

## Brown Pelican

(*Pelecanus occidentalis*)

**State Status:** Endangered, 1980

**Federal Status:** Species of concern

**Recovery Plans:** None

Brown pelicans seen in Washington belong to the California subspecies, *Pelecanus occidentalis californicus*. They nest on islands in the Gulf of California and along the coast of Baja California to the Channel Islands National Park in southern California. In California, they feed primarily on Pacific mackerel, Pacific sardines, and northern anchovies (USFWS 2009).



Figure 1. Brown pelican (photo taken in Florida by D. Stinson)

Brown pelicans are sensitive to bioaccumulation of the pesticide DDT which causes reproductive failure by altering calcium metabolism and thinning eggshells. California brown pelicans declined drastically in the 20<sup>th</sup> century as a result of DDT contamination, particularly off the coast of Los Angeles where a manufacturing plant discharged DDT residues into the sewage system for many years (Shields 2002). Pollution and perhaps persecution by fishermen adversely affected pelicans. By the 1960s, even single birds in Washington were noteworthy (Wahl 2005). The brown pelican was listed as endangered by the USFWS under the Endangered Species Act in 1970.

The brown pelican recovered after the banning of most uses of DDT and the cleanup of DDT and derivatives from sediments off the California coast. The species began to reoccupy the Washington part of its non-breeding range in the early 1980s (Wahl and Tweit 2000). Since 1985, the California subspecies has exceeded a recovery objective of at least 3,000 breeding pairs during all but 2 years (1990, 1992), and has exceeded 6,000 pairs for 10 of the last 15 years. The brown pelican was removed from the federal Endangered Species List in 2009 (USFWS 2009).

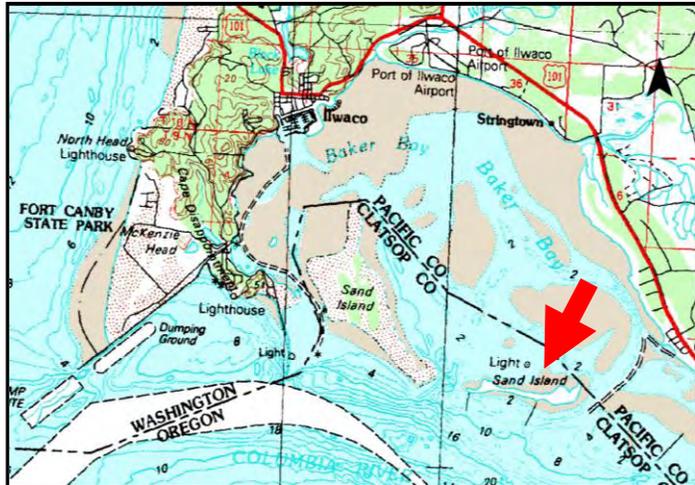


Figure 2. Location of East Sand Island.

Brown pelicans now occur in substantial numbers (7,000–10,000) in Washington's outer coastal waters, mainly from late April through October (Wahl 2005). Small numbers occur in the Strait of Juan de Fuca and Puget Sound. East Sand Island in the Columbia River estuary is the largest known post-breeding nighttime roost site for California brown pelicans (Figure 2). In 2012, weekly counts of brown pelicans roosting on East Sand Island peaked at 10,570 on 22 July; counts peaked at about 14,224 in 2011, 11,500 in 2010, and over 16,000 in 2009, the highest count ever recorded for the island (birdresearchnw.org). Brown pelicans feed primarily on schooling marine forage fishes which are abundant near East Sand Island (Emmett et al. 2006). The absence of salmon PIT tags in a sample plot suggests that brown pelicans roosting on East Sand Island are not feeding on salmon smolts (Roby and

Collis 2012).

The species may be proposed for de-listing in Washington in 2013. Brown pelicans are protected from ‘take’ by federal law (Migratory Bird Treaty Act), and would remain protected by state law (as ‘protected wildlife’) if delisted.

**Partners and cooperators:** U. S. Fish and Wildlife Service.

### Literature Cited

- Emmet, R.L., G.K. Krutzikowski, and P.J. Bently. 2006. Abundance and distribution of pelagic piscivorous fishes in the Columbia River plume during spring/early summer 1998–2003: Relationship to oceanographic conditions, forage fishes, and juvenile salmonids. *Progress in Oceanography* 68:1-26.
- Roby, D. and K. Collis. 2012. Research, Monitoring, and Evaluation of Avian Predation on Salmonid Smolts in the Lower and Mid-Columbia River. 2011 Annual Report, prepared for Bonneville Power Administration and the U.S. Army Corps of Engineers. 171 pp. Available at: <http://www.birdresearchnw.org/Project-Info/publications-reports/default.aspx>
- Shields, M. 2002. Brown Pelican (*Pelecanus occidentalis*). In *The Birds of North America*, No. 609 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and The American Ornithologists’ Union, Washington D.C.
- USFWS. 2009. Removal of the Brown Pelican (*Pelecanus occidentalis*) from the federal list of endangered and threatened wildlife: Final Rule. *Federal Register* 74(220): 59444-59472 (November 17, 2009).
- Wahl, T. R. 2005. Brown Pelican. Pages 96-97 in T. R. Wahl, B. Tweit, and S. G. Mlodinow, eds. *Birds of Washington: status and distribution*. Oregon State University Press, Corvallis. 436 pp.
- Wahl, T. R., and B. Tweit. 2000. Seabird abundances off Washington, 1972-1998. *Western Birds* 31(2):69-88.