

Western Ecological Research Center**Publication Brief for Resource Managers****Release:**

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Human Disturbance of Shorebirds on California Beaches

For years, seaside communities have maximized recreational opportunities along the shore, but these may have come at a cost to other species that depend on the beach. Now, the wildlife one mostly sees at developed beaches are gulls, pigeons, and crows—bold species that flock to crowded beaches to scavenge litter. At more remote locations, a diverse assemblage of shorebirds is still present and sometimes abundant. Research points to humans and pets as a frequent source of disturbance for shorebirds. For beach-nesting birds like the snowy plover, such disturbance has made the majority of former breeding sites unsuitable. In recent studies published in *Biological Conservation* and *Biodiversity and Conservation*, USGS scientist Dr. Kevin D. Lafferty measured rates of disturbance on beaches to recommend actions that management could use to reduce disturbance. The result is that protection of small areas of special habitat might provide important sanctuaries for birds with relatively little impact to the beach-going public.

Studying a public beach in Santa Barbara (Coal Oil Point Reserve), Lafferty found that human activity often displaced birds that were within 20 yards. During a short observation period, 10 percent of humans and 40 percent of dogs disturbed birds. More than 70 percent of birds flew away when disturbed. Bird species varied in their frequency of disturbance, partially because a few bird species foraged on the upper beach where contact with people was less frequent. Most disturbances occurred low on the beach, near the shore's edge. Humans used so much of the beach that birds were not able to find predictable places to rest and feed.

Western snowy plovers, a threatened bird, chose to hide from people up on the dry sand instead of moving. Even with this strategy, each snowy plover was dis-

Management Implications:

- Wildlife-recreation conflicts are exemplified in beach-nesting birds.
- Human disturbance to threatened snowy plovers can be high at popular beaches.
- Disturbances to shorebirds can be reduced by protecting small but key areas and reducing highly disturbing activities such as pets off leash.

turbed about 115 times per week, 16 times more than at remote or protected areas where these birds still breed. Despite disturbance, snowy plovers stayed faithful to their preferred habitat around a lagoon mouth, though they were less abundant near beach-access points. Since closing the beach to protect plovers was an unpopular possibility, Lafferty noted the types of disturbance plovers were most sensitive to, measured the distance at which they reacted to disturbance, and determined the preferred habitat of plovers within a 3-kilometer critical habitat for the population. He then developed a mathematical model that predicted the smallest portion of the beach that should be closed for maximizing protection to plovers and minimizing inconvenience to beach users. Managers adopted the recommendations, and Lafferty's current research is investigating the effectiveness of protecting shorebirds such as snowy plovers in the small but important areas identified by previous results. Initial results indicate reduced disturbance rates and increased use of newly protected areas by snowy plovers and other birds.

Kevin D. Lafferty. 2001. Disturbance to wintering western snowy plovers. *Biological Conservation* 101: 315-325.

Kevin D. Lafferty. 2001. Birds at a Southern California beach: seasonality, habitat use and disturbance by human activity. *Biodiversity and Conservation* 10: 1949-1962.