

HAWAII WATERBIRD SURVEY INSTRUCTIONS AND IDENTIFICATION GUIDE

General Instructions:

- Use the attached data forms. The forms, these instructions, and a photographic identification guide also can be downloaded from the DOFAW website at <http://www.dofaw.net/>
- All data and notes should be written on the attached forms and submitted to the compiler on each island as soon as possible following the count. Copies of the field forms should be retained on each island for safe keeping.
- Each group should include one person who is familiar with the survey route and one person who is familiar with all species of birds likely to be encountered.
- Private landowners should be contacted in advance for access as needed.
- Spend at least 10-15 minutes at each site, even if no birds are immediately visible.
- Follow all instructions on the field form. For wetland names use only those indicated on the route maps or the master list of wetland names.
- Count only birds utilizing the wetland, not birds flying overhead or standing in adjacent fields, unless their presence is directly related to the wetland.

Hawaiian Stilt:

- Record the numbers of adults and juveniles separately if possible. Juveniles can be distinguished by their more extensive white on the forehead and sides of the neck, duller pink legs, and higher-pitched calls. Juveniles cannot be distinguished by back color; male stilts have black backs, females and juveniles have brownish-black backs.
- Do not separate male and female stilts; count both as adults.
- Check stilts for bands and record any band combinations. For example, red over aluminum on left leg, green over yellow on right leg, or RA/GY. Right and left are always from the bird's perspective.

Hawaiian Coot:

- Record the numbers of adults and juveniles separately. Juveniles are gray and lack the white frontal shield of adults.
- It is not necessary to separate coots by frontal shield coloration. Hawaiian coots can have red or white frontal shields.

Hawaiian Moorhen:

- Record the numbers of adults and juveniles separately.
- Moorhens can be secretive and may not be visible right away. The chances of observing moorhens and obtaining a more accurate count will be improved if more time (at least 15 minutes) is spent watching quietly at each site.

Koloa or Hawaiian Duck and Koloa-Mallard Hybrids:

Koloa are very similar to female mallards, but many birds can be distinguished by careful observation of the characters described in the table below. Koloa-Mallard hybrids are intermediate and variable, and individuals may exhibit characteristics of both species. Outside Kauai and parts of the Big Island, many ducks that superficially appear to be Koloa may actually be hybrids. Male Mallards in breeding plumage can be recognized by their green head, white collar, chestnut breast, and gray back. Male mallards in non-breeding plumage and young males are duller in color and more similar to female mallards and to Koloa, but show hints of the adult male breeding plumage. However, some male Koloa-Mallard hybrids can exhibit these same characteristics. Hybrid males and hatching-year Koloa males often show some of the characteristics of male mallards, especially a grayish back and flanks and black and white tail. The descriptions in the table below are preliminary.

Character	Koloa	Female Mallard
Size	Small; 70-80% length of Mallards. Males 600 g, females 460 g	Large; males 1240 g, females 1080 g.
Bill size	Smaller, narrower	Larger, wider
Bill color	Mostly dark, often greenish, tip of bill may be orange in female	Mostly orange, with some dark splotches in center
Tail and undertail covert color	Whitish with brown spots or mottling	whitish
Speculum Color	Emerald green to blue	Blue

Migratory Shorebirds. We are attempting to improve the utility of the waterbird count for monitoring populations of migratory shorebirds. Record the number of each species of migratory shorebird. If you are unable to identify a shorebird to species, take notes on its appearance and behavior that can be used later to help identify it, including relative size (e.g. smaller

than a Kolea, but larger than a Sanderling), bill length (e.g. bill 1.5 times length of head), leg length (e.g. legs longer than bill), coloration of different body parts (legs, head, back, eye-stripe, breast, whether breast is streaked), behavior (e.g. walking on exposed mud, wading in shallow water, probing with bill, describe any vocalizations). The most frequently observed species are briefly described below, for other species consult field guides.

- Pacific Golden Plover or Kolea. You should at least know this one!
- Black-bellied Plover. Similar to Kolea but slightly larger and heavier, with larger bill, and more gray plumage. In flight has black axillaries (wing-pits).
- Semipalmated Plover. A small plover with orange legs and a single dark breast band. Killdeer, much rarer in Hawaii, is larger and has 2 black breast bands.
- Ruddy Turnstone. Smaller than Kolea. Back mottled brown, black marks on breast. Bill short and straight. Legs orange. Distinctive black and white back pattern in flight.
- Sanderling. Small. Bright white below, pale gray above, black legs, short straight black bill.
- Wandering Tattler. Plain gray above, white below (may have dark barring in summer), narrow white stripe above eye. Legs medium long and yellow. Bill medium long and straight.
- Long-billed Dowitcher. A little larger than a Kolea, stocky, mostly gray, bill straight and very long. Often forages in slightly deeper water with repeated “sewing machine” probes of the bill.
- Lesser Yellowlegs. More slender than Kolea, speckled gray-brown plumage. Legs long and yellow. Bill medium-long, thin, and straight. Often very active when foraging.
- Pectoral Sandpiper. A little smaller than a turnstone, yellowish legs, bill medium length, sharp border between dense brown streaking on upper breast and white lower breast.
- Sharp-tailed Sandpiper. Like Pectoral Sandpiper, but breast streaking less distinct, lower border more gradual, white stripe above eye (supercilium) more obvious, becomes wider behind eye.
- Bristle-thighed Curlew or Kioea. Large, brown, with long curved bill. Loud “kee-oo-eet” call often given in flight.

Migratory Waterfowl. Record the number of each species of migratory waterfowl. Migratory waterfowl are not usually present during the summer. If you are unable to identify a duck, goose, or some other waterfowl, take notes on its appearance and behavior that can be used later to help identify it, including bill shape, coloration of different body parts (head, breast, sides, speculum), behavior (dabbling on surface, diving under water). The most frequently observed species are briefly described below, for other species consult field guides.

- Canada Goose. Black neck with white cheek patch. Recently split into 2 species, best distinguished by size and bill length. Presence of white neck ring may help identify some forms. Take photographs if possible.
 - Canada Goose. Larger, longer-billed, generally paler, typical “honking” call.
 - Cackling Goose. Smaller, shorter-billed, darker on the breast and back, higher-pitched “cackling” call.
- White-fronted Goose. Grayish-brown with black marks on breast, white on face at base of pink bill, orange legs.
- Northern Pintail. Long and slim with pointed tail. Breeding males have brown head, white breast and neck stripe, nonbreeding males and females are speckled brown all over. Neck and tail longer than other ducks.
- Northern Shoveler. Long, flat, black (male) or orangish (female) bill is distinctive. Breeding males have green head, white breast, chestnut sides, nonbreeding males and females are brownish.
- American Wigeon. Males have green head with whitish forehead. Females brown. Both sexes have short bluish bill, head more rounded than most ducks. White patch on upper wing distinctive in flight.
- Teals. 3 species, all are small.
 - Green-winged Teal. Green speculum, bill small. Breeding males have green and chestnut head, vertical white stripe on side. In female dark line through eye more distinct than Blue-winged and Cinnamon.
 - Cinnamon and Blue-winged Teal. Large blue patch on upper wing. Breeding male Cinnamon Teal mostly cinnamon, breeding male Blue-winged Teal has dark head with white crescent in front of eye. Females and nonbreeding males hard to separate, consult field guides.
- Lesser Scaup. Dives under water. Males have dark head, breast, and tail, light gray back and sides, bluish bill. Females brownish with white patch at base of bill. Both sexes have a slightly pointed crown and a white wing stripe.
- Greater Scaup. Similar to Lesser but slightly larger, with more rounded head, white wing stripe extends to primaries.
- Ring-necked Duck. Dives under water. Male has dark head, back, breast and tail, gray sides. Bill dark with white band near tip. Female dark with white eye ring and less prominent white band at base of bill.

Feral Waterfowl. Several species of ducks and geese have been introduced to Hawaii and have become feral. The most widespread types are briefly described below. Consult field guides for other species. Record apparently wild mallards as

“Mallard (migratory)”, feral Mallards as “Mallard (domestic)”, and all other Mallard-derived barnyard ducks (e.g., Pekin, Indian Runner) as “other domestic waterfowl.”

- Mallard. Males have green head, chestnut breast, and white neck ring; females brownish and streaked. Some wild Mallards may migrate to Hawaii; feral birds are usually less wary than wild birds, and feral Mallards are often larger.
- Muscovy. Large, black and/or white ducks with knobby red bill.
- Domestic ducks. Color variable; some are white with a yellow bill (“Pekin” duck), some look like dark, oversize mallards.
- Domestic geese. Large, long neck, color variable; some are gray with an orange bill like a Greylag Goose, some are all white with an orange bill.

Gulls and Terns. Gulls do not nest in Hawaii, but several species are seen in Hawaii each winter. Most gulls take 3-4 years to acquire adult plumage, most that reach Hawaii are immature. The most commonly seen species are described below, for other species consult field guides.

- Laughing Gull. Mantle (back and wings) dark gray, wing tips black, mottled with brown in immature. Head black in summer, white with dark smudges in winter. Bill black in winter, red in summer. Immature has broad dark tail band.
- Ring-billed Gull. Mantle light gray, wing tips black with white spots, wings mottled with brown in immature. Bill yellow with black band in adult, pinkish with black tip in immature. Immature has black tail band.
- Glaucous-winged Gull. Large, mantle pale gray in adult, immature mottled with pale brown above and below. Thick bill has red spot in adult, black band in immature.
- Caspian Tern. Much larger than terns that breed in Hawaii, white with black cap, heavy red bill.
- Common Tern. Small, white below, with pale gray back, crown smudged black. Immature has dark bar on shoulder.

Other Issues:

- Wetland names. One of the biggest challenges in compiling and analyzing the waterbird count data has been inconsistent use of names. On the field form please use only the wetland names indicated on the route maps or on the master list of wetlands.
- Visit all wetlands on the scheduled itinerary. If you know in advance that a particular wetland no longer exists and there is no point in visiting it, make a note of that when submitting forms so the information can be recorded into a wetland database.
- It is important that you fill out a field form for each wetland you visit, even if no birds are present or the wetland appears dry. If no form is filled out and submitted, it may be assumed that the site was not visited that year.
- For wetlands with subsites (e.g., Kealia Pond, Kanaha Pond, Kaneohe Marine Base), record data separately for each individual subsite, and indicate the names of both the site and the subsite on each form. Data from different subsites can be combined later if necessary, but if data is lumped when collected, we cannot separate it later.
- Copies of the data sheets should be kept by the compiler on each island, even after they have been submitted to the Oahu office. In some cases the data appears to have been lost in the DOFAW office on Oahu (or perhaps never received?), and the original data sheets could not be located. It is very unfortunate to lose this irreplaceable data after people have made the effort to collect it.