

Western and Clark's Grebes

(*Aechmophorus occidentalis* and *A. clarkia*)

State Status: Candidate, 2001 (Western) and 2010 (Clark's)

Federal Status: None

Recovery Plans: None

Western and Clark's grebes are closely related picivorous aquatic birds that once were considered different color phases of the same species (Figure 1), and they occasionally interbreed (Konter 2011). Clark's grebe was recognized as a distinct species in 1985 (AOU 1985). Survey data often combine the two species because they often cannot be distinguished at longer distances. Numbers of both species seem to have declined and both are affected by several of the same factors. Due to these similarities and historical data that combine both species, a draft status report for both is currently being written for WDFW with support from the SeaDoc Society.



Figure 1. Clark's grebe, left, is similar to the western grebe, right, but has white around the eye and a brighter yellow bill.

In summer, these species are found on inland freshwater lakes in Washington. In winter, western grebes occupy nearshore marine waters of the state and Clark's grebes are largely found further south. There are few surveys conducted that allow clear coast-wide comparisons of trends concerning western and Clark's grebes, but available data indicate that both have undergone sizeable declines in the northern portion of their breeding and wintering range. How much of the decline reflects a southward shift versus a population reduction is not clear.

Systematic surveys of western and Clark's grebe nesting numbers and reproductive success have not been conducted, but available data suggest declines in both species. A small population of western and Clark's grebes breeds on eastern Washington lakes; however, current breeding sites are considered of marginal quality compared to those historically available. Western and Clark's grebes make floating nests from emergent and submergent vegetation, and require a certain composition of fish for prey.

Breeding populations. The combined numbers of western and Clark's grebes summering in eastern Washington in recent years likely total less than 2,500-3,000 birds, with most of these (1,500-2000) in the Potholes Reservoir area based on partial observations for Grant County (Table 1). However, a large percentage of the adult grebes (mostly western grebes) at Potholes Reservoir do not attempt to nest and nesting success appears to be low (<30%). Counts in late August or early September in 2000 and 2001

that tallied 1,900 and 2,200 western grebes at Potholes Reservoir would have included young of the year and migratory birds (Wahl et al. 2005).

Repeated surveys have been conducted only in the past few years to assess changes in Washington’s breeding populations of western and Clark’s grebes, and historical data for analyzing population changes in nesting grebes is sparse. A large nesting colony of several hundred pairs present on Moses Lake in the late 1960s was abandoned in 1982 or 1983. The birds moved to Potholes Reservoir, then moved again to the westernmost and more remote pothole lakes, perhaps because of boat wakes and major water level fluctuations that swamped or left nests high and dry. Breeding Bird Survey trends (<http://www.mbr-pwrc.usgs.gov/bbs/bbs.html>) suggest a decline for western and Clark’s grebes in Washington, although the decline is not statistically reliable due to limited sample size (Sauer et al. 2011). However, the trends for Oregon and the western North American survey area, which have larger sample sizes, also show sizable declines, but with numbers somewhat stable since about 1990 (Figure 2; Sauer et al. 2011).

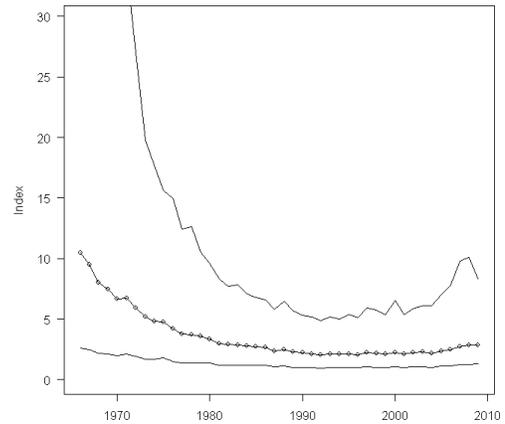


Figure 2. Trend in summer numbers of western and Clark’s grebes in the western North American Breeding Bird Survey region (Sauer et al. 2011).

Table 1. Recent survey results at breeding locations of western (WE) and Clark’s (CL) grebes in eastern Washington, 1988-2011.

Site	County	Species	Year and numbers
Lower Spokane River (east end of Long Lake)	Spokane	WE	2006: up to 40 pairs; 2007: at least 12 nests 2011: 110 adults; 66 nests
North and South Twin Lake	Ferry	WE	2007: 6 adults on territory, no nesting noted
Owhi Lake (northeast of Nespelem)	Okanogan	WE	2007: 4 adults
Sprague Lake	Adams	CL, WE	2007:275 adults (50 CL) plus young 2011: 63 adults (May)
Upper Hampton Lake	Grant	CL likely	2007: 2 adults
Winchester Lake and Wasteway	Grant	WE	2007: 2 adults with 2 flightless young 2011: 12 adults
Moses Lake (Goat, Gailey’s, Marsh and Crest Islands)	Grant	CL, WE	1990: 344 adults (270 CL) 2011: 56 adults
Potholes Reservoir (multiple locations)	Grant	CL, WE	1990-91: 850-1270 adults; 425-635 nests CL 5-10% 2011: 524 ad (12% CL); 222 nests; most sites failed due to water drop
Saddle Mountain Lake	Grant	CL, WE	1990:60 adults 15 pair WE; 15 pair CL
Banks Lake (several locations from Steamboat Rock Park south along eastern shore)	Grant	CL, WE	1988:139 WE adults, 74 young. Nesting reported at 3 sites on eastern shore 2009: 64 nests (Osborne Bay) 2010: 4 nests 2011: 35 adults

WDFW biologists have collected some data on changes in breeding western and Clark's grebe populations in Washington (Table 1). Counts of at least 100 nests in 2007, 136 nests in 2009, and at least 184 nests in 2011 of both species combined (mostly western) were made on Potholes Reservoir. Similarly, at least several hundred nesting attempts by both species occurred in Moses Lake in the 1980s; but in 2007, only about 100 nest attempts by Clark's grebe likely occurred there. In 2009, at least 63 nests (mostly Clark's) were recorded at Banks Lake. While there is no firm tally of total numbers nesting now, there were clearly fewer western and Clark's grebes nesting in 2007 at Potholes Reservoir and Moses Lake than in the 1980s and early 1990s.

Wintering populations. Wintering western grebes have declined by almost 95% in Washington's inner marine waters since the late 1970s (Puget Sound Action Team 2007). Recent data suggest that numbers may have stabilized since 1998 (Figure 3). Up to 20-25% of the world's population of western grebes overwinters in Washington. Fish can comprise over 80% of the diet and Pacific herring (*Clupea pallasii*) can make up more than 50% of their winter diet. The simultaneous declines of wintering western grebe populations and forage fish stocks like the Cherry Point herring, around which western grebe concentrations historically gathered, suggest that changes in food resources have played a role in the decline of wintering populations of this species in Washington.

Other factors that may contribute to the declines in both species on wintering areas along the West Coast include fishing bycatch and derelict fishing gear. Both species have been killed in gill nets and found entrapped in removed derelict monofilament fishing nets. Western and Clark's grebes have been killed by numerous oil spills and are considered to be among the marine bird species most often impacted by oil spills off the coast of California, Oregon, Washington and British Columbia. In the fall of 2009, large numbers of wintering western grebes were killed by a severe harmful algal bloom caused by the dinoflagellate *Akashiwo sanguine* along the outer Washington and Oregon coasts (Phillips et al. 2011). More focused study and monitoring on the species' breeding and wintering grounds are needed to understand the causes of grebe declines.

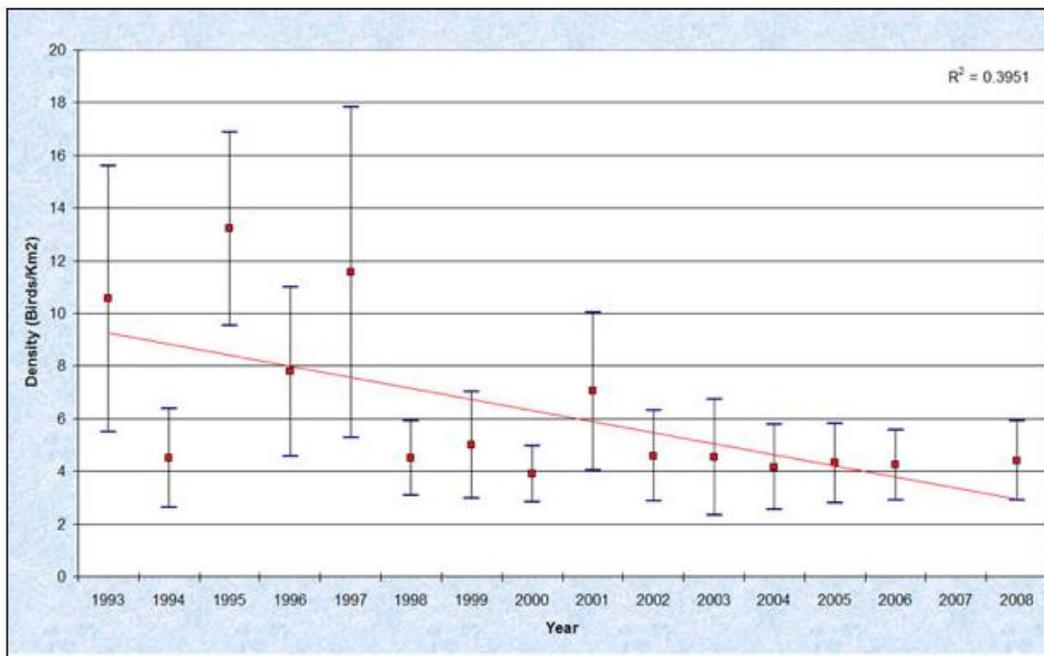


Figure 3. Winter trends in western grebe densities in the inner marine waters of Washington, 1993-2008 (WDFW 2011).

Land acquisitions. In 2011, WDFW acquired two groups of properties that may benefit western grebes. These included 198 acres in Puget Sound and 156 acres of outer coastal estuaries.

Partners and cooperators: U. S. Fish and Wildlife Service, SeaDoc Society, Puget Sound Partnership.

Literature Cited

- AOU (American Ornithologist's Union). 1985. Thirty-fifth supplement to the American Ornithologists' Union check-list of North American birds. *Auk* 102:680-686.
- Hoenes, B., and R. Finger. 2011. Summary of Washington Department of Fish and Wildlife colonial waterbird surveys in Grant and Adams Counties. Washington Department of Fish and Wildlife, Region 2, Ephrata, Washington.
- Konter, A. 2011. Interbreeding of *Aechmorphus* grebes. *Wilson Journal of Ornithology* 123:132-136.
- Phillips, E. M., J. E. Zamon, H. M. Nevins, C. M. Gobble, R. S. Duerr, and L. H. Kerr. 2011. Summary of birds killed by a harmful algal bloom along the south Washington and north Oregon coasts during October 2009. *Northwestern Naturalist* 92:120-126.
- Puget Sound Action Team. 2007. 2007 Puget Sound update: ninth report of the Puget Sound Ambient Monitoring Program. Puget Sound Action Team. Olympia, Washington.
- Sauer, J. R., J. E. Hines, J. E. Fallon, K. L. Pardieck, D. J. Ziolkowski, Jr., and W. A. Link. 2011. The North American Breeding Bird Survey, Results and Analysis 1966 - 2009. Version 3.23.2011. USGS Patuxent Wildlife Research Center, Laurel, Maryland.
- WDFW (Washington Department of Fish and Wildlife). 2011. Marine bird densities from the inland marine waters of Washington as captured by PSAMP efforts 1992-2006, 2008-2010. Marine Bird and Mammal Component, Puget Sound Ambient Monitoring Program (PSAMP), Washington Department of Fish and Wildlife, Olympia, Washington. <http://fortress.wa.gov/dfw/gispublic/apps/psampdensity/viewer.htm>