

Field evaluation of a visual barrier to discourage gull nesting

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Abstract: Expanding gull populations along the Columbia River have been implicated in depredations to threatened and endangered migrating salmon smolt, depredations to agriculture crops, bird-aircraft strike hazards, nuisance problems, and potential threats to public health. In an effort to develop management methods for controlling gull populations, we tested a visual barrier to discourage gulls from nesting on an island in the Columbia River. The barrier material is a woven black polypropylene fabric that we utilized to take advantage of the gulls' innate predator avoidance mechanisms, by removing their line of sight to approaching terrestrial predators while providing no protection from aerial predators. The visual barrier was installed on Upper Nelson Island, Benton County, Washington, in a 70 × 70 m area composed of parallel rows spaced 5 m apart. Gulls used 87% of the 7.9 ha island as nesting habitat and we estimated >21,000 gull nests, 80% Ring-billed Gull and 20% California Gull nests. However, Ring-billed Gulls occupied only 38% of the nesting territory, while California Gulls occupied the remainder. The treated and control zones occupied about 12.3% of the gull nesting habitat on the island. The area with fencing had 84% fewer nests than the control area. Silt fencing has potential as a nonlethal bird management technique in certain situations and should be further evaluated as a nesting deterrent.

Key words: California Gull, endangered species, *Larus californicus*, *Larus delawarensis*, management technique, nesting deterrent, Ring-billed Gull, visual barrier