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HISTORY of ENDEMIC HAWAIIAN BIRDS

Part I. POPULATION HISTORIES--SPECIES ACCOUNTS
Freshwater Birds: Hawaiian Coot 'Alae-'ke'oke'o

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ABSTRACT

Fulica americana alai is a medium-sized, slate-grey water bird (Rallidae) with a high white bill. It is resident on Kaua'i, O'ahu, Moloka'i, Maui, Hawai'i, and on Ni'ihau after seasonal rains. Exhaustive search of literature and government reports uncovered some 4,055 census results, observational notes, collection records and related statements on relative abundance and geographical distribution from 1824 to 1983. All data are serially numbered, arranged in geographical and chronological order, referenced and systematically reviewed. Analysis of recent records indicates a total pre-breeding population of ca. 1,400 individuals were distributed among the various islands, as follows: Kaua'i, 70 percent; Ni'ihau, 4 percent; O'ahu, 11 percent; Moloka'i, 2 percent; Maui, 7 percent; and Hawai'i, 6 percent. Recent post-breeding populations averaging ca. 1,550 individuals were found to be similarly distributed. The total population is judged to be relatively stable long-term.

3. Fulica americana alai

'Alae-'ke'oke'o or Hawaiian Coot

Fulica americana alai is a medium-sized (13-16 inch long), slate-grey water bird (Rallidae) with a high white bill (Peterson 1961). It differs chiefly from its nearest relative, the American Coot (Fulica americana americana) by having greater development of the frontal shield, a generally smaller wing, and secondaries with wider white (Rothschild 1900). The Hawaiian form was first described by Peale (1848). A morph, in which individuals show a dark ring near the tip of the bill and a dark red frontal shield sharply set off from the white bill, is also recognized (Pratt 1978).

The 'Alae-ke'oke'o is found on five major Islands - Kaua'i, O'ahu, Moloka'i, Maui, Hawai'i and on Ni'ihau where winter rains normally result in large temporary shallow ponds. There seems to be no certain record yet of F. a. alai in the Hawaiian Leeward Islands, though they could be expected to stray there on occasion. The subspecific identity of a dead specimen picked up 11 August 1965 inland on Tern islet, French Frigate Shoals, was apparently not determined (Amerson 1971).

A. Bloxam secured the first specimen of 'Alae-ke'oke'o in a loch of Pearl Harbor, O'ahu, in 1824. T. R. Peale described this bird in 1848 from specimens collected by the U. S. Exploring Expedition in 1840 and 1841. Distribution of 39 of the 56 known specimens among some of the 9 repositories is as follows: American Museum of Natural History (21), Museum of Comparative Zoology, Harvard University (11, incl. the type), and National Museum of Natural History (7, incl. 2 co-types) (Banko 1979 report).

Wilson and Evans (1893), Rothschild (1900), Henshaw (1902), and Perkins (1903) include the 'Alae-ke'oke'o in their monographic treatments of Hawaiian birds. Schwartz and Schwartz (1949,1952) described the habitats, status, and distribution of this bird a half-century later. Berger (1972) combined information from these and other sources in a contemporary summary account. However, the largest store of recent information on the species is that contained in reports of the Hawaii State Division of Fish and Game (now Forestry and Wildlife), and U. S. Fish and Wildlife Service. The writer wishes to thank R. J. Shallenberger (USFWS) and M. Morin (HDFG) for supplying information and commentary helpful in interpretation of agency census records.

OBSERVATIONS, REPORTS AND SPECIMEN RECORDS

Introduction

Drawing conclusions from a large volume of historical information on relative abundance and distribution of 'Alae-ke'oke'o required that data be geographically arranged and chronologically ordered in a systematic fashion, as outlined in the Introduction to Part I (CPSU/UH Avian History Report 4). Records presented in the Appendix satisfy criteria necessary for basic documentation and comparative analysis.

In the following descriptive account sources of published information are cited by author and year in the usual style. One, two, or three digit numbers in parenthesis refer to specific records in the Appendix. Sources of published and unpublished information listed in the Appendix may be traced to complete references in the bibliography.

Historical Status and Distribution
In the Archipelago

As indicated in the Appendix (No.'s 1-39), there are some 39 records related to the status and distribution of 'Alae-ke'oke'o in the Archipelago from 1840/1841 to 1980. Most authors before 1920 point out the common status and broad distribution of this species over the fresh water habitats of the major islands of the Group. Records since 1950 are comprised largely of periodic counts by the Hawaii State Division of Fish and Game, U. S. Fish and Wildlife Service, and members of the Hawaii Audubon Society.

The earliest reference to the status and distribution of this species in the Islands generally seems to be that of Peale (1848) who observed during the U. S. Exploring Expedition's 1840/1841 visit to the Islands that this species was "not uncommon" on marshy banks of creeks and in taro patches (1,2). Nearly 30 years later, Dole (1869) also noted that this bird was "common" in kalo (taro patches) (3). Perkins (1903) confirmed from field work in 1892 to 1896 that the species was common, adding that it formed flocks of "considerable size, 50 or 100 together, on fair-sized fresh or strong brackish ponds as well as larger streams at a short distance from the coast" on Kaua'i, O'ahu, Moloka'i and Maui (4). Rothschild (1900) stated that 'Alae-ke'oke'o were evidently distributed all over the Islands, judging from specimens sent him by H. C. Palmer from O'ahu, Kaua'i, Moloka'i and Ni'ihau (5). Henshaw (1903) wrote that this species was "slaughtered...usually shot and thrown away...quite exterminated in many localities...becoming scarcer and scarcer in all districts" (6,7). Some 10 years later, Bryan (1915) stated that the 'Alae-ke'oke'o was "seldom seen" except in the fresh-water ponds and brackish to fresh-water marshes (8).

Schwartz and Schwartz (1949,1952) conducted an official Statewide survey of game birds from February 1946 to July 1947, and stated that the species were then fairly common on most islands except Lāna'i, rarest on Hawai'i, and commonest on O'ahu, but that the future of 'Alae-ke'oke'o was problematical (8a,8b).

Hawaii State Division of Fish and Game and various cooperators began censusing water birds on certain islands in 1963, and Statewide (with some gaps) in 1970. However, the purpose and methodology employed in the counting of 'Alae-ke'oke'o by HDFG has varied considerably over the years. From 1963 to 1969 this species seems to have been periodically recorded Statewide only during the January water bird census. Censuses of increasing frequency and intensity have been carried out since ca. 1976.

The census data presented in Table 1, especially those representing progressively earlier years prior to 1976, are thus not exactly of equal value or, in some cases, hardly even comparable to information obtained later (9-39a). It is believed, however, that the comprehensive semi-annual censusing initiated in 1977 obtained data relatively indicative of actual population levels (19,27,38). The last published population estimate of 1,200 was apparently supplied by HDFG and/or USFS (Anon. 1982) (39a).

Casual overview of census data in Table 1 recorded by HDFG from 1963 to 1981 reveals some obvious deficiencies. For example, no counts at all were conducted during the five year period 1971 to 1975, and no summer counts from 1963 to 1969, 1976, or 1978. January counts during the seven year period 1963 to 1969 are only a fraction of those obtained during the six year period 1976 to 1981, with no obvious explanation for the difference. Inclusiveness of census data for the island of Ni'ihau clearly only once, in July/August 1970, confounds the comparability of information for all other years. The disparity of numbers censused some years (1976,1979), compared with those counted in adjacent periods, adds further uncertainty to validity of data. Taken together, the deficiencies of the data are such that sound conclusions can hardly be drawn from a detailed comparative analysis.

Marshall (1975), based on uncited data, stated that mid-summer counts of 'Alae-ke'oke'o during the six year period 1969 to 1974, ranged from 425 to 1,667, but offered no explanation or insight into population stability or trends (17,18).

Striving to improve reliability of census data, HDFG defined an objective and standardized methodology beginning 1 July 1975 (19). These improvements are presumably still in effect.

Shallenberger (1977), recognizing State and Federal listing of 'Alae-ke'oke'o as an endangered species, stated that the population, based on a January 1977 Statewide count of 2,330 birds, was an estimated 2,500 individuals. He also noted that 20-year population records vary radically from year to year and probably do not reflect actual population changes (24).

The Endangered Species Recovery Team, comprised of USFWS and HDFG biologists, projected the Statewide population in 1977 to 2,500 (25b). Hawaii Division of Fish and Game acknowledged that counts of 'Alae-ke'oke'o frequently vary radically both seasonally and annually, explaining that such apparently irreconcilable differences may result from inaccurate counts due to weather conditions, inconsistent survey coverage, variable reproduction success, immigration of continental coots, and/or interisland movement of resident populations (38). Census data was, however, judged relatively comprehensive and complete. The quasi-official 1982 population estimate of 1,200, published by the Wildlife Management Institute in the Outdoor News Bulletin, was presumably based on data supplied by HDFG and/or USFWS (Anon. 1982) (39a).

Movement

Seeking an explanation of large concentrations of 'Alae-ke'oke'o found occasionally in single habitats, Shallenberger (1977 report) speculated that these populations possibly resulted from inter-island movement. Noting that the largest numbers of this species have always been found on O'ahu, Maui, or Kaua'i, he stated that those that winter on Kaua'i were believed to breed in large numbers on Ni'ihau during favorable water conditions, although drought may cause them to remain on Kaua'i during dry winters (24). Basing analysis on HDFG/USFWS count records he added that 'Alae-ke'oke'o appear to follow an annual pattern of migration between Kaua'i and Ni'ihau comparable to that of Ae'o (25). Similar conclusions drawn later indicated (Shallenberger 1977) that the estimated population, based on the January 1977 Statewide census, was 2,500 (29-33).

Ralph (1977), noting that total numbers remained high during the winter of 1976 to 1977 (nearly 2,000), and that migration to Ni'ihau for nesting had not occurred, observed that about 10 to 15 percent of 'Alae-ke'oke'o in Hanalei National Wildlife Refuge, Kaua'i, and Waipi'o Peninsula, O'ahu, had red frontal shields, suggesting perhaps an incursion of the mainland race (67).

This species has not yet been banded or marked for the purpose of studying their social behavior or movements. Since flights during the day seem not to have been recorded, most

inter-habitat or inter-island flights apparently occur at night.

Productivity

Hawaii Division of Fish and Game stated that approximately half of the 'Alae-ke'oke'o recorded in the 1980 summer census were unclassified as to age, adding that with ages of such a large percentage of the total population unknown, it was difficult to draw any meaningful conclusions.

Island of Kaua'i

Islandwide Status and Distribution

Perusal of early records of 'Alae-ke'oke'o on Kaua'i indicates that a number of specimens were secured in the 1880's and 1890's, but no one seems to have recorded either the localities where they were found or their general status and distribution islandwide at the time. Schwartz and Schwartz (1952), following their 18-month 1946 to 1947 survey, noted that the species on Kaua'i were scattered but abundant in practically all the lowland portions of streams, reservoirs, and irrigation ditches, but gave no indication of numbers (40).

Hawaii Division of Fish and Game began to census 'Alae-ke'oke'o islandwide on Kaua'i in 1956 and continued, with some gaps, until the present day. Numbers tallied during the 26-year period (1956 to 1981) are presented in Table 2. (41-61,63-66,68-78). Examination of census data in Table 2 reveals widely fluctuating population levels in both early and recent years. Lack of consistency in censusing from 1956 to ca. 1976 reduces validity of comparing results of early counts with more recent data, however it seems certain that far fewer 'Alae-ke'oke'o were found on Kaua'i from 1956 to ca. 1975 than from 1976 to 1981.

Count data from both January and July/August census periods are available for only 6 of the 13 years, from 1969 to 1981. For 4 of these 6 years (1969,1970,1976,1979), July/August counts ranged from 1.02x to 13.74x numbers censused in January. For the remaining 2 years (1977,1980) January counts ranged from 1.45x to 2.43x those censused in July/August. Further analysis of data in Table 2 would appear to be unrewarding due to the potential number of unknown factors which are apparently causing wide disparities in census results.

Hawaii Audubon Society members and other observers have recorded 'Alae-ke'oke'o in various districts from 1958 to 1980, mostly either in undesignated localities or in various combinations of habitats (84-117). Such information,

unfortunately, does not lend itself to comparative evaluation and will not be considered further.

Relative Abundance of 'Alae-ke'oke'o in 11 Quadrangles and 149 Habitats, 1956 to 1982

Results of some 26 years of recording numbers of 'Alae-ke'oke'o on Kaua'i are summarized by quadrangle in Table 3, and by habitat in Table 4. Of a grand total of 20,485 of this species counted in 1,488 censuses, some 16,625 (81 percent) were found in only 3 quadrangles, the average number per count reported in each quadrangle being 30 (HANALEI), 27 (KOLOA), and 19 (LIHUE). Only 60 (40 percent) of the 149 habitats surveyed are located within these 3 quadrangles.

A total of 2,910 'Alae-ke'oke'o (14 percent) was found in 2 quadrangles, the average number reported per count in each of these notably less populated districts being 15 (ANAHOLA), and 4 (KAPAA). Some 39 (26 percent) of the 149 habitats surveyed are found in the 2 quadrangles.

Only 950 (5 percent) of this species were found in the remaining 6 quadrangles, the average number reported per count in each quadrangle being 7 (MAKAHA POINT), 6 (HAENA), 4 (KEKAHA), and 1 (HANAPEPE). A total of 50 (34 percent) of the 149 habitats included in all censuses are found in these 6 quadrangles.

A major share of the total census effort was expended in counting 'Alae-ke'oke'o in sparsely or non-utilized habitats. For example, some 721 of the 1,488 counts (48 percent) resulted in a total tally of only 2,058 Coots (10 percent) of the total recorded.

With reference to Table 4, some 93 habitats (62 percent) received little or no use, an average of 1 or less 'Alae-ke'oke'o being counted therein. Of a total of 85 habitats in which this species was observed at least once, a total of 47 exhibited decreased use, 28 increased use, and 10 no change when average numbers counted are compared between first and last halves of the applicable census period. Long-term use of most habitats by the species on Kaua'i thus appears to be declining.

Long-term trends in use of important habitats appears to be increasing. Of some 13 areas on which an average of 20 or more 'Alae-ke'oke'o were counted from 1956 to 1982, usage increased on 7, decreased on 4, with no substantive change in 2. Large variations in numbers of the birds which use certain areas from time to time, seasonal movements, and other factors, complicate assessment of long-term trends.

Average number of 'Alae-ke'oke'o counted in the 10 most heavily utilized habitats is shown in Table 5. Census dates

of the many areas vary and the capacity of some habitats to support large numbers which sometimes congregate thereon (notably Waita Reservoir and Menehune Fishpond) discount close comparison. The figures in Table 5 are nevertheless useful in showing the relative attraction of the listed areas for this species year in and year out. Of course, the extent of shallow water ponds on Ni'ihau during the breeding season plays a key role in determining numbers which are to be found on Kaua'i at any given time, as previously explained.

As shown in Table 5, an average of 81 'Alae-ke'oke'o were counted in all 10 habitats during the 1969 to 1981 period. Numbers ranged from a high of 283 at Waita Reservoir to a low of 22 at the 4 Kipū Reservoirs. Other comparatively high use areas and their average counts were the Hanalei National Wildlife Refuge (137), Pu'uKa Ele Reservoir (98), and Lumaha'i River (79). Seven of the 10 most used habitats were water reservoirs, with 2 river and/or taro farming areas and an estate pond comprising the remainder.

During the same general census period as those listed in Table 5, numbers of 'Alae-ke'oke'o averaged over 2 but less than 21 in 36 habitats of wider distribution, as shown in Table 6. However, an average of only 10 or more of this species was counted on 8 of these areas, as follows (listed in order of descending averages): Mana House Reservoir (20), Morita Reservoir (18), Hanalei Valley (15), Kaloko Reservoir (14), Kolo Reservoir (12), plus 10 each in Kalihiwai, Niu Valley, and Kapaia Reservoirs. As in the preceding group of 10 most used habitats, water reservoirs comprised the largest single category of habitat types used.

Productivity

As previously noted in Table 2, nesting of 'Alae-ke'oke'o on Kaua'i is rare, only 2 records prior to a single chick observed in the summer of 1980 being known in recent years. Formerly, in 1900, a number of nests were reported in the Waimea area. It might be postulated that breeding in other localities was common at that time.

Movement

That 'Alae-ke'oke'o move from Kaua'i to Ni'ihau during the breeding season and return after the nesting season may be inferred from coincidental observations. Banding or marking of this species has not yet been accomplished, therefore frequency and extent of population movements are unknown.

Island of Ni'ihau

Islandwide Status and Distribution

The first reference to 'Alae-ke'oke'o on Ni'ihau seems to be that of Munro (1944) who wrote that F. Gay gave (H. C.) Palmer a specimen collected there in 1891 (1613). Judging from information recorded later on specimen labels, Palmer collected a total of 9 examples from Ni'ihau in 1893 (1614). Rothschild (1900) wrote that a "number" were found there (by Palmer) on the flat lagoons (1615). Visiting Ni'ihau in November ca. 50 years later, Munro (1940 and undated letter) reported 'Alae-ke'oke'o "scarce" there on "8 or 9 lagoons" (1616,1617). Munro (1944), in what seems to be the first reference to inter-island movement, observed that this species migrated from Ni'ihau when the ponds dried up. Fisher (1951) found none there during his 12 to 16 August 1947 visit (1593), but Robinson (1964) reported them, presumably during the summer of 1964, to be "in great numbers on two ponds as they were drying up (1594).

Hawaii Division of Fish and Game biologists have counted water birds, including 'Alae-ke'oke'o, on Ni'ihau every year from 1969 to 1981 (except for 1972) (1595-1612). Census figures shown in Table 7 and 8 were obtained from aircraft rather than ground surveys, and exclusively during the non-breeding season.

Examination of census figures in Table 7 shows that from 1969 to 1981 'Alae-ke'oke'o ranged from 0 to 160 depending upon extent of water areas. Robinson's earlier (1964) statement that this species was found there "in great numbers", indicates that the transient population may, under favorable circumstances, perhaps reach several hundred.

Distribution of 'Alae-ke'oke'o among the dozen or so habitats on Ni'ihau, under varying conditions of surface water, are shown in Table 8.

Irregularities and gaps in census information as well as highly variable population levels present obstacles to drawing of lasting conclusions from a few years' census efforts. However, it appears that when sufficient water is present, 'Alae-ke'oke'o tend to favor Hā'ao Reservoir and Halāli'i Lake and Ditches over all other habitats. Numbers of this species found on Pōhueloa Reservoir and Pu'uwai Pond(s) tend to be about half those which are found on Hā'ao Reservoir and Halāli'i Lake and Ditches, with only incidental use being made of the remaining 10 habitats. More information, particularly during the breeding season, is needed before relative importance of Ni'ihau to 'Alae-ke'oke'o can be evaluated.

Island of O'ahu

Islandwide Status and Distribution

A. Bloxam's collection of a single 'Alae-ke'oke'o specimen in Pearl Harbor in 1824, sighting of this species "toward Wikiki" on 12 May 1825, and shooting of a few days later on 17 May near Kailua, seem to be the earliest O'ahu records (Bloxam 1825, Banko 1979 report) (1705,2812). Labels from 2 specimens taken more than a half-century later indicate collection in an unnamed locality on O'ahu in 1893 by H. C. Palmer; also, 3 additional examples secured from windward O'ahu in November 1902 by R. C. L. Perkins (Banko 1979 report) (1706,1707). (W. A.) Bryan's name is on labels of 2 more specimens taken on 5 March 1907 in Diamond Head Crater, apparently on the shallow lake which forms as a result of runoff from heavy rains on the inner slopes (Banko 1979 report) (2805). 'Alae-ke'oke'o seem to have gone unreported on O'ahu from 1908 to 1933, a gap of 26 years.

J. Northwood began to count 'Alae-ke'oke'o during visits to various habitats in windward O'ahu as early as 1934, and he was joined in this practice after 1940 by members of the Hawaii Audubon Society. Notes by HAS members provide most of the information on 'Alae-ke'oke'o numbers on O'ahu from 1940 to 1955. Schwartz and Schwartz (1952) reported this species "common" in nearly all the reservoirs, coastal marshy areas, and fishponds of this island during their 1946 to 1947 survey, but gave no specific numbers (1668).

Hawaii State Division of Fish and Game biologists began censusing water birds, including 'Alae-ke'oke'o on O'ahu in 1956 and have continued this practice with but few exceptions every year since. Numbers of this species censused islandwide on annual and/or semi-annual surveys from 1956 to 1981 are listed in Table 9 (1669-1704).

Examination of data in Table 9 shows that 25 January and 9 July/August censuses were conducted by HDFG from 1956 to 1981. January counts ranged from a high of 822 in 1959 to a low of 12 in 1962. The average January census of 270 for the 1956 to 1969 period shows more than twice as many 'Alae-ke'oke'o present than the 130 found during the 1970 to 1981 interval. This suggests a substantial long-term population decline. By comparison, however, the difference between 1968 to 1973 and 1975 to 1980 July/August average counts (196 vs 212) does not appear to be significant. Grand average January and July/August censuses are surprisingly identical - (203 vs 203).

Relative Abundance of 'Alae-ke'oke'o in 15 Quadrangles and 86 Habitats, 1934 to 1982

As mentioned previously, the status of 'Alae-ke'oke'o population on all the Islands went unrecorded for a 26-year

period - from 1908 to 1933. However, some 1,263 statements of relative abundance, estimates and counts were tallied from 1934 to 1982 (1778-3041). Members of Hawaii Audubon Society logged the majority of observations from 1934 to 1955. From 1956 to 1982 most information on the subject resulted from censuses conducted by the Hawaii State Division of Fish and Game and U. S. Fish and Wildlife Service. Overall, 'Alae-ke'oke'o were recorded in all 15 O'ahu quadrangles and in some 86 specific habitats during the 1934 to 1982 period.

Summary of 'Alae-ke'oke'o censused by quadrangle on O'ahu from 1934 to 1982 is shown in Table 10. As indicated, this species was broadly distributed, evidently occurring in all 15 quadrangles, though not yet censused in 3 (WAIMEA, HAAULA, WAIPAHAU). The 2 top-ranked quadrangles in terms of usage by 'Alae-ke'oke'o, listed with the average number counted in habitats within their boundaries, were MOKAPU (80) and KAHUKU (30). The next 4 most heavily patronized quadrangles, according to average numbers censused, were SCHOFIELD BARRACKS (10), WAIANAE (5), KAHANA (5), and PUULOA (5). An average of 3 or fewer individuals per count were censused in each of the remaining 9 quadrangles.

Results of some 1,334 estimates and counts of 'Alae-ke'oke'o in approximately 86 habitats from 1934 to 1982, together with comparative averages, are shown in Table 11.

The most utilized habitats on O'ahu for which figures are available is Ka'elepulu Pond, averaging 205 'Alae-ke'oke'o counted there in some 54 surveys from 1934 to 1979. However, when average numbers censused during the first half of the 1934 to 1979 period are compared with those of the second half, a precipitous population drop is revealed (396 vs 14). Closer examination of information in the Appendix shows that where as many as 1,895 'Alae-ke'oke'o were observed there at one time as late as 1955, no more than a total of 7 have been seen there since 1977, with numbers constantly dwindling thereafter (2365,2411-2421).

The second most important habitat shown in Table 11 is that of Moanalua-Kalihi Flats, averaging 163 censused in 7 surveys in 1944 and 1945. However, this area was destroyed by urban development immediately after World War II and this species has not been reported there since.

The third most heavily patronized water area in Table 11 is Salt Lake, averaging 126 'Alae-ke'oke'o counted in some 82 surveys from 1937 to 1981. Counts on Salt Lake commonly ranged from the mid and high hundreds to as many as 1,000 more than once in the late 1950's and early 1960's when urban development of this area began. Eighty-two of this species is the highest count in the past 10 years, with 25 the maximum number counted there in the last 5 years.

The fourth ranked habitat in Table 11 is the Ki'i-Punamanō Pond complex, now the James Campbell National

Wildlife Refuge. 'Alae-ke'oke'o populations, ranging upwards to several hundreds in the 1950's and 1960's, were maintained in the 1970's and early 1980's, albeit at lower peak levels during the latter period. Trends in use of Ki'i and Punamanō Ponds are obscure due to traditionally variable water levels ranging from dry to full. With the loss of such major habitats as Ka'elepulu, Monalua-Kalihi Flats, and Salt Lake, James Campbell National Wildlife Refuge began to be utilized on a regular basis by more 'Alae-ke'oke'o in the late 1970's and early 1980's than any other similar complex on O'ahu. Given the expansion of habitat in the Kahuku area in 1982 and 1983, and the movement of birds between Amorient (Lowe) Aquafarm and the James Campbell NWR, it is now not uncommon to count between 400 and 500 'Alae-ke'oke'o there, making the Kahuku complex competitive with the Pearl Harbor area in terms of use by this species (Shallenberger, pers. comm.).

The fifth and sixth ranked habitats shown in Table 11 are Big Pond on Waipi'o Peninsula, averaging 29 'Alae-ke'oke'o tallied on 4 counts in 1976 and 1977, and nearby Kuilima Sewage Pond where an average 28 individuals were logged during a total of 10 counts from 1975 to 1980. Absence of census data from Big Pond from 1978 to 1982 leaves unanswered the question as to its present status in terms of use by this species.

The average number of 'Alae-ke'oke'o on the remaining 75 or so habitats are fewer than 20. Habitats attracting fewer than 20, but more than 10 are listed, with average numbers censused, in descending order, as follows: Kāne'ohe Marine Corps Air Station (17), Kuilima Reservoir (12), Moanalua Fishponds (12), Waipi'o Peninsula (12), Kawainui (11), and West Loch (11). Of these, usage of KMCAS, Moanalua Fishponds, and Kawainui declined drastically in the late 1970's and early 1980's, while that of West Loch has either been included under the name of a synonym or was not censused.

An average of 5 to 10 'Alae-ke'oke'o were counted on 14 of the remaining 70 or so habitats, listed in descending order with mean numbers observed, as follows: Lualualei NAD (10), Waikele (10), Waipi'o (10), Waipi'o Settling Basins (10), Kahana (9), Punalu'u Fish Farm (9), Campos Ranch (8), Nu'uuanu Reservoirs (all) (7), Kuapā Pond (6), Apoka'a (6), Waianae Valley (6), PHNWR (5), Walker's Bay (5), and Waipi'o Airstrip (5). Of the remaining 50 or so habitats, counts of this species on 21 of them averaged fewer than 5, while censuses on 29 areas found none. Synonyms of habitat names, paucity of data, and lack of systematic recording confound a more proper interpretation in a number of these cases.

In addition to the foregoing review of 1,334 census reports and estimates, there are some 63 records where counts in more than 1 habitat have been combined, thus obscuring numbers actually in each area (1714-1777). Of 16 of these combined records, compiled between 1944 and 1959, a total of

12 (75 percent) referred to 100 or more 'Alae-ke'oke'o counted (1714-1729). Some 47 records of combined count from 1969 to 1971 reveals not a single combined count of 100 or more of these birds, and only 3 cases where more than 50 were seen (1741,1743,1745). After 1971 the maximum combined count was 42 in 1979.

Closer examination of the 12 combined records listing 100 or more individuals tallied shows that 6 or 7 involved Ka'elepulu Pond. Salt Lake was included in 4 of the remaining 5 examples where counts from more than 1 habitat were joined. That the majority of 'Alae-ke'oke'o on O'ahu were dependent upon these 2 principal habitats seems clearly evident with destruction of Ka'elepulu Pond beginning in 1959, and Salt Lake beginning in 1960. There were fewer than 100 'Alae-ke'oke'o reported in Ka'elepulu after 1961 and in Salt Lake after 1963. The all-time high count of 2,002 seen in a single habitat anywhere in the Islands was censused on Salt Lake during the 21 December 1958 Christmas Count (1727).

Productivity

Review of information related to breeding of 'Alae-ke'oke'o on O'ahu, as noted in early years by members of the Hawaii Audubon Society, and more recently by biologists of State and Federal conservation agencies, reveals some 46 records of nests and young observed (1910,1913,1914,1916,1918,1938,1978-1981,1984,2012,2128,2132b,2151,2155,2334,2335,2337-2341,2343,2344,2346-2348,2354-2356,2370,2501,2505,2506,2556,2649,2651,2653,2655,2673-2676,2813,3024).

Nesting was recorded most often (16 times) in March, April, and May, but from 1 to 3 examples were also logged for all other months of the year except September and October. Chicks or young were indicated less often. (Immatures and juveniles were not included in this summary because they presumably could be seen almost anytime during the year).

Number of observations, first and last years of nesting record, and maximum numbers of nests seen or inferred in any given year are listed in decreasing order of importance for the following 7 breeding habitats: Ka'elepulu 16, 1934 to 1959, 96; Ki'i (Kahuku) 14, 1937 to 1982, 30; Punamanō 1, 1978, 3; Kawainui and adjacent pasture 3, 1977 to 1978, 1 (?+); Honouliuli (PHNWR) 9, 1974 to 1982, 1; Honolulu 1, (1943), 1+; Kuapā pond 1, 1962, 1. In addition to its ability to attract large numbers of 'Alae-ke'oke'o (1,895 in January 1955), Ka'elepulu was also the most heavily utilized breeding habitat in the Islands, some 48 of 96 nests inferred there actually being counted in the area surveyed in May 1947 (2356). Ki'i Pond (Kahuku), with a maximum of 30 nests found in June 1971, ranks second in terms of nesting importance (1980). Judging from the relatively few observations of nesting and young recorded elsewhere through the years,

'Alae-ke'oke'o thus appear to be highly selective of breeding habitat (46).

Movement

Close comparison of islandwide census data for January and July/August periods in the 9 years for which figures for both seasons are available (1968-1971, 1943, 1975, 1977, 1979-1980), reveals that January counts average 106 versus a mean of 203 for those in July/August, indicating a post-breeding season influx to O'ahu. July/August counts are higher than those conducted in January in 7 of the 9 years, indicating return with young at conclusion of breeding season. It seems likely that such pre- and post-breeding movements by O'ahu birds are primarily to and from Ni'ihau and/or Kaua'i. Since nesting on Kaua'i has only rarely been recorded, it seems certain that 'Alae-ke'oke'o breed on Ni'ihau, but this has not yet been documented by the aerial survey methods employed.

Island of Moloka'i

Islandwide Status and Distribution

Sometime from January to July 1893, H. C. Palmer collected 4 specimens of 'Alae-ke'oke'o on Moloka'i, possibly near Pukoo where he observed them to be "fairly common" on fishponds (Rothschild 1900) (3066, 3267). On 18 July 1893, Perkins collected several specimens, 2 near Kaunakakai, and reported seeing "many" (3067, 3108). An additional specimen was taken by an unnamed collector in an unrecorded locality in December 1902 (3068). 'Alae-ke'oke'o seem to have gone unrecorded on Moloka'i for the next 40 years.

Munro (1944) reported that he saw "several" on Moloka'i in January 1943 but made no mention of the locality (3069). Schwartz and Schwartz (1952) were more specific, mentioning that 'Alae-ke'oke'o were "reported to be commonly nesting on coastal ponds" in June 1946, while noting the following August that "young were numerous on coastal ponds" (3070, 3071). On 5 September 1946, Schwartz and Schwartz (1952) observed 3 nests and 250 of these birds on a 4-acre shallow coastal pond (?Kakahai'a), the "greatest number we observed on Moloka'i" (3072). The Schwartzes state in conclusion merely that 'Alae-ke'oke'o on Moloka'i "inhabit the few coastal ponds" (3073). Some years later, Stephenson and Stephenson (1961) reported seeing (probably from the highway), "50, at least, at one beach area and a nearby pond" while driving from Kaunakakai to Hālawā Valley (3074). Hawaii Division of Fish and Game recognized that this species occurred on Moloka'i as breeding population in 1969, but on 1 August 1975 reported that none were seen in the usual east side beach areas (3075, 3076).

Hawaii Division of Fish and Game biologists began censusing water birds, including 'Alae-ke'oke'o, on Moloka'i in 1958 and have continued this practice with notable exceptions every year since. Numbers of this species seen islandwide from 1958 to 1981 are listed in Table 12.

On comparing average counts in Table 12 for years in which census data are available for both winter and summer periods (1969,1980), it should be noted that January censuses for 1968 and 1969 are recorded as zeroes, whereas it was possibly intended to show that no count was taken. Bearing in mind that 'Alae-ke'oke'o were recorded in double-digit numbers in 13 of the 16 January censuses conducted, it seems likely that the latter possibility was the case, in which the significance of all averages are confounded and should, to varying degrees, be discounted. Even so, it appears that on average, about as many 'Alae-ke'oke'o have been censused on Moloka'i during January as in July/August.

Islandwide counts of 'Alae-ke'oke'o represent combined numbers seen in widely scattered locations. Census results for specific habitats in recent years are detailed by quadrangle below;

ILIO POINT: Munro (1949b) reported seeing 'Alae-ke'oke'o swimming on a pond after a heavy rain in the Popohaku/Kalua Kai area but none were observed in 5 HDFG surveys of this district from 1978 to 1980 (93086-3091).

MOLOKAI AIRPORT: Bryan (1908) reported them to be seen on Pālā'au Pond and mudflats during his 1907 visit, and Pekelo (1964) stated that they were "abundant" in the brackish fishponds there during the 1955 to 1964 period (3086,3087). However, a 20 August 1971 USFWS survey and a 1 August 1975 HDFG census found none present (3102,3103). Eight HDFG surveys of the Maunaloa and/or Maunaloa Golf Course, and Mo'omomi habitats from 1975 to 1980 were also negative for this species (3092-3099).

KAUNAKAKAI: The 1 August 1975 HDFG survey of Ali'i Fishpond proved negative for 'Alae-ke'oke'o (3104).

Schauinsland (1900) stated that this species was "met with" on a small "romantic" lake at 2000 ft. elevation in the Kala'e area (?Meyer Lake), but two HDFG surveys in August 1979 and January 1980 found none in this area (3105-3107).

In the Kaunakakai and pier area where Perkins collected 2 specimens in 1893, Shallenberger (1977) stated that USFWS counts, including those of the sewage pond, ranged from 1 to 4 seen on 4 of 12 monthly surveys in 1976 (3109). Five censuses by HDFG from 1978 to 1980 turned up similar counts, those of 1-4-0-0-4, though it is not indicated whether or not the listed figures included 'Alae-ke'oke'o seen on the sewage pond (3110-3114). Some 33 counts of the Kaunakakai sewage pond by

HDFG and USFWS from 1975 to 1980 ranged from 1 to 4 birds seen on only 7 occasions, none being seen on the remaining 26 surveys (3115-3147).

No 'Alae-ke'oke'o were seen by HDFG on Ku'ukaPu'u Reservoir on the January 1980 census and there seems to be history of use this habitat by these birds (3148).

In the Ō'ō'ia-Kaluaapuhi fishpond area, HDFG found 17 'Alae-ke'oke'o on 9 August 1969, and Pekelo (1970) counted 26 there on 3 September that same year (3149,3150), however neither of these numbers have been approached in some 16 surveys since. Nine of this species were counted in that area by Pekelo (1970) on 10 November 1969, and 6 by USFWS on 12 March 1970 but, with the exception of 8 seen on 23 May 1977 by Shallenberger (1977 report), numbers have declined there irregularly since (3151,3152,3164). Shallenberger expressed the belief that encroaching mangrove and accelerating siltation were factors responsible for the downward trend of 'Alae-ke'oke'o frequenting the fishpond area (3164).

KAMALO: Kakahai'a, a 4-acre pond located adjacent to the leeshore highway, has been the focus of considerable water bird census activity in the past 25 years. Its effective size has been doubled and supplemented by a new 6-acre impoundment since it was established as a National Wildlife Refuge in 1976. Pekelo (1964) stated 'Alae-ke'oke'o were "abundant" on Kakahai'a from 1955 to 1964, Carlson reported "many" on 21 October 1970, and USFWS counts from 1970 to 1972 ranged from 20 to 30 (2167,3175,3180). Some 13 counts by HDFG and USFWS between ca. 1966 and 1975 ranged from 0 (when owners were working in the pond and 23 birds were seen in the adjacent open sea), to 42 (including immatures and young) seen about 1966 (3168,3171). An average of 26 individuals were counted on these 13 early surveys (3168-3174,3176-3179,3181-3183). From 1976 to 1981, after Kakahai'a became a National Wildlife Refuge, some 74 counts by USFWS and HDFG ranged from 6 to 70 birds tallied, averaging 36 per census (3184-3257). To simplify discussion of Kakahai'a census data, the quarterly average daily use figures in some 11 cases were converted to that of a single count (3186,3192,3242, 3245,3248,3252-3257). It should also be pointed out that Shallenberger (1977 report) noted "some of the variation in past counts may be caused by difficulty in viewing the entire water surface of the pond and also by the tendency of birds to climb into the shoreline vegetation to loaf" (3218).

Kamalō and 'Ualapu'e Pond, the 2 remaining potential habitats in KAMALO quadrangle, were censused with negative results by HDFG in 1978 and 1979 (3258-3260).

HALAWA: Rothschild (1900) stated that 'Alae-ke'oke'o were "fairly common" on fishpond near Pūko'o in December 1892, no doubt basing this statement on observations and collections by his collector, H. C. Palmer (3267). Pekelo (1964) termed this

species "abundant" in the streams of Waialua and Hālawā Valleys from 1955 to 1964 (3261,3266). Munro (1943) observed their presence at Kainalu (Durbon's) Pond in 1943, and HDFG counted 8 there on 9 August 1969 (3264,3265). HDFG surveyed Hālawā once in 1978 and again in 1979 with negative results both years for this species (3264,3263).

In addition to the foregoing records in certain specific habitats, this species has also been counted on occasion in areas which are more or less ambiguous. Curl (1958) noted an undetermined number of 'Aale-ke'oke'o on a trip to the east end of Moloka'i, and from an overlook near Kala'e (probably Meyer Lake) on 30 April 1957 (3077). HDFG counted 2 somewhere along the leeshore on 12 or 13 January 1978, and 9 along the route from Kamalō to Hālawā on 1 or 2 August 1979 (3078, 3082). On the other hand, HDFG surveys in other areas for 1978 and 1979, or along the leeshore in 1980, failed to turn up a single bird (3078-3085).

Productivity

Cursory examination of USFWS census data listed in the Appendix for Kakahai'a National Wildlife Refuge (3184-3257) reveals a more or less constant resident breeding population, a significant proportion of which were the red shield morph form. According to Coleman (1977), who had direct access to all of the pertinent data, nesting activity has been recorded by USFWS at Kakahai'a nearly the year around (peak periods occurring November 1976 to February 1977, and June to October 1977 in the period studied), with an average of 5 nest sites (3 to 6 nests) maintained throughout these periods (3217). Shallenberger (1977 report) stated that Kakahai'a offered 'surprisingly good nesting habitat' for 'Alae-ke'oke'o, probably producing more young for its size than any other habitat in the State (3218). He further noted that nesting had been recorded in all months of the year, that 7 of 9 nests were active sometime during the 1977 surveys (21 May, 7 July), and that "at least 48" young birds were observed during the July 1977 visit (3218).

Movement

No movement of 'Alae-ke'oke'o to or from Moloka'i is known from direct observation. However, Shallenberger (1977 report) remarks that, "well established but recorded numbers vary widely ...extreme variability in counts, often from year to year lends evidence to the theory that coots regularly move from island to island...absence of a clear upward or downward trend also suggests that available habitat has not changed appreciably... (and that this species is) now found in greatest numbers in two wetlands...Kaluaapuhi Pond and Kakahai'a Pond...yet visit coastal fishponds as well" (3059).

Island of Maui

Islandwide Status and Distribution

The only record of 'Alae-ke'oke'o on Maui before 1900 seems to be that of Finsch (1880) who recorded their presence "in a small lagoon near Waike" (?Waihe'e) sometime during his June to July visit in 1879 (3297). In addition, Finsch's name is on the labels of 2 specimens collected at Waiehu on 10 July 1879 (Banko 1979 report) (3271). The name of McGregor is on the labels of 2 specimens taken on Kanahā Pond on 1 January 1900 (Banko 1979 report) (3479). There is a 45-year gap in records of 'Alae-ke'oke'o on Maui following that of 1900.

Hawaii Division of Fish and Game biologists began censusing water birds on Maui in 1956 and have continued this practice with but few exceptions every year since. Results of the islandwide HDFG annual and/or semi-annual surveys from 1956 to 1981 are listed in Table 13 (3268-3296).

Comparing grand averages of all January censuses to July/August counts as shown in Table 13, reveals little difference (132 vs 135); however, averages for the 4 years in which data are available for both summer and winter periods shows that significantly more 'Alae-ke'oke'o were censused in July/August than in January (140 vs 97). Shallenberger (1977 report) indicated that a higher percentage of this species was counted on Maui during the winter (28 percent of State total) than during the summer (15 percent of State total), but furnished no supporting data or explanation for the difference (3290).

It is useful to compare the average number counted in January during the first half of the 1956 to 1981 period with the average of those censused in January during the last half of the same period (167 vs 97). The resultant 42 percent difference in average numbers counted between these two periods indicates a significant population drop. If averages for three approximately equal periods (1956-1961, 1962-1968, 1969-1981) are computed, the resultant sequential averages of 202-99-99 indicate that a decline on the order of 50 percent occurred during the mid and late 1960's. This coincides with the transitional conversion of Ka'elepulu Pond and Salt Lake on O'ahu in the late 1950's and early 1960's from the most accommodating habitat for this species in the Island into suburban housing. The average number censused on Maui in January during the 1962-1968 and 1969-1981 periods are identical (99 vs 99), indicating a stable population wintering on Maui during the past 15 or 20 years.

Hawaii Division of Fish and Game and U. S. Fish and Wildlife Service also censused 'Alae-ke'oke'o on an undetermined number of agricultural water reservoirs on Maui from 1956 to 1980. While the scope and degree of

repetitiveness of these surveys is not known, the average number counted during the first 14 years (1956 to 1970) is significantly greater than the average obtained during the last 14 years (1971 to 1980), 9 vs 5. Such a comparison reinforces the impression gained from islandwide counts that the population on Maui has declined about 50 percent since about 1970. Data for 12 of the first 14 years (1956 to 1970) represent January counts, while those for only 5 of the second 14 years (1971 to 1980) represent January censuses (3300-3327).

Keālia Pond in MAALAEA quadrangle attracts considerable numbers of 'Alae-ke'oke'o during those seasons and years when it is flooded. Hawaii Division of Fish and Game, U. S. Fish and Wildlife Service, and cooperating members of the Hawaii Audubon Society censused this species on Keālia Pond some 96 times from 1958 to 1981 (3331-3470). Numbers found during this period ranged from 0 (when the Pond was dry) to 110, averaging 43 per count when it held water. Average count during the first half of the period (1958 to 1977) was nearly identical with that of the last half of the period (1977 to 1981), 42 vs 44.

Kanahā Pond in WAILUKU quadrangle, has a census history for this species similar to that of Keālia Pond except that counts began at a somewhat earlier date (1946 vs 1958), and more counts have been conducted (156 vs 96) (3477-3652). Actually, 'Alae-ke'oke'o have been counted on Kanahā Pond many more times than indicated, since the 156 count figure includes as single counts the maximum number counted in the several censuses made during varying periods of time, most commonly monthly.

If approximations, statements of relative abundance, and periodic average are omitted, 'Alae-ke'oke'o have been censused on Kanahā Pond from 1946 to 1981 a total of only 135 times. Numbers of this species counted during this period ranged from 13 to 300, averaging 70 per count. A total of 6,768 were censused during the first 67 counts (1946 to 1971), while only 2,731 were censused during the last 86 counts (1972 to 1981), the respective averages showing a drastic 60 percent drop between these two periods (from 101 to 40). The high count of 300 was the first made on 12 August 1946, while the low count of 13, made in March 1980, was the 124th of 135 completed. These data reinforce the theory of an islandwide decline of about 50 percent in numbers of 'Alae-ke'oke'o using the combined habitats on Maui.

'Alae-ke'oke'o have also been censused several times on Airport (Naska) sewage settling pond (3472-3476). Beginning in March 1978, numbers of this species (from 5 counts on this Pond) ranged from 11 to 31, averaging 19 including young.

Productivity

O. Finsch observed 'Alae-ke'oke'o and collected their eggs on Kanahā Pond sometimes during the June-July 1879 period, but their breeding status on Maui was not specifically acknowledged until 1969 (3299,3477,3478). In recent years HDFG biologists have made a number of nesting observations at Keālia (3403,3411, 3416,3423,3425,3429,3443,3445a,3472,3473). Some 49 nests (15 active, 13 with 56 eggs . . . 83.6 percent hatching success) were reported on Keālia Pond during the 1 July 1975 to 30 June 1976 study period (3403), but only 4 chicks were noted in a count of 106 there on 29 September 1976 (3411). In 1977, 2 young were noted on the Fish Farm on 8 June, and 3 were seen in the same location on 8 July (3423,3425). Shallenberger (1977 report) noted abandonment (due to disturbance) of 2 nests in a counts of 80 on Keālia on 8 July 1977 (3426), and USFWS reported 1 young with 17 (presumably) adults there on 24 August the same year. Four chicks were also reported by USFWS at Keālia on 14 March 1978 (3443). However, in a 26 April to 9 June 1978 period, HDFG found some 26 nests with 54 eggs . . . 4.9 eggs per active nest . . . 25 days average incubation period . . . and 80 percent hatching success . . . in a breeding survey of Kealia (3445a). Hawaii Division of Fish and Game biologists further reported in 1978 that 25 of the 49 nests found in the northwest portion of Keālia Pond in 1975 to 1976, where there were none in 1977, were constructed because travel lanes through Batis maritima were kept open in 1976 (3445a). Of 26 nests found there in 1978, 11 were active, 13 abandoned prior to discovery, and 2 were under construction and abandoned before completion. Of the 11 active nests tallied in 1978, 1 contained 3 eggs, 9 held 5 eggs, and 1 nest had 6 eggs (3445a).

On Kanaha Pond the first indication of this species breeding after the early collection of eggs by O. Finsch in 1879, was the nest reported by Baldwin (1953) (3483). Anonymous (1961b) noted nesting and hatching of this species at Kanahā on 11 May 1959 (3492), however there was no specific indication of number of nests until USFWS reported that broods of 1-2-3-3-5, ranging from 2 weeks old to large gray immatures, were present on 21 April 1968 (3526). Berger (1973) counted a maximum of 109 'Alae-ke'oke'o there, "including several immatures but no nest" during the period 4 to 7 July 1972 (3565), and HDFG likewise found "no nests" during periods of study from 1 July 1975 to 30 June 1976 (3577). Shallenberger (1977 report) conducted surveys on Kanahā Pond in May, June, July and August, stating that "repeated observations of young indicate coots breed successfully" there, but "very few observations of nests", with chicks of only 1 brood being observed in July (3594). Pyle (1978) quoted a HDFG count of 13 young and 3 fledged broods on Kanaha 20 March 1978, plus 10 young (including 2 new broods) there on 14 April the same year, but HDFG reported no nests were found there from 1 July 1977 to 30 June 1978

(3613,3616,3619a). However, in another report, 2 nests were observed at Kanaha by HDFG on 31 May 1978, along with a monthly high count of 54, the most recent report of nesting cited in records available to the writer (3631).

Movement

While no movement of this species to or from Maui is known from direct observation, flights between Kanahā and Keālia Ponds may be inferred from coincidental counts. Interisland movement may also be assumed from significantly different, otherwise inexplicable islandwide counts.

Island of Hawai'i

Islandwide Status and Distribution

Cook (1784) reported that 'Alae-ke'oke'o were "common on fresh-water ponds" in the vicinity of Kealakekua Bay where his ship lay at anchor in March 1779 (3927). Nearly 100 years later, from 14 to 19 August 1875, Challenger Expedition members collected a specimen near Hilo, presumably on one of the brackish ponds in or east of the town. Specimen tags indicate that H. W. Henshaw, obtained 5 specimens at "Hilo" from 1898 to 1900 (3961-3963). Schwartz and Schwartz (1952) however, termed the bird "rare, occurring only occasionally" on the island of Hawai'i, after they conducted their game-bird survey of the major Islands in 1946 and 1947 (3653).

Hawaii Division of Fish and Game biologists began censusing water birds on Hawai'i in 1958 and have continued this practice with but few exceptions every year since. Numbers of 'Alae-ke'oke'o counted islandwide on such annual and/or semi-annual surveys from 1958 to 1981 are listed in Table 14.

Comparing January and July/August census data in Table 14 for the 12 years in which figures from both seasons are available (1969 to 1980), reveals only 1 year (1973) in which about twice as many 'Alae-ke'oke'o were counted in January as in July/August, 2 years in which roughly double the numbers were censused in January as in July/August (1971 and 1974), 5 years with mixed results of lesser magnitude (1975,1977,1978, 1979,1980), and 5 years in which January counts were the same or similar to those obtained in July/August (1969,1970,1972, 1976,1977). It thus appears that numbers of 'Alae-ke'oke'o on Hawai'i are relatively stable. However, when there are significant differences the larger count will usually have been made during the July/August count, possibly indicating a post-breeding season influx.

Of perhaps more importance is the fact that the average population of this species on Hawai'i, as represented by

census data, is trending upward - 51 for January counts 1958-1969 vs 60 for January counts 1970-1981; 47 for July/August counts 1969-1974 vs 80 for July or 87 for August - depending upon which 1977 figure is used, in counts conducted from 1975 to 1980. However, this upward trend may not be real since an increasing number of habitats were gradually added to census coverage during the early years, while coverage had more or less stabilized during later years of 1975 to 1980.

Results of some 20 years of census effort from 1959 to 1980 are summarized by quadrangle and habitat in Table 15.

Data in Table 15 reveal that numbers and distribution of 'Aale-ke'oke'o on the large island of Hawai'i are relatively restricted. Occurrence of this species has been recorded in but 15 thinly dispersed habitats, with only 11 of the 75 quadrangles extant being represented. Further examination of the information shows that this species is regularly resident in only 3 or 4 habitats, the average populations of these areas from ca. 1960 to 1981 being computed as follows: 11 at 'Ōpae'ula (MAKALAWENA), 41 at 'Aimakapā (KEAHOLE POINT), 11 at Mohouli-Wailoa (HILO), and 2 at Nakagawa (HILO). Average populations (65) at these locations equal the average summer census recorded for the island of Hawai'i (Table 14). Populations recorded at the remaining 10 locations are thus incidental and only intermittently resident.

Despite the statement by HDFG (1969) that 'Alae-ke'oke'o occurred as a breeding population on Hawai'i, records relating to nesting or young are somewhat conditional and limited to only 3 habitats (3694). On 'Ōpae'ula Pond (Makalawena) an adult was observed carrying nesting material on 13 February 1970, 4 young were seen on 18 October 1978, and at least 1 nest was apparently recorded on 12 January 1980 (3794, 3829, 3839). A few miles south on 'Aimakapā (Honokōhau) Pond, broods of 2 and 5 were recorded on 1 June 1973, 2 nests and immatures of three age classes were noted on 24 June 1977, and an undetermined number of nests and/or young were observed 12 January and 31 July 1980 (3866, 3875, 3896, 3899). On Mohouli Pond in Hilo, 1 young was reported in August 1964, and 2 nests were found there on 31 May 1977 (3966, 3972). 'Alae-ke'oke'o have also been reported to nest on Lokoaka and Kea'au Ponds east of Hilo (3965, 4039), but no detailed information on their success seems to be available.

CHRONOLOGICAL DISTRIBUTION OF RECORDS

Examination of all information listed in the Appendix reveal comparatively few statements of relative abundance by early workers before and shortly after the turn of century. After a gap of observations from the 1910's through the 1920's, a large number of count records were compiled by Hawaii Audubon Society members from the 1930's to the 1950's. Hawaii Division of Fish and Game and U. S. Fish and

Wildlife Service biologists contributed most of the information from the 1960's to the early 1980's. The chronological distribution of all records by decade is shown in Table 16.

Distributional pattern of population records in Table 16 shows that sparse and irregular information was recorded for the first 120 years - from the 1770's through the 1880's. A notable rise in information was evident in the 1890's and 1900's, followed by a pronounced gap in the 1910's and 1920's. The 50-year period (1930's to 1970's) is characterized by a rapid growth of population records, reaching a peak of some 2,807 counts and estimates in the 1970's. This trend continued in 1980 and 1981 with some 464 data recorded.

GEOGRAPHICAL DISTRIBUTION OF RECORDS

Examination of population information in the Appendix shows a wide variation in the numbers of records related to island of origin, as shown in Table 17.

The distribution of census records reflects the comparatively brief history of recent Statewide counts by HDFG, the many habitats of 'Alae-ke'oke'o on Kaua'i and O'ahu, the lack of suitable wetlands on Moloka'i, Maui, and Hawai'i, as well as restricted ground access on the privately-owned island of Ni'ihau.

POPULATION CONCENTRATIONS

Several hundred to a thousand or more 'Alae-ke'oke'o have occasionally appeared on various large shallow lakes of Kaua'i or O'ahu, as previously documented. The chronological and geographical details of such sightings from 1940 to 1981 are summarized in Table 18.

Examination of count data in Table 18 reveals that from 1890 to 1981 300 or more 'Alae-ke'oke'o have been counted in a single habitat on 36 different occasions. These 36 examples are not meant to include general populations of 300 to 500 birds which by 1983 might be counted in a complex of habitats, such as Pearl Harbor or Kahuku (Shallenberger, pers. comm.). The general lack of records before 1940 may be explained by the habit of naturalists in the early days to express quantity in terms of relative abundance rather than numbers, and indeed, the almost complete gap of specific population counts from the early 1900's to the mid 1930's. While some of what otherwise might be learned from comparing data from the 1930's to 1980 suffers from inconsistencies and gaps in censusing, it appears that a few conclusions relative to large concentrations of 'Alae-ke'oke'o may be drawn.

Seven of the initial 9 records of 300 or more 'Alae-ke'oke'o in a single concentration were made over a period of 13 years (1940 to 1952) at Ka'elepulu Pond, O'ahu. Counts at Ka'elepulu from 26 December to 4 January, for the years 1947 to 1949 and 1952, suggest a resident population well in excess of 300 during the periods indicated. Censuses in October 1940, February and April 1947, and November 1948 further extend the time span and seasonality of such concentrations. The estimate of 500 to 600 'Alae-ke'oke'o on a lagoon near Līhu'e, Kaua'i, in 1891 indicates that large concentrations also occurred in earlier periods but seems to have little further significance. The 300 recorded at Ki'i Pond, O'ahu, on 14 November 1948 indicates that large numbers occasionally occurred elsewhere during the 1940 to 1952 period, but apparently has no direct relationship to concentrations observed on Ka'elepulu Pond during the 1940 to 1952 period.

Concentration of 300 or more were recorded 9 times during the 5-year period, 1954 to 1958. Five of these 9 sightings were logged at Salt Lake, 3 were noted at Ka'elepulu, while only 1 was seen at Ki'i Pond, all on O'ahu. The majority of observations the first 2 years of this period (1954, 1955) were at Ka'elepulu, while most logged during the last 2 years (1957, 1958) were at Salt Lake, indicating a progressive change of large flock usage from Ka'elepulu to Salt Lake.

The 11-year period, 1959 to 1969, was marked by only 8 observations of more than 300 'Alae-ke'oke'o in a single concentration. Seven of the 8 records are attributable to Salt Lake (in 1959, 1960, and 1961), while the last (in 1969) was made at Menehune Fish Pond on Kaua'i, possibly indicating further progression of habitat choice from O'ahu to Kaua'i. The last 10 observations of large concentrations were all made at Waita (Kōloa) Reservoir, Kaua'i in 1977, 1978, 1979, and 1980.

Detailed examination of all records in Table 18 reveals that large numbers of 'Alae-ke'oke'o have been recorded at one location or another every month of the year except March and September. Near year-round appearance of large flocks, and the fact that the mainland race (*F. a. americana*) has not yet been positively identified in the Hawaiian Islands, makes it unlikely that the majority of individuals in these large flocks are of mainland origin. On the other hand, racial origin of these large flocks has not been specifically investigated, so the question of their subspecific identity remains in doubt. Detailed examination of data in Table 18 reveals several cases where large numbers were in residence for several months. Such examples reinforce the theory that a majority of individuals in these large concentrations were the native form, *Fulica americana alai*. The racial composition of such large flocks nevertheless requires further investigation before their origin can be positively stated.

Reference is made to the full list of 'Alae-ke'oke'o records credited to Ka'elepulu Pond in the Appendix (2334-2421), and to the summary of usage and productivity for this species set forth in the account for O'ahu. Further attention is drawn to 5 additional records where large numbers witnessed on Ka'elepulu and a few lesser habitats between 1944 and 1959, were listed together rather than separately (1715,1716,1717,1725,1729). From all of the foregoing evidence, it is concluded that Ka'elepulu Pond was the single most important habitat for 'Alae-ke'oke'o in the Hawaiian Islands, with a maximum of 48 nests found, 50 percent of the habitat surveyed. Essentially 2,000 or more individuals were counted on more than one occasion.

The decline in usage of Ka'elepulu following residential development in the late 1950's, and of Salt Lake in the early 1960's, not only destroyed the most productive breeding area for this species in the Islands (Ka'elepulu), but in rapid succession preempted 2 habitats capable of supporting from 1,000 to 2,000 individuals each. The successive appearances of large concentrations of 'Alae-ke'oke'o on Ka'elepulu from the 1940's to the late 1950's, on Salt Lake in the late 1950's and very early 1960's, and on Waita Reservoir from the late 1970's to the early 1980's suggests successive movement by large numbers dispossessed of major feeding and staging areas. While mortality over the years has no doubt reduced the number of 'Alae-ke'oke'o originally dispossessed from Ka'elepulu, others from similarly developed areas no doubt joined up with and helped maintain the size of the aggregate displaced population. Nevertheless, the last counts at Waita Reservoir suggest that less than 50 percent of the numbers which abandoned the Ka'elepulu area were represented in the Waita flock in recent years. The foregoing scenario does not exclude the possibility that many, or perhaps all of the non-breeding flock may, in favorable times, be attracted to a mixture of lesser habitats, only to reform in a large flock when conditions or behavior patterns dictate. Study of marked individuals will be necessary to learn details characterizing composition and dynamics of large concentrations. The observation of 500 to 600 'Alae-ke'oke'o on a lagoon near Līhu'e as early as 1891 suggests that perhaps such concentrations may not be composed entirely of displaced populations.

SUMMARY AND CONCLUSIONS

The 'Alae-ke'oke'o, or Hawaiian Coot (Fulica americana alai), is a medium-sized slate-grey water bird (Rallidae) with a high white bill. Closely related to the American Coot (Fulica americana americana), the 'Alae-ke'oke'o was first described by Peale (1848) from 1 of 4 specimens collected in 1840/1841 during the visit of the U. S. Exploring Expedition to the Hawaiian Islands. Resident populations exist on

Kaua'i, O'ahu, Moloka'i, Maui, Hawai'i, and on Ni'ihau where winter rains usually result in large, temporary shallow ponds. A total of 56 specimens are known to exist worldwide in only 9 widely scattered museums.

Naturalists before 1900 recorded the 'Alae-ke'oke'o as common and widely distributed in taro patches and fresh-to-brackish ponds on all the major Islands, sometimes forming flocks of considerable size, and already declining in some districts. After 1903 there is a nearly absolute 30-year gap of information on their population status and distribution. In the 1930's and 1940's, residents on O'ahu and early members of the Hawaii Audubon Society began recording numbers seen in various conspicuous habitats. An official 18-month game-bird survey in 1946 and 1947 resulted in the first Statewide assessment of their future as "problematical".

The majority of the 4,055 records listed in the Appendix are the result of annual Statewide counts initiated by Hawaii Division of Fish and Game in 1956, supplemented by census figures gathered on some areas by U. S. Fish and Wildlife Service since 1965. Much recent population data exists but variability inherent in agency policy, observers, objectives, methodology, boundaries, names of habitats, and other factors which vary over time, qualify conclusions which might otherwise be drawn by detailed comparative analysis.

Population trends determined from periodic censuses on the islands of Kaua'i, Ni'ihau, O'ahu, Moloka'i, Maui, and Hawai'i are summarized for the period 1956 to 1981 in Table 19.

ANALYSIS OF TABLE 19

Kaua'i

Year-round use of Kaua'i by 'Alae-ke'oke'o, as measured by periodic censusing in January and July/August, has increased dramatically since regular record-keeping began in 1956. Population averages (in parenthesis) for the following groups of years indicate the increase for each seasonal count period, as follows: January: 1956 to 1961 (22), 1962 to 1966 (62), 1967 to 1976 (150), 1977 to 1981 (989); and for July/August: 1956 to 1961 (no data), 1962 to 1966 (no data), 1967 to 1976 (702), 1977 to 1981 (1,085). In addition, as the figures indicate, more 'Alae-ke'oke'o in recent years have been censused on Kaua'i in summer than in winter.

An average of one or fewer 'Alae-ke'oke'o per census was tabulated on some 93 habitats of the 149 which were surveyed. Of a total of 85 habitats in which this species was observed at least once, a total of 47 (55 percent) exhibited decreased usage, 28 (33 percent) reflected increased usage, and 10 (12 percent) exhibited on change when average numbers counted are

compared between first and last halves of each applicable census period. Long-term use of most habitats on Kaua'i thus appears to be declining, however usage of the more popular habitats seems to be increasing. Of some 13 areas on which an average of 20 or more individuals were counted from 1956 to 1982, usage was up on 7, down on 4, with no substantive change on 2. Appearance of large flocks of 'Alae-ke'oke'o on certain areas from time to time and seasonal movements, complicate assessment of population trends on Kaua'i.

Ni'ihau

The number of 'Alae-ke'oke'o on Ni'ihau, as determined from aircraft surveys, fluctuates more or less seasonally and in direct relation to the extent of temporary shallow ponds and reservoirs usually created by winter rain. Numbers of this species recorded during 6 January censuses (1976 to 1981) ranged from 1 to 160, averaging 56 per count. During some 8 July/August counts during the 1969 to 1980 period, numbers (excluding zero results) ranged from 6 to 145, averaging 68. Both January and July/August counts have declined in recent years, however this trend may be a more accurate reflection of wetlands available than population size. No breeding season count data are available.

O'ahu

Average number of 'Alae-ke'oke'o counted on O'ahu in January from 1956 to 1981 dropped a dramatic 83 percent between the first (1956 to 1961) and second (1962 to 1967) periods, presumably reflecting destruction of Ka'elepulu and Salt Lake during the late 1950's and very early 1960's. The continued decline to an average of 76 censused during the 1968 to 1974 period is offset by an abrupt recovery to an average of 158 counted from 1975 to 1981. The most recent information, details of which are unavailable, would show the population increase continuing upward even more dramatically than is evident in the data to 1981 (Shallenberger, pers. comm.).

Average number of 'Alae-ke'oke'o counted on O'ahu in July/August are 196 for the 1968 to 1974 period, and 212 during the years 1975 to 1981, resulting in significantly higher averages both periods than numbers tallied during January for the same years. July/August water bird census data from 1956 to 1967 do not include counts of this species hence average counts cannot be calculated for the initial 2 6-year periods. That the average July/August counts for the last 2 periods (1968 to 1974, 1975 to 1981) are higher than those for the same periods in January may be indicative of post-breeding influx and/or reproduction.

Moloka'i

Considering gaps and ambiguity of census data from

Moloka'i over the years, the average population of 'Alae-ke'oke'o on that island appears relatively stable long-term, as follows: January: 1958 to 1962 (32), 1963 to 1967 (36), 1968 to 1972 (9), 1973 to 1981 (32); July/August 1958 to 1962 (no data), 1963 to 1967 (no data), 1968 to 1972 (48), 1973 to 1980 (27).

Maui

Average census data from Maui indicates significant long-term decline of 'Alae-ke'oke'o from 1956 to 1981 in both January and July/August census periods, as follows: January: 1956 to 1960 (212), 1961 to 1966 (112), 1967 to 1971 (96), 1972 to 1975 (no data), 1976 to 1981 (99); July/August: 1956 to 1960 (no data), 1961 to 1966 (no data), 1967 to 1971 (193), 1972 to 1975 (116), 1976 to 1980 (89). As on Kaua'i and O'ahu, average numbers counted in July/August tend to be somewhat higher than those for January, 98 vs 141, for the only 2 periods for which data are available, from 1967 to 1971 and 1976 to 1980.

Hawai'i

Average January censuses of 'Alae-ke'oke'o on Hawai'i show a rather long period of stability from 1958 to 1972, followed by a shorter period of increase from 1973 to 1981. January average numbers counted in successive 4 or 5 year periods are as follows: 1958 to 1962 (47), 1963 to 1967 (41), 1968 to 1972 (37), 1973 to 1977 (67), 1978 to 1981 (84). July/August average counts also reflect the abrupt rise in numbers of this species seen during the last 2 periods, as follows: 1958 to 1962 (no data), 1963 to 1967 (no data), 1968 to 1972 (42), 1973 to 1977 (81), 1978 to 1980 (71). There seems to be no significant difference between average January and average July/August census results for the only yearly period for which data are available (63 in January 1968 to 1981 vs 65 in July/August 1968 to 1980).

Productivity

On Kaua'i, nesting of 'Alae-ke'oke'o was apparently quite common in the early days as indicated by a number of nests observed in the Waimea area in 1900. In recent years, although total numbers of adults have increased dramatically, breeding has been recorded only 3 times.

On Ni'ihau, where several dozen 'Alae-ke'oke'o may be found after seasonal rains, possible presence of nesting or young has not been determined because surveys have been carried out from fixed-wing aircraft instead of from the ground.

On O'ahu, 'Alae-ke'oke'o have been recorded in recent years as breeding residents in the following 7 habitats

(maximum numbers of nests found in parenthesis): Ka'elepulu (48), Ki'i Pond (30), Punamanō (3), Kawainui and adjacent pasture (1), Honouliuli (1), Honolulu (1), and Kuapā Pond (1).

On Moloka'i, a more or less continuous resident breeding population of 'Alae-ke'oke'o is found on Kakahai'a National Wildlife Refuge where shallow water and peripheral border of bullrushes provides ideal year-round nesting cover. Numbers of nests present at any one time apparently vary from 0 to 9. At least 48 young have been counted at one time. Breeding has not been reported elsewhere on Moloka'i in recent years.

On Maui, small numbers of nests or young have been reported irregularly on Kanahā Pond since 1879. The maximum number of 13 young and 3 fledged broods was reported there on 20 March 1978. A total of 49 nests was reported on Keālia Pond during the 1976 breeding season when peripheral vegetation was intermixed with open water. Smaller numbers of nests or young have been recorded on Keālia during less favorable years. Keālia supports few, if any, breeding pairs during years of sub-normal rainfall and runoff.

On Hawai'i, one or more pairs of 'Alae-ke'oke'o have occasionally been reported to breed at 'Ōpae'ula Pond on the Kona Coast where a tiny island of bulrush serves as nesting cover. On 'Aimakapā Pond a few miles south of 'Ōpae'ula, a few more of this species apparently nest on occasion, a maximum of 2 nests and immatures of 3 age classes being noted on 24 June 1977. One or two pairs sometimes nest or groups of young have occasionally been seen at Mohouli Pond in Hilo, on the windward coast. Nesting had also been reported on rare occasions, though never confirmed, at Lokoaka and Kea'au Ponds.

The foregoing statements on productivity are based on fragmentary information obtained, for the most part, on chance observations during census periods which did not coincide with the principal spring and summer breeding season. More detailed systematic surveys during the prime breeding period would no doubt reveal evidence of more widespread and productive efforts in many other locations than those indicated.

Movements

That 'Alae-ke'oke'o migrate seasonally between Kaua'i and Ni'ihau is strongly inferred from coincidental observations on both islands. Sub-populations on O'ahu have also apparently moved to Kaua'i after destruction of large and favorable habitats on O'ahu. Other possibilities are evident. Details regarding the magnitude and timing of population shifts must await definitive and systematic studies of marked individuals.

Statewide Status

Total numbers of 'Alae-ke'oke'o tallied Statewide during January and July/August censuses in recent years are exhibited in Table 20.

Inspection of data in Table 20 exhibits extent of apparent increase in average population on Kaua'i, Ni'ihau and O'ahu, and apparent decrease on Moloka'i, Maui, and Hawai'i during the principal January to August breeding season. Elements of such evident increases and decreases, such as production of young, cannot presently be identified. The overall importance of combined habitats on Kaua'i and O'ahu, which have currently supported 80 to 85 percent of the total population, is self-evident. A comparatively stable after-breeding population of roughly 1,500 'Alae-ke'oke'o can reasonably be projected for the recent period.

Table 1.

'Alae-ke'oke'o Recorded Statewide by HDFG
on Water Bird Surveys, 1963 to 1981

Year	January	Islands*	July/August	Island*
1963	536	Ka-Oa-Mo-Ma-Ha		
1964	353	Ka-Oa-Mo-Ma-Ha		
1965	217	Ka-Oa-Ma-Ha		
1966	218	Ka-Oa-Mo-Ma-Ha		
1967	275	Ka-Oa-Mo-Ma-Ha		
1968	253	Ka-Oa-Mo-Ma-Ha		
1969	234	Ka-Oa-Mo-Ma-Ha		
1970			710	Ka-Ni-Oa-Mo-Ma-Ha
1971-1975	unrecorded			
1976	956	(Statewide)		
1977	2,330	Statewide	1,618	
1978	1,241	(Statewide)		
1979	422	(Statewide)	1,915	
1980	1,753	(Statewide)	1,000	
1981	1,243	(Statewide)		

*Legend: Ka = Kaua'i, Ni = Ni'ihau, Oa = Oah'u
Mo = Moloka'i, Ma = Maui, Ha = Hawai'i

Table 2.

'Alae-ke'oke'o Recorded By HDFG On Kaua'i, 1956-1981

Year	January	July/August	Other
1956	33		
1957	no census		
1958	5		
1959	17		
1960	17		
1961	40		
1962	44		
1963	162		
1964	75		
1965	6		
1966	23		
1967	26		
1968	38	122	
1969	77	1,058	
1970	214	220	
1971	no census	117	
1972	no census	no census	
1973	no census	158	
1974	no census	no census	
1975	no census	1,727	
1976	395	1,510	

1 July 1975 - 30 June 1976
 Comprehensive censuses conducted
 ...record numbers counted during the
 summer...partly as a result of the
 increase in the number of habitats
 surveyed, but also apparently, because
 of an exceptional year of productivity
 ...summer population may have augmented
 by continental transients...This year's

population (1,727 included a high percentage of immature birds. Out of a sample of 105 judged for age, 68 were considered immature. Virtually no coot nests or young broods were observed on Kaua'i, indicating the likelihood that most productivity occurs on Ni'ihau, Oah'u or Mau'i. There is still no explanation for the occasional "explosions" during certain summers (i.e. 1969 and this year). These occurrences are either the result of an exceptional year of productivity, or they may include continental transients...the latter case seems a possibility since the winter population figures usually drop off abruptly from the summer census tally. The fact that coot are known to winter as far south as Ecuador and breed throughout North America and Central America makes this a possibility.

Table 2 (Cont'd).

Year	January	July/August	Other
1977	1,919	1,320	1 July 1976 - 30 June 1977: A severe winter drought on Kaua'i and Ni'ihau resulted in the concentration of Coots in record numbers on Kaua'i...lack of heavy kona storms this winter resulted in negligible migration from Kaua'i to Ni'ihau...
1978	891		1 July 1977 - 30 June 1978:... sharp decrease in numbers censused attributed to severe drought in 1977 and consequent lack of sufficient productivity to offset annual mortality...many that normally migrate to Ni'ihau remained on Kaua'i for the second winter in a row...
1979	140	1,429	
1980	1,230	505	31 July: only 1 juvenile (half-grown flightless chick) seen (Mānā House Res.) during the summer census...only the third record of a coot nestling on Kaua'i in recent years...
1981	766		

Table 3.

'Alae-ke'oke'o Censused by HDFG per Quadrangle,
1956-1982, Island of Kaua'i

Quadrangle	Total No. Counted	Total No. Counts	Ave.No.* per Count	Total No. Habitats
MAKAHA POINT	162	24	7	2
HAENA	115	20	6	2
HANALEI	4,673	157	30	15
ANAHOLA	1,802	120	15	13
KEKAHA	499	136	4	13
WAIMEA CANYON	0	1	0	1
WAIALEALE	0	0	0	0
KAPAA	1,108	257	4	26
HANAPEPE	174	283	1	32
KOLOA	9,399	352	27	33
LIHUE	2,553	138	19	12
Totals	20,485	1,488	14	149

*Averages rounded to nearest whole number

Table 4.

'Alae-ke'oke'o Censused by HDFG in 11 Quadrangles, 149 Habitats,
Island of Kaua'i, 1956-1982

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹ Counted 1st Half Period	Ave.No. ¹ Counted 2nd Half Period
MAKAHA POINT							
Kolo Reservoir	118-131	1975-1981	162	14	12	21	3
Saki Mana Reservoir	132-141	1975-1980	0	10	0		
HAENA							
Haena Pond	142-145	1959-1977	7	5	1	3	0
Wainiha T/R Fields	146-159	1960-1980	108	15	7	10	5
HANALEI							
Hanalei Valley	160-172	1966-1977	178	12	15	12	18
Hanalei NWR*	175-183	1979-1982	836	11	76	110	42
Hanalei P.O Taro	184-193	1975-1980	31	10	3	5	2
Hanalei Trader Taro	194-202	1975-1980	47	9	5	10	0
Hanalei NWR Lookout	203-212	1975-1980	1372	10	137	160	114
Hanalei NWR A/F	213-222	1975-1980	254	10	25	25	26
L. Hanalei River	224-235	1975-1981	37	12	3	2	5
Kalihiwai R/Estuary	236-249	1968-1981	9	14	1	1	0
Kalihiwai Reservoir	250-259	1975-1980	98	10	10	11	9
Kalihiwai Prawn Farm	260	1978	0	1	0		
Lumahai River	261-276	1968-1980	1186	15	79	88	70
Princeville G/C Ponds		277-286	1975-1980		84	10	8
³ Waioli Taro	14	287-296	1975-1980	33	10	3	3

¹ Average rounded to nearest whole number							
*Quarterly average daily use converted to single count							

Table 4. (Cont'd)

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹ Counted	Ave.No. ¹ Counted
						1st Half Period	2nd Half Period
Waipa Taro	297-306	1975-1980	28	10	3	5	1
Wilcox Ponds	307-317	1975-1980	480	13	37	56	18
ANAHOLA							
Anahola Reservoir	318-328	1975-1981	5	12	0		
Kaloko Reservoir	329-339	1973-1980	156	11	14	17	12
Kaloko Prawn Farm	340-	1978	0	1	0		
Kamoku Pastures	341-350	1975-1980	0	10	0		
Kaneha Reservoir	351-359	1975-1980	17	9	2	2	2
Kaneha Res. #1	360-368	1975-1980	1	9	0		
Kaneha Res. #2	369-379	1975-1981	0	11	0		
Kaneha Res. #3	380-390	1975-1981	3	11	0		
Kilauea Estuary	391-402	1975-1981	20	12	2	4	0
Mimino Reservoir	403-405	1975-1978	10	3	3	5	1
Morita Reservoir	406-417	1968-1980	221	12	18	25	12
Puu Ka Ele Reservoir	418-427	1975-1980	980	10	98	152	44
Waiakalua Reservoir	428-436	1975-1979	359	9	40	20	60
KEKAHA							
Kekaha Pasture	437-446	1975-1980	2	10	0		
Kekaha S.B.	447-460	1969-1980	52	14	4	6	1
Kekaha S.H. Res.	461-471	1969-1980	38	11	3	7	0
Kehelanui Res.	472-482	1975-1981	0	11	0		
Mana Base Pond	483-497	1969-1980	6	15	0		
Mana Brackish Pond	498-514	1975-1980	4	17	0		
Mana Ditches	515-517	1978-1980	17	3	6	8	4
Mana H. Reservoir	518-527	1975-1980	203	10	20	18	23
Mana Reservoir #24	528-538	1975-1981	0	11	0		
Niu Valley Reservoir	539-547	1976-1980	91	9	10	10	10
Waiawa Reservoir	548-557	1975-1980	74	10	7	3	11
Wailau Siphon Res.	558-563	1976-1980	8	6	1	1	2
Waimea Hts. Res.	564-572	1975-1980	4	9	0		

Table 4 (Cont'd)

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹ Counted	Ave.No. ¹ Counted
						1st Half Period	2nd Half Period
WAIMEA CANYON							
Kepani Reservoir	573	1981	0	1	0		
KAPAA							
Aii Reservoir	573a-583	1975-1981	7	11	1	1	1
De Mello Res.	584-594	1975-1981	1	11	0		
Fern Grotto Res.	595-604	1975-1981	0	10	0		
Halaula Res.	605-612	1975-1980	1	8	0		
Hanahanapuni Res.	613-622	1975-1981	89	10	9	9	9
Hanamaulu Res.	623-632	1976-1981	6	10	1	1	0
Hanamaulu A/S Res.	633-640	1975-1981	4	8	1	1	0
Kawailoa Flats	641-642	1977	2	2	1	1	0
Kailiiliahinale Res.	643-652	1975-1980	22	10	2	1	3
Kapaa Stable Res.	653-661	1975-1980	0	9	0		
Kapaa Estuary/Marsh	662-674	1975-1981	3	13	0		
Kapahi Pastures	675-681	1976-1980	0	7	0		
Kapaia Reservoir	682-691	1975-1980	99	10	10	9	10
Lono Reservoir	692-701	1975-1981	5	10	1	1	1
Moikeha Canal	702-712	1975-1981	0	11	0		
Opaekaa Valley	713-732	1956-1980	68	18	4	2	6
Wailua Reservoir	733-735	1969-1978	24	3	8	8	8
Paradise Pacifica	736-745	1975-1980	49	10	5	6	4
Pukaki Reservoir	746-755	1975-1981	2	10	0		
Rodrigues Reservoir	756-766	1975-1981	0	11	0		
Sloggett Reservoir	767-781	1969-1980	724	15	48	32	64
Twin Reservoir	782-792	1975-1981	2	11	0		
Waikaea Canal	793-803	1975-1981	0	11	0		
Wailua G/C Ponds	804-814	1975-1981	0	11	0		
Wailua Pastures	815-820	1976-1980	0	6	0		
Wailua Jail Swamp	821-831	1975-1981	0	11	0		

Table 4 (Cont'd)

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹ Counted	Ave.No. ¹ Counted
						1st Half Period	2nd Half Period
HANAPEPE							
Aaka Reservoir	832-839	1975-1981	10	8	1	2	1
Alexander Reservoir	840-847	1975-1981	0	8	0		
Ekahi Reservoir	848-853	1975-1981	0	6	0		
Elima Reservoir	854-863	1975-1981	0	10	0		
Elua Reservoir	864-873	1975-1980	0	10	0		
Hanapepe Salt Pond	874-887	1968-1980	14	14	1	0	2
Hanapepe Taro	888-899	1968-1980	3	12	0	1	0
Hukiwai Reservoir	900-909	1975-1980	1	10	0		
Ioleau Reservoir	910-919	1976-1981	0	10	0		
Ipuolono Reservoir	920-930	1975-1981	0	11	0		
Kaawanui Reservoir	931-937	1975-1979	1	7	0		
Kalaheo Gulch Res.	938	1976	0	1	0		
Kalaeloa Reservoir	938 a-g	1975-1979	0	7	0		
Kapa Reservoir	939-948	1975-1980	0	10	0		
Kaumakani Gulch	949-961	1969-1981	0	13	0		
Kiaha Reservoir	962-972	1975-1981	7	11	1	1	0
Kuhumu Reservoir	973	1979	0	1	0		
Maele Reservoir	974-983	1976-1981	0	10	0		
Manienieula Res.	984-993	1975-1980	34	10	3	1	6
Mau Reservoir	994-1003	1975-1980	0	10	0		
Nomilo Fishpond	1004-1012	1976-1981	0	9	0		
Nonopahu Reservoir	1013-1021	1975-1981	6	9	1	0	1
Olokele S.B.	1022-1033	1968-1981	0	12	0		
Poopueo Reservoir	1034-1042	1975-1980	32	9	4	5	2
Puulani Reservoir	1043-1050	1975-1979	20	8	3	0	5
Puu O Papai Res.	1051-1061	1975-1981	17	11	2	3	0
Umi Reservoir	1062-1072	1975-1981	0	11	0		
Wahiawa B. Res.	1073-1081	1976-1980	7	9	1	1	0
Wahiawa M.F.	1082	1968	0	1	0		
Waikai Reservoir	1083-1090	1975-1981	1	8	0		

Table 4 (Cont'd)

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹ Counted 1st Half Period	Ave.No. ¹ Counted 2nd Half Period
Waikoloi Reservoir	1091-1098	1975-1981	8	8	1	1	1
Waimea Taro	1099-1107	1975-1980	13	9	1	3	0
KOLOA							
Aepo Reservoir	1108-1117	1975-1980	2	10	0		
Aepoalua Reservoir	1118-1126	1975-1980	4	9	0		
Aepoeha Reservoir	1127-1136	1975-1980	3	10	0	0	1
Apoe Kolu Reservoir	1137-1146	1975-1980	16	10	2	2	1
Grove Farm S.B.	1147-1161	1946-1981	43	15	3	5	0
Grove Farm T.P.	1162-1170	1975-1980	0	9	0		
Halenanahu Res.	1171-1179	1975-1980	25	9	3	1	4
Hanini Reservoir	1180-1189	1975-1980	10	10	1	0	1
Huinawai Reservoir	1190-1199	1975-1980	0	10	0		
Kaupele Reservoir	1200-1210	1975-1980	2	11	0		
Kipu Res. #1	1211-1219	1975-1980	9	9	1	0	2
Kipu Res. #2	1220-1228	1975-1980	13	9	1	2	1
Kipu Res. #3	1229-1238	1975-1980	38	10	4	5	4
Kipu Reservoirs(4)	1239-1247	1968-1977	178	8	22	26	19
Kipu Road Reservoir	1248-1258	1975-1981	0	11	0		
Koloakapohu Res.	1259-1269	1969-1980	11	11	1	1	1
Kumano Reservoir	1270-1281	1975-1981	15	12	1	2	0
Lawai Kai Estuary	1282-1288	1976-1980	0	7	0		
Loko Reservoir	1289-1297	1975-1980	9	9	1	1	1
Luawai Reservoir	1298-1306	1976-1980	8	9	1	0	2
Mahalepu Ponds	1307-1316	1975-1980	1	10	0		
Manuhonuhonu Res.	1317-1327	1975-1981	3	11	0	1	0
Mauka Reservoir	1328-1340	1968-1977	533	19	28	32	24
Omao Reservoir	1347-1356	1975-1980	6	10	1	0	1
Papuaa Reservoir	1357-1365	1975-1980	44	9	5	4	6
Papuaa Ridge Res.	1366-1367	1978-1979	13	2	7	4	9
Pia Mill Reservoir	1368-1380	1975-1980	134	13	10	9	12

Table 4 (Cont'd)

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹ Counted	Ave.No. ¹ Counted
						1st Half Period	2nd Half Period
Pinau Reservoir	1381-1392	1975-1981	1	12	0		
Piwai Reservoir	1393-1400	1975-1981	2	8	0		
Poipu Ponds	1401-1412	1968-1981	0	12	0		
Puuhi Reservoir	1413-1421	1975-1980	0	9	0		
Puu O Hewa Res.	1422-1431	1975-1980	70	10	7	13	1
Waita Reservoir	1432-1460	1956-1980	8206	29	283	63	503
LIHUE							
Ahukini Reservoir	1461-1473	1968-1980	21	13	2	2	1
Aweoweonui Valley	1474-1481	1974-1980	26	8	3	1	5
Halehaka Reservoir	1482-1492	1975-1981	1	11	0		
*Huleia NWR	1493-1506e	1974-1982	11	19	1	1	0
Kauai Surf G.C.	1507-1516	1975-1981	3	10	0		
Kauai Surf Pond	1517-1525	1975-1980	6	9	1	1	0
Kipu Reservoir #4	1526-1535	1975-1980	9	10	1	12	7
Lihue Area	1536-1546	1891-1977	1464	11	133	108	159
Lihue Plant. S.B.	1547-1566	1967-1980	98	20	5	8	2
Menehune Fishpond	1567-1581	1969-1980	898	16	56	112	1
Niumalu Marsh/Flats	1582-1584	1977-1980	0	3	0		
Waikaia Reservoir	1585-1592	1975-1980	16	8	2	0	4

*Quarterly average daily use converted to single census							

Table 5.

10 Habitats Most Used by 'Alae-ke'oke'o During
Various Census Periods, Island of Kaua'i, 1969-1981

Quadrangle & Habitat	Census Period	Ave.No. Counted	Total No. of Counts
HANAIEI			
Hanalei NWR Lookout	1975-1980	137	10
Lumahai River	1975-1981	79	15
Wilcox Ponds	1975-1980	37	13
ANAHOLA			
Puu Ka Ele Reservoir	1975-1980	98	10
Waiakalua Reservoir	1975-1979	40	9
KAPAA			
Sloggett Reservoir	1969-1980	48	15
KOLOA			
Kipu Reservoirs (4)	1968-1977	22	8
Mauka Reservoir	1968-1977	28	19
Waita Reservoir	1956-1980	283	29
LIHUE			
Menehune Fishpond	1969-1980	56	16

Table 6.

36 Habitats Used Moderately by 'Alae-ke'oke'o Druing
Various Census periods, Island of Kaua'i, 1975-1981

<u>Quadrangle & Habitat</u>	<u>Census Period</u>	<u>Ave.No. Counted</u>	<u>Total No. of Counts</u>
MAKAHA POINT			
Kolo Reservoir	1975-1981	12	14
HAENA			
Wainiha Taro/River	1960-1980	7	15
HANALEI			
Hanalei Valley	1966-1977	15	12
Hanalei P.O. Taro	1975-1980	3	10
Hanalei Trader Taro	1975-1980	5	9
L. Hanalei River	1975-1981	3	12
Kalihiwai Reservoir	1975-1980	10	10
Princeville G/C Ponds	1975-1980	8	10
Waioli Taro	1975-1980	3	10
Waipa Taro	1975-1980	3	10
ANAHOLA			
Kaloko Reservoir	1973-1980	14	11
Mimino Reservoir	1975-1978	3	3
Morita Reservoir	1968-1980	18	12
KEKAHA			
Kekaha Reservoir	1969-1980	4	14
Kekaha S.H. Reservoir	1969-1980	3	11
Mana Ditches	1978-1980	6	3
Mana House Reservoir	1975-1980	20	10
Niu Valley Reservoir	1976-1980	10	9
Waiawa Reservoir	1975-1980	7	10
KAPAA			
Hanahanapuni Reservoir	1975-1981	9	10
Kapaa Reservoir	1975-1980	10	10
Opaekea Valley	1956-1980	4	18
Wailua Reservoir	1969-1978	8	3
Paradise Pacifica	1975-1980	5	10
HANAPEPE			
Manienieula Reservoir	1975-1980	3	10
Poopueo Reservoir	1975-1980	4	9
Puulani Reservoir	1975-1979	3	8

Table 6 (Cont'd)

<u>Quadrangle & Habitat</u>	<u>Census Period</u>	<u>Ave.No. Counted</u>	<u>Total No. of Counts</u>
KOLOA			
Grove Farm S.B.	1946-1981	3	15
Halenanahu Reservoir	1975-1980	3	9
Kipu Reservoir #3	1975-1980	4	10
Papaa Reservoir	1975-1980	5	9
Papaa Ridge Reservoir	1978-1979	7	2
Pia Mill Reservoir	1975-1980	10	13
Puu O Hewa Reservoir	1975-1980	7	10
LIHUE			
Aweoweonui Reservoir	1974-1980	3	8
Lihue Pl. S.B.	1967-1980	5	20

Table 7.

'Alae-ke'oke'o Censused by HDFG on Ni'ihau
by Aerial Survey, 1969 to 1981

Year	January	July/August	Appendix Source
1969		145	1595
1970		0	1596
1971		28	1597
1972		(no data)	
1973		no data (dry)	1598
1974		40	1599
1975		155	1600
1976	160	91	1601,1602
1977	9	6 (nearly dry)	1603,1605
1978	92	no data (nearly dry)	1606
1979	1	63	1608,1609
1980	48	6	1610,1611
1981	25	-	1612

Table 8.

Distribution of 'Alae-ke'oke'o by Aerial Surveys
in 14 Habitats, Ni'ihau, 1976 to 1980

Habitat	Appendix serial No. 's	Census Period	Total No. Counted	Total Counts	Ave. No.* Counted
Haa0 Reservoir	1619-1620	1976-1977	38	2	19
Halalii Lake & Ditches	1621-1628	1976-1980	117	8	15
Halalu Lake & Ditches	1629-1636	1976-1980	2	8	0
Kaalialinui Valley	1637	1979	3	1	3
Kaumuhonu Reservoir	1638	1980	2	1	2
Kaunuinui (?Reservoir)	1639	1976-1980	0	1	0
Keanauhi Reservoir	1640-1644	1977-1980	32	5	6
Kiekie pond(s)	1645-1648	1979	0	4	0
Kiekie-Puuwai Ponds	1649	1977-1980	1	1	1
Nonopapa Lake	1650-1656	1978	3	7	0
Palikoe Pond	1657	1977-1980	0	1	0
Pohueloa Reservoir	1658-1661	1978-1980	37	4	9
Pu'u Alala Pond(s)	1662-1665	1978	4	4	1
Puuwai Pond(s)	1666-1667	1978	15	2	8

*Average rounded to nearest whole number					

Table 9.

'Alae-ke'oke'o Recorded by HDFG on O'ahu
Waterbird Surveys, 1956 to 1981

Year	January	July/August
1956	528	
1957	338	
1958	449	
1959	822	
1960	no census	
1961	717	
1962	12	
1963	169	
1964	98	
1965	112	
1966	77	
1967	106	
1968	64	164
1969	15	164
1970	74	264
1971	84	292
1972	132	no census
1973	122	97
1974	41	no census
1975	83	165
1976	148	no data
1977	148	119
1978	126	no census
1979	105	269
1980	261	269
1981	234	-
Grand Average	203	203
Ave. 1956-1969 (13 years)	. . . 270	Ave. 1968-1973 (5 years) . . . 196
Ave. 1970-1981 (12 years)	. . . 130	Ave. 1975-1980 (4 years) . . . 212

Table 10.

'Alae-ke'oke'o Censused by HDFG per Quadrangle,
1934-1982, Island of O'ahu

<u>Quadrangle</u>	<u>Total No. Counted</u>	<u>Total No. Counts</u>	<u>Ave. No.* Per Count</u>	<u>Total No. Habitats Per Quadrangle</u>
KAENA	7	14	1	2
HALEIWA	30	37	1	7
WAIANAE	120	24	5	2
SCHOFIELD BARRACKS	136	13	10	1
EWA	8	13	1	2
WAIMEA	0	11	0	3
KAHUKU	9,182	307	30	14
HAAULA	0	7	0	3
KAHANA	166	31	5	4
WAIPAHAU	15	69	0	6
KANEOHE	22	11	2	2
MOKAPU	12,303	154	80	8
PUULOA	1,474	278	5	19
HONOLULU	168	325	1	9
KOKO HEAD	107	40	3	4
TOTALS....	23,738	1,334	18	86

*Average rounded to nearest whole number

Table 11.

'Alae-ke'oke'o Censused by HDFG in 15 Quadrangles, 86 Habitats,
Island of O'ahu, 1934-1982

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹ Counted 1st Half Period	Ave.No. ¹ Counted 2nd Half Period
KAENA							
Kapalaau	1778-1782	1976-1980	0	5	0		
Mokuleia	1783-1791	1975-1980	7	9	1	0	2
HALEIWA							
Haleiwa	1793-1804	1947-1980	16	12	1	2	0
Helemano	1805-1808	1978-1980	0	4	0		
Kiaka	1810	1976	0	1	0		
Kawailoa	1811-1812	1965, 1979	4	2	2	4	0
Ukoa	1813-1823	1975-1980	2	11	0		
Wailua	1824-1829	1893, 1895, 1979, 1980	8	6	1	3	0
Tsuda Hasu	1830	1979	0	1	0		
WAIANAE							
Waianae Valley	1831-1843	1965-1977	79	13	6	12	0
Makaha	1844-1854	1967-1978	41	11	4	5	2
SCHOFIELD BARRACKS							
Lualualei NAD	1855-1868	1973-1980	136	13	10	12	9
EWA							
Barber's Point	1869-1871	1969-1974	4	3	1	1	1
Campbell IP	1872-1881	1971-1980	4	10	0	1	0
WAIMEA							
Waialeale	1882-1884	1976-1979	0	3	0		
Arboretum	1885	1978	0	1	0		
Waimea River	1886-1892	1977-1980	0	7	0		

Table 11 (Cont'd)

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹ Counted 1st Half Period	Ave.No. ¹ Counted 2nd Half Period
KAHUKU							
JCNWR*	1893-1901	1979-1981	496	8	62	56	68
Kii Pond	1910-1987	1937-1971	3593	57	63	56	70
Kii (JCNWR)	1988-2132	1975-1981	3776	143	26	15	38
Kii (JCNWR)*	2132 a-g	1981-1982	343	6	57	76	39
Punamano (JCNWR)	2133-2173	1971-1980	574	39	15	11	18
Kahuku Airstrip	2173 b-i	1958-1979	(20+)	12	(2+)	(2+)	(2+)
Kahuku Aquafarm	2174-2175	1979-1982	5	2	3	0	5
Kawela	2176	1979	0	1	0		
Kuilima S.P.	2177-2186	1975-1980	282	10	28	28	29
Kuilima Reservoir	2187-2192	1976-1981	59	5	12	11	13
Kuilima Golf Course	2193	1977	0	1	0		
Kualoa R. Pond	2194-2204	1968-1980	1	12	0		
Laie Prawn Farm	2205-2206	1979-1980	1	2	1	1	0
Punahoolapa (JCNWR)	2207-2215	1977-1980	32	9	4	4	2
HAUULA							
Opaeula Reservoir(s)		2216-2217	1981	0	1	0	
Wahiawa Reservoir	2218-2220	1979	0	2	0		
Ku Tree	2221-2225	1979-1981	0	4	0		
KAHANA							
Huilua Pond	2226-2238	1970-1981	18	12	2	3	0
Kahana	2239-2256	1952-1977	136	16	9	10	7
Molii Pond	2257-2258	1968-1977	3	2	2	3	0
Punaluu F.F.	2259	1977	9	1	9		
WAIPAHAU							
Leeward C. Taro	2260-2261	1975-1976	0	2	0		
Waiawa (PHNWR)	2262-2313	1975-1980	6	53	0		
Waiawa (PHNWR)*	2313 a-g	1981-1982	1	6	0		

Table 11. (Cont'd)

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹	Ave.No. ¹
						Counted	Counted
						1st Half	2nd Half
						Period	Period
Sumida Watercress	2314-2317	1961-1976	4	4	1	2	0
Ted Makalena	2318-2319	1975-1976	0	2	0		
Waimalu	2320-2321	1965-1966	4	2	2	2	1
KANEEOHE							
Heeia Pond	2322-2332	1968-1980	22	10	2	3	1
Kahaluu	2333	1976	0	1	0		
MOKAPU							
Kaelepulu Pond	2334-2421	1934-1979	11,081	54	205	396	14
Campos Ranch	2422	1965	8	1	8		
Kailua	2424	1970	2	1	2		
KMCAS	2425-2460	1947-1980	561	34	17	31	2
Kawainui	2461-2523	1934-1980	648	59	11	18	4
Holiday Mart	2524-2525	1975-1976	0	2	0		
Lanikai	2526-2527	1977	3	2	2	0	3
Olomana	2528	1979	0	1	0		
PUULOLOA							
Apokaa	2530-2543	1964-1980	77	14	6	8	3
Fort Kamehameha	2544-2553	1975-1980	0	10	0		
Hickman Pond	2554	1974	2	1	2		
Honouliuli Pond(s)	2555-2565	1964-1980	22	11	2	3	2
PHNWR*	2566-2573	1979-1981	37	8	5	3	6
West Loch (PHNWR)	2574-2655	1975-1982	176	81	2	1	3
West Loch	2656-2671	1956-1974	123	11	11	6	16
Prawn Pond	2672-2676	1974	10	4	3	2	3
Waikele	2677-2701	1958-1980	257	25	10	13	8
Waipio	2702-2712	1962-1977	91	9	10	13	7
Waipio S.B.'s	2713-2724	1968-1980	122	12	10	3	17

Table 11. (Cont'd)

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹	Ave.No. ¹
						Counted 1st Half Period	Counted 2nd Half Period
Walker's Bay	2725-2757	1968-1980	220	45	5	6	3
Waipio Peninsula	2758-2767	1976-1981	99	8	12	12	13
Big Pond	2768-2771	1976-1977	114	4	29		
Waipio S.P.	2772-2776	1975-1980	2	5	0		
Waipio Airstrip	2777-2782	1968-1969	27	5	5	9	2
Waipahu F/D	2783-2805	1953-1980	79	20	4	8	0
Loko Ea	2806	1976	0	1	0		
Puuloa R.R.	2807-2811	1956-1958	16	4	4	8	1
HONOLULU							
Honolulu	2812-2813	1825-1943	0	0	0		
Diamond Head	2814	1907	(2)	1	(2)		
Keehi Lagoon	2815-2824	1968-1980	0	10	0		
Moanalua Fishponds	2825-2836	1943-1953	116	10	12	6	17
Moanalua K.F.	2837-2843	1944-1945	1141	7	163	151	175
Damon Estate	2844-2856	1952-1960	31	12	3	4	1
Nuuanu Reservoirs	2857-2916	1940-1981	363	54	7	6	8
Salt Lake	2917-2998	1937-1981	10,306	82	126	224	26
Kaau Crater	2999	1977	3	1	3		
KOKO HEAD							
Bellows AFB.	3000-3017	1954-1981	39	18	2	3	0
Kuapa Pond	3018-3029	1945-1976	67	11	6	6	6
Paiko Lagoon	3030-3040	1956-1980	1	11	0		
Waimanalo	3041	1879	0	0	0		

¹Average rounded to nearest whole number

*Quarterly average daily use data converted to that of single count

Table 12.

Islandwide Counts of 'Alae-ke'oke'o, Island of
Moloka'i, 1958-1981

Year	January	July/August	
1958	20		
1959	33		
1960	27		
1961	21		
1962	59		
1963	48		
1964	78		
1965	no census		
1966	4		
1967	14		
1968	0		
1969	0	48	
1970	28	no census	
1971	no census	no census	
1972	no census	no census	
1973	no census	31	
1974	no census	no census	
1975	no census	32	
1976	no census	34	
1977	38	no census	
1978	41	no census	
1979	no census	18	
1980	19	20	
1981	28		
	29.....	31	Grand Averages
	10.....	34	Averages for years in which census data are available for both seasonal periods (1969, 1980)

Table 13.

HDFG Counts of 'Alae-ke'oke'o on Maui,
1956 to 1981

Year	January	July/August	Appendex Source
1956	173		
1957	273		
1958	256		
1959	170		
1960	188		
1961	149		
1962	205		
1963	no census		
1964	79		
1965	53		
1966	75		
1967	80		
1968	104		
1969	122	232	
1970	78	171	
1971	no census	176	
1972	no census	no census	
1973	no census	71	104 (19 Sep.)
1974	no census	no census	
1975	no census	160	
1976	177	no census	
1977	no census	111	
1978	72	no census	
1979	78	77	
1980	83	80	
1981	86		
	132	135	Grand Averages
	97	140	Averages for years in which census data are available for both seasonal periods (1969, 1970, 1979, 1980)

Table 14.

HDFG Counts of 'Alae-ke'oke'o, Island of
Hawai'i, 1958-1981

Year	January	July/August	other
1958	4		
1959	63		
1960	26		
1961	91		
1962	51		
1963	49		
1964	23		
1965	46		
1966	39		
1967	49		
1968	47		
1969	20	20	
1970	36	39	
1971	28	55	
1972	53	52	
1973	57	30	68 (21 June)
1974	49	84	
1975	89	130	
1976	76	75	
1977	62	62 (July), 102 (Aug.)	
1978	49	62	
1979	69	59	
1980	112	93	
1981	104		
	54.....	63 (July), 67 (Aug.).....	Grand Averages
	58.....	63 (July), 67 (Aug.).....	Averages for years in which census data are available for both seasonal periods (January, July/August), 1969-1980.

Table 15.

Alae-ke'oke'o Censused by HDFG in 15 Quadrangles,
26 Habitats, Island of Hawai'i, 1959 to 1980

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹	Ave.No. ¹
						Counted	Counted
						1st Half Period	2nd Half Period
HAWI							
Kehena Reservoir	3695-3704	1975-1980	0	10	0		
Puu O Komau	3705-3713	1975-1980	0	9	0		
Union Mill	3714-3723	1959-1980	1	10	0		
Upolu Basin	3724-3732	1975-1980	0	9	0		
HONOKANE							
Pololu Valley	3733	(1977)	1	1	1		
KUKUIHAELE							
Kukuihaele	3734-3743	1975-1980	0	10	0		
Lalakea	3744-3751	1975-1979	0	8	0		
KAWAIHAE							
Kahua Ranch R.	3752-3753	1980	0	2	0		
Waipio Valley	3755-3770	1959-1981	38	15	3	5	0
PUU HINAI							
Francis Brown	3771-3780	1974-1980	3	10	0	1	0
MAKALAWENA							
Opaeula Pond*	3781-3839	1963-1980	618	58	11	11	11
KIHOLO							
Kiholo	3840	1965	0	1	0		
KEAHOLE POINT							
Aimakapa	3842-3899	1959-1980	2144	52	41	34	48
Kaloko	3900-3916	1959-1981	9	17	1	1	0

Table 15. (Cont'd).

Quadrangle & Habitat	Serial No.'s	Census Period	Total No. Counted	Total Counts	Ave. No. Counted	Ave.No. ¹ Counted 1st Half Period	Ave.No. ¹ Counted 2nd Half Period
HUALALAI							
Huehue Mauka	3917-3926	1963-1980	1	10	0		
HONAUNAU							
City of Refuge	3928	1967-1968	1	1	1		
KA LAE							
Kaalualu	3929-3939	1974-1980	0	11	0		
NAALEHU							
Honuapo	3940-3948	1974-1981	0	9	0		
Punaluu	3949-3958	1968-1980	1	10	0		
HILO							
Mohouli	3967-3974	1958-1978	32	7	5	5	4
Ahn Pond	3975-3987	1965-1980	2	13	0		
Nakagawa (Lokoaka)	3989-4009	1958-1980	35	21	2	2	1
Wailoa (Waiakea)	4011-4032	1961-1980	131	22	6	8	4
KEAAU RANCH							
Keaau	4034-4038	1974-1977	10	9	1	1	1
HONOKAA							
Honokaa Mill	4044-4045	1976-1977	0	2	0		
Kukaiau	4046-4055	1974-1980	0	10	0		

55

¹Averages rounded to nearest whole number

*Quarterly average daily use converted to single count 1 Oct. 1976 to 31 Dec. 1978.

Table 16.

Distribution by Decade of 4,097 Records
of 'Alae-ke'oke'o in the Hawaiian Islands, 1779 to 1981

1770's - 1	1850's - 0	1920's - 0
1780's - 0	1860's - 1	1930's - 22
1790's - 0	1870's - 7	1940's - 73
1800's - 0	1880's - 1	1950's - 197
1810's - 0	1890's - 17	1960's - 488
1820's - 3	1900's - 13	1970's - 2,807
1830's - 0	1910's - 1	1980's - 464
1840's - 2		

Table 17.

Geographical Distribution of 4,097 Records
of 'Alae-ke'oke'o in the Hawaiian Islands, 1779 to 1981

Northwestern (Leeward) Islands	0
Southeastern Islands (Collectively)	42
Kaua'i	1,565
Ni'ihau	76
O'ahu	1,386
Moloka'i	230
Maui	390
Hawai'i	408

Table 18.

Concentrations of 300 or More 'Alae-ke'oke'o
in the Hawaiian Islands, 1890 to 1981

Number Counted/Estimated	Location	Date	Appendix Serial Number
500-600	lagoon near Lihue	1891	1536
200-300	Kaelepulu Pond, O'ahu	27 Oct. 1940	2349
1,000+	Kaelepulu Pond, O'ahu	4 Jan. 1947	2351
1,000	Kaelepulu Pond, O'ahu	9 Feb. 1947	2352
1,000	Kaelepulu Pond, O'ahu	6 Apr. 1947	2353
300	Ki'i Pond, O'ahu	14 Nov. 1948	1927
883	Kaelepulu Pond, O'ahu	26 Dec. 1948	2359
486	Kaelepulu Pond, O'ahu	26 Dec. 1949	2361
653	Kaelepulu Pond, O'ahu	28 Dec. 1952	2362
(several hundred)	Salt Lake, O'ahu	22 Aug. 1954	2919
HDFG: 1,895	Kaelepulu Pond, O'ahu	Jan. 1955	2365
HDFG: 1,485	Kaelepulu Pond, O'ahu	Jan. 1955	2366
300-400	Ki'i Pond, O'ahu	25 Aug. 1957	1935
HDFG: 300	Salt Lake, O'ahu	14-17 Jan. 1958	2926
1,000	Salt Lake, O'ahu	26 Jan. 1958	2927
800+	Salt Lake, O'ahu	15 Nov. 1958	2933
350	Kaelepulu Pond, O'ahu	20,27 Nov. 1958	2377
500+	Salt Lake, O'ahu	9 Dec. 1958	2934
HDFG: 622	Salt Lake, O'ahu	7-16 Jan. 1959	2935
806	Salt Lake, O'ahu	27 Dec. 1959	2937
400+	Salt Lake, O'ahu	10 Jan. 1960	2938

Table 18 (Cont'd).

Number Counted/Estimated	Location	Date	Appendix Serial Number
1,000-	Salt Lake, O'ahu	22 May 1960	2939
780	Salt Lake, O'ahu	26 Dec. 1960	2941
600	Salt Lake, O'ahu	10-13 Jan. 1961	2943
ca. 600	Salt Lake, O'ahu	9 April 1961	2944
USFWS: 850+	Menehune Fish Pond, Kaua'i	24 July 1969	1567
HDFG: 1100	Waita Reservoir, Kaua'i	13 Jan. 1977	1448
HDFG: 1100	Waita Reservoir, Kaua'i	20 Jan. 1977	1449
ca. 1000	Waita Reservoir, Kaua'i	16 May 1977	1450
600-	Waita Reservoir, Kaua'i	18 May 1977	1451
HDFG: 800	Waita Reservoir, Kaua'i	14 June 1977	1452
680	Waita Reservoir, Kaua'i	20 July 1977	1453
HDFG: ca. 750	Waita Reservoir, Kaua'i	27,28 July 1977	1454
HDFG: (292)	Waita Reservoir, Kaua'i	12,13 Jan. 1978	1455
HDFG: 331	Waita Reservoir, Kaua'i	1,2 Aug. 1979	1458
HDFG: 515	Waita Reservoir, Kaua'i	14-16 Jan. 1980	1459

Table 19.

'Alae-ke'oke'o Censused Statewide by HDFG
in January and July/August, 1956 to 1981

Years	January	Years	July/August
Kaua'i			
1956-1961 (5)	Range: 5-40 Ave: 22	1956-1961 (6)	(no data)
1962-1966 (5)	Range: 6-162 Ave: 62	1962-1966 (5)	(no data)
1967-1976 (5)	Range: 26-395 Ave: 150	1967-1976 (7)	Range: 117-1,727 Ave: 702
1977-1981 (5)	Range: 140-1,919 Ave: 989	1977-1981 (3)	Range: 505-1,429 Ave: 1,085
Ni'ihau			
1969-1974 (6)	(no data)	1969-1974 (3)	Range: 28-145 Ave: 71
1975-1981 (6)	Range: 1-160 Ave: 56	1975-1981 (5)	Range: 6-155 Ave: 64
O'ahu			
1956-1961 (5)	Range: 338-822 Ave: 571	1956-1961 (6)	(no data)
1962-1967 (6)	Range: 12-169 Ave: 96	1962-1967 (6)	(no data)
1968-1974 (7)	Range: 15-132 Ave: 76	1968-1974 (5)	Range: 97-292 Ave: 196
1975-1981	Range: 83-261 Ave: 158	1975-1981 (4)	Range: 119-296 Ave: 212

Table 19. (Cont'd).

Years	January	Years	July/August
Moloka'i			
1967-1971 (4)	Range: 78-122 Ave: 96	1967-1971 (3)	Range: 171-232 Ave: 193
1972-1975	(no data)	1972-1975 (2)	Range: 71-160 Ave: 116
1976-1981 (5)	Range: 72-177 Ave: 99	1976-1980 (3)	Range: 77-111 Ave: 89
Hawai'i			
1958-1962 (5)	Range: 4-91 Ave: 47	1958-1962 (5)	(no data)
1963-1967 (5)	Range: 23-49 Ave: 41	1963-1967 (5)	(no data)
1968-1972 (5)	Range: 20-53 Ave: 37	1968-1972 (4)	Range: 20-55 Ave: 42
1973-1977 (5)	Range: 49-89 Ave: 67	1973-1977 (5)	Range: 30-130 Ave: 81
1978-1981 (4)	Range: 49-112 Ave: 84	1978-1980 (3)	Range: 59-93 Ave: 71

Table 20.

Average Numbers of 'Alae-ke'oke'o Censused by
Island in the Recent 4 to 7 Year Periods

Island	January	Percent Total	July/August	Percent Total
Kaua'i	989	69.75	1,085	70.09
Ni'ihau	56	3.95	64	4.13
O'ahu	158	11.14	212	13.70
Moloka'i	32	2.26	27	1.74
Maui	99	6.98	89	5.75
Hawai'i	84	5.92	71	4.59
Totals	1,418	100.00%	1,548	100.00%

APPENDIX

1. Observations, reports, and specimen records are organized by island group, island, district, and/or quadrangle map. Order of listing, names and locations of district and quadrangle boundaries are explained and illustrated in CPSU/UH Avian History Report 4: Introduction to Part I, Population Histories--Species Accounts.
2. Acronyms composed of the first three letters of the author's (or the senior author's) last name, the initial letter of the first name, and last two digits of the year of publication represent sources found in the bibliography under References Cited. For example, BRYW01 = Bryan, W. A., and Alvin Seale. 1901. Notes on the birds of Kaua'i. Bishop Museum Occ. Papers. 1(3):129-137. In cases where it is necessary to distinguish between two or more articles published by an author in any given year, letters are added to the acronym in alphabetical sequence, e.g., BRYW01a = Bryan, W. A. 1901. A key to the birds of the Hawaiian group. Bishop Museum Press. 76 pp. Parenthetical numbers such as (5), represent references listed under Unpublished Sources Cited in the bibliography
3. Place-names are cited in original form.
4. Parenthetical information is qualified.

Relative Abundance / Locality	Date	Source
Southeast Hawaiian Islands		
ISLANDS-WIDE INFERENCE		
1 Banko: U. S. Exploring Expedition members collected 4 specimens / Hawaiian Islands	1840/1841	(10)
2 not uncommon on marshy banks of creeks, and in taro patches / Hawaiian Islands	1840/1841	PEAT48
3 common / in kalo (taro) patches	(1869)	DOLS69
4 common...forms flocks of considerable size and I have seen 50 or a 100 together on a fair sized pond...of either fresh or strong brackish water, as well as on the larger streams at a short distance from the coast / Kaua'i, O'ahu, Moloka'i, and Maui	(1892-1896)	PERRO3
5 evidently distributed / over all Hawaiian Islands. Palmer sent specimens from O'ahu, Kaua'i, Moloka'i, and Ni'ihau	(1900)	ROTW00
6 slaughtered...usually shot and thrown away...quite exterminated / in many localities	(1903)	HENH02 64
7 becoming scarcer and scarcer / in all districts	(1903)	HENH02
8 seldom seen / except in the fresh-water ponds, and brackish and fresh-water marshes	(1915)	BRYW15
8a fairly common on most islands at the present time	Feb. 1946-July 1947	SCHC52
8b occurs on all islands except Lânai...no population estimate was computed...but it is rarest on Hawai'i and commonest on O'ahu...future in Hawai'i problematical	Feb. 1946-July 1947	SCHC49
9 HDFG: 536 / Kaua'i, O'ahu, Moloka'i, Maui, Hawai'i	14-18 Jan. 1963	(1)
10 HDFG: 353 / Kaua'i, O'ahu, Moloka'i, Maui, Hawai'i	15 Jan. 1964	(1)
11 HDFG: 217 / Kaua'i, O'ahu, Maui, Hawai'i	14 Jan. 1965	(1)
12 HDFG: 218 / Kaua'i, O'ahu, Maui, Moloka'i, Hawai'i	13-14 Jan. 1966	(1)
13 HDFG: 275 / Kaua'i, O'ahu, Maui, Moloka'i, Hawai'i	13-16 Jan. 1967	(1)
14 HDFG: 253 / Kaua'i, O'ahu, Maui, Moloka'i, Hawai'i	8-10 Jan. 1968	(1)
15 HDFG: 234 / Kaua'i, O'ahu, Maui, Moloka'i, Hawai'i	13-14 Jan. 1969	(1)
16 USFWS: 710 censused / Kaua'i, Ni'ihau, O'ahu, Maui, Moloka'i, Hawai'i	7 Aug. 1970	(22)
17 counts...ranged from 425 to 1667 / Statewide	1969-1974	MARD75

- 18 Statewide midsummer counts of coots over the past (1975) MARD75
 6 years (1969-1974) have ranged from 425 to 1667 birds.
 Recent purchases of wetlands on Kaua'i and planned purchases
 on Maui, Hawai'i and Moloka'i as National Wildlife Refuges
 offer considerable hope for this form...main threat has been
 the continuing loss of lowland marshes and ponds where it
 lives exclusively
- 19 HDFG: Objectives...of Statewide summer and winter surveys 1 July 1975 - (2)
 is to determine abundance and distribution of population, 30 June 1976
 and to record environmental factors affecting numbers and
 distribution...and ...to measure effects of habitat
 improvement projects at Kanaha Pond, Maui, and Paiko
 Lagoon, O'ahu...Procedures...indicate...one-day
 comprehensive air and/or ground coverage of all significant
 habitats by HDFG, USFWS and other qualified cooperators
 obtained...
- 20 2330 censused / Statewide 13 Jan. 1977 RALC77
- 21 HDFG: ...The January 1977 count was 2,330 compared with 1 July 1976 - (2)
 only 956 found in January 1976...doubtful that the actual 30 June 1977
 population varies as greatly as the semi-annual counts
 would indicate
- 22 HDFG: 1,618 / (Statewide) summer 1977 (5)
- 23 Shallenberger:...currently listed as "endangered" by State (1977) (3)
 and Federal laws. Today, the estimated population is 2,500
 birds, based on a January 1977 statewide count of 2,330 birds
 ...Past records have intermittently shown large concentrations
 birds in single habitats. Speculation that these concentrations
 might represent a temporary influx of mainland birds is
 unsupported by collection of individuals for verification.
 Possibly these abnormal concentrations result from interisland
 movement. Count records over last 20 years illustrate radical
 fluctuations from year to year, and probably do not reflect
 actual population changes...Largest numbers have always been
 found on O'ahu, Mau'i and Haua'i. Coots that winter on Kaua'i
 are belived to breed in large numbers on Ni'ihau, although
 drought conditions in Ni'ihau nesting habitat may cause coots
 to remain on Kaua'i throughout the summer months / found on
 all larger inhabited islands except Lanai

- 24 Shallenberger: appear to follow an annual pattern of migration between Kaua'i and Ni'ihau, similar to stilt. (1977) (3)
The distinct variation in summer and winter populations is evident in HDFG / USFWS count records / (Statewide)
- 24aHDFG/USFWS: seems unlikely that total population increased five fold in three years (referring to Munro's best guess of about 200 in 1944 to Schwartz and Schwartz's estimate of 1,000 in 1947) (1977) (46)
- 24bHDFG/USFWS: recovery team estimates present Statewide population to be 2,500...primary objective of Recovery Plan is to provide and maintain population of 2,000 (1977) (46)
- 25 HDFG: ...declined dramatically to 1,241 in 1978, down 1,089 over 1977 winter count...dry spring-summer in 1977 and dispersal to areas not censused are possible contributing factors accounting for difference winter 1978 (2)
- 26 HDFG: comprehensive semi-annual censuses are relatively indicative of total populations 1 July 1977 - 30 June 1978 (2)
- 27 HDFG: 915 / (Statewide) summer 1978 (5)
- 28 largest numbers have always been found / on O'ahu, ,Maui and Kaua'i (1978) SHAR77
- 29 abnormally large concentrations have been recorded and probably result from interisland movement / (O'ahu and Kaua'i) (1978) SHAR77
- 30 Coots that winter on Kaua'i are belived to breed in large numbers on Ni'ihau (1978) SHAR77
- 31 Drought conditions on Ni'ihau may cause coots to remain on Kaua'i throughout the summer months, but nesting on Kaua'i is rarely recorded (1978) SHAR77
- 32 estimated population (based on January 1977 census) is 2,500 / (Statewide) (1978) SHAR77
- 33 HDFG: 422 / (Statewide) winter 1979 (5)
- 34 HDFG: 1,915 / (Statewide) summer 1979 (5)
- 35 HDFG: 1,753 / (Statewide) winter 1980 (5)
- 36 HDFG: 1,000 censused / (Statewide) 31 July, 1 Aug. 1980 (2)
- 37 HDFG: Summer count in 1980 is down from 1979... (1980) (5)
winter counts also somewhat of a "see-saw" effect. Possible explanations include inaccurate counts due to weather conditions, differential coverage by personnel and incomplete habitat coverage...The "see-saw" effect might also reflect real population changes due to year-to-year differences in reproductions, immigration of continental coots or emigration

of local coots... Census data for this species, unlike those for koloa and gallinule, are judged relatively comprehensive and complete... Approximately half of those recorded in the 1980 summer census were unclassified as to age... with such a large percentage of the total population unclassified it is difficult to draw any meaningful conclusions...

38 HDFG: 1,243 censused / (Statewide)	12-14 Jan. 1981	(5)
38a1,200 estimated (Statewide)	1982	ANON82

Island of Kaua'i

ISLANDWIDE INFERENCE

39 scattered but abundant in practically all the lowland portions of streams, reservoirs, and irrigation ditches	(1946-1947)	SCHC52
40 HDFG: 33 censused	4-10 Jan. 1056	(1)
41 HDFG: 5 censused	14-17 Jan. 1958	(1)
42 HDFG: 17 censused	7-16 Jan. 1959	(1)
43 HDFG: 17 censused	4-8 Jan. 1960	(1)
44 HDFG: 40 censused	10-13 Jan. 1961	(1)
45 HDFG: 44 censused	15-17 Jan. 1962	(1)
46 HDFG: 162 censused	14-18 Jan. 1963	(1)
47 HDFG: 75 censused	15 Jan. 1964	(1)
48 HDFG: 6 censused	14 Jan. 1965	(1)
49 HDFG: 23 censused	13-14 Jan. 1966	(1)
50 HDFG: 26 censused	13-16 Jan. 1967	(1)
51 HDFG: 38 censused	8-10 Jan. 1968	(10)
52 HDFG: 122 censused	24 July 1968	(1)
53 HDFG: 77 censused	13-14 Jan. 1969	(1)
54 HDFG: 1058 censused	24 July 1969	(1)
55 HDFG: occurs as a breeding population	(1969)	(7)
56 HDFG: 214 censused	13-15 Jan. 1970	(1)
57 HDFG: 220 censused	7 Aug. 1970	(1)
58 HDFG: 117 censused	27 July 1971	(1)
59 HDFG: 158 censused	8 Aug. 1973	(1)
60 HDFG: 1727 censused	1 Aug. 1975	(2)
61 1727 censused	(Aug. 1975)	WHIH75
62 HDFG: 395 censused	15 Jan. 1976	(2)
63 HDFG: Comprehensive...censuses...conducted...in August and January...record numbers...were counted during the summer	1 July 1975- 30 June 1976	(2)

survey...partly as a result of the increase in the number of habitats surveyed, but also, apparently, because of an exceptional year of productivity...the summer coot population may have been augmented by transients from continental populations...

- 64 HDFG: This year's population included a high percentage of immature birds. Out of a sample of 105 judged for age, 68 were considered immature. Virtually no coot nests or young broods were observed by Federal or State biologists on Kaua'i this year, indicating the likelihood that most productivity occurs on Ni'ihau, O'ahu or Mau'i. There is still no explanation for the occasional "explosions" noted in the Hawaii Coot population during certain summers (i.e. 1969 and this year). These occurrences are either the result of an exceptional year of productivity, or they may include continental transients...the latter case seems a possibility, since the winter population figures usually drop off abruptly from the summer census figures. The fact that coot are known to winter as far south as Equador, and breed throughout North America and Central America makes this a possibility. 1 July 1975-30 June 1976 (2)
- 65 HDFG: 1510 censused Aug. 1976 (2)
- 66 populaiton remained high...nearly 2,000...annual migration winter 1976-1977 to Ni'ihau for nesting had not occurred by seasons end. About 10-15% at Hanalei NWR, Kaua'i, and Waipio Peninsula, O'ahu have red frontal shields, perhaps indicating an incursion of the mainland race RALC77
- 67 HDFG: A severe winter drought on Kaua'i and Ni'ihau resulted in the concentration of Coots in record numbers on Kaua'i...lack of heavy kona storms this winter resulted in there being negligible migration of coots from Kaua'i to Ni'ihau 1 July 1976- (2)
- 68 HDFG: 1919 censused Jan. 1977 (2)
- 69 HDFG: 1320 censused 27-28 July 1977 (2)
- 70 HDFG: 891 censused 12-13 Jan. 1978 (2)
- 71 HDFG: sharp decrease in numbers cnesused is attributed to severe drought in 1977, and the consequent lack of sufficient productivity to offset annual mortality...many that normally migrate to Ni'ihau remained on Kaua'i for the second winter in a row 1 July 1977-30 June 1978 (2)
- 72 HDFG: 1429 censused 1,2 Aug. 1979 (5)

73 HDFG: 140 censused	15,16,20 Jan. 1979	(5)
74 HDFG: 1230 censused	14-16 Jan. 1980	(5)
75 HDFG: only 1 juvenile (a half-grown flightless chick) seen (Mana House Reservoir) during the summer census... only the third record of a coot nestling on Kaua'i in recent years...	31 July 1980	(5)
76 505 censused	31 July, 1 Aug. 1980	(5)
77 766 censused	12-14 Jan. 1981	(5)

UNDESIGNATED LOCALITY

78 Banko: Knudsen collected 3 specimens	(1880's/1890's)	(10)
79 Banko: Palmer collected 1 specimen	Jan.-July 1893	(10)
80 Banko: Munro collected 1 specimen	(late 1890's?)	(10)
81 specimen taken, number of nests seen / swamps about Waimea	4 May (1900)	BRYW15
82 specimen taken...number of nests seen / ponds near Mr. Knudsen's home (Waimea)	12 Apr.- 4 May 1900	BRYW01
83 present / unspecified locality	(23 Mar.- 14 Apr. 1958	EASW58
84 seen / lowlands	June 1959	HANC ⁹
87 fairly common resident / on bodies of fresh water	(June-Aug. 1960)	RICF64
88 several seen / drain ditch near Kilauea	19-22 Mar. 1964	SCHP65
89 HDFG: 3 censused / Waioli Stream	7 Aug. 1970	(1)
90 present / near Lihue Airport	19 Aug. 1971	HANR75

MULTIQUADRANGLE / LOCALITY

91 USFWS: large flocks / Lumahai River and Sloggett Reservoir	24 July 1969	(12)
92 USFWS: consistently inhabited or visited by large groups of coots / Menehune Fish Pond, Lumahai River, Sloggett Reservoir...other rivers and ponds on Kaua'i much less attractive to this species	(27 July 1969)	(12)
93 HDFG: 21 censused / Mana to Polihale	7 Aug. 1970	(1)
94 21, Christmas Count / Omao, Koloa, Poipu and beach area	28 Dec. 1970	SEAW71
95 28, Christmas Count / main belt road from Wailua to Kokee ...Mana and Wailua rice and taro beds between Houselots and Homesteads Road	29 Dec. 1970	SEAW71
96 1, Christmas Count / streams holding ponds and irrigation ditches...within a 15 mile diameter circle, center a bit east of junction of Kokee Road from Waimea and Kekaha	27 Dec. 1971	SEAW72

97	6, Christmas Count / streams holding ponds and irrigation ditches...within a 15 mile diameter circle, center north of Belt Road between Puhi and Koloa exits to include south of Wailua middlefork to Kalaheo and Hanapepe Valley	27 Dec. 1971	SEAW72
98	42, Christmas Count / rivers, streams, and holding ponds ...within a 15 mile diameter circle, center foothill junction of Makaleha and Anahola Mtns. to include north of Wailua middlefork to Hanalei Bay	27 Dec. 1971	SEAW72
99	191, Christmas Count / Kapaa area, center foothill junction of Makaleha and Anahola Mountains	14 Dec. 1974	SEAW75
100	30, Christmas Count / Lihue area, center north of belt road between Puhi and Koloa exits to include south of Wailua middlefork to Kalaheo and Hanapepe valley	15 Dec. 1974	SEAW75
101	102, Christmas Count / Nawiliwill Harbor, Menehune Fishpond to Knudsen Gap Road, oceanside of Koloa Sugar Mill	17 Dec. 1977	SEAW78a
102	1, Christmas Count / Poipu, Koloa, Knudsen Gap Road to Omao Road	17 Dec. 1977	SEAW78a
103	142, Christmas Count / Huleia Stream, Waita Reservoir, Kahili Mtn. Park	17 Dec. 1977	SEAW78a
104	38, Christmas Count / Oceanside of Belt Road from Wailua River to Kalapaki Bay, Paradise Pacifica, Holding ponds west of Lihue to Wailua Falls, Ponds west of Waita Reservoir	17 Dec. 1977	SEAW78a 01
105	264, Christmas Count / Kapaa	(18 Dec.) 1977	KAWD78
106	12 counted on the streams crossed by the highway / between Hanalei and Haena	23 Dec. 1977	PYLR78
107	2, Christmas Count / Lihue: Omao Road to Koloa including Poipu	16 Dec. 1978	SEAW79
108	12, Christmas Count / Lihue: south side of Lihue including Kauai Surf Golf Course to Knudsen Gap Road including Waita Reservoir	16 Dec. 1978	SEAW79
109	15, Christmas Count / Count center near Halfway Bridge (as in 1972)	16 Dec. 1978	SEAW79
110	1, Christmas Count / Lihue: Wailua River to north side of of Makaleha and Anahola mountains (as in 1977)	16 Dec. 1978	SEAW79
112	420, Christmas Count / Nawiliwili Harbor and Huleia Stream	15 Dec. 1979	ANON80b
113	5, Christmas Count / Lihue: Wailua River to north side of Lihue and west of Lihue to Wailua Falls	15 Dec. 1979	ANON80b
114	262, Christmas Count / area of undescribed parameters near Kapaa	22 Dec. 1979	ANON80a

115 4, Christmas Count / Wailua River to north side of Lihue, including airport road and holding ponds west to Lihue	(Dec. 1980)	SEAW81
116 184, Christmas Count / south of Lihue to Knudsen Gap Road including Waita Reservoir, Kipu Ranch	(Dec. 1980)	SEAW81

QUADRANGLE / LOCALITY

MAKAHA POINT

Kolo Reservoir

117 HDFG: 66	1 Aug. 1975	(1)
118 HDFG: 0	15 Jan. 1976	(2)
119 HDFG: 18	4,5 Aug. 1976	(2)
120 HDFG: 17	29 Sep. 1976	(14)
121 HDFG: 11	13 Jan. 1977	(2)
122 HDFG: 19	13 May 1977	(14)
123 HDFG: 13	26 May 1977	(14)
124 HDFG: 9	27,28 July 1977	(2)
125 HDFG: 4	12,13 Jan. 1978	(2)
126 HDFG: 1	27,28,30 July 1978	(5)
127 HDFG: 0	15,16,20 Jan. 1979	(5)
128 HDFG: 4	1,2 Aug. 1979	(5)
129 HDFG: 0	14-16 Jan. 1980	(5)
130 HDFG: 0	12 Jan. 1981	(5)

Saki Mana Reservoir

131 HDFG: 0	1 Aug. 1975	(1)
132 HDFG: 0	15 Jan. 1976	(2)
133 HDFG: 0	4,5 Aug. 1976	(2)
134 HDFG: 0	13 Jan. 1977	(2)
135 HDFG: 0	27,28 July 1977	(2)
136 HDFG: 0	12,13 Jan. 1978	(2)
137 HDFG: 0	15,16,20 Jan. 1979	(5)
138 HDFG: 0	1,2 Aug. 1979	(5)
139 HDFG: 0	14-16 Jan. 1980	(5)
140 HDFG: 0	31 July, 1 Aug. 1980	(5)

HAENA

Haena Pond - Marsh

141	3 seen	25,26 Apr. 1959	CAMM59
142	HDFG: 4	8-10 Jan 1968	(1)
143	HDFG: 0	24 July 1968	(1)
144	Shallenberger: none observed on 20 May and 21 July... unaware of any records...marsh badly encroached by grasses ...only a small (10 ft. x 20 ft.) oval of open water was present		

Wainiha Valley - River - Taro Fields

145	38 greatest concentration seen	20 June (1960)	RICF64
146	HDFG: 0	24 July 1968	(1)
147	USFWS: 13	14 Sep. 1970	(12)
148	HDFG: 2	1 Aug. 1975	(1)
149	HDFG: 0	15 Jan. 1976	(2)
150	HDFG: 8	4,5 Aug. 1976	(2)
151	HDFG: 6	13 Jan. 1977	(2)
152	Shallenberger: species confined for the most part to the lower stream and estuarine area. One bird was seen farther upstream...below the bridge 12 coots were observed on the first visit (20 May) and 8 on the second (22 July)... most were feeding in shallow water along the shore...No coots were seen in the taro fields visited, but it is certain that they visit these areas...Coots have been recorded at Wainiha...in the past, but in smaller numbers than see on this survey	(1977)	(3)
153	HDFG: 9	27,28 July 1977	(2)
154	HDFG: 0	12,13 Jan. 1978	(2)
155	HDFG: 2	27,28,30 July 1978	(5)
156	HDFG: 0	15,16,20 Jan. 1979	(5)
157	HDFG: 2	1,2 Aug. 1979	(5)
158	HDFG: 8	14-16 Jan. 1980	(5)

HANAIEI

Hanalei Valley - Area - River - Taro Fields

159 HDFG: 20	4-10 Jan. 1956	(1)
160 2 seen	25,26 Apr. 1959	CAMM59
161 HDFG: 3	8-10 Jan. 1968	(1)
162 HDFG: 0 (River)	24 July 1968	(1)
163 HDFG: 39 (Taro)	24 July 1968	(1)
164 HDFG: 7 (Taro)	24 July 1968	(1)
165 HDFG: 6	13-15 Jan. 1970	(1)
166 USFWS: 3 (Taro)	14 Sep. 1970	(12)
167 HDFG: 5 (fields)	8 Aug. 1973	(1)
168 12 censused (area)	30 Dec. 1973	HARA74
169 HDFG: 47	2 Aug. 1974	(1)
170 Shallenberger: widely distributed in the Valley	19,31 May, 1977	(3)
	18,21 July 1977	
171 Shallenberger: 34 counted in one taro field that had just recently been harvested...on typical years coots leave the Hanalei area, presumably for nesting areas on Ni'ihau or elsewhere in Jan. or Feb. and return to Kaua'i in early summer with their young offspring...when the winter is abnormally dry, most or all of the birds may remain on Kaua'i...review of more detailed and repetitive surveys by USFWS biologist the past three years is considerably more relevant than survey count data we secured in May and July 1977	(1977)	(3)

Hanalei National Wildlife Refuge

172 250...peak observed...usually move away in Dec. or Jan. but remained this year because of drought on Kaua'i and Ni'ihau	Feb. 1977	ZEIF77
173 easily observed	19 Mar. 1977	WATJ77
174 down 75 percent below fall population levels	winter 1978-1978	PYLR79c
175 USFWS: 90, ave. daily use	Oct.-Dec. 1979	(13)
176 USFWS: 203, ave. daily use	Jan.-Mar. 1980	(13)
177 USFWS: 130, ave. daily use	Apr.-June 1980	(13)
178 USFWS: 68, ave. daily use	July-Sep. 1980	(13)
179 USFWS: 57, ave. daily use	Oct.-Dec. 1980	(13)
180 USFWS: 117, ave. daily use	Jan.-Mar. 1981	(13)

181 USFWS: 39, ave. daily use
 182 USFWS: 82, ave. daily use
 182aUSFWS: not censused
 182bUSFWS: 33, ave. daily use

 182cUSFWS: 17, ave. daily use
 182dUSFWS: 0, ave. daily use
 182eUSFWS: 0, ave. daily use
 182fUSFWS: 0, ave. daily use

Apr.-June 1981 (13)
 July-Sep. 1981 (13)
 15 Nov.-15 Dec. 1981 (13)
 16 Dec. 1981- (13)
 15 Jan. 1982
 16 Feb.-31 Mar. 1982 (13)
 April 1982 (13)
 May 1982 (13)
 June 1982 (13)

Hanalei Post Office Taro Fields

183 HDFG: 20
 184 HDFG: 0
 185 HDFG: 3
 186 HDFG: 0
 187 HDFG: 0
 188 HDFG: 1
 189 HDFG: 3
 190 HDFG: 0
 191 HDFG: 0
 192 HDFG: 4

1 Aug. 1975 (1)
 15 Jan. 1976 (2)
 4,5 Aug. 1976 (2)
 13 Jan. 1977 (2)
 27,28 July 1977 (2)
 12,13 Jan. 1978 (2)
 27,28,30 July 1978 (5)
 15,16,20 Jan. 1979 (5)
 1,2 Aug. 1979 (5)
 14-16 Jan. 1980 (5)

Hanalei Trader Taro Fields

193 HDFG: 38
 194 HDFG: 0
 195 HDFG: 3
 196 HDFG: 6
 197 HDFG: 0
 198 HDFG: 0
 199 HDFG: 0
 200 HDFG: 0
 201 HDFG: 0

1 Aug. 1975 (1)
 15 Jan. 1976 (2)
 4,5 Aug. 1976 (2)
 13 Jan. 1977 (2)
 27,28 July 1977 (2)
 27,28,30 July 1978 (5)
 15,16,20 Jan. 1979 (5)
 1,2 Aug. 1979 (5)
 14-16 Jan. 1980 (5)

Hanalei National Wildlife Refuge (from Lookout)

202 HDFG: 255
 203 HDFG: 87
 204 HDFG: 194

1 Aug. 1975 (1)
 15 Jan. 1976 (2)
 4,5 Aug. 1976 (2)

205 HDFG: 164
206 HDFG: 100
207 HDFG: 0
208 HDFG: 122
209 HDFG: 16
210 HDFG: 181
211 HDFG: 253

13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Hanalei National Wildlife Refuge (by vehicle and foot)

212 HDFG: 34
213 HDFG: 10
214 HDFG: 22
215 HDFG: 54
216 HDFG: 5
217 HDFG: 120
218 HDFG: 3
219 HDFG: 0
220 HDFG: 0
221 HDFG: 6

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Lower Hanalei River

222 a group seen
223 HDFG: 0
224 HDFG: 0
225 HDFG: 0
226 HDFG: 0
227 Shallenberger: counted nearly a dozen in a brief and cursory examination of Hanalei River by boat...coots were inconspicuous within the dense hau forest that overhangs most of the River
228 HDFG: 0
229 HDFG: 26
230 HDFG: 0
231 HDFG: 1
232 HDFG: 0
233 HDFG: 0
234 HDFG: 0

29 Dec. 1974 WILE75
1 Aug. 1975 (2)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
May, July 1977 (3)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Kalihiwai River/Esturary

235 HDFG: 1	8-10 Jan. 1968	(1)
236 HDFG: 2	8 Aug. 1973	(1)
237 HDFG: 1	1 Aug. 1975	(1)
238 HDFG: 2	15 Jan. 1976	(2)
239 HDFG: 0	4,5 Aug. 1976	(2)
240 HDFG: 1	13 Jan. 1977	(2)
241 HDFG: 0	27,28 July 1977	(2)
242 HDFG: 1	12,13 Jan. 1978	(2)
243 HDFG: 1	27,28,30 July 1978	(5)
244 HDFG: 0	15,16,20 Jan. 1979	(5)
245 HDFG: 0	1,2 Aug. 1979	(5)
246 HDFG: 0	14-16 Jan. 1980	(5)
247 HDFG: 0	31 July, 1 Aug. 1980	(5)
248 HDFG: 0	12 Jan. 1981	(5)

Kalihiwai Reservoir

249 HDFG: 13	1 Aug. 1975	(1)
250 HDFG: 2	15 Jan. 1976	(2)
251 HDFG: 11	4,5 Aug. 1976	(2)
252 HDFG: 12	13 Jan. 1977	(2)
253 HDFG: 17	27,28 July 1977	(2)
254 HDFG: 17	12,13 Jan. 1978	(2)
255 HDFG: 5	27,28,30 July 1978	(5)
256 HDFG: 4	15,16,20 Jan. 1979	(5)
257 HDFG: 17	1,2 Aug. 1979	(5)
258 HDFG: 0	14-16 Jan. 1980	(5)

Kalihiwai Prawn Farm

259 HDFG: 0	12-13 Jan. 1978	(2)
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Lumahai River

260 HDFG: 41	24 July 1968	(1)
261 HDFG: 52	7 Aug. 1970	(1)
262 HDFG: 52	27 July 1971	(1)
263 HDFG: 64	8 Aug. 1973	(1)

264 HDFG: 76	2 Aug. 1974	(1)
265 HDFG: 180	1 Aug. 1975	(1)
266 HDFG: 77	15 Jan. 1976	(2)
267 HDFG: 231	4,5 Aug. 1976	(2)
268 HDFG: 94	13 Jan. 1977	(2)
269 Shallenberger: observed during both highway and on water (20 May, 21 July) surveys...found in greatest numbers (105 total) in the estuarine area above the bridge. They were widely distributed, even in the deepest waters... Monthly USFWS counts between August 1974 and April 1977 show numbers ranging from 6 to 275, with an average of nearly 90...greatest numbers have been recorded during the last six months of the calendar year, when adult and juvenile birds return from breeding areas, presumably on Ni'ihau... observed during both highway and on-water surveys	(1977)	(3)
270 HDFG: 105	27,28 July 1977	(2)
271 HDFG: 20	12,13 Jan. 1978	(2)
272 HDFG: 19	27,28,30 July 1978	(5)
273 HDFG: 5	15,16,20 Jan. 1979	(5)
274 HDFG: 138	1,2 Aug. 1979	(5)
275 HDFG: 32	14-16 Jan. 1980	(5)

Princeville Golf Course Ponds

276 HDFG: 2	1 Aug. 1975	(1)
277 HDFG: 1	15 Jan. 1976	(2)
278 HDFG: 2	4,5 Aug. 1976	(2)
279 HDFG: 1	13 Jan. 1977	(2)
280 HDFG: 8	27,28 July 1977	(2)
281 HDFG: 14	12,13 Jan. 1978	(2)
282 HDFG: 13	27,28,30 July 1978	(5)
283 HDFG: 3	15,16,20 Jan. 1979	(5)
284 HDFG: 11	1,2 Aug. 1979	(5)
285 HDFG: 29	14-16 Jan. 1980	(5)

Waioli Taro Fields

286 HDFG: 5	1 Aug. 1975	(1)
287 HDFG: 0	15 Jan. 1976	(2)
288 HDFG: 2	4,5 Aug. 1976	(2)

289 HDFG: 5	13 Jan. 1977	(2)
290 HDFG: 4	27,28 July 1977	(2)
291 HDFG: 0	12,13 Jan. 1978	(2)
292 HDFG: 0	27,28,30 July 1978	(5)
293 HDFG: 3	15,16,20 Jan. 1979	(5)
294 HDFG: 14	1,2 Aug. 1979	(5)
295 HDFG: 0	14-16 Jan. 1980	(5)

Waipa Taro Fields

296 HDFG: 1	1 Aug. 1975	(1)
297 HDFG: 1	15 Jan. 1976	(2)
298 HDFG: 20	4,5 Aug. 1976	(2)
299 HDFG: 1	13 Jan. 1977	(2)
300 HDFG: 1	27,28 July 1977	(2)
301 HDFG: 2	12,13 Jan. 1978	(2)
302 HDFG: 1	27,28,30 July 1978	(5)
303 HDFG: 0	15,16,20 Jan. 1979	(5)
304 HDFG: 0	1,2 Aug. 1979	(5)
305 HDFG: 1	14-16 Jan. 1980	(5)

Wilcox Estate Ponds

306 HDFG: 52	1 Aug. 1975	(1)
307 HDFG: 22	15 Jan. 1976	(2)
308 HDFG: 114	4,5 Aug. 1976	(2)
309 HDFG: 54	13 Jan. 1977	(2)
310 Shallenberger: 63	21 May 1977	(3)
: 42	1 June 1977	(3)
: 28	22 July 1977	(3)

...data suggest that there is regular movement of coots between these ponds and other habitat, presumably the taro fields within Hanalei Valley. As many as 77 coots (1/22/74) have been recorded on HDFG/USFWS counts...There are no published records of nesting...between 10 and 13% of individuals recorded on our survey were the red-shielded variety, and one bird seen both May and in July was believed to be a mainland coot by differences in plumage and frontal shield morphology.

311 HDFG: 30	27,28 July 1977	(2)
312 HDFG: 1	12,13 Jan. 1978	(2)

313 HDFG: 19
314 HDFG: 10
315 HDFG: 30
316 HDFG: 15

27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

ANAHOLA

Anahola Reservoir

317 HDFG: 0
318 HDFG: 0
319 HDFG: 0
320 HDFG: 2
321 Shallenberger: 1 seen on 21 May and 23 July...probably
more widely distributed in the estuarine area not covered
by boat
322 HDFG: 1
323 HDFG: 0
324 HDFG: 0
325 HDFG: 0
326 HDFG: 0
327 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
(1977) (3)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Kaloko Reservoir

328 HDFG: 9
329 HDFG: 32
330 HDFG: 0
331 HDFG: 30
332 HDFG: 17
333 HDFG: 6
334 HDFG: 8
335 HDFG: 3
336 HDFG: 1
337 HDFG: 11
338 HDFG: 39

8 Aug. 1973 (1)
1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Kaloko Prawn Farm

339 HDFG: 0

12,13 Jan. 1978 (2)

Kamoku Pastures

340 HDFG: 0	1 Aug. 1975	(1)
341 HDFG: 0	15 Jan. 1976	(2)
342 HDFG: 0	4,5 Aug. 1976	(2)
343 HDFG: 0	13 Jan. 1977	(2)
344 HDFG: 0	27,28 July 1977	(2)
345 HDFG: 0	12,13 Jan. 1978	(2)
346 HDFG: 0	27,28,30 July 1978	(5)
347 HDFG: 0	15,16,20 Jan. 1979	(5)
348 HDFG: 0	1,2 Aug. 1979	(5)
349 HDFG: 0	14-16 Jan. 1980	(5)

Kaneha Reservoir

350 HDFG: 2	1 Aug. 1975	(1)
351 HDFG: 0	15 Jan. 1976	(2)
352 HDFG: 1	4,5 Aug. 1976	(2)
353 HDFG: 5	13 Jan. 1977	(2)
354 HDFG: 2	27,28 July 1977	(2)
355 HDFG: 0	12,13 Jan. 1978	(2)
356 HDFG: 0	15,16,20 Jan. 1979	(5)
357 HDFG: 6	1,2 Aug. 1979	(5)
358 HDFG: 1	14-16 Jan. 1980	(5)

Kanehu Reservoir No. 1

359 HDFG: 0	1 Aug. 1975	(1)
360 HDFG: 0	15 Jan. 1976	(2)
361 HDFG: 1	4,5 Aug. 1976	(2)
362 HDFG: 0	27,28 July 1977	(2)
363 HDFG: 0	12,13 Jan. 1978	(2)
364 HDFG: 0	15,16,20 Jan. 1979	(5)
365 HDFG: 0	1,2 Aug. 1979	(5)
366 HDFG: 0	14-16 Jna. 1980	(5)
367 HDFG: 0	31 July, 1 Aug. 1980	(5)

Kanehu Reservoir No. 2

368 HDFG: 0	1 Aug. 1975	(1)
369 HDFG: 0	15 Jan. 1976	(2)
370 HDFG: 0	4,5 Aug. 1976	(2)
371 HDFG: 0	13 Jan. 1977	(2)
372 HDFG: 0	27,28 July 1977	(2)
373 HDFG: 0	12,13 Jan. 1978	(2)
374 HDFG: 0	15,16,20 Jan. 1979	(5)
375 HDFG: 0	1,2 Aug. 1979	(5)
376 HDFG: 0	14-16 Jan. 1980	(5)
377 HDFG: 0	31 July,1 Aug. 1980	(5)
378 HDFG: 0	12 Jan. 1981	(5)

Kanehu Reservoir No. 3

379 HDFG: 0	1 Aug. 1975	(1)
380 HDFG: 0	15 Jan. 1976	(2)
381 HDFG: 1	4,5 Aug. 1976	(2)
382 HDFG: 2	13 Jan. 1977	(2)
383 HDFG: 0	27,28 July 1977	(2)
384 HDFG: 0	12,13 Jan. 1978	(2)
385 HDFG: 0	15,16,20 Jan. 1979	(5)
386 HDFG: 0	1,2 Aug. 1979	(5)
387 HDFG: 0	14-16 Jan. 1980	(5)
388 HDFG: 0	31 July,1 Aug. 1980	(5)
389 HDFG: 0	12 Jan. 1981	(5)

Kilauea Estuary

390 HDFG: 0	1 Aug. 1975	(1)
391 HDFG: 2	15 Jan. 1976	(2)
392 HDFG: 4	4,5 Aug. 1976	(2)
393 HDFG: 2	13 Jan. 1977	(2)
394 Shallenberger: 8	20 May 1977	(3)
395 Shallenberger: 4...present survey indicates a boat is required for thorough coverage	23 July 1977	(3)
396 HDFG: 0	27,28 July 1977	(2)
397 HDFG: 0	12,13 Jan. 1978	(2)
398 HDFG: 0	15,16,20 Jan. 1979	(5)

399 HDFG: 0
400 HDFG: 0
401 HDFG: 0

1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
12 Jan. 1981 (5)

Mimino Reservoir

402 HDFG: 6
403 HDFG: 4
404 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
12,13 Jan. 1978 (2)

Morita Reservoir

405 HDFG: 7
406 HDFG: 5
407 HDFG: 18
408 HDFG: 12
409 HDFG: 62
410 HDFG: 43
411 HDFG: 11
412 HDFG: 12
413 HDFG: 10
414 HDFG: 5
415 HDFG: 18
416 HDFG: 18

24 July 1968 (1)
24 July 1969 (1)
1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Puu Ka Reservoir

417 HDFG: 296
418 HDFG: 2
419 HDFG: 241
420 HDFG: 102
421 HDFG: 118
422 HDFG: 58
423 HDFG: 111
424 HDFG: 2
425 HDFG: 32
426 HDFG: 18

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Waiakalua Reservoir

427 HDFG: 13	1 Aug. 1975	(1)
428 HDFG: 1	15 Jan. 1976	(2)
429 HDFG: 19	4,5 Aug. 1976	(2)
430 HDFG: 50	13 Jan. 1977	(2)
431 HDFG: 12	27,28 July 1977	(2)
432 HDFG: 66	12,13 Jan. 1978	(2)
433 HDFG: 76	27,28,30 July 1978	(5)
434 HDFG: 13	15,16,20 Jan. 1979	(5)
435 HDFG: 109	1,2 Aug. 1979	(5)

KEKAHA

Kekaha Pastures

436 HDFG: 1	1 Aug. 1975	(1)
437 HDFG: 0	15 Jan. 1976	(2)
438 HDFG: 1	4,5 Aug. 1976	(2)
439 HDFG: 0	13 Jan. 1977	(2)
440 HDFG: 0	27,28 July 1977	(2)
441 HDFG: 0	12,13 Jan. 1978	(2)
442 HDFG: 0	27,28,30 July 1978	(5)
443 HDFG: 0	15,16,20 Jan. 1979	(5)
444 HDFG: 0	1,2 Aug. 1979	(5)
445 HDFG: 0	14-16 Jan. 1980	(5)

Kekaha Settling Basin

446 HDFG: 6	24 July 1969	(1)
447 USFWS: 2	14 Sep. 1970	(12)
448 HDFG: 7	2 Aug. 1974	(1)
449 HDFG: 24	1 Aug. 1975	(1)
450 HDFG: 0	15 Jan. 1976	(2)
451 HDFG: 5	4,5 Aug. 1976	(2)
452 HDFG: 1	19 Oct. 1976	(14)
453 HDFG: 1	13 Jan. 1977	(2)
454 HDFG: 0	27,28 July 1977	(2)
455 HDFG: 3	12,13 Jan. 1978	(2)
456 HDFG: 2	27,28,30 July 1978	(5)

457 HDFG: 1
458 HDFG: 0
459 HDFG: 0

15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Kekaha Slaughter House Reservoir

460 HDFG: 16
461 USFWS: 1
462 HDFG: 19
463 HDFG: 0
464 HDFG: 0
465 HDFG: 0
466 HDFG: 0
467 HDFG: 0
468 HDFG: 0
469 HDFG: 1
470 HDFG: 1

24 July 1969 (1)
14 Sep. 1970 (12)
1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Kahelanui Reservoir

471 HDFG: 0
472 HDFG: 0
473 HDFG: 0
474 HDFG: 0
475 HDFG: 0
476 HDFG: 0
477 HDFG: 0
478 HDFG: 0
479 HDFG: 0
480 HDFG: 0
481 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July, 1 Aug. 1980 (5)
12 Jan. 1981 (5)

Mana Base Pond

482 HDFG: 3
483 HDFG: 2
484 HDFG: 1
485 HDFG: 0
486 HDFG: 0
487 HDFG: 0

24 July 1969 (1)
2 Aug. 1974 (1)
1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)

488 Shallenberger: 0
 489 Shallenberger: 0
 490 Shallenberger: 0
 491 HDFG: 0
 492 HDFG: 0
 493 HDFG: 0
 494 HDFG: 0
 495 HDFG: 0
 496 HDFG: 0

16 May 1977 (3)
 19 July 1977 (3)
 20 July 1977 (3)
 27,28 July 1977 (2)
 12,13 Jan. 1978 (2)
 27,28,30 July 1978 (5)
 15,16,20 Jan. 1979 (5)
 1,2 Aug. 1979 (5)
 14-16 Jan. 1980 (5)

Mana Brackish Pond

497 HDFG: 0
 498 HDFG: 0
 499 HDFG: 0
 500 HDFG: 1
 501 HDFG: 1
 502 HDFG: 1
 503 HDFG: 0
 504 Shallenberger: 0
 505 HDFG: 1
 506 Shallenberger: 0
 507 Shallenberger: 0
 508 HDFG: 0
 509 HDFG: 0
 510 HDFG: 0
 511 HDFG: 0
 512 HDFG: 0
 513 HDFG: 0

1 Aug. 1975 (2)
 15 Jan. 1976 (2)
 4,5 Aug. 1976 (2)
 22 Sep. 1976 (14)
 19 Oct. 1976 (14)
 5 Jan. 1977 (14)
 13 Jan. 1977 (2)
 16 May 1977 (3)
 20 May 1977 (14)
 19 July 1977 (3)
 20 July 1977 (3)
 27,28 July 1977 (2)
 12,13 Jan. 1978 (2)
 27,28,30 July 1978 (5)
 15,16,20 Jan. 1979 (5)
 1,2 Aug. 1979 (5)
 14-16 Jan. 1980 (5)

85

Mana Drainage Ditches

514 HDFG: 7
 515 HDFG: 9
 516 HDFG: 1

12,13 Jan. 1978 (2)
 1,2 Aug. 1979 (5)
 14-16 Jan. 1980 (5)

Mana House Reservoir

517 HDFG: 20
 518 HDFG: 3
 519 HDFG: 33

1 Aug. 1975 (1)
 15 Jan. 1976 (2)
 4,5 Aug. 1976 (2)

520 HDFG: 9	13 Jan. 1977	(2)
521 HDFG: 23	27,28 July 1977	(2)
522 HDFG: 21	12,13 Jan. 1978	(2)
523 HDFG: 37	27,28,30 July 1978	(5)
524 HDFG: 1	15,16,20 Jan. 1979	(5)
525 HDFG: 29	1,2 Aug. 1979	(5)
526 HDFG: 27	14-16 Jan. 1980	(5)

Mana Reservoir No. 24

527 HDFG: 0	1 Aug. 1975	(1)
528 HDFG: 0	15 Jan. 1976	(2)
529 HDFG: 0	4,5 Aug. 1976	(2)
530 HDFG: 0	13 Jan. 1977	(2)
531 HDFG: 0	27,28 July 1977	(2)
532 HDFG: 0	12,13 Jan. 1978	(2)
533 HDFG: 0	15,16,20 Jan. 1979	(5)
534 HDFG: 0	1,2 Aug. 1979	(5)
535 HDFG: 0	14-16 Jan. 1980	(5)
536 HDFG: 0	31 July, 1 Aug. 1980	(5)
537 HDFG: 0	12 Jan. 1981	(5)

Nui Valley Reservoir

538 HDFG: 1	15 Jan. 1976	(2)
539 HDFG: 20	4,5 Aug. 1976	(2)
540 HDFG: 4	13 Jan. 1977	(2)
541 HDFG: 19	27,28 July 1977	(2)
542 HDFG: 0	12,13 Jan. 1978	(2)
543 HDFG: 5	27,28,30 July 1978	(5)
544 HDFG: 0	15,16,20 Jan. 1979	(5)
545 HDFG: 35	1,2 Aug. 1979	(5)
546 HDFG: 7	14-16 Jan. 1980	(5)

Waiawa Reservoir

547 HDFG: 3	1 Aug. 1975	(1)
548 HDFG: 3	15 Jan. 1976	(2)
549 HDFG: 5	4,5 Aug. 1976	(2)
550 HDFG: 6	13 Jan. 1977	(2)

551 HDFG: 0
552 HDFG: 3
553 HDFG: 13
554 HDFG: 2
555 HDFG: 32
556 HDFG: 7

27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Wailau Siphon Reservoir

557 HDFG: 0
558 HDFG: 1
559 HDFG: 2
560 HDFG: 0
561 HDFG: 3
562 HDFG: 2

4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Waimea Heights Reservoirs

563 HDFG: 0
564 HDFG: 0
565 HDFG: 1
566 HDFG: 3
567 HDFG: 0
568 HDFG: 0
569 HDFG: 0
570 HDFG: 0
571 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

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WAIMEA CANYON

Kepani Reservoir

572 HDFG: 0

14 Jan. 1981 (5)

KAPAA

Aii Reservoir

572aHDFG: 4
573 HDFG: 0
574 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)

575 HDFG: 0
576 HDFG: 0
577 HDFG: 0
578 HDFG: 2
579 HDFG: 0
580 HDFG: 1
581 HDFG: 0
582 HDFG: 0

13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

De Mello Reservoir

583 HDFG: 0
584 HDFG: 0
585 HDFG: 0
586 HDFG: 1
587 HDFG: 0
588 HDFG: 0
589 HDFG: 0
590 HDFG: 0
591 HDFG: 0
592 HDFG: 0
593 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Fern Grotto Reservoir

594 HDFG: 0
595 HDFG: 0
596 HDFG: 0
597 HDFG: 0
598 HDFG: 0
599 HDFG: 0
600 HDFG: 0
601 HDFG: 0
602 HDFG: 0
603 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
12 Jan. 1981 (5)

Halaula Reservoir

604 HDFG: 0
605 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)

606 HDFG: 0
607 HDFG: 1
608 HDFG: 0
609 HDFG: 0
610 HDFG: 0
611 HDFG: 0

13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Hanahanapuni Reservoir

612 HDFG: 1
613 HDFG: 10
614 HDFG: 9
615 HDFG: 13
616 HDFG: 12
617 HDFG: 14
618 HDFG: 16
619 HDFG: 2
620 HDFG: 12
621 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
12 Jan. 1981 (5)

Hanamaulu Reservoir

622 HDFG: 0
623 HDFG: 4
624 HDFG: 0
625 HDFG: 0
626 HDFG: 2
627 HDFG: 0
628 HDFG: 0
629 HDFG: 0
630 HDFG: 0
631 HDFG: 0

4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
4-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Hanamaulu Air Strip Reservoir (year drained unknown)

632 HDFG: 1
633 HDFG: 1
634 HDFG: 0
635 HDFG: 2
636 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
13 Jan. 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 1979 (5)

637 HDFG: 0	1,2 Aug. 1979	(5)
638 HDFG: 0	14-16 Jan. 1980	(5)
639 HDFG: 0	12 Jan. 1981	(5)

Kawailoa Flats - Hanamaulu

640 Shallenberger: 2	17 May 1977	(3)
641 Shallenberger: 0 young reported in previous years	21 July 1977	(3)

Kailiilihinahale Reservoir

642 HDFG: 0	1 Aug. 1975	(1)
643 HDFG: 2	15 Jan. 1976	(2)
644 HDFG: 0	4,5 Aug. 1976	(2)
645 HDFG: 2	13 Jan. 1977	(2)
646 HDFG: 0	27,28 July 1977	(2)
647 HDFG: 2	12,13 Jan, 1978	(2)
648 HDFG: 3	27,28,30 July 1978	(5)
649 HDFG: 2	15,16,20 Jan. 1979	(5)
650 HDFG: 6	1,2 Aug. 1979	(5)
651 HDFG: 5	14-16 Jan. 1980	(5)

Kapaa Stable Reservoir

652 HDFG: 0	1 Aug. 1975	(1)
653 HDFG: 0	15 Jan. 1976	(2)
654 HDFG: 0	4,5 Aug. 1976	(2)
655 HDFG: 0	13 Jan. 1977	(2)
656 HDFG: 0	27,28 July 1977	(2)
657 HDFG: 0	12,13 Jan, 1978	(2)
658 HDFG: 0	15,16,20 Jan. 1979	(5)
659 HDFG: 0	1,2 Aug. 1979	(5)
660 HDFG: 0	14-16 Jan. 1980	(5)

Kapaa Stream Estuary/Marsh

661 HDFG: 0	1 Aug. 1975	(2)
662 HDFG: 0	15 Jan. 1976	(2)
663 HDFG: 3	4,5 Aug. 1976	(2)
664 HDFG: 0	13 Jan. 1977	(2)

665 Shallenberger: 0	19 May 1977	(3)
666 Shallenberger: 0 seen but may have been present...unable to walk to largest area of open water	21 July 1977	(3)
667 HDFG: 0	27,28 July 1977	(2)
668 HDFG: 0	12,13 Jan. 1978	(2)
669 HDFG: 0	15,16,20 Jan. 1979	(5)
670 HDFG: 0	1,2 Aug. 1979	(5)
671 HDFG: 0	14-16 Jan. 1980	(5)
672 HDFG: 0	31 July, 1 Aug. 1980	(5)
673 HDFG: 0	12 Jan. 1981	(5)

Kapahi Pastures

674 HDFG: 0	4,5 Aug. 1976	(2)
675 HDFG: 0	13 Jan. 1977	(2)
676 HDFG: 0	27,28 July 1977	(2)
677 HDFG: 0	12,13 Jan. 1978	(2)
678 HDFG: 0	27,28,30 July 1978	(5)
679 HDFG: 0	1,2 Aug. 1979	(5)
680 HDFG: 0	14-16 Jan. 1980	(5)

Kapaia Reservoir

681 HDFG: 0	1 Aug. 1975	(1)
682 HDFG: 3	15 Jan. 1976	(2)
683 HDFG: 16	4,5 Aug. 1976	(2)
684 HDFG: 25	13 Jan. 1977	(2)
685 HDFG: 3	27,28 July 1977	(2)
686 HDFG: 19	12,13 Jan. 1978	(2)
687 HDFG: 0	15,16,20 Jan. 1979	(5)
688 HDFG: 7	1,2 Aug. 1979	(5)
689 HDFG: 26	14-16 Jan. 1980	(5)
690 HDFG: 0	31 July, 1 Aug. 1980	(5)

Lono Reservoir

691 HDFG: 0	1 Aug. 1975	(1)
692 HDFG: 0	15 Jan. 1976	(2)
693 HDFG: 0	4,5 Aug. 1976	(2)
694 HDFG: 3	13 Jan. 1977	(2)

695 HDFG: 0	27,28 July 1977	(2)
696 HDFG: 2	12,13 Jan. 1978	(2)
697 HDFG: 0	15,16,20 Jan. 1979	(5)
698 HDFG: 0	1,2 Aug. 1979	(5)
699 HDFG: 0	14-16 Jan. 1980	(5)
700 HDFG: 0	12 Jan. 1981	(5)

Moikeha Canal

701 HDFG: 0	1 Aug. 1975	(1)
702 HDFG: 0	15 Jan. 1976	(2)
703 HDFG: 0	4,5 Aug. 1976	(2)
704 HDFG: 0	13 Jan. 1977	(2)
705 HDFG: 0	27,28 July 1977	(2)
706 HDFG: 0	12,13 Jan. 1978	(2)
707 HDFG: 0	15,16,20 Jan. 1979	(5)
708 HDFG: 0	1,2 Aug. 1979	(5)
709 HDFG: 0	14-16 Jan. 1980	(5)
710 HDFG: 0	31 July, 1 Aug. 1980	(5)
711 HDFG: 0	12 Jan. 1981	(5)

Opaekaa Valley - Wailua River - Rice Center

712 HDFG: 6	4-10 Jan. 1956	(1)
713 present	(1960)	BALH60
714 HDFG: 0	24 July 1968	(1)
715 HDFG: 3	7 Aug. 1970	(1)
716 USWFS: 1	14 Sep. 1970	(12)
717 HDFG: 3	27 July 1971	(1)
718 HDFG: 3	2 Aug. 1974	(1)
719 1 seen	29 Dec. 1974	WILE75
720 HDFG: 0	1 Aug. 1975	(1)
721 HDFG: 0	15 Jan. 1976	(2)
722 HDFG: 5	4,5 Aug. 1976	(2)
723 HDFG: 7	13 Jan. 1977	(2)
724 Shallenberger: surveyed by visiting the taro fields along the Opaekaa Stream. traveling on the Wailua River Fern Grotto cruise, and by two foot surveys throughout Paradise Pacifica...coots were common within the Opaekaa taro fields and in Paradise Pacifica but very few were seen within Wailua	(1977)	(3)

River or Opaekaa Stream...ten counted in taro fields and six in Paradise Pacifica on 23 July...coots in Paradise Pacifica were confined to open water ponds

725 HDFG: 8	27,28 July 1977	(2)
726 HDFG: 2	12,13 Jan. 1978	(2)
727 HDFG: 1	27,28,30 July 1978	(5)
728 HDFG: 0	15,16,20 Jan. 1979	(5)
729 HDFG: 8	1,2 Aug. 1979	(5)
730 HDFG: 2	14-16 Jna. 1980	(5)
731 2, Christmas Count	Dec. 1980	SEAW81

Wailua Reservoir

732 HDFG: 3	24 July 1969	(1)
733 HDFG: 18	8 Aug. 1973	(1)
734 HDFG: 3	12,13 Jan. 1978	(2)

Paradise Pacifica

735 HDFG: 2	1 Aug. 1975	(1)
736 HDFG: 0	15 Jan. 1976	(2)
737 HDFG: 12	4,5 Aug. 1976	(2)
738 HDFG: 8	13 Jan. 1977	(2)
739 HDFG: 6	27,28 July 1977	(2)
740 HDFG: 7	12,13 Jan. 1978	(2)
741 HDFG: 2	27,28,30 July 1978	(5)
742 HDFG: 1	15,16,20 Jan. 1979	(5)
743 HDFG: 5	1,2 Aug. 1979	(5)
744 HDFG: 6	14-16 Jan. 1980	(5)

Pukaki Reservoir

745 HDFG: 0	1 Aug. 1975	(1)
746 HDFG: 0	15 Jan. 1976	(2)
747 HDFG: 0	4,5 Aug. 1976	(2)
748 HDFG: 0	13 Jan. 1977	(2)
749 HDFG: 2	27,28 July 1977	(2)
750 HDFG: 0	12,13 Jan. 1978	(2)
751 HDFG: 0	15,16,20 Jan. 1979	(5)
752 HDFG: 0	1,2 Aug. 1979	(5)

753 HDFG: 0
754 HDFG: 0

14-16 Jan. 1980 (5)
12 Jan. 1981 (5)

Rodrigues Reservoir

755 HDFG: 0
756 HDFG: 0
757 HDFG: 0
758 HDFG: 0
759 HDFG: 0
760 HDFG: 0
761 HDFG: 0
762 HDFG: 0
763 HDFG: 0
764 HDFG: 0
765 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Sloggett Reservoir

766 HDFG: 93
767 HDFG: 34
768 HDFG: 5
769 USFWS: 6
770 HDFG: 14
771 HDFG: 81
772 HDFG: 0
773 HDFG: 16
774 HDFG: 6
775 HDFG: 8
776 HDFG: 34
777 HDFG: 58
778 HDFG: 37
779 HDFG: 168
780 HDFG: 164

24 July 1969 (1)
7 Aug. 1970 (1)
14 Sep. 1970 (1)
27 July 1971 (12)
2 Aug. 1974 (1)
1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

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Twin Reservoir

781 HDFG: 0
782 HDFG: 0
783 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)

784 HDFG: 0
785 HDFG: 0
786 HDFG: 2
787 HDFG: 0
788 HDFG: 0
789 HDFG: 0
790 HDFG: 0
791 HDFG: 0

13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Waikaea Canal

792 HDFG: 0
793 HDFG: 0
794 HDFG: 0
795 HDFG: 0
796 HDFG: 0
797 HDFG: 0
798 HDFG: 0
799 HDFG: 0
800 HDFG: 0
801 HDFG: 0
802 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Wailua Golf Course Ponds

803 HDFG: 0
804 HDFG: 0
805 HDFG: 0
806 HDFG: 0
807 HDFG: 0
808 HDFG: 0
809 HDFG: 0
810 HDFG: 0
811 HDFG: 0
812 HDFG: 0
813 HDFG: 0

1 Aug. 1975 (2)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Wailua Homestead Pastures

814 HDFG: 0

4,5 Aug. 1976 (2)

815 HDFG: 0	13 Jan. 1977	(2)
816 HDFG: 0	12,13 Jan. 1978	(2)
817 HDFG: 0	27,28,30 July 1978	(5)
818 HDFG: 0	1,2 Aug. 1979	(5)
819 HDFG: 0	14-16 Jan. 1980	(5)

Wailua Jail Swamp

820 HDFG: 0	1 Aug. 1975	(1)
821 HDFG: 0	15 Jan. 1976	(2)
822 HDFG: 0	4,5 Aug. 1976	(2)
823 HDFG: 0	13 Jan. 1977	(2)
824 HDFG: 0	27,28 July 1977	(2)
825 HDFG: 0	12,13 Jan. 1978	(2)
826 HDFG: 0	15,16,20 Jan. 1979	(5)
827 HDFG: 0	1,2 Aug. 1979	(5)
828 HDFG: 0	14-16 Jan. 1980	(5)
829 HDFG: 0	31 July,1 Aug. 1980	(5)
830 HDFG: 0	12 Jan. 1981	(5)

HANAPEPE

Aaka Reservoir

831 HDFG: 0	1 Aug. 1975	(1)
832 HDFG: 0	15 Jan. 1976	(2)
833 HDFG: 2	4,5 Aug. 1976	(2)
834 HDFG: 5	13 Jan. 1977	(2)
835 HDFG: 2	27,28 July 1977	(2)
836 HDFG: 0	12,13 Jan. 1978	(2)
837 HDFG: 1	1,2 Aug. 1979	(5)
838 HDFG: 0	14 Jan. 1981	(5)

Alexander Reservoir

839 HDFG: 0	1 Aug. 1975	(1)
840 HDFG: 0	4,5 Aug. 1976	(2)
841 HDFG: 0	13 Jan. 1977	(2)
842 HDFG: 0	27,28 July 1977	(2)
843 HDFG: 0	12,13 Jan. 1978	(2)

844 HDFG: 0
845 HDFG: 0
846 HDFG: 0

1,2 Aug. 1979 (5)
31 July, 1 Aug. 1980 (5)
12 Jan. 1981 (5)

Ekahi Reservoir

847 HDFG: 0
848 HDFG: 0
849 HDFG: 0
850 HDFG: 0
851 HDFG: 0
852 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
15,16,20 Jan. 1979 (5)
12 Jan. 1981 (5)

Elima Reservoir

853 HDFG: 0
854 HDFG: 0
855 HDFG: 0
856 HDFG: 0
857 HDFG: 0
858 HDFG: 0
859 HDFG: 0
860 HDFG: 0
861 HDFG: 0
862 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
12 Jan. 1981 (5)

Elua Reservoir

863 HDFG: 0
864 HDFG: 0
865 HDFG: 0
866 HDFG: 0
867 HDFG: 0
868 HDFG: 0
869 HDFG: 0
870 HDFG: 0
871 HDFG: 0
872 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
14-16 Jan. 1980 (5)
31 July, 1 Aug. 1980 (5)

Hanapepe Salt Pond

873 HDFG: 0 (dry)	24 July 1968	(1)
874 HDFG: 0 (dry)	24 July 1968	(1)
875 HDFG: 0	1 Aug. 1975	(1)
876 HDFG: 0	15 Jan. 1976	(2)
877 HDFG: 2	4,5 Aug. 1976	(2)
878 HDFG: 0	13 Jan. 1977	(2)
879 Shallenberger: 0 (water high)	May 1977	(3)
880 Shallenberger: 2 (nearly dry)...sighting of coots in the cane field pond suggests that more birds of this species could be attracted to the area with proper habitat management	20 July 1977	(3)
881 HDFG: 0	27,28 July 1977	(2)
882 HDFG: 3	12,13 Jan. 1978	(2)
883 HDFG: 1	27,28,30 July 1978	(5)
884 HDFG: 0	15,16,20 Jan. 1979	(5)
885 HDFG: 6	1,2 Aug. 1979	(5)
886 HDFG: 0	14-16 Jan. 1980	(5)

Hanapepe Taro Fields

887 HDFG: 0	24 July 1968	(1)
888 HDFG: 0	1 Aug. 1975	(1)
889 HDFG: 0	15 Jan. 1976	(2)
890 HDFG: 3	4,5 Aug. 1976	(2)
891 HDFG: 0	13 Jan. 1977	(2)
892 HDFG: 0	27,28 July 1977	(2)
893 HDFG: 0	12,13 Jan. 1978	(2)
894 HDFG: 0	27,28,30 July 1978	(5)
895 HDFG: 0	15,16,20 Jan. 1979	(5)
896 HDFG: 0	1,2 Aug. 1979	(5)
897 HDFG: 0	14-16 Jan. 1980	(5)
898 HDFG: 0	31 July, 1 Aug. 1980	(5)

Hukiwai Reservoir

899 HDFG: 0	1 Aug. 1975	(1)
900 HDFG: 0	15 Jan. 1976	(2)
901 HDFG: 0	4,5 Aug. 1976	(2)
902 HDFG: 0	13 Jan. 1977	(2)

903 HDFG: 0
904 HDFG: 0
905 HDFG: 0
906 HDFG: 0
907 HDFG: 1
908 HDFG: 0

27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Ioleau Reservoir

909 HDFG: 0
910 HDFG: 0
911 HDFG: 0
912 HDFG: 0
913 HDFG: 0
914 HDFG: 0
915 HDFG: 0
916 HDFG: 0
917 HDFG: 0
918 HDFG: 0

15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
12 Jan. 1981 (5)

Ipuolono Reservoir

919 HDFG: 0
920 HDFG: 0
921 HDFG: 0
922 HDFG: 0
923 HDFG: 0
924 HDFG: 0
925 HDFG: 0
926 HDFG: 0
927 HDFG: 0
928 HDFG: 0
929 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
12 Jan. 1981 (5)

Kaawanui Reservoir

930 HDFG: 0
931 HDFG: 0
932 HDFG: 1
933 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)

934 HDFG: 0	27,28 July 1977	(2)
935 HDFG: 0	12,13 Jan. 1978	(2)
936 HDFG; 0	1,2 Aug. 1979	(5)
Kalaheo Gulch Reservoir		
937 HDFG: 0 (dried up)	15 Jan. 1976	(2)
Kalaeloa Reservoir		
937aHDFG: 0	1 Aug. 1975	(1)
937bHDFG: 0	15 Jan. 1976	(2)
937cHDFG: 0	4,5 Aug. 1976	(2)
937dHDFG: 0	13 Jan. 1977	(2)
937eHDFG: 0	27,28 July 1977	(2)
937fHDFG: 0	12,13 Jan. 1978	(2)
937gHDFG: 0	1,2 Aug. 1979	(5)
Kapa Reservoir		
938 HDFG: 0	1 Aug. 1975	(1)
939 HDFG: 0	15 Jan. 1976	(2)
940 HDFG: 0	4,5 Aug. 1976	(2)
941 HDFG: 0	13 Jan. 1977	(2)
942 HDFG: 0	27,28 July 1977	(2)
943 HDFG: 0	12,13 Jan. 1978	(2)
944 HDFG: 0	15,16,20 Jan. 1979	(5)
945 HDFG: 0	1,2 Aug. 1979	(5)
946 HDFG: 0	14-16 Jan. 1980	(5)
947 HDFG: 0	31 July, 1 Aug. 1980	(5)
Kaumakani Gulch		
948 HDFG: 0	24 July 1969	(1)
949 HDFG: 0	1 Aug. 1975	(1)
950 HDFG: 0	15 Jan. 1976	(2)
951 HDFG: 0	4,5 Aug. 1976	(2)
952 HDFG: 0	13 Jan. 1977	(2)
953 HDFG: 0	27,28 July 1977	(2)
954 HDFG: 0	12,13 Jan. 1978	(2)

955 HDFG: 0
956 HDFG: 0
957 HDFG: 0
958 HDFG: 0
959 HDFG: 0
960 HDFG: 0

27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Kiaha Reservoir

961 HDFG: 6
962 HDFG: 0
963 HDFG: 1
964 HDFG: 0
965 HDFG: 0
966 HDFG: 0
967 HDFG: 0
968 HDFG: 0
969 HDFG: 0
970 HDFG: 0
971 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
12 Jan. 1981 (5)

Kuhumu Reservoir

972 HDFG: 0

1,2 Aug. 1979 (5)

Maele Reservoir

973 HDFG: 0
974 HDFG: 0
975 HDFG: 0
976 HDFG: 0
977 HDFG: 0
978 HDFG: 0
979 HDFG: 0
980 HDFG: 0
981 HDFG: 0
982 HDFG: 0

15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Manienieula Reservoir

983 HDFG: 0	1 Aug. 1975	(2)
984 HDFG: 0	15 Jan. 1976	(2)
985 HDFG: 0	4,5 Aug. 1976	(2)
986 HDFG: 5	13 Jan. 1977	(2)
987 HDFG: 0	27,28 July 1977	(2)
988 HDFG: 9	12,13 Jan. 1978	(2)
989 HDFG: 11	27,28,30 July 1978	(5)
990 HDFG: 0	15,16,20 Jan. 1979	(5)
991 HDFG: 5	1,2 Aug. 1979	(5)
992 HDFG: 4	14-16 Jan. 1980	(5)

Mau Reservoir

993 HDFG: 0	1 Aug. 1975	(1)
994 HDFG: 0	15 Jan. 1976	(2)
995 HDFG: 0	4,5 Aug. 1976	(2)
996 HDFG: 0	13 Jan. 1977	(2)
997 HDFG: 0	27,28 July 1977	(2)
998 HDFG: 0	12,13 Jan. 1978	(2)
999 HDFG: 0	15,16,20 Jan. 1979	(5)
1000 HDFG: 0	1,2 Aug. 1979	(5)
1001 HDFG: 0	14-16 Jan. 1980	(5)
1002 HDFG: 0	31 July, 1 Aug. 1980	(5)

Nomilo Fishpond

1003 HDFG: 0	4,5 Aug. 1976	(2)
1004 HDFG: 0	13 Jan. 1977	(2)
1005 HDFG: 0	27,28 July 1977	(2)
1006 HDFG: 0	12,13 Jan. 1978	(2)
1007 HDFG: 0	15,16,20 Jan. 1979	(5)
1008 HDFG: 0	1,2 Aug. 1979	(5)
1009 HDFG: 0	14-16 Jan. 1980	(5)
1010 HDFG: 0	31 July, 1 Aug. 1980	(5)
1011 HDFG: 0	12 Jan. 1981	(5)

Nonopahu Reservoir

1012 HDFG: 0	1 Aug. 1975	(2)
1013 HDFG: 0	15 Jan. 1976	(2)
1014 HDFG: 0	4,5 Aug. 1976	(2)
1015 HDFG: 2	13 Jan. 1977	(2)
1016 HDFG: 0	27,28 July 1977	(2)
1017 HDFG: 3	12,13 Jan. 1978	(2)
1018 HDFG: 1	1,2 Aug. 1979	(5)
1019 HDFG: 0	31 July,1 Aug. 1980	(5)
1020 HDFG: 0	14 Jan. 1981	(5)

Olokele Settling Basin

1021 HDFG: 0	24 July 1968	(1)
1022 HDFG: 0	1 Aug. 1975	(2)
1023 HDFG: 0	15 Jan. 1976	(2)
1024 HDFG: 0	4,5 Aug. 1976	(2)
1025 HDFG: 0	13 Jan. 1977	(2)
1026 HDFG: 0	27,28 July 1977	(2)
1027 HDFG: 0	12,13 Jan. 1978	(2)
1028 HDFG: 0	15,16,20 Jan. 1979	(5)
1029 HDFG: 0	1,2 Aug. 1979	(5)
1030 HDFG: 0	14-16 Jan. 1980	(5)
1031 HDFG: 0	31 July,1 Aug. 1980	(5)
1032 HDFG: 0	12 Jan. 1981	(5)

Poopueo Reservoir

1033 HDFG: 0	1 Aug. 1975	(1)
1034 HDFG: 1	15 Jan. 1976	(2)
1035 HDFG: 14	4,5 Aug. 1976	(2)
1036 HDFG: 7	13 Jan. 1977	(2)
1037 HDFG: 2	27,28 July 1977	(2)
1038 HDFG: 0	12,13 Jan. 1978	(2)
1039 HDFG: 8	1,2 Aug. 1979	(5)
1040 HDFG: 0	14-16 Jan. 1980	(5)
1041 HDFG: 0	31 July,1 Aug. 1980	(5)

Puulani Reservoir

1042 HDFG: 0	1 Aug. 1975	(2)
1043 HDFG: 0	15 Jan. 1976	(2)
1044 HDFG: 0	4,5 Aug. 1976	(2)
1045 HDFG: 0	13 Jan. 1977	(2)
1046 HDFG: 0	27,28 July 1977	(2)
1047 HDFG: 16	12,13 Jan. 1978	(2)
1048 HDFG: 4	27,28,30 July 1978	(5)
1049 HDFG: 0	1,2 Aug. 1979	(5)

Puu O Papai Reservoir

1050 HDFG: 0	1 Aug. 1975	(2)
1051 HDFG: 0	15 Jan. 1976	(2)
1052 HDFG: 16	4,5 Aug. 1976	(2)
1053 HDFG: 0	13 Jan. 1977	(2)
1054 HDFG: 0	27,28 July 1977	(2)
1055 HDFG: 0	12,13 Jan. 1978	(2)
1056 HDFG: 1	27,28,30 July 1978	(5)
1057 HDFG: 0	15,16,20 Jan. 1979	(5)
1058 HDFG: 0	1,2 Aug. 1979	(5)
1059 HDFG: 0	14-16 Jan. 1980	(5)
1060 HDFG: 0	12 Jan. 1981	(5)

Umi Reservoir

1061 HDFG: 0	1 Aug. 1975	(1)
1062 HDFG: 0	15 Jan. 1976	(2)
1063 HDFG: 0	4,5 Aug. 1976	(2)
1064 HDFG: 0	13 Jan. 1977	(2)
1065 HDFG: 0	27,28 July 1977	(2)
1066 HDFG: 0	12,13 Jan. 1978	(2)
1067 HDFG: 0	15,16,20 Jan. 1979	(5)
1068 HDFG: 0	1,2 Aug. 1979	(5)
1069 HDFG: 0	14-16 Jan. 1980	(5)
1070 HDFG: 0	31 July, 1 Aug. 1980	(5)
1071 HDFG: 0	12 Jan. 1981	(5)

Wahiawa Bridge Reservoir

1072 HDFG: 1	15 Jan. 1976	(2)
1073 HDFG: 4	4,5 Aug. 1976	(2)
1074 HDFG: 0	13 Jan. 1977	(2)
1075 HDFG: 0	27,28 July 1977	(2)
1076 HDFG: 2	12,13 Jan. 1978	(2)
1077 HDFG: 0	15,16,20 Jan. 1979	(5)
1078 HDFG: 0	1,2 Aug. 1979	(5)
1079 HDFG: 0	14-16 Jan. 1980	(5)
1080 HDFG: 0	31 July, 1 Aug. 1980	(5)

Wahiawa Mudflats

1081 HDFG: 0	24 July 1968	(1)
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Waikai Reservoir

1082 HDFG: 0	1 Aug. 1975	(1)
1083 HDFG: 1	15 Jan. 1976	(2)
1084 HDFG: 0	4,5 Aug. 1976	(2)
1085 HDFG: 0	13 Jan. 1977	(2)
1086 HDFG: 0	27,28 July 1977	(2)
1087 HDFG: 0	12,13 Jan. 1978	(2)
1088 HDFG: 0	1,2 Aug. 1979	(5)
1089 HDFG: 0	14 Jan. 1981	(5)

Waikoloi Reservoir

1090 HDFG: 0	1 Aug. 1975	(1)
1091 HDFG: 1	15 Jan. 1976	(2)
1092 HDFG: 0	4,5 Aug. 1976	(2)
1093 HDFG: 1	13 Jan. 1977	(2)
1094 HDFG: 1	27,28 July 1977	(2)
1095 HDFG: 1	12,13 Jan. 1978	(2)
1096 HDFG: 4	1,2 Aug. 1979	(5)
1097 HDFG: 0	12 Jan. 1981	(5)

Waimea Taro Fields

1098 HDFG: 3	1 Aug. 1975	(1)
1099 HDFG: 0	15 Jan. 1976	(2)
1100 HDFG: 5	4,5 Aug. 1976	(2)
1101 HDFG: 5	13 Jan. 1977	(2)
1102 HDFG: 0	27,28 July 1977	(2)
1103 HDFG: 0	12,13 Jan. 1978	(2)
1104 HDFG: 0	15,16,20 Jan. 1979	(5)
1105 HDFG: 0	1,2 Aug. 1979	(5)
1106 HDFG: 0	14-16 Jan. 1980	(5)

KOLOA

Aepo Reservoir

1107 HDFG: 0	1 Aug. 1975	(1)
1108 HDFG: 0	15 Jan. 1976	(2)
1109 HDFG: 0	4,5 Aug. 1976	(2)
1110 HDFG: 0	13 Jan. 1977	(2)
1111 HDFG: 0	27,28 July 1977	(2)
1112 HDFG: 2	12,13 Jan. 1978	(2)
1113 HDFG: 0	15,16,20 Jan. 1979	(5)
1114 HDFG: 0	1,2 Aug. 1979	(5)
1115 HDFG: 0	14-16 Jan. 1980	(5)
1116 HDFG: 0	31 July, 1 Aug. 1980	(5)

Aepoalua Reservoir

1117 HDFG: 0	1 Aug. 1975	(1)
1118 HDFG: 0	15 Jan. 1976	(2)
1119 HDFG: 0	4,5 Aug. 1976	(2)
1120 HDFG: 0	13 Jan. 1977	(2)
1121 HDFG: 0	27,28 July 1977	(2)
1122 HDFG: 0	15,16,20 Jan. 1979	(5)
1123 HDFG: 2	1,2 Aug. 1979	(5)
1124 HDFG: 2	14-16 Jan. 1980	(5)
1125 HDFG: 0	31 July, 1 Aug. 1980	(5)

Aepoeha Reservoir

1126 HDFG: 0	1 Aug. 1975	(1)
1127 HDFG: 0	15 Jan. 1976	(2)
1128 HDFG: 0	4,5 Aug. 1976	(2)
1129 HDFG: 0	13 Jan. 1977	(2)
1130 HDFG: 0	27,28 July 1977	(2)
1131 HDFG: 0	12,13 Jan. 1978	(2)
1132 HDFG: 3	27,28,30 July 1978	(5)
1133 HDFG: 0	15,16,20 Jan. 1979	(5)
1134 HDFG: 0	1,2 Aug. 1979	(5)
1135 HDFG: 0	14-16 Jan. 1980	(5)

Apoekolu Reservoir

1136 HDFG: 0	1 Aug. 1975	(1)
1137 HDFG: 0	15 Jan. 1976	(2)
1138 HDFG: 6	4,5 Aug. 1976	(2)
1139 HDFG: 0	13 Jan. 1977	(2)
1140 HDFG: 5	27,28 July 1977	(2)
1141 HDFG: 0	12,13 Jan. 1978	(2)
1142 HDFG: 5	27,28,30 July 1978	(5)
1143 HDFG: 0	15,16,20 Jan. 1979	(5)
1144 HDFG: 0	1,2 Aug. 1979	(5)
1145 HDFG: 0	14-16 Jan. 1980	(5)

Grove Farm Settling Basin

1146 50 represented...the most seen at any one time (on Kaua'i)	Oct. 1946	SCHC52
1147 USFWS: 3	9 Sep. (?1964)	(12)
1148 HDFG: 2	8 Aug. 1973	(1)
1149 HDFG: 6	2 Aug. 1973	(1)
1150 HDFG: 5	1 Aug. 1975	(1)
1151 HDFG: 0	15 Jan. 1976	(2)
1152 HDFG: 0	4,5 Aug. 1976	(2)
1153 HDFG: 0	13 Jan. 1977	(2)
1154 HDFG: 1	27,28 July 1977	(2)
1155 HDFG: 2	12,13 Jan. 1978	(2)
1156 HDFG: 0	27,28,30 July 1978	(5)
1157 HDFG: 0	15,16,20 Jan. 1979	(5)

1158 HDFG: 0
1159 HDFG: 0
1160 HDFG: 0

1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
12 Jan. 1981 (5)

Grove Farm Trash Pile

1161 HDFG: 0
1162 HDFG: 0
1163 HDFG: 0
1164 HDFG: 0
1165 HDFG: 0
1166 HDFG: 0
1167 HDFG: 0
1168 HDFG: 0
1169 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Halenanahu Reservoir

1170 HDFG: 0
1171 HDFG: 0
1172 HDFG: 3
1173 HDFG: 2
1174 HDFG: 0
1175 HDFG: 0
1176 HDFG: 0
1177 HDFG: 19
1178 HDFG: 1

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Hanini Reservoir

1179 HDFG: 0
1180 HDFG: 4
1181 HDFG: 0
1182 HDFG: 0
1183 HDFG: 0
1184 HDFG: 1
1185 HDFG: 3
1186 HDFG: 1
1187 HDFG: 0
1188 HDFG: 1

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Huinawai Reservoir

1189 HDFG: 0	1 Aug. 1975	(1)
1190 HDFG: 0	15 Jan. 1976	(2)
1191 HDFG: 0	4,5 Aug. 1976	(2)
1192 HDFG: 0	13 Jan. 1977	(2)
1193 HDFG: 0	27,28 July 1977	(2)
1194 HDFG: 0	12,13 Jan. 1978	(2)
1195 HDFG: 0	15,16,20 Jan. 1979	(5)
1196 HDFG: 0	1,2 Aug. 1979	(5)
1197 HDFG: 0	14-16 Jan. 1980	(5)
1198 HDFG: 0	31 July,1 Aug. 1980	(5)

Kaupale Reservoir

1199 HDFG: 0	1 Aug. 1975	(1)
1200 HDFG: 0	15 Jan. 1976	(2)
1201 HDFG: 0	4,5 Aug. 1976	(2)
1202 HDFG: 0	13 Jan. 1977	(2)
1203 HDFG: 0	27,28 July 1977	(2)
1204 HDFG: 2	12,13 Jan. 1978	(2)
1205 HDFG: 0	27,28,30 July 1978	(5)
1206 HDFG: 0	15,16,20 Jan. 1979	(5)
1207 HDFG: 0	1,2 Aug. 1979	(5)
1208 HDFG: 0	14-16 Jan. 1980	(5)
1209 HDFG: 0	31 July,1 Aug. 1980	(5)

Kipu Reservoir No. 1

1210 HDFG: 0	1 Aug. 1975	(1)
1211 HDFG: 0	15 Jan. 1976	(2)
1212 HDFG: 0	4,5 Aug. 1976	(2)
1213 HDFG: 0	13 Jan. 1977	(2)
1214 HDFG: 0	27,28 July 1977	(2)
1215 HDFG: 0	12,13 Jan. 1978	(2)
1216 HDFG: 1	15,16,20 Jan. 1979	(5)
1217 HDFG: 7	1,2 Aug. 1979	(5)
1218 HDFG: 1	14-16 Jan. 1980	(5)

Kipu Reservoir No. 2

1219 HDFG: 0	1 Aug. 1975	(1)
1220 HDFG: 3	15 Jan. 1976	(2)
1221 HDFG: 2	4,5 Aug. 1976	(2)
1222 HDFG: 3	13 Jan. 1977	(2)
1223 HDFG: 0	27,28 July 1977	(2)
1224 HDFG: 1	12,13 Jan. 1978	(2)
1225 HDFG: 1	15,16,20 Jan. 1979	(5)
1226 HDFG: 0	1,2 Aug. 1979	(5)
1227 HDFG: 3	14-16 Jan. 1980	(5)

Kipu Reservoir No. 3

1228 HDFG: 12	1 Aug. 1975	(1)
1229 HDFG: 2	15 Jan. 1976	(2)
1230 HDFG: 1	4,5 Aug. 1976	(2)
1231 HDFG: 2	13 Jan. 1977	(2)
1232 HDFG: 1	27,28 July 1977	(2)
1233 HDFG: 4	12,13 Jan. 1978	(2)
1234 HDFG: 2	27,28,30 July 1978	(5)
1235 HDFG: 2	15,16,20 Jan. 1979	(5)
1236 HDFG: 4	1,2 Aug. 1979	(5)
1237 HDFG: 8	14-16 Jan. 1980	(5)

Kipu Reservoir No. 4

1238 HDFG: 7	1 Aug. 1975	(1)
1239 HDFG: 4	15 Jan. 1976	(2)
1240 HDFG: 29	4,5 Aug. 1976	(2)
1241 HDFG: 7	13 Jan. 1977	(2)
1242 HDFG: 11	27,28 July 1977	(2)
1243 HDFG: 19	12,13 Jan. 1978	(2)
1244 HDFG: 7	27,28,30 July 1978	(5)
1245 HDFG: 6	15,16,20 Jan. 1979	(5)
1246 HDFG: 0	1,2 Aug. 1979	(5)
1247 HDFG: 4	14-16 Jan. 1980	(5)

Kipu Reservoirs (4)

1248 HDFG: 24	8-10 Jan. 1968	(1)
1249 HDFG: 12	13,14 Jan. 1969	(1)
1250 HDFG: 54	13-15 Jan. 1970	(1)
1251 HDFG: 12	7 Aug. 1970	(1)
1252 USFWS: 30	14 Sep. 1970	(12)
1253 HDFG: 21	27 July 1971	(1)
1254 HDFG: 16	8 Aug. 1973	(1)
1255 HDFG: 9	2 Aug. 1974	(1)
1256 Shallenberger: generally widely distributed in 4 reservoirs with total numbers ranging from 9 to 14...in recent years...Telfer reports that pond No. 4 is one of two sites (Kolo Reservoir the other) on Kaua'i where he has found newly hatched coots	(1977)	(3)

Kipu Road Reservoir

1257 HDFG: 0	1 Aug 1975	(1)
1258 HDFG: 0	15 Jan. 1976	(2)
1259 HDFG: 0	4,5 Aug. 1976	(2)
1260 HDFG: 0	13 Jan. 1977	(2)
1261 HDFG: 0	27,28 July 1977	(2)
1262 HDFG: 0	12,13 Jan. 1978	(2)
1263 HDFG: 0	15,16,20 Jan. 1979	(5)
1264 HDFG: 0	1,2 Aug. 1979	(5)
1265 HDFG: 0	14-16 Jan. 1980	(5)
1266 HDFG: 0	31 July,1 Aug. 1980	(5)
1267 HDFG: 0	12 Jan. 1981	(5)

Koloakapohu Reservoir

1268 HDFG: 1	24 July 1969	(1)
1269 HDFG: 1	1 Aug. 1975	(1)
1270 HDFG: 0	15 Jan. 1976	(2)
1271 HDFG: 3	4,5 Aug. 1976	(2)
1272 HDFG: 0	13 Jan. 1977	(2)
1273 HDFG: 0	27,28 July 1977	(2)
1274 HDFG: 6	12,13 Jan. 1978	(2)
1275 HDFG: 0	27,28,30 July 1978	(5)

1276 HDFG: 0
1277 HDFG: 0
1278 HDFG: 0

15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Kumano Reservoir

1279 HDFG: 13
1280 HDFG: 0
1281 HDFG: 0
1282 HDFG: 0
1283 HDFG: 0
1284 HDFG: 0
1285 HDFG: 2
1286 HDFG: 0
1287 HDFG: 0
1288 HDFG: 0
1289 HDFG: 0
1290 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)
12 Jan. 1981 (5)

Lawai Kai Estuary

1291 HDFG: 0
1292 HDFG: 0
1293 HDFG: 0
1294 HDFG: 0
1295 HDFG: 0
1296 HDFG: 0
1297 HDFG: 0

4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)

Loko Reservoir

1298 HDFG: 5
1299 HDFG: 0
1300 HDFG: 0
1301 HDFG: 0
1302 HDFG: 0
1303 HDFG: 4
1304 HDFG: 0
1305 HDFG: 0
1306 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Luawai Reservoir

1307 HDFG: 0	15 Jan. 1976	(2)
1308 HDFG: 0	4,5 Aug. 1976	(2)
1309 HDFG: 0	13 Jan. 1977	(2)
1310 HDFG: 0	27,28 July 1977	(2)
1311 HDFG: 0	12,13 Jan. 1978	(2)
1312 HDFG: 3	27,28,30 July 1978	(5)
1313 HDFG: 0	15,16,20 Jan. 1979	(5)
1314 HDFG: 3	1,2 Aug. 1979	(5)
1315 HDFG: 2	14-16 Jan. 1980	(5)

Mahalepu Ponds

1316 HDFG: 1	1 Aug. 1975	(1)
1317 HDFG: 0	15 Jan. 1976	(2)
1318 HDFG: 0	4,5 Aug. 1976	(2)
1319 HDFG: 0	13 Jan. 1977	(2)
1320 HDFG: 0	27,28 July 1977	(2)
1321 HDFG: 0	12,13 Jan. 1978	(2)
1322 HDFG: 0	15,16,20 Jan. 1979	(5)
1323 HDFG: 0	1,2 Aug. 1979	(5)
1324 HDFG: 0	14-16 Jan. 1980	(5)
1325 HDFG: 0	31 July, 1 Aug. 1980	(5)

Manuhonuhonu Reservoir

1326 HDFG: 3	1 Aug. 1975	(1)
1327 HDFG: 0	15 Jan. 1976	(2)
1328 HDFG: 0	4,5 Aug. 1976	(2)
1329 HDFG: 0	13 Jan. 1977	(2)
1330 HDFG: 0	27,28 July 1977	(2)
1331 HDFG: 0	12,13 Jan. 1978	(2)
1332 HDFG: 0	15,16,20 Jan. 1979	(5)
1333 HDFG: 0	1,2 Aug. 1979	(5)
1334 HDFG: 0	14-16 Jan. 1980	(5)
1335 HDFG: 0	31 July, 1 Aug. 1980	(5)
1336 HDFG: 0	12 Jan. 1981	(5)

Mauka Reservoir

1337 HDFG: 1	8-10 Jan. 1968	(1)
1338 HDFG: 3	24 July 1968	(1)
1339 HDFG: 4	24 July 1969	(1)
1340 HDFG: 72	13-15 Jan. 1970	(1)
1341 HDFG: 4	7 Aug. 1970	(1)
1342 HDFG: 11	8 Aug. 1973	(1)
1343 HDFG: 15	2 Aug. 1974	(1)
1344 HDFG: 117	1 Aug. 1975	(1)
1345 HDFG: 32	15 Jan. 1976	(2)
1346 HDFG: 86	4,5 Aug. 1976	(2)
1347 HDFG: 87	13 Oct. 1976	(14)
1348 HDFG: 48	13 Jan. 1977	(2)
1349 HDFG: 37	20 Jan. 1977	(14)
1350 HDFG: 4	27,28 July 1977	(2)
1351 HDFG: 0	12,13 Jan. 1978	(2)
1352 HDFG: 7	27,28,30 July 1978	(5)
1353 HDFG: 4	15,16,20 Jan. 1979	(5)
1354 HDFG: 0	1,2 Aug. 1979	(5)
1355 HDFG: 1	14-16 Jan. 1980	(5)

Omao Reservoir

1356 HDFG: 0	1 Aug. 1975	(1)
1357 HDFG: 0	15 Jan. 1976	(2)
1358 HDFG: 0	4,5 Aug. 1976	(2)
1359 HDFG: 0	13 Jan. 1977	(2)
1360 HDFG: 0	27,28 July 1977	(2)
1361 HDFG: 5	12,13 Jan. 1978	(2)
1362 HDFG: 1	27,28,30 July 1978	(5)
1363 HDFG: 0	15,16,20 Jan. 1979	(5)
1364 HDFG: 0	1,2 Aug. 1979	(5)
1365 HDFG: 0	14-16 Jan. 1980	(5)

Papuaa Reservoir

1366 HDFG: 10	1 Aug. 1975	(1)
1367 HDFG: 0	15 Jan. 1976	(2)
1368 HDFG: 2	4,5 Aug. 1976	(2)

1369 HDFG: 0	27,28 July 1977	(2)
1370 HDFG: 13	12,13 Jan. 1978	(2)
1371 HDFG: 8	27,28,30 July 1978	(5)
1372 HDFG: 3	15,16,20 Jan. 1979	(5)
1373 HDFG: 4	1,2 Aug. 1979	(5)
1374 HDFG: 4	14-16 Jan. 1980	(5)
Papuaa Ridge Reservoir		
1375 HDFG: 4	27,28,30 July 1978	(5)
1376 HDFG: 9	1,2 Aug. 1979	(5)
Pia Mill Reservoir		
1377 HDFG: 16	1 Aug. 1975	(1)
1378 HDFG: 2	15 Jan. 1976	(2)
1379 HDFG: 9	4,5 Aug. 1976	(2)
1380 HDFG: 1	13 Jan. 1977	(2)
1381 Shallenberger: 15	16 May 1977	(3)
1382 Shallenberger: 8	20 July 1977	(3)
1383 HDFG: 14	27,28 July 1977	(2)
1384 Shallenberger: single juvenile closely attended by parents ...flight capability of juvenile not determined...the only juvenile to appear in a July HDFG/USFWS survey	(1977)	(3)
1385 HDFG: 14	12,13 Jan. 1978	(2)
1386 HDFG: 34	27,28,30 July 1978	(5)
1387 HDFG: 0	15,16,20 Jan. 1979	(5)
1388 HDFG: 12	1,2 Aug. 1979	(5)
1389 HDFG: 6	14-16 Jan. 1980	(5)
Pinau Reservoir		
1390 HDFG: 0	1 Aug. 1975	(1)
1391 HDFG: 0	15 Jan. 1976	(2)
1392 HDFG: 0	4,5 Aug. 1976	(2)
1393 HDFG: 0	13 Jan. 1977	(2)
1394 HDFG: 0	27,28 July 1977	(2)
1395 HDFG: 0	12,13 Jan. 1978	(2)
1396 HDFG: 1	27,28,30 July 1978	(5)
1397 HDFG: 0	15,16,20 Jan. 1979	(5)

1398 HDFG: 0
1399 HDFG: 0
1400 HDFG: 0
1401 HDFG: 0

1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July, 1 Aug. 1980 (5)
12 Jan. 1981 (5)

Piawai Reservoir

1402 HDFG: 2
1403 HDFG: 0
1405 HDFG: 0
1406 HDFG: 0
1407 HDFG: 0
1408 HDFG: 0
1409 HDFG: 0
1410 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
14-16 Jan. 1980 (5)
12 Jan. 1981 (5)

Poipu Ponds

1411 HDFG: 0
1412 HDFG: 0
1413 HDFG: 0
1414 HDFG: 0
1415 HDFG: 0
1416 HDFG: 0
1417 HDFG: 0
1418 HDFG: 0
1419 HDFG: 0
1420 HDFG: 0
1421 HDFG: 0
1422 HDFG: 0

24 July 1968 (1)
1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)
31 July, 1 Aug. 1980 (5)
12 Jan. 1981 (5)

Puuhi Reservoir

1423 HDFG: 0
1424 HDFG: 0
1425 HDFG: 0
1426 HDFG: 0
1427 HDFG: 0
1428 HDFG: 0
1429 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)

1430 HDFG: 0
1431 HDFG: 0

1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Puu Hewa Reservoir

1432 HDFG: 17
1433 HDFG: 6
1434 HDFG: 41
1435 HDFG: 0
1436 HDFG: 0
1437 HDFG: 3
1438 HDFG: 3
1439 HDFG: 0
1440 HDFG: 0
1441 HDFG: 0

1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
14-16 Jan. 1980 (5)
31 July,1 Aug. 1980 (5)

Waita (Koloa) Reservoir

1442 HDFG: 7
1443 4 counted
1444 HDFG: 2
1445 HDFG: 29
1446 HDFG: 2
1447 HDFG: 23
1448 HDFG: 37
1449 HDFG: 82
1450 HDFG: ca. 189
1451 HDFG: 19
1452 HDFG: 31
1453 HDFG: 29
1454 HDFG: 283
1455 HDFG: 89
1456 HDFG: 168
1457 HDFG: 13
1458 HDFG: 1100
1459 HDFG: 1100
1460 Shallenberger: ca. 1000
1461 Shallenberger: 600-
1462 HDFG: 800

4-10 Jan. 1956 (1)
6 Aug. 1965 DONW65
8-10 Jan. 1968 (1)
24 July 1968 (1)
13-14 Jan. 1969 (1)
24 July 1969 (1)
13-15 Jan. 1970 (1)
7 Aug. 1970 (1)
14 Sep. 1970 (1)
27 July 1971 (1)
8 Aug. 1973 (1)
2 Aug. 1974 (1)
1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Oct. 1977 (14)
13 Jan. 1977 (2)
20 Jan. 1977 (14)
16 May 1977 (3)
18 May 1977 (3)
14 June 1977 (14)

1463	Shallenberger: 680...high early summer count was made during atypical year when lack of water on Ni'ihau was probably responsible...coots on our survey were widely distributed in open water in the northern half of the Reservoir, just above the main drainage...	20 July 1977	(3)
1464	HDFG: ca. 750	27,28 July 1977	(2)
1465	HDFG: 292	12,13 Jan. 1978	(2)
1466	HDFG: 16	27,28,30 July 1978	(5)
1467	HDFG: 13	15,16,20 Jan. 1979	(5)
1468	HDFG: 331	1,2 Aug. 1979	(5)
1469	HDFG: 515	14-16 Jan. 1980	(5)
1470	HDFG: 0...reservoir full of water, very unusual	31 July, 1 Aug. 1980	(5)

LIHUE

Ahukini Reservoir

1471	HDFG: 0	24 July 1968	(1)
1472	HDFG: 2	24 July 1969	(1)
1473	HDFG: 1	1 Aug. 1975	(1)
1474	HDFG: 1	15 Jan. 1976	(2)
1475	HDFG: 6	4,5 Aug. 1976	(2)
1476	HDFG: 1	13 Jan. 1977	(2)
1477	HDFG: 1	29 Mar. 1977	(2)
1478	HDFG: 1	27,28 July 1977	(2)
1479	HDFG: 0	12,13 Jan. 1978	(2)
1480	HDFG: 1	27,28,30 July 1978	(5)
1481	HDFG: 0	15,16,20 Jan. 1979	(5)
1482	HDFG: 4	1,2 Aug. 1979	(5)
1483	HDFG: 3	14-16 Jan. 1980	(5)

Aweowonui Valley

1484	HDFG: 5	2 Aug. 1974	(1)
1485	HDFG: 1	15 Jan. 1976	(2)
1486	HDFG: 0	4,5 Aug. 1976	(2)
1487	HDFG: 0	13 Jan. 1977	(2)
1488	HDFG: 0	27,28 July 1977	(2)
1489	HDFG: 0	12,13 Jan. 1978	(2)
1490	HDFG: 20	1,2 Aug. 1979	(5)

1491 HDFG: 0	14-16 Jan. 1980	(5)
Halehaka Reservoir		
1492 HDFG: 1	1 Aug. 1975	(1)
1493 HDFG: 0	15 Jan. 1976	(2)
1494 HDFG: 0	4,5 Aug. 1976	(2)
1495 HDFG: 0	13 Jan. 1977	(2)
1496 HDFG: 0	27,28 July 1977	(2)
1497 HDFG: 0	12,13 Jan. 1978	(2)
1498 HDFG: 0	15,16,20 Jan. 1979	(5)
1499 HDFG: 0	1,2 Aug. 1979	(5)
1500 HDFG: 0	14-16 Jan. 1980	(5)
1501 HDFG: 0	31 July, 1 Aug. 1980	(5)
1502 HDFG: 0	12 Jan. 1981	(5)
Huleia National Wildlife Refuge - River		
1503 HDFG: 5	2 Aug. 1974	(1)
1504 HDFG: 0	1 Aug. 1975	(1)
1505 HDFG: 0	15 Jan. 1976	(2)
1506 HDFG: 0	4,5 Aug. 1976	(2)
1507 HDFG: 2	13 Jan. 1977	(2)
1508 HDFG: 0	27,28 July 1977	(2)
1509 HDFG: 0	12,13 Jan. 1978	(2)
1510 HDFG: 0	15,16,20 Jan. 1979	(5)
1511 HDFG: 0	1,2 Aug. 1979	(5)
1512 HDFG: 2	14-16 Jan. 1980	(5)
1513 USFWS: 0 use days	Oct.-Dec. 1980	(13)
1514 USFWS: 0 use days	Jan.-Mar. 1981	(13)
1515 USFWS: 2, ave. daily use	Apr.-June 1981	(13)
1516 USFWS: 0 use days	July-Sep. 1981	(13)
1516aUSFWS: 0, ave. daily use	16 Dec. 1981 -	(13)
	15 Jan. 1982	
1516bUSFWS: 0, ave. daily use	16 Feb-31 Mar. 1982	(13)
1516cUSFWS: 0, ave. daily use	April 1982	(13)
1516dUSFWS: 0, ave. daily use	May 1982	(13)
1516eUSFWS: 0, ave. daily use	June 1982	(13)

Kauai Surf Golf Course

1517 HDFG: 3	1 Aug. 1975	(1)
1518 HDFG: 0	15 Jan. 1976	(2)
1519 HDFG: 0	4,5 Aug. 1976	(2)
1520 HDFG: 0	13 Jan. 1977	(2)
1521 HDFG: 0	27,28 July 1977	(2)
1522 HDFG: 0	12,13 Jan. 1978	(2)
1523 HDFG: 0	15,16,20 Jan. 1979	(5)
1524 HDFG: 0	1,2 Aug. 1979	(5)
1525 HDFG: 0	14-16 Jan. 1980	(5)
1526 HDFG: 0	12 Jan. 1981	(5)

Kauai Surf Pond

1527 HDFG: 0	1 Aug. 1975	(1)
1528 HDFG: 0	15 Jan. 1976	(2)
1529 HDFG: 0	4,5 Aug. 1976	(2)
1530 HDFG: 3	13 Jan. 1977	(2)
1531 HDFG: 3	27,28 July 1977	(2)
1532 HDFG: 0	12,13 Jan. 1978	(2)
1533 HDFG: 0	15,16,20 Jan. 1979	(5)
1534 HDFG: 0	1,2 Aug. 1979	(5)
1535 HDFG: 0	14-16 Jan. 1980	(5)

Lihue Area

1536 500-600 on lagoon near Lihue	1891	MUNG44
1537 unsuccessful hunts / marsh and pond back of the (?Lihue) mill	2 Apr. 1903	(26)
1538 16, Christmas Count	Dec. 1971	SEAW79
1539 24, Christmas Count	Dec. 1972	SEAW79
1540 4, Christmas Count	Dec. 1973	SEAW79
1541 4 censused	16 Dec. 1973	HARA74
1542 30, Christmas Count	Dec. 1974	SEAW79
1543 204, Christmas Count	Dec. 1975	SEAW79
1544 346, Christmas Count	Dec. 1976	SEAW79
1545 3, Christmas Count	18 Dec. 1977	SEAW78b
1546 283, Christmas Count	Dec. 1977	SEAW79

Lihue Plantation Settlement Basin

1547 2 counted	25 Jan. 1967	SWEG67
1548 3 counted	27 Jan. 1967	SWEG67
1549 HDFG: 3	24 July 1968	(1)
1550 HDFG: 40	24 July 1969	(1)
1551 HDFG: 5	13-15 Jan. 1970	(1)
1552 HDFG: 1	7 Aug. 1970	(1)
1553 USFWS: 1	14 Sep. 1970	(12)
1554 HDFG: 2	27 July 1971	(1)
1555 HDFG: 2	2 Aug. 1974	(1)
1556 HDFG: 20	1 Aug. 1975	(1)
1557 HDFG: 0	15 Jan. 1976	(2)
1558 HDFG: 3	4,5 Aug. 1976	(2)
1559 HDFG: 0	13 Jan. 1977	(2)
1560 HDFG: 6	28 June 1977	(14)
1561 HDFG: 1	27,28 July 1977	(2)
1562 HDFG: 4	12,13 Jan. 1978	(2)
1563 HDFG: 5	27,28,30 July 1978	(5)
1564 HDFG: 0	15,16,20 Jan. 1979	(5)
1565 HDFG: 0	1,2 Aug. 1979	(5)
1566 HDFG: 0	14-16 Jan. 1980	(5)

Menehune Fish Pond

1567 USFWS: raft of over 850 counted	24 July 1969	(12)
1568 USFWS: 6	14 Sep. 1970	(12)
1569 HDFG: 21	2 Aug. 1974	(1)
1570 HDFG: 8	1 Aug. 1975	(1)
1571 HDFG: 1	15 Jan. 1976	(2)
1572 HDFG: 6	2 July 1976	(14)
1573 HDFG: 0	4,5 Aug. 1976	(2)
1574 HDFG: 0	13 Jan. 1977	(2)
1575 HDFG: 0	27,28 July 1977	(2)
1576 Shallenberger: Coot numbers in recent years have been considerably lower than earlier records...we counted only 3 on each of two trips in summer...species is far less common in the pasture lands upstream...although at least one source reports nesting in the Huleia National Wildlife Refuge.	(1977)	(3)

1577 HDFG: 0	12,13 Jan. 1978	(2)
1578 HDFG: 0	15,16,20 Jan. 1979	(5)
1579 HDFG: 0	1,2 Aug. 1979	(5)
1580 HDFG: 0	14-16 Jan. 1980	(5)
1581 HDFG: 0	31 July, 1 Aug. 1980	(5)

Niumalu Marsh - Flats

1582 Shallenberger: None of the residents consulted had seen coots in this area, although they appeared to be familiar with the bird	(1977)	(3)
1583 HDFG: 0	12,13 Jan. 1978	(2)
1584 HDFG: 0	31 July, 1 Aug. 1980	(5)

Waikaia Reservoir

1585 HDFG: 0	1 Aug. 1975	(1)
1586 HDFG: 0	15 Jan. 1976	(2)
1587 HDFG: 0	4,5 Aug. 1976	(2)
1588 HDFG: 0	13 Jan. 1977	(2)
1589 HDFG: 0	27,28 July 1977	(2)
1590 HDFG: 16	12,13 Jan. 1978	(2)
1591 HDFG: 0	1,2 Aug. 1979	(5)
1592 HDFG: 0	31 July, 1 Aug. 1980	(5)

Island of Ni'ihau

ISLANDWIDE INFERENCE

1593 none seen	12-16 Aug. 1947	FISH51
1594 in great numbers on two ponds as they were drying up	(1964?)	ROBA64
1595 HDFG: 145	24 July 1969	(1)
1596 HDFG: 0	7 Aug. 1970	(1)
1597 HDFG: 28	27 July 1971	(1)
1598 HDFG: no census (dry)	Aug. 1973	(1)
1599 HDFG: 40	5 Aug. 1974	(1)
1600 HDFG: 155 (95 at dam site east of village, 60 on broad tidal ponds and ditches, 0 on beach ponds on north shore)	1 Aug. 1975	(1)
1601 HDFG: 160	15 Jan. 1976	(2)
1602 HDFG: 91	4,5 Aug. 1976	(2)

1603 HDFG: 9	13 Jan. 1977	(2)
1604 HDFG: water levels were extremely low during both the summer and winter censuses...birds were concentrated at only a handful of habitats	1 July 1976 - 30 June 1977	(2)
1605 HDFG: 6	27,28 July 1977	(2)
1606 HDFG: 92	12,13 Jan. 1978	(2)
1607 HDFG: Light winter rains did occur in 1978 but not enough to support normal coot populations	1 July 1977 - 30 June 1978	(2)
1608 HDFG: 1	15,16,20 Jan. 1979	(5)
1609 HDFG: 63	1,2 Aug. 1979	(5)
1610 HDFG: 48	14-16 Jan. 1980	(5)
1611 HDFG: 6	31 July, 1 Aug. 1980	(5)
1612 HDFG: 25...several important habitats were dry...most coots apparently remained on the other major islands	14 Jan. 1981	(5)

UNDESIGNATED LOCALITY

1613 F.Gay gave Palmer a specimen collected on Ni'ihau	1891	MUNG44	123
1614 Banko: Palmer collected 9 specimens on Ni'ihau	Jan.-July 1893	(10)	
1615 number found on the flat lagoons	July 1893	ROTW00	
1616 found scarce on 8 or 9 lagoons	2 Nov. 1939	MUNG40	
1617 Munro: scarce on 8 or 9 lagoons	ca. 1939	(25)	
1618 migrates from Ni'ihau when ponds dry up	(1944)	MUNG44	

QUADRANGLE / LOCALITY

Haao Reservoir

1619 HDFG: 36	4,5 Aug. 1976	(2)
1620 HDFG: 2	13 Jan. 1977	(2)

Halalii Lake and Ditches

1621 HDFG: 37	4,5 Aug. 1976	(2)
1622 HDFG: 5	13 Jan. 1977	(2)
1623 HDFG: 2	27,28 July 1977	(2)
1624 HDFG: 17	12,13 Jan. 1978	(2)
1625 HDFG: 4	27,28,30 July 1978	(5)
1626 HDFG: 0	15,16,20 Jan. 1979	(5)
1627 HDFG: 23	1,2 Aug. 1979	(5)

1628 HDFG: 29	14-16 Jan. 1980	(5)
Halulu Lake and Ditches		
1629 HDFG: 0	4,5 Aug. 1976	(2)
1630 HDFG: 2	13 Jan. 1977	(2)
1631 HDFG: 0	27,28 July 1977	(2)
1632 HDFG: 0	12,13 Jan. 1978	(2)
1633 HDFG: 0	27,28,30 July 1978	(5)
1634 HDFG: 0	15,16,20 Jan. 1979	(5)
1635 HDFG: 0	1,2 Aug. 1979	(5)
1636 HDFG: 0	14-16 Jan. 1980	(5)
Kaalialinui Valley		
1637 HDFG: 3	1,2 Aug. 1979	(5)
Kaumuhonu Reservoir		
1638 HDFG: 2	14-16 Jan. 1980	(5)
Kaunuinui (?Reservoir)		
1639 HDFG: 0	12,13 Jan. 1978	(2)
Keanauhi Reservoir		
1640 HDFG: 18	4,5 Aug. 1976	(2)
1641 HDFG: 4	27,28 July 1977	(2)
1642 HDFG: 0	12,13 Jan. 1978	(2)
1643 HDFG: 0	15,16,20 Jan. 1979	(5)
1644 HDFG: 10	14-16 Jan. 1980	(5)
Kiekie Pond(s)		
1645 HDFG: 0	13 Jan. 1977	(2)
1646 HDFG: 0	27,28 July 1977	(2)
1647 HDFG: 0	27,28,30 July 1978	(5)
1648 HDFG: 0	14-16 Jan. 1980	(5)

Kiekie - Puuwai Ponds

1649 HDFG: 1

15,16,20 Jan. 1979 (5)

Nonopapa Lake

1650 HDFG: 0

13 Jan. 1977 (2)

1651 HDFG: 0

27,28 July 1977 (2)

1652 HDFG: 0

12,13 Jan. 1978 (2)

1653 HDFG: 0

27,28,30 July 1978 (5)

1654 HDFG: 0

15,16,20 Jan. 1979 (5)

1655 HDFG: 0

1,2 Aug. 1979 (5)

1656 HDFG: 3

14-16 Jan. 1980 (5)

Palikoa Pond

1657 HDFG: 0

12,13 Jan. 1978 (2)

Puhueloa Reservoir

1658 HDFG: 0

27,28 July 1977 (2)

1659 HDFG: 0

12,13 Jan. 1978 (2)

1660 HDFG: 37

1,2 Aug. 1979 (5)

1661 HDFG: 0

31 July, 1 Aug. 1980 (5)

Puu Alala Pond(s)

1662 HDFG: 0

12,13 Jan. 1978 (2)

1663 HDFG: 0

15,16,20 Jan. 1979 (5)

1664 HDFG: 4

14-16 Jan. 1980 (5)

1665 HDFG: 0

31 July, 1 Aug. 1980 (5)

Puuwai Pond(s)

1666 HDFG: 15

12,13 Jan. 1978 (2)

1667 HDFG: 0

27,28,30 July 1978 (5)

Island of O'ahu

ISLANDWIDE INFERENCE

1668 common in nearly all the reservoirs, coastal marshy areas and fish ponds	(1946-1947)	SCHC52
1669 HDFG: 528	4-10 Jan. 1956	(1)
1670 HDFG: 338	1-31 Jan. 1957	(1)
1671 HDFG: 449	14-17 Jan. 1958	(1)
1672 HDFG: 822	7-16 Jan. 1959	(1)
1673 HDFG: no census	Jan. 1960	(2)
1674 HDFG: 717	10-13 Jan. 1961	(1)
1675 HDFG: 12	15-17 Jan. 1962	(1)
1676 HDFG: 169	14-18 Jan. 1963	(1)
1677 HDFG: 98	15 Jan. 1964	(1)
1678 HDFG: 112	14 Jan. 1965	(1)
1679 HDFG: 77	13,14 Jan. 1966	(1)
1680 HDFG: 106	13-16 Jan. 1967	(1)
1681 HDFG: 64	8-10 Jan. 1968	(1)
1682 HDFG: 164	24 July 1968	(1)
1683 HDFG: 15	13,14 Jan. 1969	(1)
1684 HDFG: 164	24 July 1969	(1)
1685 HDFG: 74	13-15 Jan. 1970	(1)
1686 HDFG: 264	7 Aug. 1970	(1)
1687 HDFG: 84	Jan. 1971	(2)
1688 HDFG: 292	27 July 1971	(1)
1689 HDFG: 132	Jan. 1972	(2)
1690 HDFG: 122	Jan. 1973	(2)
1691 HDFG: 97	8 Aug. 1973	(1)
1692 HDFG: 41	Jan. 1974	(2)
1693 HDFG: 83	Jan. 1975	(2)
1694 HDFG: 165	1 Aug. 1975	(2)
1695 HDFG: 148	15 Jan. 1976	(2)
1696 HDFG: ...summer and winter counts were conducted during ideal weather conditions as rains which tend to disperse waterbird populations and make accurate coverage difficult did not occur this year, consequently this year's summer count was higher than last year's...	1 July 1975 - 30 June 1976	(2)
1697 HDFG: 148	Jan. 1977	(2)
1698 HDFG: 119	27,28 July 1977	(2)

1699 HDFG: 126	12,13 Jan. 1978	(2)
1700 HDFG: 105	15,16,20 Jan. 1979	(5)
1701 HDFG: 269	1,2 Aug. 1979	(5)
1702 HDFG: 261	14-16 Jan. 1980	(5)
1703 HDFG: 296	31 July, 1 Aug. 1980	(5)
1704 HDFG: 234	12-14 Jan. 1981	(5)

UNDESIGNATED LOCALITY

1705 Banko: Bloxam collected k1 specimen (Pearl Harbor)	1824	(10)
1706 Banko: Palmer collected 2 specimens	Jan.-July 1893	(10)
1707 Banko: Perkins collected 3 specimens (windward O'ahu)	Nov. 1902	(10)
1708 2 or 3 seen	13 Mar. 1955	LABA55
1709 HDFG: 37 (Pearl Harbor)	4-10 Jan. 1956	(1)
1710 HDFG: 2 (Pearl Harbor)	10-13 Jan. 1961	(1)
1711 HDFG: 0 (Middle and East Lochs)	24 July 1968	(1)
1712 HDFG: occurs as a breeding population	(1969)	(7)
1713 present...halfway between Big Pond and access road to Walker's Bay	11 Sep. 1977	STEM77

MULTIQUADRANGLE / LOCALITY

1714 65 seen / Kuliouou area (Paiko Lagoon, Kuapa Pond)	9 Dec. 1944	DUNC45
1715 421, Christmas Count / Kaelepulu pond, Kuapa pond, Kawainui swamp, Kalihi flats	17 Dec. 1944	MUNG45
1716 200, Christmas Count / Kaelepulu pond, Kalihi flats	29 Dec. 1946	ANON47
1717 628, Christmas Count / Kaelepulu pond, Kuapa ponds	31 Dec. 1950	HATG50b
1718 9 counted Kaelepulu pond	4 Feb. 1951	HATG51
1719 19 seen / Kealepua (Kaelepulu) pond...the remainder of it ... , Kaneohe Marine Air Base, Kahana Bay	25 Apr. 1954	ROCR54
1720 303, Christmas Count / Salt Lake, Damon Pond, Kalihi Basin, Sand Island	26 Dec. 1954	ANON55
1721 449, Christmas Count / 21 observers in 11 parties; 7 1/2 mile radius centering 2/5 mile NNE of Nuuanu Pali, including Ulupau Head (Kaneohe Marine Air Base) and Kuliouou Pond (Paiko Lagoon) (0600 to 1700 hours)	26 Dec. (1955)	BALH55
1722 2, Christmas Count / Nuuanu Valley, Kaneohe area	26 Dec. 1955	ANON56
1723 108, Christmas Count / Salt Lake, Damon Pond, Sand Island	26 Dec. 1955	ANON56
1724 100 counted / Kuliouou Park, Bellows Field, Kahana Bay, Kahuku, West Loch	26 Aug. 1956	ROCR56

1725	538, Christmas Count / Kaelepulu Pond and Kailua	22 Dec. 1957	ANON58
1726	600, Christmas Count / Salt Lake (telescope), Damon Pond	22 Dec. 1957	ANON58
1727	2002, Christmas Count / Salt Lake (telescope), Damon Pond ...Damon "now a complete mass of mangrove...suggest abandonment" (for Christmas count)	21 Dec. 1958	ANON59
1728	200, Christmas Count / Kaelepulu Pond and Kailua... Kaelepulu..." already in the process of excavation for the planned housing development"	21 Dec. 1958	ANON59
1729	327, Christmas Count / Kaelepulu Pond and Kailua	27 Dec. 1959	ANON60d
1730	present / various spots about Ewa and West Loch	12 June 1960	SCHP60
1731	5 seen / Kahua Ranch area to West Loch	20 Aug. 1961	ORDW61
1732	15, Christmas Count / Kapaa Quarry; old Pali Road	31 Dec. 1961	ANON62
1733	3, Christmas Count / Paiko Lagoon, Kuapa (Pond) Road	23 Dec. 1962	ANON62
1734	3, Christmas Count / Paiko Lagoon, Kuapa Pond, Kuliouou Beach	26 Dec. 1966	ANON67a
1735	7, Christmas Count / Sand Island, Keehi Lagoon, (offshore and bay through telescope), Salt Lake, Nuuanu Valley	31 Dec. 1967	ANON68
1736	1, Christmas Count / Paiko Lagoon, Kuapa Pond	31 Dec. 1967	ANON68
1737	1, Christmas Count / Bellows Field, Saddle City, Kaelepulu Pond	29 Dec. 1968	ANON69
1738	7, Christmas Count / Sand Island, Keehi Lagoon, (offshore and bay through telescope), Salt Lake, Moanalua Gardens, Nuuanau Valley, Pacific Heights	29 Dec. 1968	ANON69
1739	1, Christmas Count / Diamond Head Crater to Paiko Lagoon	29 Dec. 1968	ANON69
1740	1, Christmas Count Bellows Field, Saddle City, Kaelepulu Pond	28 Dec. 1969	ANON70
1741	75, Christmas Count / Salt Lake, Sand Island, Keehi Lagoon (telescope), Moanalua Gardens, Nuuanu Valley	28 Dec. 1969	ANON70
1742	13, Christmas Count / Bellows Field, Saddle City, Kaelepulu Pond	27 Dec. 1970	MULW71
1743	64, Christmas Count / Salt Lake, Sand Island, Keehi Lagoon (telescope), Moanalua Gardens, Nuuanu Valley	27 Dec. 1970	MULW71
1744	5, Christmas Count / Kawainui Swamp, Quarry Road, Kailua dump	26 Dec. 1971	MULW72
1745	51, Christmas Count / Sand Island, Keehi Lagoon (telescope), Salt Lake, Moanalua Gardens, Nuuanu Valley	26 Dec. 1971	MULW72
1746	16, Christmas Count / Bellows Field, Saddle City, Kaelepulu Pond	26 Dec. 1971	MULW72
1747	1, Christmas Count / Diamond Head Crater to Paiko Lagoon	26 Dec. 1971	MULW72
1748	10- noted / West Loch and Walker Bay	9 Apr. 1972	MULW72

1749	16, Christmas Count / Bellows Field, Kaelepulu Pond	17 Dec. 1972	MULW72
1750	8, Christmas Count / Moanalua Gardens, Nuuanu Valley	17 Dec. 1972	MULW72
1751	1, Christmas Count / Diamond Head Crater to Paiko Lagoon	17 Dec. 1972	MULW72
1752	9, Christmas Count / Kawainui Swamp, Quarry Road and Kailua dump	17 Dec. 1972	MULW72
1753	6, Christmas Count / Kawainui Swamp, Quarry Road, Kailua	29 Dec. 1973	WILE74
1754	9, Christmas Count / Kaelepulu Pond, Bellows Field	29 Dec. 1973	WILE74
1755	4, Christmas Count / Moanalua Gardens, Nuuanu Valley	29 Dec. 1973	WILE74
1756	34, Christmas Count / Moanalua Gardens, Nuuanu Valley, Salt Lake, Sand Island, Keehi Lagoon (offshore and through telescope)	22 Dec. 1974	WILE75
1757	1, Christmas Count / Kawainui Swamp, Quarry Road, Kailua	22 Dec. 1974	WILE75
1758	18, Christmas Count / Kaneohe Bay drive, Kaneohe MCAS, Moku Manu (Sector 9, Christmas Count)	18 Dec. 1977	PYLR78
1759	9, Christmas Count / Waimanalo, Bellows Field, Kaelepulu, Maunawili (Sector 7, Christmas Count)	18 Dec. 1977	PYLR78
1760	Shallenberger: Our survey was complicated by difficulty in obtaining independent access, so we rely heavily upon the historical data in evaluating the different sites...no more than 3 have been reported on individual counts at Honouliuli Uint of the Pearl Harbor N.M.R....although they do not appear on records of the Waiawa Unit, the refuge maintenance foreman reports having observed this species at that site... greatest numbers in the Pearl Harbor area have generally been found in the small fish ponds in the Waikele area, though recent HDFG/USFWS counts for this area averaged less than 15...the largest counts in the Pearl Harbor area come form the sewage oxidation ponds on Waipio Peninsula..but the species is often absent from the site ...on visits (1 June, 21 Aug.) we observed 6 coots at the prawn ponds and 20 in a large sewage oxidation pond on Waipio Peninsula / Pearl Harbor Wetlands (including Pearl Harbor NMR)		(3)
1761	1, Christmas Count / Pearl Harbor NMR	16 Dec. 1978	STEW79
1762	7, Christmas Count / Lanikai area; Kawainui dike	17 Dec. 1978	PYLR79
1763	1, Christmas Count / Ahuimanu, Haiku, Kaneohe, Old Pali Road	17 Dec. 1978	PYLR79
1764	6, Christmas Count / Sand Island, Salt Lake, Ft. Shafter, Moanalua Gardens	17 Dec. 1978	PYLR79
1765	2, Christmas Count / Waimanalo, Bellows AFS, Kaelepulu pond	17 Dec. 1978	PYLR79
1766	4, Christmas Count / Kaneohe Bay Drive, Kaneohe MCAS,	17 Dec. 1978	PYLR79

Kawainui Marsh, Quarry Road, Dump		
1767	42, Christmas Count / Waipio Peninsula, Pearl Harbor NMR	(Dec. 1979) STEM81
1768	12, Christmas Count / Lanikai, Kawainui dike, Hamakua Canal	16 Dec. 1979 PYLR80
1769	8, Christmas Count / Waimanalo, Bellows AFS, Kaelepulu, Maunawili	16 Dec. 1979 PYLR80
1770	10, Christmas Count / Salt Lake, Nuuanu, Moanalua and Keehi Parks	16 Dec. 1979 PYLR80
1771	1, Christmas Count / Haiku, Kahaluu, Lower Ahuimanu, Kaneohe	16 Dec. 1979 PYLR80
1772	HDFG: 9 / Kaelepulu Pond and Flood Control	14,15,16 Jan. 1980 (5)
1773	49, Christmas Count / Waipio Peninsula, Pearl Harbor NMR	(Dec. 1980) STEM81
1774	11, Christmas Count / Salt Lake, Moanalua Gardens, Nuuanu Valley, Iwilei	(Dec.) 1980 PYLR81
1775	7, Christmas Count / Waimanalo, Bellows AFS, Kaelepulu Pond, Maunawili	(Dec.) 1980 PYLR81
1776	2, Christmas Count / Kahaluu, Heeia, Kam Highway, Old Pali Road	(Dec.) 1980 PYLR81
1777	8, Christmas Count / Lanikai, Kawainui dike and marsh, Hamakua Drive, Quarry Road, Kapaa Landfill	(Dec.) 1980 PYLR81

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QUADRANGLE / LOCALITY

Waianae District

KAENA

Kapalaau / Kapaluaa Bridge / Stream

1778	HDFG: 0	4,5 Aug. 1976	(2)
1779	HDFG: 0	13 Jan. 1977	(2)
1780	HDFG: 0	12,13 Jan. 1978	(2)
1781	HDFG: 0	1,2 Aug. 1978	(5)
1782	HDFG: 0	31 July, 1 Aug. 1980	(5)

Mokuleia, Makaleha Stream, Dillingham Air Strip/Pond

1783	HDFG: 0	1 Aug. 1975	(1)
1784	HDFG: 0	15 Jan. 1976	(2)
1785	HDFG: 0	4,5 Aug. 1976	(2)

1786 HDFG: 0
1787 HDFG: 0
1788 HDFG: 0
1789 HDFG: 5
1790 HDFG: 0
1791 HDFG: 2

13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Mokuleia Quarry

1792 HDFG: to be included in future censuses due to recent waterbird sightings

beginning July 1981 (5)

HALEIWA

Haleiwa Pond/Marsh, Lotus Farm

1793 8 counted
1794 2 seen
1795 2 seen
1796 1 seen
1797 several seen
1798 HDFG: 2
1799 HDFG: 0 (lotus farm)
1800 HDFG: 1 (lotus farm)
1801 HDFG: 0 (ponds)
1802 HDFG: 0 (lotus farm)
1803 HDFG: 0 (wetlands)
1804 HDFG: 0 (lotus farm)

4 Jan. 1947 DONW47
25 Aug. 1957 STEE57
26 Oct. 1958 HANC58
27 Sep. 1959 STEE59
25 Oct. 1959 ROCR59
7 Aug. 1970 (1)
15 Jan. 1976 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

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Helemano Reservoir

1805 HDFG: 0
1806 HDFG: 0
1807 HDFG: 0
1808 HDFG: 0
1809 HDFG: to be excluded from future censuses due to non-use

12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
31 July, 1 Aug. 1980 (5)
beginning July 1980 (5)

Kaiaka

1810 HDFG: 0

4,5 Aug. 1976 (2)

Kawailoa (Meadow Gold)

1811 HDFG: 4	14 Jan. 1965	(1)
1812 HDFG: 0	1,2 Aug. 1979	(5)

Ukoa Pond/Marsh

1813 HDFG: 0	1 Aug. 1975	(2)
1814 HDFG: 0	15 Jan. 1976	(2)
1815 HDFG: 0	4,5 Aug. 1976	(2)
1816 HDFG: 1	13 Jan. 1977	(2)
1817 HDFG: 0	27,28 July 1977	(2)
1818 Shallenbergber: 1 observed east of the pond	(?May 1977)	(3)
1819 HDFG: 0	12,13 Jan. 1978	(2)
1820 HDFG: 0	27,28,30 July 1978	(5)
1821 HDFG: 0	15,16,20 Jan. 1979	(5)
1822 HDFG: 0	1,2 Aug. 1979	(5)
1823 HDFG: 0	14-16 Jan. 1980	(5)

Waialua

1824 Banko: Wilson collected 1 specimen	Feb. 1893	(10)
1825 Banko: Flood collected 7 specimens	20 July 1895	(10)
1826 HDFG: 0 (settling basin)	15,16,20 Jan. 1979	(5)
1827 HDFG: 0 (settling basin)	1,2 Aug. 1979	(5)
1828 HDFG: 0 (settling basin)	14-16 Jan. 1980	(5)
1829 HDFG: 0 (settling basin)	31 July, 1 Aug. 1980	(5)

Tsuda Hasu Fields

1830 HDFG: 0	1,2 Aug. 1979	(5)
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WAIANA E

Waianae Valley

1831 HDFG: 1	14 Jan. 1965	(1)
1822 HDFG: 7	13,14 Jan. 1966	(1)
1833 HDFG: 16	13-16 Jan. 1967	(1)
1834 HDFG: 7	8-10 Jan. 1968	(1)

1835 HDFG: 32
 1836 HDFG: 10
 1837 HDFG: 6
 1838 HDFG: 0 (Waianae Dump)
 1839 HDFG: 0 (Waianae Dump)
 1840 HDFG: 0 (Yamaguchi Farm)
 1841 HDFG: 0 (Waianae Dump)
 1842 HDFG: 0 (Yamaguchi Farm)
 1843 HDFG: 0 (Yamaguchi Farm)

24 July 1968 (1)
 24 July 1969 (1)
 13-15 Jan. 1970 (1)
 1 Aug. 1975 (1)
 15 Jan. 1976 (2)
 4,5 Aug. 1976 (2)
 13 Jan. 1977 (2)
 13 Jan. 1977 (2)
 27,28 July 1977 (2)

Makaha

1844 HDFG: 4 (Reservoir)
 1845 HDFG: 5 (Reservoir)
 1846 HDFG: 6 (Reservoir)
 1847 HDFG: 4 (Reservoir)
 1848 HDFG: 9
 1849 HDFG: 2
 1850 HDFG: 0
 1851 HDFG: 0
 1852 HDFG: 0 (Sewage Pond)
 1853 HDFG: 8 (Ponds)
 1854 HDFG: 3 (Sewage Pond)

13-16 Jan. 1967 (1)
 8-10 Jan. 1968 (1)
 13-15 Jan. 1970 (1)
 7 Aug. 1970 (1)
 8 Aug. 1973 (1)
 1 Aug. 1975 (1)
 15 Jan. 1976 (2)
 4,5 Aug. 1976 (2)
 13 Jan. 1977 (2)
 27,28 July 1977 (2)
 12,13 Jan. 1978 (2)

SCHOFIELD BARRACKS

Lualualei Naval Ammunition Depot

1855 HDFG: 10
 1856 17, heavy rains prior census scattered birds
 1857 saw a dozen
 1858 HDFG: 11
 1859 HDFG: 15
 1860 HDFG: 4
 1861 best place to see coots on O'ahu
 1862 HDFG: 14
 1863 HDFG: 6
 1864 HDFG: 10
 1865 HDFG: 8
 1866 HDFG: 12

8 Aug. 1973 (1)
 1-5 Aug. 1974 (1)
 13 Apr. 1975 WILE75
 1 Aug. 1975 (1)
 15 Jan. 1976 (2)
 4,5 Aug. 1976 (2)
 (1976) SWEG76
 13 Jan. 1977 (2)
 27,28 July 1977 (2)
 12,13 Jan. 1978 (2)
 27,28,30 July 1978 (5)
 15,16,20 Jan. 1979 (5)

1867 HDFG: 12	1,2 Aug. 1979	(5)
1868 HDFG: 5	14-16 Jan. 1980	(5)
EWA		
Barber's Point		
1869 HDFG: 1	13,14 Jan. 1969	(1)
1870 HDFG: 2	13-15 Jan. 1970	(1)
1871 HDFG: 1, heavy rains prior census scattered birds	1-5 Aug. 1974	(1)
Campbell Industrial Park		
1872 HDFG: 2	27 July 1971	(1)
1873 HDFG: 2	1 Aug. 1975	(1)
1874 HDFG: 0	4,5 Aug. 1976	(2)
1875 HDFG: 0	13 Jan. 1977	(2)
1876 HDFG: 0	27,28 July 1977	(2)
1877 HDFG: 0	12,13 Jan. 1978	(2)
1878 HDFG: 0	27,28,30 July 1978	(5)
1879 HDFG: 0	15,16,20 Jan. 1979	(5)
1880 HDFG: 0	1,2 Aug. 1979	(5)
1881 HDFG: 0	14-16 Jan. 1980	(5)
Ko'olau District		
WAIMEA		
Waialeale/Wailea Reservoir (University of Hawaii)		
1882 HDFG: 0	15 Jan. 1976	(2)
1883 HDFG: 0	13 Jan. 1977	(2)
1884 HDFG: 0 (Wailea)	1,2 Aug. 1979	(5)
Waimea Arboretum		
1885 HDFG: 0	12,13 Jan. 1978	(2)

Waimea river (Falls Park)

1886 HDFG: 0	13 Jan. 1977	(2)
1887 HDFG: 0	27,28 July 1977	(2)
1888 Shallenberger: Waimea Falls Park employee reported infrequent observations of this species (coot) in the stream...a marginal habitat	(1977)	(3)
1889 HDFG: 0	27,28,30 July 1978	(5)
1890 HDFG: 0	15,16,20 Jan. 1979	(5)
1891 HDFG: 0	1,2 Aug. 1979	(5)
1892 HDFG: 0	14-16 Jan. 1980	(5)

KAHUKU

James Campbell National Wildlife Refuge (Kii and Punamano Units)

1893 USFWS: 56, ave. daily use	Oct.-Dec. 1979	(13)
1894 USFWS: 35, ave. daily use	Jan.-Mar. 1980	(13)
1895 USFWS: 67, ave. daily use	Apr.-June 1980	(13)
1896 USFWS: 67, ave. daily use	July-Sep. 1980	(13)
1897 USFWS: 71, ave. daily use	Oct.-Dec. 1980	(13)
1898 USFWS: 60, ave. daily use	Jan.-Mar. 1981	(13)
1899 USFWS: 40, ave. daily use	Apr.-June 1981	(13)
1900 present...1 in adjacent canal with dark ring on the bill and a small dark red spot above bill shield	15 Sep. 1981	PYLR81
1901 USFWS: 100, ave. daily use	July-Sep. 1981	(13)

Kahuku (Kii) Pond(s) (now in James Campbell National Wildlife Refuge)

1902 Northwood: 9 nests (lake)	26 Dec. 1937	(20)
1903 Northwood: flock seen	11 Nov. 1938	(20)
1904 Northwood: many (ranch)	5 Nov. 1939	(20)
1905 67, Christmas Count; 1 nest with 6 eggs (on ranch shore and pasture lands)	24 Dec. 1939	NORJ40a
1906 broods of chicks...empty nests found	14 Jan. 1940	NORJ40b
1907 Northwood: seen	23 Mar. 1940	(20)
1908 Northwood: several nests...young seen	5 May 1940	(20)
1909 Northwood: many	3 Nov. 1940	(20)
1910 Northwood: 1 nest	17 Nov. 1940	(20)
1911 34, Christmas Count (ranch pasture lands along shore)	22 Dec. 1940	BALH41

	marsh, lake)		
1912	Northwood: many	7 Sep. 1941	(20)
1913	ca. 100 Coots and Gallinules seen (near sugar mill)	13 Jan. 1946	PEAG46
1914	a number seen on shore of pond and others in the water	13 Jan. 1946	PEAG46
1915	perhaps 50 (pond)	19 July 1946	GRIP46
1916	216 counted	13 Oct. 1946	ANON46
1917	half-dozen	15 Feb. 1947	KLER47
1918	175 estimated (only a small area of the pond remains clear and unpolluted from decaying cane refuse)	12 Sep. 1948	HATG48
1919	300 estimated (pond)	14 Nov. 1948	ANON49
1920	none present (pond completely drained)	(Dec. 1948)	ANON49
1921	none seen (pond dry)	6 Sep. 1953	TITM53
1922	numerous	14 Aug. 1955	PYLB55
1923	less numerous than observed on earlier trips	23 Oct. 1955	GOSG55
1924	HDFG: 6	4-10 Jan. 1956	(1)
1925	ca. 100 estimated	23 Sep. 1956	HATG56
1926	15 counted (pond dry)	13 Jan. 1957	ROCR57
1927	300-400 estimated	25 Aug. 1957	STEE57
1928	HDFG: 1	14-17 Jan. 1958	(1)
1929	present	26 Oct. 1958	HANC58
1930	several adults + 2 broods seen in irrigation ditches and reservoir	21 Apr. 1959	UDVM60
1931	80 counted (reservoir)	21 Apr. 1958	UDVM60
1932	ca. 60 (reservoir)	1 May 1959	UDVM60
1933	40 counted	27 Sep. 1959	STEE59
1934	13 seen around pools left by drained ponds	11 Sep. 1960	ANON60d
1935	2 seen	13 Nov. 1960	LUPD61
1936	HDFG: 4	10-13 Jan. 1961	(1)
1937	none reported (bulldozers at work...changes appalling... 1 small basin the only bit of water left...desolation almost complete)	18 Feb. 1961	HATG61b
1938	HDFG: 6 (Kii Pond)	15-17 Jan. 1962	(1)
1939	more than fairly numerous in shallow pools...scattered over 3 or 4 old fields...drainage in progress...water area much less extensive	11 Nov. 1962	TITM62
1940	none reported...ponds almost dried up	13 Jan. 1963	ORDW63
1941	17 seen	11 Oct. 1964	ROCR64
1942	HDFG: 14	14 Jan. 1965	(1)
1943	HDFG: 20	13-14 Jan. 1966	(1)
1944	5 seen in three settlement basins	10 Apr. 1966	BURJ66

1945	HDFG: 6	13-16 Jan. 1967	(1)
1946	16 counted in plantation area	21 Jan. 1967	PYLL67
1947	several	12 Feb. 1967	DONW67
1948	at least 20 in the pond at the west end of the plantation	12 Nov. 1967	PYLR67
1949	HDFG: 3	8-10 Jan. 1968	(1)
1950	pair seen in more northerly ponds	14 Jan. 1968	GAUD68
1951	none reported...ponds closest to mill drained	14 Jan. 1968	GAUD68
1952	20 seen on ponds nearer the town	10 Mar. 1968	GAUJ68
1953	HDFG: 11	24 July 1968	(1)
1954	over 25	19 Sep. 1968	SWEG68
1955	almost 70 in the pond nearer the mill	10 Nov. 1968	KAIC68
1956	4 seen in the large pond	10 Nov. 1968	KAIC68
1957	present	31 Dec. 1968	DONW68
1958	HDFG: 8	24 July 1969	(1)
1959	HDFG: 83 (Kii Pond)	24 July 1969	(1)
1960	number present	11 Jan. 1970	ANON70
1961	HDFG: 4	13-15 Jan. 1970	(1)
1962	HDFG: 71 (Kii Pond)	7 Aug. 1970	(1)
1963	100+ on enlarged pond near the sugar mill	20 Sep. 1970	KAIC70
1964	30 counted in the large settlement basin near the mill	11 Oct. 1970	MULW71
1965	83 counted (Kii Pond behind the mill)	8 Nov. 1970	MULW71
1966	ca. 50 on pond closest to the mill	18 Feb. 1971	KAIC71d
1967	70 counted (Kii Pond)	14 Mar. 1971	MULW71
1968	USFWS: 80	31 Mar. 1971	(12)
1969	USFWS: 72	12 Apr. 1971	(12)
1970	71 censused...13 nests (Kii Pond)	29 Apr. 1971	OLSD71a
1971	60+...at least 6 on nests (Kii Pond)	1 May 1971	KAIC71e
1972	150+ counted...at least 30 active nests	1 June 1971	MULM71
1973	114 counted...12 on nests (Kii Pond)	10 June 1971	KRIE71
1974	USFWS: 114 counted, incl. 12 nests and 22 young	10 June 1971	(12)
1975	HDFG: 186 (Kii Pond)	27 July 1971	(1)
1976	160+ counted...majority immature...5 on nests...Kii Pond ...more mud flat than pond at this time	28 Aug. 1971	ANON71
1977	170 counted	(12 Sep. 1971)	MULW71
1978	75+ seen	10 Oct. 1971	MULW71
1979	200+ on Kii Pond	12 Oct. 1971	KAIC71b
1980	HDFG: 0	1 Aug. 1975	(2)
1981	HDFG: 1	15 Jan. 1976	(2)
1982	HDFG: 5	4,5 Aug. 1976	(2)
1983	USFWS: 1	13 Jan. 1977	(13)

1984 USFWS: 0	June 1977	(13)
1985 HDFG: 0	27,28 July 1977	(2)
1986 USFWS: 0	July 1977	(13)
1987 USFWS: 0	Aug. 1977	(13)
1988 USFWS: 0	Sep. 1977	(13)
1989 USFWS: 1	18 Oct. 1977	(13)
1990 USFWS: 0	Nov. 1977	(13)
1991 USFWS: 0	Dec. 1977	(13)
1992 HDFG: 0	12,13 Jan. 1978	(2)
1993 USFWS: 0	Jan. 1978	(13)
1994 USFWS: 0	Feb. 1978	(13)
1995 USFWS: 3	15 Mar. 1978	(13)
1996 HDFG: 5	27,28,30 July 1978	(5)
1997 USFWS: 1	11 Apr. 1978	(13)
1998 USFWS: 5	25 Apr. 1978	(13)
1999 USFWS: 3	2 Aug. 1978	(13)
2000 USFWS: 9	7 Aug. 1978	(13)
2001 USFWS: 6	8 Aug. 1978	(13)
2002 USFWS: 9	11 Aug. 1978	(13)
2003 USFWS: 5	14 Aug. 1978	(13)
2004 USFWS: 11, incl. 2 young	15 Aug. 1978	(13)
2005 USFWS: 10	16 Aug. 1978	(13)
2006 USFWS: 12	17 Aug. 1978	(13)
2007 USFWS: 16	18 Aug. 1978	(13)
2008 USFWS: 14	21 Aug. 1978	(13)
2009 USFWS: 6	6 Sep. 1978	(13)
2010 USFWS: present	10 Sep. 1978	(13)
2011 USFWS: 7	12 Sep. 1978	(13)
2012 USFWS: 4	19 Sep. 1978	(13)
2013 USFWS: 8	20 Oct. 1978	(13)
2014 USFWS: 7	26 Oct. 1978	(13)
2015 USFWS: 12	1 Nov. 1978	(13)
2016 USFWS: 11	2 Nov. 1978	(13)
2017 USFWS: 6	3 Nov. 1978	(13)
2018 USFWS: 13	6 Nov. 1978	(13)
2019 USFWS: 23+	7 Nov. 1978	(13)
2020 USFWS: 14	9 Nov. 1978	(13)
2021 USFWS: 21	10 Nov. 1978	(13)
2022 USFWS: 15	13 Nov. 1978	(13)
2023 USFWS: 14	14 Nov. 1978	(13)

2024 USFWS: 18
2025 USFWS: 16
2026 USFWS: 22
2027 USFWS: 21
2028 USFWS: 17
2029 USFWS: 21
2030 USFWS: 26
2031 USFWS: 22
2032 USFWS: 23
2033 USFWS: 29
2034 USFWS: 39
2035 USFWS: 25
2036 USFWS: 34
2037 USFWS: 16
2038 USFWS: 21
2039 USFWS: 24
2040 USFWS: 31
2041 USFWS: 32
2042 USFWS: 41
2043 USFWS: 37
2044 USFWS: 38
2045 USFWS: 32
2046 USFWS: 28
2047 USFWS: 29
2048 USFWS: 21
2049 USFWS: 29
2050 USFWS: 39
2051 USFWS: 38-71
2052 USFWS: 42
2053 USFWS: 37
2054 USFWS: 34
2055 USFWS: 33
2056 USFWS: 32
2057 USFWS: 33
2058 USFWS: 32
2059 USFWS: 37
2060 USFWS: 39
2061 USFWS: 34
2062 USFWS: 36
2063 USFWS: 27

15 Nov. 1978 (13)
16 Nov. 1978 (13)
27 Nov. 1978 (13)
28 Nov. 1978 (13)
30 Nov. 1978 (13)
1 Dec. 1978 (13)
2 Dec. 1978 (13)
4 Dec. 1978 (13)
5 Dec. 1978 (13)
6 Dec. 1978 (13)
7 Dec. 1978 (13)
8 Dec. 1978 (13)
9 Dec. 1978 (13)
11 Dec. 1978 (13)
12 Dec. 1978 (13)
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14 Dec. 1978 (13)
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18 Dec. 1978 (13)
19 Dec. 1978 (13)
20 Dec. 1978 (13)
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22 Dec. 1978 (13)
23 Dec. 1978 (13)
24 Dec. 1978 (13)
26 Dec. 1978 (13)
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28 Dec. 1978 (13)
29 Dec. 1978 (13)
2 Jan. 1979 (13)
3 Jan. 1979 (13)
4 Jan. 1979 (13)
5 Jan. 1979 (13)
8 Jan. 1979 (13)
9 Jan. 1979 (13)
10 Jan. 1979 (13)
12 Jan. 1979 (13)
14 Jan. 1979 (13)
15 Jan. 1979 (13)
16 Jan. 1979 (13)

2064 USFWS: 37
2065 USFWS: 38
2066 USFWS: 34
2067 HDFG: 35
2068 USFWS: 38
2069 USFWS: 25
2070 USFWS: 42
2071 USFWS: 39
2072 USFWS: 46
2073 USFWS: 38
2074 USFWS: 38
2075 USFWS: 39
2076 USFWS: 42
2077 USFWS: 28
2078 USFWS: 36
2079 USFWS: 34
2080 USFWS: 36
2081 USFWS: 46
2082 USFWS: 29
2083 USFWS: 36
2084 USFWS: 41
2085 USFWS: 32
2086 USFWS: 32
2087 USFWS: 21
2088 USFWS: 23
2089 USFWS: 31
2090 USFWS: 16
2091 USFWS: 25
2092 USFWS: 29
2093 USFWS: 27
2094 USFWS: 33
2095 USFWS: 32
2096 USFWS: 41
2097 USFWS: 28
2098 USFWS: 25
2099 USFWS: 37
2100 USFWS: 43
2101 USFWS: 33
2102 USFWS: 36
2103 USFWS: 35

17 Jan. 1979 (13)
18 Jan. 1979 (13)
19 Jan. 1979 (13)
15,16,20 Jan. 1979 (5)
20 Jan. 1979 (13)
22 Jan. 1979 (13)
23 Jan. 1979 (13)
24 Jan. 1979 (13)
25 Jan. 1979 (13)
26 Jan. 1979 (13)
31 Jan. 1979 (13)
1 Feb. 1979 (13)
2 Feb. 1979 (13)
5 Feb. 1979 (13)
6 Feb. 1979 (13)
7 Feb. 1979 (13)
8 Feb. 1979 (13)
9 Feb. 1979 (13)
12 Feb. 1979 (13)
13 Feb. 1979 (13)
14 Feb. 1979 (13)
15 Feb. 1979 (13)
18 Feb. 1979 (13)
21 Feb. 1979 (13)
22 Feb. 1979 (13)
23 Feb. 1979 (13)
26 Feb. 1979 (13)
27 Feb. 1979 (13)
2 Mar. 1979 (13)
3 Mar. 1979 (13)
5 Mar. 1979 (13)
6 Mar. 1979 (13)
7 Mar. 1979 (13)
9 Mar. 1979 (13)
10 Mar. 1979 (13)
12 Mar. 1979 (13)
13 Mar. 1979 (13)
14 Mar. 1979 (13)
15 Mar. 1979 (13)
16 Mar. 1979 (13)

2104 USFWS: 51	18 Mar. 1979	(13)
2105 USFWS: 35	20 Mar. 1979	(13)
2106 USFWS: 38	22 Mar. 1979	(13)
2107 USFWS: 41	26 Mar. 1979	(13)
2108 present	31 Mar. 1979	(13)
2109 USFWS: 16	3 Apr. 1979	(13)
2110 USFWS: 17	13 Apr. 1979	(13)
2111 USFWS: 16	18 Apr. 1979	(13)
2112 USFWS: 35	20 May. 1979	(13)
2113 HDFG: 65	1,2 Aug. 1979	(5)
2114 USFWS: 55	6 Sep. 1979	(13)
2115 USFWS: 52	10 Sep. 1979	(13)
2116 USFWS: 52	11 Sep. 1979	(13)
2117 USFWS: 61	13 Sep. 1979	(13)
2118 USFWS: 57	18 Sep. 1979	(13)
2119 USFWS: 65	24 Sep. 1979	(13)
2120 about 20 seen, incl. 1 chick and 3 adults with a narrow red-topped frontal shield	14 Oct. 1979	CONS80
2121 USFWS: 60	17 Oct. 1979	(13)
2122 USFWS: 27	15 Nov. 1979	(13)
2123 HDFG: 119 (Refuge)	14,15,16 Jan. 1980	(5)
2124 75 seen	11 Jan. 1981	HARK81
2124aUSFWS: 50, ave. daily use	15 Nov.-15 Dec. 1981	(13)
2124bUSFWS: 109 adults, 1 young ave. daily use	16 Dec. 1981-	(13)
	15 Jan. 1982	
2124cUSFWS: 67, ave. daily use	16 Jan.-15 Feb. 1982	(13)
2124dUSFWS: not censused	16 Feb.-31 Mar. 1982	(13)
2124eUSFWS: 40, ave. daily use	April 1982	(13)
2124fUSFWS: 0, ave. daily use	May 1982	(13)
2124gUSFWS: 76, ave. daily use	June 1982	(13)

Kahuku (Punamano) Pond(s) (now in James Campbell National Wildlife Refuge)

2125 2 seen	10 June 1971	KRIE71
2126 HDFG: 5	27 July 1971	(1)
2127 HDFG: 12	8 Aug. 1973	(1)
2128 HDFG: 3	1 Aug. 1975	(1)
2129 USFWS: 0	Nov. 1975	(13)
2130 HDFG: 24	15 Jan. 1976	(2)

2131 USFWS: 0	Jan. 1976	(13)
2132 USFWS: 6	4, 5 Aug. 1976	(13)
2133 USFWS: 12	13 Jan. 1977	(13)
2134 9 seen	6 Feb. 1977	PYLR77
2135 USFWS: 11	10 June 1977	(13)
2136 USFWS: 11	15 June 1977	(13)
2137 USFWS: 11	22 June 1977	(13)
2138 USFWS: 21	27 July 1977	(13)
2139 USFWS: 15	28 July 1977	(13)
2140 USFWS: 10	1 Aug. 1977	(13)
2141 USFWS: 26	27 Aug. 1977	(13)
2142 USFWS: 13	4 Nov. 1977	(13)
2143 Shallenberger: average number on past counts less than 15 with high of 24...providing some compensation for loss of Kii Pond habitat...reported to nest along north shore...we observed 26, incl. 2 juveniles, on our brief survey (15, 28 May; 27 Aug.)...earlier surveys may have under-estimated actual numbers present	(1977)	(3)
2144 22 counted	7 Jan. 1978	PYLR78
2145 USFWS: 18	12 Jan. 1978	(13)
2146 USFWS: 30 (2 with red shields)	15 Mar. 1978	(13)
2147 USFWS: 20 plus 3 nests	11 Apr. 1978	(13)
2148 HDFG: 9	27, 28, 30 July 1978	(5)
2149 USFWS: 10	14 Aug. 1978	(13)
2150 USFWS: 14	26 Oct. 1978	(13)
2151 USFWS: 17	14 Nov. 1978	(13)
2152 USFWS: 35	22 Nov. 1978	(13)
2153 USFWS: 40	25 Nov. 1978	(13)
2154 USFWS: 19	11 Dec. 1978	(13)
2155 USFWS: 25	19 Dec. 1978	(13)
2156 USFWS: 15	27 Dec. 1978	(13)
2157 USFWS: 31	6 Jan. 1979	(13)
2158 USFWS: 2	15 Jan. 1979	(13)
2159 USFWS: 6	19 Jan. 1979	(13)
2160 USFWS: 8	12 Feb. 1979	(13)
2161 USFWS: 0	Mar. 1979	(13)
2162 HDFG: 13	1, 2 Aug. 1979	(5)
2163 HDFG: 21 (ponds east of Punamano)	1, 2 Aug. 1979	(5)
2164 HDFG: 15	14, 15, 16 Jan. 1980	(5)
2165 USFWS: 34	15 Nov. 1980	(13)

2165aUSFWS: 8, ave. daily use	16 Dec. 1981 - 15 Jan. 1982	(13)	
Kahuku Airstrip Area			
2165bnone seen	21 Oct.; 4,20,27 Nov.; 4 Dec. 1958	UDVM60	
2165cseveral seen	21 Jan. 1967	PYLL67	
2165dseveral seen	12 Nov. 1967	PYLR67	
2165eseveral seen	18 Feb. 1971	KAIC71d	
2165fHDFG: 0	15 Jan. 1976	(2)	
2165gHDFG: 0	13 Jan. 1977	(2)	
2165hShallenberger: occasionally when water levels are high... as many as 20 in recent years	(1977)	(3)	
2165iUSFWS: 0	15 Jan. 1979	(13)	
Kahuku Aquafarm			
2166 HDFG: 0	15,16,20 Jan. 1979	(5)	
2167 HDFG: 5	14-16 Jan. 1980	(5)	143
Kawela (Corn Fields)			
2168 HDFG: 0	1,2 Aug. 1979	(5)	
Kuilima Sewage Pond			
2169 15 seen	(?Mar.) 1875	ANON75a	
2170 HDFG: 65	1 Aug. 1975	(1)	
2171 HDFG: 30	15 Jan. 1976	(2)	
2172 HDFG: 21	4,5 Aug. 1976	(2)	
2173 HDFG: 7	27,28 July 1977	(2)	
2174 Shallenberger: fairly stable population (62-94) found during Nov/Dec 1975...numbers considerably lower after 1975	(1977)	(3)	
2175 HDFG: 11	12,13 Jan. 1978	(2)	
2176 HDFG: 4	27,28,30 July 1978	(5)	
2177 HDFG: 0	15,16,20 Jan. 1979	(5)	
2177aHDFG: 79	1,2 Aug. 1979	(5)	
2178 HDFG: 50	14-16 Jan. 1980	(5)	

Kuilima Reservoir

2179	11 seen	10 Oct. 1976	PYLR77
2180	15 seen	20 Oct. 1976	PYLR77
2181	HDFG: 8 (Swamp)	13 Jan. 1977	(2)
2182	USFWS: 0	15,16,20 Jan. 1979	(13)
2183	25 seen	11 Jan. 1981	HARK81
2184	a few present	15 Sep. 1981	PYLR81

Kuilima Golf Course

2185	HDFG: 0	13 Jan. 1977	(2)
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Kualoa Ranch Pond

2186	HDFG: 1	24 July 1968	(1)
2187	HDFG: 0	1 Aug. 1975	(2)
2188	HDFG: 0	15 Jan. 1976	(2)
2189	HDFG: 0	4,5 Aug. 1976	(2)
2190	Shallenberger: found no records (of coots) and observed none on 10, 28 May trips	(1977)	(3)
2191	HDFG: 0	27,28 July 1977	(2)
2192	HDFG: 0	12,13 Jan. 1978	(2)
2193	HDFG: 0	27,28,30 July 1978	(5)
2194	HDFG: 0	15,16,20 Jan. 1979	(5)
2195	HDFG: 0	1,2 Aug. 1979	(5)
2196	HDFG: 0	14-16 Jan. 1980	(5)

Laie Prawn Farm

2197	HDFG: 1	1,2 Aug. 1979	(5)
2198	HDFG: 0	14-16 Jan. 1980	(5)

Punahoolapa Pond(s) (now in James Campbell National Wildlife Refuge)

2199	Shallenberger: only 2 observed (on the pond)	15 May 1977	(3)
2200	Shallenberger: 16, could have been more present on the Pond complex	28 May 1977	(3)
2201	HDFG: 0	27,28 July 1977	(2)
2202	HDFG: 1	12,13 Jan. 1978	(2)

2203 USFWS: 4	22 Feb. 1978	(13)
2204 HDFG: 0	27,28,30 July 1978	(5)
2205 USFWS: 1	15 Jan. 1979	(13)
2206 HDFG: 0	1,2 Aug. 1979	(5)
2207 HDFG: 8	14,15,16 Jan. 1980	(5)

HAUULA

Opaeula Reservoir(s)

2208 HDFG: 0	12 Jan. 1981	(5)
2209 HDFG: to be included in future censuses due to recent waterbird sightings	beginning July 1981	(5)

Wahiawa Reservoir

2210 HDFG: 0	15,16,20 Jan. 1979	(5)
2211 HDFG: 0	1,2 Aug. 1979	(5)
2212 HDFG: to excluded from future censuses due to non-use	beginning July 1981	(5)

Ku Tree

2213 HDFG: 0	15,16,20 Jan. 1979	(5)
2214 HDFG: 0	1,2 Aug. 1979	(5)
2215 HDFG: 0	31 July,1 Aug. 1980	(5)
2216 HDFG: 0	12 Jan. 1981	(5)
2217 HDFG: to be excluded from future censuses due to non-use	beginning July 1981	(5)

KAHANA

Huilua Pond

2218 HDFG: 2	13-15 Jan. 1970	(1)
2219 HDFG: 12	7 Aug. 1970	(1)
2220 HDFG: 4	1 Aug. 1975	(1)
2221 HDFG: 0	15 Jan. 1976	(2)
2222 HDFG: 0	4,5 Aug. 1976	(2)
2223 HDFG: 0	13 Jan. 1977	(2)
2224 HDFG: 0	27,28 July 1977	(2)
2225 HDFG: 0	12,13 Jan. 1978	(2)

2226 HDFG: 0	15,16,20 Jan. 1979	(5)
2227 HDFG: 0	1,2 Aug. 1979	(5)
2228 HDFG: 0	31 July, 1 Aug. 1980	(5)
2229 HDFG: 0	12 Jan. 1981	(5)
2230 HDFG: to be excluded from future censuses due to non-use	beginning July 1981	(5)

Kahana Bay Marsh/Stream/Fishponds

2231 4 seen	13 Jan. 1952	GRER52
2232 1 present	13 Feb. 1955	PYLL55
2233 12 seen	14 Aug. 1955	PYLB55
2234 ca. 12 seen	23 Oct. 1955	GOSG55
2235 HDFG: 8	4-10 Jan. 1956	(1)
2236 20 counted	25 Aug. 1956	STEE57
2237 HDFG: several seen (Fishponds)	23 Sep. 1956	HATG56
2238 16 seen	27 Sep. 1959	STEE59
2239 only a few seen	10 Jan. 1960	STEF60
2240 6 seen	11 Sep. 1960	ANON60d
2241 HDFG: 3	15-17 Jan. 1962	(1)
2242 HDFG: 16	13-16 Jan. 1967	(1)
2243 HDFG: 9	8-10 Jan. 1968	(1)
2244 HDFG: 6	13-15 Jan. 1970	(1)
2245 HDFG: 6	7 Aug. 1970	(1)
2246 HDFG: 2	27 July 1971	(1)
2247 HDFG: 4 (River)	1 Aug. 1975	(1)
2248 Shallenberger: counted a maximum of 3 in the stream above the road and a maximum of 7 in the lower marsh and fishpond ...no evidence of nesting	7 May, 31 July 1977	(3)

Molii Pond

2249 HDFG: 3	8-10 Jan. 1968	(1)
2250 Shallenberger: fishpond operator reported coots were more common in past years...none reported on May trips	10, 28 May 1977	(3)

Punaluu Fish Farm

2251 HDFG: 9	13 Jan. 1977	(2)
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WAIPAHU

Leeward College Taro

2252 HDFG: 0	1 Aug. 1975	(2)
2253 HDFG: 0	15 Jan. 1976	(2)

Pearl City (Waiawa) Unit, Pearl Harbor National Wildlife Refuge

2254 HDFG: 0	1 Aug. 1975	(2)
2255 HDFG: 0	15 Jan. 1976	(2)
2256 USFWS: 0	Jan. 1976	(13)
2257 USFWS: 0	Feb. 1976	(13)
2258 USFWS: 0	May 1976	(13)
2259 USFWS: 0	June 1976	(13)
2260 USFWS: 1	2 July 1976	(13)
2261 USFWS: 1	7 July 1976	(13)
2262 USFWS: 2	8 July 1976	(13)
2263 HDFG: 0	4,5 Aug. 1976	(2)
2264 USFWS: 0	Aug. 1976	(13)
2265 USFWS: 1	18 Sep. 1976	(13)
2266 USFWS: 0	Oct. 1976	(13)
2267 USFWS: 0	Nov. 1976	(13)
2268 USFWS: 0	Dec. 1976	(13)
2269 HDFG: 0	13 Jan. 1977	(2)
2270 USFWS: 0	Jan. 1977	(13)
2271 USFWS: 0	Feb. 1977	(13)
2272 USFWS: 0	Mar. 1977	(13)
2273 USFWS: 0	Apr. 1977	(13)
2274 USFWS: 0	May 1977	(13)
2275 USFWS: 0	June 1977	(13)
2276 HDFG: 0	27,28 July 1977	(2)
2277 USFWS: 0	July 1977	(13)
2278 USFWS: 0	Aug. 1977	(13)
2279 USFWS: 0	Oct. 1977	(13)
2280 USFWS: 0	Nov. 1977	(13)
2280a USFWS: 1, max. No. seen	2 Aug. 1976-	(45)
	27 Dec. 1977	
2281 USFWS: 0	Dec. 1977	(13)
2282 HDFG: 0	12,13 Jan. 1978	(2)

2283 USFWS: 0	Jan. 1978	(13)
2284 USFWS: 0	Feb. 1978	(13)
2285 USFWS: 0	Mar. 1978	(13)
2286 USFWS: 0	Apr. 1978	(13)
2287 USFWS: 0	May. 1978	(13)
2288 USFWS: 0	June 1978	(13)
2289 HDFG: 0	27,28,30 July 1978	(5)
2290 USFWS: 0	July 1978	(13)
2291 USFWS: 0	Aug. 1978	(13)
2292 USFWS: 0	Sep. 1978	(13)
2293 USFWS: 0	Oct. 1978	(13)
2294 USFWS: 0	Nov. 1978	(13)
2295 USFWS: 0	Dec. 1978	(13)
2296 HDFG: 0	15,16,20 Jan. 1979	(5)
2297 USFWS: 0	Jan. 1979	(13)
2298 USFWS: 0	Feb. 1979	(13)
2299 HDFG: 0	1,2 Aug. 1979	(5)
2300 USFWS: 0	Sep. 1979	(13)
2301 USFWS: 0	Oct. 1979	(13)
2302 USFWS: 0	Nov. 1979	(13)
2303 USFWS: 0	Dec. 1979	(13)
2304 HDFG: 0	14,15 Jan. 1980	(5)
2305 USFWS: 0	Jan. 1980	(13)
2305aUSFWS: 0, ave. daily use	15 Nov.-15 Dec. 1981	(13)
2305bUSFWS: 0, ave. daily use	16 Dec. 1981-	(13)
	15 Jan. 1982	
2305cUSFWS: 1, ave. daily use	16 Jan.-15 Feb. 1982	(13)
2305dUSFWS: not censused	16 Feb.-31 Mar. 1982	(13)
2305eUSFWS: 0, ave. daily use	April 1982	(13)
2305fUSFWS: 0, ave. daily use	May 1982	(13)
2305gUSFWS: 0, ave. daily use	June 1982	(13)

Sumida Watercress Farm/Waiiau

2306 4 seen	10 Sep. 1961	ROCR61
2307 HDFG: 0	1 Aug. 1975	(2)
2308 HDFG: 0	15 Jan. 1976	(2)
2309 HDFG: 0	4,5 Aug. 1976	(2)

Ted Makalena Golf Course

2310 HDFG: 0 1 Aug. 1975 (1)
 2311 HDFG: 0 15 Jan. 1976 (2)

Waimalu

2312 HDFG: 3 14 Jan. 1965 (1)
 2313 HDFG: 1 13,14 Jan. 1966 (1)

KANEOHE

Heeia Pond

2314 HDFG: 7 8-10 Jan. 1968 (1)
 2315 present (June 1975) GAGW75
 2316 HDFG: 0 15 Jan. 1976 (2)
 2317 HDFG: 0 4,5 Aug. 1976 (2)
 2318 Shallenberger: seen on the marsh on all surveys (7 May;
 24-28 Aug.)...maximum of 5 (1977) (3)
 2319 HDFG: 4 (wetlands) 12,13 Jan. 1978 (2)
 2320 HDFG: 3 27,28,30 July 1978 (5)
 2321 HDFG: 0 27,28,30 July 1978 (5)
 2322 HDFG: 0 (wetlands) 15,16,20 Jan. 1979 (5)
 2323 HDFG: 0 (marsh) 1,2 Aug. 1979 (5)
 2324 HDFG: 3 (wetlands) 14-16 Jan. 1980 (5)

Kahaluu

2325 HDFG: 0 4,5 Aug. 1976 (2)

MAKAPU

Kaelepulu Pond

2326 Northwood: many scattered...many nests in 2 rush islets 29 Apr. 1934 (20)
 2327 Northwood: 2 nests with eggs 14 Apr. 1935 (20)
 2328 Northwood: numbers present 11 Nov. 1935 (20)
 2329 Northwood: nest with 5 eggs 4 July 1937 (20)
 2330 Northwood: 100's...3 nests found 16 Jan. 1938 (20)

2331	Northwood: many nests	3 July 1938	(20)
2332	Northwood: 100's scattered...4 nests found...Pond is about 275 acres...about 1,300 yards across	13 Nov. 1938	(20)
2333	Northwood: present...several nests found	12 Mar. 1939	(20)
2334	Northwood: seen	26 Mar. 1939	(20)
2335	Northwood: nest with 3 eggs found	24 May 1939	(20)
2336	Northwood: 2 nests	4 July 1939	(20)
2337	Northwood: many	5 Nov. 1939	(20)
2338	Northwood: 2 nests	30 Dec. 1939	(20)
2339	Northwood: many empty nests and 1 with 3 eggs	18 Feb. 1940	(20)
2340	Northwood: nest with 6 eggs	26 May 1940	(20)
2341	Northwood: 200-300 present	27 Oct. 1940	(20)
2342	everywhere...loose rafts on the water	23 Dec. 1945	PETR46
2343	at least 1,000 counted	4 Jan. 1947	DONW47
2344	vast number...estimate of 1,000 generally agreed upon	9 Feb. 1947	KLER47
2345	counted 500...estimated an additional 500 in one flock... the maximum concentration we saw anywhere	6 Apr. 1947	SCHC52
2346	8 nests in a very limited examination of part of the marshy cover	6 Apr. 1947	SCHC52
2347	number of nests	19 Apr. 1947	DONW47
2348	counted 48 nests during an examination of the outer margin of the marsh vegetation along approximately one-half of the shore...more nests probably would have been found had we inspected the denser plant growth bordering the Pond	14 May 1947	SCHC52
2349	several hundred	9 Nov. 1947	HAMI47
2350	105, Christmas Count	21 Dec. 1947	HATG48
2351	883, Christmas Count	26 Dec. 1948	ROCR49
2352	formed a dense black mass...too distant for any estimate of numbers	24 Sep. 1949	HATG49
2353	486, Christmas Count	26 Dec. 1949	HATG50b
2354	653, Christmas Count	28 Dec. 1952	ANON53d
2355	sharp decrease of migratory birds due to botulism	16 Jan. 1953	ANON53d
2356	120, Christmas Count	26 Dec. 1954	ANON55d
2357	HDFG: 1,895	Jan. 1955	(2)
2358	HDFG: 1,485...drained last year...filled with (rain from) winter storms	Jan. 1955	(1)
2359	a number present	24 Apr. 1955	POLC55
2360	91, Christmas Count...completely dry until heavy rains just a few days before the count	26 Dec. 1955	ANON56
2361	HDFG: 361	4-10 Jan. 1956	(1)

2362 2 nests found	30 Mar. 1957	HANC57
2363 60 counted, Pond practically dry	28 Apr. 1957	ROCR57
2364 155 counted	8 Jan. (1958)	UDVM60
2365 HDFG: 129	14-17 Jan. 1958	(1)
2366 large numbers	23 Mar.-14 Apr. 1958	EASW58
2367 none seen	7,28 Oct. (1958)	UDVM60
2368 80 counted	30 Oct. (1958)	UDVM60
2369 350 estimated	20,27 Nov. (1958)	UDVM60
2370 none seen	11 Dec. 1958	UDVM60
2371 HDFG: 200	7-16 Jan. 1959	(1)
2372 seen	23 Feb. 1959	HANC59a
2373 none seen...nesting habitat mostly destroyed	30 Apr. 1959	UDVM60
2374 none reported...entire area being filled and houses are being built...how can this (Pond) be called "Enchanted Lake" when...birds, vegetation and fish...being destroyed	11 Sep. 1960	ANON60d
2375 HDFG: 111	10-13 Jan. 1961	(1)
2376 100 seen	20 Aug. 1961	ORDW61
2377 seen	14 Oct. 1961	ORDW61
2378 0, Christmas Count	31 Dec. 1961	ANON62
2379 51, Christmas Count	23 Dec. 1962	ANON62
2380 HDFG: 27	14-18 Jan. 1963	(1)
2381 40, Christmas Count	29 Dec. 1963	ANON64
2382 HDFG: 26	15 Jan. 1964	(1)
2383 32, Christmas Count	27 Dec. 1964	ANON65
2384 HDFG: 19	14 Jan. 1965	(1)
2385 110 counted	16,17 July 1965	DONW65
2386 USFWS: 7	26 Nov. 1965	(12)
2387 17, Christmas Count	2 Jan. 1966	ANON66c
2388 HDFG: 12	13,14 Jan. 1966	(1)
2389 31, Christmas Count	26 Dec. 1966	ANON67a
2390 HDFG: 22	13-16 Jan. 1967	(1)
2391 9, Christmas Count	31 Dec. 1967	ANON68
2392 HDFG: 12	8-10 Jan. 1968	(1)
2393 HDFG: 29	24 July 1968	(1)
2394 HDFG: 5	24 July 1969	(1)
2395 HDFG: 9	13-15 Jan. 1970	(1)
2396 HDFG: 2	7 Aug. 1970	(1)
2397 HDFG: 8	27 July 1971	(1)
2398 HDFG: 20	8 Aug. 1973	(1)
2399 HDFG: 9, heavy rains scattered birds	1-5 Aug. 1974	(1)

2400 HDFG: 9	1 Aug. 1975	(1)
2401 HDFG: 6	15 Jan. 1976	(2)
2402 HDFG: 14	4,5 Aug. 1976	(2)
2403 HDFG: 6	13 Jan. 1977	(2)
2404 HDFG: 7	27,28 July 1977	(2)
2405 HDFG: 0 (Flood Control)	27,28 July 1977	(2)
2406 Shallenberger: recorded a maximum of 6 on our surveys (3 June, 15 July, 24 Aug.)...all feeding in shallow water near the channelized inlet	(1977)	(3)
2407 HDFG: 7	12,13 Jan. 1978	(2)
2408 HDFG: 0	12,13 Jan. 1978	(2)
2409 HDFG: 7	27,28,30 July 1978	(5)
2410 HDFG: 0 (Flood Control)	15,16,20 Jan. 1979	(5)
2411 HDFG: 2	15,16,20 Jan. 1979	(5)
2412 HDFG: 0 (Flood Control)	1,2 Aug. 1979	(5)
2413 HDFG: 6	1,2 Aug. 1979	(5)

Campos Ranch (Kaelepulu Pond area)

2414 8 seen	16,17 July 1965	DONW65
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Kailua

2415 shot, near Kailua	17 May 1825	BLOA25
2416 2 seen in drainage area opposite Wigwam Store	8 Nov. 1970	MULW71

Kaneohe Naval/Marine Corps Air Station

2417 53, Christmas Count	21 Dec. 1947	HATG48
2418 44 counted	4 Jan. 1948	WOOD48
2419 32, Christmas Count	26 Dec. 1948	PORR49
2420 147, Christmas Count	26 Dec. 1949	HATG50b
2421 24, Christmas Count	31 Dec. 1950	HATG50b
2422 17, Christmas Count	31 Dec. 1951	ANON52
2423 4, Christmas Count	28 Dec. 1952	ANON53d
2424 seen	18 Jan. 1953	ANON53d
2425 21 seen	22 Feb. 1953	ROCR53
2426 50+ (Nuupia Pond)	11 Apr. 1953	BARD53
2427 11 seen	22 Nov. 1953	HATG54
2428 30, Christmas Count	26 Dec. 1953	ANON54

2429 ca. 30 seen
 2430 a few seen
 2431 25, Christmas Count
 2432 only 1 in sight
 2433 2 seen
 2434 23, Christmas Count
 2435 HDFG: 7
 2436 37, Christmas Count
 2437 HDFG: 3
 2438 USFWS: 0
 2439 HDFG: 0
 2440 HDFG: 0
 2441 HDFG: 0
 2442 HDFG: 0
 2443 HDFG: 0
 2444 HDFG: 0 (Nuupia)
 2445 HDFG: 0 (Sewage)
 2446 HDFG: 0 (Nuupia)
 2447 HDFG: 0 (Sewage)
 2448 HDFG: 0 (Nuupia)
 2449 HDFG: 0 (Nuupia)
 2450 HDFG: 0 (Sewage)
 2451 HDFG: 0 (Nuupia)
 2452 HDFG: 0 (Sewage)

24 July 1954 PYLR54
 10 Oct. 1954 GOSG54
 26 Dec. 1955 ANON56
 20 Mar. 1955 LABA55b
 22 May 1955 PYLR55
 26 Dec. 1955 ANON56
 4-10 JAn. 1956 (1)
 23 Dec. 1956 HATG57
 14-17 Jan. 1958 (1)
 8 Jan. 1968 (12)
 1 Aug. 1975 (2)
 15 Jan. 1976 (2)
 4,5 Aug. 1976 (2)
 13 Jan. 1977 (2)
 27,28 July 1977 (2)
 12,13 Jan. 1978 (2)
 12,13 Jan. 1978 (2)
 27,28,30 July 1978 (5)
 27,28,30 July 1978 (5)
 15,16,20 Jan. 1979 (5)
 1,2 Aug. 1979 (5)
 1,2 Aug. 1979 (5)
 14,15,16 Jan. 1980 (5)
 14,15,16 Jan. 1980 (5)

Kawainui

2453 Northwood:plentiful
 2454 12, Christmas Count
 2455 1, Christmas Count
 2456 many more than 5
 2457 35, Christmas Count
 2458 HDFG: 47
 2459 USFWS: 43
 2460 21, Christmas Count
 2461 HDFG: 21
 2462 USFWS: 5
 2463 7, Christmas Count
 2464 HDFG: 7
 2465 Banko: 3

11 Mar. 1934 (20)
 31 Dec. 1961 ANON62
 23 Dec. 1962 ANON62
 13 Jan. 1963 ORDW63
 29 Dec. 1963 ANON64
 15 Jan. 1964 (1)
 18 Aug. 1964 (12)
 27 Dec. 1964 ANON65
 14 Jan. 1965 (1)
 26 Nov. 1965 (12)
 2 Jan. 1966 ANON66c
 13,14 Jan. 1966 (1)
 22 Apr. 1966 (18)

2466 6, Christmas Count	26 Dec. 1966	ANON67a
2467 2, Christmas Count	31 Dec. 1967	ANON68
2468 USFWS: 1	8 Jan. 1968	(12)
2469 HDFG: 11	8-10 Jan. 1968	(1)
2470 HDFG: 12	24 July 1968	(1)
2471 22, Christmas Count	29 Dec. 1968	ANON69
2472 HDFG: 2	13,14 Jan. 1969	(1)
2473 water hyacinth has completely covered two small ponds which were open last year...and supported waterfowl	13,14 Jan. 1969	WALR69
2474 HDFG; 41	24 July 1969	(1)
2475 75, Christmas Count	28 Dec. 1969	ANON70
2476 HDFG: 9	13-15 Jan. 1970	(1)
2477 HDFG: 68	7 Aug. 1970	(1)
2478 15, Christmas Count	27 Dec. 1970	MULW71
2479 HDFG: 9	27 July 1971	(1)
2480 HDFG: 14	8 Aug. 1973	(1)
2481 HDFG: 7, heavy rains scattered birds	1-5 Aug. 1974	(1)
2482 lasaw 4 or 5	12,13 Mar. 1975	ANON75b
2483 HDFG: 12	1 Aug. 1975	(1)
2484 present	9(?) Aug. 1975	ANON75a
2485 HDFG: 3	15 Jan. 1976	(2)
2486 HDFG: 1 (Hamakua Drive)	4,5 Aug. 1976	(2)
2487 HDFG: 8	4,5 Aug. 1976	(2)
2488 HDFG: 5	13 Jan. 1977	(2)
2489 HDFG: 1, incl. Hamakua Drive	13 Jan. 1977	(2)
2490 HDFG: 17	27,28 July 1977	(2)
2491 HDFG: 0 (Hamakua Drive)	27,28 July 1977	(2)
2492 seen (along Quarry Rd)	week of 20 Nov. 1977	SHAR78
2493 Shallenberger: observed less frequently along Hamakua Drive than in Kawainui marsh...no nesting recorded...1,20, 23,28 May and 15 Aug.	(1977)	(3)
2494 Shallenberger: ...many were often missed on earlier surveys when counted from a distance...we counted as many as 19 on surveys on 1,20,23,28 May and 15 Aug....not likely that the marsh supports more than 20-30 coots on a regular basis...have found both found both active and abandoned nests	(1977)	(3)
2495 6 counted	7 Jan. 1978	PYLR78
2496 HDFG: 12	12,13 Jan. 1978	(2)
2497 HDFG: 2 (Hamakua Drive)	12,13 Jan. 1978	(2)
2498 pair reared 3 or 4 in flooded pasture along Hamakua Drive	May 1978	PYLR78

2498	only 1 fully grown young seen in partly dried up pasture along Hamakua Drive	16 June 1978	PYLR78
2499	HDFG: 0 (Kawainui Berm)	27,28,30 July 1978	(5)
2500	HDFG: 10 (main pond)	27,28,30 July 1978	(5)
2501	HDFG: 3 (Hamakua ditch)	27,28,30 July 1978	(5)
2502	HDFG: 0 Maunawili Stream (Kawainui Pasture)	27,28,30 July 1978	(5)
2503	HDFG: 4 (main pond)	15,16,20 Jan. 1979	(5)
2504	HDFG: 2 (Kawainui Pasture)	15,16,20 Jan. 1979	(5)
2505	HDFG: 4 Hamakua Ditch (Maunawili Stream)	15,16,20 Jan. 1979	(5)
2506	2 seen (Hamakua Dr.)	11 Feb. 1979	PYLR79
2507	HDFG: 2 (Kawainui Pasture)	1,2 Aug. 1979	(5)
2508	HDFG: 3 (main pond)	1,2 Aug. 1979	(5)
2509	HDFG: 0 (Kawainui Berm)	1,2 Aug. 1979	(5)
2510	HDFG: 2 Hamakua Ditch (Maunawili Stream)	1,2 Aug. 1979	(5)
2511	HDFG: 0 (Kawainui Pasture)	14,15,16 Jan. 1980	(5)
2512	HDFG: 0 (Kawainui Berm)	14,15,16 Jan. 1980	(5)
2514	HDFG: 3 (Kawainui below heiau)	14,15,16 Jan. 1980	(5)
2514	HDFG: 1 (main pond)	14,15,16 Jan. 1980	(5)
2515	HDFG: 4 Hamakua Drive (Maunawili Stream)	14,15,16 Jan. 1980	(5)
Holiday Mart Ditch/Wigwam			
2516	HDFG: 0	1 Aug. 1975	(1)
2517	HDFG: 0	15 Jan. 1976	(2)
Lanikai			
2518	HDFG: 0	27,28 July 1977	(2)
2519	3, Christmas Count	18 Dec. 1977	PYLR78
Olomana Saddle City			
2520	HDFG: 0	1,2 Aug. 1979	(5)
Kane Kai			
2521	HDFG: to be included in future censuses due to recent waterbird sightings	beginning July 1981	(5)

FUULOA

Apokaa

2522 HDFG: 4	15 Jan. 1964	(1)
2523 HDFG: 2	24 July 1968	(1)
2524 HDFG: 1	13-15 Jan. 1970	(1)
2525 HDFG: 5, heavy rains prior census scattered birds	1-5 Aug. 1974	(1)
2526 HDFG: 13	1 Aug. 1975	(1)
2527 HDFG: 14	15 Jan. 1976	(2)
2528 HDFG: 17	4, 5 Aug. 1976	(2)
2529 HDFG: 6	13 Jan. 1977	(2)
2530 HDFG: 13	27, 28 July 1977	(2)
2531 HDFG: 2	12, 13 Jan. 1978	(2)
2532 HDFG: 0	27, 28, 30 July 1978	(5)
2533 HDFG: 0	15, 16, 20 Jan. 1979	(5)
2534 HDFG: 0	1, 2 Aug. 1979	(5)
2535 HDFG: 0	14-16 Jan. 1980	(5)

Fort Kamehameha

2536 HDFG: 0	1 Aug. 1975	(1)
2537 HDFG: 0	15 Jan. 1976	(2)
2538 HDFG: 0	4, 5 Aug. 1976	(2)
2539 HDFG: 0	13 Jan. 1977	(2)
2540 HDFG: 0	27, 28 July 1977	(2)
2541 HDFG: 0	12, 13 Jan. 1978	(2)
2542 HDFG: 0	27, 28, 30 July 1978	(5)
2543 HDFG: 0	15, 16, 20 Jan. 1979	(5)
2544 HDFG: 0	1, 2 Aug. 1979	(5)
2545 HDFG: 0	14-16 Jan. 1980	(5)

Hickam Pond

2546 HDFG: 2, heavy rains prior census scattered birds	1-5 Aug. 1974	(1)
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Honouliuli Pond(s)

2547 HDFG: 2	15 Jan. 1964	(1)
2548 frequently observed on this and later trips...adult on	13 Feb. 1974	SHAR74

	nest 28 March...in the third of four 1-2 acre ponds		
2549	HDFG: 9	1 Aug. 1975	(2)
2550	HDFG: 0	15 Jan. 1976	(2)
2551	HDFG: 0	4,5 Aug. 1976	(2)
2552	HDFG: 0	27,28 July 1977	(2)
2553	HDFG: 1	12,13 Jan. 1978	(2)
2554	HDFG: 1	27,28,30 July 1978	(5)
2555	HDFG: 3	15,16,20 Jan. 1979	(5)
2556	HDFG: 2	1,2 Aug. 1979	(5)
2557	HDFG: 2	14-16 Jan. 1980	(5)

Pearl Harbor National Wildlife Refuge

2558	USFWS: 0, ave. daily use	Oct.-dec. 1979	(13)
2559	USFWS; 0, ave. daily use	Jan.-Mar. 1980	(13)
2560	USFWS; 6, ave. daily use	Apr.-June 1980	(13)
2561	USFWS; 6, ave. daily use	July-Sep. 1980	(13)
2562	USFWS; 6, ave. daily use	Oct.-Dec. 1980	(13)
2563	USFWS; 4, ave. daily use	Jan.-Mar. 1981	(13)
2564	USFWS; 10, ave. daily use	Apr.-June 1981	(13)
2565	USFWS; 5, ave. daily use	July-Sep. 1981	(13)

West Loch Unit (Honouliuli), Pearl Harbor National Wildlife Refuge

2566	HDFG: 0	1 Aug. 1975	(2)
2567	HDFG: 0	15 Jan. 1976	(2)
2568	USFWS: 0	Jan. 1976	(13)
2569	USFWS: 11	18 July 1976	(13)
2570	USFWS: 0	July 1976	(13)
2571	HDFG: 1	4,5 Aug. 1976	(2)
2572	USFWS: 1	10 Aug. 1976	(13)
2573	USFWS: 1	12 Aug. 1976	(13)
2574	USFWS: 0	Sep. 1976	(13)
2575	USFWS: 1	23 Oct. 1976	(13)
2576	USFWS: 1	14 Nov. 1976	(13)
2577	USFWS: 0	Dec. 1976	(13)
2578	HDFG: 0	13 Jan. 1977	(2)
2579	USFWS: 0	Jan. 1977	(13)
2580	USFWS: 0	Feb. 1977	(13)
2581	USFWS: 0	Mar. 1977	(13)

2582 USFWS: 1	2 Apr. 1977	(13)
2583 USFWS: 2	14 Apr. 1977	(13)
2584 USFWS: 2	15 Apr. 1977	(13)
2585 USFWS: 2	16 Apr. 1977	(13)
2586 USFWS: 2	17 Apr. 1977	(13)
2587 USFWS: 2	19 Apr. 1977	(13)
2588 USFWS: 1	24 Apr. 1977	(13)
2589 USFWS: 1	26 Apr. 1977	(13)
2590 USFWS: 2	5 May 1977	(13)
2591 USFWS: 2	8 May 1977	(13)
2592 USFWS: 2	12 May 1977	(13)
2593 USFWS: 3	19 May 1977	(13)
2594 USFWS: 2	20 May 1977	(13)
2595 USFWS: 2	23 May 1977	(13)
2596 USFWS: 1	26 May 1977	(13)
2597 USFWS: 2	2 June 1977	(13)
2598 USFWS: 1	3 June 1977	(13)
2599 USFWS: 1	6 June 1977	(13)
2600 USFWS: 2	12 July 1977	(13)
2601 USFWS: 2	14 July 1977	(13)
2602 HDFG: 0	27,28 July 1977	(2)
2603 USFWS: 0	Aug. 1977	(13)
2604 USFWS: 0	Sep. 1977	(13)
2605 USFWS: 0	Oct. 1977	(13)
2606 USFWS: 0	Nov. 1977	(13)
2607 Walker: 8, max. number seen	2 Aug. 1976-	(45)
	27 Dec. 1977	
2608 USFWS: 0	Dec. 1977	(13)
2609 HDFG: 0	12,13 Jan. 1978	(2)
2610 USFWS: 0	Jan. 1978	(13)
2611 USFWS: 0	Feb. 1978	(13)
2612 USFWS: 0	Mar. 1978	(13)
2613 USFWS: 0	Apr. 1978	(13)
2614 USFWS: 0	May 1978	(13)
2615 USFWS: 1	6 June 1978	(13)
2616 USFWS: 1	12 June 1978	(13)
2617 USFWS: 1	16 June 1978	(13)
2618 USFWS: 2	21 June 1978	(13)
2619 USFWS: 2	22 June 1978	(13)
2620 USFWS: 2	6 July 1978	(13)

2621 USFWS: 1	22 July 1978	(13)
2622 USFWS: 1	30 July 1978	(13)
2623 HDFG: 0	27,28,30 July 1978	(5)
2624 USFWS: 0	Aug. 1978	(13)
2625 USFWS: 0	Sep. 1978	(13)
2626 USFWS: 0	Oct. 1978	(13)
2627 Walker: 3 seen on 3 of 36 censuses, 1 maximum number censused more than once	28 Jan.-8 Nov. 1978	(45)
2628 USFWS: 0	Nov. 1978	(13)
2629 USFWS: 0	Dec. 1978	(13)
2630 HDFG: 0	15,16,20 Jan. 1979	(5)
2631 USFWS: 0	Jan. 1979	(13)
2632 USFWS: 0	Feb. 1979	(13)
2633 USFWS: 0	Mar. 1979	(13)
2634 HDFG: 8	1,2 Aug. 1979	(5)
2635 USFWS: 0	Sep. 1979	(13)
2636 USFWS: 4	Oct. 1979	(13)
2637 USFWS: 1	26 Nov. 1979	(13)
2638 USFWS: 5	6 Dec. 1979	(13)
2639 USFWS: 2	13 Dec. 1979	(13)
2640 HDFG: 0	14-16 Jan. 1980	(5)
2641 USFWS: 20 ad. + 4 young	15 Nov.-15 Dec. 1981	(13)
2642 USFWS: 10	16 Dec. 1981-	(13)
	15 Feb. 1982	
2643 USFWS: 18 ad. + 4 young	16 Jan.-15 Feb. 1982	(13)
2644 USFWS: 12	16 Feb.-31 Mar. 1982	(13)
2645 USFWS: 4 ad. + 1 young	Apr. 1982	(13)
2646 USFWS: 4	May 1982	(13)
2647 USFWS: 6 ad. + 3 young	June 1982	(13)

West Loch

2648 3 seen	29 Jan. 1956	GOSG56
2649 numerous	12 Feb. 1956	BALH56
2650 3 seen	28 Oct. 1956	HANC57
2651 5 seen	25 Nov. 1956	HANC57
2652 18 counted	13 Jan. 1957	ROCR57
2653 large numbers	26 Jan. 1958	LABA58
2654 present	9 Nov. 1958	HANC58
2655 large flock indicated...mangrove swamp	14 Jan. 1962	MENM62

2656 a few	11 Mar. 1962	MENM62
2657 1 seen	11 Sep. 1966	ORDW66
2658 9 counted	8 Mar. 1970	MULW70
2659 12 (mudflats)	13 Sep. 1970	ANON71
2660 more than 50...consistently use the area for feeding and perhaps breeding	(18 Oct. 1971)	KAIC71c
2661 2 present (mudflats)	9 Jan. 1972	MULW72
2662 12 or so (tide was too high)	27 Aug. 1972	KAIC72
2663 8 sighted	10 Sep. 1972	MULW72

Prawn Pond bordering West Loch

2664 Shallenberger: frequently observed	13 Feb. 1974	(27)
2665 Shallenberger: 1 on nest with 1 egg	17 Mar. 1974	(27)
2666 Shallenberger: adult with 5-egg nest	19 Mar. 1974	(27)
2667 Shallenberger: pair seen, 1 incubating	29 Mar. 1974	(27)
2668 Shallenberger: all eggs hatched, 2 chicks seen	15 Apr. 1974	(27)

Waikele

2669 HDFG: 16	14-17 Jan. 1958	(1)
2670 HDFG: 4	14-18 Jan. 1963	(1)
2671 HDFG: 6	15 Jan. 1964	(1)
2672 HDFG: 13	14 Jan. 1965	(1)
2673 HDFG: 13	13,14 Jan. 1966	(1)
2674 HDFG: 22	13-16 Jan. 1967	(1)
2675 HDFG: 5	8-10 Jan. 1968	(1)
2676 HDFG: 15 (Sump)	24 July 1968	(1)
2677 HDFG: 47 (Flat)	24 July 1968	(1)
2678 HDFG: 6	13,14 Jan. 1969	(1)
2679 HDFG: 7 (Dump)	24 July 1969	(1)
2680 HDFG: 3 (Flat)	24 July 1969	(1)
2681 HDFG: 11	13-15 Jan. 1970	(1)
2682 HDFG: 22 (Dump, Flat)	7 Aug. 1970	(1)
2683 HDFG: 10 (Harbor, Flat)	7 Aug. 1970	(1)
2684 HDFG: 6, heavy rains prior census scattered birds	1-5 Aug. 1974	(1)
2685 HDFG: 9	1 Aug. 1975	(1)
2686 HDFG: 20	15 Jan. 1976	(2)
2687 HDFG: 3	4,5 Aug. 1976	(2)
2688 HDFG: 6	13 Jan. 1977	(2)

2689 HDFG: 2
 2690 HDFG: 11
 2691 HDFG: 0
 2692 HDFG: 0
 2693 HDFG: 0

27,28 July 1977 (2)
 12,13 Jan. 1978 (2)
 15,16,20 Jan. 1979 (5)
 1,2 Aug. 1979 (5)
 14-16 Jan. 1980 (5)

Waipio

2694 150-200, principally stilt, coot, plover in old salt Ponds
 2695 HDFG: 18
 2696 HDFG: 1
 2697 11 counted
 2698 20 counted (mudflats)
 2699 ca. 15 present (ponds)
 2700 1 seen (in bay a halfmile beyond old settling ponds)
 2701 HDFG: 2
 2702 a few present
 2703 6 seen (bay area)
 2704 HDFG: 17

11 Nov. 1962 TITM62
 14-18 Jan. 1963 (1)
 15 Jan. 1964 (1)
 11 Oct. 1964 ROCR64
 8 July (1965) DONW65
 10 Sep. 1967 GAUD67
 GAUJ68
 24 July 1968 (1)
 25 Oct. 1968 KAIC68
 1 Oct. 1969 MULW69
 27,28 July 1977 (2)

Waipio settlement Basins

2705 20+ in general area
 2706 0 since 21 Sep.
 2707 0 seen
 2708 0 reported
 2709 0 reported (incl. dump area)
 2710 HDFG: 0
 2711 28 counted
 2712 HDFG: 22
 2713 7 found (South Pond complex)
 2714 HDFG: 29
 2715 HDFG: 0
 2716 HDFG: 16

17 Sep. (1969) MULW69
 9 Oct.-30 Nov. 1969 MULW70
 13 Sep. 1970 ANON71
 (12 Sep. 1971) MULW71
 10 Oct. 1971 MULW71
 1 Aug. 1975 (2)
 12 Oct. 1975 BURT75
 4,5 Aug. 1976 (2)
 9 July 1978 PYLR78
 15,16,20 Jan. 1979 (5)
 1,2 Aug. 1979 (5)
 14,15,16 Jan. 1980 (5)

Walker's bay, West Loch

2717 HDFG: 4
 2718 HDFG: 2

24 July 1968 (1)
 24 July 1969 (1)

2719 seen	12 Oct. 1969	KAIC69
2720 5+ seen	30 Aug. 1969	MULW69
2721 5+ seen	31 Aug. 1969	MULW69
2722 8 counted	1 Sep. 1969	MULW69
2723 8 counted	3 Sep. 1969	MULW69
2724 6 counted	6 Sep. 1969	MULW69
2725 9 counted	11,15 Nov. 1969	MULW70
2726 6-8 consistently (13 visits)	9 Oct.-30 nov. 1969	MULW70
2727 3 seen	8 Mar. 1970	MULW70
2728 HDFG: 5	7 Aug. 1970	(1)
2729 4 seen	13 Sep. 1970	ANON71
2730 6 seen	11 Oct. 1970	MULW71
2731 2 seen	8 Nov. 1970	MULW71
2732 HDFG: 5	27 July 1971	(1)
2733 12 present	27 Aug. 1972	KAIC72
2734 7 sighted	10 Sep. 1972	MULW72
2735 4 seen	14 Jan. 1973	WINW73
2736 HDFG: 5	8 Aug. 1973	(1)
2737 10 spotted	14 Oct. 1973	SHAR74
2738 saw 1	8 Dec. 1974	WILE75
2739 notable absence	9 Feb. 1975	SEAW75
2740 HDFG: 4	1 Aug. 1975	(1)
2741 HDFG: 3	15 Jan. 1976	(2)
2742 HDFG: 4	4,5 Aug. 1976	(2)
2743 HDFG; 2	13 Jan. 1977	(2)
2744 HDFG: 2	27,28 July 1977	(2)
2745 HDFG: 3	12,13 Jan. 1978	(2)
2746 HDFG: 0	27,28,30 July 1978	(5)
2747 HDFG: 0	15,16,20 Jan. 1979	(5)
2748 HDFG: 0	1,2 Aug. 1979	(5)
2749 HDFG: 0	14,15,16 Jan. 1980	(5)

Waipio Peninsula

2750 HDFG: 1	15 Jan. 1976	(2)
2751 HDFG: 36	13 Jan. 1977	(2)
2752 2 seen	11 Sep. 1977	STEM77
2753 8, Christmas Count	18 Dec. 1977	STEM78
2754 HDFG: 14	12,13 Jan. 1978	(2)
2755 8 counted	9 July 1978	LEPJ78

2756 HDFG: 16	27,28,30 1978	(5)
2757 14, Christmas Count	16 Dec. 1978	STEM79
2758 seen	12 Oct. 1980	DONP80
2759 numerous	15 Sep. 1981	PYLR81
 Big Pond, Waipio Peninsula		
2760 USFWS: 25	18 July 1976	(13)
2761 52 dropping to 20 as pond dried	5 Sep. 1976	PYLR77
2762 1 or 2 seen several times	fall of 1976	PYLR77
2763 35 counted	6 Jan. 1977	PYLR77
 Waipio Sewage Pond		
2764 HDFG: 2	1 Aug. 1975	(1)
2765 HDFG: 0	4,5 Aug. 1976	(2)
2766 HDFG: 0	15,16,20 Jan. 1979	(5)
2767 HDFG: 0	1,2 Aug. 1979	(5)
2768 HDFG: 0	14-16 Jan. 1980	(5)
 Waipio Airstrip Mudflats		
2769 7 present	2 Nov. 1968	KAIC68
2770 12 seen	28 Nov. 1968	KAIC69
2771 6 seen	8 Dec. 1968	KAIC69
2772 1 present	12 Jan. 1969	HODP69
2773 1 seen	9 Mar. 1969	KAIC69
2774 large group of auku'u and coot	14 Sep. 1969	DONW69
 Waipahu Flats/Dump		
2775 19 counted	6 Sep. 1953	TITM53
2776 seen	10 Jan. 1954	LABA54
2777 8-15 seen	22 Aug. 1954	PEDB54
2778 10 at least	13 Feb. 1955	PYLL55
2779 plentiful	14 Aug. 1955	PYLB55
2780 8 seen	13 Nov. 1955	WILE56
2781 present	10 Aug. 1958	SMAM58
2782 none reported, great changes are taking place (clearing for housing)...mangroves encroaching	18 Feb. 1961	HATG61b

2783 3 seen	26 Nov. 1965	DONW66
2784 Banko: 11	15 Apr. 1966	(18)
2785 HDFG: 7	27 July 1971	(1)
2786 none seen...dry and apparently pau	27 Aug. 1972	KAIC72
2787 HDFG: 3	8 Aug. 1973	(1)
2788 HDFG: 2	1 Aug. 1975	(1)
2789 HDFG: 2	15 Jan. 1976	(2)
2790 HDFG: 0	4,5 Aug. 1976	(2)
2791 HDFG: 0	13 Jan. 1977	(2)
2792 HDFG: 0	27,28 July 1977	(2)
2793 HDFG: 2	12,13 Jan. 1978	(2)
2794 HDFG: 0	27,28,30 July 1978	(5)
2795 HDFG: 0	15,16,20 Jan. 1979	(5)
2796 HDFG: 0	1,2 Aug. 1979	(5)
2797 HDFG: 0	14-16 Jan. 1980	(5)
 Loko Ea		
2798 HDFG: 0	4,5 Aug. 1976	(2)
 Puuloa Rifle Range		
2799 present	1 Oct. 1956	KINJ56
2800 3 seen	28 Oct. 1956	HANC57
2801 12 counted	25 Nov. 1956	HANC57
2802 1 seen	27 Oct. 1957	SMAM57
2803 none seen	9 Nov. 1958	HANC58
 HONOLULU		
 Honolulu		
2804 seen towards Waikiki	12 May 1825	BLOA25
2805 Woodside: old nests found near the Honolulu Seed Co.... Kapiolani Blvd.	(1943)	MUNG49b
 Diamond Head Crater		
2806 Banko: Bryan collected 2 specimens	5 Mar. 1907	(10)

Keehi Lagoon/Islands

2807 HDFG: 0
 2808 HDFG: 0
 2809 HDFG: 0
 2810 HDFG: 0
 2811 HDFG: 0
 2812 HDFG: 0
 2813 HDFG: 0
 2814 HDFG: 0
 2815 HDFG: 0
 2816 HDFG: 0

24 July 1968 (1)
 15 Jan. 1976 (2)
 4,5 Aug. 1976 (2)
 13 Jan. 1977 (2)
 27,28 July 1977 (2)
 12,13 Jan. 1978 (2)
 27,28,30 July 1978 (5)
 15,16,20 Jan. 1979 (5)
 1,2 Aug. 1979 (5)
 14-16 Jan. 1980 (5)

Moanalua Fishponds (in rear of Gardens)

2817 seen
 2818 10 counted
 2819 very frequently found
 2820 6 noted
 2821 only 2
 2822 5 seen
 2823 ca. 7
 2824 15 seen
 2825 18 seen
 2826 18 seen
 2827 17 seen
 2828 18 seen

13 Nov. 1943 JOHE43
 15 Nov. 1943 ANON44
 (1944) CANH44
 10 Feb. 1946 WEBJ46
 8 Feb. 1948 CLAM48
 9 July 1950 HATG50
 9 Dec. 1950 PETH51
 11 Apr. 1953 BARD53
 9 Aug. 1953 ROCR53
 23 Aug. 1953 CHAH53
 27 Sep. 1953 HATG53
 25 Oct. 1953 GOSG53

Moanalua, Kalihi Flats

2829 130 seen
 2830 100 seen
 2831 225 seen
 2832 150 seen
 2833 236 seen
 2834 200 seen
 2835 perhaps 100

12 Sep. (1944) COGH45
 14 Oct. (1944) COGH45
 4 Nov. (1944) COGH45
 14 Dec. (1944) COGH45
 17 Dec. (1944) COGH45
 21 Dec. (1944) COGH45
 23 Dec. 1945 PETR46

Damon (Estate) Pond

2836	2 seen...Pond close to Airport...erstwhile beauty is gone, along with abundant birdlife	12 Oct. 1952	TITM52
2837	a few seen...Pond fallen into a sad state	28 Feb. 1954	BOTI54
2838	2 seen	22 Aug. 1954	PEDB54
2839	1 seen	13 Feb. 1955	PYLL55
2840	7 seen	14 Aug. 1955	PYLB55
2841	7 seen	13 Nov. 1955	WILE56
2842	4 seen	15 Jan. 1956	KINJ56
2843	4 seen	29 Jan. 1956	GOSG56
2844	2 seen	12 Feb. 1956	BALH56
2845	1 seen	9 Sep. 1956	KOJU56
2846	1 seen	14 Oct. 1956	ROCR56c
2847	none seen	26 Jan. 1958	LABA58
2848	none seen...completely filled and the houses are being moved away to make room for the highway	10 Sep. 1960	ANON60

Nuuanu Valley Reservoir(s)

2849	Northwood: 1 seen (NO. 3 Reservoir)	27 Oct. 1940	(20)
2850	Northwood: 1 seen (NO. 3 Reservoir)	3 Nov. 1940	(20)
2851	3 seen on Upper Reservoir	14 May 1961	JOHH61a
2852	2 or 3...Reservoir along Old Pali Road	30 Aug. 1961	LABA61
2853	28, Christmas Count	23 Dec. 1962	ANON62
2854	21, Christmas Count	29 Dec. 1963	ANON64
2855	ca. 12 seen in small pond along Old Pali Road	9 Feb. 1964	ORDW64
2856	additional coots seen along another small pond along Old Pali Road	9 Feb. 1964	ORDW64
2857	5, Christmas Count	27 Dec. 1964	ANON65
2858	HDFG: 4	14 Jan. 1965	(1)
2859	pair seen	12 Sep. 1965	KOJU65
2860	8, Christmas Count	2 Jan. 1966	ANON66c
2861	Banko: 0, Reservoir No. 1	13 Jan. 1966	(18)
2862	Banko: 6, Reservoir No. 2	13 Jan. 1966	(18)
2863	Banko: 3, Reservoir No. 3	13 Jan. 1966	(18)
2864	Banko: 0, Reservoir No. 4	13 Jan. 1966	(18)
2865	HDFG: 9	13,14 Jan. 1966	(1)
2866	Banko: 6, Reservoir No. 2	20 Apr. 1966	(18)
2867	Banko: 2, Reservoir No. 3	20 Apr. 1966	(18)

2868 Banko: 6, Reservoir No. 2	21 Apr. 1966	(18)
2869 Banko: 5, Reservoir No. 2	22 Apr. 1966	(18)
2870 present, lower Reservoir	5 June (1966)	DONW67
2871 Banko: 4, Reservoir No. 2	1 July 1966	(18)
2872 several seen on reservoir along Old Pali Road	(17 Nov. 1966)	ORDW67
2873 7, Christmas Count	26 Dec. 1966	ANON67a
2874 HDFG: 11	13-16 Jan. 1967	(1)
2875 noticed 1 on reservoir along Old Pali Highway	4 Nov. (1967)	DONW68
2876 seen	31 Dec. 1967,	ORER68
	1 Jan. 1968	
2877 HDFG: 2	8-10 Jan. 1968	(1)
2878 1 seen	31 Dec. 1968	DONW68
2879 HDFG: 1	13,14 Jan. 1969	(1)
2880 HDFG: 4	24 July 1969	(1)
2881 1 or more can sometimes be observed on the reservoir along the Old Pali Road	(1970)	BERA70
2882 HDFG: 4	13-15 Jan. 1970	(1)
2883 HDFG: 11	7 Aug. 1970	(1)
2884 HDFG: 12	27 July 1971	(1)
2885 HDFG: 8	8 Aug. 1973	(1)
2886 HDFG: 5, heavy rains scattered birds	1-5 Aug. 1974	(1)
2887 HDFG: 2, lower Reservoir	1 Aug. 1975	(1)
2888 HDFG: 5, middle Reservoir	1 Aug. 1975	(1)
2889 HDFG: 11, upper Reservoir	1 Aug. 1975	(1)
2890 HDFG: 18	1 Aug. 1975	(2)
2891 HDFG: 17	15 Jan. 1976	(2)
2892 HDFG: 12	4,5 Aug. 1976	(2)
2893 HDFG: 27	13 Jan. 1977	(2)
2894 HDFG: 14	27,28 July 1977	(2)
2895 HDFG: 0	27,28 July 1977	(2)
2896 HDFG: 19, Reservoir No. 3 and 4	12,13 Jan. 1978	(2)
2897 HDFG: 0, Reservoir No. 2	12,13 Jan. 1978	(2)
2898 HDFG: 4, Reservoir No. 3 and 4	27,28,30 July 1978	(5)
2899 HDFG: 0, Reservoir No. 1	15,16,20 Jan. 1979	(5)
2900 HDFG: 4, Reservoir No. 2, 3 and 4	15,16,20 Jan. 1979	(5)
2901 HDFG: 0, Reservoir No. 2	1,2 Aug. 1979	(5)
2902 HDFG: 2, (Reservoir No. 3)	1,2 Aug. 1979	(5)
2903 HDFG: 25, Reservoir No. 4	1,2 Aug. 1979	(5)
2904 HDFG: 0, Reservoir No. 2	14,16 Jan. 1980	(5)
2905 HDFG: 7, Reservoir No. 3 and 4	14,15,16 Jan. 1980	(5)

2906 HDFG: 0, Reservoir No. 2	31 July, 1 Aug. 1980	(5)
2907 HDFG: 0, Reservoir No. 2	12 Jan. 1981	(5)
2908 HDFG: to be excluded from future censuses due to non-use	beginning July 1981	(5)

Salt Lake

2909 seen coming to roost	25 July 1937	(20)
2910 few pairs	23 Jan. 1938	(20)
2911 several hundred	22 Aug. 1954	PEDB54
2912 225 counted	13 Nov. 1955	WILE56
2913 HDFG: 108	4-10 Jan. 1956	(1)
2914 55 counted	15 Jan. 1956	KINJ56
2915 42 seen	29 Jan. 1956	GOSG56
2916 208, Christmas Count	23 Dec. 1956	HATG57
2917 HDFG: 215	1-31 Jan. 1957	(1)
2918 HDFG: 300	14-17 Jan. 1958	(1)
2919 1,000 estimated	26 Jan. 1958	LABA58
2920 many	23 Mar. 1958	ROSM59
2921 large numbers	23 Mar.-14 Apr. 1958	EASW58
2922 observed	10 Aug. 1958	SMAM58
2923 200 counted	4 Nov. 1958	UDVM60
2924 many	9 Nov. 1958	HANC58
2925 800+ seen	15 Nov. 1958	UDVM60
2926 500+ seen	9 Dec. 1958	UDVM60
2927 HDFG: 622	7-16 Jan. 1959	(1)
2928 plenty	22 Mar. 1959	RIGM59
2929 806, Christmas Count	27 Dec. 1959	ANON60
2930 at least 400 counted	10 Jan. 1960	STEF60
2931 nearly 1000	22 May 1960	MENM60
2932 0 reported...bulldozers have already started tearing down and uprooting the shrubbery	10 Sep. 1960	ANON60d
2933 780, Christmas Count	26 Dec. 1960	ANON61b
2934 seen	8 Jan. 1961	HATG61a
2935 HDFG: 600	10-13 Jan. 1961	(1)
2936 appx. 600	9 Apr. 1961	LUPD61
2937 100+...not the usual large number (strong winds)	25 June 1961	JOHH61b
2938 8 (telescope), Christmas Count	31 Dec. 1961	ANON62
2939 only a few seen from makai shore...disappointed...expected to see more	14 Jan. 1962	MENM62
2940 HDFG: 3	15-17 Jan. 1962	(1)

2941	80 counted quickly...a vast improvement from previous month when I couldn't get into double figures	16 Dec. 1962	ORDW63
2942	95, Christmas Count	23 Dec. 1962	ANON62
2943	HDFG: 104	14-18 Jan. 1963	(1)
2944	5 (telescope), Christmas Count	29 Dec. 1963	ANON64
2945	HDFG: 4	15 Jan. 1964	(1)
2946	3 (telescope), Christmas Count	27 Dec. 1964	ANON65
2947	HDFG: 23	14 Jan. 1965	(1)
2948	Banko: 2	13 Jan. 1966	(18)
2949	HDFG: 5	13,14 Jan. 1966	(1)
2950	(habitat) gone...approved for golf course development	(9 Sep. 1966)	ANON66c
2951	HDFG: 2	13-16 Jan. 1967	(1)
2952	HDFG: 5	13,14 Jan. 1969	(1)
2953	HDFG: 1	24 July 1969	(1)
2954	29 seen	4 Dec. 1969	DONW70
2955	numbers	11 Jan. 1970	ANON70
2956	HDFG: 14	13-15 Jan. 1970	(1)
2957	HDFG: 51	7 Aug. 1970	(1)
2958	a number of immatures...as it is now the lake offers only marginal prospects (for coots)	summer 1970	MULW72
2959	45 counted	13 Sep. 1970	ANON71
2960	40+ seen	10 Jan. 1971	MULW71
2961	HDFG: 56	27 July 1971	(1)
2962	36 counted...strong possibility of nesting...peninsula filled-in creating two separate bodies of water	(19 June 1972)	MULW72
2963	42 sighted	10 Sep. 1972	MULW72
2964	numbers ranged from 25-65 (14 trips)	Dec. 1969-Oct. 1972	HAWA73
2965	24 counted	(20 Oct. 1972)	HAWA73
2966	34 counted	12 Nov. 1972	WINW73
2967	82 censused	17 Dec. 1972	MULW72
2968	64 was greatest number observed at any one time in past 2 years	(1972)	MULW72
2969	35 seen	14 Jan. 1973	WINW73
2970	24 seen from 2 vantage points; partial count	9 July 1973	MULW73
2971	HDFG: 16	8 Aug. 1973	(1)
2972	12, Christmas Count	29 Dec. 1973	WILE74
2973	HDFG: 4, heavy rains prior census scattered birds	1-5 Aug. 1974	(1)
2974	HDFG: 0	1 Aug. 1975	(1)
2975	HDFG: 12	15 Jan. 1976	(2)
2976	HDFG: 25	4,5 Aug. 1976	(2)

2977 HDFG: 14	13 Jan. 1977	(2)
2978 HDFG: 11	27,28 July 1977	(2)
2979 4-5 counted regularly	winter 1977-1978	PYLR78
2980 HDFG: 5	12,13 Jan. 1978	(2)
2981 HDFG: 7	27,28,30 July 1978	(5)
2982 HDFG: 2	15,16,20 Jan. 1979	(5)
2983 HDFG: 10	1,2 Aug. 1979	(5)
2984 HDFG: 12	14-16 Jan. 1980	(5)
2985 HDFG: 11	27 Aug. 1980	(5)
2986 HDFG: 9	29 Sep. 1980	(5)
2987 HDFG: 9	31 Oct. 1980	(5)
2988 HDFG: 16	28 Nov. 1980	(5)
2989 HDFG: 12	29 Dec. 1980	(5)
2990 HDFG: 14	12 Jan. 1981	(5)

Kaau Crater

2991 Shallenberger: 3 seen in small pools...a marginal habitat	17 Aug. 1977	(3)
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KOKO HEAD

Bellows Air Force Base

2992 1, Christmas Count	26 Dec. 1954	ANON55
2993 HDFG: 16	14-18 Jan. 1963	(1)
2994 HDFG: 8	15 Jan. 1964	(1)
2995 HDFG: 6	14 Jan. 1965	(1)
2996 HDFG: 3	13,14 Jan. 1966	(1)
2997 HDFG: 4	13-16 Jan. 1967	(1)
2998 HDFG: 1	27 July 1971	(1)
2999 HDFG: 0	1 Aug. 1975	(2)
3000 HDFG: 0	15 Jan. 1976	(2)
3001 HDFG: 0	4,5 Aug. 1976	(2)
3002 HDFG: 0	13 Jan. 1977	(2)
3003 HDFG: 0	27,28 July 1977	(2)
3004 HDFG: 0	12,13 Jan. 1978	(2)
3005 HDFG: 0	27,28,30 July 1978	(5)
3006 HDFG: 0	15,16,20 Jan. 1979	(5)
3007 HDFG: 0	1,2 Aug. 1979	(5)
3008 HDFG: 0	14-16 Jan. 1980	(5)

3009 HDFG: 0	12 Jan. 1981	(5)
Kuapa Pond		
3010 1 or 2	23 Dec. 1945	PETR46
3011 8, Christmas Count	26 Dec. 1949	HATG50
3012 numerous	28 Apr. 1957	ROCR57
3013 0 found	11 May 1958	HATG58
3014 8 seen	8 Oct. 1961	HATG62
3015 12, Christmas Count	31 Dec. 1961	ANON62
3016 3 incl. 1 young	11 Mar. 1962	MENM62
3017 HDFG: 4	14 Jan. 1965	(1)
3018 1, Christmas Count	2 Jan. 1966	ANON66
3019 USFWS; 9	26 May 1966	(12)
3020 20+ seen	19,21 Oct. 1969	YUEH70
3021 HDFG: 0	4,5 Aug. 1976	(2)
Paiko Lagoon		
3022 HDFG: 1	4-10 Jan. 1956	(1)
3023 HDFG: 0	1 Aug. 1975	(2)
3024 HDFG: 0	15 Jan 1976	(2)
3025 HDFG: 0	4,5 Aug. 1976	(2)
3026 HDFG: 0	13 Jan. 1977	(2)
3027 HDFG: 0	27,28 July 1977	(2)
3028 HDFG: 0	12,13 Jan. 1978	(2)
3029 HDFG: 0	27,28,30 July 1978	(5)
3030 HDFG: 0	15,16,20 Jan. 1979	(5)
3031 HDFG: 0	1,2 Aug. 1979	(5)
3032 HDFG: 0	14-16 Jan. 1980	(5)
Waimanalo		
3033 observed repeatedly near Waimanalo	(June-July 1879)	FINO80
Island of Moloka'i		
ISLANDWIDE INFERENCE		
3034 HDFG: 20	14-17 Jan. 1958	(1)

3035	HDFG: 33	7-16 Jan. 1959	(1)
3036	HDFG: 27	4-8 Jan. 1960	(1)
3037	HDFG: 21	10-13 1961	(1)
3038	HDFG: 59	15-17 Jan. 1962	(1)
3039	HDFG: 48	14-18 Jan. 1963	(1)
3040	HDFG: 78	15 Jan. 1964	(1)
3041	HDFG: 4	13,14 Jan. 1966	(1)
3042	HDFG: 14	13-16 Jan. 1967	(1)
3043	HDFG: 0	8-10 Jan. 1968	(1)
3044	HDFG: 0	13,14 Jan. 1969	(1)
3045	HDFG: 48	9 Aug. 1969	(1)
3046	HDFG: 28	13-15 Jan. 1970	(1)
3047	HDFG: 31	8 Aug. 1973	(1)
3048	HDFG: 32	1 Aug. 1975	(2)
3049	HDFG: 34	4,5 Aug. 1976	(2)
3050	HDFG: 38	13 Jan. 1977	(2)
3051	Shallenberger: well established but recorded numbers vary widely...extreme variability in counts, often from year to year, lends evidence to the theory that coots regularly move from island to island...absence of a clear upward or downward trend also suggests that available habitat has not changed appreciably...now found in greatest numbers in two wetlands (Kaluaapuhi Pond, Kakahaia Pond) yet visit coastal fishponds as well.	(1977)	(3)
3052	HDFG: 41	12-13 Jan. 1978	(2)
3053	HDFG: 29	15,16,20 Jan. 1979	(5)
3054	HDFG: 18	1,2 Aug. 1979	(5)
3055	HDFG: 19	14-16 Jan. 1980	(5)
3056	HDFG: 20	31 July,1 Aug. 1980	(5)
3057	HDFG: 28	12-14 Jan. 1981	(5)

UNDESIGNATED LOCALITY

3058	Perkins: many seen...killed several...shot 2 in pond near Kaunakakai (?Kolokoeli)	18 July (1893)	(15)
3059	Banko: Palmer collected 4 specimens	Jan. -July 1893	(10)
3060	Banko: unknown collector obtained 1 specimen	Dec. 1902	(10)
3061	saw several with a white frontal knob and a red mark at the top of it, white bill with brownish spots near the tip	Jan. 1943	MUNG44
3062	reported to be commonly nesting on coastal ponds	June 1946	SCHC52

3063 young were numerous on coastal ponds	Aug. (1946)	SCHC52
3064 observed 3 nests...250...in rather compact flock on a 4 acre shallow coastal pond (?Kakahala)...greatest number we observed on Moloka'i	5 Sep. 1946	SCHC52
3065 inhabit the few coastal ponds	(1946-1947)	SCHC52
3066 50 at least at one beach area and a nearby pond...along drive from Kaunakakai toward Halawa Valley	(1961)	STEE61
3067 HDFG: occurs as a breeding population	(1969)	(7)
3068 HDFG: 0, East Molokai beach area	1 Aug. 1975	(1)

MULTIQUADRANGLE

3069 observed / on trip to east end of island and to overlook near Kalar	30 Apr. 1957	CURA58
3070 HDFG: 2, Lee Shores	12,13 Jan. 1978	(2)
3071 HDFG: 0, Lee Shores	27,28,30 July 1978	(5)
3072 HDFG: 0, Kamalo to Halawa	27,28,30 July 1978	(5)
3073 HDFG: 0, Lee Shores	1,2 Aug. 1979	(5)
3074 HDFG: 9, Kamalo to Halawa	1,2 Aug. 1979	(5)
3075 HDFG: 0, Lee Shores	14-16 Jan. 1980	(5)
3076 HDFG: 0, Kamalo to Halawa	14-16 Jan. 1980	(5)
3077 HDFG: 0, Kaunakakai to Kamalo	14-16 Jan. 1980	(5)

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QUADRANGLE / LOCALITY

ILIO POINT

Popohaku/Kalua Kai

3078 saw Coots swimming among the trees in pond after exceptionally heavy rain	ca. 1901	MUNG49b
3079 HDFG: 0	12,13 Jan. 1978	(2)
3080 HDFG: 0	27,28,30 July 1978	(5)
3081 HDFG: 0	15,16,20 Jan. 1979	(5)
3082 HDFG: 0	1,2 Aug. 1979	(5)
3083 HDFG: 0	14-16 Jan. 1980	(5)

MOLOKAI AIRPORT

Maunaloa/Maunaloa Golf Course

3084 HDFG: 0
3085 HDFG: 0

1 Aug. 1975 (1)
14-16 Jan. 1980 (5)

Moomomi

3086 HDFG: 0
3087 HDFG: 0
3088 HDFG: 0
3089 HDFG: 0
3090 HDFG: 0
3091 HDFG: 0

1 Aug. 1975 (1)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Palaau Pond- Mudflats

3092 to be seen on the mud flat
3093 abundant in the brackish fishponds
3094 USFWS; 0 (pond)
3095 HDFG: 0

(1907) BRYW08
(1955-1964) PEKN64 174
20 Aug. 1971 (12)
1 Aug. 1975 (1)

KAUNAKAKAI

Alii Fishpond

3096 HDFG: 0

1 Aug. 1975 (1)

Kalae (?Meyer Lake)

3097 met with (on small "romantic" lake at 2000 ft. elevation)
3098 HDFG: 0
3099 HDFG: 0

(ca. 1895) SCHH00
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Kaunakakai and Pier Area

3100 Banko: Perkins collected 2 specimens
3101 Shallenberger: ranged from 1-4 on 4 of 12 monthly surveys
by USFWS in 1976 (including Sewage Pond counts)

(1893) (10)
(1977) (3)

3102 HDFG: 1
3103 HDFG: 4
3104 HDFG: 0
3105 HDFG: 0
3106 HDFG: 4

12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

Kaunakakai Sewage Pond

3107 HDFG: 0
3108 USFWS: 2 (HDFG)
3109 USFWS: 1
3110 USFWS: 1
3111 USFWS: 3
3112 USFWS: 4
3113 USFWS: 0
3114 USFWS: 0
3115 USFWS: 0
3116 USFWS: 0
3117 USFWS: 0
3118 USFWS: 0
3119 USFWS: 0
3120 USFWS: 0
3121 USFWS: 2
3122 USFWS: 0
3123 USFWS: 0
3124 USFWS: 0
3125 USFWS: 0
3126 USFWS: 0
3127 USFWS: 0
3128 USFWS: 0
3129 USFWS: 0
3130 USFWS: 0
3131 USFWS: 2
3132 USFWS: 0
3133 USFWS: 0
3134 USFWS: 0
3135 USFWS: 0
3136 USFWS: 0
3137 USFWS: 0
3138 USFWS: 0

1 Aug. 1975 (1)
1 Aug. 1976 (13)
24 Aug. 1976 (13)
28 Sep. 1976 (13)
Oct. 1976 (13)
3 Nov. 1976 (13)
4 Nov. 1976 (13)
29 Nov. 1976 (13)
10 Dec. 1976 (13)
26 Jan. 1977 (13)
7 Feb. 1977 (13)
15 Mar. 1977 (13)
1 Apr. 1977 (13)
18 Apr. 1977 (13)
1 May 1977 (13)
7 June 1977 (13)
7 July 1977 (13)
24 Aug. 1977 (13)
19 Sep. 1977 (13)
18 Oct. 1977 (13)
8 Nov. 1977 (13)
24 Jan. 1978 (13)
13 Mar. 1978 (13)
17 Oct. 1978 (13)
19 Jan. 1979 (13)
June 1979 (13)
Sep. 1979 (13)
Oct. 1979 (13)
Nov. 1979 (13)
Dec. 1979 (13)
Feb. 1980 (13)
Mar. 1980 (13)

3139 USFWS: 0	May 1980	(13)
Kuulapuu Reservoir		
3140 HDFG: 0	14-16 Jan. 1980	(5)
Ooia - Kaluapuhi Fishpond		
3141 HDFG: 17	9 Aug. 1969	(1)
3142 26 counted	3 Sep. 1969	PEKN70
3143 9 seen	10 Nov. 1969	PEKN70
3144 USFWS: 6 (Ooia)	12 Mar. 1970	(12)
3145 USFWS: historically abundant...not seen past few years (Pekelo)	(12 Jan. 1972)	(12)
3146 HDFG: 0	1 Aug. 1975	(1)
3147 USFWS: 2 (HDFG)	1 Aug. 1976	(13)
3148 USFWS: 3	29 Oct. 1976	(13)
3149 USFWS: 4	4 Nov. 1976	(13)
3150 USFWS: 1	15 Mar. 1977	(13)
3151 USFWS: 4	7 July 1977	(13)
3152 USFWS: 3	24 Aug. 1977	(13)
3153 USFWS: 1	19 Sep. 1977	(13)
3154 USFWS: 1	18 Oct. 1977	(13)
3155 USFWS: 2	8 Nov. 1977	(13)
3156 Shallenberger: 8 seen on 23 May and 4 on 5/7 July survey ...no nests or young seen...trend at site appears downward ...encroaching mangrove and accelerating siltation	(1977)	(3)
3157 HDFG: 0	14,15,16 Jna. 1980	(5)
3158 HDFG: 0	14-16 Jan. 1980	(5)
KAMALO		
Kakakaia Pond (became National Wildlife Refuge in 1976)		
3159 abundant	(1955-1964)	PEKN64
3160 USFWS: 31 adults, 7 immatures, 4 1-week-old young	(1966?)	(12)
3161 HDFG: 23	9 Aug. 1969	(1)
3162 14 counted	1 Sep. 1969	PEKN70
3163 23 seen in adjacent open sea...owners working in pond	3 Sep. 1969	PEKN70
3164 36 seen	16 Nov. 1969	PEKN70

3165 USFWS: 33	12 Mar. 1970	(12)
3166 HDFG: 13	7 Aug. 1970	(1)
3167 Banko: Carlson reported many	21 Oct. 1970	(18)
3168 HDFG: 20	27 July 1971	(1)
3169 USFWS: 23	20 Aug. 1971	(12)
3170 USFWS: 32	28 Jan. 1972	(12)
3171 32 observed	1 Feb. 1972	OLSD71c
3172 20-30 (USFWS counts)	1970-1972	COLR77
3173 HDFG: 31	8 Aug. 1973	(1)
3174 HDFG: 27	3 Aug. 1974	(1)
3175 HDFG: 32	1 Aug. 1975	(1)

Kakakhaia National Wildlife Refuge

3176 USFWS: 10	10 Feb. 1976	(13)
3177 USFWS: 6	9 Mar. 1976	(13)
3178 USFWS: 17, ave. daily use	Jan.-Mar. 1976	(13)
3179 USFWS: 8	19 Apr. 1976	(13)
3180 USFWS: 19	7 May 1976	(13)
3181 USFWS: 26+6 nests	8 June 1976	(13)
3182 USFWS: 24+3 nests	20 June 1976	(13)
3183 USFWS: 24+3 nests	30 June 1976	(13)
3184 USFWS: 18, ave. daily use	Apr.-June 1976	(13)
3185 USFWS: 29+2 nests	4 Aug. 1976	(13)
3186 USFWS: 31 (4 with red frontal shields - 2 nesting) plus 3 nests; no young or immatures	24 Aug. 1976	(13)
3187 USFWS: 39 (4 with red shields) plus 3 nests and 4 chicks	28 Sep. 1976	(13)
3188 USFWS: 30+1 nest	(1?) Oct. 1976	(13)
3189 USFWS: 33+3 nest	(15?) Oct. 1976	(13)
3190 USFWS: 36	3 Nov. 1976	(13)
3191 USFWS: 40+9 chicks in 3 broods + 2 nests	4 Nov. 1976	(13)
3192 USFWS: 36 (2 adults with red shields, 3 red-down young, 1 juvenile gray)	29 Nov. 1976	(13)
3193 USFWS: 44 (3 juv. gray down)	10 Dec. 1976	(13)
3194 USFWS: 39 (6 nests)	26 Jan. 1977	(13)
3195 USFWS: 42 (7 with red shields) + 5 full grown young + 5 nests (2 incubated by red shield; 3 incubated by white shield)	7 Feb. 1977	(13)
3196 USFWS: 40 (6 with red shield)	15 Mar. 1977	(13)
3197 USFWS: 42 (HDFG)	1 Apr. 1977	(13)

3198	USFWS: 37 (4 with red shields) + 4 nests	18 Apr. 1977	(13)
3199	USFWS: 38 + 2 nests	3 May 1977	(13)
3200	USFWS: 27 + 2 nests	30 May 1977	(13)
3201	USFWS: 28 (2 with red shields) + 6 half-grown young + 6 small chicks + 7 nests (1 empty, 1 under construction, 3 being incubated)	7 June 1977	(13)
3202	USFWS: 37	1 July 1977	(13)
3203	USFWS: 40 (5 with red shield) + 6 large young + 1 med. young + 1 med. small young	7 July 1977	(13)
3204	USFWS: 44 (6 with red shield) + broods of 4,3,5 young	24 Aug. 1977	(13)
3205	USFWS: 47 + 8 young + 4 nests	19 Sep. 1977	(13)
3206	USFWS: 53 + broods of 3, 3, 1 + 4 nests	18 Oct. 1977	(13)
3207	USFWS: 52 (6 with red shields) + 3 young + 1 mixed pair building nest	8 Nov. 1977	(13)
3208	62 counted...7 with red frontal shields...5 newly constructed nest platforms...three being incubated...dramatic increase in coots since acquisition as NWR in 1976 ...62 highest number recorded ever	7 Dec. 1977	PYLR78
3209	estimated 12-16 chicks fledged (nesting activity recorded 1977 USFWS nearly year around - peak periods Nov. 1976-Feb. 1977 and June-Oct. 1977. - average of 5 nest sites (3-6 nests) maintained throughout these periods in the acre-sized pond)		COLR77
3210	Shallenberger: we observed 34 birds on 21 May and 48 on 7 July 1977...some of the variation in past counts may be caused by difficulty in viewing the entire water surface of the pond and also by the tendency of birds to climb into the shoreline vegetation to loaf...surprisingly good nesting habitat...probably produces more young coots for its size than any other habitat in the State...nesting has been recorded in all months of the year as well...nine nests (seven currently active) were counted on the pond (21 May?, 7 July ?)...at least 48 were observed on our July survey were young birds	(1977)	(3)
3211	HDFG: 38 censused	12-13 Jan. 1978	(2)
3212	5 nests still active...a attended by 2 adults	24 Jan. 1978	PYLR78
3213	USFWS: 58 (5 with red shields) + 5 nests	24 Jan. 1978	(13)
3214	USFWS: 57 + 4 chicks	13 Mar. 1978	(13)
3215	USFWS: 62	13 June 1978	(13)
3216	USFWS: 57	14 July 1978	(13)
3217	HDFG: 39	27,28,30 July 1978	(5)
3218	USFWS: 48 + 5 young + 5 nests	30 Aug. 1978	(13)

3219 USFWS: 46	22 Sep. 1978	(13)
3220 USFWS: 37+3 young	17 Oct. 1978	(13)
3221 USFWS: 29+0 nests	24 Nov. 1978	(13)
3222 USFWS: 35	15 Dec. 1978	(13)
3223 USFWS: 32	19 Jan. 1979	(13)
3224 HDFG: 29	15,16,20 Jan. 1979	(5)
3225 USFWS: 39	23 Feb. 1979	(13)
3226 USFWS: 25	30 Mar. 1979	(13)
3227 USFWS: 23 + 5 immatures + 2 nests	9 June 1979	(13)
3228 USFWS: 15	July 1979	(13)
3229 HDFG: 9	1,2 Aug. 1979	(5)
3230 USFWS: 27	Sep. 1979	(13)
3231 USFWS: 50	Oct. 1979	(13)
3232 USFWS: 70	Nov. 1979	(13)
3233 USFWS: 45	Dec. 1979	(13)
3234 USFWS: 56 ave. daily use	Oct.- Dec. 1979	(13)
3235 HDFG: 15	14,15,16 Jan. 1980	(5)
3236 USFWS: 36	Mar. 1980	(13)
3237 USFWS: 62 ave. daily use	Jan.- Mar. 1980	(13)
3238 USFWS: 27	Apr. 1980	(13)
3239 USFWS: 30	May 1980	(13)
3240 USFWS: 59, ave. daily use	Apr.- June 1980	(13)
3241 USFWS: 35	July 1980	(13)
3242 USFWS: 40	Aug. 1980	(13)
3243 USFWS: 26	Sep. 1980	(13)
3244 USFWS: 40, ave.daily use	July - Sep. 1980	(13)
3245 USFWS: 40, ave.daily use	Oct. - Dec. 1980	(13)
3246 USFWS: 62, ave.daily use	Jan. - Mar. 1981	(13)
3247 USFWS: 30, ave.daily use	Apr. - June 1981	(13)
3248 USFWS: 30, ave.daily use	July - Sep. 1981	(13)
3249 USFWS: 30, ave.daily use	16 Dec. 1981 -	(13)
	15 Jan. 1982	

Kamalo

3250 HDFG: 0	12,13 Jan. 1978	(2)
3251 HDFG: 0	15,16,20 Jan. 1979	(5)

Ualapua Pond

3252 HDFG: 0

12,13 Jan. 1978 (2)

HALAWA

Halawa Valley

3253 abundant / in the streams

(1955-1964) PEKN64

Halawa

3254 HDFG: 0

12,13 Jan. 1978 (2)

3255 HDFG: 0

15,16,20 Jan. 1979 (5)

Kainalu (Durbon's) Pond

3256 present

(1943) MUNG43

3257 HDFG: 8

9 Aug. 1969 (1)

Waialua Valley

3258 abundant / in the streams

(1955-1964) PEKN64

Pukoo

3259 fairly common on fish ponds visited on collecting trips

Dec. 1892 ROTW00

Island of Maui

ISLANDWIDE INFERENCE

3260 HDFG: 173

4-10 Jan. 1956 (1)

3261 HDFG: 273

1-31 Jan. 1957 (1)

3262 HDFG: 256

14-17 Jan. 1958 (1)

3263 HDFG: 170

7-16 Jan. 1959 (1)

3264 HDFG: 188

4-8 Jan. 1960 (1)

3265 HDFG: 149

10-13 Jan. 1961 (1)

3266 HDFG: 205

15-17 Jan. 1962 (1)

3267 HDFG: 79

15 Jan. 1964 (1)

3268 HDFG: 53	14 Jan. 1965	(1)
3269 HDFG: 75	13,14 Jan. 1966	(1)
3270 HDFG: 80	13-16 Jan. 1967	(1)
3271 HDFG: 104	8-10 Jan. 1968	(1)
3272 HDFG: 122	13,14 Jan. 1969	(1)
3273 HDFG: 232	24 July 1969	(1)
3274 HDFG: 78	13-15 Jan. 1970	(1)
3275 HDFG: 171	7 Aug. 1970	(1)
3276 HDFG: 176	27 July 1971	(1)
3277 HDFG: 71	8 Aug. 1973	(1)
3278 HDFG: 104	19 Sep. 1973	(1)
3279 HDFG: 160	1 Aug. 1975	(1)
3280 HDFG: 177	16 Jan. 1976	(1)
3281 HDFG: 111	27,28 July 1977	(1)
3282 Shallenberger: counts of coots on Maui over past 20 year period averaged nearly 28% of the State total in winter and 15% in summer	(1977)	(3)
3283 HDFG: 72	12,13 Jan. 1978	(2)
3284 HDFG: 78	15,16,20 Jan. 1979	(5)
3285 HDFG: 77	1,2 Aug. 1979	(5)
3286 HDFG: 83	14-16 Jan. 1980	(5)
3287 HDFG: 80	31 July,1 Aug. 1980	(5)
3288 HDFG: 86	12-14 Jan. 1981	(5)

UNDESIGNATED LOCALITY

3289 seen in a small lagoon near Waike (?Waihee)	June-July 1879	FINO80
3290 seen in a pond near highway between Kahului and Haleakala	July-Aug. 1963	YOCC68
3291 HDFG: occurs as a breeding population	(1969)	(7)

MULTIQUADRANGLE

Reservoirs (unspecified locality)

3292 HDFG: 4	4-10 Jan. 1956	(1)
3293 HDFG: 31	14-17 Jan. 1958	(1)
3294 HDFG: 27	7-16 Jan. 1959	(1)
3295 HDFG: 19	4-8 Jan. 1960	(1)
3296 HDFG: 1	15-17 Jan. 1962	(1)
3297 HDFG: 0	14-18 Jan. 1963	(1)

3298 HDFG: 2	15 Jan. 1964	(1)
3299 HDFG: 0	13,14 Jan. 1966	(1)
3300 HDFG: 5	13-16 Jan. 1967	(1)
3301 HDFG: 0	8-10 Jan. 1968	(1)
3302 USFWS; 3	24 June 1968	(12)
3303 HDFG: 0	13,14 Jan. 1969	(1)
3304 HDFG: 28	24 July 1969	(1)
3305 HDFG: 2	13-15 Jan. 1970	(1)
3306 HDFG: 26	7 Aug. 1970	(1)
3307 HDFG: 15	27 July 1971	(1)
3308 HDFG: 0	1 Aug. 1974	(1)
3309 HDFG: 4	31 July 1975	(1)
3310 HDFG: 4	1 Aug. 1975	(2)
3311 HDFG: 17	15 Jan. 1976	(2)
3312 HDFG: 2	4,5 Aug. 1976	(2)
3313 HDFG: 0	13 Jan. 1977	(2)
3314 HDFG: 0	27,28 July 1977	(2)
3315 HDFG: 0	12,13 Jan. 1978	(2)
3316 HDFG: 0	27,28,30 July 1978	(5)
3317 HDFG: 0	15,16,20 Jan. 1979	(5)
3318 HDFG: 0	1,2 Aug. 1979	(5)
3319 HDFG: 0	14,15,16 Jan. 1980	(5)

Other Habitats

3320 observed, Kealia Pond Kihei	Jan. 1959	CARR59
3321 present, Baldwin Park to Kahului and return	20 Aug. 1971	HANR75
3322 present, Baldwin Park to Kahului to Hookipa Park	22 Aug. 1971	HANR75

QUADRANGLE / LOCALITY

West Maui District

MAALAEA

Kealia Pond

3323 HDFG: 64	14-17 Jan. 1958	(1)
3324 HDFG: 25	7-16 Jan. 1959	(1)
3325 HDFG: 22	10-13 Jan. 1961	(1)

3326	HDFG: 21	15-17 Jan. 1962	(1)
3327	HDFG: 0	14-18 Jan. 1963	(1)
3328	HDFG: 17	15 Jan. 1964	(1)
3329	8 censused	14 Dec. 1964	KRIE65d
3330	HDFG: 16	14 Jan. 1965	(1)
3331	1 censused	22 July 1965	KRIE65d
3332	8 censused	1 Nov. 1965	KRIE66
3333	USFWS: 19	18 Nov. 1965	(12)
3334	USFWS: 22	23 Nov. 1965	(12)
3335	USFWS: 8	14 Dec. 1965	(12)
3336	19 censused	18 Dec. 1965	KRIE66
3337	HDFG: 31	13,14 Jan. 1966	(1)
3338	Banko: 5 from east end toward, 8 at west end from highway	2 Apr. 1966	(18)
3339	none seen	13 July 1966	KRIE66
3340	none seen	11 Aug. 1966	KRIE66
3341	Banko: 0 (dry)	6 Oct. 1966	(18)
3342	HDFG: 22	13-16 Jan. 1967	(1)
3343	USFWS: 45	6 Oct. 1967	(12)
3344	HDFG: 48	8-10 Jan. 1968	(1)
3345	USFWS: 1 seen...very muddy water running through outlet	21 Apr. 1968	(12)
3346	USFWS: 0 seen (113 still present)	24 June 1968	(12)
3347	HDFG: 28	13,14 Jan. 1969	(1)
3348	HDFG: 25	24 July 1969	(1)
3349	USFWS: 75	24 July 1969	(12)
3350	USFWS: 4	21 Nov. 1969	(12)
3351	USFWS: 4	23 Nov. 1969	(12)
3352	HDFG: 2	13-15 Jan. 1970	(1)
3353	USFWS: 31	25 Feb. 1970	(12)
3354	USFWS: 31	27 Feb. 1970	(12)
3355	10 censused	6 Apr. 1970	KAIC70
3356	58 censused	10 June 1970	KINW71
3357	47 censused	13 June 1970	KINW71
3358	91 censused	19 June 1970	KINW71
3359	74 censused	26 June 1970	KINW71
3360	31 censused	3 July 1970	KINW71
3361	37 censused	8 July 1970	KINW71
3362	22 censused	15 July 1970	KINW71
3363	4 censused	21 July 1970	KINW71
3364	4 censused	25 July 1970	KINW71
3365	1 censused	1 Aug. 1970	KINW71

3366 HDFG: 0 (dry)	7 Aug. 1970	(1)
3367 USFWS: 0 (dry)	13 Aug. 1970	(12)
3368 USFWS: 0 (dry)	19 Aug. 1970	(12)
3369 none seen	24 Aug. 1970	KINW71
3370 USFWS: 40	24 Sep. 1970	(12)
3371 USFWS: numerous	29 Oct. 1970	(12)
3372 USFWS: 26 (full)	19 Nov. 1970	(12)
3373 USFWS: 30 (full)	27 Nov. 1970	(12)
3374 HDFG: 0 (nearly dry)	27 July 1971	(1)
3375 HDFG: 25	19 Sep. 1973	(1)
3376 HDFG: 65	1 Aug. 1974	(1)
3377 ca. 30-40	18,19 Jan. 1975	UDVM75
3378 HDFG: 90	31 July 1975	(1)
3379 USFWS: 25	12 Nov. 1975	(13)
3380 HDFG: 77	15 Jan. 1976	(2)
3381 USFWS: 7	10 Feb. 1976	(13)
3382 USFWS: 20	11 Feb. 1976	(13)
3383 USFWS: 47	3 Mar. 1976	(13)
3384 USFWS: 40	4 Mar. 1976	(13)
3385 USFWS: 33	5 Mar. 1976	(13)
3386 USFWS: 31	8 Mar. 1976	(13)
3387 USFWS: 7+	9 Mar. 1976	(13)
3388 HDFG: 75, monthly high count	Mar. 1976	(19)
3389 HDFG: 57, monthly high count	Apr. 1976	(19)
3390 USFWS: 5	7 May 1976	(13)
3391 USFWS: 33	8 May 1976	(13)
3392 HDFG: 55, monthly high count	May 1976	(19)
3393 USFWS: 15	8 June 1976	(13)
3394 USFWS: 65 (incl. 46 in Fish Farm)	9 June 1976	(13)
3395 HDFG: 49 nests...15 active...13 nests with 56 eggs...83.6% hatching success	1 July 1975 -	(19)
3396 USFWS: 44	30 June 1976	
3397 HDFG: 74, monthly high count	20 July 1976	(13)
3398 HDFG: 67	19 July 1976	(
3399 USFWS: 18	4 Aug. 1976	(19)
3400 USFWS: 58	24 Aug. 1976	(13)
3401 HDFG: 67, monthly high count	25 Aug. 1976	(13)
3402 USFWS: 23	Aug. 1976	(19)
3403 USFWS: 106 + 4 chicks	28 Sep. 1976	(13)
3404 USFWS: 47	29 Sep. 1976	(13)
	5 Oct. 1976	(13)

3405 USFWS: 75+	11 Oct. 1976	(13)
3406 USFWS: 71	5 Dec. 1976	(13)
3407 HDFG: 107	13 Jan. 1977	(2)
3408 USFWS: 78	27 Jan. 1977	(13)
3409 USFWS: 74	8 Feb. 1977	(13)
3410 USFWS: 2	15 Mar. 1977	(13)
3411 USFWS: 11+45 in Fish Farm	16 Mar. 1977	(13)
3412 USFWS: 26	18 Apr. 1977	(13)
3413 USFWS: 35+1 in Fish Farm	19 Apr. 1977	(13)
3414 USFWS: 17	7 June 1977	(13)
3415 USFWS: 52+6 with 2 young in Fish Farm	8 June 1977	(13)
3416 USFWS: 8	7 July 1977	(13)
3417 USFWS: 52+25 with 3 chicks in Fish Farm	8 July 1977	(13)
3418 Shallenberger: 80 plus 2 nests abandoned due to disturbance	8 July 1977	(30)
3419 HDFG: 75	27,28 July 1977	(2)
3420 USFWS: 0	23 Aug. 1977	(13)
3421 USFWS: 59+17 with 1 young in Fish Farm	24 Aug. 1977	(13)
3422 USFWS: 21	19 Sep. 1977	(13)
3423 USFWS: 57+21 in Fish Farm	20 Sep. 1977	(13)
3424 USFWS: 43	18 Oct. 1977	(13)
3425 USFWS: 67+28 in Fish Farm	19 Oct. 1977	(13)
3426 USFWS: 42	7 Nov. 1977	(13)
3427 USFWS: 25	8 Nov. 1977	(13)
3428 USFWS: 38+32 in Fish Farm	9 Nov. 1977	(13)
3429 USFWS: 75	28 Nov. 1977	(13)
3430 USFWS: 52	23 Dec. 1977	(13)
3431 USFWS: 29	10 Jan. 1978	(13)
3432 HDFG: 48	12,13 Jan. 1978	(2)
3433 USFWS: 44	30 Jan. 1978	(13)
3434 USFWS: 68	27 Feb. 1978	(13)
3435 USFWS: 46+4 chicks	14 Mar. 1978	(13)
3436 USFWS: 42	20 Mar. 1978	(13)
3437 USFWS: 60	14 Apr. 1978	(13)
3437aHDFG: 26 nests with 54 eggs...4.9 eggs per active nest... 25 days average incubation period...80% hatching success... 25 of 49 nests in NW portion of Pond, none in this area in 1977... travel lanes through <u>Batis maritima</u> kept open by cattle in 1976 (but not in 1977) were overgrown in 1977 apparently discouraging coots from nesting...of 26 nests	26 Apr.-9 June 1978	(43)

found 11 were active, 13 abandoned prior discovery and 2 were under construction and abandoned before completion... of 11 active nests, 1 held 3 eggs, 9 held 5 eggs and 1 nest held 6 eggs

3438 HDFG: 24	27,28,30 July 1978	(5)
3439 USFWS: 23	17 Oct. 1978	(13)
3440 47, Christmas Count	23 Dec. 1978	WALJ79
3441 HDFG: 21	15,16,20 Jan. 1979	(5)
3442 HDFG: 37, monthly high count	Mar. 1979	(9)
3443 HDFG: 21, monthly high count	Apr. 1979	(9)
3444 HDFG: 28, monthly high count	May 1979	(9)
3445 HDFG: 43, monthly high count	June 1979	(9)
3446 HDFG: 64, monthly high count	July 1979	(9)
3447 HDFG: 42	1,2 Aug. 1979	(5)
3448 HDFG: 42, monthly high count	Aug. 1979	(9)
3449 39, Christmas Count	31 Dec. 1979	KEPK80
3450 HDFG: 24	15,16 Jan. 1980	(5)
3451 HDFG: 27	Feb. 1980	(5)
3452 HDFG: 13	Mar. 1980	(5)
3453 HDFG: 28	Apr. 1980	(5)
3454 HDFG: 63	May 1980	(5)
3455 HDFG: 47	June 1980	(5)
3456 HDFG: 54	July 1980	(5)
3457 HDFG: 58	Aug. 1980	(5)
3458 HDFG: 103	Sep. 1980	(5)
3459 HDFG: 0	Oct. 1980	(5)
3460 HDFG: 3	Nov. 1980	(5)
3461 HDFG: 3	Dec. 1980	(5)
3462 HDFG: 40	Jan. 1981	(5)

WAILUKU

Waiehu

3463 Banko: Finsch collected 2 specimens	10 July 1879	(10)
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Airport (Naska) Settling Pond

3464 USFWS: 18 adults + 13 juveniles in 3 broods	20 Mar. 1978	(13)
3465 USFWS: 23 incl. 10 young in 3 broods	14 Apr. 1978	(13)

3466 HDFG: 15
 3467 HDFG: 11
 3468 HDFG: 17

27,28,30 July 1978 (5)
 15,16,20 Jan. 1979 (5)
 14,15,16 Jan. 1980 (5)

Kanaha Pond

3469 Banko: Finsch collected 1 egg (Kahului lagoon)
 3470 observed repeatedly...eggs collected
 3471 Banko: McGregor collected 2 specimens
 3472 saw 300...the only area with any concentration
 3473 in large numbers the year around
 3474 common
 3475 nest
 3476 HDFG: 173
 3477 observed
 3478 HDFG: 161
 3479 large numbers
 3480 observed
 3481 HDFG: 118
 3482 observed
 3483 observed
 3484 have nested and hatched
 3485 HDFG: 169
 3486 seen
 3487 HDFG: 127
 3488 seen

 3489 HDFG: 183
 3490 ca. 50 present
 3491 HDFG: 108
 3492 HDFG: 60
 3493 USFWS: 30
 3494 USFWS: 32
 3495 USFWS: 32
 3496 USFWS: 32
 3497 HDFG: 37
 3498 USFWS: 22
 3499 USFWS: 38
 3500 USFWS: 49
 3501 USFWS: 21

(?10) July 1879 (10)
 June-July 1879 FINO80
 1 Jan. 1900 (10)
 12 Aug. 1946 SCHC52
 (23 Jan. 1949) CHIC49b
 7 July-11 Sep. 1951 BONH51
 (1953) BALH53
 4-10 Jan. 1956 (1)
 30 Apr.;1,3 May 1957 CURA58
 14-17 Jan. 1958 (1)
 23 Mar.-14 Apr. 1958 EASW58
 Dec. 1958 CARR59
 7-16 Jan. 1959 (1)
 Jan. 1959 CARR59
 Apr. 1959 CARR59
 11 May 1959 ANON61b
 4-8 Jan. 1960 (1)
 (1961) STEE61
 10-13 Jan. 1961 (1)
 1st. 2 weeks of MARA62
 Oct. (1961)
 15-17 Jan. 1962 (1)
 Feb. 1962 CURH63
 14-18 Jan. 1963 (1)
 15 Jan. 1964 (1)
 6 May 1964 (12)
 14 Dec. 1964 (12)
 11 Jan. 1965 (12)
 12 Jan. 1965 (12)
 14 Jan. 1965 (1)
 5 Feb. 1965 (12)
 5 Mar. 1965 (12)
 28 Apr. 1965 (12)
 21 July 1965 (12)

3502 28 censused	21 July 1965	KRIE65d
3503 USFWS: 36	28 Oct. 1965	(12)
3504 USFWS: 31	18 Nov. 1965	(12)
3505 USFWS: 32	14 Dec. 1965	(12)
3506 HDFG: 44	13,14 Jan. 1966	(1)
3507 USFWS: 95	13 July 1966	(12)
3508 USFWS: 90	24 July 1966	(12)
3509 80-90 seen	24 July 1966	WOOP66
3510 USFWS: 99	11 Aug. 1966	(12)
3511 Banko: 60 estimated	6 Oct. 1966	(18)
3512 HDFG: 53	13-16 Jan. 1967	(1)
3513 USFWS: 86	6 Oct. 1967	(12)
3514 USFWS: 62	23 Nov. 1967	(12)
3515 numerous	29,30 Dec. 1967	ORER68
3516 HDFG: 56	8-10 Jan. 1968	(1)
3517 present	(31 Mar. 1968)	KEIG68
3518 USFWS: 74 plus broods of 1,2,3,3,5, from 2 weeks old to large grey immature age-class	21 Apr. 1968	(12)
3519 USFWS: 145	24 June 1968	(12)
3520 several seen	29 Dec. 1968	MCNJ69
3521 HDFG: 94	13,14 Jan. 1969	(1)
3522 HDFG: 179	24 July 1969	(1)
3523 USFWS: 114	23 Nov. 1969	(12)
3524 HDFG: 74	13-15 Jan. 1970	(1)
3525 133 censused	7 Apr. 1970	KAIC70
3526 108 censused	10 June 1970	KINW71
3527 100 censused	13 June 1970	KINW71
3528 79 censused	19 June 1970	KINW71
3529 120 censused	26 June 1970	KINW71
3530 81 censused	3 July 1970	KINW71
3531 89 censused	8 July 1970	KINW71
3532 110 censused	15 July 1970	KINW71
3533 110 censused	21 July 1970	KINW71
3534 116 censused	25 July 1970	KINW71
3535 131 censused	1 Aug. 1970	KINW71
3536 HDFG: 145	7 Aug. 1970	(1)
3537 133 censused	13 Aug. 1970	(12)
3538 137 censused	19 Aug. 1970	(12)
3539 169 censused	24 Aug. 1970	(12)
3540 USFWS: 163	8 Sep. 1970	(12)

3541 USFWS: 148	17 Sep. 1970	(12)
3542 USFWS: 129	24 Sep. 1970	(12)
3543 USFWS: 137	1 Oct. 1970	(12)
3544 USFWS: 97	8 Oct. 1970	(12)
3545 USFWS: 138	15 Oct. 1970	(12)
3546 USFWS: 96	27 Oct. 1970	(12)
3547 USFWS: 106	29 Oct. 1970	(12)
3548 USFWS: 123	5 Nov. 1970	(12)
3549 USFWS: 123	12 Nov. 1970	(12)
3550 USFWS: 145	19 Nov. 1970	(12)
3551 USFWS: 107	27 Nov. 1970	(12)
3552 ca. 40	(6-11 May 1971)	SMIS71
3553 present	(2 June 1971)	STRC71
3554 HDFG: 161	27 July 1971	(1)
3555 present	27 Aug. 1971	HANR75
3556 112+ seen	27 Oct. 1971	KAIC71f
3557 109...maximum number seen during a single census included several immatures but no nest	4-7 July 1972	BERA73
3558 134...maximum number seen during a single census	6-9 Aug. 1972	BERA73
3559 137...maximum number seen during a single census	20-22 Aug. 1972	BERA73
3560 136...maximum number seen during a single census	21 Aug.-4 Sep. 1972	BERA73
3561 166...maximum number seen during a single census	13-15 Sep. 1972	BERA73
3562 74 counted from several vantage points	23 Feb. 1973	MULM73
3563 HDFG: 83	15 Jan. 1976	(2)
3564 HDFG: 88, monthly high count	Mar. 1976	(19)
3565 HDFG: 68, monthly high count	Apr. 1976	(19)
3566 HDFG: 53	6 Apr. 1976	(2)
3567 HDFG: 81, monthly high count	May 1976	(19)
3568 HDFG: 98, monthly high count	June 1976	(19)
3569 HDFG: no nests found during period of study	1 July 1975 - 30 June 1976	(19)
3570 HDFG: 74, monthly high count	July 1976	(19)
3571 HDFG: 54	4,5 Aug. 1976	(2)
3572 USFWS: 34	24,25 Aug. 1976	(13)
3573 HDFG: 54, monthly high count	Aug. 1976	(19)
3574 USFWS: 48	28 Sep. 1976	(13)
3575 USFWS: 79	4 Nov. 1976	(13)
3576 HDFG: 71	15 Nov. 1976	(2)
3577 USFWS: 77	30 Nov. 1976	(13)
3578 HDFG: 47	13 Jan. 1977	(2)

3579 USFWS: 49+1 with red shield	26 Jan. 1977	(13)
3580 USFWS: 32	7 Feb. 1977	(13)
3581 USFWS: 37	15 Mar. 1977	(13)
3582 USFWS: 40	18 Apr. 1977	(13)
3583 USFWS: 42	7 June 1977	(13)
3584 USFWS: 23	7 July 1977	(13)
3585 HDFG: 36	27,28 July 1977	(2)
3586 Shallenberger: 69 was maximum of four counts in May, June, Aug....repeated observations of young indicate coots breed successfully, but very few observations of nests...we observed chicks of one brood in July	10 June 1977	(3)
3587 USFWS: 28+1	23 Aug. 1977	(13)
3588 HDFG: 36	Aug. 1977	(2)
3589 USFWS: 15	19 Sep. 1977	(13)
3590 USFWS: 32	18 Oct. 1977	(13)
3591 USFWS: 36	7 Nov. 1977	(13)
3592 USFWS: 28	9 Nov. 1977	(13)
3593 USFWS: 31	10 Nov. 1977	(13)
3594 USFWS: 39	28 Nov. 1977	(13)
3595 HDFG: 33	Nov. 1977	(2)
3596 USFWS: 43	23 Dec. 1977	(13)
3597 USFWS: 41	10 Jan. 1978	(13)
3598 HDFG: 24	12,13 Jan. 1978	(2)
3599 USFWS: 28	30 Jan. 1978	(13)
3600 HDFG: 24	Jan. 1978	(2)
3601 USFWS: 26	27 Feb. 1978	(13)
3602 HDFG: 21	Feb. 1978	(2)
3603 USFWS: 26	13 Mar. 1978	(13)
3604 USFWS: 29	20 Mar. 1978	(13)
3605 HDFG: 18 adults + 13 young and 3 fledged broods	20 Mar. 1978	PYLR78
3606 HDFG: 32	Mar. 1978	(2)
3607 USFWS: 23	14 Apr. 1978	(13)
3608 HDFG: 13 adults + 10 young incl. 2 new broods	14 Apr. 1978	PYLR78
3609 HDFG: 39	Apr. 1978	(2)
3610 HDFG: 32	May 1978	(2)
3611 HDFG: 34	June 1978	(2)
3611aHDFG: 0 nests found	1 July 1977 -	(43)
	30 June 1978	
3612 HDFG: 36	28 July 1978	(2)
3613 HDFG: 33	28 Aug. 1978	(2)

3614 HDFG: 30	19 Sep. 1978	(2)
3615 USFWS: 16	17 Oct. 1978	(13)
3616 HDFG: 41	31 Oct. 1978	(2)
3617 HDFG: 43	29 Nov. 1978	(5)
3618 HDFG: 48	29 Dec. 1978	(5)
3619 HDFG: 46	15 Jan. 1979	(5)
3620 HDFG: 65	27 Feb. 1979	(5)
3621 HDFG: 43, monthly high count	(27) Mar. 1979	(9)
3622 HDFG: 36, monthly high count	(20) Apr. 1979	(9)
3623 HDFG: 54, monthly high count	(31) May. 1979	(9)
3624 HDFG: 43	30 June 1979	(5)
3625 HDFG: 47, monthly high count	June 1979	(9)
3626 HDFG: 24, monthly high count	(30) July 1979	(9)
3627 HDFG: 35, monthly high count	(1) Aug. 1979	(9)
3628 HDFG: 36	18 Sep. 1979	(5)
3629 HDFG: 57	29 Oct. 1979	(5)
3630 HDFG: 50	29 Nov. 1979	(5)
3631 HDFG: 37	31 Dec. 1979	(5)
3632 HDFG: 42	15 Jan. 1980	(5)
3633 HDFG: 49	Feb. 1980	(5)
3634 HDFG: 13	Mar. 1980	(5)
3635 HDFG: 65	Apr. 1980	(5)
3636 HDFG: 57	May 1980	(5)
3637 HDFG: 41	June 1980	(5)
3638 HDFG: 26	July 1980	(5)
3639 HDFG: 41	Aug. 1980	(5)
3640 HDFG: 61	Sep. 1980	(5)
3641 HDFG: 53	Oct. 1980	(5)
3642 HDFG: 47	Nov. 1980	(5)
3643 HDFG: 48	Dec. 1980	(5)
3644 HDFG: 46	Jan. 1981	(5)

Island of Hawai'i

ISLANDWIDE INFERENCE

3645 rare, occurring only occasionally	(1946-1947)	SCHC52
3646 HDFG: 4	14-17 Jan. 1958	(1)
3647 HDFG: 63	7-16 Jan. 1959	(1)
3648 HDFG: 26	4-8 Jan. 1960	(1)

3649 HDFG: 91	10-13 Jan. 1961	(1)
3650 HDFG: 51	15-17 Jan. 1962	(1)
3651 HDFG: 49	14-18 Jan. 1963	(1)
3652 HDFG: 23	15 Jan. 1964	(1)
3653 HDFG: 46	14 Jan. 1965	(1)
3654 HDFG: 39	13-14 Jan. 1966	(1)
3655 HDFG: 49	13-16 Jan. 1967	(1)
3656 HDFG: 47	8-10 Jan. 1968	(1)
3657 HDFG: 20	13,14 Jan. 1969	(1)
3658 HDFG: 20	24 July 1969	(1)
3659 HDFG: 36	13-15 Jan. 1970	(1)
3660 HDFG: 39	7 Aug. 1970	(1)
3661 HDFG: 28	12 Jan. 1971	(2)
3662 HDFG: 55	24 July 1971	(2)
3663 HDFG: 53	13 Jan. 1972	(2)
3664 HDFG: 52	3 Aug. 1972	(2)
3665 HDFG: 57	18 Jan. 1973	(2)
3666 HDFG: 68	21 June 1973	(2)
3667 HDFG: 30	8 Aug. 1973	(2)
3668 HDFG: 49	15 Jan. 1974	(2)
3669 HDFG: 84	1 Aug. 1974	(2)
3670 HDFG: 89	23 Jan. 1975	(2)
3671 HDFG: 130	1 Aug. 1975	(2)
3672 HDFG: 76	15 Jan. 1976	(2)
3673 HDFG: Habitat conditions in most areas continued to deteriorate due to increased human activity...A new settling basin at Kohala Biogenics proved attractive to waterfowl (ducks)...most of the standard census areas had been adversely affected...illegal shooting, drainage, disturbance, and clearing of pond edges reduced value to waterbirds.	1 July 1975 - 30 June 1976	(2)
3674 HDFG: 75	4 Aug. 1976	(5)
3675 HDFG: 62	13 Jan. 1977	(2)
3676 HDFG: 62	27,28 July 1977	(2)
3677 HDFG: 102	28 Aug. 1977	(5)
3678 Shallenberger: range includes Kohala Valleys and Hilo ponds, but principal concentration is found at Aimakapa and Opaepala...population only once exceeded 100 on HDFG/USFWS counts, averaging less than 10% of Statewide counts	(1977)	(3)
3679 HDFG: 49	12 Jan. 1978	(5)

3680 HDFG: 62	28 July 1978	(5)
3681 HDFG: 69	15 Jan. 1979	(5)
3682 HDFG: 59	1,2 Aug. 1979	(5)
3683 HDFG: 112	14-16 Jan. 1980	(5)
3684 HDFG: 93	31 July, 1 Aug. 1980	(5)
3685 HDFG: 104	12-14 Jan. 1981	(5)

UNDESIGNATED LOCALITY

3686 HDFG: occurs as a breeding population	(1969)	(7)
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QUADRANGLE / LOCALITY

Kohala District

HAWI

Kehena Reservoir

3687 HDFG: 0	1 Aug. 1975	(1)
3688 HDFG: 0	15 Jan. 1976	(2)
3689 HDFG: 0	4,5 Aug. 1976	(2)
3690 HDFG: 0	13 Jan. 1977	(2)
3691 HDFG: 0	27,28 July 1977	(2)
3692 HDFG: 0	12,13 Jan. 1978	(2)
3693 HDFG: 0	15,16,20 Jan. 1979	(5)
3694 HDFG: 0	1,2 Aug. 1979	(5)
3695 HDFG: 0	14-16 Jan. 1980	(5)
3696 HDFG: 0	31 July, 1 Aug. 1980	(5)

Puu Okamau

3697 HDFG: 0	1 Aug. 1975	(1)
3698 HDFG: 0	15 Jan. 1976	(2)
3699 HDFG: 0	4,5 Aug. 1976	(2)
3700 HDFG: 0	13 Jan. 1977	(2)
3701 HDFG: 0	27,28 July 1977	(2)
3702 HDFG: 0	12,13 Jan. 1978	(2)
3703 HDFG: 0	15,16,20 Jan. 1979	(5)
3704 HDFG: 0	1,2 Aug. 1979	(5)

3705 HDFG: 0	14-16 Jan. 1980	(5)
Union Mill (Pond)		
3706 HDFG: 1	7-16 Jan. 1959	(1)
3707 HDFG: 0	1 Aug. 1975	(1)
3708 HDFG: 0	15 Jan. 1976	(2)
3709 HDFG: 0	4,5 Aug. 1976	(2)
3710 HDFG: 0	13 Jan. 1977	(2)
3711 HDFG: 0	27,28 July 1977	(2)
3712 HDFG: 0	12,13 Jan. 1978	(2)
3713 HDFG: 0	15,16,20 Jan. 1979	(5)
3714 HDFG: 0	1,2 Aug. 1979	(5)
3715 HDFG: 0	14-16 Jan. 1980	(5)
Upolu/Biogenics Basin		
3716 HDFG: 0	1 Aug. 1975	(1)
3717 HDFG: 0	15 Jan. 1976	(2)
3718 HDFG: 0	4,5 Aug. 1976	(2)
3719 HDFG: 0	13 Jan. 1977	(2)
3720 HDFG: 0	27,28 July 1977	(2)
3721 HDFG: 0	12,13 Jan. 1978	(2)
3722 HDFG: 0	15,16,20 Jan. 1979	(5)
3723 HDFG: 0	1,2 Aug. 1979	(5)
3724 HDFG: 0	14-16 Jan. 1980	(5)
HONOKANE		
Pololu Valley		
3725 Shallenberger: 1 seen in the seaward portion of open water (1977)		(3)
...turbid waters within the marsh supports very little suitable food for coots		
KUKUIHAELE		
Kukuihaele		
3726 HDFG: 0	1 Aug. 1975	(1)

3727 HDFG: 0	15 Jan. 1976	(2)
3728 HDFG: 0	4,5 Aug. 1976	(2)
3729 HDFG: 0	13 Jan. 1977	(2)
3730 HDFG: 0	27,28 July 1977	(2)
3731 HDFG: 0	12,13 Jan. 1978	(2)
3732 HDFG: 0	15,16,20 Jan. 1979	(5)
3733 HDFG: 0	1,2 Aug. 1979	(5)
3734 HDFG: 0	14-16 Jan. 1980	(5)
3735 HDFG: 0	31 July,1 Aug. 1980	(5)

Lalakea

3736 HDFG: 0	1 Aug. 1975	(1)
3737 HDFG: 0	15 Jan. 1976	(2)
3738 HDFG: 0	4,5 Aug. 1976	(2)
3739 HDFG: 0	13 Jan. 1977	(2)
3740 HDFG: 0	27,28 July 1977	(2)
3741 HDFG: 0	12,13 Jan. 1978	(2)
3742 HDFG: 0	15,16,20 Jan. 1979	(5)
3743 HDFG: 0	1,2 Aug. 1979	(5)

KAWAIHAE

Kahua Ranch Reservoir

3744 HDFG: 0	14-16 Jan. 1980	(5)
3745 HDFG: 0	31 July,1 Aug. 1980	(5)

Waipio Valley

3746 rare, occurring only occasionally in the lower part of the stream and taro patches	(1946-1947)	SCHC52
3747 HDFG: 6	6-16 Jan. 1959	(1)
3748 HDFG: 17	4--8 Jan. 1960	(1)
3749 HDFG: 2	10-13 Jan. 1961	(1)
3750 HDFG: 2	15-17 Jan. 1962	(1)
3751 HDFG: 11	14-18 Jan. 1963	(1)
3752 HDFG: 0	2 Aug. 1974	(1)
3753 HDFG: 0	1 Aug. 1975	(1)
3754 HDFG: 0	15 Jan. 1976	(2)

3755 HDFG: 0	4,5 Aug. 1976	(2)
3756 HDFG: 0	13 Jan. 1977	(2)
3757 Shallenberger: at least 2 published reports have mentioned Waipio is occasionally attractive to a few coots...but no records of use found, and residents (some familiar with this species) report no use	7 May, 13 Sep. 1977	(3)
3758 HDFG: 0	27,28 July 1977	(2)
3759 HDFG: 0	12,13 Jan. 1978	(2)
3760 HDFG: 0	15,16,20 Jan. 1979	(5)
3761 HDFG: 0	14-16 Jan. 19780	(5)
3762 HDFG: 0	12 Jan. 1981	(5)

Kona District

PUU HINAI

Francis Brown

3763 HDFG: 0	1 Aug. 1974	(1)
3764 HDFG: 3	1 Aug. 1975	(1)
3765 HDFG: 0	15 Jan. 1976	(2)
3766 HDFG: 0	4,5 Aug. 1976	(2)
3767 HDFG: 0	13 Jan. 1977	(2)
3768 HDFG: 0	27,28 July 1977	(2)
3769 HDFG: 0	12,13 Jan. 1978	(2)
3770 HDFG: 0	15,16,20 Jan. 1979	(5)
3771 HDFG: 0	1,2 Aug. 1979	(5)
3772 HDFG: 0	14-16 Jan. 1980	(5)

MAKALAWENA

Opaeula (Makalawena) Pond

3773 HDFG: 27	14-18 Jan. 1963	(1)
3774 HDFG: 14	15 Jan. 1964	(1)
3775 HDFG: 12	14 Jan. 1965	(1)
3776 present	Aug. 1965	TITM65
3777 20 censused	9,10 Sep. 1965	KRIE65
3778 HDFG: 7	13,14 Jan. 1966	(1)
3779 HDFG: 14	13-16 Jan. 1967	(1)

3780 HDFG: 12	8-10 Jan. 1968	(1)
3781 HDFG: 12	13,14 Jan. 1969	(1)
3782 HDFG: 11	24 July 1969	(1)
3783 HDFG: 15	13-15 Jan. 1970	(1)
3784 Banko: 14	15 Jan. 1970	(23)
3785 Banko: 6	12 Feb. 1970	(23)
3786 Banko: 5+1 carrying nest material	13 Feb. 1970	(23)
3787 Banko: 10	19 May 1970	(23)
3788 Banko: 5	20 May 1970	(23)
3789 HDFG: 11	7 Aug. 1970	(1)
3790 HDFG: 13	27 July 1971	(1)
3791 Banko: 4	25 May 1972	(18)
3792 Banko: 10	26 May 1972	(18)
3793 10 censused	27 Feb. 1973	KRIE73
3794 Banko: 9	9 Mar. 1973	(18)
3795 Banko: 8	11 Mar. 1973	(18)
3796 Banko: 8	15 Mar. 1973	(18)
3797 Banko: 5	5 Apr. 1973	(18)
3798 Banko: 3	31 May 1973	(18)
3799 Banko: 7	1 June 1973	(18)
3800 Banko: 8	8 June 1973	(18)
3801 HDFG: 7	8 Aug. 1973	(1)
3802 HDFG: 17	2 Aug. 1974	(1)
3803 HDFG: 27	1 Aug. 1975	(1)
3804 HDFG: 10	15 Jan. 1976	(2)
3805 HDFG: 4	4,5 Aug. 1976	(2)
3806 USFWS: 7	1 Dec. 1976	(13)
3807 USFWS: 8, ave. daily use	1 Oct.-31 Dec. 1976	(13)
3808 HDFG: 4	13 Jan. 1977	(2)
3809 USFWS: 6, ave. daily use	1 Jan.-31 Mar. 1977	(13)
3810 USFWS: 6, ave. daily use	1 Apr.-30 June 1977	(13)
3811 Shallenberger: observed 3 and 4 during 2 visits	9 June, 8 July 1988	(3)
3812 HDFG: 2	27,28 July 1977	(2)
3813 USFWS: 5, ave. daily use	1 July-30 Sep. 1977	(13)
3814 USFWS: 8, ave. daily use	1 Oct.-31 Dec. 1977	(13)
3815 HDFG: 12	12,13 Jan. 1978	(2)
3816 USFWS: 12, ave. daily use	1 Jan.-31 Mar. 1978	(13)
3817 USFWS: 11, ave. daily use	1 Apr.-30 June 1978	(13)
3818 HDFG: 17	27,28,30 July 1978	(5)
3819 USFWS: 16	19 Sep. 1978	(13)

3820 USFWS: 11, ave. daily use	1 July-30 Sep. 1978	(13)
3821 USFWS: 7+4 young	18 Oct. 1978	(13)
3822 USFWS: 30	24 Nov. 1978	(13)
3823 USFWS: 12, ave. daily use	1 Oct.-31 Dec. 1978	(13)
3824 HDFG: 21	15,16,20 Jan. 1979	(5)
3825 USFWS: 10	Jan. 1979	(13)
3826 USFWS: 12	Feb. 1979	(13)
3827 USFWS: 13	Mar. 1979	(13)
3828 USFWS: 12	1 Jan.-31 Mar. 1979	(13)
3829 USFWS: no census	Apr. 1979	(13)
3830 HDFG: 0	1,2 Aug. 1979	(5)
3831 HDFG: 19; observed nesting in bullrush...accurate count was difficult	12 Jan. 1980	(5)

KIHOLO

Kiholo

3832 none seen

9-10 Sep. 1965 KRIE65

KEAHOLE POINT

Aimakapa (Honokohau) Fishpond

3833 not recorded with duck, plovers, turnstones seen	23 Nov. 1942	(24)
3834 HDFH: 38	7-16 Jan. 1959	(1)
3835 HDFH: 79	10-13 Jan. 1962	(1)
3836 HDFH: 43	15-17 Jan. 1962	(1)
3837 HDFH: 23	15 Jan. 1964	(1)
3838 HDFH: 23	14 Jan. 1965	(1)
3839 82 censused	9-10 Sep. 1965	KRIE65
3840 USFWS: 20	1 Jan. 1966	(12)
3841 HDFG: 20	13,14 Jan. 1966	(1)
3842 USFWS: 41	4 Aug. 1966	(12)
3843 USFWS: 41	11 Aug. 1966	(12)
3844 HDFG: 21	13-16 Jan. 1967	(1)
3845 HDFG: 22	8-10 Jan. 1968	(1)
3846 HDFG: 9	24 July 1969	(1)
3847 HDFG: 11	13-15 Jan. 1970	(1)
3848 HDFG: 28	7 Aug. 1970	(1)

3849 USFWS: 11	12 Jan. 1971	(12)
3850 USFWS: 42	24 July 1971	(12)
3851 USFWS: 42 (HDFG)	27 July 1971	(12)
3852 USFWS: 39	7 Jan. 1972	(12)
3853 USFWS: 33	8 Jan. 1972	(12)
3854 Banko: 30	26 May 1972	(18)
3855 USFWS: 39	7 July 1972	(12)
3856 48 censused	27 Feb. 1973	KRIE73
3857 Banko: 48	15 Mar. 1973	(18)
3858 Banko: 41 + broods of 2, 5	1 June 1973	(18)
3859 HDFG: 15	8 Aug. 1973	(1)
3860 HDFG: 63	2 Aug. 1974	(1)
3861 HDFG: 83	1 Aug. 1975	(1)
3862 HDFG: 59	15 Jan. 1976	(2)
3863 HDFG: 67	4,5 Aug. 1976	(2)
3864 USFWS: 49	1 Dec. 1976	(13)
3865 HDFG: 54	13 Jan. 1977	(2)
3866 HDFG: 49	27,28 July 1977	(2)
3867 Shallenberger: observed 38, 36 and 42 on 3 visits...2 nests found...immature birds of 3 separate age classes observed on 24 June visit (visits recorded on 7, 8, 24 June; 8 July) (observations include Kaloko Fishpond which has record of little use)	(1977)	(3)
3868 HDFG: 0	12,13 Jan. 1978	(2)
3869 40 counted	29 Jan. 1978	PYLR78
3870 HDFG: 38	28,30 July 1978	(5)
3871 USFWS: 40	19 Sep. 1978	(13)
3872 USFWS: 47	18 Oct. 1978	(13)
3873 USFWS: 35	24 Nov. 1978	(13)
3874 USFWS: 35	Jan. 1979	(13)
3875 USFWS: 42	Feb. 1979	(13)
3876 USFWS: 32	Mar. 1979	(13)
3877 USFWS: 38	Apr. 1979	(13)
3878 USFWS: no census	May 1979	(13)
3879 USFWS: 32	June 1979	(13)
3880 USFWS: no census	July 1979	(13)
3881 HDFG: 55	1,2 Aug. 1979	(5)
3882 USFWS: no census	Aug. 1979	(13)
3883 USFWS: 70	Sep. 1979	(13)
3884 USFWS: 65	Oct. 1979	(13)

3885 USFWS: no census	Nov. 1979	(13)
3886 USFWS: no census	Dec. 1979	(13)
3887 HDFG: 48	15,16,20 Jan. 1979	(5)
3888 HDFG: observed nesting in bullrush...difficult to count accurately	12 Jan. 1980	(5)
3889 HDFG: 91	14,15,16 Jan. 1980	(5)
3890 HDFG: apparently not censused in 1979	31 July 1980	(5)
3891 HDFG: nests and young numerous...difficult to count them	31 July 1980	(5)

Kaloko

3892 HDFG: 9	7-16 Jan. 1959	(1)
3893 none seen	9,10 Sep. 1965	KRIE65
3894 HDFG: 0	24 July 1969	(1)
3895 HDFG: 0	27 July 1971	(1)
3896 USFWS: 0	7 Jan. 1972	(12)
3897 USFWS: 0	8 Jan. 1972	(12)
3898 HDFG: 0	1 Aug. 1975	(1)
3899 HDFG: 0	15 Jan. 1976	(2)
3800 HDFG: 0	4,5 Aug. 1976	(2)
3901 HDFG: 0	13 Jan. 1977	(2)
3902 HDFG: 0	27,28 July 1977	(2)
3903 HDFG: 0	12,13 Jan. 1978	(2)
3904 HDFG: 0	15,16,20 Jan. 1979	(5)
3905 HDFG: 0	1,2 Aug. 1979	(5)
3906 HDFG: 0	14-16 Jan. 1980	(5)
3907 HDFG: 0	31 July, 1 Aug. 1980	(5)
3908 HDFG: 0	12 Jan. 1981	(5)

HUALALAI

Huehue Mauka

3909 HDFG: 1 (Kaupulehu)	14-18 Jan. 1963	(1)
3910 HDFG: 0	2 Aug. 1974	(1)
3911 HDFG: 0	1 Aug. 1975	(1)
3912 HDFG: 0	15 Jan. 1976	(2)
3913 HDFG: 0	13 Jan. 1977	(2)
3914 HDFG: 0	27,28 July 1977	(2)
3915 HDFG: 0	12,13 Jan. 1978	(2)

3916 HDFG: 0
3917 HDFG: 0
3918 HDFG: 0

15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

HONAUNAU

Kealakekua Bay Area

3919 common on freshwater ponds

Mar. 1779

COOJ84

City of Refuge National Park Area

3920 1 seen

winter of 1967-1968 VAUT70

Kau District

KA LAE

Kaalualu

3921 HDFG: 0
3922 HDFG: 0
3923 HDFG: 0
3924 HDFG: 0
3925 HDFG: 0
3926 HDFG: 0
3927 HDFG: 0
3928 HDFG: 0
3929 HDFG: 0
3930 HDFG: 0
3931 HDFG: 0

1 Aug. 1974 (1)
1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)

NAALEHU

Honuapo

3932 HDFG: 0
3933 HDFG: 0
3934 HDFG: 0
3935 HDFG: 0

1 Aug. 1974 (1)
1 Aug. 1975 (1)
13 Jan. 1977 (2)
27,28 July 1977 (2)

3936 HDFG: 0	12,13 Jan. 1978	(2)
3937 HDFG: 0	15,16,20 Jan. 1979	(5)
3938 HDFG: 0	1,2 Aug. 1979	(5)
3939 HDFG: 0	14-16 Jan. 1980	(5)
3940 HDFG: 0	12 Jan. 1981	(5)

Punaluu

3941 HDFG: 1	8-10 Jan. 1968	(1)
3942 HDFG: 0	1 Aug. 1974	(1)
3943 HDFG: 0	1 Aug. 1975	(1)
3944 HDFG: 0	15 Jan. 1976	(2)
3945 HDFG: 0	13 Jan. 1977	(2)
3946 HDFG: 0	27,28 July 1977	(2)
3947 HDFG: 0	12,13 Jan. 1978	(2)
3848 HDFG: 0	27,28,30 July 1978	(5)
3949 HDFG: 0	1,2 Aug. 1979	(5)
3950 HDFG: 0	14-16 Jan. 1980	(5)

Punaluu, Niinole Fishponds

3951 Shallenberger: coots appear in the records (1/18/73) for Honuapo but not for the Punaluu ponds	(1977)	(3)
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Kilauea District

KAPOHO

Kapoho Fishpond and Green Lake

3952 Shallenberger: Bachman recalled having heard residents speak of coots on the lake, but there are no published records of these observations...	(1977)	(3)
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Mauna Kea District

HILO

Hilo (Area)

3953	1 specimen obtained within 8 miles of Hilo	Aug. 1875	SCLP81
3954	Banko: Challenger Expedition members obtained 1 specimen	14-19 Aug. 1875	(10)
3955	Banko: Henshaw collected 5 specimens	(1898-1900)	(10)
3956	present...Onekahakaha Park to Hilo Airport	7 Sep. 1971	HANR75
3957	Shallenberger: maximum of 2 recorded during our 3 trips (4 June, 22 June, 6 Sep.) to (Lokoaka/Nakagawa and Kionakapahu (Ahn) Fishponds)...typical of last several years...in nearly every case coots have been observed only on Lokoaka Pond...where Bachman reports they have nested	(1977)	(3)
3958	Shallenberger: maximum number recorded on 4 counts in May, June and September was seven...found only within or immediately outside the Mohouli Pond area...2 active nests on Mohouli Pond found 31 May	(1977)	(3)

Mohouli/Pond back of Tropics Lanai Restaurant, Hilo (Kikauea Avenue)

3959	HDFG: 3	14-17 Jan. 1958	(1)
3960	HDFG: 6	7-16 Jan. 1959	(1)
3961	HDFG: 7	4-8 Jan. 1960	(1)
3962	HDFG: 2	14-18 Jan. 1963	(1)
3963	HDFG: 4	15 Jan. 1964	(1)
3964	annually seen coots...a baby coot...this year	Aug. 1964	BELJ65
3965	HDFG: 2	14 Jan. 1965	(1)
3966	8 counted	14 Jan. 1978	MULM78

Ahn Pond (Kionakapahu)

3967	HDFG: 1	14 Jan. 1965	(1)
3968	HDFG: 1	8 Aug. 1973	(1)
3969	HDFG: 0	1 Aug. 1974	(1)
3970	HDFG: 0	1 Aug. 1975	(1)
3971	HDFG: 0	15 Jan. 1976	(2)
3972	HDFG: 0	4,5 Aug. 1976	(2)
3973	HDFG: 0	13 Jan. 1977	(2)

3974 HDFG: 0	27,28 July 1977	(2)
3975 HDFG: 0	12,13 Jan. 1978	(2)
3976 HDFG: 0	27,28,30 July 1978	(5)
3977 HDFG: 0	15,16,20 Jan. 1979	(5)
3978 HDFG: 0	1,2 Aug. 1979	(5)
3979 HDFG: 0	14-16 Jan. 1980	(5)

Nakagawa Pond (Lokoaka)

3980 Banko: undesignated collector obtained 1 specimen	29 Mar. 1900	(10)
3981 HDFG: 1	14-17 Jan. 1958	(1)
3982 HDFG: 3	7-16 Jan. 1959	(1)
3983 HDFG: 2	4-8 Jan. 1960	(1)
3984 HDFG: 3	10-13 Jan. 1961	(1)
3985 HDFG: 3	14-18 Jan. 1963	(1)
3986 HDFG: 2	15 Jan. 1964	(1)
3987 HDFG: 4	14 Jan. 1965	(1)
3988 HDFG: 1	13,14 Jan. 1969	(1)
3989 HDFG: 2	8 Aug. 1973	(1)
3990 HDFG: 0	1 Aug. 1974	(1)
3991 HDFG: 0	1 Aug. 1975	(1)
3992 HDFG: 0	15 Jan. 1976	(2)
3993 HDFG: 2	4,5 Aug. 1976	(2)
3994 HDFG: 2	13 Jan. 1977	(2)
3995 HDFG: 3	27,28 July 1977	(2)
3996 HDFG: 0	12,13 Jan. 1978	(2)
3997 5 counted	14 Jan. 1978	MULM78
3998 HDFG: 0	27,28,30 July 1978	(5)
3999 HDFG: 0	15,16,20 Jan. 1979	(5)
4000 HDFG: 2	1,2 Aug. 1979	(5)
4001 HDFG: 0	14-16 Jan. 1980	(5)

Wailoa (Waiakea) Pond

4002 present	prior to tsunami of ANON60d	
	23 May 1960	
4003 HDFG: 7	10-13 Jan. 1961	(1)
4004 HDFG: 4	15-17 Jan. 1962	(1)
4005 HDFG: 5	14-18 Jan. 1963	(1)
4006 HDFG: 3	15 Jan. 1964	(1)

4007 HDFG: 4	14 Jan. 1965	(1)
4008 HDFG: 12	13,14 Jan. 1966	(1)
4009 HDFG: 14	13-16 Jan. 1967	(1)
4010 HDFG: 12	8-10 Jan. 1968	(1)
4011 HDFG: 7	13,14 Jan. 1969	(1)
4012 HDFG: 10	13-15 Jan. 1970	(1)
4013 HDFG: 5	8 Aug. 1973	(1)
4014 HDFG: 4	2 Aug. 1974	(1)
4015 HDFG: 12	1 Aug. 1975	(1)
4016 HDFG: 7	15 Jan. 1976	(2)
4017 HDFG: 2	4,5 Aug. 1976	(2)
4018 HDFG: 2	13 Jan. 1977	(2)
4019 HDFG: 6	27,28 July 1977	(2)
4020 HDFG: 4	12,13 Jan. 1978	(2)
4021 HDFG: 7	27,28,30 July 1978	(5)
4022 HDFG: 0	15,16,20 Jan. 1979	(5)
4023 HDFG: 2	1,2 Aug. 1979	(5)
4024 HDFG: 2	14-16 Jan. 1980	(5)

KEAAU RANCH

Keauu

4025 Banko: (H.) Shipman reported coot present when he resided at Haena (Keauu pond) as a small boy ca. 1892; the species was absent for a number of years but finally returned	(interview of 18 Feb. 1970)	(28)
4026 HDFG: 0	1 Aug. 1974	(1)
4027 HDFG: 5	1 Aug. 1975	(1)
4028 HDFG: 0	15 Jan. 1976	(2)
4029 HDFG: 0	4,5 Aug. 1976	(2)
4030 HDFG: 0	13 Jan. 1977	(2)
4031 Shallenberger: use by coots more open to question...only fishpond (Haena)...one recent count included coots (5 on 1 Aug. 1975)...caretaker, although familiar with the bird, insisted that they do not visit the pond...Bachman indicates that he has seen nests and young in the marsh portion of this pond more than once...surprising that this species does not appear on more HDFG/USFWS count records...	(1977)	(3)
4032 HDFG: 2	27,28 July 1977	(2)

4033 HDFG: 3
4034 HDFG: 0
4035 HDFG: 0

12,13 Jan. 1978 (2)
27,28,30 July 1978 (5)
15,16,20 Jan. 1979 (5)

HONOKAA

Honokaa Mill

4036 HDFG: 0
4037 HDFG: 0

4,5 Aug. 1976 (2)
27,28 July 1977 (2)

Kukaiiau

4038 HDFG: 0
4039 HDFG: 0
4040 HDFG: 0
4041 HDFG: 0
4042 HDFG: 0
4043 HDFG: 0
4044 HDFG: 0
4045 HDFG: 0
4046 HDFG: 0
4047 HDFG: 0

2 Aug. 1974 (1)
1 Aug. 1975 (1)
15 Jan. 1976 (2)
4,5 Aug. 1976 (2)
13 Jan. 1977 (2)
27,28 July 1977 (2)
12,13 Jan. 1978 (2)
15,16,20 Jan. 1979 (5)
1,2 Aug. 1979 (5)
14-16 Jan. 1980 (5)