Study Objectives:

- Document patterns of space use by adult Marbled Murrelets (Brachyramphus marmoratus) both inland and at-sea during the breeding season,
- Locate active nests, and
- Compare movement patterns between breeders and non-breeders.

Murrelets were captured in the Strait of Juan de Fuca and Hood Canal.

Murrelets that dispersed from the Strait were found up to 220 km away (Lake Ozette area [93 km from Port Angeles], Barkley Sound [151 km], Tofino area [205 km], and near Desolation Sound to the north [2 birds at 220 km]).

Space use of breeding murrelets: Three nests were found by tracking tagged murrelets inland – all of which were in Olympic National Park. They are:
1. Morse Creek – 14 km inland
2. Boulder Creek – 18 km inland
3. Lake Mills – 15 km inland

The tagged individuals from all 3 nests (one from each nest) had relatively confined areas of space use along the shore near their nest (Fig. 3). The inland space use patterns of these birds was generally direct back and forth flights to the nest. The Morse Creek and Boulder Creek birds (male and female, respectively) continued visiting nest areas for up to ten days after nest failure and joined other murrelets in circling behavior above the forest. After successfully fledging young, the Lake Mills male left the study area and was not detected again.

Inland relocations of non-breeding murrelets: In addition to the three breeding murrelets, six others were detected inland at least once during early morning hours. Two birds were detected 37 km from sea - deep in Olympic National Park. None of them consistently returned to a specific area indicating an active nest. We suspect that some of these birds may have made a nesting attempt but either failed earlier or had already fledged young by the time we detected them inland.

Non-breeding murrelets also made inland forays at dawn.

Marine movement patterns of non-breeding murrelets: Some non-breeders used the marine environment similar to that of breeders – sedentary and in a relatively confined area (e.g. < 50 km of coastline), while others remained sedentary then dispersed mid-season or wandered nomadically throughout the entire breeding period.

Non-breeders exhibited three different movement patterns at-sea:
- Sedentary
- Sedentary, then dispersed
- Nomadic

Conclusion: With such a low proportion of tagged murrelets breeding in 2004 it is difficult to make meaningful comparisons between space use of breeders and non-breeders. Additionally, many birds apparently left the study area in mid-season and were not detected again so we have an incomplete understanding of how far non-breeding murrelets travel during the breeding period. Non-breeding murrelets (and birds that have finished breeding) likely travel far beyond the 220 km distance that we detected in 2004. We have conducted line transect surveys in the Strait since 2000 and those results support our telemetry finding that many murrelets leave the area in mid-season (mid-June to mid-July).

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