

## Appendix 8-G

# Widths of Buffers Needed to Protect Some Threatened/Endangered/Sensitive Wildlife Species Associated with Wetlands

The following table lists information regarding the widths of buffers needed by legally protected wildlife species associated with wetlands (as defined below). The species in the table are Federal Candidate, Federal Threatened, Federal Endangered, Federally Warranted But Precluded, State Sensitive, State Threatened, and State Endangered found in Washington as of February 4, 2005. These species are collectively called Threatened, Endangered, or Sensitive (T/E/S) species in this appendix. Although this information is not directly linked to the guidance provided in Appendices 8-C and 8-D, it can be useful to local governments developing a program to protect and manage wetlands. The T/E/S species for which wetlands provide habitat, as well as the other functions as established by the rating systems, need to be addressed in protection measures.

The list of species and their level of association with wetlands in Johnson and O'Neil's (2001) *Wildlife-Habitat Relationships in Oregon and Washington* (see Appendix 2-B in Volume 1) was used to identify only the T/E/S species that are *Closely Associated* with wetlands in Washington (the first column in the matrix). A species *Closely Associated* with wetlands is defined as a species that is widely known to depend on a habitat for part or all of its life history requirements. Identifying this association implies that the species has an essential need for this habitat for its maintenance and viability.

The Washington Department of Fish and Wildlife (WDFW) identified two additional species that should be considered as associated with wetlands based on their expertise in Washington (the second column) (E. Neatherlin, WDFW, personal communication 2005). The fourth column (activity in wetlands) is also from Johnson and O'Neil (2001). The fifth column includes widths of buffers needed by these species and was derived from the scientific literature as cited in the table and listed at the end of the appendix. Finally, WDFW provided additional notes/comments for some of the species (sixth column).

**Buffers alone may not provide adequate protection for some of these species. Please check with the Washington Department of Fish and Wildlife for more details on what is needed to protect individual Threatened/Endangered/Sensitive species.**

**Table 8G-1. Width of buffers needed to protect Threatened/Endangered/Sensitive wildlife species associated with freshwater wetlands in Washington.**

T/E/S Species Identified as <i>Closely Associated</i> with Wetlands in WA from Johnson and O'Neil (2001)	T/E/S Species Associated with Wetlands in Washington Based on WDFW Expertise	Status*	Activity in Wetlands	Widths of Buffers Reported in the Scientific Literature as Needed to Protect the Species	Notes/Comments (Provided by WDFW biologists)
Oregon Spotted Frog		FC, SE	Feeds and Breeds	No information	Only 3 known populations in WA - Dempsey Creek, Trout Lake, and Conboy Lake (McAllister and Leonard 1997).  Emerging data suggests that some frogs cannot persist through time without landscape connectivity between uplands and wetlands. Buffers are often inadequate and ineffective.
	Great Basin Spotted Frog	FWP		No information	One small population in SE Washington.  Emerging data suggests that some frogs cannot persist through time without landscape connectivity between uplands and wetlands. Buffers are often inadequate and ineffective.
Northern Leopard Frog		SE	Feeds and Breeds	> 120 m (395ft) impacts noted up to 3000 m (1.9 miles) (Houlahan and Findlay 2003)	Emerging data suggests that some frogs cannot persist through time without landscape connectivity between uplands and wetlands. Buffers are often inadequate and ineffective.

\* Status: FC = Federal Candidate, FT = Federal Threatened, FE = Federal Endangered, FWP = Federally Warranted But Precluded, SS = State Sensitive, ST = State Threatened, SE = State Endangered

<b>T/E/S Species Identified as <i>Closely Associated</i> with Wetlands in WA from Johnson and O'Neil (2001)</b>	<b>T/E/S Species Associated with Wetlands in Washington Based on WDFW Expertise</b>	<b>Status*</b>	<b>Activity in Wetlands</b>	<b>Widths of Buffers Reported in the Scientific Literature as Needed to Protect the Species</b>	<b>Notes/Comments (Provided by WDFW biologists)</b>
Western Pond Turtle		SE	Feeds	400-500m (1300-1600ft) (Larsen 1997 citing Holland 1994)	
	American White Pelican	SE		400-800m (1312-2624ft) around breeding colonies (WDFW 2004)	
Sharp-tailed Grouse		SE	Feeds	1.2 miles during breeding and rearing season (WDFW 2004)	
Fisher		SE	Feeds and Breeds	No information	Not useful to generate buffer database for fishers until their populations increase. Despite extensive surveys, WDFW has been unable to confirm the existence of a fisher population in the state (Stinson and Lewis 1998).
Common Loon		SS	Feeds and Breeds	492 ft. April 1 to July 15 (WDFW 2004)	
Sandhill Crane		SE	Feeds and Breeds	400m (1312ft) during breeding season (WDFW 2004); buffer roosts (roost, nest, and loaf in wetlands) by >500m (1640ft) from new roads or buildings, and buffer feeding areas (includes wetlands) by >800m (2624ft) from new construction, road building or traffic increases (Bettinger and Milner 2000 in Littlefield and Ivey 2001); >300m from roads and human activity elicited no disruption in feeding, roosting, loafing (Burger and Gochfeld 2001)	

## References Cited in the Table

- Bettinger, K.A. and R. Milner. 2000. Sandhill Crane (*Grus canadensis*). In E.M. Larsen and N. Nordstrom, editors. Management Recommendations for Washington's Priority Species, Volume IV: Birds [Online]. Available: <http://www.wa.gov/wdfw/hab/phs/vol4/sndhlcrrn.htm>.
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- Houlahan, J.E. and C.S. Findlay. 2003. The effects of adjacent land use on wetland amphibian species richness and community composition. *Canadian Journal of Fisheries and Aquatic Sciences* 60: 1078-1094.
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- Littlefield, C.D. and G.L. Ivey. 2001. Draft Washington State Recovery Plan for the Sandhill Crane. Washington Department of Fish and Wildlife, Olympia, WA. 62 pp.
- McAllister, K.R. and W.P. Leonard. 1997. Washington State status report for the Oregon Spotted Frog. Washington Department of Fish and Wildlife., Olympia, WA. 38 pp.
- Stinson, D.W. and J.C. Lewis. 1998. Washington State status report for the fisher. Washington Department of Fish and Wildlife. Olympia, WA. 64 pp.
- (WDFW) Washington Department of Fish and Wildlife. 2004. Management recommendations for Washington's priority species – Volume IV: Birds. E.M. Larsen, J.M. Azzerad, and N. Nordstrom (technical editors), Washington Department of Fish and Wildlife. Olympia, WA.