

### **Birds as bio-Indicators in marine and terrestrial ecosystems**

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Birds are the most wide-ranging and highly visible components of terrestrial and marine ecosystems. They are also vulnerable to anthropogenic and natural perturbation, and importantly, they are relatively easily accessible to scientific investigation. Seabird studies have been critical in bringing to light the extensiveness and significance of the deliberate discharge of bilge and tank oil from ships in the northwest Atlantic and in monitoring this pollution problem, which

cannot be remotely sensed through technical means. Marine birds are also useful in assaying the movements and conditions of capelin and other pelagic fish and squid in the Newfoundland region. Recent studies with landbirds are revealing that different avian communities are associated with different forest habitats and how bird abundance and biodiversity can be preserved in the face of forestry, land-use and protected areas practices and policies.