

## Columbian Sharp-tailed Grouse

(*Tympanuchus phasianellus columbianus*)

**State Status:** Threatened, 1998

**Federal Status:** Species of concern

**Recovery Plans:** State, 2012

The Columbian sharp-tailed grouse (Figure 1) is the rarest of six described subspecies of sharp-tailed grouse. Male sharp-tailed grouse gather on dancing grounds where they engage in specialized behavioral displays to attract females in hopes of mating. These communal dancing grounds, called leks, are also characteristic of mating behavior in sage-grouse and prairie chickens. Sharp-tailed grouse are culturally significant to Native Americans in eastern Washington, the Great Plains, the Great Lakes states, and Canada (Connelly et al. 1998). They are the subject of many legends and inspired ‘chicken dances’ that remain an important tradition at annual powwows.



Figure 1. Sharp-tailed grouse at Chesaw Unit, Scotch Creek Wildlife Area (photo by Mike Schroeder).

Good sharp-tailed grouse habitat contains a mix of perennial bunchgrasses, forbs, and a few shrubs. In Washington, riparian areas with deciduous trees and shrubs that provide cover, berries, seeds, buds, and catkins provide critical winter habitat when the ground is snow-covered. The most important trees and shrubs include water birch, serviceberry, chokecherry, rose, hawthorn, snowberry, cottonwood, and aspen (Stinson and Schroeder 2012). Some areas with suitable nesting and brood-rearing habitat may remain unused because the area lacks adequate winter resources. Shortages of nesting, brood rearing, and wintering habitats are important factors limiting population recovery.

**Population status.** Columbian sharp-tailed grouse were an abundant and important game bird in eastern Washington during Euro-American settlement. They declined dramatically with the spread and intensification of agriculture and livestock grazing, and were extinct in significant portions of their historical range in Washington by the 1920s (Figure 2). Hunting seasons for sharp-tailed grouse were shortened and bag limits were reduced steadily beginning in 1897. The season was closed statewide from 1933 to 1953, but short seasons were opened from 1954 to 1987. The population continued to decline after 1950, perhaps a time-lagged response to past habitat loss, but probably also due to continued loss of riparian winter habitat and intensive livestock grazing on remaining areas of steppe vegetation. The population declined almost continually between 1970 and 2004. Annual changes in attendance at leks suggest a 74% decline during this period. The current distribution of sharp-tailed grouse covers

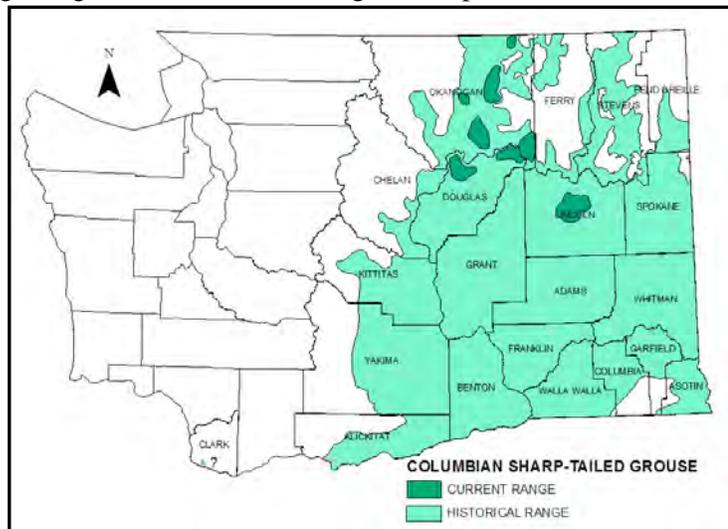


Figure 2. Historical and current range of Columbian sharp-tailed grouse in Washington (modified from Schroeder et al. 2000).

about 2,173 km<sup>2</sup>, which is only 2.8% of the historical range in Washington.

Sharp-tailed grouse persist in seven scattered populations in Lincoln County, the Colville Indian Reservation, northern Douglas County, and valleys and foothills east and west of the Okanogan River in Okanogan County. Declines of some remnant populations have continued in recent years with continued degradation of habitat, isolation of small populations, and probably a concurrent decline in genetic health. The small remaining subpopulations in Washington may not persist unless they are able to increase in size. One population appears to have gone extinct since 2000. The total population estimate dipped to a low of 465 in 2004, then increased to 956 in 2010, probably in response to augmentations and habitat restoration, but estimates dipped to 902 birds in 2011, and 850 in 2012 (Figure 3).

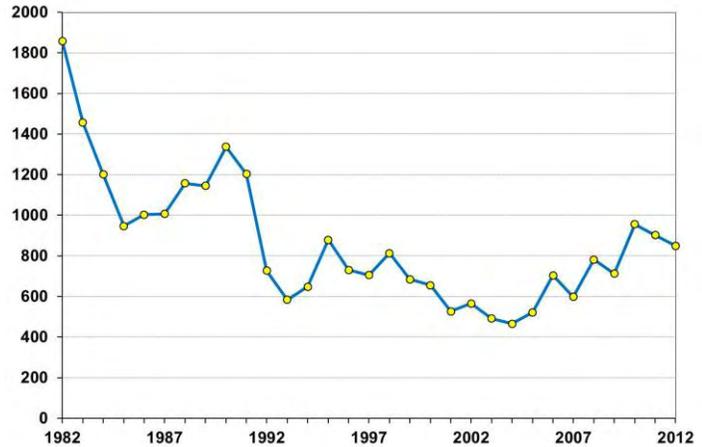


Figure 3. Estimated total population of Columbian sharp-tailed grouse in Washington, 1982-2012.

**Population augmentations.** Sharp-tailed grouse from healthy populations outside the state have been translocated to Washington to improve the vigor of local populations (Schroeder et al. 2012). Population augmentation in the 1990s apparently prevented extirpation of the population at Scotch Creek Wildlife Area. Since 1998, a total of 391 sharp-tailed grouse have been translocated and released in areas with declining populations. During 1998–2000, 63 birds from southeastern Idaho (51 birds) and the Colville Indian Reservation (12 birds) were released on the Scotch Creek Wildlife Area. An additional 328 birds from Idaho, Utah, and British Columbia were released during 2005-2012 at sites in Okanogan, Douglas, and Lincoln counties (Table 1). Additional releases are planned in future years to stabilize existing populations and eventually establish additional populations.

Table 1. Numbers and release locations for sharp-tailed grouse translocated to Washington, 2005-2012.

Release Location	County	2005	2006	2007	2008	2009	2010	2011	2012	Total
Swanson Lakes WLA	Lincoln	20	12	14	14	28	51	20	7	166
Dyer Hill/West Foster Cr.	Douglas	20	12	15	14	0	0	0	0	61
Colville Indian Reservation	Okanogan	19	11	12	14	10	0	9	26	101
<b>Totals</b>		<b>59</b>	<b>35</b>	<b>41</b>	<b>42</b>	<b>38</b>	<b>51</b>	<b>29</b>	<b>33</b>	<b>328</b>

**Habitat acquisition.** In 2011, WDFW acquired two groups of properties that may benefit sharp-tailed grouse. These included 473 acres in Douglas County. In 2012, WDFW completed the purchase of the 373 acres Thornburg property adjacent to Scotch Creek Wildlife Area in Okanogan County. The purchase, which will provide habitat for sharp-tailed grouse, was funded by grants from the U.S. Fish and Wildlife Service under the Section 6 program and from the Washington Wildlife and Recreation Program.

**Habitat restoration and enhancement.** Fence collisions have been identified as a mortality factor for grouse and other low-flying birds, and it has been shown that attaching markers (Figure 4) to increase the visibility of wire can dramatically reduce collisions and mortalities (Wolfe et al. 2007, Stevens et al. 2012). WDFW have removed many miles of unneeded fences on its land, and with partners have begun attaching vinyl markers to fences that pose a hazard to grouse. The Wenatchee Sportsmen marked 28 miles of fences on WDFW lands to reduce grouse collision mortalities in Douglas County in 2011. BLM

also marked 55 miles of fences on WDFW lands and 71 miles of fences on adjacent BLM lands in Lincoln County. WDFW also assisted the Lincoln County Conservation District with an ALEA grant to remove 15 miles of unneeded fencing in 2010 and an additional 5 miles in 2011. In 2012, an ALEA project marked almost 5 miles of fence on two units of the Scotch Creek Wildlife Area. Staff also marked fencing on the Chesaw, Tunk Valley, and Scotch Creek units for a total of 20 miles. This effort prompted a neighboring landowner of the Tunk Valley Unit to mark their fences; WDFW supplied the landowner with markers who marked another 3 miles of fence.



Figure 4. Fence with vinyl markers and sign warning hunters that protected sharp-tailed grouse are in the area.

In 2012, staff at Scotch Creek WLA were in the process of restoring 95 ac in Coulee Creek drainage and 95 ac on the Tunk Creek Unit. A total of >3500 ac have been restored on Scotch Creek WLA over the years. Also in 2012, 2,383 native trees and shrubs were planted along Scotch Creek by WDFW staff and the Department of Ecology, Washington Conservation Corp. This was the culmination of a larger project to excavate a meandering Scotch Creek channel, eradicate 40 acres of reed canary-grass, and restore a native grass/forb upland seed mix and riparian trees. Approximately 1,000 plants were also installed in the Tunk Valley unit, where remnants of water birch and wild rose are all that's left after decades of grazing.



Figure 5. Planting shrubs trees along restored section of Scotch Creek.

In Douglas County, staff on the Wells/Sagebrush Flats WLA finished planting forbs on the last 100 of a 300 ac restoration project funded by a Recreation and Conservation Office grant. They also worked on restoring another 180 acres with native grasses and forbs.

In Lincoln County, WDFW finished restoring 103 ac on Swanson Lakes with a BLM cost share grant, and BLM removed 2 mi of power distribution line this year (and 2 mi in 2011); BLM hopes to restore 300 ac of cropland in the Hawk Creek area, if funding is available.

**Conservation Reserve Program.** Enhancement of habitat in occupied areas and, where possible, re-establishing habitat connections between occupied areas, are essential for recovery. The U.S. Department of Agriculture's Conservation Reserve Program (CRP) is currently the main financial incentive for private landowners to provide sharp-tailed grouse habitat in Washington and other states. However, many CRP fields enrolled in the 1980s and 1990s were seeded to crested or intermediate wheatgrass, smooth brome, or other exotic grasses, and provide little habitat value to sharp-tailed grouse compared to native grassland or more diverse CRP typical of more recent contracts. Fields in this condition need to be



Figure 6. Shrub planting in the Central Ferry Canyon Unit in 2009 (left), and in 2012 (center and right).

reseeded with native seed mixes in order to be of value to sharp-tailed grouse. State Acres for Wildlife (SAFE), a new initiative under the CRP program, may boost grouse populations. A total of 63,000 ac were made available since 2010 for sage-grouse and sharp-tailed grouse habitat in northern Douglas County.

In 2012, approximately 12,000 acres were enrolled in Douglas County and 1,000 acres in Grant and Lincoln Counties. WDFW Private Lands Biologists wrote 61 SAFE plans and submitted all required forms to Foster Creek Conservation District (FCCD) covering 10,793.68 acres. They also assisted Farm Service Agency (FSA) with contacting 40 landowners selected on their proximity to active leks Douglas County about the opportunity to sign up their (CRP) tracts that expire in September 2012 into SAFE.

WDFW staff developed two proposals that resulted in getting 8,900 additional acres added to 7,322 already enrolled for a total of 16,222 acres in sage/sharp-tailed-grouse management zones in northern Grant, Lincoln and Okanogan Counties.

**Wildfires.** Lightning storms ignited many fires in Eastern Washington in 2012 that affected important sharp-tailed habitat. Some impacts are expected to be negative, particularly where riparian wintering habitat does not recover. Where grasses and some shrubs recover, there may be some long term benefit.

In Douglas County, the Foster Creek Fire burned an estimated 1,291 ac, with approximately 720 acres of that on the Bridgeport and Central Ferry Canyon units of the wildlife area. To speed vegetation recovery, WDFW drill seeded 100 ac, and aerial seeded another 140 ac on the Foster Creek and Central Ferry Canyon burns. The Crane Road Fire burned 13,000 mostly private land on which much riparian habitat was lost; where aspen was present most will come back. The Barker and Leahy fires in northeast Douglas County burnt over 92,000 acres of cropland, CRP, and Shrub-steppe. The Barker fire burned 17,000 acres and the Leahy fire burned over 73,000 acres. Many of the CRP-SAFE fallow fields to be seeded this fall acted as firebreaks saving many homes in the area. The fires directly affected habitat for nesting, brood rearing and wintering associated with lek sites. One active and one inactive sharp-tailed grouse lek was burned over in the Barker fire, and 4 active and 3 inactive lek sites were within the Leahy perimeter.

In Lincoln County, the Apache Pass Fire burned a total of 24,531 acres, including 1,069 ac on Swanson Lakes WLA, and 5,874 ac of adjacent BLM land.

Wildlife Area staff seeded some of the burned areas, including 100 ac of bulldozer lines and 100 ac of old farm ground on BLM land.

**Landscape management.** An analysis of statewide connectivity patterns for sharp-tailed grouse in the Columbia Plateau was completed in 2012 (WHCWG 2012). The analysis modeled habitat concentration areas and movement corridors.



Figure 7. Sharptails budding in trees along Scotch Creek during December 2012 (photo by Jim Olson).



Figure 8. Lightning sparked fire burns shrub-steppe in Douglas County.

The Arid Lands Initiative is a group of governmental (WDFW, WDNR, BLM) and non-governmental organizations (TNC) formed in 2010 to engage landowners with the goal of conserving shrub-steppe across multiple jurisdictions. Sharp-tailed grouse have been identified as one of the focal species for which conservation strategies will be developed and implemented.

**Partners and cooperators:** Bureau of Land Management, Colville Confederated Tribes, Washington State University, Idaho Fish and Game, Utah Division of Wildlife, British Columbia Ministry of the Natural Resources, Inland Northwest Wildlife Council, Spokane Audubon, Wenatchee Sportsmen, Lincoln County Conservation District.

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