## PACIFIC SEABIRD GROUP SIXTH ANNUAL MEETING : ABSTRACTS OF WADER PAPERS

The Pacific Seabird Group held its sixth annual meeting at Asilomar, near Monterey, California on 23-26 January 1980. Several wader papers were included in the program and abstracts of these, supplied by the authors, are printed below.

#### Opportunism and site faithfulness in wintering Sanderlings

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Sanderlings <u>Calidris</u> <u>alba</u> show strong site-faithfulness in their choice of wintering grounds from one year to the next. Records of color-marked individuals show that 72% of birds banded as adults and 50% of those banded as juveniles return to the banding site at Bodega Bay during the subsequent winter. This pattern of winter philopatry is complicated, however, by abrupt switches in foraging location not only within Bodega Bay but also to other regional lagoon systems, including Limantour Estero and Abbott's Lagoon on Point Reyes Peninsula. During early fall up to 25% of the Bodega Bay banded Sanderlings may be on Point Reyes. These wandering birds then return to Bodega Bay by early winter.

## Winter territoriality in Sanderlings: when and where to defend

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Sanderlings Calidris alba frequently defend winter feeding territories along coastal beaches of California. The likelihood of territorial defense fluctuates seasonally and also from place to place. Whether a given site is defended depends upon resource levels and predation risk. Sanderlings defend territories at intermediate levels of food abundance, curtailing defense when resources are scarce or when they are very abundant. This pattern breaks down, however, when raptors hunt along the beach. Under this condition Sanderlings stop defending altogether.

## Social organization in a breeding population of Eastern Willets

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A segment of a continuous population of eastern Willets <u>Catotrophorus semipalmatus</u> in the Virginia coastal salt marshes was studied over three breeding seasons. 170 breeding adults were color-marked. Most nests were located each year. Nest density was much higher than that reported for any other shorebird species yet studied. Spacing of nests was achieved through aggressive defense typical of territorial species. Both sexes participated in defense. Feeding and loafing sites were usually disjunct from the nesting area and were also defended against conspecifics. Both members of pairs foraged in the same areas. Some pairs defended more than one such site and some sites were used by different individuals at different times. Individuals showed a high degree of fidelity to both nesting and feeding areas from year to year. Broods tended to cluster around highly productive temporary ponds in the high marsh zone. Certain behavioral elements of these Willets were more typical of those expected in colonial species. The overall pattern of social organization is viewed as lying intermediate along a territorial-colonial continuum, combining some of the benefits generally associated with each extreme.

# Sanderlings and beach crustaceans: experiments on prey availability

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We investigated the role of prey size, prey depth, prey distribution and substrate penetrability in affecting prey availability to Sanderlings Calidris alba. Five experiments were performed in the laboratory manipulating these availability factors and prey density. All factors significantly affected prey risk. Prey risk increased with prey size and decreased with prey depth. Prey close to one another were more likely to be captured. Prey risk also increased in more penetrable substrates. Prey capture rates varied between 0.01 and 0.84 captures per second of search time over a range of prey density between 60 and 1200 prey per m<sup>2</sup>. Prey species had no effect on capture rate independent of prey size. Prey risk and prey density together controlled Sanderling capture rates, with density having the strongest effect. Measurements in the field around Bodega Bay, California indicate that prey density, prey size, prey depth and substrate penetrability can have significant impact on Sanderling foraging under field conditions.

# Shorebird habitat and food utilization in Elkhorn Slough, California

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To provide baseline data for California's federal Estuarine Sanctuary and for a Sea Grant-sponsored wetlands management study, 46 censuses were taken from November 1977 through November 1979 in Elkhorn Slough. Over all seasons and habitats, 10 species were consistently abundant, revealing 3 general patterns of shorebird use similar to those reported for Bolinas Lagoon by Page et al. (1979). Habitat types such as mudflats, salt marshes and ponds were used consistently within species, but use of smaller areas of the slough for feeding varied considerably. Mudflats were used mostly for feeding, salt marshes and ponds for loafing and secondarily for feeding. Feeding habits of 3 consistently abundant species, including 25 Marbled Godwits Limosa fedoa, 20 Willets Catotrophorus semipalmatus, and 105 Western Sandpipers Calidris mauri, were analyzed. Both the Willets and

Marbled Godwit ate grapsid crabs, with the Marbled Godwit also consuming bivalves and polychaetes. Western Sandpipers ate a larger diversity of prey, including insects, polychaetes, amphipods, ostracods and oligochaetes. A preliminary comparison of prey items in stomach-pumped samples and stomachs from sacrificed birds indicated concurrence in prey species, but not in relative abundance.

# Red Phalarope responses to thin oil films in foraging experiments

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In experiments using shallow pans of water containing brine shrimp, juvenile Phalaropes Phalaropus fulicarius were presented with a choice of foraging on pans with a thin surface film of oil or on pans with a clear surface. Results indicate that naive birds were equally likely to enter oiled or clear pans on the first choice. However, subsequent choices favored pans without oil, and the duration of feeding bouts differed: birds remained longer on clear pans than on oiled pans (p < .01, Mann-Whitney test). These results suggest that phalaropes can quickly learn to distinguish and to avoid oiled surfaces, but even brief contact with oil at sea may decrease survival.

#### RECENT PUBLICATIONS ON WADERS

Compiled by N.C.Davidson & M.W.Pienkowski

Although considerable effort is spent on trying to make these lists as complete as possible, coverage is inevitably somewhat dependent on the range of journals, etc. which are available to the compilers. Therefore, details of omissions and, if possible, reprints of papers are always welcome. These should be sent to either of the compilers at: Department of Zoology, University of Durham, South Road, Durham DH1 3LE, England.

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