An Ethnohistoric Report on The ʻAlaeʻula (*Gallinula galeata sandvicensis*)

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This Ethnohistoric Report was created by the request of Afsheen Siddiqi, Wildlife Biologist with the Division of Forestry and Wildlife under the Hawai‘i Department of Land and Natural Resources. It is intended to complement the results of a separate Ethnographic Report as part of a Feasibility Study on the potential reintroduction of ‘Alae‘ula (*Gallinula galeata sandvicensis*) from their current range on the islands of Kaua‘i and O‘ahu to a portion of their former range on Moloka‘i, Maui, and Hawai‘i.

This report expands on previously established literature on the subject of the cultural and historical importance of the ‘Alae‘ula. A survey has been made of the presence of ‘Alae‘ula in native Hawaiian traditional stories and spiritual beliefs. An attempt has also been made to identify the pre-contact distribution of ‘Alae‘ula in the Hawaiian archipelago through information from native Hawaiian traditions.

Every attempt has been made to use correct, modern Hawaiian diacritical marks (‘okina and kahakō). Where the proper meaning of a name or term is unclear, I have refrained from using them. Any spelling or grammatical errors are my own. I did not add diacritical remarks to direct quotes unless otherwise noted.

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Introduction:

The relationship of native Hawaiians with endangered native water birds such as the ʻAlaeʻula has been recognized by researchers as rare examples of synanthropy between endangered species and humans. Human modification and creation of wetland habitat for taro production has historically benefited ʻAlaeʻula (Harmon et al. 2021; Winter et al. 2020). However, more recent land-use changes have been harmful to ʻAlaeʻula populations, and normal human interaction with this species has waned (Zavas 2021, 5).

This report will examine several aspects of the ethnographic history of ʻAlaeʻula in Hawaiian culture including:

- A review of the Ethnosystematics of ʻAlae. This has been included in order to better understand the connections between the different kinds of ʻAlae and their ecosystems from a traditional Hawaiian worldview.

- A Literature Review of published stories and legends on ʻAlaeʻula. Most stories and legends collected are from Hawaiian language sources. Many of the English language stories appear to be adaptations or retellings of the Hawaiian ones. The known Hawaiian traditional sayings about ʻAlae were also collected. Particular emphasis was placed on examining the places mentioned within these stories in comparison to potential sites under consideration for the reintroduction of the ʻAlaeʻula.

- A Literature review of Hawaiian language newspaper articles with significant ethnographic information on ʻAlaeʻula. No attempt was made to collect or interpret poetry, chants, or newspaper articles using ʻAlae as a metaphor for political or social commentary. Sources such as these make heavy use of the Hawaiian concept of kaona (hidden meanings), which would take a significant effort to analyze and interpret. The Hawaiian cosmological chant, the Kumulipo, was however included because of its foundational importance to Hawaiian culture.

- Lastly, a brief examination is made of potential compatibility of ʻAlaeʻula reintroduction and translocation to native Hawaiian ethos and history.

The Ethnosystematics and Utility of the ʻAlaeʻula in Pre-Contact Hawaiʻi

No species exists in a vacuum. To understand the synanthropic and mutualistic relationship between any species and its human partners requires at least a cursory understanding of the ecosystem in which both species exist. A review of the ethnosystematics (or folk systematics) of Hawaiian waterbirds can help us to understand a little more of how 19th century

native Hawaiians viewed the position of ʻAlaeʻula in their world, particularly relative to other bird species they interacted with.

Ethnosystematics is the study of the various systems of ethnotaxonomy (or folk taxonomy), classification (folk classification) and nomenclature (folk nomenclature) defined and used by a particular cultural group. There are ethnosystematics for virtually everything in any given culture, including things such as colors, clothing, organisms, weather patterns, etc. The value of examining the native Hawaiian traditional folk taxonomies and folk naming systems of birds lies in a better understanding of the unique perspectives, ideas and relationships that exist or existed in Hawaiian society.

Furthermore, any discussion of ʻAlaeʻula from a Hawaiian cultural perspective would be incomplete if it did not include a discussion of the two closely related "folk taxa" that Hawaiians recognize and also call by the name "ʻAlae," these being the ʻAlaekeʻokeʻo and the ʻAlaeawī. These three birds, though not recognized as closely related taxa in the Linnean sense, are so closely related in the Hawaiian worldview that it is impossible to seriously discuss one without also including the others.

There are three historic writers that give us insight into the way pre-contact people viewed ʻAlae: David Malo, Kepelino Teauotalani, and George C. Munro.

David Malo

David Malo was born in Keauhou, Kona, Hawaiʻi sometime around 1793 to aliʻi parents Aoao and Heone. While we do not know where Malo obtained his specific information on birds, one of his major mentors was Noa ʻAuwae, an expert in old histories and genealogies. Malo was a student of the early Calvinist Christian missionaries at Lāhainaluna school at Lāhaina, Maui, where he became literate and began recording Hawaiian history. He was a well respected man in his own time for his knowledge of history and genealogy, as well as his service to the community (Emerson in Malo 1951 (1898), vii-xiii; Lyon 2012, 67).

Malo's magnum opus, *Moʻolelo Hawaiʻi*, is widely considered one of the most important writings on classical Hawaiian culture and history that exists today and informs the reader on a variety of topics ranging from religious ceremony to traditional games and stories. Written sometime during the 1840s, it was published posthumously as an English translation by Dr. Nathaniel Emerson in 1903 (Lyon 2012, 30-31; Murabayashi and Dye 2010, 12). The original Hawaiian-language manuscript was not published until 1987 by Malcolm Nāea Chun (Lyon 2012, 70; ibid. 72), and was most recently retranslated, edited and republished by Dr. Charles Langlas and Jeffrey Lyon in 2020. I have elected to use this most recent translation as my primary source of Malo's work because Langlas and Lyon took exceedingly careful and painful steps to preserve the meaning of obscure Hawaiian-language terminology from the original hand-written manuscript housed at the Bernice Pauahi Bishop Museum Archives.

David Malo's Huliko'a (Description) of Hawaiian Birds

Malo presents his information on Hawaiian birds in list form, which probably derives from the old native Hawaiian scholarly practice of listing lengthy amounts of information through chant. His descriptions are very brief, often just giving the name of the bird, its folk taxonomic class, some small note on its physical appearance and habits, whether or not the bird was palatable, and perhaps the name of the method used to hunt it. In spite of the lack of depth to Malo's information, it is incredibly valuable as a rare legitimate and explicit source of indigenous insight on this subject.

Figure 1 and Table 1 show the birds described by Malo in the folk taxonomic classifications to which he has assigned them. I have arranged these classifications in their presumed taxonomic rankings according to his descriptions. There are three levels of ranking to this hierarchy, given from the largest and most general ("nā manu hihiu" or "wild birds") to the smallest and most specific. Each level of ranking may have multiple classifications within it. Some classifications have more than one synonymous title given by Malo. All given synonyms are included. Some of the birds Malo lists are unknown to us today, at least by those names. I have followed the spelling conventions proposed by Langlas and Lyon for those names.

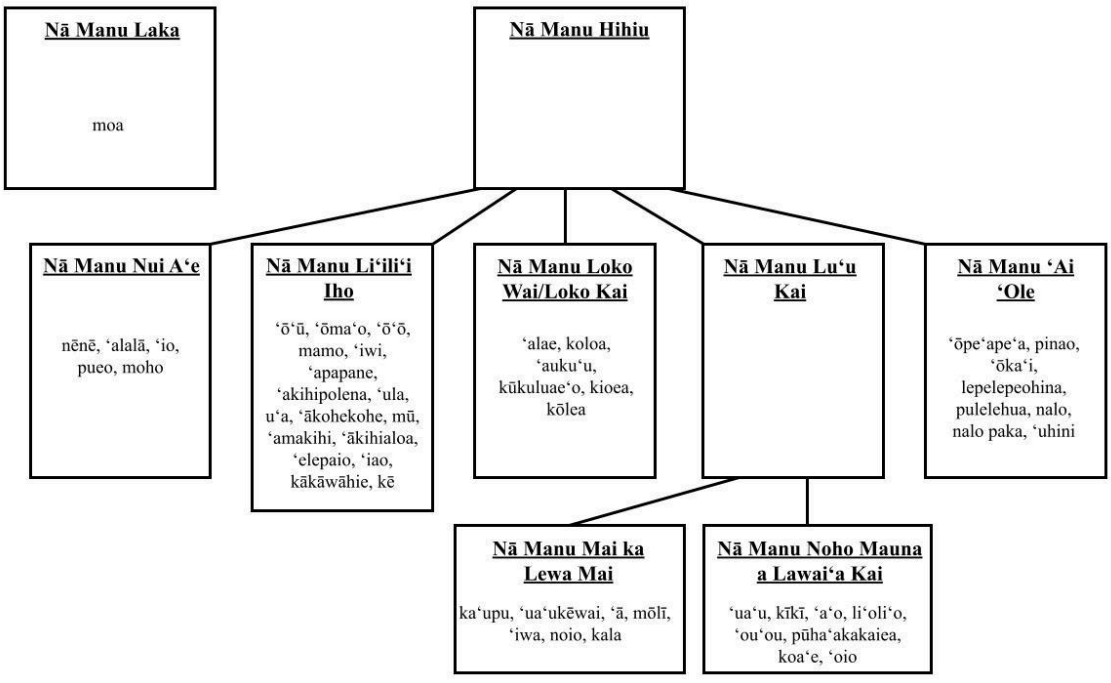

Figure 1. Malo's Folk Taxonomy of Hawaiian Birds

Table 1. Malo's Folk Taxonomy of Hawaiian Birds

Category	Organisms in this Category
Nā Manu Laka (Domesticated Birds)	moa (domestic chicken; *Gallus gallus domesticus*)
Nā Manu Hihiu (Wild Birds)	All flying creatures except the moa.
Nā Manu Nui Aʻe (Larger Birds)	nēnē (*Branta sandvicensis*), ʻalalā (*Corvus hawaiiensis*), pueo (*Asio flammeus sandwichensis*), ʻio (*Buteo solitarius*), moho (*Porzana sp.*)
Nā Manu Liʻiliʻi Iho (Smaller Birds)	ʻōʻū (*Psittirostra psittacea*), ʻōmaʻo (*Myadestes obscurus*), ʻōʻō (*Moho sp.*), mamo (*Drepanis pacifica*), ʻiwi (*Drepanis coccinea*), ʻapapane (*Himatione sanguinea*), ʻākihipōlena (unknown), ʻula (unknown), uʻa (unknown), ʻākohekohe (*Palmeria dolei*), mū (unknown), ʻamakihi (*Chlorodrepanis virens*), ʻakihialoa (*Akialoa sp.*), ʻelepaio (*Chasiempis sp.*), ʻiao (unknown), kākāwahie (*Paroreomyza flammea*), kē (unknown)
Nā Manu Loko Wai / Loko Kai (Freshwater Pond Birds / Saltwater Pond Birds)	ʻalae (*Gallinula galeata sandvicensis*, *Fulica alai*), koloa (*Anas wyvilliana*), ʻaukuʻu (*Nycticorax nycticorax*), kūkuluaeʻo (*Himantopus mexicanus knudseni*), kioea (*Numenius tahitiensis*), kōlea (*Pluvialis fulva*)
Nā Manu Luʻu Kai (Sea-Diving Birds)	All birds in the categories "Birds that live in the mountains and fish in the sea," and "Birds from the sky/Birds from the sea."
Nā Manu Mai ka Lewa Mai (Birds From the Sky)	kaʻupu (unknown), ʻuaʻukēwai (unknown), ʻā (*Sula sp.*), mōlī (unknown), ʻiwa (*Fregata minor*), noio (*Anous minutus*), kala (*Onychoprion lunatus*)
Nā Manu Noho Mauna a Lawaiʻa Kai (Birds That Nest in the Mountains and Fish at Sea)	ʻuaʻu (*Pterodroma sandwichensis*), kīkī (unknown), ʻaʻo (*Puffinus newelli*) liʻoliʻo (unknown), ʻouʻou (*Bulwelria bulwelrii*), pūhaʻakakaiea (unknown), koaʻe (*Phaethon sp.*), ʻoio (unknown, perhaps *Anous sp.*)

Nā Manu ʻAi ʻOle (Birds Not Eaten)	All flying animals are considered to be "manu," including birds, bats and flying insects. ʻōpeʻapeʻa (Hawaiian hoary bat; *Lasiurus cinereus semotus*), pinao (dragonflies and damselflies; order *Odonata*), ʻōkaʻi (a large, nocturnal moth in Suborder *Heterocera*), lepelepeohina (an insect in either Suborder *Rhopalocera* or *Heterocera*, perhaps a butterfly such as *Vanessa tameamea*), pulelehua (Suborder *Rhopalocera* or *Heterocera*, perhaps a butterfly such as *Vanessa tameamea*) nalo (various flies; order *Diptera*), nalo paka (family *Evaniidae*) The ʻuhini (grasshoppers and relatives; family *Acrididae*) is also included in this classification, though Malo notes that it was actually eaten.

The ʻAlae is included in the folk taxonomic rank of "nā manu loko wai a loko kai," or "fresh and saltwater pond birds." His brief description of the ʻAlae is as follows:

> Eia kekahi mau manu e noho ana ma ka loko kai a me ka loko wai. ʻO ka ʻalae, he ʻeleʻele kona hulu, he lena kona mau wāwae, he ʻulaʻula kona lae. Keʻokeʻo kahi ʻalae. Ua manaʻo ʻia kēia manu he akua; ua nui ka poʻe hoʻomana i kēia manu. Ua like kona nui me kekahi moa wahine. He manu ʻono nō ke ʻai ʻia. ʻO ke alualu a me ka pehi ka mea e loaʻa ai.
>
> "Here are several birds that live in saltwater or freshwater ponds. The ʻalae [Hawaiian moorhen] has black feathers, yellow legs, and a red forehead. Some ʻalae are white. This bird is thought a god, and many people hold religious services to it. Its size is like that of the hen. It is especially good to eat. It is caught by chasing and throwing stones at it." (Langlas and Lyon 2020, 110)

Kepelino Teauotalani

Kepelino Teauotalani was born in Kailua, Kona, Hawaiʻi around the year 1830 to aliʻi parents Nāmiki and Kahulilanimaka. His parents were early Catholic converts and Teauotalani was educated by Catholic priests. He later wrote letters and articles for the Catholic Newspaper, *Hae Katolika*. Though his full given name appears to have been "Zepherin Kuhopu Kahoalii

Kameeiamoku Kuikauwai" he signed his writings under the name "Zepherin Teauotalani" ("Kepelino Keauokalani" in modern Hawaiian orthography), and he is commonly referred to as "Kepelino" by modern scholars of Hawaiian history and culture (Gomes 2020, 34-35).

Kepelino Teauotalani's Huliko'a (Description) of Hawaiian Birds

Teauotalani's treatise on birds, *Huli-Toa Manu Havaii*, appeared as part of his *Hoiliili Havaii* series in *Hae Katolika* between 1859 and 1860. In this work Teauotalani provides what is likely the most detailed and explicit account that we have on Hawaiian perspectives on birds. Teauotalani's writings usually list each bird by name, its taxonomic categorization, a description of its physical appearance, some habits, palatability, and the methods that might be used to catch it. Occasionally he provides additional information.

Figure 2 depicts Teautalani's bird folk taxonomic classification system. His system is not as broad as Malo's, the highest categories being "nā manu o ka uka" ("birds of the uplands," a category that contains mostly forest birds), "nā manu 'elepaio" ("'elepaio-natured birds," his term for seabirds), and "nā manu o ka 'āina" ("birds of the land," a category for various kinds of terrestrial and wetland species). Like Malo, some of the birds described by Teauotalani are apparently unknown to us today. I have not included the use of kahakō and 'okina in the names of any of the birds listed by Teauotalani.

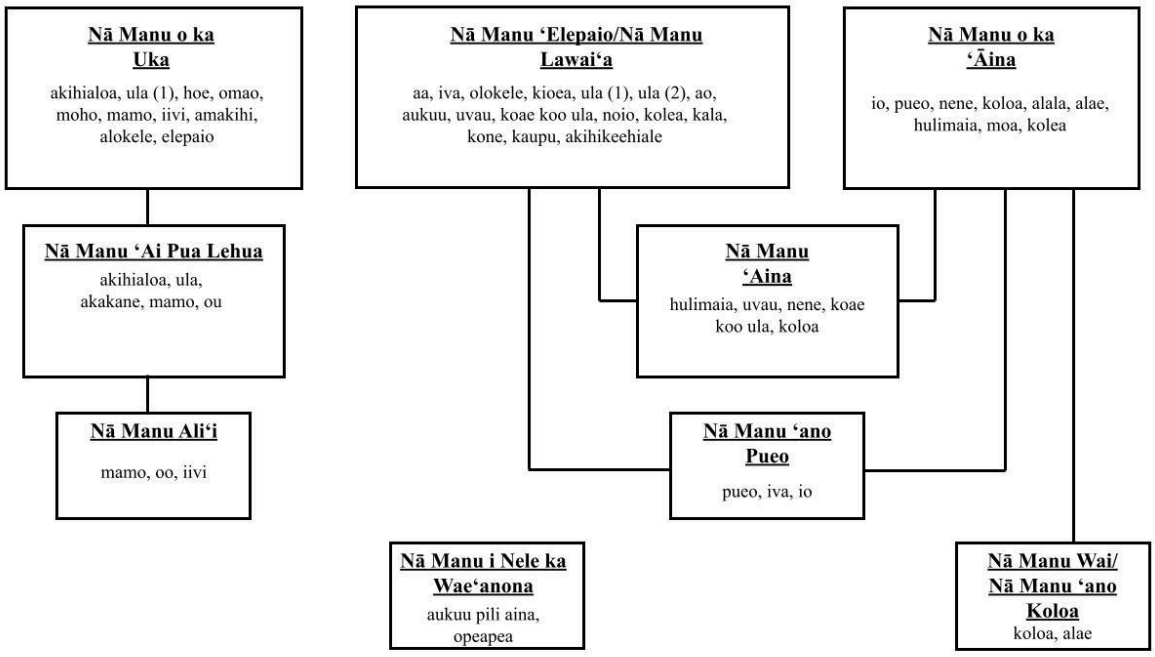

Figure 2. Teauotalani's Folk Taxonomy of Hawaiian Birds

Table 2. Teauotalani's Folk Taxonomy of Hawaiian Birds

Category	Organisms in this Category
Nā Manu o ka Uka (Birds of the Uplands)	akihialoa (*Akialoa sp.*), ula (1) (unknown), hoe (unknown), omao (*Myadestes obscurus*), moho (*Porzana sp.*), mamo (*Drepanis pacifica*), iiwi (*Drepanis coccinea*), amakihi (*Chlorodrepanis sp.*), alokele (unknown), elepaio (*Chasiempis sp.*)
Nā Manu ʻAi Pua Lehua (Birds That Eat Lehua Flowers)	akihialoa (*Akialoa sp.*), ula (unknown), akakane (*Himatione sanguinea*), mamo (*Drepanis pacifica*), ou (*Psittirostra psittacea*)
Nā Manu Aliʻi (Royal Birds)	mamo (*Drepanis pacifica*), oo (*Moho sp.*), iivi (*Drepanis coccinea*)
Nā Manu ʻElepaio / Nā Manu Lawaiʻa / Nā Manu o ke Kai (ʻElepaio Birds / Fishing Birds / Birds of the Sea)	aa (unknown), iwa (*Fregata minor*), *olokele* (unknown), kioea (*Numenius tahitiensis*), ula (1) (unknown), ula (2) (unknown), ao (*Puffinus newelli*), aukuu (*Nycticorax nycticorax*), uvau (*Pterodroma sandwichensis*), koae koo ula (*Phaethon rubricauda*), noio (*Anous sp.*), kolea (*Pluvialis fulva, Arenaria interpres, Tringa incana*), kala (*Onychoprion lunatus*), kone (unknown), kaupu (unknown), akihikeehiale (unknown)
Nā Manu o ka ʻĀina (Birds of the Land)	io (*Buteo solitarius*), pueo (*Asio flammeus sandwichensis*), nene (*Branta sandvicensis*), koloa (*Anas wyvilliana*), alala (*Corvus hawaiiensis*), alae (*Gallinula galeata sandvicensis, Fulica alai*), hulimaia (unknown), moa (*Gallus gallus domesticus*), kolea (*Pluvialis fulva, Arenaria interpres, Tringa incana*)
Nā Manu o ka Wai / Nā Manu ʻAno Koloa (Birds of Fresh Water / Koloa-Natured Birds)	alae (*Gallinula galeata sandvicensis, Fulica alai*), [probably also koloa (*Anas wyvilliana*) due to the name of the category]
Nā Manu ʻAina (Birds Which Are Used for Meals)	hulimaia (unknown), uvau (*Pterodroma sandwichensis*), nene (*Branta sandvicensis*), koae koo ula (*Phaethon rubricauda*), koloa (*Anas wyvilliana*)

Nā Manu ʻAno Pueo (Pueo-Natured Birds)	pueo (*Asio flammeus sandwichensis*), *iwa* (*Fregata minor*), io (*Buteo solitarius*)
Nā Manu i Nele ka Waeʻanonoa [Birds not Assigned a Category]	aukuu pili aina (unknown), opeapea (*Lasiurus cinereus semotus*)

Teauotalani categorizes ʻAlae under the folk-taxa "manu o ka wai" or "nā manu ʻano koloa." Unsurprisingly, this is an observation that the ʻAlae is a freshwater wetland bird, and is very similar to Malo's grouping for this bird. Teauotalani's writings on the ʻAlae are as follows. The translation is my own:

> Ta Alae nutu ula, manu o ta vai.
>
> Elua ano o ta Alae, he nutu ula tetahi, he nutu tea tetahi. Ua lite ta nui o ta Alae me ta piopio moa tane, a pela no na hatau, a aneane no hoi e lite me ia na nutu; ata, ua uutu itiʻho nae ta nutu o ta Alae, ua pete vini no hoi. He alavi tona mau vavae, a ua tioea. He mahaehae no hoi tona mau manamana e lite me te tolea. He pohinahina uliuli tona hulu e lite me ta nunu eleele. He uliuli eleele tona onohi e lite me ta nunu. O na mea olotʻ o ta vai tana ai, e lite me te toloa. He vahi manu uutu leo nui ta Alae. He manu mio ilotʻ o ta vai te ite mai i te tanata. He *Cke* tana tani te tani mai. Nolaila, o *Cke* te tani, a o Alae tona inoa. A o tona lele ole i ta lavaia, ua heluia oia mamuli o ta papa manu o ta aina, e lite me te toloa a me ta nene, &., a ua iia *ta manu o ta vai*. He vahi manu ono hoi ta Alae, me he mea toloa la. A no tona noho mau ilotʻ o ta vai, nolaila, ua tapaia *na manu ano toloa*.
>
> The ʻAlaenukuʻula ["red-billed ʻAlae"], bird of fresh-water.
>
> There are two kinds of ʻAlae, one has a red beak, the other has a white beak. The size of an ʻAlae is similar to a young cock, and its body is bony like a young cock ["hākau"], and their beaks are almost the same as well, but the beak of the ʻAlae is a bit smaller, and is shorter and more tapered. Its legs are spindly ["alawī"] and long ["kioea"]. Its toes are also separated like that of the Kōlea. Its feathers are a dark smoky color like a black pigeon. Its iris is a deep, dark color like that of a pigeon. Creatures that live in freshwater are its food, the same as with the Koloa. The ʻAlae is a diminutive little bird with a loud voice. It is a bird that slips into the water when it sees humans. *Ckē* is its call when it vocalizes. Therefore *Ckē* is the call, and ʻAlae is its name. And because it does not fly out [to sea] to go fishing, it is listed under the class of the *birds of the land* ["ka papa manu o ka ʻāina"], like the Koloa, and the Nēnē, etc., and it is referred to as the *bird of fresh-water* ["manu o ka wai"]. The ʻAlae is also quite a tasty bird, similar to eating Koloa. And because they always live in freshwater, they are called *Koloa-natured birds* ["nā manu ʻano Koloa"].

George C. Munro

George Campbell Munro was born in South Wairoa (Clevedon), New Zealand, on the 10th of May, 1866 to George Munro and Janet Sutherland. His father was originally from Scotland and came to New Zealand through Australia. His mother, though also of Scottish heritage, was born in Nova Scotia. Munro had little interest in schooling as a child and eventually worked as a farmer on his parents' land. In 1883 he and his brother Hugh took up the study of birds and taxidermy, which they practiced at night after work. While working in the lumber industry at Wakahara, New Zealand in 1890 he was recruited by Henry C. Palmer, the bird collector hired by Lord Walter Rothschild, to travel with him to Hawai‘i to collect birds.

Munro and Palmer arrived in Hawai‘i in December of that year. While working with Palmer, Munro kept meticulous notes on his observations of Hawai‘i as it was in the 1890s. Their work collecting specimens of native Hawaiian birds for Rothschild’s collection has become fundamental to our modern understanding of birds in Hawai‘i. Many of the species collected have since become extinct, and a few were only ever recorded by Western science due to the diligence of Palmer and Munro. Munro would later make a successful career working on ranches in Hawai‘i, particularly on Lāna‘i and Moloka‘i, though his interest in Hawaiian natural history never ceased. Munro eventually published a book on Hawaiian birds in 1944, *Birds of Hawai‘i*. During his lifetime he was a widely regarded expert on Hawaiian birds, and his reputation has only grown since his death in 1963 (Munro 2006, xii-xxii; ibid. 197-200).

George C. Munro’s Notes on ‘Alaeawī

In a short series of articles printed in 1943 in the journal of the Hawaiian Audubon Society, *The Elepaio*, Munro described a kind of ‘Alae that Hawaiians recognized as distinct from the ‘Alaeke‘oke‘o and ‘Alae‘ula, known as the ‘Alaeawī,

> In 1891 there was a specimen of a coot in the Gay and Robinson collection with the frontal shield chocolate brown. This was procured on Niihau by Francis Gay at a time when he shot several with the white frontal knob. The natives there were acquainted with the variety and called it alae awi. They said that its eggs differed from those of the alae keokeo as could be seen when they were beaten up together in a dish. These natives used the coots eggs for food and this statement is therefore probably correct. This specimen was given to Palmer to send with our collection to England to determine if it were a different species. Rothschild must have received the specimen but makes no mention of it in his book. It would seem from this either that the American coot straggles to these islands occasionally or that the Hawaiian coot sometimes reverts to markings of its ancestor the American coot. (Munro 1943a, 1)

In a note in the same issue of *The Elepaio*, editor and president J. d'arcy Northwood added that naturalist H.W. Henshaw had recorded the name ʻAlaeawī as a Hawaiian name for the introduced Australian Swamphen (*Porphyrio melanotus*):

> The alae awi, also mentioned by Mr. Munro, is described by [H.W.] Henshaw as a gallinule, (Porphyrio melanotus Newton) [sic], and not a coot. He states that it was introduced from Australia and seemed rather numerous in the taro patches and rice swamps of Oahu, but so far as he was informed it had not reached the other islands. That was forty years ago and it may have disappeared. I have tried to find it in recent years without success. (Northwood 1943, 3)

Munro responded to Northwood's note on the name ʻAlaeawī being used for the Australian Swamphen in a later issue,

> In the May number of the "Elepaio" Mr. Northwood notes an exception to my classification of the alae awi. It may clarify matters for me to explain that there are two alae awis. The alae awi which Henshaw mentions in his "Birds of the Hawaiian Islands" also appears in Ed. Bryan's check list [printed regularly in *The Elepaio* from April 1941 through June 1942] under the same name. Caum calls it in his "Exotic Birds of Hawaii" the alae iwi. It is the pokeko [sic. "Pūkeko"] or swamp hen of New Zealand, a bird which I was familiar in my earliest boyhood." "The bird with the brown frontal plate, the alae awi of the Hawaiians is an entirely different bird. The specimen in the Gay and Robinson collection was no doubt taken in the eighteen eighties. Mr. Francis Gay gave me the name in 1891 and handed me the skin to take to Palmer who was then in Honolulu arranging for the Midway trip. If it had been the same as the pokeko (Porphyrio melanotus) of which there were then specimens in my private collection I should have noticed it at once. The pokeko has a bright red frontal plate and a heavy red bill. The name alae awi was probably given the pokeko by the Hawaiians as it was, like the rare alae awi different from the other two alaes. Or it may have been iwi as Caum has it after the red iiwi, the pokeko's red bill and frontal shield are much more conspicuous than those of the Hawaiian Gallinule. I doubt if the pokeko were ever common on Oahu. If it had been it is inexplicable that it should be so rare now none of the present bird students has ever seen it to my knowledge. The pokeko is a hardy bird and would not have been easily exterminated if common. There is no question in my mind as to the genuineness of Mr. Gay's information which I recorded in my journal at the time.
>
> Dr. [R.C.L.] Perkins also has something to say about the alae awi, he says: "Occasionally the frontal shield instead of being white is of a rich dark chocolate-brown color. I shot one such specimen on Oahu in 1892 and have seen others since. Whether this variation is due to age I do not know, but the natives called it by a different specific name." In a

> footnote he says: "The Alae awi is known to the natives of Oahu, Molokai and Maui; it differs from the Alae keo as follows: frontal shield dark rich chocolate (redder after drying), beak white but the lower mandible with two red-brown spots, which are separated by a bright yellow line, a little behind the tip; the upper mandible has a single transverse red-brown spot placed above those on the lower. Legs down to and including the basal joint of toes bright apple green in front, except the joints themselves.
>
> Ed. Bryan's list gives the bird imported here as P. poliocephalus melanotus [*Porphyrio melanotus*]. It is supposed to have been brought in from Australia. (Munro 1943b, 1)

There is no population of *Porphyrio melanotus* in Hawai‘i today, or any other bird in the genus *Porphyrio*. It is unclear why the name ‘Alaeawī was applied to this bird as well as unusual individuals of *Fulica alai*. Hawaiians in the late 1800s may have noticed a similarity between the two birds that could be related to the meaning of the name ‘Alaeawī, which is also lost to us today.

Though they do not use the term ‘Alaeawī, Pratt and Brisbin confirm that ‘Alaeawī are indeed aberrant individuals of the species *Fulica alai*, and that around 1-3% of the *Fulica alai* population display these morphological characteristics. They also note an individual reported on O‘ahu that had a yellow frontal shield and legs. They make no note of a difference between the eggs of birds with pale frontal shields and dark frontal shields, though they also recognize that there have been no studies to understand why some birds have this appearance. Further observations on the differences between "normal" ‘Alaeke‘oke‘o and ‘Alaeawī might provide interesting insights into the cause of this rare phenomenon.

A General Review of ‘Alae in Hawaiian Literary Tradition

Few birds are as prominent in Hawaiian legend and spiritual tradition as the ‘Alae. A review was made of existing literature in both English and Hawaiian language sources that mention the ‘Alae in a legendary or spiritual context, with particular attention to primary sources. A general literature review of newspaper articles and Hawaiian sayings about ‘Alae was also made. There are likely additional archival sources relevant to this subject that were not accessed during the project period due to time and travel constraints. Tables 3, 4, and 5 below provide a listing and summary of the results of this search.

Table 3 includes all references found that include ‘Alae in legends and stories. The vast majority of English language literature that includes ‘Alae appears to be plagiarized or amalgamated versions of original Hawaiian language sources, so relatively few English sources are listed here. I have included stories that mention Kapo (sometimes called Kapō, Kauluimaunaloa, Kapo‘ulakīna‘u, or Kapokūlani) and Pua (or Puanui) that do not necessarily mention ‘Alae, since these akua are often closely associated with the ‘Alae, and the ‘Alae is also a well-known kinolau (body form) of these akua. I have also included stories about Māui and

Hina (mother of Māui). While the ʻAlae is most closely associated with Hina (sometimes also called Hinawelelani, Hinaikeahi, or Hinaakalana) in the Māui stories, I did not specifically search for stories that mention her. There are numerous women named Hina in Hawaiian history and legend that are not all closely related to one another and it would be very difficult to consistently differentiate between them. Therefore I searched for stories about Māui specifically, that also mention the ʻAlae.

Table 4 includes newspaper articles, primarily from Hawaiian language sources. While there are 324 hits for the words "Alae" and "manu" that appear in the Papakilo Database for Hawaiian language newspapers, I have only included articles that actually contain clear and explicit ethnographic information about the ʻAlae. There are many articles that use figurative language about ʻAlae to comment on politics or social issues; and there are others that contain the word "Alae" as part of poetry or chant. I have not included these because each one would require individual analysis to determine its possible relevance to this study, which is not intended to be exhaustive. There were also a number of articles that appear to have been included by the search engine due to errors in the optical character recognition scans of these newspapers.

Table 5 contains sayings about the ʻAlae. All of these come from *ʻŌlelo Noʻeau: Hawaiian Proverbs & Poetical Sayings* by Mary Kawena Pukui. It appears that Pukui's source for some of these sayings are from stories listed in Table 1. I have added diacritical marks to the Hawaiian language in these sayings in order to reflect modern standards of orthography, as well as for ease of reading. Otherwise these sayings have been copied verbatim from Pukui's work.

Table 3. Legends and Stories That Include ʻAlae.

Name of Legend or Story	Summary	Citation(s)	Additional Notes
Kaneiakama and Kālaipāhoa (Kamakau version)	Summary: Kaneiakama goes to Maunaloa, Molokaʻi and loses everything he owns by gambling. That night an akua named Kāneikaulanaʻula comes to him in a dream and instructs him to go gambling again, this time using his own body as tender. He does so and becomes rich. He makes sacrifices to Kāneikaulanaʻula and has another vision that night where the akua shows him that he and two other akua (Kahuilaokalani and Kapo) have possessed three specific trees at the head of the ʻulumaika field at Maunaloa. There was no grove of trees there previously, but miraculously in the morning a new grove appears. The aliʻi and makaʻāinana who witness this recognize that there is mana in the grove and attempt to cut down the trees to make kiʻi akua out of them, but anyone who touches a splinter of one of the trees or their sap is killed on contact. Kaneiakama receives another vision from Kāneikaulanaʻula on how to safely harvest and carve the wood. The three trees are cut down and images are made for each of the three akua, which are collectively called Kālaipāhoa. Kaneiakama cares for them the rest of his life and instructs his children on how to do so as well. They	Kamakau 1870b, 1 Kamakau 1870c, 1	The story of the Kālaipahoa poison akua and their discoverer, Kaneiakama, who was a man from Kalaupapa, Molokaʻi. No mention is made of ʻAlae, but because of the close association of one of the akua in this story, Kapo to the ʻAlae, and because in some versions of this story ʻAlae *are* mentioned, this story has been included.

	were not used for murder until long after he died.		
Kaneiakama and Kālaipāhoa (ʻĪʻī version)	Summary: After the death of the aliʻi Milu, a group of akua travelled from Hawaiʻi to Koʻolau on Maui, where they met Pua and Kapo living at Wailuanui. Kamapuaʻa was also with Pua and Kapo at that time and all of them joined the traveling akua, arriving at Maunaloa on Molokaʻi. Each of the akua enter into and become trees growing in the area. Meanwhile, Kaneiakama is a man living on Molokaʻi who enjoys gambling and playing games. He loses everything to gambling, yet at night in his dreams he is encouraged to continue gambling by a voice, who tells him to bet against his own body. Kaneiakama does so and ends up winning against everyone he plays against, and they become his servants. The voice reveals that he is Kāneikaulanaʻula, and names the other gods with him in the trees (including Kaʻalaenuiahina). Kāneikaulanaʻula is himself in a Maua tree. He instructs Kaneiakama on how to harvest the trees and what offerings he must make to do it successfully. The akua eventually return to Kahiki, but Pua, Kapo and the ʻAlae bird are still here, and the sickness they spread is still here, as well as the practices they spread among Hawaiians.	Ii 1870a, 1 Ii 1870b, 1	This is a continuation of the story of Lonopūhā by the same author. See *Ka Nupepa Kuokoa*, 23 October 1869.

Pīmoe (John Wise version)	Māuiakalana (or Māuiakamalo) obtains the fish hook Mānaiakalani to catch the fish Pīmoe in an attempt to bring the islands together into one landmass. He sails with his older brothers off the coast of Hāmākua, Hawai‘i to hook Pīmoe. He uses “ka ‘alae nui a Hina” (“the great ‘alae bird of Hina”) as bait. When they successfully hook the fish he tells his brothers to paddle forward and not to look back. Hinakekā floats in front of their canoe in the form of a canoe bailer. Māuiakalana grabs the bailer and tosses it into the canoe. Hinakekā then turns into a very beautiful woman. All of the older brothers of Māui turn around to look at her and begin to struggle with each other to see her. The fishing line then breaks and the spell is broken.	Wise 1912, 28-29	This version takes place at Hāmākua, Hawai‘i. This writer treats “ka ‘alae nui a Hina” as a description of the kind of bird used as bait, though he also says that it is one of Māui’s sisters. Other writers treat this same term as a name for this sister of Māui or as the name of an akua.
Ke Kumulipo (Wā ‘Umikūmālima)	Full quote below: “2007. Nu(n)u Maui, ninau i ka makuakane 2008. Ho‘ole Hina, “‘a‘ole au makua 2009. O ka malo o Kalana o ka makua ia” 2010. ‘Ono i ka i‘a na Hina-a-ke-ahi 2011. A‘o i ka lawai‘a, kena Hina-a-ke-ahi 2012. “E ki‘i oe i ko makuakane 2013. Aia ilaila ke aho, ka makau 2014. O Manai-a-ka-lani o ka makau ia 2015. O ka lou (a)na o na moku e hui ka moana kahiko” 2016. Ki‘i (a)na ka ala‘e [sic ‘alae] nui a Hina 2017. Ke kaikuahine manu 2018. O ka ua ahiku (o) na ua a Maui	Beckwith 1951, 238-239 English translation is my own.	This relevant section of the Kumulipo comes from the 15th canto. The many deeds of Māui, the hero are listed here. Curiously, no mention is made of the legend of Māui stealing fire from the ‘Alae birds. Lines 2007 through 2029 tell a version of the story of Māui attempting to catch the supernatural fish Pīmoe, by using his sister Ka‘alaenuiahina as bait. A number of details appear here that are not normally heard in this story, but nothing that appears to give particular insight into the

	2019. O ke kupua e‘u [sic ‘eu] nana i ho‘olou 2020. Ke ‘a, ka waha, ka opina [sic? ‘ōpiha?] o Pimoe 2021. O ka i‘a ‘Aimoku [sic?] e halulu ai ka moana 2022. Lilo Pimoe moe i kaina a Maui 2023. Ulu aloha o Mahanaulu‘ehu 2024. O kama a Pimoe 2025. Lawena uka ai Maui i na i‘a koe ka pewa 2026. I ho‘ohalulu a‘e Kane ma laua o Kanaloa 2027. O ka ua a hikilele ‘iwa a Maui 2028. Ola Pimoe ma ka pewa 2029. Ola Mahanaulu‘ehu ma ka hi‘u” (“2007. Māui was successful, he asked about his father 2008. Hina denied him, “you have no father… 2009. … The loincloth of Kalana is your father.” 2010. Hinaakeahi was hungry for fish 2011. He learned to fish, and Hinaakeahi ordered him to… 2012. … “Retrieve it from your father… 2013. … There [with him] is the fishing line, the hook… 2014. … Mānaiakalani is the name of the hook… 2015. … It is what will hook the islands and unite the ancient seas” 2016. He retrieved Ka‘alaenuiahina 2017. His bird sister 2018. That was the seventh of the feats of Māui 2019. He was the ascended hero, the one who hooked… 2020. … The jaw, the mouth, the gills of Pīmoe		relationship of Hawaiians with the ‘Alae.

	2021. The fish who ruled paramount, who caused the oceans to roar 2022. Pīmoe became Māui's prisoner 2023. His love grew for Mahanaulu‘ehu 2024. The child of Pīmoe 2025. Māui dragged the fish ashore, but the tailfins remained 2026. Which Kāne and Kanaloa caused to tremble 2027. The feat and ninth celeritous deed of Māui… 2028. … Was that Pīmoe survived through his tailfin 2029. Mahanaulu‘ehu survived through the tail")		
Māui and Luehu	Full quote below: "If Maui can hook the fish Luehu on the night of Lono, he can draw the islands together. The nine alae birds (mud hens) give warning to Luehu of his approach. His mother teaches him to make an image in his place and himself hide and seize the youngest alae. The place where he catches the bird is shown in a taro patch near the navel stone of Holoholoku. He now catches the big fish, and the islands would have drawn together had he not, contrary to his mother's warning, taken into his canoe a bailer that comes floating on the water and which turns into a beautiful woman. The crowds cheer the wonder, the brothers turn to look, and the big fish escapes the hook and the islands slide apart again."	Beckwith, 1970 (1940), 232	This appears to be a variant on the story of Māui and Pīmoe combined with the story of Māui and the ‘Alae. The reference to Holoholokū indicates that this version takes place in Wailua on Kaua‘i. Beckwith cites Judge Lyle Dickey as her source for this legend.
Māui and the ‘Alae (Forbes version)	Summary: Māuiakalana is the son of Hina and his foster father Akalana and lives at Kīpahulu on	Forbes 1870, 1	This version takes place at Kīpahulu, Maui.

	Maui. He has three brothers, Māuimua, Māuihope and Māuiki‘iki‘i. The family only eats raw foods and is unable to eat foods that need to be cooked for eaten (Kalo, ‘Uala, etc.) Māui asks his mother how to cook these foods. She tells him that fire will cook it, but that the ‘Alae birds have the fire. Māui notices that when he and his brothers are out fishing on the ocean the ‘Alae birds make their fires on land, but that they disappear with their fire and food whenever he tries to come back and catch them. He and his brothers paddle to Wai‘anae, on O‘ahu, where again they see the ‘Alae birds and he is unable to catch them. Māui tells his brothers to set up a “fish-line calabash” at the end of the canoe so that the birds will think he is fishing with them. He then goes and hides and waits for the birds. The ‘Alae come and make their fire and cook bananas. Māui surprises them and catches one, and takes some bananas, but the rest stomp out the fire before flying away. Māui ties the caught ‘Alae by the feet and is about to wring its neck when it begs for its life, promising him the secret of fire. The bird first tells him to rub the stems of taro leaves together, which does not work. Then the stems of Tī leaves together. This also does not		

	work. Then the surface of water (wai), which also does not work. Māui again threatens to kill the bird for tricking him, but the bird claims that it should not have been wai māoli (actual water) but Waimea (*Perrottetia sandwicencis*) wood. Māui rubs the Waimea wood together and obtains fire. As a punishment for the bird lying to him he rubs its forehead raw and red with the burning wood. Thus the bird is named today the ʻAlae (burning forehead). [with grammatically correct spelling this would be "lae ʻā"]		
Maui and the ʻAlae (Kamakau version)	Summary: Prior to Māui obtaining fire from ʻAlaenuiahina, humans continuously maintained fire that was given to them by the akua [very loosely translated as "gods"]. The akua, however, would sometimes seize the fire away from humans, so Māuiakalana sought out the original source of fire, which he found to be the māpele temple [a kind of heiau dedicated to Lono and agriculture]. The possessors of the fire in the temple were two women named ʻAlaehuapipi and ʻAlaenuiahina, who possessed bird bodies that they could transform into. Māui spied on them to ascertain the source of their fire. At the time, Māuiakalana was living at Ulehawa at Waiʻanae [Oʻahu]. He had noticed the women cooking bananas in the valley called Pohoaʻalae [uncertain of location]. The two women notice him and turn into birds and try to escape, but	Kamakau 1870a, 1	This version takes place at Ulehawa, Waiʻanae, Oʻahu.

	he catches ʻAlaehuapipi. He threatens to kill her if she does not give him the secret of fire, and holds her by the head, dangling, while also grasping her wings. She explains the secret of fire to him. No mention is made of tricks.		
Māui and the ʻAlae (*Ke Alakai o Hawaii* version)	Summary: Māuimua and his brothers decide to go fishing. When they are out at sea they see a fire burning on land near their home. They return to investigate and see Kaʻalaehuapī flying away and the fire extinguished.They also find that all their bananas were stolen by Kaʻalaehuapī and her companions. Some days later the brothers go out fishing again and the same thing happens. They are unable to catch Kaʻalaehuapī. The author explains that the birds knew that there were four Māui brothers, and so she would only build a fire to cook the stolen bananas when she could count four figures sitting in the canoe. Māuimua realizes this and instructs his brothers to go out fishing without him. In his seat in the canoe they place a gourd dressed up in kapa cloth, while he waits on land for the thieves. The birds create a fire and cook the bananas, only realizing too late that Māuimua is coming for them. He seizes Kaʻalaehuapī and chokes her. He threatens to kill her for stealing from them. She convinces him to spare her if she gives him the secret of fire. She attempts to lie to him several	Anonymous 1930a, 3	This version takes place at Kaupō, on Maui. This version seems to be the basis of the versions presented by Thrum, Armitage, and Fornander. It also appears to be the basis of one version of this legend given by Westervelt, the other being a more unique Hilo version of the story.

	times. When he finally obtains the secret from her he rubs dry tinder on her forehead as punishment. Her forehead becomes red, and from then on humans have fire.		
Māui and the ʻAlae (Wichman version)	Full quote below: "The plain of Papa-ʻalae [in Wailua], "plain of the mudhens" is where Māui discovered the secret of fire which, until then, had been kept by the ʻalae birds. The chiefess of the ʻalae lived in a cave at Manu-ʻena, "red-hot bird." Māui captured the bird by ruse and forced it to give him the secret, which consisted of rubbing two sticks together, one of soft wood and one of hard, until sparks came that could be fanned into a blaze. After he had created fire, Māui rubbed the top of the head of the ʻalae with a burning stick and the ʻalae ever since have red foreheads."	Wichman 1998, 73.	This version takes place at Papaʻalae, Wailua, Kauaʻi.
Māui and the ʻAlae (Hāpai version)	Full quote below: "Maui, the eldest son of the goddess Hina, lived with his mother and two brothers in the cave behind Rainbow Falls, in the Wailuku River Gorge, a short distance ma uka of what is today the town of Hilo. Often the brothers would go fishing in the harbor. At this time the Hawaiians knew nothing about fire. All their food was eaten raw. Occasionally Maui had found in his various wanderings some bits of	Hapai 1920	This version takes place in Punahoa, Hilo, Hawaiʻi but appears to be distinct from the Westervelt version that also takes place there.

	cooked banana and pondered over their delicious flavor. He could not understand what had been done to them until one day he came upon a group of little alae birds cooking bananas over a fire. He was so amazed at the scene that the birds had plenty of time to put out their fire and take wing before he could bring himself to action. This only aroused his ambitious nature and he vowed he would learn the secret of fire. In the days that followed he devised many cunning schemes to trap one of the alae birds, but they, too, were cunning and carefully refrained from building any fire when Maui was near. Once or twice while he was out fishing he had seen white puffs of smoke among the trees and knew the birds were preparing a feast, but he could never reach the place in time to catch any of them. One day he thought of a clever trick and took his brothers into his confidence. They fixed up a kalabash covered with tapa to resemble a man and placed it in the middle of Maui's canoe. Then the two brothers took their seats at either end of the canoe and paddled out into the harbor while Maui ran back and concealed himself in the woods. Soon the alae birds came circling overhead and Maui heard them say, "At last we can make our fire and have a good feast. Maui and his two brothers are out for a day's fishing."		

	Quivering with excitement, Maui crouched in his hiding-place and waited. Soon he heard the birds talking quite near him and, peeping out, saw them pushing fresh bananas into a blazing fire. Rushing into their midst he caught one of the birds. "Tell me how you make fire or you shall never go free!" he demanded. At first the bird was sullen and refused to answer, but at Maui's rough treatment resorted to trickery and replied, "Rub two taro stalks together and you shall have fire." Holding the bird closely, Maui did so, but only little drops of water came from the stalks. Very angry, Maui punished the bird again and demanded the truth. Helpless and exhausted, the poor alae told Maui to take two hau sticks and rub them together. Maui found the hau sticks, but fearing the bird was not telling the truth, he rubbed its head with one of the sticks until a drop of blood trickled out, staining the tuft of feathers on its crest. But the bird persisted in this statement, so Maui began rubbing the sticks together. Little sparks appeared and caught fire to the dead leaves on which they fell. Overjoyed at his discovery, Maui set the bird free. But to this day every alae bird wears the symbol of punishment for telling its secret—a tuft of red feathers on the top of its head.”		
Māui and the ‘Alae (Westervelt (Hilo)	Summary: At the southern side of the three Hāla‘i hills is a	Westervelt 1910	This version takes place in Punahoa, Hilo, Hawai‘i.

version)	place called Pōhakunui where two ʻAlae bird brothers lived. They were "gods," one of whom had the power to create fire. They used this fire to cook bananas to eat. When Māui would try to catch them in the act, the older bird told the younger "Be quick, here comes the swift son of Hina," and they would destroy the fire and flee. Māui followed them all over the place, where they would make new fires. Eventually they arrived at Waiʻanae on Oʻahu. There the ʻAlae made a big fire and many birds gathered to cook bananas. Māuis mother Hina had taught him how to approach the birds and that only the younger ʻAlae brother, ʻAlaeiki knew the secret of fire. At Waiʻanae Māui surprised the birds and jumped out and caught ʻAlaeiki before he could escape. Māui began to twist his neck and so the bird told Māui not to kill him, and that he would tell him the secret of fire. He told Māui to make the fire from rubbing together the pieces of a banana stump. It didn't work. Māui threatened the bird again and he told him to rub together the stems of the taro plant. It didn't work, and Māui severely rubbed the head of the bird in punishment. ʻAlaeiki finally told him the truth, to rub together the woods of different kinds of trees like ʻIliahi to get the spark of fire.		
Keaomelemele	A brief aside to the story explains the relationship of various characters in Hawaiian history named Hina to one another. This legend was translated by Mary Kawena Pukui and edited by Puakea Nogelmeier. Their translation follows:	Manu 2002 (1885), 1	

	"Hinawelelani was said to be the chiefess, because she issued forth from Mooinanea on the land of Kealohilani [somewhere outside of Hawai'i], therefore, she was related to the thunder and lightning and was a kin to Kanewahilani, the chief of all the Kanes and others. It was said that Hinaikeahi (Hina-of-the-fire) was another name for Hinawelelani (Hina-who-clears-the-sky) and from her came all the other Hinas and a certain mud hen ["'Alae" in the original Hawaiian] called "the great mud hen of Hina."		
The Death of Kamehameha	Summary: The nobles of Kamehameha's court send for another kahuna to assess Kamehameha's illness, after they were unsatisfied with the answers they received from the first kahuna. This particular kahuna was a famous man from Hawai'i named Kapo'ulakīna'u. Though his initial assessment of the state of Kamehameha's health was similar to the first Kahuna, the noblemen convinced him to attempt to treat Kamehameha. When he agreed to do so he told the noblemen that they must first retrieve for him several Lehua trees upon which moss was growing. The flowers of these Lehua trees must be brilliant red in color, and the backs of their leaves must be pale. If they should obtain these trees for him they must also find a Kanawao tree, as well as two pale boulders covered in an algae called "Limu Līpe'e Pali," and another boulder upon which Limu Kohu was growing.	Desha 1924, 1	This story does not mention the 'Alae, but is included because of the details it gives regarding Kapo, who is closely associated with the 'Alae.

	All of these things were obtained for him and then he commanded the noblemen to quickly build a house with the materials that they had obtained for Kamehameha. They did so, and had Kamehameha brought inside the house. As they did so Kapoʻulakīnaʻu began to pray, searching for further insight (from his akua) into what the first Kahuna had determined. The lengthy prayer that Kapoʻulakīnaʻu offered is printed. The akua that he prays to is Kapo of Maunaloa, Molokaʻi.		
Lonopūhā	Summary: A group of akua from foreign lands arrive in Niʻihau and make their way across all islands and districts, spreading disease wherever they go. The specific diseases mentioned by the author are lī, wela, nalulu, and pani, though there were others. The names of the akua who spread these diseases were Kaʻalaenuiahina, Kāneikaulanaʻula, Kahuilaokalani, and others. Wherever these akua of illness traveled, a different akua, Kamakanuiʻāhaʻilono, followed. They travel to Kiolokaʻa, Kaʻū, Hawaiʻi, where Lonopūhā is aliʻi. He becomes injured and Kamakanuiʻāhaʻilono heals him. Lonopūhā heals completely and decides to follow Kamakanuiʻāhaʻilono as his disciple. When they eventually get to Waimanu in Hāmākua, Kamakanuiʻāhaʻilono tells Lonopūhā he must stay behind and develop his own practice of medicine.	Ii 1869, 1	

	Lonopūhā does so and becomes somewhat famous for his skill. Meanwhile, the akua have moved on through Waipiʻo and into Kukuihaele. The aliʻi of Waipiʻo, Milu, becomes sick. Lonopūhā heals him, but gives him specific instructions on how to recover. Milu fails to follow these instructions repeatedly, and dies. After Milu dies, Kaʻalaenuiahina and the other akua of sickness travel to Maunaloa on Molokaʻi, because Pua and Kapo are living there. All these akua enter into the trees growing there.		
Kaiakea (Kamakau version)	Summary: Kaiakea was an important man from Kalaʻe, Molokaʻi who built a large house seaward of Kahanui. During the celebratory feast at the completion of his house, he saw a group of strange people traveling down from the plains of Hoʻolehua to Piliwale spring. They are women wearing pāʻū dyed bright yellow with ʻōlena and wearing kīhei of the same color. They wore lei on their heads composed of sections (paukū) of maʻo and ʻilima flowers. One man traveled with their group. Kaiakea calls out to them in hospitality. The group comes to the doorstep of his house, but only the man enters the doorway and speaks with him. The man refuses to eat and reveals that they are supernatural beings. His name was Pua, and the leader of the group, a woman, was named Kauluimaunaloa. Pua informs Kaiakea that if he builds a house for them they will become his akua. Their visible forms to Kaiakea will be the coconut-shell vessels that they carry and their ʻAlae	Kamakau 1870c, 1 Kamakau 1870d, 1	This story takes place at Piliwale, Molokaʻi. The Armitage and Judd (1944, 65) version of this story appears to be a retelling of Kamakau's version, but adds in the detail that this story is considered by some to be the origin of ʻAlae in Hawaiʻi.

	bird forms, both of which they have left at Piliwale. After these revelations the visitors disappear. Kaiakea immediately goes to the spring and builds a house there, supplying it with food, ʻAwa, bananas, and clothing for his new akua. A kapu was placed on the area that evening and the ʻAlae birds eat all of the food offerings. They show a gentle disposition in accepting the offerings. Kaiakea became a kahu of Kapo (Kauluimaunaloa) and Pua, and became famous for his care of these akua. He only cared for them, and did not practice hoʻounauna magic or kill anyone. When he died, he willed his children to also care for these akua, and to only ask the akua for healing, not to use the akua to seek wealth or hurt others. When he passed, all of the Molokaʻi aliʻi were slaughtered by the Oʻahu aliʻi, and Molokaʻi fell under Oʻahuʻs rule, and there was chaos. Some of the Molokaʻi people assisted the Oʻahu aliʻi. Others helped the aliʻi of Maui and Hawaiʻi. During that period, worship of various akua grew more prominent. At that time Kaʻakaumakaweliweli, one of the daughters of Kaiakea who possessed Pua and Kapo as akua, was frustrated, and several grim prophecies that she had made came to pass.		
Hiku i ka Nahele	Synopsis: Very brief mention is made of the main character, Hiku, stopping in Keaʻau, Puna, Hawaiʻi and greeting Māui, the famous hero who obtained fire from the ʻAlae. Nothing significant.	Kaulainamoku 1874, 4	

Hi‘iakaikapoliopele (Bush and Pa‘aluhi version)	Synopsis: A brief mention of Hi‘iaka greeting Kapo and her husband Puanui as she and her retinue travel through Wailuaiki (Maui) where they live. Kapo is shown to be an older sibling or cousin of Hi‘iaka.	Bush and Paaluhi 1893, 4	
Hi‘iakaikapoliopele (Ho‘oulumāhiehie version)	Summary: Hi‘iaka prays to Kapokūlani and her husband Puanui to kill a chief named ‘Olepau. ‘Olepau is killed by an illness in which he vomits blood and bleeds from sores on his lower body. It is shown that the illness in his upper body is caused by Kapo, and that the illness in his lower body is caused by Puanui.	Hooulumahiehie 1906, 3	
Ke Kumulipo (Wā ‘Ekolu)	“303. Hanau ka Alae ka makua 304. Puka kana keiki ka Apapane, lele” (“303. The ‘Alae is born, the parent 304. Its offspring emerges, the ‘Apapane, it flies”)	Beckwith 1951, 72 English translation is my own.	It is very difficult to ascertain all of the layers of esoteric meaning in the Kumulipo, but one obvious interpretation of the meaning of the pairing of these two birds is that they represent the opposite sides of a person’s head. We can see this in the names of the birds themselves. “Lae,” referenced in the name “‘Alae,” means “forehead.” “Pane,” referenced in the name “‘Apapane,” means “occiput.” The idea of direct opposition is a common poetic pattern seen in the pairings of the birds featured in this canto of the Kumulipo. It is also a common Hawaiian poetic device used in mele generally, called ‘ēko‘a.

“He Moolelo Kaao no ke Kaua nui Weliweli mawaena o Pelekeahialoa a me Wakakeakaikawai” (“A Legend about the Terrible, Great War Between Pelekeahi‘āloa and Wakakeakaikawai”)	Synopsis: This very long story is divided into two major sections. The first part details the migration of Kapo‘ulakīna‘u, eldest sister among the children of Haumeaniho‘oi, to Hawai‘i along with several other members of that family. The second part of the story details the migration of Kapo’s sister Pele and other junior siblings of that family to Hawai‘i, concluding with Pele’s subsequent bloody conflict with Waka, another relative, over the affections of the man Puna‘aikoa‘e.	Manu, Moses. 1899	The ‘Alae is not mentioned in this text, but it is valuable to this report for the deep insight it provides in understanding the nature of Kapo. In this story Kapo establishes her sisters on several islands and leaves behind traditions of hula, magic, mental healthcare, and possession, before settling in east Maui. Unfortunately much of the portion of her story on Lāna‘i and Moloka‘i has been lost, which is where one would have expected to see the ‘Alae bird mentioned.

Table 4. Newspaper Articles With Significant Ethnohistoric Information on ʻAlae.

Title of Source	Summary or Translation	Citation(s)	Additional Notes
“He Moolelo no kekahi mau naaupo o Hawaii Nei e Kawelewele nei i keia manawa.” (“A Narrative About Some Ignorant Things Here in Hawaiʻi that Continue to Linger into Modern Times.”)	Translation: “The Signs of Death From ʻAnāʻanā Sorcery, That is to Say, the Messengers of Death From ʻAnāʻanā. 1. The ʻAlae calling at night, at dawn, in the dark hours of the morning, or perhaps during the darkness of evening. It is one of the birds created by God to fly in the sky, a food for people, it is also something that is quite terrifying to the younger generation in modern times; should this bird call during the night, here is what they say, “Who is it that is dying?” And if there is someone lying infirm at the time, here is what they think, “So and so will die.” And should someone die, here is what they say, “when the ʻAlae called just now, and the calls reached their peak (puʻu), that is precisely when “so and so” actually died.” Should the ʻAlae give a startling cry inland (ʻaoʻao ma uka), then the person who will die is on the side of the land or village facing the ocean (ma kai). The same would be said if the ʻAlae were to call on the seaward side of the land, then the person who would die would be inland of that place, and so forth.”	N.K. 1968, 1	This article continues on, but this is the only relevant portion.

“No ka Hoopiopio” (“Regarding Counter-Sorcery”)	Mentions Kapo and Pua as akua used for Hoʻopiʻopiʻo magic. Only significant in that it ties Kapo and Pua to this practice. No mention is made of the ʻAlae.	Ii, Ioane 1839, 2	
“Ka Hoʻomana Kahiko.” (“The Old Religion.”)	The author briefly describes Hoʻounauna, which is the practice of sending an akua or spirit to kill a person or make them ill. Kapo and Pua are mentioned as akua that are used for this practice.	Naumu 1865, 1	
“Ka Hoʻomana Kahiko.” (“The Old Religion.”)	Another description of the practice of Hoʻounauna, with more detail. Kapo and Pua are also listed here as akua called upon for this practice. No details are given related to the ʻAlae.	Waiamau 1865, 2	
“No Maunaloa” (“Regarding Maunaloa”)	Translation: “Regarding Maunaloa. This is the second of the two major land sections here on Molokaʻi, which is the place that directly faces Oʻahu. There is the point called Kalāʻau as well as Kaluakoʻi. Also there are the lehua trees of Koana [spelling?] and the spring Moʻomomi, which is where Kālaipāhoa made love to Kapomaʻilele, as is told in the Hawaiian tales by visitors who donʻt really know Molokaʻi…”	Paheeikauai 1875, 1	A letter written to the editor of the newspaper describing famous places on Molokaʻi. The relevant section is brief.
“Moolelo no ko Hawaii Oihana Kahuna: Kapaia ka Oihana Hoomana.” (History of Hawaiʻi’s	Translation: “About the ʻAlae Bird. This is an of the akua of certain individuals.	Anonymousb 1930, 3	Discusses various supernatural beliefs of Hawaiians. The relevant section is brief.

Priestly Profession, Also Called The Profession of Religion.")	However, this is also a sign relating to revelations that a person is going to die. Because, in places where there are a great many houses, such as Honolulu, and Hilo, and other places populated by humans, these kinds of places are where the activities of the ʻalae birds are revealed. For example: If the ʻalae should cluck on one side [of a house], then a person will die on the other side [of the house], and if the cluck of the ʻalae is on the inland side, then people on the seaward side will die. So say certain individuals of the kahuna practice when they hear the call of the ʻalae. Someone will soon die when the call of the ʻalae is heard nearby. Should the call presently continue, and [the bird] call again, and the voice is wheezy, someone will die very soon. These are common signs regarding death."		

Table 5. Traditional Sayings Related to ʻAlae

Page No. or Citation	ʻŌlelo Noʻeau	Notes
16	ʻŌlelo Noʻeau #126 ʻAʻohe ʻalae nāna e keʻu ka ʻaha. *No mudhen's cry to disturb the council meeting.* There is no one to create a disturbance. The cry of a mudhen at night is an omen of death in the neighborhood.	
24-25	ʻŌlelo Noʻeau #207 ʻAʻohe pueo keʻu, ʻaʻohe ʻalae kani, ʻaʻohe ʻūlili holoholo kahakai. *No owl hoots, no mudhen cries, no ʻūlili runs on the beach.* There is perfect peace.	This saying classes ʻAlae with other birds that were common and lived near people in Hawaiʻi, it emphasis how normal and prominent they were in the environment.
57	ʻŌlelo Noʻeau #472 Hanopilo ka leo o ka ʻalae *Hoarse is the voice of the mudhen.* Said of a person who talks himself hoarse.	
77	ʻŌlelo Noʻeau #691 He keʻu na ka ʻalae a Hina.	

	A croaking by Hina's mudhen. A warning of trouble. The cry of a mudhen at night is a warning of distress.	
129	ʻŌlelo Noʻeau #1188 I kani nō ka ʻalae i ka wai. *A mudhen cries because it has water.* A prosperous person has the voice of authority.	ʻAlae are associated with water, water is often itself associated with prosperity since it is needed for basic life needs. An unpublished note collected by Theodore Kelsey from Daniel Hoe (Private Collection) mentions that ʻAlaekeʻokeʻo in particular were known as birds who had the power to bring forth water by pecking.
160	ʻŌlelo Noʻeau #1480 Ka manu keʻu ahiahi. *The bird that croaks in the evening.* Said of one who talks of or brings bad luck. When the ʻalae (mudhen) croaks near a house at night, trouble is to be expected there.	
235	ʻŌlelo Noʻeau #2159 Moʻa aʻela nō kā ka ʻalae huapī.	A reference to the Māui and ʻAlae story, here we see the name ʻAlae huapī interpreted as representing the stinginess of the ʻAlae, they

	The red-headed mudhen has finished cooking her own. Said of a selfish person who does only for himself with no regard for others. A play on pī (stingy) in huapī. From the legend of Māui.	did not willingly share their technology with mankind.
310	ʻŌlelo Noʻeau #2830 Ua moʻa ka maiʻa, he keiki māmā kā Hina. *The bananas are cooked, [and remember that] Hina has a swift son.* Let's finish this before we are caught. This saying comes from the legend of Māui and the mudhens. For a long time he tried to catch them in order to learn the secret of making fire. One day he overheard one of them saying these words. He caught them before they could hide and forced them to yield the secret of fire.	
Uhiuhi 1917, 2	ʻAʻole e māhinu ke poʻo o ka ʻalae iā ʻoe. The head of the ʻalae will not be anointed by you. This ʻōlelo noʻeau was collected by Zavas (2021, 26). She interpreted the kaona (deeper meaning) of the saying as, "who does this person think they are, a demigod?"	This saying is difficult to interpret without more context. It may be a reference to the sacrosanct nature of the ʻAlae to worshippers of certain akua. Alternatively, it could be a reference to Māui burning the head of the ʻAlae in punishment, suggesting that the person being discussed believes himself clever and powerful.

The Religious and Spiritual Importance of ‘Alae

A Note on the Nature of Akua

Prior to discussing the results of the literature review, a brief note must be made about the nature of kinolau and akua to better understand the nature of the relationship of the ‘Alae‘ula to the akua it is associated with.

While the term akua is most often defined today as a god, goddess, spirit, or elemental, there is in truth no perfect dictionary definition for what an akua is. Though far from flawless, Lorrin Andrews’ 1865 definition perhaps comes closest to the idea of what an akua is:

> Among Hawaiians, formerly, the name of any supernatural being, the object of fear or worship; a *god*. The term, on the visit of foreigners, was applied to artificial objects, the nature or properties of which Hawaiians did not understand, as the movement of a watch, a compass, the self-striking of a clock, etc. At present, the word *Akua* is used for the true God, the Deity, the object of love and obedience as well as fear.

Akua are often the deified spirits of deceased humans, especially ancestors, but can be any spirit, force, natural process, or supernatural process that acts independently of human authority. Though akua have an agency beyond the control of living humans, they can also still be influenced by appropriate human actions. Pukui and Elbert add that a living human of particularly high or low rank might also sometimes be called an akua, though this appears to be more of a figurative term. They also state that a corpse can apparently also rarely be called an akua, though exactly why is unclear. (Pukui and Elbert 1986, 15)

Given the above, I would propose that a somewhat better (though still imperfect) explanation of the concept of akua is that they are *any entity or phenomena, whether natural or supernatural, whose influence on tangible reality is outside of the direct control of normal, living humans*.

Pukui, Haertig and Lee (1972, 125-126) define the idea of kinolau as,

> *Kino lau* nearly always refers to the many forms or bodies both the *akuas* (impersonal gods) and the *aumākua* (personalized ancestor gods) were thought to take. These deities took animal, plant or mineral form, changing back and forth at will. Lesser god-like beings, the *kupuas*, also were thought to appear as, or to inhabit, rocks and plants.

In short, a kinolau is a physical manifestation of an akua. Though there are often specific signs that a particular akua is inhabiting a particular kinolau, all physical representatives of a kinolau (in the case of the ‘Alae‘ula, the individuals of this species) are usually revered because they are a known form that the akua may take.

Therefore, when ʻAlaeʻula are discussed in stories, legends, and especially in historic anecdotes with a supernatural focus, we can understand that they are often there as a vessel of the akua that they are associated with. For example, when people in the 1800s spoke of the ʻAlaeʻula as a harbinger of death or disease. The ʻAlaeʻula was the manifestation of an akua, likely Kapo or Pua, that provided signs to humans that something beyond human control was happening. The ʻAlaeʻula was not believed to itself be the independent agent of death or misfortune, but was the indication that an akua was doing something nearby. There seems to be an exception however in the case of the very old Māui stories, where the ʻAlae appear to be either kupua or akua themselves, although the nature of these birds in that set of stories is still sometimes unclear.

Conclusions From the Literature Review

It is abundantly clear that the ʻAlae holds an unusually prominent place in the traditional religious and spiritual beliefs of native Hawaiians. There are several general conclusions about the position of ʻAlae in Hawaiian religion and spirituality that we can make from the information collected in the literature review:

1. As previously stated, the ʻAlae is a body form of Kapo, Pua, Kaʻalaenuiahina and possibly Hina (mother of Māui). It has a strong association with Māui as well, but does not appear to be a kinolau of his. Kaʻalaenuiahina may be a synonym for Kapo in at least some traditions, as both of these akua have strong connections to disease and death magic.
2. ʻAlae were sometimes historically eaten, but appear to have been mostly respected, cared for, and worshiped by Hawaiians. This is particularly true for Hawaiians living after the era of Kaiakea and Kaneiakama, and especially worshippers of Māui, Hina, Kapo and Pua.
3. Kapo and Pua, though most often associated with death magic and disease today, apparently had more benign roots in some traditions. They also have the power to take away disease and illness.
4. The ʻAlae consistently appear as a hurdle that Māui must overcome, and a tool to achieving victory in his exploits. They appear as spies, as a valuable and sacred bait to lure a monster, and as the keepers of sacred knowledge. In short, they act as a sort of agent connecting humans to the arcane and the sacred. This is a theme seen frequently in Hawaiian legends. Birds often act as intermediaries between humans and akua, their inherent ability to exist in liminal space between where humans can and cannot exist (between the earth and sky) allows them to fulfill this particular role.
5. Only the Māui stories specifically mention the ʻAlaeʻula as the kind of ʻAlae being discussed. The other stories, articles and sayings just mention that the birds involved were ʻAlae, and do not specify what kind of ʻAlae they were. Past translators of these stories and sayings, particularly Pukui, have indicated that these references are to

ʻAlaeʻula (“mud hens”). However, we need to remember that these translators were not bird experts or even bird enthusiasts. They may not have understood the difference between ʻAlaeʻula, ʻAlaekeʻokeʻo or even ʻAlaeawī; or they may have made assumptions about the kinds of birds involved. That being said, ʻAlaeʻula are much more likely to utilize Kalo cultivation as habitat than ʻAlaekeʻokeʻo (Greer, 281-286) so it does seem likely that most of the time the specific kind of ʻAlae being discussed is probably the ʻAlaeʻula. This is still not certain, and should be something kept in mind when considering the traditional significance of ʻAlaeʻula in any given locale.

6. The significant number of sayings recorded about ʻAlae is evidence of how prominent they were in the normal human experience in Hawaiʻi prior to Western contact.

The Distribution of ʻAlaeʻula in Historic Hawaiian Literature

Some stories that involve ʻAlae in traditional literature mention specific places where the ʻAlae was encountered or lived. Figures 3-7 are maps of Kauaʻi, Oʻahu, Molokaʻi, Maui and Hawaiʻi that show the general areas mentioned in these stories in red. These maps are not exact depictions of the areas mentioned in these stories, and are only intended to give a general idea of the locations in order to inform decisions in selecting potential translocation sites. Though the information from the stories used to create these maps has already been given in Table 3 above, Table 6 also lists the names of the places depicted on these maps as a convenient reference.

The prominence of ʻAlae in stories and legends in each of these places strongly suggests that there were populations of ʻAlaeʻula and/or ʻAlaekeʻokeʻo in these places historically. It also strongly suggests that ʻAlae were important to people in these communities at some point, and might still be.

These maps also demonstrate an interesting pattern. On Oʻahu, Molokaʻi and Maui stories about ʻAlae come from drier districts. On Kauaʻi and Hawaiʻi these stories come from relatively wet places. Data collected by Greer (286) from Kalo farmers on Kauaʻi suggests that ʻAlaeʻula favor loʻi habitat in drier climates over wetter ones, and the prevalence of ʻAlae legends in drier locations seems to somewhat correlate with that data. The stories from wetter locations on Hawaiʻi might be explained by the fact that historically there was very little habitat for ʻAlaeʻula in leeward locations on that island. On Hawaiʻi the preferred habitat for ʻAlaeʻula, loʻi, are rare in drier districts. Instead most farming in those areas uses dryland methods. This would explain why traditions on that island are only from wetter climates, where loʻi farming was more common. The two records of stories about ʻAlae in Wailua on Kauaʻi though, do not seem to support this theory.

On each of the three islands under consideration for a reintroduction of ʻAlaeʻula, there is one potential release site that happens to be associated with a legend or story about ʻAlae. These are Piliwale in Nāʻiwa on Molokaʻi (the legend of Kaiakea), Nuʻu in Kaupō on Maui (one version of the Māui and the ʻAlae story), and Waipiʻo in Hāmākua on Hawaiʻi (the legend of Māui and Pīmoe). Of these, Piliwale has the most direct connection to the ʻAlaeʻula, both

because it is the only specific wetland named in a story, and also because it is said by at least one author to be the original home of the ʻAlae in the Hawaiian archipelago (Armitage and Judd 1944, 65). Waipiʻo and Nuʻu are not specifically named in the stories, rather, the districts where they are located (Hāmākua and Kaupō) are.

Table 6. The Distribution of ʻAlae in Historic Literature

Citation	Location
Beckwith 1970 (1940), 232	Holoholokū, Wailua, Kauaʻi
Wichman 1998, 73	Papaʻalae, Wailua, Kauaʻi
Kamakau 1870a, 1	Ulehawa, Waiʻanae, Oʻahu
Ii 1870a, 1 Ii 1870b, 1	Maunaloa, Molokaʻi
Kamakau 1870c, 1 Kamakau 1870d, 1	Piliwale, Nāʻiwa, Molokaʻi
Forbes 1870, 1	Kīpahulu, Maui
Anonymous 1930a, 3.	Kaupō, Maui
Hapai 1920	Punahoa, Hilo, Hawaiʻi
Westervelt 1910	Punahoa, Hilo, Hawaiʻi
Wise 1912, 28-29	Hāmākua, Hawaiʻi

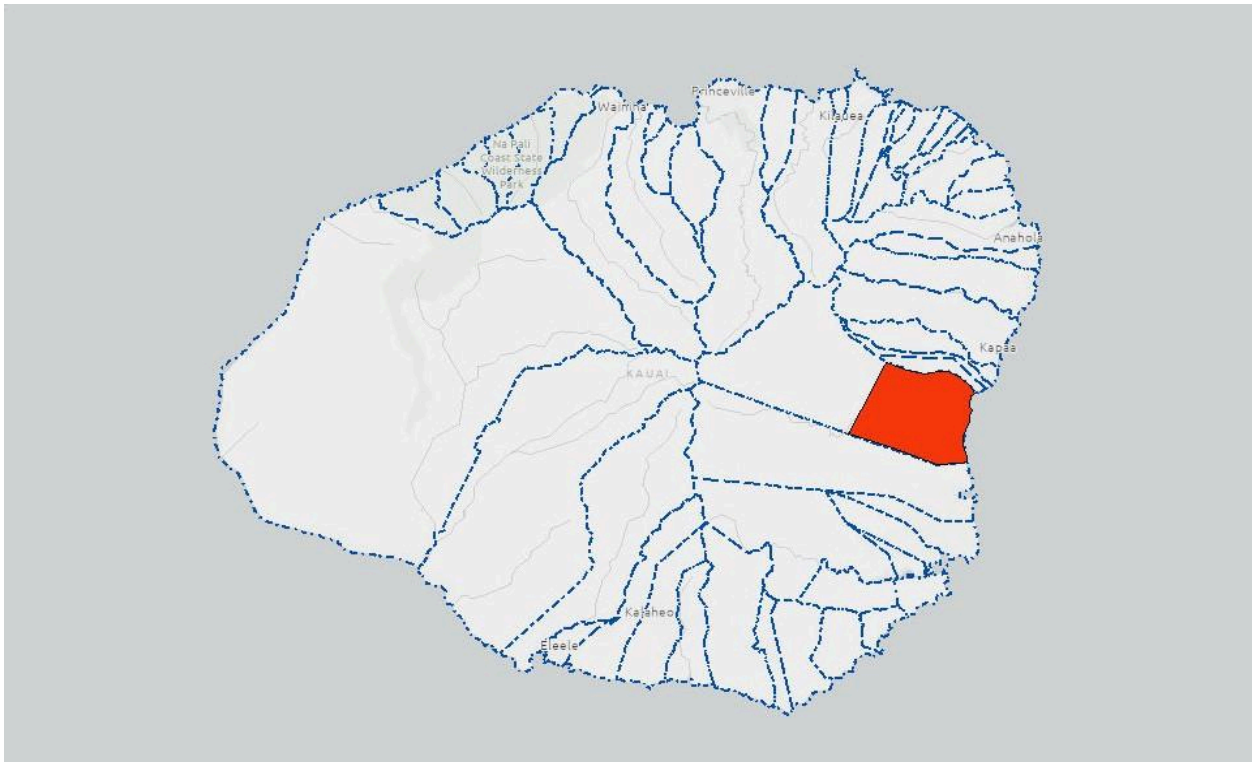

Figure 3. Distribution of ‘Alae on Kaua‘i in Literature

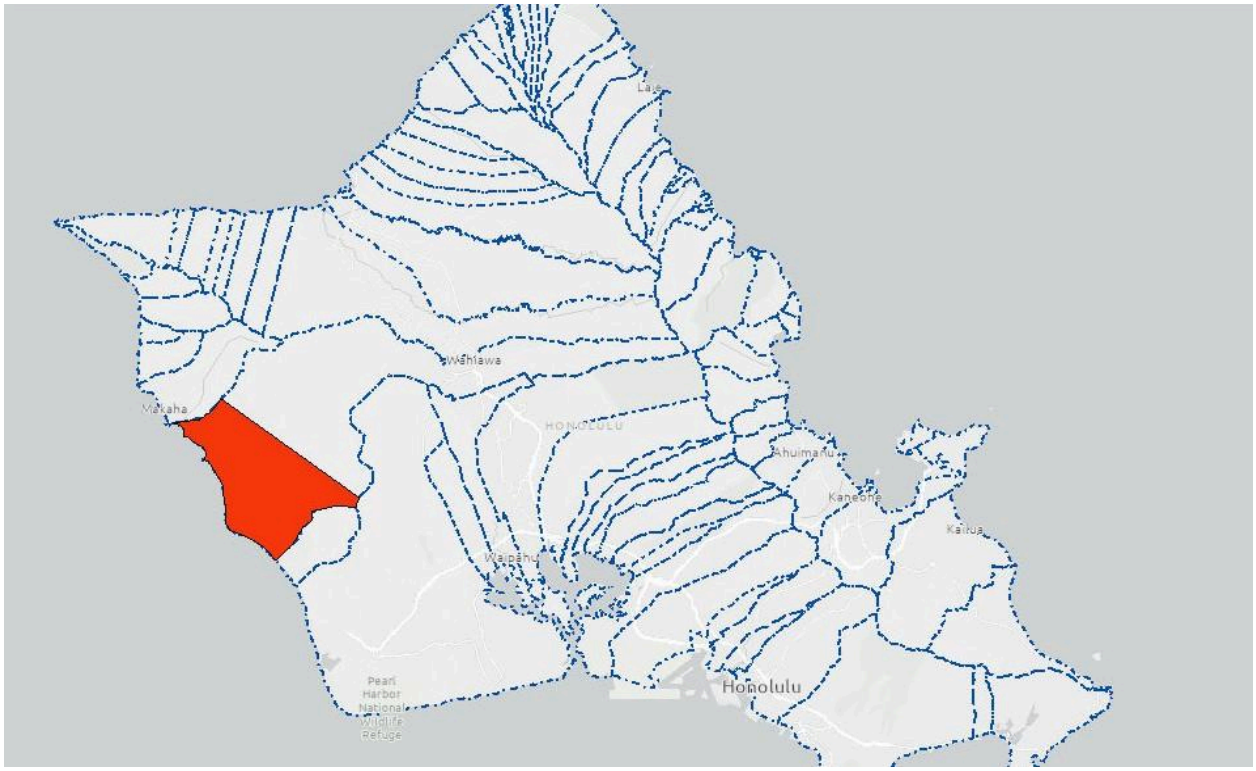

Figure 4. Distribution of ‘Alae on O‘ahu in Literature

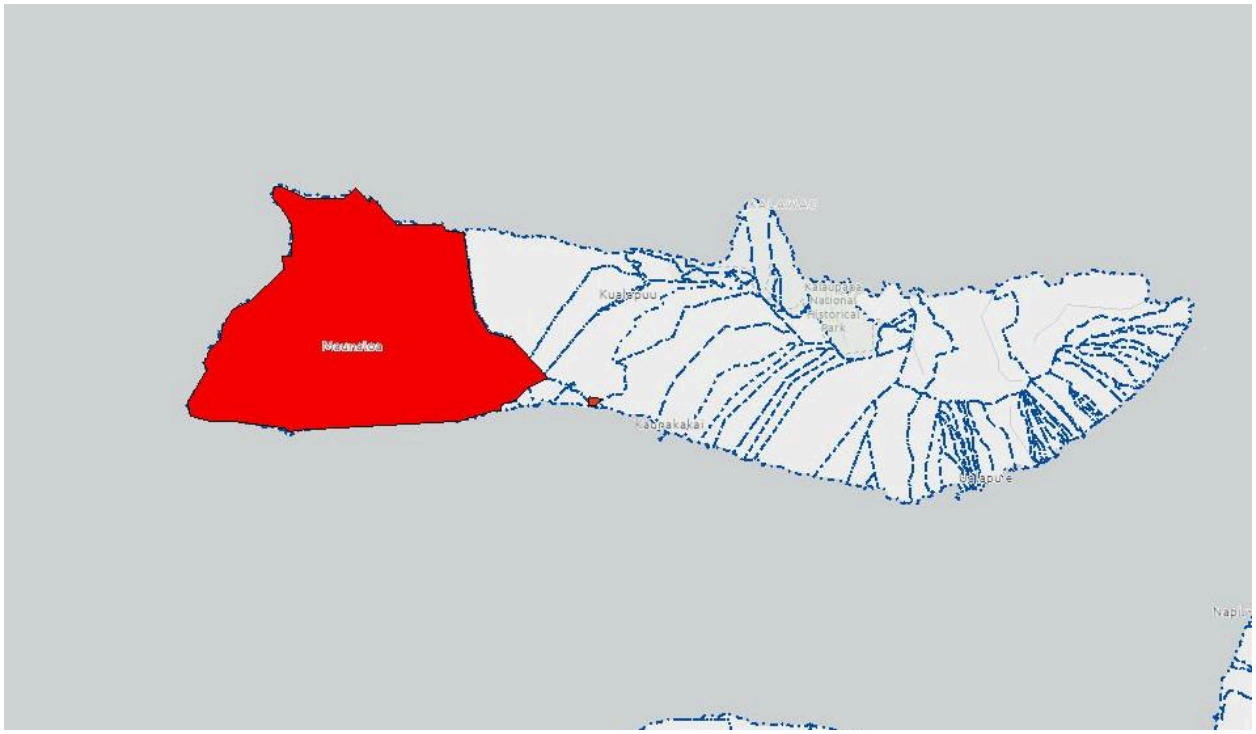

Figure 5. Distribution of ‘Alae on Moloka‘i in Literature

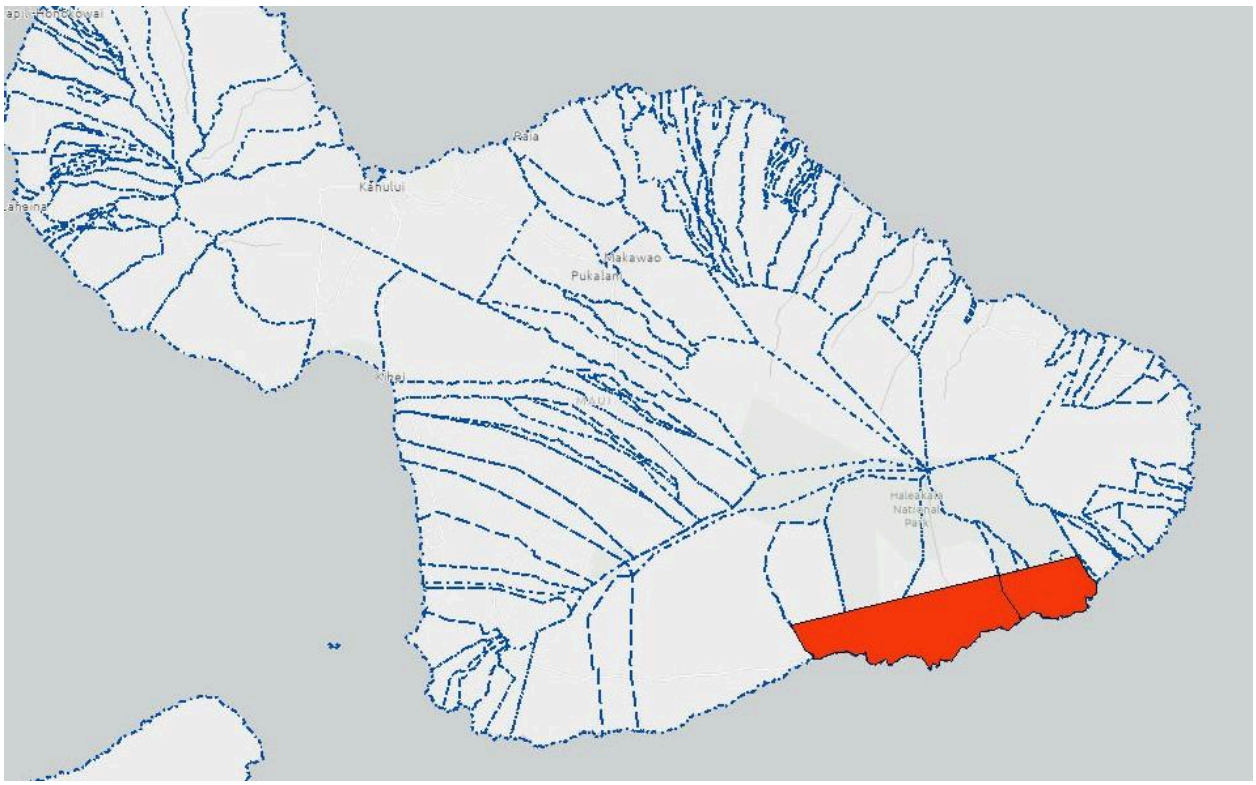

Figure 6. Distribution of ‘Alae on Maui in Literature

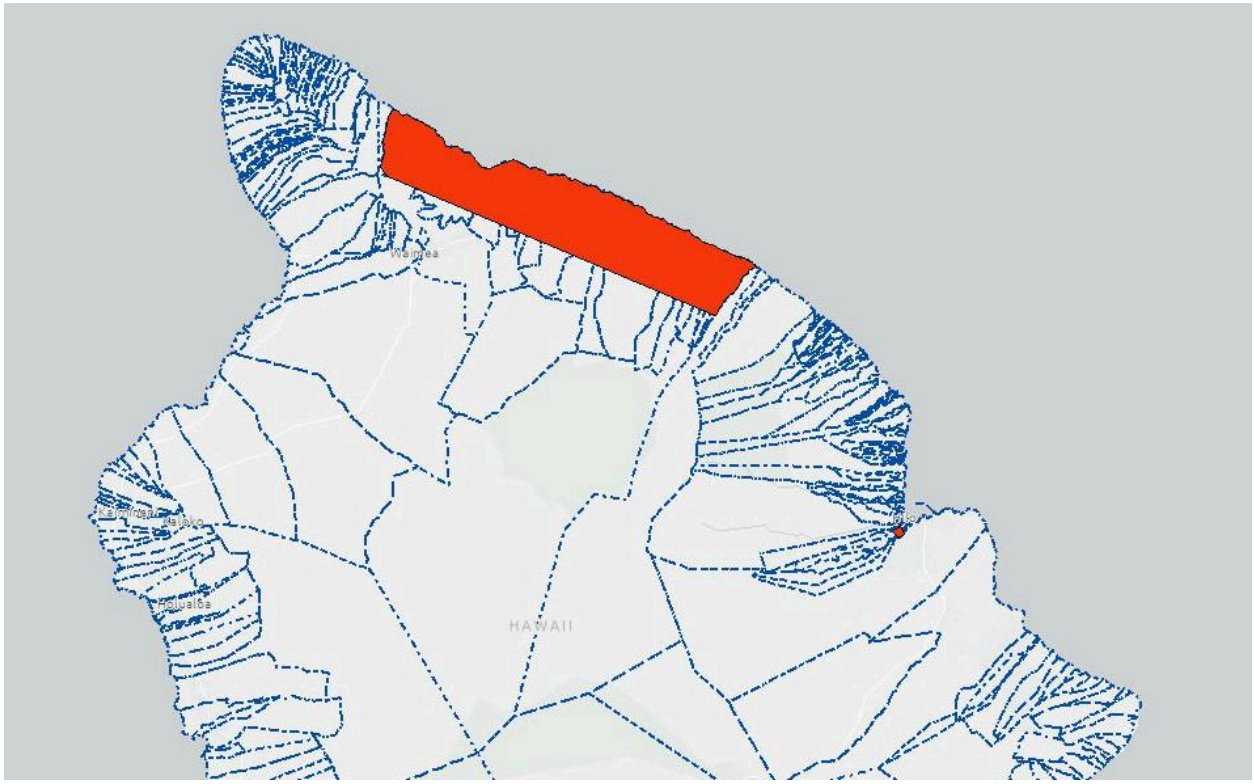

Figure 7. Distribution of ʻAlae on Hawaiʻi in Literature

The Historic Relationship with Kalo Farmers

ʻAlaeʻula have always had a close relationship with Kalo (*Colocasia esculenta*) farmers in Hawaiʻi, and the relationship appears to be mutually beneficial. Greer (2005, 286) reports higher concentrations of ʻAlaeʻula in Kalo farms than in other habitats, and they appear to prefer actively cultivated loʻi (Kalo patches) over fallow land. Multiple authors (Olson and James 1982; Engilis and Pratt 1993) have noted that the widespread development of traditional Hawaiian wetland agriculture has very likely benefited wetland birds in Hawaiʻi. Additionally, Zavas (2021, 5) suggests that ʻAlaeʻula may actually be able to recognize individual humans, and that ʻAlaeʻula breeding success does not seem to be negatively impacted by the presence of humans in the area.

On the human side of this relationship, farmers report that ʻAlaeʻula are a kinolau of their family ʻaumakua (Greer 2005, 289). ʻAlaeʻula may also be beneficial to maintaining loʻi Kalo in the modern day. Although ʻAlaeʻula are known to occasionally eat new leaves on Kalo plants, they also likely help to control certain common pests on Kalo farms such as Crayfish (*Procambraus clarkii*) and Apple Snails (*Pomacea spp.*) (Greer 2005, 240-41).

Interestingly, relatively little about the relationship of ʻAlaeʻula and farmers is mentioned in the legends and stories collected for this study, although there is no doubt that they have always had a synanthropic relationship.

‘Alae‘ula Reintroduction and the Hawaiian Ethos

With any translocation or reintroduction effort a number of careful considerations need to be made about the ethical ramifications of the project, for example, is it potentially more harmful to (re)introduce the last members of an endangered species into a habitat that they are unfamiliar with? Could the (re)appearance of this species cause ecological or economic problems in places where they may not have been seen in generations, if at all?

What is sometimes not considered is whether or not the idea of translocation or reintroduction is in line with the ethos, morals, and culture of the local human inhabitants near a potential release site. It has been demonstrated that conservation efforts can be more successful when they are thoughtfully designed to work with local communities within the confines of their own traditions and institutions (Brooks, et.al. 2013). A brief review of the history of native Hawaiian attitudes towards translocations and reintroductions of native species may help us to understand the ethical considerations from a native Hawaiian perspective.

Historic Introductions and Translocations by Native Hawaiians

It is well-known that the Polynesian ancestors of native Hawaiians introduced a number of species to the Hawaiian Islands, although the exact number of species is difficult to determine. Among these are several problematic or invasive species such as the ‘Iole (*Rattus exulans*), Pua‘a (*Sus scrofa*), ‘Īlio (*Canis lupus familiaris*), Moa (*Gallus gallus*), Kukui (*Aleurites moluccanus*), and Hau (*Hibiscus tiliaceus*). However, it appears that the vast majority of species brought to Hawai‘i by Polynesians did not become invasive once established here.

Additionally, there are a number of legends that detail the arrival of various species to Hawai‘i by Polynesian ancestors, some of which are considered to be native or endemic by science today. Most of these stories seem to be about the appearance of one or another kind of plant, which include stories of the arrival of Niu (*Cocos nucifera*), ‘Ōhi‘a (*Metrosideros sp.*), ‘Ōhi‘a‘ai (*Syzygium malaccense*), Hala (*Pandanus tectorius*), and ‘Ie‘ie (*Freycinetia arborea*), among others (Lililea 1918-1919, 590-599; Kaupena 1930; Waolani 1918-1919; Manu 1894a; Manu 1894b). Some consider the story of Kaiakea to be documentation of the arrival of ‘Alae‘ula in Hawai‘i, which would establish Piliwale on Moloka‘i as their original legendary home (Armitage and Judd 1944, 65).

The common theme seen within stories of this nature are that each of these introductions are either of organisms that serve a utilitarian purpose, or were organisms that were established here by an ancestor who is considered an akua. Regardless, there is clearly a deep tradition among native Hawaiians for the introduction of new species to Hawai‘i.

Post-Contact Historic Introductions, Reintroductions and Translocations by Native Hawaiians

There are a few stories from more recent times about native Hawaiians attempting to establish new populations of useful species in Hawai‘i outside of their known historic range or in new localities within their range. Reed (1906, 73) recorded the the translocation of an edible algae called “Limu Pakaeleawaa” (possibly Limu Pakeleawa‘a, *Grateloupia filicina*) by an “old chief” from Hawai‘i to Moloka‘i, “who planted it on the inner edge of his fish pond, where it is now growing luxuriantly.” She also recorded the same species as being translocated from Hawai‘i to Kāne‘ohe, O‘ahu, “native fishermen said that it had been planted there many years ago by a chief, who brought it from Hawai‘i” (ibid.).

Queen Lili‘uokalani also famously ordered the establishment of Limu Pakaeleawa‘a, Limu Huluhuluwaena (*Grateloupia filicina*), ‘Opihi (*Cellana sp.*), Pūpū Ālealea (*Turbo sandwicensis*), ‘Ina (*Echinometra sp.*), Hā‘ue‘ue (*Colobocentrotus altratu*s), and Pipipi (probably *Nerita picea*) in the waters in front of her royal compound at Hamohamo, Waikīkī, O‘ahu, as is evidenced by this notice that was published widely in Hawaiian language newspapers in 1906 (translation my own):

> HOOLAHA HOOKAPU.
> Ke hoike ia aku nei ka lohe i na mea apau, e hele nei ka auau kai, a lawaia paha ma ke kai o Hamohamo, ma Waikiki-kai, Honolulu, Oahu, ke hookapu nei ka Moiwahine Liliuokalani aole e kii i ka Limu Pakaeleawaa, me ka Limu Huluhuluwaena, Opihi, Pupualealea, I-na, Haueue, ame Pipipi, ma ke alo ponoi iho o ka Pa Alii. Na kona mau lima alii ponoi no i kanu a hookawowo i kela mau mea apau i hoike ia ae la maluna, a o ka mea e kii ana i keia mau mea e hookapu ia nei, e hopu ia no oia, a hoopai ia e ke kanawai. O keia mau mea apau i kanu ia e ka Moiwahine mai Hilo i lawe ia mai ai kekahi no Lahaina kekahi, no Molokai kekahi, no Kauai kekahi, no Waialua, Oahu nei, kekahi. (Carter 1906).
>
> NOTICE OF PROHIBITION
> Public notice is given to all who swim or fish in the ocean at Hamohamo, Waikīkīkai, Honolulu, O‘ahu. Her Royal Highness Lili‘uokalani has prohibited the gathering of Limu Pakaeleawaa, as well as Limu Huluhuluwaena, ‘Opihi, Pūpū Ālealea, ‘Ina, Hā‘ue‘ue, and Pipipi in the area immediately in front of the Royal Grounds. Her own royal hands planted and cultivated all of these creatures identified above, and anyone who gathers these things currently placed under prohibition will be arrested and charged according to the law. All of these creatures were established here by Her Majesty. Some were from Hilo, others were brought here from Lāhaina, others from Moloka‘i, some from Kaua‘i, others were from Waialua, here on O‘ahu as well.

Queen Liliʻuokalani is also responsible for the only known translocation of an endemic Hawaiian bird species by a Hawaiian monarch. In her autobiography, *Hawaii's Story by Hawaii's Queen* (1990, 196), she writes:

> It was midsummer in 1889 when I arrived at the island of Kauai… On this visit I made careful inquiries as to the success of Mr. Gay's efforts to raise the "Oo" bird [*Moho nobilis*] on this island. This is a bird about the size of a robin, under whose wings may be found the choice yellow feathers used in the manufacture of cloaks or collars exclusively pertaining to the Hawaiian chiefs of high rank. It is not the mamo bird, from which also feather capes and cloaks are made.
>
> I had succeeded in getting from Hawaii, the largest island, some specimens expressly for their island. Twenty pairs had been brought as far as the island of Oahu. Of these, three pairs originally were sent to Kauai, but on making inquiry I found that only one pair was now known to be living there. These seemed to be thriving. Perhaps one cause of their content was a shrub or bush of the mimosa family growing near to the house, which bore fragrant blossoms very similar to those of the lehua, from which, in its own native island, this bird sucks the honey on which it subsists. They are true Hawaiians; flowers are necessary for their very life. This single pair of birds kept near to the house, and were often seen on this fragrant mimosa-tree. Ten years have flown by since I had the pleasure of looking at them there; but it is to be trusted that they have been thriving, laying their eggs year by year, and have by this time a flourishing colony. There is a bird on Kauai very similar in some points to the Oo, but they have a white feather under the wing instead of the much-prized yellow tip from which the celebrated *leis* and cloaks are made.

It is unclear what happened to the 17 other pairs of *Moho nobilis* that made it to Oʻahu. They may have quickly succumbed to foreign disease, which was certainly present in Honolulu in 1889. They may have also been released on Oʻahu, the ʻŌʻō native to that island, *Moho apicalis*, had probably already been extinct for decades by 1889, and Liliʻuokalani may have wanted to create a population of this valuable bird closer to home. Her note that *Moho braccatus*, the species of the genus native to Kauaʻi, was not as valuable as the Hawaiʻi birds may indicate that the intention of releasing *Moho nobilis* on Kauaʻi was to create a new population of valuable birds used for featherwork. In 1889 ʻŌʻō would have still had a sizable population on Hawaiʻi, but no doubt the local bird hunters would have noticed that they were already declining, which may have been another motivation for the introduction of the birds to other islands.

Discussion

These examples show that Hawaiian ethos and history are compatible with the idea of translocation and reintroduction. However, both legendary and historical accounts indicate that in

the past these have always been for utilitarian purposes with species that provide social or economic benefits, the exception being species that were introduced by akua.

It is unfortunate that there are only a few records of historic translocations or introductions of organisms to Hawai‘i, more accounts and more detailed accounts could give us insights into the proper conduct, protocols and attitudes that are needed when performing this kind of activity. It is notable that the few examples that we have of these events occurring in more historic times seem to all be of ali‘i introducing an organism to an area. This is likely because ali‘i had the human and physical resources to coordinate such an activity.

One other intriguing consideration is that the old traditional bird hunters could have potentially translocated birds to new places or islands if they choose to. Cages to temporarily house live birds are known to have been used in certain bird hunting methods, and it would not have been impossible to keep a few individuals of most species alive for the few days that it might take to transport them to a new location (Gomes 2015, 140-141; ibid., 257). It seems plausible that a bird hunter might want to establish a new population of a species valuable for meat or feathers on another island or locality. It is probably impossible today though to know whether or not this ever actually happened, unless new records of such an event are someday discovered in an archive or private collection.

Modern Introductions and Reintroductions of ‘Alae‘ula in Hawai‘i

While unrelated to the native Hawaiian historic understandings of ‘Alae‘ula, it is important to also note that there have been several attempts to reintroduce or introduce ‘Alae‘ula to portions of their historic range in the 20th century, all of which were unsuccessful. These records were reported by Winston Banko in his 1987 report on the history of ‘Alae‘ula populations in Hawai‘i. It is unclear what made these reintroduction attempts unsuccessful, though in at least one case it seems that nest predation from introduced predators may have been a factor. Some of these places (Kakahai‘a, Kanahā, and Waipi‘o) are current candidates for a potential future reintroduction site for ‘Alae‘ula.

Table 7. Modern Introductions and Reintroductions

Date	Location	Notes
1983	Reintroduction from Hale‘iwa, O‘ahu to Kakahai‘a NWR, Moloka‘i.	“According to Shallenberger 3 pairs were introduced to Kakahai‘a National Wildlife Refuge (from Haleiwa, O‘ahu) in the summer of 1983, 3 being seen there a few months later (in october).”
1959	Reintroduction to Kanahā, Maui. Origin not given.	“Walker noted that small releases of ‘Alae-‘ula were made on Kanahā Pond in 1959, apparently without successful Re-establishment of this species there”
1953-1954	Reintroduction to	“Long-term resident of Waipi‘o Valley, M. Matsunami told

1959	Waipiʻo, Hawaiʻi. Origin not given.	me that HDFG introduced about 6 ʻAlae-ʻula to the Valley in 1953 or 1954, and that some survived four or five years but did not nest successfully. Walker, speaking for HDFG, stated that a small release of ʻAlae-ʻula [was] made in Waipiʻo Valley in 1959 to re-establish the species on the island, but that it was unsuccessful. Most probably it was the 1959 re-introduction that M. Matsunami referred to."
1928-1930	Introduction of an unknown North American *Gallinula galeata* subspecies from "the mainland" to Hāʻena, Keaʻau, Hawaiʻi.	"H. Shipman, life-time resident of Puna District, told me in 1966 that this bird was present at Hāʻena when he resided there as a small boy in 1898." "L.W. Bryan told me that H. Shipman brought in four or five Gallinules (Gallinula chloropus spp.) from the mainland about 1928 to 1930, liberating them at Keaau." The location in Keaʻau where the birds were released was likely at Keaʻaunui pond at Hāʻena, Keaʻau, which is currently owned by the Shipman family.

Final Recommendations

Based on the results of this study the following final recommendations are offered:

1. The reintroduction of the ʻAlaeʻula into portions of its former range aligns with Hawaiian cultural tradition and values.
2. A site should be selected that has a community that strongly supports the idea of reintroducing the ʻAlaeʻula to their area. Ideally the reintroduction of the ʻAlaeʻula should benefit the surrounding community in some way that the community determines. Possible community benefits of the reintroduction of ʻAlaeʻula into an area might include:
    a. Alaeʻula acting as a biocontrol for pests in loʻi.
    b. The reestablishment or revival of a close personal and spiritual relationship with ancestors, akua, or ʻaumākua of local community members.
    c. ʻAlaeʻula could eventually become a potential future source of sustainably harvested traditional food.
3. The release site should be physically accessible to the local community, and they should be allowed to interact with ʻAlaeʻula without repercussion (within reason) so that they are able to reestablish a working relationship with the ʻAlaeʻula.
4. Among the potential release sites being considered, the following have legends associated with them, and therefore are historically significant sites for the cultural connection between native Hawaiians and ʻAlaeʻula:

   a. Piliwale/Kaluapuhi/ʻŌʻōʻia at Nāʻiwa on Molokaʻi.
   b. Nuʻu at Kaupō on Maui.
   c. Waipiʻo at Hāmākua on Hawaiʻi.
5. Piliwale/Kaluapuhi/ʻŌʻōʻia at Nāʻiwa on Molokaʻi may be the most culturally significant potential release site because of the tradition that it was the site where ʻAlae first appeared in the Hawaiian archipelago.
6. Waipiʻo at Hāmākua on Hawaiʻi may be the culturally significant site with the best habitat for ʻAlaeʻula given the research of Greer (2005, 286) which suggests that ʻAlaeʻula prefer cultivated loʻi habitat.

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