

Kittlitz's Murrelet (*Brachyramphus brevirostris*) is a rare member of the Alcid family of diving seabirds that includes the puffins, auklets and murre. The total population of this species numbers in the low tens of thousands, most of which breed in Alaska. During summer, populations are concentrated in areas with large glacial fields (such as Glacier Bay and Prince William Sound) and remnant glaciers. Kittlitz's Murrelets (KIMU) breed inland on rocky slopes near the peaks of recently de-glaciated coastal mountains. Less than 20 nest sites have ever been discovered, mostly by accident. The KIMU feeds at sea on small, schooling fishes. Preferred feeding areas are nearshore, often near the outflow of glacial rivers and tidewater glaciers. On its feeding grounds, KIMU typically form small feeding flocks of 2-6 birds, but birds may gather in dispersed aggregations of dozens to hundreds of individuals in selected bays and fiords. KIMU populations are negatively affected by oil pollution, bycatch in gill-nets, and changes in food supply. Trends in populations are unknown because there are no long-term surveys of numbers in breeding areas or at sea. It is not possible to census populations at breeding sites because they are inaccessible and rare. However, KIMU can be censused at sea and estimates of populations have been recently obtained in a few areas. One difficulty in conducting censuses at sea is correctly identifying KIMU because it closely resembles the congeneric Marbled Murrelet (MAMU, *Brachyramphus marmoratus*). The MAMU is common in coastal waters of Alaska and is found in virtually all areas frequented by KIMU. In hand or at very close range, the two species are quite distinguishable. When trying to census birds at sea under variable sea and light conditions, however, or when birds are flying rapidly away, it is much more difficult to identify birds to species level. This guide was prepared to help in the field identification of both species at sea, with the goal of improving our ability to monitor KIMU populations in Alaska. Here we focus only on key characteristics of appearance or behavior of *breeding adults* that may be used to separate KIMU from MAMU in the field. Observers will want to consult standard field guides and reference texts for detailed descriptions of plumage, morphology and vocalizations.

SIMILARITIES: Both MAMU and KIMU can be distinguished from other alcids by their small size, tapered bodies, and relatively long, pointed wings in flight. KIMU is somewhat heavier than MAMU (ca. 240 g vs. 225 g). Culmen (bill) of the KIMU is shorter than MAMU (ca. 12 mm vs. 16 mm). These and other morphological differences in size are not very useful characters for distinguishing these species



Above: Adult Kittlitz's Murrelet in breeding plumage.

Below: Adult Marbled Murrelet in breeding plumage.



under usual field conditions. With good looks at close range, the shorter bill of KIMU can sometimes be distinguished, but if you get that good a look, other characteristics are more useful for separating the species. Both KIMU and MAMU have mottled plumage above and below, darkish crowns and backs, and dark wings above and below. Mottling may or may not extend over the throat and chest and generally fades out on the belly. There is a great deal of individual variability in the extent of mottling on the face, neck, chest and belly of both species. Depending on viewing conditions, either species may appear very pale or very dark underneath, although KIMU is typically paler. In any case, plumage *pattern* is not reliable for identifying to species under field conditions.

DIFFERENCES: While plumage pattern is *not* a good guide, plumage color can be an excellent guide. In hand, the back of KIMU is mottled gray with flecking of tan or gold. At sea, under varying light conditions, KIMU can appear gray, silver, or a warm tan color (see photographs). In contrast, the MAMU is mottled brown on the back, with flecks of foxy-brown or almost rufous-brown color. At sea, the MAMU will never appear gray or silver, always brown. *If you see the rufous-brown flecking on the back, this is definitive for MAMU.* If you get a good enough look and see a light gray-, silver-, or tan-toned bird and *you are positive* there is no rufous-brown flecking, then it is a KIMU. However, under poor lighting conditions, and/or when birds are flying quickly away, either species may appear dark-gray or brown. If you cannot see the rufous-brown flecking on back of the MAMU, or the silver/tan color with absence of rufous-brown flecking, then you record only as a *Brachyramphus murrelet* (i.e., species unknown). ***The most definitive character for indentifying KIMU is the outer white tail feathers.*** Few field guides will tell you this. While the MAMU has an all-brown tail, the outer tail feathers of the KIMU are pure white, and this character is very conspicu-



MAMU specimen sandwiched between 2 KIMU's. Note brown back of MAMU with foxy-brown flecking. KIMU backs are dark gray with golden-brown flecking.



A KIMU swimming. Note golden tone of plumage.

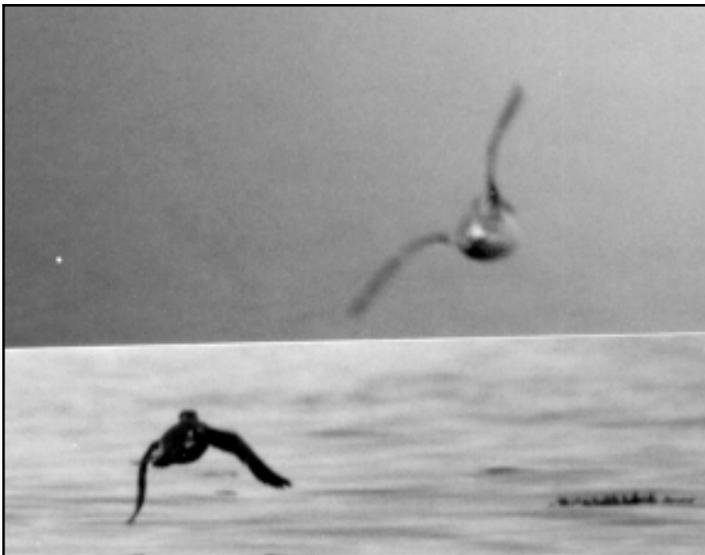


A KIMU in hand. Note silver/gray color of plumage.

ous only when the bird is taking off from the water (see photos to right). KIMU's often 'explode' from the water, taking off with little or no pattering of feet along the surface like other alcids (this is supposed to be characteristic of KIMU's only, but MAMU's will do this also). At the moment of take-off, and for a few seconds afterwards, the outer white tail feathers will usually (but not always) be clearly evident as the bird fans its tail for take-off (similar to a meadowlark). Within seconds, however, the tail feathers are straightened out again, and the white outer feathers will be obscured. *Thus, during surveys, observers should be vigilant about watching murrelets on the water as the boat approaches, using binoculars to view the bird(s) just as it takes off from the water* (unless it dives). This is your best chance to identify the bird to species. After birds take flight, you will have to rely on less obvious characters such as plumage color (above) or vocalizations to identify the bird. The call of the MAMU is very distinct, and can often be heard above the noise aboard a survey vessel. MAMU's most commonly make a loud, sharp two-note whistle, with the second note descending in tone. This "kee-earr" call is quite distinct. In contrast, the KIMU call is hard to hear. It consists of a quiet 'groan' call, pronounced like 'urrrhha' and sounding in quality somewhat like a Pacific Loon or Oldsquaw. Both species of murrelets have variations in their calls, but those described above are commonly heard at sea and are distinctive.



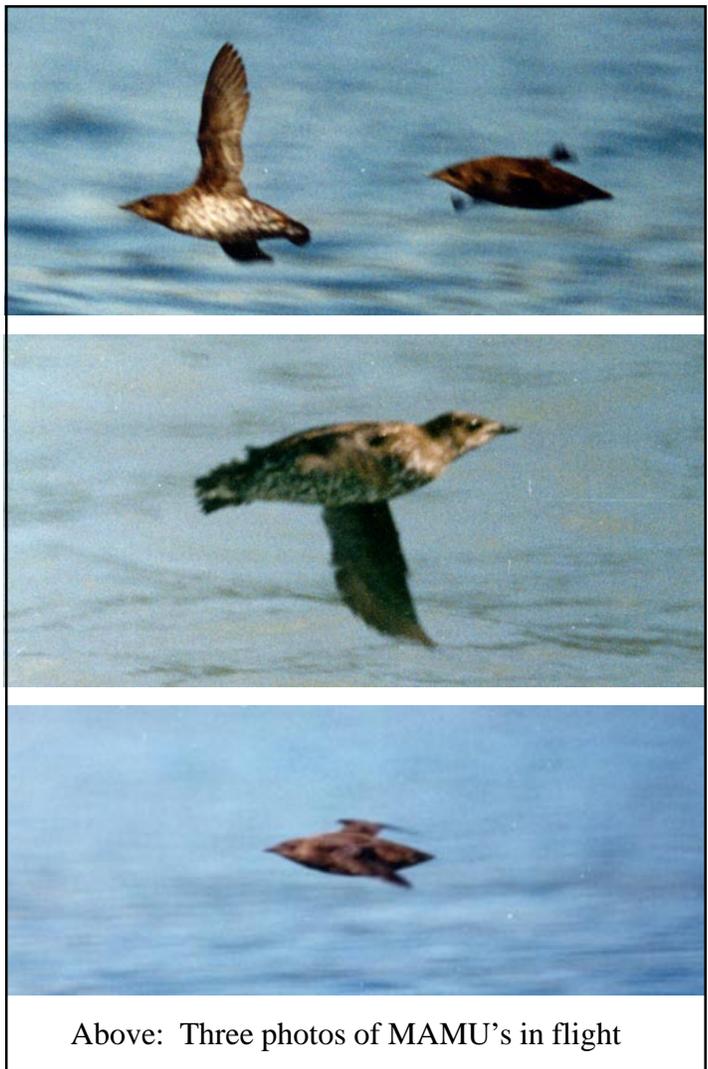
Kittlitz's Murrelets taking off from the water. Note white outer tail feathers, diagnostic for KIMU.



Left: Superimposed pictures of a MAMU (bottom left) and a KIMU (upper right) in flight, taken under poor lighting conditions. General morphology, plumage pattern and color are not evident in these birds and cannot be used for identification. However, the flash of white in the outer tail feathers of the KIMU is diagnostic. The other bird is a MAMU, but you could not rule out KIMU from this kind of look. Note the presence of white above the tail and near the base of the wing in the MAMU, where white uppertail coverts are evident (seen in KIMU above also). This should not be confused with white on lower outer tail feathers of the KIMU.

Finally, some more pictures for comparison. The four birds pictured at right are all MAMU's. The general profile of murrelets in flight (including KIMU) are nicely portrayed in these photos: stubby bodies which taper smoothly at both ends; relatively long wings which are dark above and below (in contrast to Ancient Murrelet, which has pale underwings), and straight-line flight-- often low to the water-- with rapid wingbeats. Other features of the MAMU are shown here. Note plumage variability from two birds with very dark underbellies (upper right and bottom) to moderately dark belly (middle photo) to light underbelly (upper left). The rufous-brown flecking on the back is not evident in any of these photos, although the bottom bird has a reddish tinge to it. However, all these birds have a rich chocolate brown color, which in good light (as these photos were taken) would suggest MAMU. Also, the longer bill of the MAMU is evident in the bottom two photos-- but as noted before, this is generally not a reliable field guide, and requires experience in looking at both species. Finally, some parting shots of KIMU (panel of three photos at bottom right of page). The white outer tail feathers of the KIMU is clearly evident in the upper two pictures. The bottom picture is taken from a video of KIMU on the water. Note the gray-ness of these birds, even against the strong glare on the water. At this distance, note also the contrast of the dark wings, cap and face which in this light all appear black. The contrast of the dark face (particularly around the eye) against a pale neck and throat is quite noticable in some birds, giving them a masked 'bandit' appearance-- but caution: some pale MAMU's may also have a masked appearance. Finally, note the silvery sheen of the water. KIMU's are most often found feeding in milky-looking water where glacial rivers carry high silt loads into the ocean. Although they occur elsewhere, look particularly for KIMU's to dominate over MAMU's in these waters.

If you have any further questions or comments, please direct them to John Piatt or Thomas van Pelt, USGS, Alaska Biological Science Center, 1011 E. Tudor Rd., Anchorage AK 99503; 907 786-3549; john_piatt@usgs.gov; or to Kathy Kuletz, USFWS, 1011 E. Tudor Rd., Anchorage AK 99503; 907 786-3453; kathy_kuletz@fws.gov; or to Gus van Vliet, Box 210442, Auke Bay, AK 99821; 907 789-5624; GVanVlie@envircon.state.ak.us. Text written by John Piatt. Photos by Gus van Vliet, Kathy Kuletz and John Piatt.



Above: Three photos of MAMU's in flight



Parting shots: KIMU flying (top, middle) and on water (bottom).