

Managing weeds for restoration of seabird habitat on Penguin Island, Western Australia

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Summary The transition from native shrubs and succulents to a cover of introduced annual grasses following establishment of large colonies of gulls has been reported for floras of small islands across the world. Sometime after 1961 a large colony of silver gulls (*Chroicocephalus novaehollandiae* Stephens) became established on Penguin Island off the coast of Perth. Currently large numbers of silver gulls nest on the island each year over the winter months. They cause extensive trampling, guano deposition and disturbance. The birds are effective carriers of weed seed and in large areas where gulls nest, a cover of nitrogen-loving exotic grasses and annuals has now replaced native shrublands. The vegetation in the north-east section of Penguin Island has historically been important nesting habitat for bridled terns (*Onychoprion anaethetus* Scopoli). In recent years silver gulls have moved into the area and the cover of native

shrubs that was important nesting habitat is largely being replaced by a cover of weedy annual grasses in winter/spring and bare ground through summer. In this study we trialled techniques for re-establishing native shrub cover at the site. The objective of all treatments was to replace dense stands of annual weeds with a resilient native vegetation cover that provided bridled tern habitat. Treatments included direct seeding, laying brush of fertile material, planting tube stock and simply removing weeds from plots to assess potential natural regeneration from the soil's seed bank. All treatments were protected from silver gulls by weldmesh cages in the first 12 months of the trial. Results including effectiveness of treatments at establishing a native cover and at displacing exotic annual herbs and grasses will be discussed.

Keywords Silver gulls, annual weeds, restoration, bridled terns, Penguin Island.