

## Gray Wolf

(*Canis lupus*)

**State Status:** Endangered, 1980

**Federal Status:** Endangered in the western two-thirds of Washington, 1973; delisted in the eastern third of Washington, 2011

**Conservation and Management**

**Plan:** State, 2011

Wolves are highly social and live in packs containing a breeding male and female, pups from the current year and previous years, and sometimes other individuals. Typical pack size in the northern U.S. Rockies is 5-10 animals (Mitchell et al. 2008).

Packs defend territories that typically average about 200-400 mi<sup>2</sup>. A single litter averaging 4-6 pups is produced annually and is born in April. Diet is comprised primarily of large ungulates and in Washington includes mainly elk, deer, and moose. Wolves are habitat generalists and can occupy almost any habitat where adequate prey is available and human-caused mortality is limited. Humans are the most frequent cause of death in most areas of North America, with legal harvest, lethal control to reduce livestock depredations, and illegal killing being the main sources (Murray et al. 2010, Smith et al. 2010, USFWS et al. 2013). Lethal control and illegal killing have occurred in Washington since 2007. As top-level predators, wolves influence the abundance and behavior of their prey and other predators, which in turn can affect vegetation patterns, occurrence of other wildlife, and other ecological processes (e.g., Hebblewhite and Smith 2010).

Wolves were formerly common throughout most of Washington, but declined rapidly from being aggressively killed during the expansion of ranching and farming between 1850 and 1900. They were eliminated as a breeding species from the state by the 1930s. Reliable reports of wolves began increasing in Washington by 2002 due in part to the recovery of wolf populations in Idaho, Montana, and Wyoming. The state's first fully documented wolf pack in many years was confirmed in Okanogan County in 2008, and the population has continued to expand since then. In December 2011, the Washington Fish and Wildlife Commission formally adopted the Wolf Conservation and Management Plan for Washington (Wiles et al. 2011) to guide recovery and management of gray wolves as they recolonize Washington.



Figure 1. A member of the Teanaway Pack, 2012 (photo by WDFW).

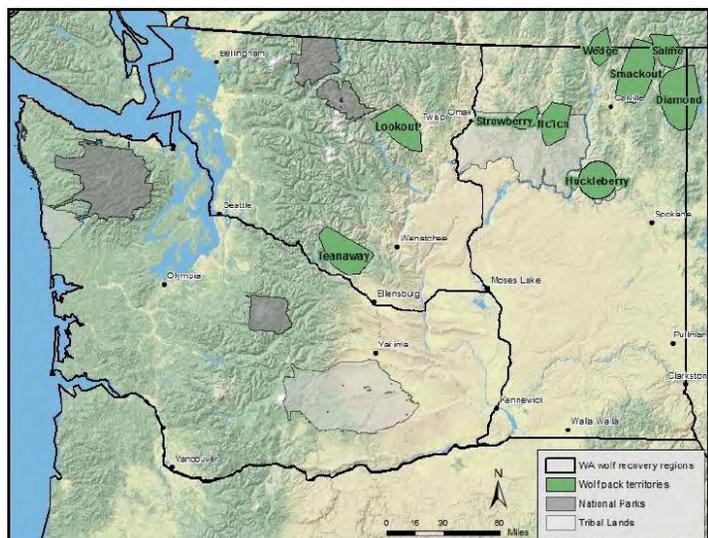


Figure 2. Wolf recovery regions in Washington and the locations of known packs in 2012.

**Population monitoring.** Wolf monitoring activities occur year-round to determine numbers, distribution, and breeding success of wolf packs in the state. WDFW and partners conducted extensive efforts in 2012 to confirm wolf packs in the state, including on-the-ground investigation of wolf sighting reports, deployment of remote trail cameras to follow up on sighting reports, and surveying roads and trails for tracks and other wolf sign. WDFW and biologists from the Colville Confederated Tribes (CCT) captured nine wolves from six packs in 2012 and eight were radio-collared (Becker et al. 2013).

Washington’s wolf population increased from a minimum of 35 wolves in seven known packs in 2011 to a minimum of 51 known wolves in nine known packs (including five breeding pairs) in 2012 (Figures 2 and 3, Table 1; Becker et al. 2013). The number of successful breeding pairs remained at 5 in 2011 and 2012.

Successful breeding pairs are those with a breeding male and female with at least two pups that survive to 31 December. In 2012, these included the Diamond, Huckleberry, Ne’icn, Smackout, and Teanaway packs. Nine wolves are known to have died in Washington during 2012, with causes of mortality including agency control (n = 7), other human-caused (n = 1), and unknown (n = 1) (Becker et al. 2013). An additional two wolves from Washington packs were legally harvested in Idaho and British Columbia during the year.

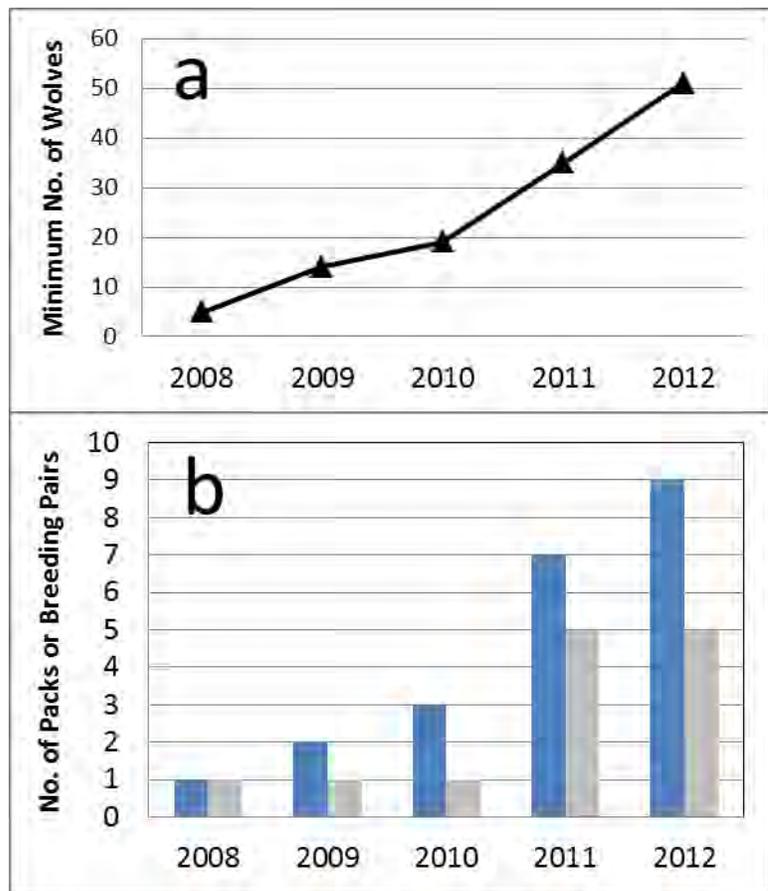


Figure 3. Number of wolves and packs in Washington, 2008-2012: (a) minimum number of wolves, and (b) numbers of documented wolf packs (blue) and successful breeding pairs (gray).

**Management.** In 2012, potential livestock depredations in Washington were investigated by WDFW with some assistance by deputies from local county sheriff’s departments (Becker et al. 2013). Personnel from WDFW classified possible depredations as confirmed, probable, confirmed non-wild wolf, unconfirmed depredation, non-depredation, or unconfirmed cause of death based on criteria outlined in Wiles et al. (2011). Confirmed livestock mortalities caused by wolves in the state included seven calves and one sheep (Table 2; Becker et al. 2013). Investigators also confirmed six calves and two sheep injured by wolves, and an additional four injured calves as probable wolf depredations. This was the first year since 2007 that wolves were responsible for any livestock mortalities in Washington. Three of the nine known packs in Washington were involved in at least one confirmed livestock injury or mortality in 2012.

One goal of the Wolf Conservation and Management Plan for Washington is to manage wolf-livestock conflicts in a way that minimizes livestock losses while at the same time ensuring the long-term recovery

of a sustainable wolf population. Techniques that may be used to minimize livestock depredations include both non-lethal and lethal control of depredating wolves. WDFW and livestock producers can implement non-lethal and preventative control measures any time they deem necessary throughout Washington. WDFW has full management authority for wolves in the Eastern Washington recovery area (Figure 2) and, under state law RCW 77.12.240, can implement lethal measures to control depredating wolves when it is deemed necessary to stop chronic livestock depredations. However, in the western two-thirds of Washington, where wolves remain federally endangered, WDFW must consult with the U.S. Fish and Wildlife Service to ensure that any management actions being considered are consistent with federal law prior to implementation.

In 2012, livestock producers and WDFW implemented numerous non-lethal and preventative control measures in an effort to minimize livestock injuries and mortalities caused by wolves (Becker et al. 2013). These measures included the use of fladry and electrified fladry, radio-activated guard (RAG) boxes, hazing wolves from livestock, increased operator presence around range livestock, range riders, daily text messaging of wolf locations to livestock producers and range riders, and removal of injured and/or dead livestock from grazing sites. WDFW lethally removed seven members of the Wedge Pack after the pack became involved in chronic livestock depredation.

Under state law and the provisions of the Wolf Conservation and Management Plan for Washington, WDFW may issue a “caught in the act” permit to livestock producers and their authorized employees to lethally remove wolves in the act of attacking livestock (defined as biting, wounding, or killing) on private land and public grazing allotments they own or lease after a documented depredation. These permits cannot be issued in the western two-thirds of the state where wolves remain federally listed. As provided for in the Wolf Conservation and Management Plan, WDFW issued two caught-in-the-act permits to livestock producers and no wolves were taken with those permits (Becker et al. 2013). WDFW paid \$1,595 to compensate livestock producers who had animals killed or injured by wolves during 2012.

The Colville Confederated Tribes established a regulated wolf hunt on its lands for tribal members only beginning in November 2012 (Becker et al. 2013). A harvest quota of three wolves was set for three of seven tribal wolf management zones (total quota = 9 wolves). No hunting was allowed in the remaining four management zones and no trapping of wolves was allowed in any zone. No wolves had been harvested by 31 December 2012. No regulated public harvest occurred in Washington outside of the Colville Indian Reservation in 2012.

Table 1. Minimum number of wolves and breeding pair status of each pack in the three wolf recovery regions in Washington.

Recovery region/pack	Minimum no. of wolves	Successful breeding pair
Eastern Washington		
Diamond	10	Yes
Huckleberry	8	Yes
Nc'icn	6	Yes
Salmo	2	No
Smackout	12	Yes
Strawberry	3	No
Wedge	2	No
Northern Cascades		
Lookout	2	No
Teaway	6	Yes
S Cascades & NW Coast	-	-
<b>Statewide Total</b>	<b>51</b>	<b>5</b>

Table 2. Confirmed wolf-caused livestock deaths and injuries in Washington in 2012 (Becker et al. 2013).

	Deaths	Injuries
Cattle	7	6
Sheep	1	2
Dogs	0	0
Other livestock	0	0
<b>Total</b>	<b>8</b>	<b>8</b>

**Outreach.** Extensive outreach with livestock, hunting, conservation groups, and the public was conducted during 2012 and WDFW staff gave numerous talks about wolves and wolf management. WDFW sponsored several depredation training workshops for personnel from various agencies during the year. The Grizzly Bear Outreach Project produced and distributed a brochure titled *Identify Washington's Wolves*, which is intended to help the public distinguish wolves and their sign from coyotes and dogs.

**Partners and cooperators:** U.S. Fish and Wildlife Service, U.S. Forest Service, Colville Confederated Tribes, Conservation Northwest, National Park Service, U.S. Department of Agriculture Wildlife Services, Washington State University, Seattle City Light, Western Transportation Institute, American Forest Resources, Stimson Lumber Company, Broughton Land Company, Oregon Department of Fish and Wildlife, Idaho Department of Fish and Game, British Columbia Ministry of Environment, Grizzly Bear Outreach Project (now Western Wildlife Outreach), Wolf Haven International, and Burke Museum.

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