

Introduction

The waters off the Oregon coast are part of the California Current System, one of the most productive marine habitats in the world. The rugged coast encompasses large expanses of rocky shorelines, islands, and offshore sea stacks, which provide nesting habitat for seabirds. This *Catalog of Oregon Seabird Colonies* presents a detailed record of seabird nesting sites along the Oregon coast. For each of the 393 sites identified in this catalog, the location, species composition, and abundance of breeding birds are presented. Survey data from 1901 to 2004 are included.

Approximately 1.3 million seabirds, representing 15 species, nest in the state (Table 1, Figure 1). This represents approximately half of the seabirds breeding along the west coast of the conterminous United States, including two species (scientific names are in Table 1) of storm-petrels (Leach's and Fork-tailed), three species of cormorants (Double-crested, Brandt's, and Pelagic), three species of gulls (Western, Glaucous-winged, and Ring-billed), one tern species (Caspian), and six species of alcids (Common Murre, Pigeon Guillemot, Marbled Murrelet, Cassin's Auklet, Rhinoceros Auklet, and Tufted Puffin). One shorebird species (Black Oystercatcher) is also included because of its strong affiliation with marine habitats and the high degree of overlap between seabird and Black Oystercatcher nesting sites. Marbled Murrelets nest solitarily in forest habitats distinctly different from other Oregon seabirds, and are not included in this catalog. Readers are referred to Ralph et al. (1995) and McShane et al. (2004) for further information on Marbled Murrelet abundance and nesting distribution in Oregon.

This catalog is restricted to seabird species that breed along the coast and in the lower estuaries within Oregon state boundaries. It does not include the millions of marine birds that breed elsewhere and migrate to Oregon's rich coastal waters, such as albatrosses that nest in the central Pacific, shearwaters from the southern hemisphere, and loons, grebes, sea ducks, and gulls that breed in the arctic or inland colonies. At-sea, these migrant species often outnumber Oregon's breeding seabirds and, although they are not covered in this catalog, they represent a significant component of Oregon's marine community.

Along the Pacific coast, seabird colony catalogs have been published for Alaska (Sowls et al. 1978), California (Sowls et al. 1980), and Washington (Speich and Wahl 1989). Similar catalogs of colonies in British Columbia, Canada have also been published (Drent and Guiguet 1961, Campbell et al. 1990). The first comprehensive survey of Oregon seabird colonies was conducted in 1979 (Varoujean and Pitman 1980) and a draft catalog was prepared (Pitman et al. 1985), but never published. Another complete survey of Oregon colonies was conducted in 1988. In addition to these comprehensive surveys, numerous other surveys of specific species at specific colonies have been completed, including, since 1988, annual aerial photographic surveys of Brandt's and Double-crested cormorants and Common Murres (all colonies have been photographed annually and a subsample of the colonies have been counted; see Methods), and a coast-wide survey of cormorant colonies in 2003. This catalog provides a compilation of current and historic seabird colony information.

This catalog was designed primarily to provide biologists, resource managers, regulatory agencies, and researchers with the best available data on the size and location of Oregon seabird colonies, in a standardized format. The information compiled here serves as a baseline of recent and historic distribution and abundance of breeding seabirds in the state. In the event of an oil spill or other catastrophic occurrence, this catalog can provide quick reference to concentrations of breeding seabirds. The catalog will also be useful to community planners and members of the general public interested in increasing their understanding of Oregon's diverse seabird community. Finally, future surveys and monitoring can be planned with a better understanding of the dynamics of seabird breeding biology and colony distribution.

Speich and Wahl (1989) noted in the introduction to the *Catalog of Washington Seabird Colonies* that, from its inception, the catalog was destined to be incomplete. The same is true for all colony catalogs. New surveys are continually underway and reports of historic surveys are often incomplete.

Table 1. Seabirds breeding along the coast of Oregon.

Common Name	Scientific Name	Rounded Estimates of the Number of Breeding Birds
Fork-tailed Storm-Petrel	<i>Oceanodroma furcata</i>	hundreds
Leach's Storm-Petrel	<i>Oceanodroma leucorhoa</i>	482,000
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	30,400
Brandt's Cormorant	<i>Phalacrocorax penicillatus</i>	21,200
Pelagic Cormorant	<i>Phalacrocorax pelagicus</i>	10,100
Black Oystercatcher ¹	<i>Haematopus bachmani</i>	470
Ring-billed Gull	<i>Larus delawarensis</i>	400
Western Gull ²	<i>Larus occidentalis</i>	-
Glaucous-winged Gull ²	<i>Larus glaucescens</i>	-
Western/Glaucous-winged Gull ²		32,300
Caspian Tern	<i>Sterna caspia</i>	19,000
Common Murre	<i>Uria aalge</i>	685,000
Pigeon Guillemot	<i>Cephus columba</i>	4,500
Marbled Murrelet ³	<i>Brachyramphus marmoratus</i>	-
Cassin's Auklet	<i>Ptychoramphus aleuticus</i>	400
Rhinoceros Auklet	<i>Cerorhinca monocerata</i>	500
Tufted Puffin	<i>Fratercula cirrhata</i>	4,600
TOTAL ESTIMATE		1,290,000

¹ Black Oystercatcher, a shorebird, is included in this catalog.

² Western Gulls, Glaucous-winged Gulls, and hybrids of these two species occur in Oregon and are difficult to distinguish. Consequently they are reported as Western/Glaucous-winged Gulls in this catalog.

³ Marbled Murrelets breed in Oregon but they are not included in this catalog. See McShane et al. (2004).

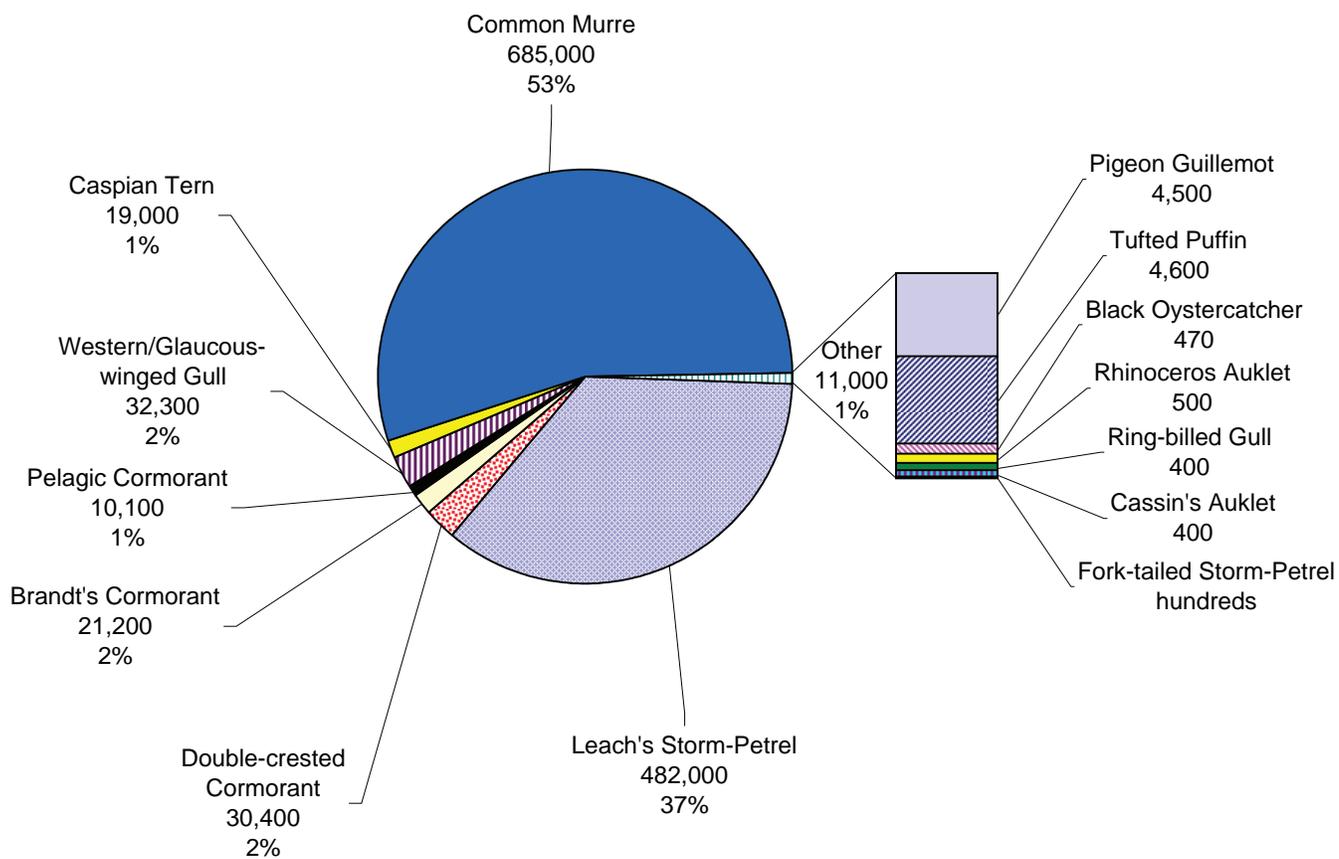


Figure 1. Abundance of 14 species of breeding seabirds in Oregon.

Summary of Seabird Distribution and Abundance in Oregon

The Columbia River demarcates Oregon's border with Washington and is the location of Oregon's northernmost seabird colonies. The low, sandy islands in the Columbia River estuary support the largest colonies of Caspian Terns (19,000 breeding birds) and Double-crested Cormorants (26,000 breeding birds) in North America, the largest Western/Glaucous-winged gull colonies in the state (16,000 breeding birds), and the only active breeding colonies of Ring-billed Gulls (400 birds) along the Pacific coast (Figure 2). Loss and changes to estuary islands and artificial habitats in Washington, and movement of birds from outer coast and inland colonies, have likely contributed to the rapid increases in the Columbia River colonies over the past decade.

Along the outer coast, the vast majority of Oregon's seabirds nest within the Oregon Coast National Wildlife Refuge (NWR) Complex. The northern Oregon coastline is composed of grand headlands interspersed with sweeping beaches and estuaries. Headland cliffs and offshore rocks support large numbers of nesting seabirds. The largest colony in the state occurs at Three Arch Rocks NWR, where over 225,000 seabirds of 10 species nest. Most of the state's Tufted Puffins nest on Finley Rock, a large vegetated island within Three Arch Rocks NWR and on the two northernmost Haystack Rocks within Oregon Islands NWR.

The central Oregon coast is dominated by extensive sandy beaches, many of which are within Oregon Dunes National Recreation Area managed by the Bureau of Land Management. Relatively few seabirds nest along this stretch of coastline, and colonies are largely limited to the rocky cliffs and nearshore islands from Depoe Bay to Newport and at Heceta Head/Sea Lion Caves (Figure 3). Some birds (primarily Western/Glaucous-winged gulls, Double-crested Cormorants and Pigeon Guillemots) nest opportunistically on artificial structures within estuaries and Double-crested Cormorants nest in trees in several locations along the central coast.

Southern Oregon is particularly rich in offshore sea stacks and rocky coastline, and more than half of the colonies in the state (203 of 393) are located here. Most of the state's Leach's Storm-Petrels nest on a few southern Oregon islands with well established soil and vegetation.

Numerically, Common Murres dominate the Oregon seabird community (approximately 685,000 breeding birds). Common Murres constitute more than half of all seabirds nesting in Oregon and greater than 65% of the breeding *U. a. californica* subspecies, rangewide (Carter et al. 2001). Common Murres nest in extremely dense colonies, typically on the top of islands and sea stacks, and have proven to be important indicators of marine productivity.

Leach's Storm-Petrels are the second most abundant breeding seabird in Oregon, with an estimated 480,000 birds nesting at 21 colonies. The overwhelming majority of Leach's Storm-Petrels nest on seven small islands off the southern Oregon coast (Saddle Rock, Crook Point Rock, Hunters Island, Goat Island, two rocks off Whaleshead Cove, and an unnamed island in Boardman State Park). Due to their small size, nocturnal activity and burrow nesting habit, estimates of both Leach's and Fork-tailed storm-petrel colony sizes are difficult to obtain, and estimates are often of low reliability compared to other species.

Gulls are the most readily identified seabird by casual visitors to the coast. Western Gulls are the dominant nesting gull species throughout the outer coasts of California and Oregon, and Glaucous-winged Gulls are more common in Washington, but the two species readily hybridize and intermix through central and northern Oregon and along the Washington coast (Scott 1971, Bell 1996). Clear distinction of species is difficult in this area of overlap; therefore, large gulls are listed as Western/Glaucous-winged gulls in this catalog. The largest concentration of nesting gulls is in the Columbia River estuary, where half of the state's 32,300 Western/Glaucous-winged gulls breed. Ring-billed Gulls also nest in the estuary. Coastal colonies, such as the one at East Sand Island, are rare for Ring-billed Gulls, which typically nests at inland locations. They first colonized the Columbia River estuary in the late 1990s. A list of active colonies for each species is presented in Appendix B, including the most recent accurate or representative estimate of the number of breeding birds at each site.

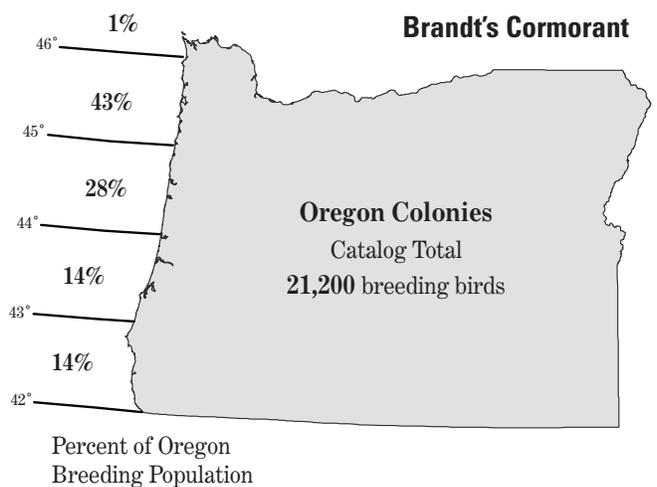
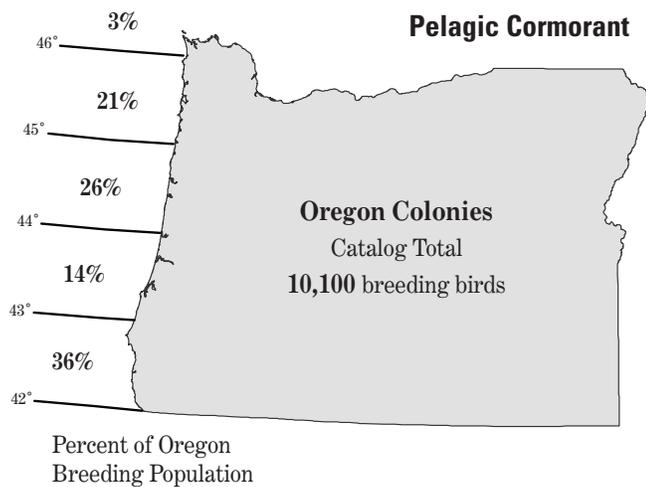
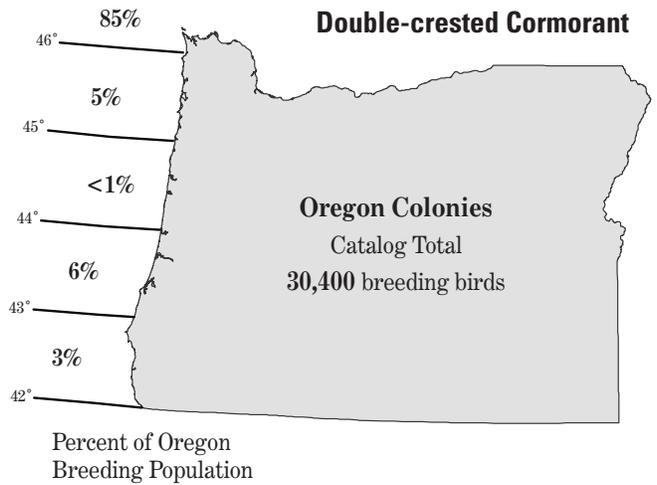
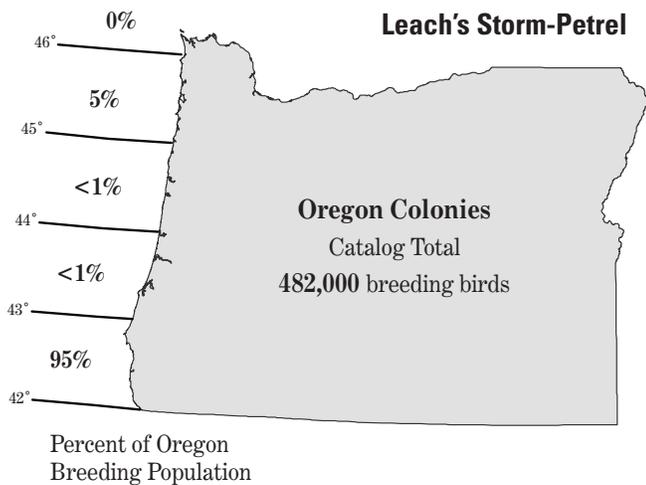
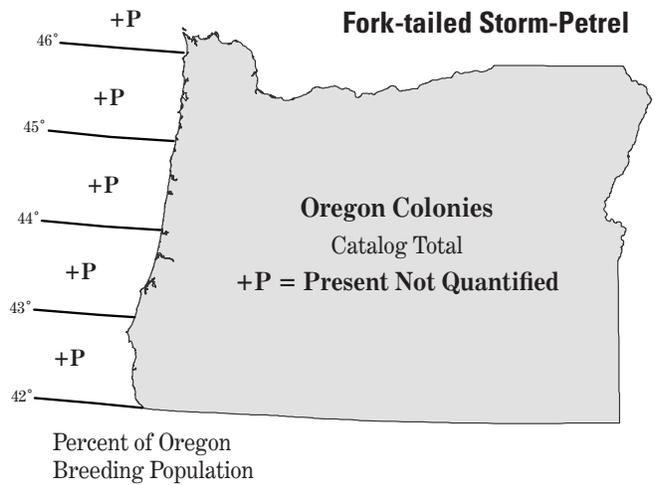
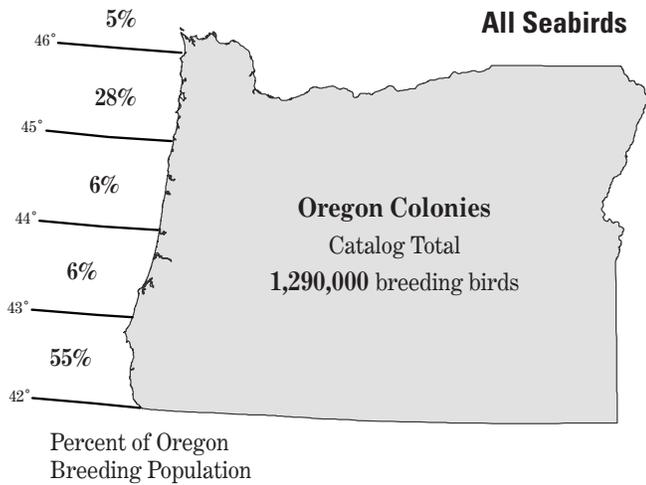


Figure 2. Distribution of breeding seabirds in Oregon.

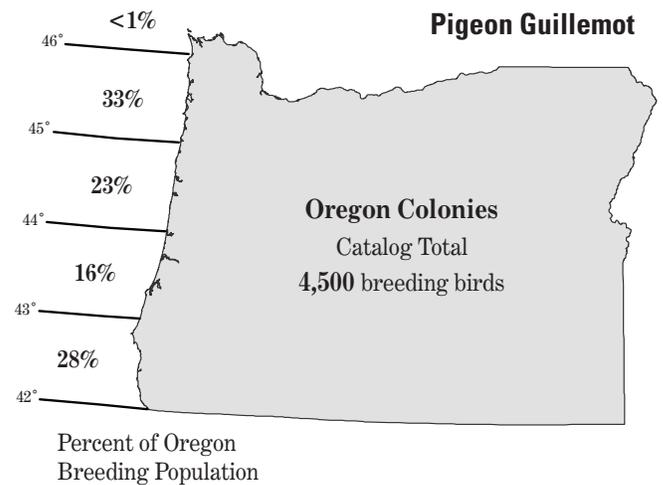
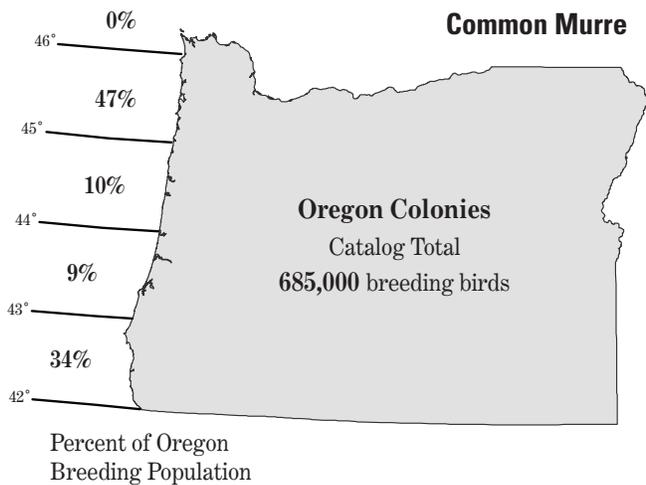
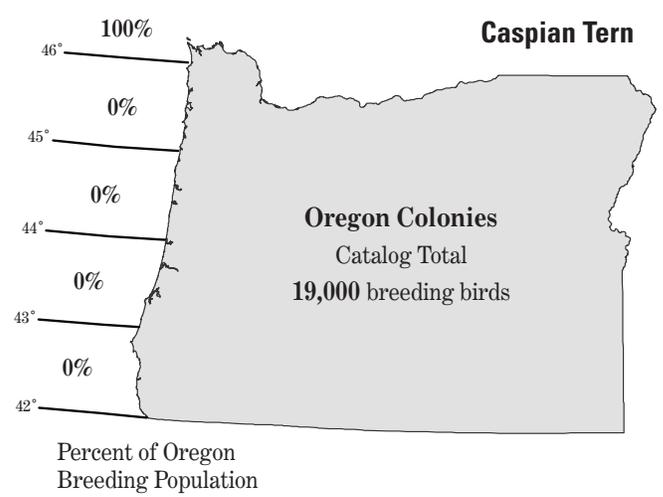
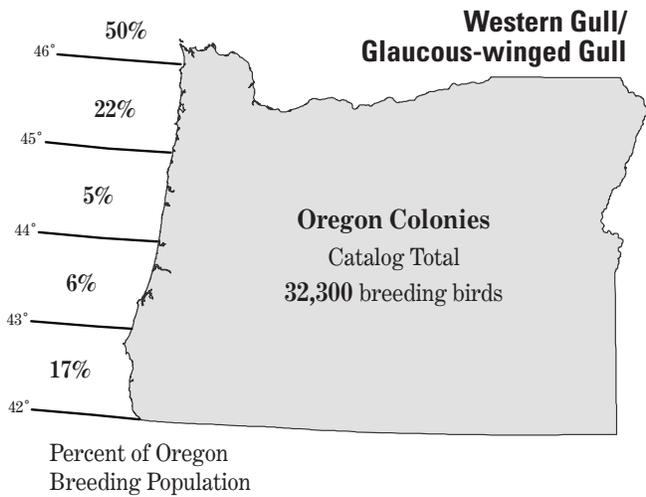
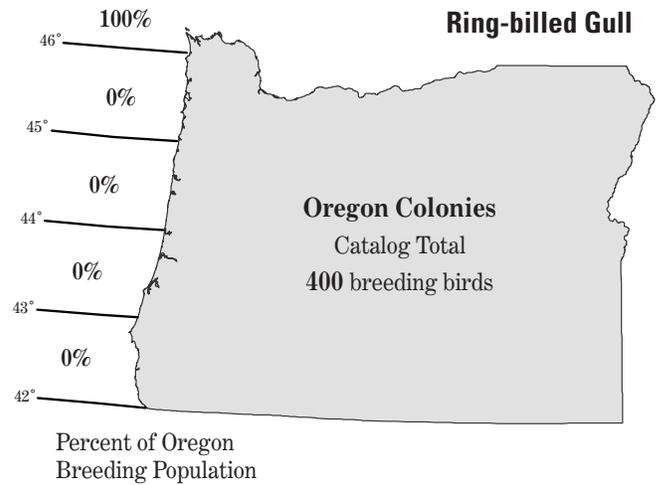
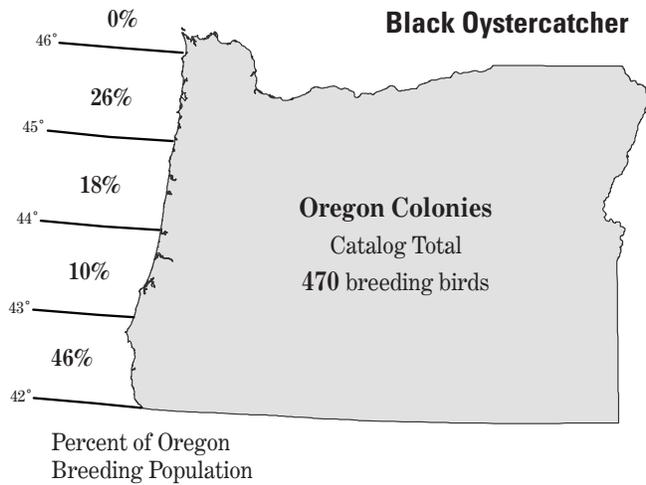


Figure 2. Distribution of breeding seabirds in Oregon. (continued)

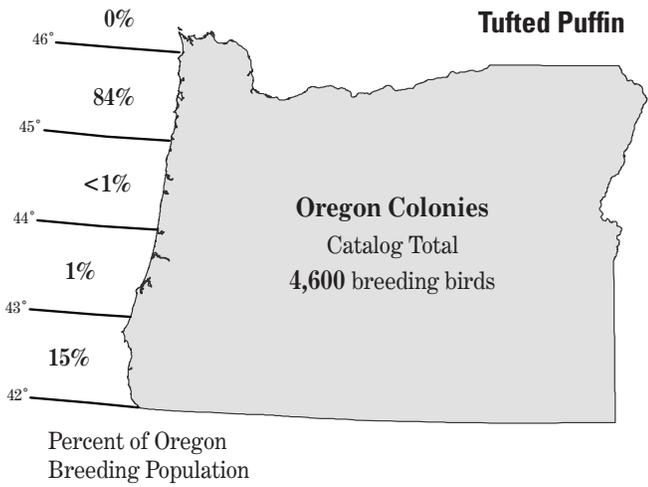
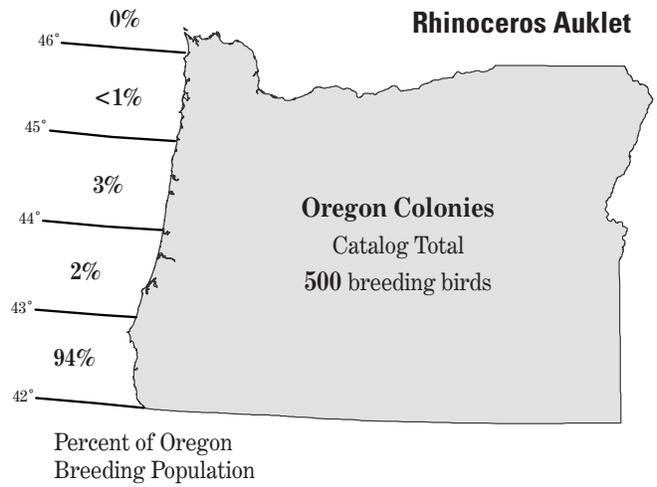
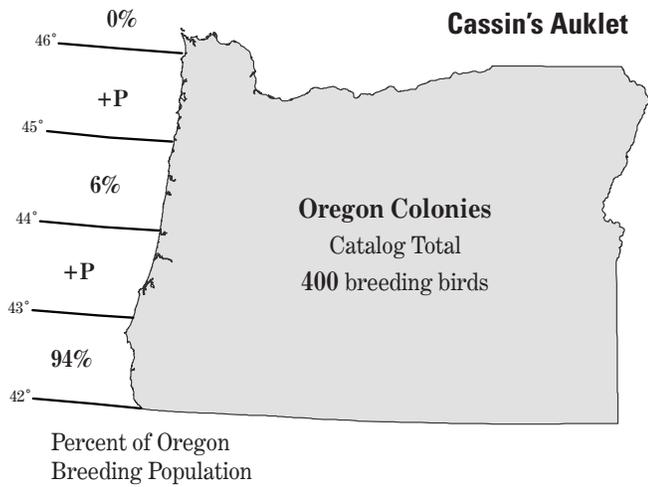


Figure 2. Distribution of breeding seabirds in Oregon. (continued)



Figure 3. Map of Oregon coast landmarks.