws for Hui O Pele. The new constitution outlined several types of memberships, as follows: Honorable Life Memberships, to be awarded to those who had performed some valuable service to Hui O Pele, and to distinguished visitors; Charter Members, of which there were still some 100 Certificates outstanding, available to Life Members who had joined before 1927, upon payment of a fee of $10; Life Members, as previously; and 12 Governing Members, all of whom were to contribute their services to the Hui and were to be elected by the Board of Directors, except for two to be appointed by the Outdoor Circle. The first twelve Governing members were listed, drawing heavily on old Ad Club Hui O Pele Committee people. Governing the group was in the hands of the Governing members who would elect appropriate officers. Officers included the honorary Kiaaina, to be held by the Governor of Hawaii; Kuhina Nui, held by the Superintendent of the Park; and a president, two vice-presidents, a secretary, a treasurer, and an auditor. Memberships still included the choice of either an "official Brooch or Button Emblem of the Society" along with the membership Certificate. Disbursements were to be made for projects which were for the convenience of visitors, on the request of the Superintendent of the Park and with the consent and approval of the Board of Directors. The Board consisted of the officers and the twelve Governing Members. Article II of the new Constitution, on the purposes of the Club, read: "...buildings

for the shelter, comfort, and protection of visitors to the Hawaii National Park, equip such buildings with furniture, instruments, books, museum displays,..." This list of acceptable projects had been discussed between Wingate and the Committee the previous December. Article III provided that the funds of the Society could be derived from dues, donations and other means but, except for expenses, were to be used for no purpose other than those listed in Article II. The first officers of this newly re-organized Hui O Pele were Charles R. Frazier, president, and George Armitage, secretary.

At the same meeting, a vigorous new program of public relations was presented, to include framed certificates and posters in selected locations, and volunteer agents to sell the memberships.

The new program had barely been established when December 7, 1941 forced Hui O Pele and the Park into World War II, and little was heard of the society for several years.

After the war, Hui O Pele continued with the program outlined in May 1941. Certificates and posters were distributed to hotels and books of Certificates were left with hotels, the Tourist Bureau offices, KMC, and anywhere else that sales might be made, the agents again taking a 10% commission. For several years, the society had a close association with the Hawaii Tourist Bureau, the head of the organization serving also on the Board of Hui O Pele. As the HNHA grew, they gradually took over the major portion of Hui O Pele membership Certificate sales, resulting in a noticeable improvement in annual income to the Society.

In April 1950 it was decided to discontinue giving pins or brooches with the $1 membership Certificates; the pins were gold-plated and too expensive. A wallet size membership card was substituted, all remaining pins and brooches were called back, and, when the new cards were well established, were to be sold for an additional $1. The switch from pins to a membership card required that all advertising had to be corrected, including the VHse menus which mentioned Hui O Pele and were regularly taken as souvenirs. For the most part, stickers with the revised information were pasted on as necessary. The wallet cards went through several forms until a design and a paper type were developed that proved satisfactory. The Certificates themselves were re-designed in 1962.

In early 1947, Hui O Pele had over $6000 available for use in the Park and it was agreed that the funds be expended for museum development. In February 1948, a temporary display was developed around the paddle wheels of Jaggar's "Ohiki," his amphibian "sandcrab," and a new Hawaii relief map was installed. By mid-1949 the old museum plans had been revised and updated and Hui O Pele had $7000 available for projects. In December of that year six museum units were chosen for the Washington Museum Laboratory to construct. Paul Rockwood, formerly of the Western Museum Laboratory, was hired to serve as on-the-scene specialist. The start of work on these projects in January 1950 marked the new beginning of museum work in Hawaii National Park.

In June 1951, the Hui donated another $2500 to the museum project, mainly to keep Paul Rockwood at work. In December 1952

an additional $2000 was donated to complete the Museum in time for its dedication on May 25, 1953. That April, the Museum name was changed from Hale-O-Ikeike (House of Knowledge) to Thomas A. Jaggar Memorial Museum. With funds from the Hui, HNHA, and NPS Region Four, Rockwood remained at the museum until December 1953. Halley Cox was assisting Rockwood in the museum for part of this period.

In March 1954 the Society suggested spending some $2900 then available on a diorama for the museum. This was set aside in favor of joining with the HNHA in completing other projects, including the third panel of the Great Seafarers triptych, two other exhibits, 2 bronze plaques, and a Hawaii Island map for the lobby.

Two years later, the Hui funded a program of twenty-four interpretive signs in redwood with a short text routed into the wood. Additional funds were spent the following year (1957) on sign repairs, new signs and new acoustical tile for the lobby where naturalist talks were still being given.

The museum, during these years, had gained a major addition through the loan, and later gift, of part of the David Forbes collection of Hawaiiana. In 1958 the HNHA contracted to have the Museum collection catalogued, valued, and labeled. It also attempted to determine the ownership of some of the materials, especially the paintings, many of which were held by the Park in storage.

In 1959 the Hui provided $3000 toward a Bishop Museum contract for a study of the Kalapana area. Two new roadside exhibits, at Aloi crater and Lava Tree Molds, were donated by

the Hui in 1963, and during 1965-66 the Society gave $600 toward obtaining and then cleaning, framing and mounting Hitchcock's Madame Pele painting which now hangs in the lobby of Park headquarters.

Up until 1951, Hui O Pele had been a Honolulu organization; although the Park it served was on Hawaii, no Hawaii Island resident was a member of the Governing Board until the Annual Meeting in March of that year. At that time, a move was made to gain wider Big Island representation on the Board, with a view to eventually moving its entire base of operations from Honolulu to Hilo. In preparation for this move, all the old Hui O Pele records, scattered at the Park and elsewhere, were collected in Honolulu.

The effort to establish Hui O Pele in Hilo moved another step forward at the March 1954 meeting. A vice-presidency was left unfilled with the hope of persuading a Hilo resident to accept it, and move the organization to Hilo when that person moved up to become president. Glenn Mitchell of Hilo was approached by Superintendent Oberhansley with this in mind, and Mitchell agreed to accept the position of vice-president. In March 1956, however, no change had taken place: William Cogswell was president, having taken over at the death of Frazier (who apparently had served continuously as president since the Society's re-organization in 1941), the Hui was still based in Honolulu, and Hawaii island representation on the Board was minimal.

Finally in 1961 Hui O Pele was re-organized, again, and its headquarters moved to Hilo. In February Superintendent

Fred T. Johnston asked for an up-to-date listing of the members of the Governing Board. Again Hui O Pele funds were held in the Government account until a decision could be reached. In March the Board of Directors agreed to a reorganization of the Society, and a transfer to Hilo with a new Board of Directors to be organized there. A complete audit was taken, showing a balance of $1860, a list of interested people was prepared, and a meeting with them was arranged for April 6. Some 25 persons were invited to attend, along with a list of 19 possible new Board members.

At the April 6, 1961 meeting, a new Board of Directors was elected, including the Park Superintendent and Park Naturalist. These totaled 21 persons, 17 members and 4 officers. An Honorary Board was also recognized, consisting of 7 previous directors beginning with Harry Field. Although members living on other islands serve on the Board of Directors, Hui O Pele is now primarily a Hawaii Island society.

Hawaii Natural History Association

The early history of the HNHA is still unclear. A 1953 file refers somewhat vaguely to the fact that the Association had a little over 900 members in 1947 and grew to over 21,000 in 1951. As of that year, the Association had donated to the Park: $407.70 for the Museum; $838.78 for photographic equipment; $1050.11 to the library; $563.55 for employees; and $250 for research expenses. This information came from a mimeographed report of the activities of Natural History Associations, dated August 24, 1953. In 1953 the Association

was reported to have donated $3000 to "Museum Development." Their income was largely from the sale of slides and movies, with a lesser amount from postcards and other items. The post cards were dropped from the inventory that year after a memorandum from the Director, NPS, disapproved the sale of note paper by the Associations.

Early in 1954 a new list of projects was prepared (not found) and a new constitution drawn up, patterned on one submitted by the Washington office. It was adopted by members' vote on January 18, 1954 (not found.) The research programs list was amended to stress natural history, as the major interest of the Association, not merely history and archaeology. Volcano research in progress was also to be included, and new programs of needed research on exotic plants and restoration of endangered species was suggested.

The next few entries in this file deal mainly with inventories of supplies and an annual statement and Report. Expenditures included funding the Bishop Museum study of the Kalapana Extension and new equipment in 1959; funding of a uniformed park information-receptionist in 1961, a GS-3 position costing $3957 from a profit of 10,216.95 during 1960; and incorporation as a non-profit organization in the State of Hawaii, effective August 23, 1961, with a new constitution and by-laws. Membership on the Board of Directors was expanded to include the Park Naturalist at Haleakala. In 1963 a taxonomist was hired to classify all herbarium specimens, arrange them properly, check Ranger Gunnar Fagerlund's list of plants and bring it up to date, and

collect as many as possible of the missing specimens. In 1964, arrangements were made to hire Mrs. John Forbes as a permanent staff member to provide for continuity of operation; and in 1965 the Association contracted for a Park history and provided other funds for interpretation of the Park's 50th Anniversary in 1966.*

* Files: 871-03; A42, 1960-66.

FLORA AND FAUNA

On the isolated Hawaiian Islands there developed many plant and animal species which were not only indigenous -- native to the place, but endemic -- known only at this place. Within the Park, the problems were to preserve the native species and eliminate or control the exotic ones.

Native Flora

Park policy would be directed at preserving and if possible re-establishing the native flora in areas where it no longer grew. This was to be effected either by eliminating whatever had pushed the natives out of their former habitat, thereby allowing them to re-establish themselves, or by transplanting nursery or field grown plants. Some of the endangered endemic plants, however, were not native to the Park area although they were native to similar lands. There developed a major policy question over whether or not these should also be established in the Park in an effort to preserve at least a few specimens within a conservation area.

The commonest tree in the Kilauea section of the Park is the ohia lehua /Metrosideros collina/ which, with the true tree ferns /Cibotium/ and the smaller but upright ferns of the Sadleria group distinguish the "rain forest" or "fern forest" of the volcano region.

The sandalwood /Santalum/, koa /Acacia koa/ and ohia had all been harvested as economic crops, the former for its scent, the two latter as hardwoods. This cutting had reduced the once extensive sandalwood forests to a few, scattered

trees. The ohia and koa were less intensively sought, but koa had been cut from neighboring Bishop Estate lands early in the century and again more recently. This harvest had rendered the lands less desirable as Park additions, a fact not lost on the Bishop Estate trustees. Pulu, the soft covering of new tree fern fronds, had also been harvested briefly, but there was no major threat to the tree ferns themselves until the advent of the orchid industry in the 1940's when the fibrous trunk became a favored growing medium. Establishment of the Park lessened this threat of man but there remained the threat of exotic, grazing animals.

One of Superintendent Boles' earliest problems lay in the continued grazing of Kipuka Puaulu, or "Bird Park." The original Park encompassed several of these kipukas -- pockets of land geologically different from the surrounding lava -- where a wide variety of trees could be found. One of these, Kipuka Puaulu, had been grazed be cattle from a neighboring ranch long before the area became a Park, but as late as 1913, Dr. Joseph Rock estimated there were still over 40 species of native trees within its 90 acres. Territorial Forester C.S. Judd, concerned with the loss of native trees, urged that the kipuka be fenced and the stock excluded. Grazing produced a pleasant park-like effect visually, but very poor natural reproduction of the plant species. In 1926, Cammerer urged the same thing in his Report and suggested a deal be made with the rancher to fence out his stock in exchange for free grazing rights elsewhere. Boles was not convinced and felt the ungrazed underbrush would be a fire hazard.

The area was finally fenced in 1928 and the immediate re-growth of new seedlings of several species clearly showed the negative effects of grazing.

Grazing, by cattle and by feral goats, continues to be one of the worst enemies of the native forest. The koa groves in the Mauna Loa strip area offer another example. Both ohia and koa had been nursery-grown in large numbers for planting in selected Park areas, but both initially responded poorly to transplanting. As the koa forests seemed to be especially endangered, a new attempt to preserve them was made in 1935 when two Park Rangers fenced off four mature koa stands in the then-grazed Mauna Loa strip area. The immediate sucker growth within the enclosures, compared with the non-existant growth outside, was compelling evidence of the adverse effects of grazing on the koa reproduction in this area. With this evidence at hand, a concerted effort was made to rid the strip lands of cattle and allow the koa stands to restore themselves. Cattle were re-introduced as an emergency measure during World War II, with new damage to the koa groves. In 1949 when the area was again free of cattle, a new effort was made to restore the koa forests. The Park nursery again produced seedlings in great numbers. Thousands were distributed on the lower slopes of Mauna Loa and many survived. Besides restoring the koa itself, it was hoped that the new groves would reduce fire-susceptable grasses as well.

While cattle were destroying koa in the strip area, feral goats were eating everything that sprouted in the pali areas. In August 1937, Superintendant Wingate covered the

four miles between Pepeiau and Hilina Pali and reported: "Upwards of 2,000 goats were seen and close observation failed to reveal a single tree of any species less than 15-20 years old." Perhaps with this in mind, a nursery at the Park was finally established late in 1937 with koa, hau /Pariti tiliaceum/ and mamani /Edwardsia chrysophylla/ seedlings from the Territorial Forestry Department Nursery in Hilo.

During its early years, the Park nursery seems to have concentrated on propagating a few common trees for landscaping and reforestation. In 1940, some mamani were transplanted to the denuded Kipuka Nene and Hilina Pali area in the hope of repairing some of the goat damage. During this year, some 20 species were experimented with at the nursery, though many did not prove satisfactory in the field. Additional native transplants were set out in 1941, including a number of wili-wili /Erythrina monosperma/ at Hilina Pali. These latter were given the protection of goat-proof fencing. A grove of coconuts were also re-introduced to the Halape coast area, where some 70 sprouted coconuts and 40 hala /Pandanus tectorius/ seedlings had been planted in 1927, with another 105 coconuts added by the CCC boys in 1934. The original beach planting had been fenced, and the coconuts seemed to have survived well. There is no additional mention of the hala seedlings, but as of 1929 some 66 of the original coconuts were still alive, a few four feet tall.

The post-war reforestation program included more plantings at Hilina Pali. In 1945 over 40 wili-wili were set out, again protected by goat-proof fences. The survival rate for the

original 1941 planting is not known, but to enhance the view from the lookout, the screens were removed in 1954. The goats quickly reduced this planting to three trees.

The Park nursery, officially established in 1937, served two separate purposes, with emphasis fluctuating over the years. First, it was designed to produce many of the common plants for simple reforestation and for landscaping. Such was the case with the early koa, mamani and wili-wili seedlings. Second, it was to serve as a scientific station, developing techniques for nursery growing the common natives, and for preserving and propagating the rare and endangered species. During the pre-war years the emphasis had been on mass production of the common plants, but Ranger Gunder E. Olson, who had been given charge of the nursery, had also succeeded in bringing eleven native species to the transplant stage, thereby proving it was feasible to use native, nursery-reared trees for reforestation projects throughout the islands. This was at a time when the Forestry Department was actively introducing exotics for watershed reforestation on the grounds that natives could not be satisfactorily grown and transplanted.

Immediately after the war the nursery moved into its other major field of endeavor, the propagation of rare and endangered species. In 1940 and again in 1941, Dr. Joseph Rock had visited the Park and urged the establishment, within the Park proper, of a botanical reserve in which such species could be grown. As early as 1923, Superintendent Boles had asked Territorial Forester C.S. Judd for help in obtaining sandalwood seedlings from Molokai "with which to start a

small grove within the park limits." There is no mention of whether he was able to obtain these seedlings, but Boles' 1924 Report approvingly noted the establishment by Judd of an arboretum of several acres "nearby," in which endangered native trees would be planted. "Nearby" may have been the Bird Park area. A dry winter proved disasterous, however, and very few of the young plants survived.

This early effort was of the "botanical garden" approach designed to preserve as many rare and endangered trees as possible, and only 3 of the fourteen species planted were native to the kipuka. The entire project was a failure, even though additional plantings were made in the area over the next few years. Nothing more is heard of an arboretum or nursery in the Park for the next ten years.

During these early years other rare but non-Park plants were being tried. Otto Degener, then a University of Hawaii botanist, sent a can of seeds of the Haleakala greensword, with instructions to scatter them along Byron's Ledge and the KMC area. The original plan had been to use Haleakala silversword, but this plant had failed to yield seeds. In February 1928, Degener sent ten sprouts of the silversword itself which were planted on the rim of Kilauea crater. Both plant species were rare but in no way native to the Kilauea section of the Park. Nothing more is heard of either of these planting attempts.

Quite simply, unless the species had originally grown in the Park -- and in that particular area of the Park -- such a botanical reserve program would not conform to

National Park policy. Naturalist Gunner Fagerlund outlined a compromise program in a memo to Superintendate Wingate dated November 11, 1944. He pointed out that the Park was obliged to preserve not only individual species but also their natural ecology, and while rare trees in general needed aid, rare trees native to the Park had received, to date, little attention. This, then, should be the Park's first responsibility. In another memo dated November 25, he suggested a plan for the non-Park species. These could be propagated in a nursery such as the Park's or the Forestry nursery in Hilo, and then planted out on private properties. Such a plan would allow the Park to assist in preserving these endangered species, while avoiding the error of establishing a sanctuary of non-Park plants within it's boundaries.

This preservation nursery program was instituted in 1945 with the aid of the Hilo Forestry nursery. One of the highlights of the new program came in 1951 with the successful transplant of a slip taken from the only surviving specimen of Hibiscadelphus giffardianus then known. This was placed in the Bird Park area where it may once have grown naturally.

Between 1953 and 1959 the general forestry program moved forward well. It had the advantage of interested Park Rangers in charge, and interested Forestry Technicians to provide the long-range continuity. Careful record-keeping and proper field care paid off handsomely with a high success rate among the transplants.

During the slow periods of temporary lack of interest, or funds or manpower, there was a return to the mass production

of common species, especially koa and mamani, for use in landscaping. A slow period has resulted in very little nursery work since 1964.

Two native plants have required special attention at one time or another. These are the true tree ferns /Cibotium/ and the ohelo /Vaccinium reticulatum./

In the spring the ferns send out new fronds and these young stipes, somewhat resembling asparagus, are considered delicacies by some of the island population. During the late 1930's and again in the mid 1940's, special patrols were necessary during the short spring harvest period to prevent the destruction of Park ferns. The Thurston Lava Tube area was the favored site in the 1930's, as it was readily accessible via the cut-off road running between the Mamalahoa highway and the Kilauea Iki road. For a while it was necessary to close this road to control the thefts. During the 1948 vandalism, the stipes were selling for as much as 90¢ a pound. The Superintendent noted in his Annual Report that with the removal of tree ferns outside the Park for the orchid industry, the in-Park ferns would be all the more unique. This outbreak was stopped with little damage to the ferns and there has been no mention of this problem since 1948, due to better education of the public to Park values, and the closing of the access road.

The ohelo problem also had to do with picking edibles from within the Park, an activity prohibited by general National Park policy. Originally the fruit sacred to the volcano goddess Pele, the cranberry-like berries are now popular with islanders who make them into sauces, shortcakes and pies.

Although Park policy is consistent, enforcement fluctuated over the years on whether to pick or not, and if picking were allowed, who could do it and how much fruit could be gathered. At times the prohibition was complete, at other times one could pick, but only with a permit, and then only a specified amount. Or, one could pick freely, but only for personal use, or only if one lived within the Park. For a while the VHse served ohelo pie, but this was dropped from the menu on the grounds that it was counter to the private-consumption-only enforcement policy in effect at the time, and because there was little call for it. As well as can be determined, Park attitude on ohelo-berry picking seemed to be determined by 1) the condition of the bushes themselves, a matter dependent on general weather conditions and current volcanic activity, and 2) the convictions of the incumbent Superintendent.

Exotic Flora

The Park, when established, was already the home of a number of attractive "garden" exotics. The pink "Lyman" or "volcano" rose graced the fence of the 1868 VHse. Fuschia and nasturtiums had been widely sown in what were to become Park areas. The striking purple tibouchina, yellow and white "gingerlily," and the orange flowered hybrid bulb commonly called Mt. Bresia had all escaped cultivation and were well established or soon would be. The exotic blackberry vied with the native morning glory in a strangling density of growth. Summer home owners, KMC and the VHse all had lush gardens full of introduced plants. There were also a number of exotic

grasses and "weeds" which had moved into the Park from who knows where.

Both the nasturtium and fuschia had been specifically planted in the Park proper. One of Boles' first monthly reports (for October 1922) mentions that the Park staff had been planting both. Cammerer in 1926 noted that the Outdoor Circle of Hilo, with the best of intentions, had also been planting exotics along the Park roads. He suggested that Boles get them to re-direct their fine efforts into more appropriate channels. Cammerer also mentioned that the VHse garden was a joy to behold, but that it had no place in a National Park. All in all, he saw several weeks of work for the National Park landscape architect.

By 1930 the problem of garden exotics had not progressed very much. The VHse garden was still full of exotics. The roadside nasturtiums were doing well and spreading. The blackberry and guava also ranked high on the list of undesirable exotics. The question of exotics, reported Thomas Vint in 1930, was particularly serious in HNP.

His report went in, but apparently due to depression finances, little was done. The 1932 Report of Landscape Architect John Wosky listed the same problems, although he did mention that all but the fuschia had been removed from the VHse grounds. Wosky added the morning glory and the staghorn fern [Dicranopteris emarginata] to the list of problem plants. Both are natives but tend to overwhelm other species. Nasturtiums, at least, were no longer mentioned as

a problem.

Finally, the CCC and WPA programs beginning in 1933 provided the funds and the manpower to adequately tackle the worst of the exotics, beginning with the blackberry and morning glory in Bird Park. Other exotics were removed by grubbing from the residence and headquarters areas.

The next major effort to remove exotics came in the 1950's when a program was instituted once again to remove the blackberry and morning glory in Bird Park, as well as the exotics along roads and trails. Re-sprouts were sprayed with herbicides. Gaspro, a local firm, in 1955 was treating sample plots with chemicals to determine the best control of exotics. Some plots showed a high plant kill, but the chemicals were not selective. The most satisfactory technique for the removal of exotics continued to be hand grubbing and burning the trash to remove seeds, followed by a spraying with herbicides to control re-growth.

By 1957 there was a regular exotics control crew on duty from roughly April through October and by 1962 the problem had reached the stage where it was considered necessary to revise the PCP to include the complete clearing of 180 acres of exotics by 1965 at the rate of 40 acres per year.

The degree of exotic flora control varied widely over the years. At the present time it is thought both impossible and unnecessary to achieve complete eradication of all exotic plants in the Park. Some, such as the pink "volcano" rose, seem to be considered residents of such long standing that

they are almost classed as natives. Hydranga and the akulikuli /Lampranthus glomeratus/are both tolerated at the VHse and KMC. Others, such as the "gingers" and bamboo orchids are so well established that they can at best only be controlled. Infrequently some new exotic escapes cultivation and becomes an attractive pest requiring special attention, such as occurred with the coreopsis recently. Most of the large exotic trees, such as the evergreens and the eucalyptus, are slowly and inconspicuously being removed.

With the acquisition of the Kalapana extension, the control of exotics has moved into a new phase. The plant species in the extension are so overwhelmingly exotic that total eradication seems unlikely.

Native Fauna

The Hawaiians brought with them to the islands the pig, dog, rat and chicken. Already here were a great number of birds and one land mammal, the bat. Europeans brought with them a multitude of animals of which two mammals and many birds were to have an effect on the Park.

Among the native birds were a number that were also endemic, particularly the Nene or Hawaiian goose, and the honeycreepers of the Drepanidaea family. The Hawaiians ate the Nene which originally occurred in large, tame flocks, and they "harvested" selected feathers from several of the forest birds with which they made the royal feather cloaks and helmets. These birds, however, were merely plucked and released to grow new feathers, and the Hawaiian forest bird

population did not suffer more than the indignity of a few missing feathers. Europeans were less careful. The birds were hunted for specimens and for sport and in a very short time at least two species were extinct, others were thought to be extinct, and many more were endangered. The Nene and many of the Park's forest birds fell into the latter classification.

Hawaii National Park was not established specifically as a bird sanctuary but it served as one. The Park contains the ohia forest favored by the drepanids, and the upland lava meadows favored by the Nene. Native bird protection, however, was not a major element in early Park administration. Boles, in a supplement to his 1923 Annual Report, noted only that the "native red birds" were becoming plentiful, and so were the introduced Chinese pheasant. With the exception of a 1929 project to eradicate the mynah birds in Bird Park with air rifles, there is no reference to protection of native birds in the Park until well into the 1930's.* The attractive exotics, on the other hand, are frequently mentioned, and were even protected to the extent that the Park trapped and removed the equally exotic mongoose which was destroying the eggs of the ground-nesting exotics.

What had happened with the native flora was happening also with the native avifauna. New species had been introduced, either for their beauty or their sport value, and although

* Superintendent's Monthly Report for November 1929. Air rifles were being tried. Poison would kill ground nesting birds, and shotguns would frighten away native birds.

not liberated within the Park, these introduced birds quickly found the Park a safe home.

Beginning in 1928 a concerted effort was initiated to re-stock the islands with song-birds, under the auspices of the Territorial Forestry Department and interested bird fanciers. In December of that year, groups of thrushes were liberated in different localities, and on January 16, 1929, the Hilo Tribune-Herald carried a full page ad headed "BUY A BIRD, An Appeal to the Bird Lovers of Hawaii." A $4.00 donation would purchase a pair of birds to be released in likely areas. Birds offered were the cardinals, chinese thrush, meadowlark, and Pekin nightingale. The Superintendent's report for January 1929 noted that many volcano area summer-home owners had subscribed for birds and "the park will be directly benefitted by the movement." The word "benefitted"has been underlined in firm lines with the initials E.G.W. By October of that year it was apparent that a great many of the introduced birds had found their way to the Park and intended to remain. Superintendent Leavitt's Annual Report of October 1933 mentioned that birds, the only native animal life in the Park, were apparently increasing, but the introduced birds were also rapidly increasing and "it will probably be only a matter of time when the native birds are crowded out."

A depression year work project initiated formal bird study in HNP. Two technicians working in a summer program during 1935-1937 prepared a "Hawaiian Bird Survey" under the direction of George C. Munro. This study dealt mainly with

sightings in study plots. In 1937 also, Hawaii island received its first annual bird census.

During 1938-1939 the CCC wildlife section began a general survey of Park avifauna. Part of the study involved bird diseases, as a factor in the decline of native bird populations. Bumble-foot and other bird diseases were identified and in part traced to introduced birds. The study found that mynahs and English sparrows picked up bumble-foot from chickens, and this led to a campaign during 1939 for adequate screening of chicken pens. Blood parasite research continued in the summer of 1940 with identification aid from the First and Wildlife Service.

Senior Wildlife Foreman (CCC) Paul H. Baldwin was officially authorized to take over the bird study program in 1939, having already devoted much of the previous two years to it. He pulled together the work already done and in April 1940 began a study of the life histories of the threatened native birds. These were to include a bird census, bird food habits and predator control. His report for November 1940 suggested that the bird studies continue for another two years, that they should include a complete Nene study, and that these should be followed by a related forestry study. By the middle of 1941 Baldwin had two publications on birds already issued (one on birds in HNP) and more were being prepared.

This work came to a halt with the start of World War II in December 1941, but Baldwin was able to "make time" with

which to continue at a modified pace his bird studies so as not to lose the value of the work already done. He continued with this modified program until 1945. In 1944 his "Birds of Hawaii National Park" appeared in Audubon Magazine (May-June) and his paper on the Nene appeared in Condor (Jan-Feb 1945) the following spring.

Within the Park, the war years saw some damage to native birds due to military use of the Ka'u bombing range. The Director of the Park Service, fearing even greater damage to war-zone birds, requested that representatives of endangered species be sent to safe, mainland locations and to this end a gift pair of Nene were offered by rancher-neighbor Herbert Shipman. It was finally decided that shipment might prove equally hazardous and the birds remained in the islands. Apparently only the Nene were considered for this preservation project.

The war years also saw the end of the foreign bird importations. This program had been opposed by Baldwin and the HNP staff who saw the exotics steadily pushing the native birds out of their home forests.

The developing field of bird studies had received encouragement in the spring of 1937 when a flock of Nene were sighted in the wild on the lower slopes of Mauna Loa. Nene were being pen-raised by several ranchers, but were thought to have become extinct in the wild state. The sightings were verified by photographs and investigation established that the birds made the locality their permanent home. Here was a

unique chance to study an endangered species on the brink of extinction.

A Nene sighting in 1948 roused new interest in the possibility of re-stocking the range with pen-reared geese. During that year, Vernon Brock, Director of the Territorial Division of Fish and Game, approached Superintendent Oberhansley on the possibility of raising Nene in the Park, the birds to be obtained by trapping the wild flock. He also solicited Park aid in a new bird study. The NPS was agreeable to both propositions, but preferred using tame stock for breeding. The result of this interest was the establishment of the Territorial Pohakuloa Breeding Station in 1949. This station is outside the Park, although Oberhansley had suggested a station at the 6-tanks area of Mauna Loa. The new bird study did not come about as it was decided not to hire an ecologist at that time.

During the next few years the sightings of Nene in the wild increased, verified as often as possible by on-the-ground investigation. Most of the flock were in the Mauna Loa section, but increasingly they were also to be found in the Kilauea crater and Ka'u desert areas. In 1953 it was estimated that the entire world Nene population was barely 50 birds, of which 7 were at the Severn Wildfowl Trust in England. The original Pohakuloa pair and the three birds sent to the Trust had all come from the Shipman flock at Keaau. Until a wild female was trapped and added to the breeding flock, the Shipman flock provided all the Nene breeding stock. There

is a slight possibility that the Shipman flock contained a few cross-bred geese showing Nene markings.

Since 1949 the Poahkuloa- and Severn-bred birds have been successfully returned to the wild on Mauna Loa and in the crater of Haleakala. Actual Park contributions to the program have been limited to providing safe range for the birds on release. Although HNP listed Nene Research as its single most important problem in 1952, no funds have been available for such a project and the Nene work done so far has been centered at the Pohakuloa Station.

Nene, as Hawaii's State Bird, was saved from extinction. Equally worthwhile birds continued to dwindle in numbers over the same period of time as introduced birds established themselves in the Park and drove out the natives. In 1957, a scholarly visitor pointed out the dangerous situation and the Regional Director went so far as to ask the Superintendent what could be done. Superintendent Johnston replied that while HNP had good habitat for the natives, a study of the competing introduced birds was needed. As this would require funds not then available, the matter was dropped. It was suggested, however, that Maui's Kipahulu Valley would make an ideal bird sanctuary, but this proposal met with difficulty in the area of NPS policy on new land acquisitions.

Finally in 1966 W. Banko of the Fish and Game Services, Bureau of Sport Fish and Wildlife, arrived in the islands to begin an extensive study of the "endangered" birds of Hawaii. This project will finally provide the necessary information

to deal responsibly with the endangered birds of HNP.

Exotic Fauna

Introduced birds, however destructive to native birds, have never been the object of a major control or extermination program such as has been the case with the feral goats. Superintendent Boles reported some 20,000 goats in the Park, and the Territory had already embarked on a program of clearing the pests from neighboring lands. As outlined in Raymond Geerdes study, the Park had neither the funds nor the manpower to control goats during the years up to 1926. In 1927 the Territorial Board of Forestry was provided with funds to drive goats in the Park area, as well as on the lands outside, and during the next five years from 1927 to 1931 Territorial-financed drives removed several thousand goats each year.

In 1932 Territorial funds were not forthcoming and from then until 1937 a goat control program was lacking. The only goats removed were those taken in the course of public hunting. Office Order No. 288 dated November 12, 1934 stopped even that, by limiting control work in the Park to regular, permanent, uniformed NPS personnel. Such personnel simply was not available and on June 8, 1935 this order was modified to allow the "assistance of outside persons." Qualified personnel and funds were still limited and during the period 1931 to 1937 the goat population had increased to the point where damage to vegetation was again very noticeable.

Once again the depression-born CCC program proved a

value to Park objectives. Wingate's Annual Report for 1936 reported the CCC boys well on the way with a Park fencing project. This had been started in January 1936 and was to enclose some 60 miles of Park boundary with goat-proof fence. When completed, goat drives would rid the Park of the pests. It is not known how much of the Park actually was fenced, but between February 1938 and 1941, the CCC boys and Park Rangers were able to eliminate over 7000 goats in several drives. It was estimated that some 500 were still in the rugged lava areas, and these would have to be hunted down individually. According to Wingate's 1938 fiscal year report, the fencing project and goat drives were the Park's most important conservation project.

World War II brought an end to CCC drives, but Park personnel accounted for another 600 goats removed during 1942 and 1943.

After the war, the goat population again began to increase as the pressure against it was reduced. Feral goats probably start breeding at less than one year of age, twin more than 50% of the time, and nannies drop two times every eleven to fourteen months. Under reasonable circumstances, a herd will double in size in a little over a year.

The Park tried a system of short term (90 day) contracts during the period 1944 through 1947. These were simply not successful, averaging only some 1300 goats per year. Beginning in 1948 the Park offered year-long contracts for goat removal, hoping that the longer period would allow a

better return on the time and money expended by the contractor and thus a greater number of goats removed. It apparently didn't. During the seven years from 1948 to 1955 the average annual goat kill was still about 1200 a year, and that figure dropped to less than half for the years 1951 to 1954.

It should be noted that total figures for annual goat kills between 1944 and 1955 include Park Ranger patrols and KMC hunting parties as well as those taken by the permitee. The hunting parties were more trouble than help, often including inexperienced personnel who were in the way and subject to accidents. In view of this, Superintendent Oberhansley concluded in 1951 that control should definitely be restricted to Park personnel only, and this position was re-stated by Acting Superintendent I.J. Castro in late 1953. The last yearly goat hunting contract expired October 31, 1955.

Since 1955 the goat population has been controlled by Park personnel. An annual kill of 300 was estimated to be sufficient to control the herd, but by 1960 it was clear this figure was far too low. In 1961 the annual kill necessary to "stabilize" the herd was raised to 600. There is no mention of how large a herd was to be maintained, and actual annual kills between 1960 and 1963 were double that number.

The goat control problem has been a matter of both national policy and local procedure. At one time it was hoped to completely eradicate the herds, and to this end the CCC boys built a fence around the Park and participated

in concentrated goat drives. The program was successful except for a few scattered goats which circumstances allowed to remain in the Park. Ten years later it was again possible to remove several thousand goats per year.

Another policy held that "stabilization" would be adequate, but it failed to properly take into consideration the high reporduction rate of the herd, nor did it base the size of the "stabilized" herd on any kind of research of goat damage to the Park.

Procedure also has varied. Drives have long been the favored technique for removing goats in large numbers over a reasonably short period of time, However, drives tend to be expensive, costing the same for 500 goats as for 5000, and they require either large numbers of trained personnel to cover the field, or the rental of a helicopter to scan the field and help in driving the goats to pens or kill areas.

An individual hunter can be quite successful. It is reported that between 1958 and 1963 Chief Ranger DeLyle R. Stevens personally destroyed over 3500 goats. This technique might serve to keep an accessible small herd within reasonable limits.

The problem, as viewed by the hunting public, is quite simple: let the public hunters remove the unwanted goats from the Park lands. The problem is not all that simple and public hunting is not now allowed on Park lands.

Control measures for other fauna has been less difficult. The mongoose is still a minor pest, and along with the rat

and occasional feral cat or dog, is simply trapped and removed.

The pig has required more consistent attention. Technically a native, within the Park area he tends to increase rapidly in numbers to the point of damage to Park plants. At the present time several acres of Park lands show extensive pig damage. Over the years the concensus of thinking within the Park has held that the pig need not be totally removed, but should be kept within reasonable limits. What consistutes reasonable limits, naturally, has tended to vary. Control has always been officially by Park personnel only, although the hunting is more often during an employee's off hours rather than during working hours.

MAUNA LOA

In January 1968 a news story broke in the Honolulu papers, proposing a Scenic Road for Mauna Loa. Such a road would open the area to the public and tie together Park areas at Kilauea, Mauna Loa and Honaunau, Kona. This ambitious plan was the most recent variation on a proposal that dated back to 1916 and the establishment of the Park.

The inclusion of the summit of Mauna Loa was never seriously contested in the hearings for a Hawaii National Park. It is often called the world's largest active volcano and probably the largest single mountain mass on earth, and Jaggar had urged its inclusion as a field of scientific research second only to Kilauea in importance. The Mauna Loa section of some 17,920 acres defined by metes and bounds was included in the 1916 bill. To satisfy public demand for accessibility of new Park areas, the bill included a provision for a "strip of land of sufficient width for a road to connect the Kilauea and Mauna Loa sections of the island of Hawaii, with width and location of the strip to be determined by the Secretary of the Interior." The 7926 acres of private lands on the summit were easily acquired by the Territory and, with another 9994 acres of public lands, transferred to the United States on June 28, 1921.

Popular interest in Mauna Loa was overshadowed by the continuously active, readily accessible Halemaumau crater in Kilauea section, but Superintendent Boles visited all sections of "his" Park, ascending Mauna Loa in July 1922.

He went by mule to the HVRA resthouse at 10,000 feet, and walked on to the top. His Superintendent's Report for that month advocated a road to 10,000 feet and a trail to the top. His Annual Report for 1922, prepared in late summer, mentioned the strip of land, yet to be selected, which would connect the two Park sections. He estimated the addition of the strip would bring the total area of the Mauna Loa section to 17,380 acres [sic]. The Mauna Loa section already contained some 17,920 acres, but Boles was obviously thinking in terms of adding approximately 360 acres as outlined by Jaggar in 1916 during hearings on the bill. An additional 360 acres would have been enough for a narrow road right of way.

In February 1923, Boles and Jaggar surveyed a possible route to the summit. No road funds were available, but Boles hoped to be able to have a horse trail laid out (across the intervening Territorial lands) before the next expected activity on Mauna Loa. (This activity did not actually occur until April 1926 when a summit eruption followed by a flank eruption flowed to the sea and destroyed the village of Hoopuloa.) The horse trail was prepared and Boles frankly felt this was adequate for the time being. Interest in Mauna Loa's summit was limited to scientists, goat hunters, and a handful of hardy tourists who ascended the mountain to view eruptions. The demand for an immediate road to the summit was limited to less than fifty people, and any development of the Mauna Loa area should be delayed at least until the USGS had completed its topographic studies of the area, thus

avoiding duplication of the engineering work.*

During September 1925 gangs surveyed the mountainside under the direction of a Highway Engineer from the Bureau of Public Roads. Boles reported one line had been run, and he thought it probable that one or two others would be run between the two sections "so as to touch as little as possible the grazing lands along this route, the inclusion of which in our extended boundaries would be expensive to the Territory, and involve administrative difficulties for years to come."**

When Associate Director Arno B. Cammerer visited the Park in early 1926 to clear up some lingering land problems and decide the friendly inter-island rivalry over priority for a summit road to Haleakala or to Mauna Loa, he inspected the Mauna Loa road alignment as far as 10,000 feet. He found that in several places it ran off Territorial land into privately owned land, and recommended that another survey be run. He recommended that the final alignment be well away from any private land so that there would be no danger of private intrusion onto the road. He reported Governor Farrington ready to issue the necessary Executive Order transferring "any necessary wide strip of Territorial land, which would at least be several miles wide, through which this road would run." He felt a trail would be adequate, but referred to the third provision of the act creating the Park which seemed to require that a road be built. It was also arranged

* Superintendent's Annual Report, 1924.
** Superintendent's Monthly Report, September 1925.

during Cammerer's visit that Superintendent Boles and Territorial Land Commissioner Bailey would agree on the taking lines for this section. There is no mention in Cammerer's Report of the necessity of avoiding grazing lands, but Walter E. Wall, Territorial Surveyor, in agreeing to a new survey for the road alignment, did suggest that when Boles went to select the lands for the strip road, the choice grazing lands be avoided as far as possible.

Who finally drew the taking lines is not known. How they did the job is simplicity itself: using a blueprint of the new road alignment survey, straight lines were drawn between the Mauna Loa and Kilauea sections, outside the widest swings of the road's many switchbacks. This strip included some 46,050 acres, much of it fine grazing land.

The grazing lands question proved only a minor hurdle at the time. On February 14, 1927 Cammerer wrote to Superintendent Evans that the survey and blueprint, including a reservation to the Territory of Hawaii of perpetual grazing rights, had been submitted by the Governor of Hawaii and approved by the Department of Interior.* Governor Farrington executed a deed (not an Executive Order) transferring title to the United States which was approved on May 4, 1927. However, in April 1926, the Territory had awarded a 21-year grazing permit, General Lease no. 1920, for part of this area to the Hawaiian Agricultural Company, operators of Kapapala Ranch. This lease was to prove an aggravation until 1948.

* File: 631-01.

Although of limited scenic value, the Mauna Loa strip area was found to contain superior groves of koa and other native flora. Studies established that grazing was destroying the koa, and the NPS wanted to cancel the remaining years of the lease, as it applied to Park lands. An opinion on the deed of transfer from the Solicitor of the United States Department of Interior dated February 21, 1938, Opinion No. M 28999, held that the lease was invalid and grazing should be terminated. By October 1940, the cattle had been removed from the connecting strip. They were returned in 1942, the justification being "war emergency." This grazing permit finally expired June 10, 1946.*

As of May 1927, the Department of Interior had possession of the land on which to build a connecting road. The Park administration was not enthusiastic about building a road to the summit, in spite of continuing publicity based on both scenic and scientific grounds, much of it from Lorrin P. Thurston and the Honolulu Advertiser. Thurston envisioned not only a road but a summit hotel. Superintendents Allen and Leavitt, both favoring roads only to Red Hill at 10,000 feet, advised the Advertiser that plans had not gone beyond the tentative stage, and that money was very short and the NPS was concentrating on finishing the Haleakala road before undertaking new road projects. Landscape Architect John Wosky in 1932 could not recommend the road on the basis of current cost and expected use, and in January 1933, Director Albright

* For details of the strip grazing lease see: Apple, A History of the land acquisition for Hawaii National Park to December 31, 1950. p. 115-131.

suggested that the main justification continued to be to "furnish scientific gentlemen means of access to the summit of Mauna Loa in case of volcanic activity, rather than as a tourist attraction."* Schemes of auto taxes to pay for construction were considered and abandoned. The road grade would have to be built on permanent alignment and grade, both expensive. A rumor that the Territorial Legislature might pass a bill to use prison labor for such a road made the rounds, followed by justifications for the road as a labor relief project. Local individuals and interested parties memorialized the Governor of Hawaii and Director of the National Park Service throughout 1933 and 1934. On January 13, 1934, Superintendent Wingate also wrote, urging an 8 foot wide road to Red Hill and a trail beyond, so as to "keep faith" with the Territory which had added the strip "primarily to furnish a right of way for a proposed road to the top of Mauna Loa." The road would also be a lever with which to close out the Territorial grazing lease in the strip. Wingate's plan was offered with the note that he did NOT want Mauna Loa in its vast, aloof majesty to become like Kilauea, something trivial with hotels and a golf tee for a Hole-in-One.

On January 31, 1934, Landscape Architect Merle Sager presented his report on the Mauna Loa question. He noted the continuing enthusiasm of the Thurstons and the Advertiser, the recent Territorial Legislature's Resolution naming the connecting road the Thurston Highway, and the recent eruption

* File: 631-01.

which had again called attention to the desirability of easy summit access for scientific investigation.

Sager found that none of the Hawaii National Park staff advocated building a road to the summit, and Jaggar re-iterated that any way to get to the top would satisfy scientific needs. Sager agreed with Wingate that Mauna Loa was a place to realize the insignificance of man and the bigness of creation. "But this calls for solitude, not a tourist highway." His recommendation was for a 5% grade, 8 foot wide road, hard surfaced on an alignment which would permit widening if necessary, to the 7000 foot elevation seismograph station and where the scenic features faded into fields of dull lava. Between the road end and the summit he recommended a four foot wide trail of 15% grade on a new alignment. An airplane landing field at the summit was also suggested, and rejected, as being subject to eruption damage and too dangerous an altitude for take off and landing.

And here the road project remained for several more years due to lack of funds, an obligation to complete the Haleakala road, and the advent of World War II.

Mauna Loa was not entirely lacking in access facilities, however. In July and August of 1930, a 30 inch wide, standard grade trail was completed from the Rest House at 10,000 feet to the summit at 13,675 feet, a distance of some 14 miles. This provided a smooth trail the entire distance. There is no mention of any survey being used. In September 1930, the crews rebuilt sections of the trail below the 10,000 foot

rest house and just above Bird Park, it being planned to connect the two points later by a trail entirely within the Park boundaries. Apparently Boles' 1923 horse trail had wandered outside even the generous taking lines of the 1925 road alignment. The present trail would be used until it could be re-aligned.

In line with Sager's recommendations, the CCC began construction of a truck trail to the 7000 foot elevation on September 3, 1935. This 10 mile trail was completed on September 30, 1936. Again, there is no mention of which, if any, road alignment was used. The trail was for administrative purposes -- not public use -- and provided access to the seismograph at 7000 feet. This truck trail did not fully meet the needs of the scientific community, much less the public, according to Coffman, reporting in June of 1937. It was rough, had no turn-outs, and should be extended to at least the 10,000 foot elevation. During 1937-1938, a dike for the protection of Hilo from NE rift lava flows was under consideration and a road to the summit figured in this project. The dike, a favored project of Jaggar's, never won the approval of the Corps of Engineers who would presumably have had charge of its design and construction.

The eruption of 1933 resulted in additional improvements on Mauna Loa. A telephone line was strung from the 10,000 foot rest house to the summit with KMC providing both the wire and the men to string it. The telephone line was repaired and restrung as far as Red Hill the following year after heavy

winter storms had damaged it; and the grounded line from Red Hill to the summit was replaced by the CCC during 1937-38. Another heavy winter storm necessitated additional repairs in 1938. A Memo from Ranger Olson to the Superintendent, dated March 10, 1938, noted that the batteries for the phones had been re-connected wrong -- they had been removed at some time for use in lighting. He also found that approximately a mile below elevation 12,000 the telephone line was down for a distance of a mile and a half. The line was broken every 3 or 4 poles and all the poles had been broken from their concrete foundations, with many fallen over. He suggested more frequent poles when the line was rebuilt, and that the upper poles be braced and set fully in concrete, not just in an ahu of stones with cement at the top. There was no good explanation of why the line from 12,00 feet to the top was unbroken, unless the snowfall had been deep enough to support it. He also reported some six miles of duplex ground line strung above Red Hill which should be removed.*

A Deferred Maintainance Report, dated March 9, 1944, reviewed the state of the Mauna Loa telephone line. Line 4B was seven miles long and of ohia posts cut and installed in 1934. Since 1942 these poles had developed serious rot and many had been re-set and many were too short. All needed to be replaced with steel poles set in concrete with oak brackets so as to conform with the 17 mile stretch of Mauna Loa line (4A) already installed. Line 4B was between line 4A and

* File: 620-04.

headquarters and it was vital to keep it in good condition. It served the timing circuit for the seismograph, the fire and tool cache station, and was important in emergencies and for eruption information. There is no record of this work being done, but a Superintendent's Report for December 1945 notes that a Park Ranger spent considerable time checking and repairing the telephone line on Mauna Loa.*

During 1948 a telephone wire was strung, then dismantled, salvaged and abandoned. Apparently this was the line from Red Hill to the summit, as there are references in 1952 and 1958 to the condition of the telephone line on the lower trail. In 1959 new wire for a ground circuit telephone line was installed along the road, rather than along the fence as previously.

The original rest house at Red Hill or Puu Ulaula at 10,000 feet had been constructed by the HVRA sometime before July 1922 as an aid to scientific research on Mauna Loa. They had also participated in the construction of the summit trail, either the 1912 foot trail laid out by Jaggar, or the 1923 horse trail laid out by Boles and Jaggar. The NPS apparently obtained the rest house sometime before January 1928 when the Superintendent mentions having "fallen heir to" the 3-room rest house and water-tank at Red Hill which the HVRA had built. The place had been badly used and it was recognized that the NPS must make some repairs in order to save the property from being blown to pieces and burned as fuel by campers. The roof

* File: 600-04.

was re-covered with tar paper, a wire screen was placed over the water tank, a stable for horses and a toilet were built, and six mattresses were packed up to augment the three already there.

The same Report for 1928 mentions a Hui O Pele shelter to be erected at the 7000 foot level, and a set of mileposts along the trail which were to bear the additional figures of elevations and distances in hours and minutes. A shelter-museum was built, but Hui O Pele does not report any expenditure for 1929.

In 1933 the Red Hill rest house was again repaired and two toilets, a stable, and a fence were constructed. The same year the Superintendent of the Park requested Hui O Pele to provide $2500 for a summit rest house. This was constructed during the summer of 1934 and replaced the old summit cave known as the Hotel de Jaggar. By 1938 both the Red Hill and summit rest houses were again in poor condition due to careless and inconsiderate users. In 1939 the Red Hill rest house was repaired again. The south wall was lined with Canec for warmth, interior walls were removed, and a 4-burner kerosene stove installed. A news release reported that after March 15, it would be necessary to charge a fee of 50¢ a night for adults, those under 16 free, and reservations in advance would have to be made at Park headquarters. It is not known how long fees were collected. In 1951 the fee problem came up again and it was found that fees had not been collected recently and as of October, only one visitor had occupied

the summit cabin overnight, making fee collection in the future pointless.*

In 1956 the cabins were again reported in poor condition, and as there was still only limited use of the facility, it was suggested that the summit cabin be: 1) razed and rebuilt at the end of the Mauna Loa road, i.e., the new Kulani road; 2) fixed, then maintained by Hui O Pele; or 3) abandoned entirely. The USGS, however, indicated a continuing need for the summit cabin and it was retained. It had already been moved once; the summit eruption of 1940 threatened the site and the cabin was torn down and moved to a safer location by Park personnel.

The NE Rift Road

Toward the end of the second World War, the road popped up again. On June 28, 1944, Territorial Land Commissioner A. Lester Marks wrote to Superintendent Wingate asking about the status of a road alignment shown on a map he had found. Wingate replied that nothing had been approved by NPS in Washington, the line was a kind of by-product of the 1925 survey to determine the taking lines of the Mauna Loa strip acquisition, and the nearest thing to a road was an authorization to build a truck trail to 7000 feet for administrative purposes, completed by the CCC in September 1936. Pressure for a summit road via the strip was again growing in those Territorial offices which remembered that the strip lands had been

* Old file: 620-04, Oct 4, 1951, I.J. Castro to Director, Region Four.

expressely set aside for such a road.

No new road was built, but the Superintendent's Report for August 1949 indicates that at least the lower 5 miles of the truck trail had been re-aligned, the first work done on it for over ten years.

A related event entered the Mauna Loa road picture at this time, in the form of the Kalapana Extension. The NPS had built the Chain of Craters road on the expectation that the County of Hawaii would build a connecting road on through to Kalapana on the shore. This road had never been built, and now the NPS was seeking additional lands in the Kalapana area. Service intentions in this proposed extension were viewed with suspicion by some local residents. The Mauna Loa road gained support within the Service as a public relations gesture to "keep faith" with the people of Hawaii.

A road all the way to the summit, however, still failed to win the approval of NPS personnel, and it could now be pointed out that recent eruptions would have destroyed sections of any summit road built to the proposed alignment. The NPS took a position opposed to the summit road on the following grounds: 1) with cattle out of the strip, the Nene and koa were coming back; 2) lava flows would block a summit road and endanger visitors trapped on the upper slopes; 3) the scenic views were of doubtful value at the higher elevations; and 4) the summit should be set aside as a primitive area. On April 8, 1949, Director Drury made NPS position clear when he wrote to the Director of Region Four that "the portion of

the Article...quoted by you, is interprested by the Service as being permissive rather than mandatory so far as it concerns the construction of a road to connect the main portion of the park with the one isolated area at the summit of Mauna Loa."*

If the NPS would not build a road up Mauna Loa, someone else would have to do it. Road enthusiasts found a friend in the Director of Institutions, Thomas B. Vance. Vance had recently established the Kulani Prison Camp in the fern jungle between Olaa and 29 miles, over the loud protests of Volcano area residents both inside and outside the Park who pointed out that the site was less than three miles from their homes. The fern jungle was considered sufficiently impenetrable to dissuade prospective escapees from fleeing the unfenced camp, and the atmosphere was to be rehabilitory in nature. The site had been selected in part because of its fine stand of koa trees, raw material for the camp's craft program. Vance felt his charges could contribute labor on a Mauna Loa scenic highway, thus providing them with useful work, and the Territory and general public with a desirable new road. The plan was to proceed up the mountainside from one of the rough roads developed by the military during their World War II occupation of the saddle area.

The Hilo Lions Club took up the Kulani road as their project for the fiscal year ending June 1950. They provided the gas for two bulldozers operated by Kulani inmates. Governor Stainback urged the Territory to build up the Kulani

* File: 361-01, 1949-51.

area, and to use Kulani prisoners to build the Mauna Loa road. The Kulani budget included the road item. Stainback's successor, Governor Oren Long, was reported in favor of the Kulani road. Hunters rejoiced at prospects of better access to the saddle area hunting sites; winter sportsmen visualized ski lifts on both Mauna Loa and Mauna Kea.

The land over which the Kulani road would pass was in a Territorial Forest Reserve; the NPS had administration over only the area above 13,000 feet. Although the Kulani road had almost silenced requests for a summit road via the strip area, NPS policy dictated a strip alignment IF a summit road had to be built. Local Park personnel continued to point out to road enthusiasts that even a Kulani road would be subject to eruption damage [the road was to follow the NE rift zone], and would not provide fast access for scientific personnel. They also pointed out the probable destruction of scenic values by opening a road; the high cost of construction, operation and maintainence; and the fact that supervision of that portion of the road which ran through Park lands would be a major problem, distant as it would be from Park headquarters at Kilauea.

In Hilo popular support for the road remained high. The Hilo Women's Club was considering a botanical garden along the way. The Hilo Lion's Club was thinking in terms of a Summit Lodge to be maintained by Lions for Lions in the heart of the winter-sports area.* By December 1949, the road was

* AH, Long, Institutions, ML road: Thos. Vance to Charles Goo, May 23, 1951.

a rough jeep trail, 10 feet wide with a 6% grade, pushed through the easily worked aa lava to about the 7500 foot level.

During 1950, continued funding of the project seemed in jeopardy. The Territorial Legislature was unwilling to approve the entire road sum Vance had included in his Kulani budget, and the Bureau of Public Roads felt the project was not suitable for their consideration. Then, in early 1951, another group announced plans for the Mauna Loa summit.

On February 15, 1951, the Honolulu Star-Bulletin ran a news story giving details of plans for a UCLA geophysics group to establish a Weather Observatory on the summit of Mauna Loa. The site was ideal, being well above the level of sea-shore pollutants. Businessmen visualized the start of a multi-million dollar project, with the Mauna Loa summit an excellent scientific laboratory for research in geophysics, geology, volcanology and astronomy. Such a development would be of commercial benefit to the Territory. All that was needed for full development of these grand scientific opportunities was access.

This was not the first time the scientific value of the Mauna Loa summit had been suggested. On May 31, 1938, Stephen B. Jones, Professor of Geography at the UH had written to Wingate that an outgrowth of the "motorcycle" road to the summit might be a meteorological observatory on the mountain. He noted that as early as 1904-05 such an observatory had been discussed and the Pacific Science Conference in 1920 had advocated the Mauna Loa station. Such a project, he

suggested, would have the support of the Army, Navy, PAA, Weather Bureau and HSPA.* Two months later, on July 6, Robert G. Stone of the Blue Hill Meteorological Observatory (operated by Harward University) wrote Wingate about including a Weather Bureau station when the Mauna Loa observatory was build (i.e., the summit cabin repaired and rebuilt.) Wingate replied, per Acting Superintendent Moomaw, that while an observatory would be desirable, the building contemplated was far too small and access was via 30 miles of trail. The tone of this letter suggests that other requests for space in the building had already been received.**

The summit sites selected for the Weather Observatory project, however, did not meet with Park approval. Superintendent Oberhansley noted that the main quarters for the project were at 12,850 feet -- outside the Park boundary -- with a small underground structure at the summit. He felt a road terminating at 12,850 feet would be best for the Park, with a trail on to the summit. Possible joint use of the summit location by the staff of the Volcano Observatory was rejected -- they preferred the rest house site -- but a road to even 12,850 feet would be of help to the volcanologists.*** The Weather Bureau, which was funding the UCLA project, continued to press for a summit road for "administrative purposes" on the grounds that even the one mile trail from the NPS boundary to the summit lab would "impose an unreasonable hardship on

* File: 631-02, 1925-48.
** File: 14-14-9.
*** AH, Long, Institutions, ML road: Oberhansley to Simpson, Weather Bureau, May 21, 1951.

the lab personnel." A summit road, with a gate at the NPS boundary, was proposed.

While Superintendent Obserhansley was attempting to determine who was running the Weather Bureau Observatory project and what their requirements were, Vance was pressing the Territorial Legislature and the NPS for a road to the summit, to open up the scientific research possibilities atop Mauna Loa (and incidentally, the public recreation ones. Vance found no difficulty in reconciling these two uses of the summit.) On May 16, 1951, he sent three proposed road access routes to Oberhansley. Two crossed Park lands and would provide a "loop" escape route in case of volcanic activity, a contingency the NPS indicated was a reason for their refusal of the summit road project.

At this point the road ran into another delay. The Korean conflict had created a tight money situation and allocated funds were not being released by the Governor. Since the Weather Bureau interest, the project began to look like a Federal project and not of much local value or interest. On July 11, 1951, Adams, the Acting Treasurer of the Territory of Hawaii, wrote to Vance that the Governor's credit restraining committee had disapproved release of $75,000 for the Mauna Loa road, citing the Federal rather than Territorial development of the area and pointing out that for the Territory to undertake the road project would be speculative.

Nevertheless, on August 22, 1951, the NPS signed a five

year contract with the Territory of Hawaii giving the Territory a Special Use Permit and authorization for construction and maintainance of that portion of the Mauna Loa road within the Mauna Loa section of HNP, especially including an escape route. This contract developed out of the Weather Observatory project proposed for the 13,500 foot elevation and the SUP was to be incorporated into a general permit to UCLA. The Revocable Use Permit for the summit of Mauna Loa ran from August 1, 1951 to July 31, 1956. It was for a road to the proposed Observatory and an escape route therefrom. The final road locations would be determined jointly by the NPS and a representative of the Territorial Department of Institutions, i.e., Vance. The proposal would include traffic control as deemed necessary by the Superintendent. A SUP to the Weather Bureau to construct, maintain, and operate a meteorological observatory on the summit of Mauna Loa was also issued. (Details of these transactions were not available.)

During 1951 and 1952 Kulani inmates continued to work on the road under the direction of Vance, who remained enthusiastic about a sports development above 12,000 feet. Arrangements were made to use cinder from Park lands and various controls were suggested to keep unauthorized persons out of the area. As of August 1951, a "passenger" road had been completed to 9000 feet. Vance hoped to have a 4-wheel drive trail to the lab site ready by October 15, and a passenger car road to the summit ready by the following

summer. By fall of 1952, both Vance and Oberhansley agreed that the road was still "very rough" even for 4-wheel drive vehicles, and heavy visitor use of the area was not yet likely. The road was into the Park but well below the summit, having reached 11,000 feet in August.

Lack of funds and a delay in establishing the Weather Observatory halted road work and little more is heard of the project until 1956. On April 12, 1956, the Secretary of Commerce wrote the Secretary of the Interior on the re-establishment of the Mauna Loa weather station per the Revocable Use Permit issued by HNP. A statement from the Weather Bureau outlined their two-step program. First, a station at 11,000 foot level, outside the Park, developed by the Weather Bureau and the Bureau of Standards; and, "ultimately" (when funds were available and plans developed) transfer the observatory program to the summit. Personnel would reside at the 11,000 foot level and the trail would be improved to permit transportation of men and equipment. Mauna Loa was superior to both Mauna Kea and Haleakala because of its smooth dome, and it would have to be kept a wilderness area for best scientific readings. The summit part of the program would not be ready until fiscal 1957 and the Secretary of the Interior withheld final approval of any extension of the Weather Bureau's SUP, due to expire July 31, 1956, until specific locations and responsibilities could be agreed upon.*

* File: L-30, 1/1/54-21/31/59. Federal Records Center, SF.

The Weather Bureau went ahead with their station at the 11,000 foot elevation and on July 17, 1956, Roy L. Fox of the Weather Bureau wrote to Superintendent Wosky to ask if anything forbade a group other than the Territory from building a road within the National Park, specifically a road from the slope observatory to a summit observatory. Wosky replied that the Territory still had a Special Use Permit to build a road along the desired alignment but any proposed summit road had to include an "escape" route before it could receive NPS approval. Nothing more is reported from the Weather Bureau on the road extension or on a summit observatory.

During 1956 Lorrin P. Thurston noted the lack of a Mauna Loa road in the Park development plans and initiated a series of letters to press for its inclusion. The Service replied that it was concentrating on the Chain of Craters-Kalapana road and suggested Mauna Kea, rather than Mauna Loa for scientific and winter sports development on the grounds that Mauna Kea would be cheaper to develop as it had no volcanic unpredicatables requiring multiple escape routes. Then in 1960 the Hilo Lions Club again took up the cause, urging a road up from the Weather Bureau station on to the summit, outside the Park. Interest died again quickly, although the NPS prepared a summary of the proposals to date, and the Director reiterated Service policy against a public road to the summit.*

* File: D30, Dir, NPS to Supt, HNP, Dec. 5, 1960.

Late in February 1963, news of a Mauna Loa road appeared in the press with article in the Honolulu Advertiser on the 27th and the Hilo Tribune-Herald on the next day. A road was to be cut across from Puu Nene on the Saddle Road to connect with the old road beyond Kulani, shortening the distance to the 11,000 foot Weather Bureau observatory by nearly half. This work was to be done by the Atomic Energy Commission, which had developed an interest in the Weather Bureau site. It was pointed out that with adequate access, Mauna Loa (and thus Hilo and the island of Hawaii) still had a chance of capturing some of the lucrative scientific research projects going to Haleakala. Superintendent Johnston quickly pointed out that Haleakala was a good example of what happens when an area is opened up -- the scientific slum at Science City was already mushrooming. The Hilo Lions Club, however, retained their idee fix of a passenger road to the summit. They prepared a history of the Mauna Loa road, Kulani route, noting their support since 1948. They wrote Hawaii's Congressmen for aid in getting the Park to improve the incomplete road through Park lands (according to the agreement under which it was built, the Territory was to maintain it), and asking for a renewal of the right to entry to Park lands. These letters found their way to the office of the Director, NPS, who replied on May 1, 1963, giving details of the 1951 Special Use Permit, and the NPS reasons for continuing the policy of keeping Mauna Loa a wilderness.*

* File: D30, March 20, 1963, May 1, 1963.

To publicize their cause, the Lions arranged for a dedication of the new Mauna Loa road on April 28, 1963, followed by a procession of cars up to the Observatory. The public was invited, but a sign-up was necessary as permits to pass were required. The Advertiser's report of this venture was not overly enthusiastic. The views were not that grand, the weather was bad, car trouble was a possibility, and permits to cross were necessary from the Department of Fish and Game. As of June 11, public travel to the Weather Bureau observatory had averaged less than two dozen a week and by July 21, the Hilo Tribune-Herald was reporting the road impassable to the average car.* The Weather Bureau did not need a good road for their purposes, nor did they have the funds to keep a passenger car road in repair.

By November 1966, the Weather Bureau was complaining that dust raised by the road was creating a problem at their observatory, and Governor Burns refused to release the $70,000 approved by the 1963 Legislature for a Mauna Loa road on the grounds that the Legislative appropriation was more for hunting access than for an observatory or Mauna Loa scenic road. Current interest in a Mauna Loa-Saddle Road seems to stem mainly from hunting groups.

The 1968 Scenic Road proposal did not suggest a road to the summit of Mauna Loa, but rather a road around the flank of the mountain to Kona, with a side trip to Hualalai. The

* File: D30, FTJ to Dir, Region Four, June 11, 1963.

idea of a flank road was first suggested by Jaggar in a letter to ex-HNP Superintendent Boles on September 10, 1937. He felt a road with the summit crater as the destination was "half-baked" and proposed a scenic roadway up the NE slope and along the whole length of the rift belt, emerging at the koa camp roadway in Honomalino to join the belt road. This proposal would open up areas of Hawaiian antiquities on the rift, a more interesting prospect than mere lava fields. Jaggar felt at that time that he and Wingate were the only people who had a proper understanding of the possibilities of Mauna Loa.*

Another flank road proposal surfaced during the Kulani road project in the late 1940's. The Hilo Lions Club suggested a road from Olaa over the Stainback Highway to Kulani Camp and on around the flank to the west. The NPS challenged this proposal on grounds of cost and the possibility of eruptions damaging the road.

* File: 631-01, Sept. 10, 1937.

ADMINISTRATION

Jurisdictional matters

The legislation establishing the Park did not spell out matters of jurisdiction over Park areas. According to Superintendent Boles' April 1922 Report, "The letter from Secretary Lane to Director Mather dated May 13th, 1918 will govern the policies of the Hawaii National Park."* The leased lands by Solicitor's Opinion were not under Park jurisdiction until the leases expired, but fortunately, there were no particular problems with the headquarters area house leases. The KMC, VHse and Kapapala Ranch leases are discussed elsewhere. Prohibition matters were handled by the "Prohibition office" and the U.S. Commissioner. At least one bootlegger was hiding his wares in the Park tree ferns and a lady bootlegger worked briefly out of the Mana Transportation Company garage near the VHse. Vandalism of Park flora was controlled by making the driver of the car responsible for the conduct of his passengers, and apparently the Superintendent could forbid offenders the right to return to the Park.

Jurisdiction over the in-Park portion of the Mamalahoa highway became an issue in 1924 during the explosive eruption in May of that year, when Superintendent Boles asserted his right to control the highway by closing it to traffic. Hilo businessmen held the view that the highway was under the

* Not found.

control and administration of the municipal authorities. Governor Wallace R. Farrington finally wrote Director Mather on the matter and on March 28, 1925, the U.S. Solicitor returned an opinion that held Park roads to be clearly under the administration of the Secretary of the Interior.*

The next problem arose in connection with the Baldwin case in 1928. A case of criminal assault in the Park was investigated without enthusiasm by the Hilo police. When the Park administration sought Federal intervention, the U.S. Attorney gave an opinion dated December 31, 1928, which held that the U.S. did not have exclusive jurisdiction in HNP, and thus the U.S. Attorney's office could not carry on an investigation in the Baldwin case. It had been assumed that the Park legally had retained exclusive jurisdiction. As this was now found to be not so, the Park was in the position of being unable to prosecute in U.S. courts any violations of its rules and regulations. The 1925 decision giving jurisdiction over the roads to the Secretary of the Interior was not expanded to cover other portions of the Park, and in January 1929, Superintendent Allen requested the Director, NPS to see if Territorial legislation could be obtained, ceding this exclusive jurisdiction. In September of the same year, he asked the Director to introduce legislation in Congress giving the U.S. government exclusive jurisdiction over areas included in HNP. (The case of

* File: 1-1-3.

Ranger George Douglas had been dragging along since May of 1929, and the even earlier Baldwin case was still unresolved.)

An Act providing exclusive jurisdiction by the U.S. over HNP was approved April 19, 1930 (49 Stat 227). The Act exempted from jurisdiction only the right to serve criminal and civil processes for crimes committed outside the Park and the right to tax persons and corporations. All laws applicable to areas under U.S. administration were in force in the Park. Fugitives from justice would be subject to the same laws as those found in the Territory of Hawaii. There was no mention in the Act of voting rights, a major concern later at Mt. Rainier National Park. The Jurisdiction Act also required the Secretary of the Interior to advise the Governor of Hawaii when exclusive jurisdiction over HNP was assumed.

On October 26, 1931 Superintendent Leavitt wrote the Director, NPS asking about the appointment of a U.S. Commissioner for the Park. The Director responded on November 14, noting that the Governor had not been notified and would not be notified until a Commissioner had been appointed to assume the exclusive jurisdiction over the Park. In short, the Park was in the same situation as before passage of the Act.

The problem lay in locating a suitable candidate for the $2000 a year position of U.S. Park Commissioner. As early as June 1930, Superintendent Allen had submitted to

the Director a list of possible candidates, most of whom were interested if they did not have to give up their other work and go to live in the Park, a requirement under the Act. Feelers were out for a retired person with Natural History interests who might be the Commissioner. An Army man, a scientist and a clergyman were rejected for lack of legal training. A lawyer, however, could not afford to leave his other responsibilities, and a retired person could not afford the outlay necessary to maintain a house at the Park. The matter of housing was then presented to Territorial Congressional Delegate Victor Houston who promised aid in funding quarters for a Commissioner. These quarters were ready by July 1931, but no Commissioner had yet been appointed by February of 1932, the question now being how to provide for the Haleakala section of the Park if the Park Commissioner lived at Kilauea.

During spring 1932 an amendment to the Act of April 1930, allowing the Secretary of the Interior to appoint a Park Superintendent to be U.S. Commissioner at no extra salary, was passed by the Senate but Congress adjourned before the House could act. The difficulty with this proposal was that most complaints were made by the Superintendent; a second similar proposal to allow the Superintendent to serve as Commissioner for the Park and bring cases before the nearest other U.S. Commissioner also failed in Congress on the grounds that it combined administrative and judicial functions. In the meantime, Superintendent Leavitt had

worked out with both the Hilo and Wailuku U.S. Commissioners a plan to handle all cases brought before them which had the approval of the local U.S. Attorney.

The essentials of this plan were introduced by the Secretary of the Interior as an amendment to the Act of 1930 in 1934 as H.R. 9153. A similar plan, H.R. 5805, finally passed as Public Bill 726 of the 75th Congress, and was approved on June 25, 1938. It provided that during such times as there was no U.S. Commissioner at HNP or when the Commissioner was unavailable, any U.S. Commissioner duly appointed for the U.S. District Court for the Territory of Hawaii and residing in the District was to have full authority and powers, was to be paid necessary travel expenses, and so forth. This amendment gave to U.S. Commissioners other than just the U.S. Park Commissioner, duties beyond those of a mere committing magistrate when dealing with HNP problems.

While awaiting final action on the amendment, the new Park Superintendent, Wingate, was advised by Director Tolson that on April 30, 1935, by Order No. 3650, the Secretary of the Interior had approved abolishment of the position of U.S. Commissioner for HNP, effective as of June 30, 1935. Wingate asked for the re-establishment of the Park Commissioner, noting that prompt hearings were impossible and enforcement a farce. He hoped for legal aid actually in the Park, especially in view of the problems expected in working out a new KMC lease. Wingate was reminded that he had not included a Park Commissioner position in the 1935 budget; it

was included in both the 1937 and 1939 budgets, but remained unfunded.

Legal matters had not greatly improved under the provisions of the new amendment. In August 1938, U.S. District Court Judge S. C. Huber wrote Superintendent Wingate to point out that a Commissioner could not issue a warrant of arrest without the approval of the District Attorney. Although this did not apply in all cases, it did in so many as to be a wise precaution, he wrote. The following June, Superintendent Wingate was engaged in corresponding with J. Akau, the U.S. Commissioner at Hilo, on the latter's inability to do more than bind over some CCC boys for petty larceny. Since their violation was not specifically covered by Park rules, the judge could not dispose of the case.

Nobody questioned the jurisdictional prerogatives until after the war when local businessmen began transporting tourists around the Park without permits, claiming local jurisdiction over the roads. Superintendent Wingate, writing in December 1945, felt the matter of jurisdiction over the roads was clear [and had been since 1924] but asked for evidence that the U.S. had exclusive jurisdiction. He found that the provision in the 1930 Act requiring that the Governor be notified when the U.S. took over the exclusive jurisdiction had never been fulfilled. Director Tolson replied that there had been no notification because no Park Commissioner had ever been appointed, but that the Act was self-executing in establishing such Federal jurisdiction.

Tolson also asked for the details on when Park personnel first began the exercise of police jurisdiction within the Park by the arrest and prosecution of law and regulation violators. The records showed a series of cases, most of them brought before the Commissioner at Wailuku, dating back to August 1936. The Director commented that perhaps the Governor should now be advised, but there is no record that this was done.

Superintendent Oberhansley followed Superintendent Wingate in asking for the immediate appointment of a Park Commissioner, as the Hilo Commissioner was not sympathetic to handling cases in the NPS manner. The Regional Director, writing in January 1947, suggested talking with U.S. District Court Judge D. E. Metzger to get his views of the matter, and if he and the Superintendent agreed, to submit the name of a candidate. If was further suggested that Metzger might be able to help, even without the appointment of a Park Commissioner. In April, the Interior Department gave its approval to new legislation to allow the appointment of U.S. Commissioners for several parks by the U.S. District Courts, without the prior approval of the Secretary of the Interior. This presumably passed Congress; in December 1948, Judge Metzger, in a letter to Harry Irwin, U.S. Commissioner at Hilo, wrote that there should be a request from Park management for the appointment of a non-resident Park Commissioner before the judges acted to name one. Yet the next spring, Metzger hesitated to appoint a full-time Commissioner as there were

so few cases, and Irwin, who had been a candidate for the job as far back as 1930, continued in his single capacity of Hilo Commissioner until mandatory retirement on June 30, 1950. And in November 1950, Superintendent Oberhansley wrote to Irwin that after discussion with the Regional Office, it had been agreed that there was no need to appoint even a Resident Commissioner for the Park, a job for which Irwin had applied after his retirement.

/Files covering this subject for the decades since 1950 have not been located./

Accidents

In-Park accidents at Kilauea have rarely been fatal and most frequently involve visitors to the Park who get lost in the fern jungle, mainly in the Thurston Lava Tube area. There have been a number of auto accidents, usually two car crashes, or autos which somehow go off the road into the caldera.

One non-fatal accident resulted in legal action. On August 3, 1955, an elderly KMC guest, Mrs. Elizabeth Simpson, aged 78, slipped on the Lava Tube trail and broke her left femur. The preliminary report indicates she had cut across a switchback on a steeply rounded pivot point to avoid the group gathered on the flat point of the switchback. The area had recently been resurfaced and handrails installed to give support and to prevent such shortcuts. In November, a claim was presented in the sum of $4,985.49. Claims of over $1000.00 however, must be handled by the District Court;

an amended claim was then submitted for $991.31. The Field Solicitor denied this claim on the grounds the injury had been caused by the visitor not using due caution. An appeal was entered, the injured party now claiming she did not cut across the switchback, it was muddy, and the crowd was pushing. A point was made of the fact that the Park administration, immediately after the accident, had instituted new security measures for this trail, which the complainant claimed indicated an admission of responsibility on the part of the Park. The claim was again denied in August 1956.*

Fatalities in the Park to August 1966 include two auto-related deaths, one death due to volcanic activity, one spectacular murder-suicide, and a series of other suicides, either planned or accidental. Of these thirteen fatalities, 6 involved KMC personnel; 5 involved walking into either Kilauea caldera or Halemaumau crater.

The death due to volcanic activity involved an amateur photographer who ignored protective barriers and various warnings during the explosive eruption of May 1924 and was killed by a flying boulder when 2000 feet away from the pit. There is little information on this case in any of the files.

The highway deaths occured on May 25, 1945, when a Sgt. Johnson of KMC was killed while riding a bicycle which was struck down by an automobile; and an auto accident on April 17, 1966, resulting in the death of Miss Fannie Howe, a visitor. This accident apparently involved a Volkswagon

* File: A7623.

auto driving on the new Mamalahoa by-pass road, and pointed up the immediate need for clear jurisdiction over this section of the road. [Particulars on both cases not in available files.]

Two cases during the 1930's were the most spectacular. On Monday, September 29, 1930, Pvt. Michael Rubenstein of Fort Shafter, a visitor at KMC, hiked to the seashore across the Kau desert in company with 3 other soldiers. They went farther than planned and Rubenstein was reported exhausted, so he and two others remained overnight at the shore while the 4th man returned to KMC for help. Next day, his two companions were located on the trail back, but Rubenstein was gone and could not be found after several days of searching. He had reportedly been drinking sea water against all advice, and there was divided opinion as to whether he had wandered off, crazed, or had tricked his companions and gone AWOL. His father offered a reward of $500 for his son, dead or alive, but after a final search of the Kau area by Army planes on October 3, the search was abandoned.

Then on July 10, 1935, a skeleton was found in the Kau desert by a CCC crew constructing a trail from Mauna Iki to meet the old Kalapana-Kau trail. The body was probably male, was found associated with various military type material -- shoes, buckles, canteen -- and had been there for some time. There were no signs of violence, and the body was lying on a small knoll with the weight on the left hip, the canteen 30 feet away, 1/3 full of sea shells. The body was returned to

KMC and then sent on to Honolulu for additional study. [No final report located.*]

The other spectacular case occured during June 1932 and was triggered by a Sylvester Nunes of Hilo, kidnapping his youthful sweetheart Margaret Enos from high school. She was then shot to death and with her body Nunes jumped into Halemaumau crater. The crater was inactive, the remains were visible, and both the National Park Service and the involved families preferred a more suitable burial site. The two bodies were finally recovered by Mr. Rikan Konishi, a Japanese contractor, after 10 days of intensive effort, which involved the erection of a cable across the pit, 3500 feet in diameter, and the lowering of a cage to the bodies resting on the talus slopes about 850 feet below. Konishi had contracted to do the job for $1000, but expenses were nearly twice that much. Hilo County Supervisors gave $1000, the NPS $500, and another $1113 was raised by subscription. There was much cooperation throughout, and the event brought great numbers of visitors to the Park, along with a great deal of publicity.

Chronologically, the other known Kilauea fatalities are as follows:**

1948, February 18, a double suicide at Uwekahuna Bluff involving Tozeno Takayama, 49 and Mrs. Gladys Sakai, 39, both of Honolulu. A suicide note by the woman indicated they were

*See: Superintendent's Report for September 1930; and also correspondence between Army Surgeon Wood and Ranger Christ, Ranger Christ and Wingate, both dated July 12, 1935.
**See Files: 801-01.2 and A7623.

preparing for death by carbon monoxide poisoning in a rented car due to romantic difficulties.

1949, April 27, during the evening, Lt. (USAF) A. H. Stephens, a KMC visitor, drove his car out on the steam flats to the old Peter Lee road. He got out and, apparently lost, walked over the edge of the cauldera where his body was recovered from a ledge 250 feet down two days later. His wife had remained in their car with the lights on and sounding the horn, but could attract no aid until dawn.

1952, August 29, an elderly Japanese man, Kanichi Oki, 64, of Honolulu, walked into Halemaumau crater. Footprints at the site suggest no hesitation or slipping. His family agreed to burial in the crater and after a Buddhist service, the body was covered with gravel poured over the rim.

1958, November 4, Pfc (USMC) Robert E. Nelson, 19, left his roving security patrol at KMC, apparently to take the lounge receipts to the safe. He did not rouse his relief at 11:30 p.m. and was not found until early the next morning, below the cliffs at Uwekahuna. At the site was a Navy sedan with the lights on and engine running, but with battery dead and gas gone. The lounge receipts were in the car, undisturbed. Death was due to an apparently accidental fall into the cauldera, some 246 feet beyond the car in line with the headlights.

1962, May 31, Spec. 5, US Army, Christian H. Bausa, 30, was found dead at KMC. He had hanged himself with a GI belt from a corner of the wall locker in his quarters, a site

which required the victim to crouch in order to clear the floor. The apparent reason was depression while drinking.

1962, July 20, a missing Honolulu man, Nobujiro Tanigawa, 76, was the object of a major search. On July 18, he had written a despondent letter to his son, indicating he was planning a suicide in such a way he would not be found, and that he didn't want a search or a funeral. The Park administration learned of the case when his son contacted the Hilo newspapers. The search was called off on the 22nd with the relatives satisfied continued effort was hopeless.*

The Superintendent's Report for August 1964, reported a KMC Marine had accidentally killed himself while showing the safety features of a loaded pistol.

Park personnel problems

The Park suffered a series of personnel problems in the early years, starting with its first Superintendent, Thomas Boles.

The Superintendent's job itself had apparently become something of a plum, and Boles' personality made him the wrong man at the wrong time. In a 1935 letter to Superintendent Wingate, De vis Norton, an active Hui O Pele and HNP supporter but himself a prickly person, wrote that Mather had offered him the job of first Superintendent of the Park, but he was not at the time a citizen, and when he became one, there was "so much wire-pulling going on in Honolulu for various favored persons that the best way out

* A body found in a pit crater the spring of 1972 may be that of the missing Tanigawa.

of it was to send down a mainland highway engineer. Boles was the result and -- a year later -- Kauai threatened to close the island to tourists altogether if any effort were made to include Waimea Canyon in the Park and place it under the jurisdiction of Boles."

In April 1924 Channing T. Lovejoy replaced P.T. Phillips as VHse manager. Boles and Phillips had not been particularly friendly and in December 1923 Boles had written Director Mather asking for a transfer to another park, as the VHse manager was making life miserable for both the Superintendent and his wife. Part of the problem was certainly due to a lack of housing for the Superintendent, who used per diem allowance to rent quarters at the VHse. Mather wrote back saying Boles was to stay where he was and keep on with the work. Otherwise, the Concessioner and not the NPS would be running the Park. He told Boles to get in touch with Kennedy, President of Inter-Island Steam Navigation Company (operators of the VHse) and explain that the Park would not tolerate such conditions, and if they intended to do business with the U.S. for a continuation of their franchise, they would have to conform to NPS requirements.* The NPS was on difficult ground because this lease, like the others inherited from the Bishop Estate, allowed the new lessor no control of the area and there was at the time no way the NPS could force the VHse to conform to Park requirements.**

* File: 900-01, Dec. 14, 1923.
** File: 900-01, Report of Dec. 12, 1923 from Solicitor to the Secretary of the Interior.

Boles stuck it out, but his relations with Lovejoy were not much of an improvement. By 1926 a series of petty quarrels brought Assistant Director Cammerer to the Park to see what could be done. He advised Boles that Lovejoy and wife, and the Assistant Volcanologist Ruy Finch and his wife, were all well liked and had not undertaken a spite program against the Boles'. He reported the Superintendent as "earnest, hardworking, and an economic administrator by reason of his engineering knowledge, but by reason of his temperament he cannot remain superintendent of Hawaii National Park, nor can he be further considered as superintendent of any national park where contact with the public is important."* Boles had a good sense of the scenic and a well-developed publicity sense. Cammerer recommended that Boles stay at the Park until July 1926, then return to the coast for a non-public assignment, or resign. Reporting on the situation, Cammerer also recommended an increase in the superintendent's salary from $3000 to $3600 per year due to the high cost of living in Hawaii, and he noted that a superintendent's house was being built which should eliminate one source of possible friction.

Boles did leave Hawaii and went on to other positions within the NPS, most notably at Carlsbad Caverns, New Mexico. His Service rating, begun in 1941, was consistently "Very Good," and always high in "Meeting and dealing with others," "Presenting ideas and facts." Amongst oldtimers of the

* Cammerer Report, 1926.

Volcano area, Boles is remembered for looking upon the area as "his" Park, and for erecting a prodigious number of signs, most of which were deemed unnecessary.

The next difficulty centered around a park ranger named Robert I. Baldwin. A Hilo teacher, he was appointed summer ranger from June to August 1927, and in October of that year, passed the Civil Service exam for ranger. He refused to accept a fulltime ranger position, but was re-employed for the summer season and with his family moved to the Park.

According to the Superintendent's Report for July 1928, at about 8:30 in the evening on the 21st, Mrs. Baldwin was criminally assaulted in front of her cottage by a man who threatened her children if she made any outcry. No report was made, therefore, until her husband returned from Hilo a few minutes after midnight. Patrols were promptly sent out and KMC alerted. All soldiers at the Camp were examined and the departure of one group, scheduled for the following day, was delayed pending the investigation. There was strong feeling that a soldier was involved, and Park and neighboring residents requested police protection. Later, the theory grew that the act was retaliation for Baldwin's interference with the liquor traffic across the Park. It was also suggested "by persons with habits of drink" that Baldwin himself had done it for the sake of the publicity, and "it has pleased many persons to accept the last theory. It leaves the case a national park affair and excuses the Hilo police for not catching the culprit." A reward was posted

for the arrest of the assailant (to the sum of $632.50 in contributions) but no one was ever charged. During August the Hilo police "continued to foster this theory [of Baldwin's guilt] and to participate in a wide whispering propaganda and finally announced that they had dropped the case."* The Superintendent radiod the Director for help, especially legal aid, and succeeded in initiating a new investigation. The result of this was advice from the District Attorney's office to keep quiet and let the affair die. The case was again closed. Baldwin resigned the end of August and returned to his teaching post. A mild investigation by the Hilo Detective Department continued, but Baldwin continued to protest the insinuations and implications against himself. The case was never re-opened.

A third case was that of George D. Douglas. With the opening of the Uwekahuna Observatory in 1927, a Ranger Naturalist was assigned to provide lectures and information at that location. In October, George Douglas of Honolulu passed the necessary exams and was scheduled to take over the Uwekahuna post as soon as the details of his transfer could be completed; he had been working as Jaggar's assistant, employed by the HVRA. In November 1928 (while the Baldwin case was still simmering) Douglas was left in charge of the Park as Acting Superintendent until the arrival of the new Superintendent, Thomas J. Allen. Then during the week of May 5, 1929, while Superintendent Allen

* Superintendent's Report for September 1928.

was absent from headquarters, his residence was entered and nitric acid scattered about. Ranger Douglas was suspended on May 17 on charges of inability to perform the duties of ranger-naturalist and reglect of his duty as a ranger. He was arrested on May 30 on a complaint by the Assistant District Attorney and held under a charge of attempted rape of a Park laborer's young daughter. Unable to raise bail, he was held in jail until June 1, when the U.S. Commissioner ordered him released on grounds on insufficient evidence. He was also under arrest on a Territorial charge of unlawfully entering a Hilo residence at night. On June 21, he was indicted by the U.S. Grand Jury on charges of stealing official correspondence from the HNP office. At a special session of the Territorial Grant Jury held July 10, he was indicted on 3 counts of malicious injury to property of the U.S. Government, the Superintendent, and the Superintendent's wife; and one charge of unlawful entry to the quarters of a Park laborer. His bond was $1759 for those counts, and $1250 on other charges.

The trial of George D. Douglas, under indictment for malicious damage to the Superintendent's residence, occurred January 16, 1930. A verdict of not guilty was returned. Failure to prove was held due to the eight months delay in bringing the case to trial and consequent confusion of witnesses.

The Alex Lancasters, father and son, were both dismissed from the Park for reasons of drunkenness. Alex Sr., a Cherokee Indian, had served as guide when Jaggar first came

to the Park, and was taken on as official ranger by Boles. He was finally recommended for dismissal after being suspended on June 21, 1928 for "intoxication." He had 47 years experience but his sprees, "notorious for years, were too close together, last being but 8 days apart."

Boles had ejected Lancaster Jr. from the Park in March 1923, convinced that young Alex was a bootlegger and a sneak thief, besides being generally drunk and unruly. Alex was not to return to the Park area, under penalty of arest, without the written permission of the Secretary of the Interior, the Director of the Park Service, or the Park Superintendent himself, any of which Boles felt would be pretty hard to come by.

By the 1930's the situation had improved, but Coffman's Report (June 1, 1937) reviewed the problem of general morale at the Park and came to some pertinent conclusions. There was the feeling, he noted, that once assigned to HNP, one was stuck there. "Transportation costs are too great for a mainland trip on a ranger's salary of $1860, and Hilo, while close enough is too small, and Honolulu too far away and too expensive to take up the social slack. There are few others around of a similar social interest for the young personnel, married or unmarried." He recommended a staff rotation plan, a paid mainland trip for pleasure or duty, or the development of a program to employ local residents for Park work, either as fully qualified rangers or in a limited qualifications "park warden" category.

NPS policy eventually incorporated a staff rotation procedure, and a "home leave" provision became law in 1955 as part of Public Law 737. Local hires have been most successful for staff positions outside the ranger category. And, beginning with World War II, the Park steadily lost the physical isolation that had intensified many of the personnel problems.

Twenty years after Boles' resignation, another HNP Superintendent elected to resign his position after an NPS investigation of his personal relations. If Boles' problem was not getting along, Wingate's was perhaps getting along too well.

Trained as a topographic engineer, Edward Greene Wingate came to Hawaii with a USGS team in 1924, and after a brief tour in Washington, D.C., was returned to Hawaii in June 1931, "in order that he may perform necessary surveys in connection with volcanic studies." He was serving also as consulting physicist and mathematician.

When Superintendent Leavitt, in 1933, sought a transfer to California to be nearer his elderly parents, Wingate's father-in-law, Selby M. Singleton, wrote Interior Secretary Ickes recommending him for Superintendent at HNP. Singleton, a politically prominent Chicago attorney, early in 1932 had asked Ickes to keep Wingate at HVO despite depression staff reductions. "He strongly admires the native Hawaiian race and can speak their language." He had a wife, a child born in 1930, and a residence near the Volcano Observatory.

Director Cammerer apparently approved the arrangement and Wingate was transferred to the Superintendent position in NPS from USGS, effective November 16, 1933.

Wingate saw the Park through the worst of the depression and war years. In the early 1940's he was recommended for President of the Territorial Board of Commissioners of Agriculture and Forestry (by Everett A. Pesonen writing to Ickes) and for Governor of the Territory (by George Lycurgus writing to Ickes.) Wingate himself, in a letter to the Director, NPS,* indicated he had spoken to then-Governor Stainback and would be willing to take the Ag job. He did not want to leave the NPS, but felt HNP at the time, 1942, needed only a skeleton crew.

He remained with the Park, but in September 1943, his family moved to Honolulu. On January 13, 1945, he was married to Eleanor Waianuhea Tam Sing, of Kalapana. On March 26, 1946, the Hilo Tribune-Herald reported his resignation, effective March 31, 1946, although accumulated annual leave extended his actual service time to August 7. Regional Director Tomlinson had arrived in Hilo the previous week, he had talked with Wingate, then wrote the Director on March 25: "As a result of my investigation I was convinced that Superintendent Wingate was no longer a useful and effective official of the National Park Service and so informed him. After considering the matter he decided to submit his resignation, which was forwarded to you March 20."

* Wingate Personnel File, Sept 17, 1942; NARS, SF.

Director Drury "with regret" felt constrained to accept the resignation. Wingate's efficiency report of April 1, 1945 to March 31, 1948 was "unsatisfactory."

The Kalapana area had long been a special concern of Wingate's. He wished to preserve one of the few remaining Hawaiian communities for its residents and felt strongly that the area should not be opened up with a road until it could be provided with some kind of protection, either as an extension of the Park, or as a Hawaiian "reservation." The restrictive fishing regulations and the care taken to involve the Kalapana residents in plans for the Kalapana extension during the 1960's grew from this concern.

Superintendents*

1922, Feb. 20- 1926, Sept. 15 Boles, Thomas, b. January 21, 1881.

Previously an engineer with the Interstate Commerce Commission, Boles began on-the-scene administration of HNP in April 1922. In April 1927 he was appointed custodian of Carlsbad Cave, and remained as superintendent until 1946 when he transferred "home" to Hot Springs, Arkansas, as Superintendent. He retired at the mandatory age 70 in 1951.

1926, Aug- 1927, Jan. 1 Burkland, Albert O. of USGS, Acting Superintendent, HNP.

1926, Nov. 26- 1928, Nov. 15 Evans, Richard Tranter, b. July 1, 1881.

A topographic engineer with the USGS, Evans was transferred to the NPS to replace Boles as Superintendent

* From: Personnel Files at NARS, SF.

at HNP and two years later requested a return to the USGS where he continued his career as a topographic engineer.

1928, Nov. 4- 1928, Nov. 30 Douglas, Geroge D., Ranger, Acting Superintendent.

1928, Nov. 15- 1930, Sept. 10 Allen, Thomas J., b. February 21, 1897.

Allen had worked up from temporary ranger to assistant superintendent at Rocky Mountain National Park before being appointed to HNP. He entered on duty November 21 and remained until September 30 when he was transferred to Zion-Bryce as superintendent. He later served as Regional Director and Assistant Director, NPS, before returning to the field. He retired February 27, 1965, then served as special consultant to NPS until May 1966. He was awarded the citation for Distinguished Service in July 1965.

1930, Sept. 10- 1933, Oct. 9 Leavitt, Ernest Pearson, b. February 23, 1885.

Leavitt was appointed a steno-typist at Yosemite National Park in 1913. By 1918 he had expanded his work to keep up with the developing park and was doing the work of an Assistant Superintendent, to which position Mather recommended him. He remained at Yosemite as Assistant Superintendent for 12 years before his appointment to HNP. He returned to the mainland, to Mesa Verde from 1933-35, Lassen 1935-37, and in 1937 to Crater Lake, remaining there until his retirement on March 14, 1952. He was awarded the citation for Meritorious Service in October 1952, along with a lifetime pass to all NPS areas.

1933, Nov. 16- Wingate, Edward Greene, b. March 2, 1898.
1946, March 31

Wingate also had engineering experience with the USGS before being appointed Superintendent at HNP. After resignation 13 years later, he worked for the County of Hawaii, the State of Hawaii and the City of Refuge NHP in various engineering positions.

1946, March 31- Fagerlund, Gunnar &/or Baldwin, Paul H.,
1946, both listed as Acting Superintendent

1946, June 24- Oberhansley, Francis Reid, b. March 31, 1896.
1953, Nov. 1

Oberhansley began his career as a temporary ranger and worked his way up to Associate Park Naturalist before World War II. His science training was deemed desirable for HNP's needs and his wartime Navy career provided useful military contacts. He was transferred to Grand Teton National Park as Superintendent, then to Zion National Park, until his retirement on August 19, 1965.

1953 Wosky, John B
1959, Feb.

Wosky came to HNP from Crater Lake and moved on to the Regional Office. He had visited the area in the 1930's as a Landscape Architect.

1959 Johnston, Fred T.
1965

Johnston retired from NPS and went to the City & County of Honolulu as head of Parks and Recreation.

1965 Hanneberge, John, Acting Superintendent

1965 Bean, Glenn T.

Bean came to the Park from the Omaha Regional Office.

Miscellaneous staff notes

1922 Staff for 1922 consisted of Superintendent Boles, 1 Ranger, Alex Lancaster, Sr, who had long been a volcano guide, and 3 laborers working on a per diem basis.

1922, March 4: First baby born in the Park, named National Park Tahara.

1922 A lady guide, Miss Barrette of Honolulu, hired as a "temporary ranger" at $3 per day for the summer season.

1923, May 1: The clerk, authorized on March 16, began work.

1927, June 18: Summer ranger appointed (Baldwin) (first?)

1927, June 25: Kirkpatrick from the University of Hawaii and hired by HVRA as curator at Uwekahuna, became Park Ranger-Naturalist on July 1. Resigned August 13.

1928, June: Fred Waltjen, long in charge of roads and trails, and mechanic extrodinaire, declared "too short" for appointment as ranger. Another job description was promptly developed as "Park must have a man of his type."

1928, June: Alex Lancaster, Sr., ranger and volcano guide for 47 years, dismissed for intoxication.

1928, October: Personnel include: 4 permanent, 8 temporary, declining to 5 at the close of the season.

1929, July: Otto Degener of Honolulu, appointed temporary NPS ranger-naturalist pending permanent appointment to the position.

1929, October: Two superintendents during the year; almost the entire staff of the Park changed during the year.

1930 Authorized staff now 9: Superintendent, Chief Ranger, Assistant Naturalist, foreman, clerk, three permanent and 1 temporary (summer) ranger. Naturalist and one ranger position unfilled.

1930 Legislation allowed on-the-scene administration of Haleakala, as soon as an eligible person is available.

1931 Authorized staff now 14, plus 4 seasonal and 5 to 30 on per diem. New appointments for clerk-steno, the previously approved Naturalist (John Doerr, first full-time NPS Naturalist at HNP), and the five permanent rangers. Chief Ranger slot still empty.

1933 Annual Report: Five seasonal per diem appointments made permanent appointive positions, bringing the authorized staff to 23, 6 unfilled, of which 2 are permanent and 4 seasonal.

1934 Annual Report (June): Total authorized positions now 26; Chief Ranger position still vacant; one ranger, 2 seasonal rangers and 3 carpenter positions unfilled.

1935, March 16: Ranger J.H. Christ promoted to officially fill the Chief Ranger position; Ranger J.A. Peck promoted to district manager at Haleakala.

1936, July 1: Jaggar transferred from USGS to NPS as volcanologist.

1937, June 16: Coffman Report discussed personnel and morale.

1939 Two "junior wardens" appointed from Civil Service list; one each to Haleakala and Kilauea.

1940 Jaggar retired and was replaced by volcanologist Ruy H. Finch, who had been Jaggar's assistant from 1918-1926.

1941-45 Staff dropped steadily during World War II.

1946 Fiscal year report notes the year began with 15 regular employees and, after several resignations, transfers and the return of old staff, ended with 17.

1948 Fiscal year report notes 28 permanent and 19 WAE positions authorized, all filled except for one clerk-steno.

HALEAKALA

Haleakala, unlike Mauna Kea, has been dormant long enough for the Hawaiians to develop a body of lore centered around the crater, and to have left evidence of their use of it. In 1920, Dr. Kenneth Emory of the Bishop Museum, made an archaeological investigation and found that the crater contained numerous stone terraces, platforms, various shelters, and a paved trail. Some of these structures may have been heiau dedicated to the worship of Pele; others are almost certainly burial sites, as the isolated location was most desirable. The Bottomless Pit and Na Piko Haua pit were considered desirable places in which to secrete the umbilical cords of Kaupo babies: proper disposition made the child strong but a piko destroyed, or eaten by rats, doomed the child to becoming a thief. Above Paliku a prominent rock served as the "hub of East Maui." From it were drawn the boundary lines running from the mountaintop to the sea which delineated the pie-shaped land divisions.

Maui-of-a-thousand-tricks, Haleakala's demi-god hero, is best known for his feat of forcing the sun to move more slowly, but he aided humans in other ways as well. He made the birds visible. He invented spears and barbed fishhooks and even used one to fish up the Hawaiian Islands. He couldn't get them completely above water so they must remain as several islands. He pushed up the heavens so man

didn't have to stoop anymore. For the plants it was already too late and their leaves remained permanently flattened. For man, Maui stole the art of making fire by rubbing two sticks together, a secret jealously guarded by the mud-hen. He punished the selfish bird by rubbing her head till the feathers came off, and she is bare-headed to this day.

Maui, like man, was mortal, for his father had neglected a vital part of the immortality ceremony. The secret of life was kept by an ogress of death, and Maui sought to gain it by stealing past her jaws into her stomach while she slept, and then tearing it out of her heart. All went well until man, watching all this, laughed aloud. The ogress awoke, and thus ended both Maui and man's hope of escaping death.

Geology

Haleakala was one of two volcanoes that built Maui, a shield-shaped mountain like Mauna Loa today, with three major rift zones. Over the years the mountain grew with layer after layer of pahoehoe lava. Explosive eruptions deposited ash and cinder in cones. When the eruptions died away, water began to carve the mountain, excavating four great valleys and eating away most of the eastern summit area. Kaupo and Keanae valleys finally joined in a single depression. In geologically recent times, Haleakala began to erupt again, sending lava down the east and west slopes of the mountain, filling the central cavity, and even

flowing out the Kaupo and Koolau Gaps to the sea. Finally, cones formed over the easterly and southwesterly rifts to hide the divide between the two great valleys.

Early geologists looked at the great depression at the top of Haleakala and presented several theories and explanations: it was a terminal crater; the depression resulted from a huge explosion; it was a collapsed cauldera, like Kilauea; the mountain was pulled apart in a mighty convulsion, forming two valleys. The most careful surveys by modern geologists tend to support the position that the "crater" is mainly the result of erosion, not of collapse, explosion, or the sliding away of parts of the mountain. The vast size is due to the fact that the two major erosional valleys, each forming with an ampitheatre head, did not meet in a straight line. The whole process was aided by the many dikes in the walls which constantly fed water into the deepening valleys.

Discovery

Captain Cook discovered Maui on November 26, 1778, on his way to Kealakekua Bay from exploring the northwest coast of America. "An elevated hill appeared in the country, whose summit rose above the clouds. The land, from this hill, fell in a gradual slope, terminating in a steep rocky coast; the sea breaking against it in a most dreadful surf. [The] island...was called by the natives...Mowee." In 1786 la Perouse anchored on the south coast in a bay that today bears his name. He found the area "a dismal coast where

torrents of lava had formerly flowed like cascades." He had managed to anchor offshore from the last known eruption of Haleakala, a flank flow dating from about 1750. Vancouver was not much more impressed, finding the area barren, cut with gullies, trees infrequent, and only a few huts with meagre cultivation.

Early Exploration

The missionaries came to Maui and established a station at Lahaina in 1823. In 1828, the Reverend Mr. Richards of this first mission station made the first recorded ascent of "the highest land on Maui" with brother missionaries Andrews and Green. They were advised that the way was long but the ascent easy. On the morning of August 21, 1828, they started.

> Halfway up the mountain, we found plenty of good water, and, at a convenient fountain, we filled our calabash for tea. By the sides of our path, we found plenty of ohelos, (a juicy berry, very palatable,) and, occasionally, a cluster of strawberries. On the lower part of the mountain, there is considerable timber; but as we proceeded, it became scarce; and, as we approached the summit, almost the only thing, of the vegetable kind, which we saw, was a plant which grew to the height of six or eight feet, and produced a most beautiful flower. It seems to be peculiar to this mountain, as our guide and servants made ornaments of it for their hats, to demonstrate to those below, that they had been to the top of the mountain.
>
> It was nearly 5 o'clock when we reached the summit; but we felt ourselves richly repaid for the toil of the day, by the grandeur and beauty of the scene, which at once opened up to our view. The day was very fine. The clouds...were far below us; so that we saw the upper side of them, while the reflection of the sun painting their verge with varied tints, made them appear like enchantments....On the other side, we beheld the seat of Pele's dreadful reign. We stook on the edge of a tremendous crater, down which, a single misstep would have precipitated us, 1,000 or 1,500 feet. This was once filled with liquid fire, and in it, we counted sixteen

extinguished craters. To complete the grandeur of the scene, Mouna Kea, and Mouna Roa lifted their lofty summits, and convinced us, that, though far above the clouds, we were far below the feet of the traveler who ascends the mountains of Hawaii. By this time, the sun was nearly sunk in the Pacific; and we looked around for a shelter during the night.

They spent an uncomfortable night in a small fenced yard some distance below the summit. The temperature fell from 77° to 44° and to 40° the next morning when they arose and

reascended the mountain to its summit, and contemplated the beauties of the rising sun, and gazed a while longer, on the scenery before us....Not having an instrument, we were unable to ascertain the height of the mountain. We presume it would not fall short of 10,000 feet. The circumference of the great crater, we judged to be no less than fifteen miles. We were anxious to remain longer...but as we were nearly out of provisions...we finished our chicken and tea, and began our descent.*

Having completed the mapping of Kilauea and Mauna Loa, Charles Wilkes and the U.S. Exploring Expedition moved on to Maui. In February they made an ascent of Haleakala. Wilkes' usual large party took three days to reach the summit, noting along the way several new species of plants, some of which developed a silky-looking variety at the higher elevations.

On their arrival at the edge of the crater, on the summit, the clouds were driving with great velocity through it, and completely concealed its extent. The height, as ascertained by the barometer, was ten thousand two hundred feet. The driving of the sleet before the strong gale soon affected the missionaries and native students, the latter of whom for the first time, felt the effects of cold.

The crater of Haleakala, if so it may be called, is a deep gorge, open at the north and east, forming a kind of elbow....Although its sides are steep, yet a descent is practicable at almost any part of it. The inside of the crater was entirely bare of vegetation, and from its bottom arose some large hills of scoria and sand: some of the latter are of an ochre-red colour

* Missionary Herald. XXV. August 1929, pp 246-251.

at the summit, with small craters in the centre. All bore the appearance of volcanic action, but the natives have no tradition of an eruption. It was said, however, that in former times the dread goddess Pele had her habitation here, but was driven out by the sea, and then took up her abode on Hawaii, where she has ever since remained. Can this legend refer to a time when the volcanoes of Maui were in activity?

Of the origin of the name Mauna Haleakala, or the House of the Sun, I could not obtain any information. Some of the residents thought it might be derived from the sun rising from over it to the people of West Maui, which it does at some seasons of the year.*

Wilkes also noted a volcanic rock used by the natives as whetstones; the lack of pumice or volcanic glass in the crater; and the tendency, at some places on the wall of the crater, for the compass to be so affected by local attraction as to be useless (Magnetic Peak.) Wilkes seems also to have been the first to use the name Haleakala for the crater.

As visitors to the crater grew in number, recorded impressions also grew in awe. G. W. Bates in 1853 seems to be the first to use what is now a common expression: "From the point where I stood, a huge pit, capable of burying three cities as large as New York -- opened before me."** Visitors apparently found the New York comparison especially apt; Wilkes had already used it in reference to Kilauea.

Haleakala section

The summit of Haleakala had not been included in the Hawaii National Park bills of 1911 and 1915. Jaggar added it to his 1916 bill on the advice of congressmen who pointed out it would be wise to ask for the maximum desired acreage;

* Wilkes, Charles. U.S. Exploring Expedition. Vol. 4.
** Bales, G. W. Sandwich Island Notes. New York, 1854, pp. 116-7.

in the future it would be far easier to delete unnecessary sections that it would be to add desired ones. Defining the area only by a metes and bounds description prepared in Washington, D.C., Haleakala summit became part of HNP.

On the island of Maui, the impact of National Park status for the summit of Haleakala was strictly economic. Local interest in the crater centered on roads and trails up to it. A Maui News editorial of March 3, 1916 suggested that the Maui Chamber of Commerce -- which administered the two acre summit rest house area -- encourage Congress to make it a park. Were this to happen "it will probably follow that most of our present problems concerning roads and trails and rest houses will be permanently solved." Another editorial on May 5, 1916 noted that the Interior Department manages and develops areas and "advertises." There was no newspaper mention of Haleakala as a section of Hawaii National Park until the Maui News, on September 21, 1917, reported a speech by Governor Lucius Pinkham during which he said, "I know of no opportunity from public lands, to establish parks on Maui, save as the federal government has indicated its intention in the Haleakala division of the Hawaii national park."

In July 1921 land exchanges at Kilauea on the island of Hawaii had progressed far enough for the NPS to dedicate the new Hawaii National Park. No land exchanges had yet been arranged for the Haleakala section, but Maui interest was beginning to develop. In January 1921 the Wailuku Post

Office used a new cancellation stamp which read "Haleakala National Park, Maui." The Post Office was as inaccurate as the Honolulu Advertiser which regularly referred to "Kilauea National Park" until the Maui News pointed out that the proper name was "Hawaii National Park," and that the Park included both Kilauea and Haleakala.

After the official dedication of the new Park at Kilauea in July 1921, a group from the Brooklyn Daily Eagle party went to Haleakala and held a dedication ceremony of their own. They were enthusiastic over the fine facilities available at the summit rest house and the ease of ascent, but hoped that a "motor road" would be built.

Although the Park had been dedicated, Maui residents expressed concern for the administration of the area, especially the protection of the silversword plant, land ownership, and the administration of the rest house. "As yet Haleakala has been taken over as a National Park in little but name. There is no territorial law that prevents the wanton destruction of the wonderful plants, no park officials here to enforce rules that would have to be made." So wrote the Maui News on September 20, 1921. The paper asked for public support in enforcing the NPS rules protecting Park flora, and pointed out a first step toward silversword protection was to prohibit the sale of silversword products. Although the Park lands were still privately owned, the Department of the Interior definitely assumed there was a National Park and referred to it was the "Haleakala Section."

Private land owners enjoyed full rights to the use of the lands as long as such use did not interfere with or injure Park values.

On-the-ground administration of HNP began in March 1922 with the arrival of Park Superintendent Thomas Boles. He made his headquarters at Kilauea and did not visit Haleakala until August 1924, although the Maui Chamber of Commerce did provide him with a complete report of the summit rest house up to October 1922. The Chamber of Commerce still administered the rest house, the only development in the Haleakala section of the Park. The NPS refused to accept responsibility for the facility until it had funds for maintainance, and funds would not be available until the Interior Department had administrative control of the area -- by land exchange or some other agreement with the private land owners -- and until the summit area was accessible.

Superintendent Boles was impressed by his first visit to Haleakala, a trip which was paid for almost entirely by Maui residents. The Maui people were enthusiastic and "of one mind...in direct contrast to the present condition in Hilo where there are so many factions and cliques that it would be unwise for the Park Superintendent to mix up with their affairs," and he saw the rest house as a fine example of Maui support for the Park.* He rode up to the summit, through the crater, and out the Kaupo Gap to the sea. On his return to Wailuku he met with local residents and

* Superintendent's Report for August 1924.

explained NPS hopes for developing the area when full title had been given to the Interior Department. "I found that the delay in giving title to the Federal government was caused by the owners being offended by unauthorized persons heretofore speaking to them; I met the various owners, and found them high class men, and perfectly willing to see things carried through to a success provided they deal direct with the Government. Although no names were mentioned, it appears that it was Mr. Thurston and Professor Jaggar who appeared as the self-appointed spokesmen and thus caused their (owner's) lack of interest thereafter."*

Boles visited the crater again in late 1925 with the gang that was surveying for a summit road. With Kilauea still inactive after the explosive eruption of May 1924, he felt more and more convinced that as a guaranteed attraction Haleakala should be given early consideration in road projects. The road survey was completed in December. Boles felt the Federal government should stand the cost of a road to the summit, although the County of Hawaii had built the road from Hilo to Kilauea which made that section "accessible" and thus eligible for development funds, but he also felt that the Park needed more than a "shoestring" right-of-way. The new road survey would allow the Park to determine what Park boundary changes were desirable, and would also be the basis of requests to the Federal government for road construction funds. A proposed road alignment plan was sent

* Ibid.

to Governor Farrington in December 1925 to assist him in determining what land exchanges would be necessary to accommodate the proposed road.

The Cammerer Report in 1926 urged that the boundary be adjusted so as to follow the topographic lines of the crater and to accomodate the Haleakala road, Cammered suggested that approximately 300 feet outside below the crater rim would be sufficient. He also recommended offering limited use of the Sliding Sands trail and limited grazing in the crater in exchange for necessary protection of other areas of the crater. He clearly felt that Park had a commitment to build a road to the summit.

Beginning in February 1926, a series of conferences with the land owners led to a redefinition of the Park boundary along topographic lines, 300 feet below the rim as recommended by Cammerer. The new boundary eliminated from the Park some second class grazing lands outside the crater, and reduced the total area from approximately 21,150 to 17,130 acres. The agreement, which required Congressional approval, was reached February 12, 1927. To accommodate the new summit road across its lands, Haleakala Ranch Company agreed to relinquish its summit crater lands, but requested permanent grazing rights in the road lands outside the crater. Fencing the road right-of-way to eliminate cattle would have cut off access to their water holes and the NPS readily agreed to this provision. The Service also had the right to issue grazing permits within the crater until such time as those grazing

lands were required for Park use; and they could issue permits for the use of Sliding Sands trail to transfer stock across the crater.

With these provisions, the three private land owners agreed to land exchanges with the Territory of Hawaii. On January 28, 1928, the Haleakala Park lands were finally deeded to the U.S. by the Territory, with one subsequent amendment. The deed was corrected in 1929 when it was discovered that the permanent grazing rights granted to Haleakala Ranch Company had not been included in the original deed from the Territory to the U.S.*

Use of Sliding Sands trail and crater grazing have been minimal. The infrequent cases of cattle wandering from the Park road areas covered by the permanent grazing rights provision onto other Park lands have been quickly and pleasantly settled.

* See also: Apple, A history of the land acquisition for Hawaii National Park to December 31, 1950. pp. 110-5.

GENERAL IMPROVEMENTS

Roads and Trails

Both the 1921 Mather-Albright report and the 1926 Cammerer report recommended a summit road for Haleakala, and the boundary revisions of 1927 were specifically prepared to accommodate the surveyed road alignment. Land exchanges were completed in 1928 and that year the Territorial Legislature passed a road fund bond bill enabling the Territory to spend the sum of $300,000 for the purpose of meeting Federal aid given in constructing a modern highway to the National Park boundary. Work on this section was scheduled to start in November 1929 and on completion, the NPS would continue the construction of a road to the summit.

By 1931 the Territorial road was well underway. The Park section had been surveyed, then was reviewed by the landscaping division and in line with their recommendations, the Bureau of Public Roads revised its survey to accommodate suggested changes. The final alignment follows the landscape in such a way that road scars are almost invisible.

Work on the Park road began in October 1933 and was completed in December 1935. The new summit road was 10.66 miles in length, extending from the Park boundary where it connects with the Territorial road, up to the summit near White Hill. It was 14 feet wide from shoulder to shoulder, widened to 22 feet on curves. Total cost to the NPS was $392,128.26. In November 1935 the road was armor surfaced

for an additional $32,575.75.

The new highway to the summit was dedicated on February 23, 1936, and the program included a nationwide broadcast of the ceremony. Visitation to the summit jumped from a few hundred a year to nearly 16,500 for the fiscal year ending June 30, 1936. A storm early in 1936 brought a number of people up the road to see their first snow. Many were so lacking in judgement the road finally had to be closed to minimize the danger of accidents.

Although a great improvement over the horse trail it replaced, the summit road was still narrow with several sharp switch-backs and it lacked shoulders in places. Sudden drop-off's or cliffs lined some sections. On November 23, 1935, the road had recorded its first fatality -- two miles below White Hill a car pulled too far off in passing and rolled over leaving one killed and two injured. The same day two miles below the Park boundary another car did the same thing with only minor injuries. Cars continued to go off the road with ocassionally fatal results although every effort was made to warn drivers of the hazards and to widen and clear the road banks. In April 1937 the road was middle-striped for aid in night driving.

An unexpected hazard to the road itself were the pheasant droppings of "kukae-uao" or "kukae-nene" which were softening the bitumen binding on the road so that tires pulled out the soft material leaving holes. New surfacing eliminated this problem. Bad weather and an ocassional earthquake also

damaged the road.

In late 1941, with increased Army use of Red Hill, some of the turns were widened to allow passing. These were not paved. The Army also extended the road from the Observatory at White Hill to Red Hill; and in 1943 this was extended from Red Hill to the Signal Corps facility at Kolekole Peak outside the Park. The increased use of the road was followed by an increase in fatal accidents. The Superintendent's Reports note that fatalities tended to slow down the Army and Engineers drivers "some."

Increased use of the summit by military during the Korean conflict of the 1950's led to the Territory patching -- yet again -- their badly maintained approach road. Finally in October 1952 the Territory re-surfaced the approach road to 10 feet on the straight and 12 feet on curves. It still needed widening on corners and at hidden culverts.

Again, the heavy road use during the "Science City" construction work beginning in 1961 led to ever-increasing complaints. In April 1965 the State began work on widening some switchback curves, and in March 1966, the Legislature provided $175,000 in Special Funds for additional road curve widening. This action forced the Park to bring its section of the road up to current standard also.

Two other road projects are frequently suggested for Haleakala. One is a road through the crater and out to the sea via Kaupo Gap, to connect with the beach road from Hana. This plan, it is argued, would open up the Kaupo end of the

Park and would thus attract many new visitors. The crater-Kaupo road was being suggested in the early 1900's when the summit rest house was being built, and again in the 1930's when the summit road was under construction. Landscape Architect Vint, during his visit in 1930, made a strong stand in favor of the road stopping at the summit, and NOT going into or through the crater as was often recommended. The crater was there to look into, not to go into by car. "It is definitely recommended that the inside of the crater be established as a sacred area, accessible only by trail."* The 1950 Territorial Legislature considered preparing a resolution urging the construction, by the Federal government, of a road from Hana to Kahului via Kaupo Gap. The Hana airport had recently been opened and the area was being developed as a visitor destination area. Nothing came of this.** It is likely the suggestion will be made again.

The second road proposal is for a road from the central valley via Polipoli Springs, up the Southeast rift to Kolekole. This would provide access to the Science City area without the necessity of going through the Park. It would also encourage the rebuilding of utility lines outside the Park, allowing the separation of Park and non-Park sources and users. Tentative surveys for such a road alignment were originally made in 1930 as part of the

* Vint Report, February & March 1930.
** Old file no. 120.

planning for the summit road. The route was reviewed again in 1963, but nothing was done as assistance from the Kolekole agencies was unlikely and the State had no funds. Another road survey was made in January 1964.

Trails

Superintendent Boles had no funds for maintenance or development at Haleakala. Later superintendents noted the poor crater trails and managed to squeeze funds for their repair, realignment and regrading -- some sections were a forbidding 30% grade -- but still the trails continued to wash out in the heavy winter rains. Trail work was further handicapped by lack of a work crew or supervisory staff on Maui.

The Halemauu trail out of Haleakala, the worst of the lot, was rebuilt in September 1929 and promptly washed out again. In February 1930, trails leading out of the crater were so unsafe that funds were requested separately for the work to be done at once. Washed out two years in succession, the Halemauu trail was scheduled for complete realignment in 1931, but again funds were not available; instead, a new trail was constructed between the rest house at Kalahaku and the Halemauu trail, and the old trails were repaired.

Trail work was increased with the establishment of a CCC spur camp at Haleakala in the spring of 1934. The enrollees built a four foot wide, standard, 10% grade trail to the summit of White Hill, hopefully forestalling any new requests for a road to that summit. The Sliding Sands trail

from White Hill to Kapalaoa was completed and a new series of trails across the crater to meet the Halemauu trail at Holua were laid out. Trails were built from the summit road to the head of the Halemauu trail, from the utility area at Puu Nianiau to the start of Halemauu trail, and down the Kaupo Gap.

Relocation of the Halemauu trail was finally started in May 1935 with funds from an emergency construction allotment. These funds ran out in February 1936 with the trail approximately 80% complete, and the balance of the project was done with CCC labor. Completed in August 1936, it washed badly in April 1938 and was radically re-ditched and re-drained in February 1940. The Halemauu trail still regularly requires major repair.

An adequate crater trail system necessitated the construction of improved overnight facilities in the crater. The CCC had established a camp at Holua cave, near the base of the Halemauu trail at one of two places in the crater where water was available. Two new crater cabins were completed by late 1937 and two more the following year. These are the cabins at Kapalaoa, Paliku and Holua, and the Ranger station at Paliku.

The major Park trail system was established and in use before the area became a Park, and most of the post-Park trail development was laid out and constructed by CCC enrollees between 1935 and 1940. Work since then has been mainly maintenance.

Structures

Headquarters area: District Ranger J. A. Peck, Haleakala's first permanent NPS employee, arrived on duty March 1935. The headquarters site was located at the 7000 foot elevation just inside the Park boundary where there was adequate level building space with good water prospects nearby. The first construction, a four car garage to house NPS automotive equipment, was completed in June 1935, and gas storage facilities were added the following year. Equipment storage and shops continued to be located in this area, including the stock corrals which were moved to the headquarters area in 1939.

During 1935, plans and specifications for two new projects were completed and put out to bid. These were an Observatory Station and comfort facility at Pukaoao hear White Hill at the road end, and a checking station and office building at the headquarters area. As bids were far in excess of available funds, the checking station-office building was not constructed until late in 1936. It served as only an office until July 1945 when increasing vandalism forced the staff to institute checking procedures. Vandalism dropped sharply, but the checking process placed an added burden on the already short-handed Park staff, and the procedure was abandoned in May 1946. Vandalism and violations increased immediately, remaining high until the removal of military concentrations again relieved the Park of this problem. The little stone building was torn down in the 1950's when a new headquarters building was constructed.

In 1948 a headquarters area at the 4000 foot elevation in Kula was considered, and new construction at the 7000 foot level was deferred until a decision could be made. A small area was designated for the new headquarters at Kula, but the land was never obtained nor were the needed facilities ever built, and the acreage was eventually removed from maps of authorized Park lands.

In 1957, plans were drawn for the construction of a new headquarters building at the 7000 foot level. Bids were opened in May 1958 and work began immediately, although the low bid was $36,180 and the estimated cost was only $26,290. An addition to the building was completed in 1967.

Housing: The first permanent NPS staff at Haleakala found no housing in the Park and were obliged to rent quarters in Wailuku or Kula, some 10 miles outside the Park and 20 miles from the visitor concentration point at the summit. In December 1938, work finally began on a headquarters area residence building which was ready for occupancy in February 1940. A garage was added later, and central heating was installed in 1957. The presence of a Ranger living in the Park was of vital importance in maintaining some modicum of NPS control in the Park during World War II.

Post-war increases in staff included a new Ranger-in-charge and an Assistant Superintendent. To accommodate this increase, some of the CCC buildings, recently relinquished by the Army, were moved to the Park residence area and remodelled for use as Ranger quarters. They have been

retained as quarters for official Park visitors.

Housing continued inadequate and plans were drawn for construction of additional employee residences in the headquarters area. In June 1959, two bids were opened for roughly $56,000 and $80,000 for the two structures (nos. 218 and 219); Federal housing regulations limited the amount which could be spent on construction of the two residences to approximately $35,000. A plan to convert two of the Lodge area barracks (nos. 110 and 111) into staff quarters was next considered, then rejected as costing nearly as much as new construction. Eventually, clearance was received to exceed the Federal maximums for house construction, and in 1962 two residences were built, apparently by the NPS using day labor. The cost per home was now in excess of $30,000 each and required clearance. In June 1966 bids were received to construct two additional homes but these were also well above available funds and were rejected. The high cost of construction material, the great distances it must be transported from the local supplier to the job site, and the high cost of local labor result in bids well above mainland averages for similar structures. As at Kilauea, it is necessary at Haleakala to modify mainland "standard" plans to accommodate unique local needs, adding yet more to the basic cost.

Summit structures: Bids for the new Pukaoao Observatory near White Hill were opened in November 1935, and all were far in excess of the $7000 available. An additional $3000

was obtained from NPS Public Works funds and the job was awarded to E. J. Walsh of Wailuku, the low bidder. Walsh also was manager of the Maui Grand Hotel which had been awarded the Park concession to provide food, housing, and stock for overnight visitors to Haleakala. Walsh assembled the structure in Wailuku, then took it apart, transported it to the site, and there rebuilt it as a modified prefabricated structure. The Observatory was completed and opened to the public in June 1936.

The new Observatory was provided with a caretaker and the building was reported available at any time for the use of the public. It housed a relief map of Haleakala, and was the center of the Park's interpretive program. Later, a portion of the Observatory was given over to the Maui Grand Hotel concessioner who provided hot coffee and food to summit visitors. (At this date the old summit rest house was still being used to house the CCC unit.) Plans were drawn to have the Park build separate quarters to lease to the concessioner but this building was never constructed. Combining the concession and Park interpretive programs was not wholly satisfactory, although the concessioner's staff was able to provide some assistance for the short-handed Park Ranger staff in manning the Observatory. For a brief time, two CCC boys were also assigned to the Observatory as assistants to the Ranger-in-charge. The Maui Grand Hotel concession lapsed during World War II.

In May 1966, the Observatory again housed a concession

operation in the form of two candy vending machines and a soft drink machine. Servicing the machines was not satisfactory -- they seemed to be frequently out-of-order or empty -- and hot drink machines are not feasible with the limited fresh water supply.

In 1960, new exhibits by Paul Rockwood were installed in the Observatory and the whole was refurbished. However, visitor complaints about the lack of heating continued, rising to a crescendo during periods of freezing temperatures such as those experienced in early 1965. Heating of the Observatory has always been a problem. Originally it was furnished with a wood-burning cook stove which was later replaced with a Franklin stove that looked nicer but threw less heat than the cook stove. Various types of oil stoves have also been tried with varying degrees of success. The basic problem is one of timing: there is not enough night use to warrant all-night heating, but there is relatively heavy dawn and early morning use, much of it before a newly lighted stove can adequately dissipate the morning chill.

Over the years, several groups have had facilities in the Observatory. In April 1940 an "airway station" was established at the Pukaoao Observatory on a cooperative basis by the Weather Bureau, Navy and Civil Aeronautics Administration, with the man in charge of the concession making the observations. As early as 1915, the Weather Bureau had contacted the Maui Chamber of Commerce on the possibility of establishing a rain gauge and weather thermometer on the summit of Haleakala

to be looked after by the rest house caretaker. The problem was referred to the rest house committee, and the Maui News editorialized favorably on a summit weather station in July and August of the following year. Apparently nothing ever came of this proposal, perhaps because the rest house still lacked a permanent caretaker.

In 1940 a petition was received from the Maui Lion's Club, requesting the establishment of a Post Office station at the summit of Haleakala, and this was forwarded to the local Post Office inspector. Nothing was done at the time. A summit Post Office is one of several developments frequently proposed by visitors.

A second facility at the summit was built on Red Hill in 1962. This provides a 360 degree view of the crater, the island of Maui, and, in good weather, the neighboring islands as well. To 1966, this facility had not been staffed with interpretive personnel.

CCC: The CCC camp was established at Haleakala late in 1933. The 25 boys were housed in the old summit rest house until facilities could be built for them at Puu Nianiau. Two spur camps were established in the crater itself for the enrollees working on the crater trails, and the rest house site was vacated in August 1935. The crater camp sites were equipped with water storage tanks and telephone lines. They operated only during the summer months, closing in winter due to the unpleasant weather. The enrollees in the crater built the cross-crater trails, re-aligned and rebuilt the

Halemauu, Sliding Sands and Kaupo trails, built four cabins with water storage tanks, and cleaned and located other crater water sources. During the winter months the enrollees moved back to the old rest house and later to the camp at Puu Nianiau and worked on projects at the summit. Two boys were assigned to the Observatory when it was finished in June 1936, and others worked on connecting trails, exotic plant control, water systems, and road improvements.

In 1936 the Puu Nianiau camp was started near the Park garage area, and one bunk house was ready in April 1937. Four other buildings were completed in 1938 and additional construction continued into 1939. The camp had its own water storage system and lighting plant. The Puu Nianiau camp was vacated on May 13, 1941, and leased to the Army for the duration of World War II.

CCC Haleakala camp staff deaths were surprisingly high. Although only one enrollee death was reported (of lobar pneumonia) the camp lost its assistant cook, Arthur J. Lloyd to heart failure on June 2, 1936, camp surgeon Dr. Howard Chamberlain on December 17, 1936, and camp physician Dr. Joseph O. Sowers on March 26, 1939.

Note:

Due to a vigorous Records Management program, recent Haleakala records are no longer available in the Park.

FLORA AND FAUNA

Flora

The Haleakala National Park has two features not found in other sections of the old Hawaii National Park. The first is a healthy stand of exotic conifers; the second is a unique native.

Ralph S. Hosmer, the first Territorial Forester (1904-1914) planted a series of four experimental plots up the slopes of Haleakala between 6500 and 9000 feet. Hosmer had already established the forestry reserve system in Hawaii, and was now experimenting with various timber trees for possible economic introduction. In his four Haleakala plots he planted trees from North America, Japan, Australia and the Himalayas. The most successful planting was the one made in 1910 at the 6500 foot level which survives today as the Ralph S. Hosmer Grove. It contains over a dozen exotic evergreens, many of which have matured as successfully there as they do in their native habitats. This grove was set aside with a nature trail and camping facilities in 196-.

A reforestation attempt was made in 1939 when Park Ranger Howard Powers tried transplanting 50 koa seedlings collected from the 7000 foot level on Mauna Loa. They did not survive, due to drought, generally poor conditions, and the fact that koa is not easily transplanted under any circumstances.

With the exception of a gorse, which was treated with

herbicides, these exotics have not escaped control and have not required the attention which one native plant has attracted. The native is the Haleakala silversword.

The silversword had attracted the attention of the earliest crater visitors and for many years a guaranteed proof of a summit tour was the sheaf of silvery leaves one brought back. This relative of the sunflower was supposed to grow only on Haleakala, although the less showy greensword was also found on the upper slopes of Mauna Loa. The plants bloom only once after a dozen or so years of growth and die after producing a stalk of multiple, sedately-colored flower heads and thousands of seeds which fall at its feet. The seeds have no known mechanical or animal dispersal technique and efforts at propagating seeds or seedling plants are rarely successful. In October 1927, Otto Degener, botanist of the University of Hawaii, sent a can of greensword seeds to plant along Byron's Ledge and near KMC at Kilauea. In February of the next year, 10 silversword sprouts were sent to Kilauea from Haleakala by Degener and planted on the rim of Kilauea crater. There is no record of the success of these plantings and it may be assumed they did not survive at Kilauea.

The files are full of requests from individuals and arboretums and botanical gardens around the world for seeds of the plant. Again, there is no report of long-term success in propagation.

Not only were they hard to grow elsewhere, they suffered damage in their native habitat. Vandalism was a constant

threat; as recently as September 1966, somebody dug up a large silversword and then abandoned it in a canefield near Kaanapali. The plants also suffered from insect infestations. A serious insect attack was reported in August 1930. Park Ranger Christ was sent to Haleakala to check the plants in September, and several infected plants were brought back to headquarters and then sent on to the Hawaii Sugar Planters Association (HSPA) in Honolulu. Their entomologist sent back a report (not located) with recommendations which the Park hoped to follow as well as funds would allow. There is no record of what they were to do but apparently it was successful. The 1938 Superintendent's Report to the Governor mentions the continuous improvement in the silversword, and in 1942, 815 plants were in bloom.

In 1935 Assistant Park Naturalist Samuel Lamb began a series of reports on a "1935 Silversword Project" the purpose of which was to check the relationship of the plant and its various insect enemies and also the effectiveness of the protective measures employed. The original reports have not been located, but an updating of part of this study by Park Naturalist Robert Badaracco, dated October 1962, is available. The 1962 study used the same count locations as Lamb's study and found that the number of silversword plants in the area had increased 189% over the 1935 census. Out of the 798 plants found in one 20-acre plot, 110 were over a foot tall and of those, 38 were in bloom. Of the other 688 plants, almost half were 4 to 7 inches tall. Badaracco urged the

continuation of a regular count of the plants, the establishment of test plantings in other parts of the crater for study and comparison, and a major research program into the ecology and natural history of the plant, to be done by outside agencies and the Park. The plant itself was famous, but there were a multitude of ecological conditions at play about which there was still little knowledge. There is no indication this work has been carried forward, beyond the attempts to establish other silversword colonies in the crater.

Other native flora appears briefly in the reports. In 1937, Gunder E. Olson, Project Superintendent of ECW at Haleakala, prepared a short listing of plants found in the Park at the request of Acting Naturalist Kenneth Williams. The sandalwood appears infrequently in reports, mainly as a case of vandalism -- in October 1937, somebody cut down and took away one of the largest sandalwood trees in the Park, removing everything but the smallest twigs -- or as a source of reforestation materials. In April 1942, the discovery of a red flower geranium was of sufficient import as to be included in the Monthly Report of the Superintendent; and the Report for May 1966 mentions some new biological control of the native rubus -- the akala or Hawaiian raspberry -- by the State Entomologist.

One of the Park Naturalist's projects has been to tally the different words and phrases used by visitors to identify the silversword. Misconceptions and creative imagination have produced some remarkable results.

Fauna

As at Kilauea, the most troublesome fauna was the introduced goat. The goat population moved freely from Park to neighboring Territorial Forest Reserve and back, making a coordinated effort necessary for any kind of long-term results.

The Territorial Board of Forestry had provided money for goat drives in the Kilauea area from 1927 to 1931, and worked closely with the NPS in control of the Haleakala area. Hunters could apply for permits to take goats in Forestry lands outside the Park, and in 1944, Colin Lennox of the Board of Agriculture and Forestry, wrote Dwight Baldwin, Maui rancher, about the possibility of a military rest and recreation camp near the Kahikinui Forest Reserve, with hunting stressed. Patrons would have to cross Baldwin ranch lands however, and nothing more is heard of this proposal. In 1951, Forestry built the Waikau shelter, but charged $1 to use it, which was too high for the local food hunters to pay. Goats promptly increased in that area as the pressure on them lessened. Park requests for hunting parties were referred to the District Forester or to the ranchers.

In-Park control took the form of hunting, although poisoning, introducing sterile males and the introduction of parasites have all been considered. The problem was one of who should do the hunting, and how. Superintendent Wingate in 1944 felt that hunting, even with paid hunters, would not be successful. It hadn't worked at Kilauea, although it was

probably the best solution for Forestry areas. Wingate wanted the Park fenced, and then a system of goat wardens to work on the total elimination of the goats. For the time being, fencing was out of the question as too expensive and because of the perpetual grazing rights retained by the neighboring cattle ranchers. In Kilauea, however, the CCC had been able to fence nearly 80% of the Park by 1940. At Haleakala, a fence would have the added benefit of keeping cattle entirely outside of the Park. By special reservation in the land acquisition agreement, cattle were allowed to graze within the Park but outside the crater, and to cross the crater itself to new pastures.

Writing in May 1962, to the Director of Region Four, Haleakala Superintendent Stratton again brought up the possibility of fencing the Park as an aid to control; and during a meeting with Director Wirth and others in November, Wirth even tried to obtain $50,000 in Federal depressed area funds to begin the fencing, but Maui did not qualify.

A goat study was authorized and the Park hoped to begin fencing as part of the proposed Youth Conservation Corps (YCC) camp. As of November 30, 1964 the program had been approved, but the Park was waiting for the establishment of the camp and had therefore made no other fencing arrangements.

The YCC camp never came to pass and in October 1965 Ranger Lindsey outlined a possible fencing program along the South and East boundaries only. The North boundary was heavily forested and the West was a road. He estimated

fourteen or fifteen miles of heavy galvanized wire fencing 5 feet high, and some 2500 metal posts, costing around $5000 per mile to install in the rough terrain. This proposal followed a more extensive one dated March 1, 1965 for 33½ miles of 4-foot fencing with 7 gates and 3 cattle-guards at a cost of $100,000. This plan would completely fence the Park; the Lindsey proposal was for limited goat control only, although complete fencing was the more desirable. Nothing more is heard of this project, either.

The proposed Kauai National Park was much in the news during 1965. One major stumbling block of acceptance by the local populace was the heavy hunting use within the proposed Park area. The hunting public did not want to see the NPS no-hunting policy close off another large area. It was difficult for them to accept a no-hunting policy and then see wardens hired to eradicate the unwanted goats. On November 25, 1965, Superintendent Guse reported from Haleakala on "Feasibility of Public Hunting of Feral Goats and Pigs as a Control Technique in Hawaii National Parks." The report was against public hunting in favor of supervised, controlled feral animal control. In the past, it was reported, parties of approximately six were taken into the crater by uniformed personnel and allowed to eradicate feral goats under this supervision. This was done at the convenience of the Park and when it was free of visitors. Hunters were selected on a first reservation basis and all conditions made clear. This provided effective control as

well as good public relations. If public hunting were allowed in the proposed Kauai Park, it would have to be allowed also on Maui and Hawaii. The Report recommended controlled and supervised eradication in connection with a fencing project. As goat populations decreased, public assistance would be phased out entirely.

Superintendent Guse wrote also to the Superintendent at Grand Teton NP for detailed information on that Park's Elk Reduction program. Guse indicated he had been authorized to institute a shooting program, using other than NPS employees, under a deputy system in a strictly controlled eradication program supervised by uniformed employees. The object was to rid the Park of predator [sic] feral animals, especially goats. No answer has been located.

The Superintendent's Monthly Reports for 1965 and 1966 indicate the feral goat eradication program was finding fewer goats in the Park, and hunters outside the Park were also taking fewer of the pests. A few goats may have been killed with a poison bait, used mainly against the mongoose which was threatening the newly released Nene. In September 1966 a helicopter flight killed off 24 animals in an inaccessible area. Work crews were doubling as hunters while in the crater on trail maintainance, all under the supervision of uniformed personnel, with good results.

Guse's reference to escorted hunting parties in the Park touched on a recreation facility not widely advertised. By modification of Office Order No. 288 of June 8, 1935, the

"assistance of outside persons" was allowed in goat hunting. Territorial Forester W. W. Holt received annual reports from Haleakala of the kills, and in July 1940, asked if outsiders could shoot and if so, what arrangements had to be made. The reply indicated that there were no drives, just random hunting, outsiders could hunt if accompanied by Park personnel, and the Park liked to know in advance when someone wanted to go in. Yet in October of the same year, Park Ranger Howard Powers responded to a request from a H. T. Shouse of the USS Utah, then anchored in Lahaina Roads, who had asked how soon a hunt could be arranged, by advising that he had been misinformed as to goat hunting on Maui in reference to the Park. It was strictly against regulations to permit hunting of any kind in a National Park.

Kills from Haleakala averaged about 25 a month, even after Powers was recalled to active duty in 1941. During fiscal year 1943, large numbers of military were drawn to the Park for recreation and the Ranger-in-charge made good use of their service for a total of 537 goats and 5 pigs for the year, 81 goats taken in February alone. In 1948 drives were again used in Haleakala which reduced the goat population by another 468, with immediate improvement to the vegetation. The June 19 drive was staffed by having Acting District Ranger Hartesveldt "round up a bunch of local fellows."

Goat wardens were also used with limited success. The two hired in 1950 killed 613 between February 14 and June 30, at a cost of $4.44 per goat. During this period, requests

for hunting parties in the Park were referred to Forester Holt or to the neighboring ranchers.

By memorandum of February 18, 1954 Superintendent Wosky advised all employees that from then on shooting was to be limited to NPS employees under the direct supervision of the Chief Ranger. This memo cancelled and superceded that of November 13, 1953 (not found) and both may refer only to pig hunting, as an August 4, 1954 memo noted that the pig population was down and hunting was discontinued.

In May 1962, Superintendent Stratton reviewed the problem to that date in a letter to the Director of Region Four (referred to earlier). Before 1955, wardens and hunting parties of local citizens were allowed to shoot in the crater under the supervision of Park Rangers. Since 1955, shooting had been done only by available Park personnel, for a total of only 132 goats the previous year. He pointed out the lack of information on the ecology of the goat and asked for a competent field biologist to help determine the most effective control. Region Four promised a trip by the Regional Research Biologist early in 1963. The ecology study was done by contract to Charles F. Yocum. His "Ecology of Feral Goats in Haleakala National Park, Maui, Hawaii" appeared in 1967.

Other animals required less time and effort. Rats, mice, cats and dogs were infrequently found and destroyed. The mongoose was trapped or killed with poisoned bait, especially after the introduction of the Nene in 1961.

Pigs are native to the Park but their number has to be controlled by hunting.

A vigorous protest arose over the proposed introduction of axis deer.* In 1959, Governor Quinn signed a law mandating the Board of Agriculture and Forestry to introduce game animals on Maui, and they elected to start with the axis deer. A letter from botanist Otto Degener was the first the NPS knew of it, although the Service had previously voiced opposition to the project on the grounds that the deer would move out of the lower kiawe forests and up into the Park. The deer had been proposed in December 1955, but at that time Governor King indicated he would not allow the introduction of exotics. The Fish and Game staff wanted to eradicate exotics like goats and instead introduce game exotics like the deer. They had previously pointed out that other members of the deer family were welcome in National Parks and in HNP, wild pigs, sheep and goats "were protected by hunting prohibition. We would assume that damage to native vegetation by these animals is nil."**

With the cooperation of the Bureau of Sport Fisheries and Wildlife, Nene were re-introduced to the crater in 1961. The project was very successful in view of the fact that Nene had been thought extinct on Maui since the 1880's and nobody knew where they used to roam. Between 1961 and August 1966, 151 birds had been released in the crater, usually in groups

* File: N1427.
** File: N16, Guse to Director, Region Four, May 8, 1964.

of twenty-five. For details of this project see the Nene Progress Report from the Division of Fish and Game, Department of Land and Natural Resources.

Another introduced bird was the pheasant, which Fish and Game wanted to release in the Park in 1936. Superintendent Wingate wrote that although the pheasant was an exotic, they were plentiful in Haleakala and were rather strenuously protected, as they were not to be hunted, and no effort had been made by the Park to eliminate them. The NPS administration felt that release in the Park was inadvisable but naturally could not control release outside.

More recently, the dark-rump petrel has received some attention as an endangered species. Naturalist James Larson began a study of the crater population and in August 1965 obtained from the Fish and Wildlife Service a permit to band petrels. His "The dark-rumped petrel in Haleakala crater, Maui, Hawaii" was published in 1967.

CONCESSIONS

As at Kilauea, early Haleakala visitors made their own way, taking with them all necessary food and water. Shelter was obtained by huddling in caves or behind the walls of what were possibly animal pens. Big Flea and Little Flea caves, a quarter of a mile from the summit, soon became the best known camp sites, a popularity geared solely to the fact that there was nothing better.

Thrum's Annual for 1890 reported a "new road of easy grade" opened to the top of the crater -- i.e., the old horse trail had been slightly improved -- and in 1894 Maui residents, spurred by C. W. Dickey, got up a popular subscription to build an overnight shelter at Kalahaku Lookout. All building materials were hauled up 25 miles on pack animals provided by H.P. Baldwin and the sugar plantations. Unhappily, the shelter was badly used by those for whom it had been constructed: windows were broken, timbers were ripped up for use as firewood, and garbage accumulated. The destruction was hastened by a storm which removed the roof.

In October 1914, Lorrin A. Thurston spoke before a meeting of the Civic Convention in Wailuku, enthusiastically promoting Maui and especially the summit of Haleakala as a tourist destination. A subscription was promptly raised for the construction of a new summit rest house, and, at the next meeting of the Maui Chamber of Commerce, a Rest House Committee was appointed with Worth O. Aiken as secretary. Additional funds were solicited, plans were drawn, and

contracts advertised. As bids were considered too high, the committee proceeded with the work "under their own supervision." Construction began the following spring and a concrete and stone house, 16 by 40 feet, was completed late in June 1915. The cost was somewhat more than originally estimated and additional funds were solicited from the four major Maui sugar plantations.* A two acre rest house site was leased from Haleakala Ranch Company in 1915 for the nominal sum of $1.00 per year. Presumably the Maui Chamber of Commerce continued to lease the rest house site until the land exchanges of 1927 placed the area under the jurisdiction of the NPS.

From the outset it was found that the work done on the walls and roof of the house was very deficient, and extensive repairs were necessary. The walls were waterproofed, a new "patented roofing" was put on, a necessary chimney was cut through the wall and built "at considerable trouole... having been overlooked by the contractor." A stable and fence were also built, though the original wooden gate was used for firewood and had to be replaced with one of iron. A well build circular concrete water tank was constructed, apparently the only thing to do its job properly without giving any trouble whatsoever. The place was furnished with double iron bunks, mattresses, pillows and blankets. Caretakers were hired for as long as they could be enticed to stay. The fee was $1.00 per person per night and was collected

* Roughly: estimated-$1850; expended-$4500. There is no information on the bids.

at Aiken's home "Idlewild" on the trail above Olinda. Aiken, as secretary of the ad hoc Rest House Committee, had the general superintendence of the facility. In 1918 he suggested that the Maui Chamber of Commerce amend its by-laws to provide for a permanent rest house committee. A detailed report sent to the new Park Superintendent Boles in October 1922 urged that the Rest House be given into the custody of some "permanent committee properly established for the purpose, or better, perhaps, under the control of one of the permanent committees of the Chamber now existing."*

The Haleakala Rest House continued under the care of the Maui Chamber of Commerce for several more years. Superintendent Allen wrote in his monthly report for February 1927: "The Haleakala section has been in the hands of the Maui Chamber of Commerce and though that organization is willing it is best that the Service not accept transfer at present. There is no allotment with which to undertake it." The various superintendents did arrange for occasional aid in cleaning up the rest house site.

In 1935 the new summit road was opened. This made the Haleakala section easily accessible by car and greatly reduced the need for overnight accommodation. The 1932 Wosky Report had recommended a small overnight facility at either White Hill, or just outside the Park at the summit. He felt

* Report. Haleakala Rest House Committee for full period from October 1914 to July 31st 1922. To the President and members of the Maui Chamber of Commerce, Wailuku, Maui, Territory of Hawaii. The report includes "Receipts," "Expenditures," Summary of Expenses," and correspondence between Aiken and Boles during October 1922.

facilities anywhere but at the top would not be commercially feasible. The NPS took over the rest house and used it for housing CCC enrollees until a camp could be established for them at Puu Nianiau. A new tourist facility with coffee shop and overnight quarters was planned, but restricted funds limited new construction to an Observation Station at White Hill. This location was nearer the summit at the road terminus where the Sliding Sands trail began and offered more level space for development. In 1936 the NPS contracted with E.J. Walsh, then owner and manager of the Maui Grand Hotel, to provide sleeping facilities, meals and saddle horses for Haleakala visitors, using the old rest house as well as the new crater cabins. The service was good but not profitable for the concessioner. Walsh used part of the new Observation Station for a coffee shop and his employee there helped the ranger. It was not a satisfactory arrangement, and this concession terminated with the start of World War II. In August 1943, the Maui Grand Hotel changed hands. The new owners planned on crater trips and an Observatory refreshment concession but nothing came of this. The Walsh contract was the first and last which included overnight accommodations at the summit. The old rest house itself was torn down in 1957.

In 1946 the Maui Grand Hotel was again considering the crater trip concession, they to provide all but the saddle horses. Applications for the horse concession were received from an Edmund H. Rogers and the Robert Sprinkles. Mrs. Sprinkles was Lorna von Tempsky, sister of Armine and cousin

of Robert von Tempsky. Both applicants were turned down. The Army was still using the area, and Sprinkles had neither the money nor the temperament to run such an operation. Lorna Sprinkles wrote Delegate to Congress Farrington for assistance and the matter eventually reached Acting Director Tolson before it became clear that Sprinkles really did not want the concession.

The end of the war had brought increased use of the Park and there was some agitation for overnight camp sites. Superintendent Oberhansley felt Haleakala was more a day-use Park, but urged return of the army area at Puu Nianiau for possible use as an overnight concession area. As of this time, the old rest house at Kalahaku point was inadequate, in bad repair, and had little level ground for development. He favored Robert von Tempsky as concessioner.

Robert von Tempsky applied for the pack-horse concession in February 1947. The Army eventually returned the Puu Nianiau camp, and in June 1947, Robert von Tempsky was granted a permit to operate a visitor concession for 18 months, until December 31, 1949. The Service was to fix up the Officers Club building consisting of 6 rooms, lobby and two baths, and the whole was to be furnished with army surplus. The new "Mountain Lodge" opened for business on August 15, 1947.

The Mountain Lodge was not successful. It was too far from both the summit of Haleakala, and from central Maui, the source of both supplies and patrons. Labor was hard to obtain and in December 1948, a walk-out by employees closed

the Lodge. It was re-opened in October 1949, under new management. The general report by Assistant Superintendent Barton in February 1950 found that most features could be made profitable but for the high cost of heating and cooking.*

Von Tempsky gave up the concession on the expiration of his permit on December 31, 1949. The Service advertised for new concessioners and received two offers. One was from Harry Alu, proprietor of the Haleakala Hotel in Wailuku who had re-opened the Mountain Lodge in October 1949 under the von Tempsky permit; and one from E. H. Gamage, owner and manager of the Queens Surf restaurant, and later the Kiumalu Hotel, in Honolulu. Gamage applied for the concession as "Lodges of Hawaii," then being incorporated. His backers and his experience were deemed satisfactory and a five year lease was arranged, to run from January 1, 1950 to December 31, 1954.**

The new business did not make money. It needed $3000 per month to break even and even with a liquor license (granted temporarily while the NPS decided on policy) the corporation remained in the red. By mid-1952 the Lodge was badly in debt and creditors would do cash business only. The Gamages were getting a divorce and Mrs. Gamage received her husband's interest in the Lodge. Then she also left, and Francis I. James, Honolulu realtor and an associate in the Lodges of Hawaii corporation, took over active management.

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* File: 900.05.2.
** Lease: I-18-np-36, signed December 5, 1950.

Creditors were contacted and arrangements made to pay off outstanding debts. This re-organization received Service approval later in the year.

In February 1953 it was clear the Lodge was worse off than before. In late 1953 and early 1954, new shares were authorized in an attempt to attract additional operating capital, and large blocks of shares changed hands several times. F. L. James sold out to Marquis Calmes who took over as President for a brief time. James bought back this interest in 1958, having meanwhile become involved in the operation of Kula Lodge, a restaurant-hotel facility at the 3500 foot elevation on the Haleakala road. With the return of James, the Lodge's managers/stockholders W. Karl Reiman and Catherine Hine, hoped for close cooperation between the two facilities in providing service to Haleakala visitors. Reiman, however, was dying of cancer and his management practices were erratic at best. In November 1956, he had advised Superintendent Stratton that Lodges of Hawaii, Ltd., doing business as Haleakala Mountain Lodge, was for sale. In March of the following year, Superintendent Wosky wrote that due to lack of business, Lodges of Hawaii had ceased operations about the first of January 1957 and he did not think they would be able to re-open. Apparently they did re-open and an Annual Report was submitted to the Service for the year ending December 31, 1957.

Lodge operations had suffered a major financial reverse in 1956 when several tour companies, which had been scheduling

the Lodge as their luncheon stop, withdrew their business on the grounds of poor service and bad food. There had been rumors of illness following meals at the Lodge throughout 1955, all duly investigated by the NPS and the Health Department. The latter agency found nothing amiss, although it was probably true that the selection of food was limited and poorly displayed.

In April 1958, the William Ellises took over, he as manager of Lodges of Hawaii with headquarters in Honolulu, and Mrs. Ellis as resident manager of the Haleakala Mountain Lodge. This change of management was concurrent with a transfer of some 1322 shares of Lodges of Hawaii stock, out of 1655 shares issued, to the Kula Orchard and Land Development Corporation, in which corporation Lodges President Francis I. James owned a half interest. Late in the year, Kula Orchard and Land Development sold this stock and all other interest in Lodges of Hawaii to the Ellises, effective January 1, 1959. Ellis sought to have the old contract cancelled and a new one issued, an operation the stockholders approved during a meeting in early January 1959. It was finally arranged with the Service for the Ellises to continue management of the Lodge under the lease which was to expire on December 31, 1959. This contract was transferred to them on April 1, 1959. They had already, the previous summer, won permission to change the name of the Lodge from the cumbersomely long "Haleakala Mountain Lodge" to "Silversword Inn."

In late 1959 the Ellises began negotiations for a new contract to replace the one due to expire on December 31 of that year. They sought a 10 year term as the minimum needed to give management the time to finance, refurbish, and generally get the place going. As the operation continued to be marginal -- the Ellises had had several employee complaints resulting from "slip-shod" business practices -- the new Revocable Permit was for only two years -- terminating December 31, 1961.

The next November, a Prospectus to Bid on managing a concession at Haleakala was sent to interested parties in Hawaii and on the mainland. The Ellises did not bid and no other tenable offers were received. When the Ellis operation requested permission, which was granted, to close down during the winter season from January to May 1961, the NPS determined to terminate the entire concession operation at Haleakala. Ellis was notified of this decision and advised that he was even free to close up as early as September when the summer trade declined. A protest was registered -- Ellis still felt he could make a go of it -- but the food and lodging concession at Haleakala came to an end in 1961.

Horse trips through the crater had been offered by the Lodge management under a "sub-concession" arrangement with both Marcial in the early 1950's and with Frank Freitas from June 1, 1958 through 1961. Freitas had originally sought an independent contract directly with the NPS, but difficulties in obtaining insurance coverage forced him to operate through

Lodges of Hawaii. Hana Ranch Company (Hana Maui Hotel) was also offering crater saddle trips via Kaupo Gap during 1959.*

The food and lodging concessions at Haleakala have been plagued by one major problem: distance. In the early years, distance made adequate supervision of the summit facilities almost impossible. Building the road partly alleviated the problem until after World War II when the concession location was moved to Puu Nianiau at 7000 feet in the headquarters area. This site was still some 35 winding miles from the source of staff and supplies at Kahului or Wailuku, and even more deadly, it was 10 winding miles from the summit, which was what the concessioner's prospective patrons had come to see. As pointed out by Wosky in 1932, plans for a food and lodging concession at Haleakala must take into consideration the necessity of a summit location.

* See files: C 3823, "Silversword Inn" and C 50. Both at Haleakala NP, dating variously from 1952 to 1962.

NON-PARK INSTALLATIONS

The objectives of the National Park Service and those of other Federal agencies are often in conflict. Because of its geographical location, these conflicts were particularly noticeable in Hawaii National Park during World War II. The summit of Haleakala was especially attractive to the military organizations (and later to other groups) because it contained easily accessible, undeveloped, Federally-owned land. As military planners tend to overlook time, money, and aesthetic intangibles in the name of current defense necessity, to maintain any Park values the National Park Service has been repeatedly obliged to thwart, delay, and "return via proper channels" the frequent military plans for Haleakala. The National Park Service was thus in the unpopular position of opposing programs the military claimed were absolutely vital for the national defense.

Red Hill

The September 10, 1945 of Time magazine carried an article claiming that the National Park Service had delayed installation of important radar devices at Haleakala, thereby aiding the Japanese attack. Superintendent Wingate prepared a memorandum for Associate Director Demaray detailing the facts in the matter.* They make interesting reading. This chronological record covers correspondence from July 18, 1940 through February 1, 1943.

* File: 601-05.1, September 14, 1945.

In brief, the Army sought sites on both Haleakala and Mauna Loa for "unspecified defense installations." A "thorough" study was referred to, but only the very tops of both peaks were apparently surveyed. It was determined that the "two sites selected in the National Park offer the only sites which are suitable for these proposed defense purposes." The National Park sites were "not only the most suitable but also the only acceptable sites." The Mauna Loa site was approved by the National Park Service for Army use in November 1940, but no work was ever done there by the Army.

The Haleakala location, atop Red Hill, had been scheduled for development in the Park's water system. The National Park Service recommended a site just outside the Park, on Kolekole peak, with more level ground and even better visibility, but for unspecified reasons this was rejected by the Army and a restudy of the Haleakala summit produced no new sites. The Army still wanted Red Hill and sought the withdrawal of several acres there for the "defense installation" plus additional acreage lower down the slope for a support camp.

By April 1941, the War and Interior Departments had worked out an agreement for the use of the area. A Special Use Permit was signed on April 29, 1941 covering a 6 acre installation site at Red Hill, and the Army agreed to use for their base camp the CCC camp site which had been vacated by the CCC in May 1941. Work soon began on a road extension up to Red Hill and on a steel tower at the summit. A water

catchment dam, of unauthorized size and location, was started. The Red Hill installation, however, was not operational on December 7, 1941, some seven months after approval for the work had been granted by the National Park Service, and the new telephone line to Red Hill was not even started until January 1942. Army engineers finally completed the installation of all Army equipment at Red Hill in May 1942.

The Aircraft Warning Service System (AWS, a radar-type facility) thus constructed was operated intermittently until March 1943 when the facility was abandoned except for a few guards to protect the property.* Haleakala, closed on December 7, 1941, was partially re-opened October 1942, and completely re-opened for public day use on February 1, 1943.

In November 1943, the Army again approached Superintendent Wingate for permission to construct a communication station at Red Hill. The Army assumed that there would be no problem as there was already a Special Use Permit for the desired area, and the agreement was between two agencies of the Federal government anyhow. Wingate again sought assurance that Red Hill was the only suitable site, and that the installation was not permanent. He suggested that the new request be processed through regular channels.

It soon became clear that the Army considered this new

* The newly developed radar was thought to require a direct, unobstructed line between stations, making the highest locations the most desirable. In practice, the unobstructed 360 degree radar signals "echoed" most confusingly, and later stations were located against mountains which blocked signals bouncing back from behind.

project a continuation of the previously abandoned AWS and thus, in effect, already approved. For their part, the National Park Service saw a new, permanent, unauthorized installation which, if allowed, might be merely the beginning of additional requests. The Army began actual construction at Red Hill in April 1944, five months after contacting Wingate, but still without having applied for authorization from the Interior Department. When told by Service personnel that such activity had not been approved, the Army indicated that they intended to go ahead with the work and would tear it all down again should Washington disapprove. The heavy construction at Red Hill was damaging the site. The peak had already been leveled off, thereby lowering Maui's highest point by several feet. A new brick power house and another large brick building were going up although the work stopped for a while midway when the supply of bricks ran out. Most distressing of all were the 90-foot radio poles with red lights atop, soon dubbed the "Haleakala National Forest." All of this was presented as "essential to the successful prosecution of the war in this area."* None of it conformed to the provisions of the Special Use Permit of April 29, 1941.

The problem soon reached the Departmental level. On October 24, 1944, Secretary of War Stimson wrote Secretary of

* In April 1944, the Allies had successfully concluded the naval battles at Midway and the Philippine Sea, and the landings at Guadalcanal and Kwajalein. Nevertheless, General Richardson, Commanding General, Hawaiian Department, testified in a habeas corpus case on April 11, 1944, that the Japanese were still capable of attacking Hawaii either from air or from the sea.

Interior Fortas asking for a new permit to replace the old one for Red Hill. There was, as justification for this latest assault on the Park, a "military necessity" for the construction and operation of a "Radio Station" there. A permanent permit would not be possible, replied Fortas, but one for the "duration and six months" might be worked out. The permanency of the installation was the key point, and the War Department indicated that it was preparing a report. If it were to be permanent, the land would have to be removed from the Park by Congressional action, a time-consuming process.

Even the withdrawal of the desired acreage would not really solve the problem. Superintendent Wingate visited Haleakala in December 1944 and reported on the damage. He felt that the installation was clearly of a permanent nature, and it was very visible from both inside and outside the crater. No amount of boundary legislation could remove the eyesore. "And it is all unnecessary in this particular spot."*

Nevertheless, it remained. A revised Special Use Permit for the Red Hill site was signed on April 11, 1945. It authorized the use of the area for a "communication station for a period not to exceed 6 months after the war."

Two months later, on June 19, 1945, Haleakala section Ranger-in-charge Frank J. Hjort, submitted a report to Superintendent Wingate on Army activities in the Haleakala section. The Pukaoao Observatory, a building the Army

* File: 601.05.1, December 7, 1944, Wingate to Director.

occasionally claimed as its own, had again been cleared of radio equipment. The Red Hill station was very prominently in operation, and an installation on Kolekole was operating, also staffed from the base camp at the old CCC site at Puu Nianiau. The Red Hill facility apparently required a clear line-of-sight with stations on the other islands. A number of sites along the south-west rift beyond Kolekole would seem to have served this purpose equally well, and it was generally felt that the Army had chosen Red Hill merely because "they already had shacks there." For this reason, and because Red Hill was an integral part of the Crater of Haleakala both from a scenic and geological point of view, withdrawal of this area from the National Park would not be acceptable solution. Hjort suggested bargaining the withdrawal of the Puu Nianiau camp from the National Park in exchange for Army withdrawal from Red Hill at the end of the war. Although the Special Use Permit the War Department had signed was only for the "duration and six months," Park personnel thought that they recognized a permanent installation no matter what the Army called it.

On August 14, 1945 the war was over; in March 1946 the six months were up and the Army had evacuated the base camp at Puu Nianiau. Red Hill was not mentioned. In September 1946, Superintendent Oberhansley, who had replaced Wingate as Superintendent the previous July, wrote to the Commanding General, MIDPAC, about the ownership of property within the Haleakala section of the Park. Oberhansley suggested the

Army consider transfer of the stripped physical plant at Puu Nianiau in lieu of a complete restoration of the site. Under any circumstances, technical equipment should be removed immediately as there was no security and things were disappearing. In April 1947, the Army engineers agreed to return the base camp at Puu Nianiau. There was still no mention of the Red Hill installation in this exchange.

On March 15, 1948, two years beyond the "duration and six months" specified in the Special Use Permit, Superintendent Oberhansley sent a memorandum to the Director of Region Four, saying that the station was inoperative due to lack of power -- the line was down and the standby generator ruined by freezing. Rumored plans were for the Army to abandon the Red Hill station as of March 15. If this were true, Oberhansley suggested the National Park Service take immediate steps to hold the Army strictly to the terms of the Special Use Permit in the matter of site restoration. Once gone, the Army was considered unlikely to return for any site restoration work.

The concern was premature. The site, reported the Army on April 2, was indeed being abandoned as a radar station, but now the Air Force needed it for "highly classified" equipment.

Once again the Park Superintendent asked for details of the nature of this new installation, its permanency, and the reasoning by which the Air Force, already installed on Kolekole, sought a new site on Red Hill. The Army replied with a detailed background analysis of the prior "joint use"

of Red Hill by the Army and Air Force, and the now usual insistence that the Air Force had a "definite need" for Red Hill for the installation of new, highly classified equipment.

In May 1948, Oberhansley visited Haleakala and found that the Army, Air Force, and Mutual Telephone Company all had their eyes on the Red Hill location. Park policy would not allow approval of any use of this site if it were not necessary for immediate national defense, especially when other sites were available. The Air Force did not come in, but the Army continued to claim the site for standby purposes. Even the installation of a new telephone line to serve the developing Kolekole facilities did not seem to obviate the necessity of retaining the obsolete, de-activated structure on Red Hill.

The Superintendent's Report for June 1950, finally reported the Red Hill barracks razed and salvaged, and all 13 poles of the "Haleakala National Forest" removed for use at the Kihei signal station.

Four months later the military was back. During the "Korean Conflict," the Special Use Permit of April 11, 1945 was extended by the Secretary of the Interior on October 24, 1950, to allow the Air Force to continue its "temporary use" of the Red Hill site until six months after the termination of hostilities. On October 22, 1953, the Air Force declared its entire Haleakala installation "excess" and entered negotiations with the National Park Service for its disposal.

The military, however, balked at site restoration, and the National Park Service refused to take over the buildings.

Early in 1955, with the future of Red Hill still unsettled, the University of Hawaii joined the petitioners. They sought the Air Force buildings on Red Hill for use as a "geophysical observatory." In a letter dated January 14, 1955, the Director of Region Four warned the Director of the National Park Service of this proposed University installation. The buildings at Red Hill were an eyesore, and once in place, the new facility very likely would wish to expand its operations. He pointed out that a similar Weather Bureau project on Mauna Loa was not functioning. The University was given permission to use the site in April for a "coronograph" study.

In July, the Air Force was again talking of long term use, instead of the original six months use during the upcoming nuclear testing. In December, the Navy was using the old Air Force installations, project unknown. In January 1956, the Air Force was using it, but vacated in August and most of the buildings were removed. In February 1958, the Air Force again requested use of Red Hill for two months, later extended to four months, and the National Park Service granted the request. The Air Force used trailers and the remaining Red Hill buildings; there was no new construction.

The final military threat to Red Hill came from the Hawaii Air National Guard (HANG.) Public Law 86-149 of

August 10, 1959 authorized the construction of two HANG radar stations for the defense of the Islands. During May 1959, the Air Force, with some HANG officers, undertook an on-the-ground investigation of the Haleakala summit area without bothering to contact the National Park Service. (They expressed indignation when the Service protested.) There were rumors of a large new Red Hill base, but when queried in August, the Air Force reported that nothing had been decided on the size or location of any new camp, and they also admitted that the Special Use Permit for the use of Red Hill had expired. In a letter dated August 3, 1959, the Air Force advised the Interior Department that the HANG had been instructed "that they shall take no action such as preparation of plans until complete agreement of the National Park Service has been obtained." However, there were plans already prepared to put the necessary large towers outside the Park with the support buildings in the Red Hill hollow. The National Park Service pointed out that if the towers could go outside the Park, the entire project could go outside the Park. The Interior Department wrote the Secretary of the Air Force, Dudley C. Sharp, on December 30, 1959, outlining the Service position on such intrusive and discordant developments. The Air Force was asked to review its plans; "If this cannot be done and no other possible alternative can be found, we are agreeable to a re-examination."

Pressure was then applied to the Hawaii State Government through Congressmen Hiram Fong, Oren Long, and later Dan

Inouye, and Hawaii Governor William Quinn.* It was suggested that if the first choice Haleakala site was not approved, additional funds would be needed. In that case, the entire project ran the risk of being delayed or scrapped entirely, with a heavy loss of military spending in Hawaii. Quinn recognized three national policies in conflict: preservation of National Parks; adequate defense for Hawaii; and budgetary limitations. He preferred to bend the budgetary one first, and asked the Congressmen for additional information.

On May 12, 1960, Robert Hiatt, Dean and Director of Research at the University of Hawaii, wrote HANG's General Valentine Sieferman. Hiatt had a number of questions on the operation of the proposed radar equipment and how it might effect the University's research program at Kolekole. "It is our considered opinion that radioastronomy...would be impossible on Haleakala with the radar station on either Red Hill or Kolekole. At the National Radar Observatory at Green Bank, West Virginia, no low powered radio transmitters of any kind are allowed within 50 miles." The Hawaiian Astronomical Society at its meeting May 3, 1960 went on record opposing a radar tracking station at Haleakala, and Quinn asked if the Air Force had checked out this possible problem.

Local commercial broadcasters also expressed concern and the Air Force prepared agreements with several stations to guarantee no interference, and to close the station until

* For the fullest coverage of this material, see: AH, Governor's Files-Quinn, Defense, Haleakala Radar Site.

any interference was eliminated -- except in case of national emergency.

In the face of this opposition, the Air Force turned its consideration to its third choice site on Kolekole. (The second choice was White Hill, lower than Red Hill, and still within the Park.) In a letter to Quinn dated April 13, 1960 (and marked "secret") Sieferman noted that until recently HANG had insisted that Red Hill was the only feasible site, but recent technical advances "will make it feasible to locate this equipment at the alternate site [Kolekole.]"

The new Air Force interest in Kolekole produced an even more vigorous response from the University of Hawaii scientists. Hiatt wrote to Governor Quinn (via Senator Fong) asking no hasty action on the Kolekole site and saying radar was incompatible with the observatory. "Moreover, it is highly doubtful that any scientific activity can be carried on anywhere at the summit with the radar unit in operation." A great deal of money had already been spent on the Observatory, he said, and more was being appropriated. "The fact that Kolekole Peak is the third choice of the Air National Guard indicates that other sites might be sought to serve about as well and still not effect or eradicate existing activities in Hawaii. In any event, full scale investigation should be made before any change occures in the activities on Haleakala."*

Through the summer of 1960, the scientific gentlemen at the University, and their financial supporters at the National

* Ibid, Hiatt to Quinn, via Fong, April 27, 1960.

Science Foundation and the Smithsonian Institute continued to express "deep concern" over the proposed installation of radar on the summit of Haleakala. A meeting in November, however, produced some changes. A letter dated November 15 from the Department of Defense to the National Science Foundation reported: "Dr. Hiatt agreed that if the Air Force radar is installed on Red Hill, which is approximately 1,800 feet from the University facility, that this will be satisfactory." This figure is not quite the 50 miles Hiatt had mentioned in May. The National Park Service no longer had the support of the University scientists in opposing the HANG radar station on Red Hill.

The Air Force position was summed up in a letter from Brigidier General Chickering, USAF, dated January 17, 1961. He claimed that the Air Force had planned to re-activate Red Hill since 1948 and had only been awaiting new, improved radar equipment and funds for construction of the facility. Congress had approved the project and provided the funds in 1959 [11 years later.] Objections by broadcasting stations, and the University of Hawaii-Smithsonian Institute Observatory had been resolved. "Exhaustive" surveys showed this was the best single radar site. When Director Wirth toured Haleakala in early January 1960, explaining to the Air Force the Service policy on in-holdings, the Air Force clarified its position for him. "This admirable principle is fully understandable," said Chickering, "except when applied at the expense of national defense and survival." Wirth mentioned Service plans

for the development of Red Hill and the Air Force suggested combining the facilities. The National Park Service, however, stubbornly insisted on going ahead with "unilateral" plans for the development of Red Hill. In the interests of economy "and to prevent construction of permanent Park Service facilities /in a National Park/ incompatible with defense requirements," Chickering requested immediate action by the Executive, or by Court order, if necessary, to suspend further planning until the USAF request for use of the site had been resolved. At about the same time, Secretary of the Interior Seaton wrote the Defense Department noting that other agencies with site requirements based on "extreme urgency" had been turned down, and had found other locations outside the Park.

Local agencies delayed action until the problem could be solved in Washington. On April 26, 1961, Hiatt wrote Congressmen Inouye and Long saying that Director Wirth still opposed Red Hill and recommended Kolekole. Said Hiatt, "As you know we settled the matter of mutual habitation on Haleakala by having the Department of Defense agree to put their radar installation on Red Hill, which is higher and better for their purposes, and the University to put its observatory on Kolekole Peak. This agreement was arranged at the highest level of the Department of Defense, the National Science Foundation which is sponsoring the University's observatory, and the Smithsonian Institute which, with the University, operates one of the twelve United States satellite tracking stations immediately adjacent to Kolekole Peak."

The National Park Service, administrators of the area, was not included in this settlement of mutual habitation. Any change in plans, it was threatened, could result in the loss of the tracking station, the observatory project, and assorted NASA funds. Hiatt asked that the Congressmen insist the radar go on Red Hill as originally planned and that the National Park Service be asked to take a more reasonable attitude on the "highest and best use of those few acres of barren land on one corner of their vast holdings on the summit of Haleakala." Inouye brought the problem to the attention of Director Wirth who pointed out that Congress had already decided the highest and best use of those "few barren acres" by making them part of a National Park.

All interested agencies agreed that the University should be on Kolekole and the HANG radar station on Red Hill; all, that is, except the National Park Service whose objections seemed to be based on mere aesthetics, and could hardly stand before the fact of national defense necessity. Besides, the Red Hill proponents insisted, the radar station wouldn't seriously detract from the vista. Congress, however, by Act of September 13, 1960, had established a separate National Park of the Haleakala section of Hawaii National Park, and the new Haleakala National Park included the peak of Red Hill.

In January 1962, Governor Quinn again asked the Air Force about the radar site, specifically asking if the Haleakala location had not been abandoned in favor of one on Oahu. On January 3, 1962, he wrote to Senator Fong saying that effort

should be spent promoting a joint-use facility with the FAA on Mt. Kaala on Oahu, rather than trying to obtain the Haleakala site. A few days later the Air Force announced they had abandoned plans for a radar station on Haleakala. Some background for this reversal may be found in a letter from Haleakala Superintendent Stratton to the Director of Region Four dated September 12, 1961. It detailed a meeting that day during which Governor Quinn was informed by General Sieferman that the requirement of Red Hill was "budgetary." Quinn thereupon withdrew his support of the military use of Red Hill. On October 18, 1961, Regional Director Merriam wrote HAVO Superintendent Johnston that as far as the Secretary of Interior was concerned, the Red Hill issue was to be considered dead.

The HANG radar station was eventually built on Mt. Kaala. The Red Hill site was turned back to the NPS under an excess property declaration, and a visitor facility built thereon. Although construction of the Red Hill Observatory eliminated requests for permanent installations, the site is still desirable for temporary military use. In September 1965 the Department of Defense requested the use of the area from September 15 to December 15 for a satellite tracking station. This was granted. A note of thanks was received for the use of the Observatory lookout, and the Park staff noted that the site had been returned in perfect condition. Other groups have also had short term permits to use the Red Hill location for scientific programs. These installations

did not always meet with approval from the Science City neighbors. The Director of the University's Haleakala Observatory, John T. Jeffries, once wrote the Superintendent at Haleakala to ask that the Observatory please be advised of any future permits so scientific activities at the summit could be coordinated. They had just recently had to ask another group to lower their antenna so as not to interfere with the Observatory. "Science City" was becoming crowded.

Puu Nianiau

The Silversword Lodge buildings at Puu Nianiau were vacated by the concessioner in late 1961 and they then became desirable in the eyes of various Federal agencies seeking facilities on Haleakala. To forestall requests for use of the site, the NPS asked the General Services Administration to initiate action for the removal of the structures early in 1962. Before a contract could be awarded, the AEC requested the buildings for staff housing during Operation Dominic, scheduled for later in the year. The Haleakala Superintendent refused the request on policy grounds and the AEC then made application through the Department of Defense. There was strong feeling on all levels of the NPS that there should be no new precedent-making arrangements of this sort with sister Federal agencies. Although the AEC produced arguments which suggested their requirements were based on convenience rather than need, a six month Special Use Permit was issued on February 26, 1962. The AEC was to use the existing buildings for room and board only, and were to

vacate no later than September 1, 1962. On August 8, 1962, Superintendent Stratton at Haleakala wrote the Director of the Western Regional Office: "It will come as no surprise to you that the AEC has this date requested an extension of the permit for use of the former Silver Sword Inn in Haleakala National Park."* Operation Dominic was scheduled for completion by the end of the year and the AEC was granted a new permit to run through December 31, 1962. It was strongly urged that the buildings be razed as soon as possible after the AEC had vacated. The Department of Defense had other installations scheduled for Kolekole, and private organizations were again asking about the Lodge area for group camping. The AEC vacated the area in November, turned over some housekeeping supplies to the Haleakala National Park at no cost, and the old CCC camp-World War II military camp-Silversword Lodge buildings were finally removed. The area has been vacant since then, with only shops and stables remaining in the vicinity.

As early as May 1962, the FAA had requested the use of the Lodge area for their new facility at the 7000 foot elevation. Superintendent Stratton again replied that such developments were against policy and pointed out that earlier use of the area had been military or defense-oriented. The FAA then asked for access to a housing site beyond the Lodge area, just outside the Park on Haleakala Ranch land. This would still have required tapping the Park water and power lines, and would make closing out the Lodge that much more

* File: 30.

difficult. The Park has only a limited water supply which sometimes requires rationing for staff and visitor needs. Petitioning agencies rarely questioned the water or power supply, assuming that both were readily available. The FAA request was denied when it again became clear that the site decision was based on convenience and economy rather than unique need. The FAA finally agreed to a site location just outside the Park near the Hosmer Grove picnic area but within the section proposed for the Keanae addition. The NPS granted the FAA a revocable use permit for 20 years, dated December 22, 1964, for a power line access across the Park. A new revocable use permit was issued in 1966 to accommodate changes in alignment of the underground power cable. The FAA troposcat tower was completed in the summer of 1965.

There were, in 1966, no non-Park installations on the summit of Haleakala or elsewhere within the Park boundaries, but the adjacent summit area around Kolekole peak, just outside the Park and at present accessible only through the Park, has been developed as "Science City." This development is readily visible from many locations outside the Park, but cannot be seem from within the crater. "Science City" and the FAA troposcat tower located just outside the Park boundary at 7000 feet are both serviced from Wailuku and Kahului. At the present time, the only access to either site is via the State Highway and Park Highway to the summit of Haleakala. Additional access to "Science City" as well as power and water lines, are planned for construction outside the Park boundary.

KIPAHULU EXTENSION

As early as August 13, 1935, botanist Otto Degener had written to Superintendent Wingate about the excellent native flora in the Koolau area and the possibilities of the Park taking the area under its wing. This area was owned by Samuel Baldwin who ran cattle on it, but Wingate promised to talk with Baldwin about voluntarily eliminating grazing there. Besides the Koolau Gap lands, Keanae and Kipahulu valleys have also been suggested for inclusion in the National Park.

Most of the interest centered around Kipahulu. Reports furnished by all those going into the valley indicated that its general visitor use was limited but its botanical and natural history values were unsurpassed. Native birds and plants abounded and the inaccessibility which made visitor use doubtful had preserved them from destruction. As one of the few almost virgin forests remaining, it should be protected.

Ranger-in-charge Frank Hjort wrote Superintendent Wingate on March 14, 1945 to report a trip he and Gunnar O. Fagerlund had taken through the valley. He felt the area had National Park possibilities and should be set aside before it also succumbed to the rapid expansion of the Army and Navy or the planting of exotics by the Territorial Forestry Service. Colin G. Lennox, then president of the Territorial Board of Agriculture and Forestry, had visited

See Files: 601-11; 602-01; 602-01.2; 701-02; L58; L1417; L1425.

the area in July 1944, and was approached on the subject of the Park acquiring the land. He approved the idea and indicated that it would be possible to acquire the land while he was President of the Board. Wingate had replied to an earlier report on the Lennox meeting to say that Kipahulu valley was one of the areas authorized by the Director of NPS for consideration as a Park addition, following public opposition to the Kauai National Park proposal (1944). Wingate pointed out that protection by the Park would not be necessary if the Territorial Board had the legislative authority and an established policy of preserving intact the native forests.

Five years later in 1949, Superintendent Oberhansley sent off to the Director of Region Four some maps and other information requested concerning a Revised Boundary Status Report on Kipahulu valley. He noted that some of the privately owned land was administered for watershed by the Board of Agriculture and Forestry, thus eliminating taxes, and the private Kipahulu parcels were in this category. The owners earlier had indicated a willingness to turn over the parcels if water rights could be retained.

The addition proposed was approximately 10,540 acres of land to include all the valley from the Haleakala east boundary down to privately owned Kipahulu Ranch, and other lands as necessary to prevent encroachment along the canyon walls, plus a strip including two lakes. Land acquisition was not expected to be any trouble as it was all controlled by the Territory; prompt legislation was urged.

This Boundary Status Report cleared the Regional Office 6/17/49; and was approved by Director Drury on 8/1/49. The Secretary of Interior in 1951 approved the proposed extension of the Park to include a portion of Kipahulu valley. The boundaries of the formerly undivided HNP were established as depicted on HNP Drawing No. NP-HAW 7019/B, approved on 1/14/53, and reiterated on May 14, 1954.* The boundaries of the two Parks remained as established in 1953 and as depicted in that drawing when Haleakala became a separate Park in 1961.** For its part, the Territory of Hawaii in 1949-50 surveyed the lands of the Kipahulu extension and the Kula headquarters parcel.

And there the approved Kipahulu Valley Extension rested quietly until 1961.

Haleakala National Park was established as a separate Park by Public Law 86-744, approved September 13, 1960, to take effect July 1, 1961. At about the same time, the State of Hawaii was participating in the Hawaii Seashore and Recreation Study, designed to locate areas of national significance.

On February 23, 1961, E. H. Cook, Director of the Department of Land and Natural Resources, sent a memorandum to Jess Walters, Administrative Assistant to the Governor, noting that bill S543 to promote the preservation of sea-

* This 1954 item not located; mentioned in correspondence file L1417, November 17, 1963, FTJ to Director, Western Regional Office.

** File: L1425, September 14, 1961, Harry Sanders (Actg Chief of Lands) to Director, Region Four.

shore areas did not include Hawaii. Would it be possible to revise the bill to include Hawaiian areas, especially the Na Pali coast of Kauai and a shoreline addition for Haleakala National Park. A Seashore Recreational Study in Hawaii was underway by late December. Naturalist Bob Carpenter of Haleakala was asked to prepare justifications for both proposed additions. The USGS had maps with points of interest in various categories plotted, and Professor Lamoureux of the University of Hawaii was to help with the botany. Carpenter was to studiously avoid undue publicity on this assignment. At the request of Richard Sia, Chief, Hawaii Seashore and Recreation Study, copies of letters and reports relative to Kipahulu valley were forwarded to Region Four; Kenneth P. Emory of the Bishop Museum provided a short list of the archaeology and use of the Kipahulu-Kaupo area; and on May 8, 1962 Carpenter submitted his report. The Seashore Study, oddly enough, recommended two areas in Hawaii: the Na Pali coast of Kauai and the Kipahulu valley on Maui.

After careful investigation, it was agreed Kipahulu was far superior to the values inherent in Koolau-Kaenae, and the "coastal land situation alone weigh heavily in favor of Kipahulu valley."* Additional detailed studies of the two areas, including Koolau Gap and the greater part of Keanae valley, were contracted out to Harland Bartholomew in June 1962 for $25,000.

With the authorized separation of Haleakala, Superintendent

* File: L58, May 8, 1962, Director, Region Four to Director, NPS.

Johnston worked to develop interest in a Park extension. In a letter to the Director of Region Four on March 21, 1961, he wrote that the upcoming dedication of the new Park would be a good time to propose a boundary extension. He urged no special area and felt it could take some time to secure support. Earlier in the month he had sent to Richard Dunlap, Director of State Parks, maps showing both Keanae valley (preferred by the Director) and Kipahulu valley, so that the Service and State Parks would be in agreement on boundaries. The Regional Director sent the Johnston memorandum to Washington and on March 29, Assistant Director Scoyen replied that the best timing for any extension was to include it in a new Boundary Status Report. A new one was due -- the last one had been approved seven years before. The Regional Director then wrote the Director that plans for any extension should be deferred until after the Shoreline Study, then underway, had been completed. Certainly no boundary extension should be given any publicity until after a General Study had been made and a revised Boundary Status Report had been submitted and approved.

News got around however, and on June 30, 1961, the day before Haleakala became a separate National Park, S. Herbert Evison, editor of the National Park Courier, wrote Director Wirth to ask what the plans were for the expansion of Haleakala. The reply on August 22 noted the authorization of June 20, 1938 which allowed extension eastward to include Kipahulu Forest Reserve and some privately owned lands. At that time the

Service had agreed with the Territorial officials not to push for this "although we retain it as an ultimate objective."* On May 8, 1962 (after receipt of the Carpenter report) Director Merriam of Region Four wrote to the Director, NPS, about the Seashore Study and Kipahulu valley and he said: "We believe that the 1938 Act relating to NPS additions in present circumstances is inapplicable to Haleakala National Park and in any event, should not be relied upon as authority for a major addition to that park."**

In March 1961, Assistant Director Scoyen had suggested that a new Boundary Status Report for Haleakala was due. By September, the Lands section had dug out Drawing No. NP-HAW 7019/B showing the boundaries approved in 1953, and this was forwarded to the Director of Region Four with the comment that the records showed varying acreages for the non-Federal holdings within the Haleakala National Park but they could see no pressing need for, or possibility of, reconciling the amounts at that time. Moreover, the question of whether Kipahulu valley should be included within the Park had been raised several times.*** According to Lands' records, Haleakala National Park included 17,130 acres of Federal land, all conveyed by deed, January 28, 1928, from the Territory of Hawaii; and approximately 9,272.78 acres of non-Federal land in the following contiguous ownership:

* File: L1417.
** File: L58.
*** File: L1415, September 14, 1961.

Parcel H	3138	acres	Ulupalakua Ranch, watershed dedication
I	5310	"	Ulupalakua Ranch, clear title
K	166	"	Dwight Baldwin
O	26.5	"	E. Maui Irrigation Co., Ltd.
L	9.27	"	Haleakala Ranch Company (the Kula headquarters site)
plus	5561	"	Kipahulu Forest Reserve (State of Hawaii)

The following April 11, 1962, the Department of Planning and Research wrote to NPS, Washington, asking for the current data on acreage at Haleakala and Hawaii Volcanoes National Parks. Washington's reply showed 9,272.78 acres of non-Federal land in Haleakala. Superintendent Stratton had received a similar request, and surprised to learn that there was any non-Federal land in Haleakala NP, dug out an old HNP Ranger Manual and discovered 8 non-Federal parcels, all outside the Park boundary, 7 of which were in the Kipahulu valley. His list included parcels H, I, K, O, & L (above) plus the following State-owned parcels:

Parcel J	1070	acres
M	573	"
N	780	"

Letters were also exchanged between Superintendent Stratton and the US Department of Agriculture on the total acreage involved and the kind of land it was.

Part of the confusion was due to the inclusion of Parcel L in some listings. A Boundary Status Report submitted by Superintendent Oberhansley on July 22, 1947 proposed the

acquisition of some 20-40 acres of land near the Kula pipeline for a Park headquarters at the 4000 foot level. A parcel of 9.27 acres was recommended by Director Drury on February 26, 1951, approved by Interior Secretary Chapman on March 26, 1951, and appeared in Drawing No. NP-HAW 7019/A as tract "L". It was later determined that the idea of a detached headquarters was impracticable and all visiting Service officials concurred in abandoning the site. On September 17, 1953, Oberhansley recommended abandoning the site and developing the 7000 foot headquarters area. This was approved by Assistant Director Sanford Hill on October 22, 1953. Acting Superintendent Castro recommended the proposal to acquire be abolished on October 29, 1953; it was approved by Regional Director Merriam on December 8, 1953, and by Director Tolson on December 20, 1953. This parcel was mentioned by Acting Chief of Lands in his letter of September 14, 1961 to the Director of Region Four as "now definitely eliminated from Park development plans and not depicted on Drawing No. NP-HAW 7019/B." Apparently his was the only office with a corrected drawing. The deletion made everyone's non-Federal land total come out the same.

On October 5, 1962, Regional Director Merriam wrote Superintendent Stratton that the House Committee on Appropriations wanted to know the number of non-Federal acres as of July 1, 1962, estimated value, and number of land owners. Stratton replied the next day that there was no non-Federal land in Haleakala. On October 30, however,

the Honolulu Star-Bulletin reported that the extension was to include both Koolau (owned by Richard Baldwin who, it was reported, thought the idea was fine) and Kaupo (owned by Dwight Baldwin) as well as other, State-owned lands. Director Wirth was said to approve. Somebody thought defense funds could be tapped for development in the area, especially at Science City, and for a road beyond Skyline Drive down to PoliPoli Springs.

Wirth, of course, had been misquoted. While he wanted a study of Kaupo, Kipahulu was the desired extension. Apologies went to Dwight Baldwin, disclaiming any Park interest in acquiring the area at Kaupo.

At this point an even larger storm erupted over the possibility that Keanae was also proposed for inclusion in the National Park. On January 13, 1963, Mamoru Yamasaki Representative, 7th District, wrote Congressman Inouye that there were rumors of an extension including Keanae and Wailua. He indicated the poor Hawaiians were very upset over the possibility of losing their lands to the Federal government as they supplemented their meagre family incomes by growing taro on the lands wanted. Inouye contacted Interior Secretary Udall who replied that several areas were being studied for a possible extension. There were no recommendations as yet and an act of Congress would be required under any circumstances before the Park could be enlarged. About the same time, Senator Fong wrote NPS Director Wirth asking the same questions and received a similar reply.

Back in September 1960, a hiking club went from Hosmer Grove to Keanae valley along the boundary, and the Superintendent's Monthly Report noted that an additional hiking cabin at Keanae and a route into the valley were wanted. The Report also went on record as wanting to add the valley to the Park.

In an attempt to clarify the situation, a meeting was arranged for March 21, 1963 in Wailuku, with Superintendent Stratton, Senator Inouye and the Keanae residents. One land holder, Dr. Thomas Behrmann, was vehemently opposed to any extension toward Keanae. Inouye supported the Park. Pro-Park persons suggested an announcement that the Park was not interested in the private lands below the ditch line, only the State lands above the ditch. This limit would also avoid the problems of ditch water rights.

The residents were not satisfied, and, led by "poor Hawaiian" Behrmann, formed a citizen's group to "resist long-range Haleakala National Park expansion plans." The campaign would extend beyond Maui as they felt Inouye had not convinced them the expansion could or would not occur in the future. They felt expansion was a threat to everyone in the area.

Behrmann met with the Maui Chamber of Commerce on May 1, and the next day Superintendent Stratton met with Hui Ahinahina, the Haleakala National Park citizens assistance group. They went over the claims and counter-claims and the Directors of Hui Ahinahina offered a resolution in support

of the extension. Stratton pointed out State Senate Resolution number 116 requested counties to assist and cooperate with Federal and State agencies in the study of National Parks, and asked Hui Ahinahina to hold their resolution until the study was completed. On May 31, Director Wirth wrote the Director of Region Four, agreeing to announce that the Park was only interested above the ditch line. He hoped eventually that zoning would preserve the lower valley.

A statement to this effect, dated June 13, 1963, was sent to Hawaii's Congressmen and others. Representative Tom Gill wrote on July 2 about the continuing, if lessening uproar, wanting to know who was complaining, who owned the land and so on, and was advised that further opposition was not expected now that lower Keanae had been permanently excluded from any extension.

In late July, Kipahulu was visited again by John Henneberger of HAVO, Ranger Lindsay of HALE and WRO Park Planner Mortimer. Henneberger also visited Keanae with HALE Superintendent Guse and HALE Naturalist Zink in November. Their reports indicated that Kipahulu was better botanically, but Keanae had better visitor potential. HAVO Superintendent Johnston wrote November 18 to the Western Region Director, to say that the situation in Kipahulu was the same as it had been 9½ years before, and quoted the letter of May 14, 1954: "We feel that it is extremely desirable to retain the Kipahulu Valley and adjacent lands in any acquisition plans for Maui.

The same reason that impelled this Service originally to include the Valley in the land program is still valid.... It is emphasized that we will reduce our land requests on the Island of Hawaii only upon condition that Kipahulu Valley remain with the Park acquisition program and that the Territory initiate early action to acquire the private holdings and settle the ownership of the disputed Tract H, 3,138 acres."*

Meanwhile, another agency had entered the picture. In a letter dated October 17, 1963 to the Director of the Western Regional Office, HALE Superintendent Guse noted that the State Department of Land and Natural Resources and Haleakala Ranch had an agreement to release Nene in Koolau Gap and the north crater ridge. This agreement permitted the State free access to the land at all times and allowed them to regulate and control all hunting. This was the same land proposed for addition to the Park. Guse wrote the next day to the Superintendent of HAVO, indicating the move was a complete surprise to HALE as there had been a gentlemen's agreement with the Ranch's land manager to consider an exchange of lands on the south slope of HALE for the land now included in the agreement with the State, if an addition to the Park became desirable.

The agreement was Land and Natural Resources Board Resolution #40 of October 11, 1963, which declared the area "Haleakala Wildlife Refuge" to be managed by terms of a

* This letter not located; known only by quotes in other correspondence.

cooperative agreement between the Board of Land and Natural Resources and the Haleakala Ranch Company. Included were some 3360 acres between the Park boundary and Haiku uka, the land of Kalialinui, including Forestry's Waikou Cabin.

Additional correspondence from Michio Tanaka, Director, Division of Fish and Game, to Richard Baldwin, dated October 21, gave the new name as "Haleakala Nene Sanctuary," and the duration of the agreement as 10 years, although the Ranch could remove any portion of land from the area for any purpose provided the Board was given 30 days notice. No funds changed hands and reserved to the Ranch were all normal ranching activities, except hunting.

Superintendent Guse sent copies of all this on to the Director, Western Regional Office, with the note that it would have little effect on continued consideration of the area as a possible addition to the Park.*

The next move came in January 1964 from Hawaii Representative Spark Matsunaga who wanted to know the present status of the boundary extension. He was advised that the Harlan Bartholomew study had been finished the previous summer but study in the NPS was still underway. It was hoped to have a decision and recommendation by the next few months. Any change would still require an enabling act of Congress. Superintendent Guse also wondered. Writing to the Director, WRO, on March 13, 1964, in response to an inquiry on inholdings, he indicated there were none, except for the 9272.77 acres in Kipahulu

* File: L1417; L58.

valley, determined as desirable in 1951 on the basis of the 1938 "rounding out" clause. The area was still shown as non-Federally owned Park lands in Areas Administered by NPS. Should HALE be preparing an acquisition priority program for these lands?

He received a letter dated March 18 from James M. Siler (Regional Chief, Division of Land and Water Rights, WRO) saying that they had determined it was not necessary to submit a priority program covering those acres.

Keanae surfaced again on April 23, 1964 in a memorandum from WRO to the Superintendent at HALE. Keanae was recommended as an extension only to the ditch line, with planning to include trails, shelters, etc. Kipahulu was not proposed for addition due to impossible public use. The State should consider Kipahulu for its scientific values and provide continuous protection. Kipahulu might be studied as a possible Natural Scientific Landmark. If it became endangered, then the area could be reconsidered for possible addition. Superintendent Gusa generally agreed. It was a matter of giving up Kipahulu when pushing for it might jeopardize Keanae, and Kipahulu without the coastal area did not compete favorably with Keanae, also without a coastal area. On May 5, Superintendent Johnston of HAVO wrote the Director of WRO: "I would recommend that the authorized extension of the boundary into the upper portion of Kipahulu valley be withdrawn in favor of the boundary extension into Keanae valley as shown on the map accompanying your April 23 memo."

Keanae was still in the running, and on June 11, the E. Maui Irrigation Company wrote to suggest the boundary be 200 feet above the ditch to provide better maintainance. WRO replied that water rights and easements were still to be explored.

For the rest of the year the matter remained quiet except for a letter from Ira B. Lykes (Acting Assistant Director, Cooperative Activities) to the Director of WRO, offering help on the boundary changes during the next session of congress. Lykes was responding to the Harland Bartholomew "Report on Economic Evaluation of Proposed Keanae Extension."

No official report had yet been released when Superintendent Guse summarized the general outlines of the proposed extension on February 2, 1965, in a report to the members of Superintendent Stratton's ad hoc Advisory Panel on potential land acquisitions. (This Advisory group had been heard from earlier; in December 1963 they met to discuss the relative values of Keanae and Kipahulu botanically.) The proposal covered some 7900 acres in upper Keanae valley, starting 200 feet above the ditch, with limited development, and all water rights continued. The members met again on March 2 and generally agreed with the area and development plans, although there were questions on overnight cabins and hunting. There was not enough consensus within the Advisory Group to make any recommendations. Then, in early 1966, the proposed Kauai NP brought new adverse comments on the Keanae valley addition.

The proposed Kipahulu extension remained on the map, and

the Keanae extension remained off, as of the end of 1965. There had been no official boundary change to put them on or take them off. In May 1966, Superintendent Guse obtained from HAVO a copy of Drawing No. NP-HAW 7019/B, still in effect, and filed it away in his office until the entire land-holding question could be worked out.