ABSTRACTS

We investigated the relative abundance of Marbled Murrelet nest predators (jays, crows, ravens, and squirrels) from 1995 to 1997 on Washington’s Olympic Peninsula and in 1997 on Oregon’s central coast. Predators were surveyed using modified point counts (some longer observations and attractant calls were employed) in forested stands ranging in size from 30-110 ha. Each predator’s abundance was influenced by unique habitat requirements, but stand-level attributes (structure, composition, and physical features) were typically less strongly correlated with abundance than were landscape-level attributes (proximity to human activity, % mature forest within 5 km of the stand, and landscape fragmentation). The amount and type of stand edge was also important. In general most predators were most abundant near human activity, in fragmented habitats, and in late successional forest. Managers and planners can increase their effectiveness at identifying and conserving murrelet nest areas by considering attributes of the landscape in addition to attributes of the nest stand.

THE EVALUATION OF POTENTIALLY-INFLUENCING FACTORS ON INLAND DETECTION LEVELS OF MARBLED MURRELETS C. John Ralph¹, Teresa Matsumoto², Lee Folliard³, and Brian P. O’Donnell¹. ¹Redwood Sciences Laboratory, USDA Forest Service, 1700 Bayview Drive, Arcata, California 95521. ²Arcata Redwood Company, P.O. Box 245, Orick, California 95555

Many agencies and others are interested in evaluating impacts of forest harvest or manipulation in potential Marbled Murrelet nesting habitat. A primary tool for this evaluation is analysis of observations from surveys conducted at inland forest sites. As part of an effort to evaluate the current survey design, we examined the relative effects of spatial, temporal, and environmental variables (i.e. precipitation, cloud cover, and moon phase) on detection levels at several sites in northern California. Stepwise multiple linear regression analyses, using the maximum R-squared improvement selection procedure, indicated that most of the variation in detection levels could be accounted for by day-of-year and location, and a relatively small amount by cloud cover. We used best-fit polynomials of detection level as a function of day-of-year to compare patterns of detection levels through the season at high-, moderate-, and low-activity sites, and found no significant differences between sites. These results indicate that data collected at a single site in different years and under different weather conditions can be pooled, although it is important to adjust for within-season differences in order to compare detection levels between sites.

THE PRIMITIVE STATE OF SEABIRD BYCATCH MANAGEMENT IN WORLD INSHORE GILLNET FISHERIES Edward F. Melvin* and Timothy Brown. Washington Sea Grant Program, University of Washington, 3716 Brooklyn Ave., NE Seattle, WA 98105 USA. emelvin@u.washington.edu

We reviewed available literature (97 papers) on seabird bycatch in inshore gillnet fisheries from 15 countries including two regions in Canada and four US states. Our objective was to determine the global scope of inshore gillnet bycatch including: seabird species caught, methods of investigation, extent of population level impacts, and the nature and effectiveness of fisheries management actions to reduce bycatch in these fisheries. Deep diving alcid species are most commonly entangled, especially Common and Thick-billed Murres and Razorbills and in some areas (North Sea) diving ducks are the primary species caught. At least eight techniques were used to evaluate bycatch ranging from anecdotal reports and fisher interviews to vessel or land based observer programs; few yielded bycatch rates or reliable population level impact assessments. From the papers reviewed we found that only in the US, in California and Washington, were direct management actions taken to reduce seabird bycatch, suggesting that in most countries of the world seabird bycatch management in inshore gillnet fisheries is at best in a primitive stage of development and rarely a resource management priority.


In August 1997, dead and dying Short-tailed Shearwaters were reported in unusual numbers on beaches and nearshore waters of Alaska, from the Alaska Peninsula to northeastern Russia and the Chukchi Sea. Frequencies of dead shearwaters on beaches were 5-50km-1 on the Alaska Peninsula and 15-350km-1 in the Bering Sea. Other species were affected in more limited area: Black-legged Kittiwakes along the Alaska Peninsula, and murre and possibly other diving species in parts of the Bering Sea. Dead shearwaters were much lighter in weight than live birds in good condition. Necropsied birds were emaciated, and parasitic but not microbial disease was present; death probably was due to starvation. Shearwaters died off over a similar area as during the El Niño year of 1983; other species were affected differently in the past. Sea surface temperatures were the highest recorded in Alaska. If this oceanographic anomaly intensifies next year, as expected, impacts on seabird populations may be observed.

MARBLED MURRELETS, WHERE ARE THEY AND WHO ARE THEY WITH: DISTRIBUTION AND COMMUNITY RELATIONSHIPS OF THE MARBLED MURRELET IN THE NORTHERN PUGET SOUND AND HOOD CANAL, FALL AND WINTER 1995 - 1996 Richard A. J. Merizon* and Steven P. Courtney. SEI 0065 SW Taylors Ferry Road, 0605 Portland, OR. 97219. rmerizin@aol.com

We conducted marine seabird surveys in northern Puget Sound and Hood Canal in Northwest Washington from August - November in 1995 and 1996. We studied community relationships of the Marbled Murrelet (Brachyramphus marmoratus). Murrelets are associated with Pigeon Guillemots (Cepphus columba). Some data suggest negative associations with Western Grebes (Aechmophorus occidentalis). Murrelets are typically found at distances of 250 - 350 meters off shore. For both years higher densities of murrelets were found in protected inlets and bays later in the season. The areas where murrelets associate with guillemots are believed to be areas with high prey densities. The birds do not form mixed foraging flocks rather they are linearly distributed over several kilometers. Sheltered waters offer protection for the birds in seasonally inimate weather.

MARBLED MURRELET USE OF LANDSCAPES FOR NESTING IN SOUTHERN OREGON