

Blue grouse along the central coast of British Columbia

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George Barrowclough and Jonas Lai arrived in British Columbia from New York on 11 May 2008 and I joined them in British Columbia from Washington the next day. The three of us arrived in Terrace on the evening of the 13th. We did fieldwork in the Terrace area between 13 and 18 May (Fig. 1). We then drove to Stewart and worked in that area between 19 and 21 May. We drove to Bella Coola between 22 and 23 May where we worked between 23 and 25 May. Following fieldwork, I made it home to Washington early on the 26th and George and Jonas made it back to New York on the 28th.

Fig. 1. Distribution of blue grouse study sites in central coast area of British Columbia, 14-24 May 2008. Most birds in the Terrace area were found relatively close to Terrace, above the Kitimat River, or above the Shames River.



Our goal was to observe as many male blue grouse (sooty grouse, *Dendragapus fuliginosus*) as possible. We found likely areas by talking with local experts, biologists,

and bird watchers, and by searching potential areas and listening for hooting. All birds were approached on foot from the nearest roads (usually at least 1 km away). An effort was made to get within 50 m of the bird before a recording of the female aggressive call was played in the area. The purpose of the 'playback' was to find a blue grouse male that was quiet and/or to encourage a blue grouse male to become more active so that it could be observed. Without the playback, it is likely that fewer males would have been observed. The playback was also used to evaluate the responsiveness of males to this recording.

We obtained observations of 24 males and 5 females during 14-24 May 2008 (Table 1). Additional birds were heard in the respective areas, but we were unable to obtain specific locations and/or observations of morphology and behavior. The observed males had light-gray to moderate-gray tail bands that were about 1 cm wide. Most males tended to have 6 notes in their hooting call (20 of 24 males with accurate counts), but 2 males had mostly 5 notes and 2 males had mostly 7 notes; 14 of 24 males displayed some variability when observed for 10 straight hooting calls. Regardless of the number of notes, the 5th note in the hooting display was always two syllables. All observed males tended to have a loud hooting display that was detectable from at least 500 m away and usually more than 1 km away. The hooting did not appear to be as loud as observed in blue grouse in the Juneau, Alaska area in 2007.

Table 1. Blue grouse observed along the central coast of British Columbia during 14-24 May 2008.

Location	Sex	Date	Time	Zone	UTM-E	UTM-N	Elevation (feet)	Apteria	Tail band	Band color	Number of notes	Rectrices	Location detail	Behavior and response to recording	
Bella Coola	Female	20080524	855	9	683493	5790695	3010					18	Ground	Flushed on road edge; no response	
	Male	20080524	1020	9	683420	5790400	3400	Yellow	Banded	Gray	6 (also 7)	18	Hemlock	Hooting; slight response	
	Male	20080524	1111	9	683410	5790350	3450	Yellow	Banded	Gray	6 (also 7)	17	Hemlock	Hooting; slight response	
	Male	20080524	1147	9	683480	5790310	3650	Yellow	Banded	Gray	6 (also 7)	18	Hemlock	Hooting; flew to ground and did flutter jump	
	Male	20080524	1234	9	683480	5790400	3350	Yellow	Banded	Gray	6 (also 7)		Hemlock	Hooting; slight response	
Terrace	Male	20080514	1014	9	554985	6004258	1800	Red or orange	Banded	Gray	6	17	Hemlock	Hooting; faster hooting in response	
	Male	20080514	1230	9	556044	6003549	1620	Red or orange	Banded	Gray	7 (also 6)	18	Hemlock	Hooting; landed on loud wing	
	Male	20080514	1300	9	556199	6003609	1760		Banded	Gray	6		Hemlock	Hooting	
	Male	20080514	1440	9	556324	6004314	1900	Red or orange	Banded	Gray	6	17	Sitka spruce	Hooting; landed on loud wing	
	Male	20080514	1630	9	555218	6004564	1860		Banded	Gray	6 (also 7)		Hemlock	Hooting; landing on loud wing; harrassed by common raven	
	Male	20080514	1645	9	555258	6004603	1900		Banded	Gray	7 (also 6)		Hemlock	Hooting; faster hooting in response	
	Male	20080515	1505	9	540795	6042337	2630	Red	Banded	Gray	6 (also 5)	18	Hemlock	Hooting; landed on ground	
	Male	20080515	1650	9	545489	6038904	2220	Red or orange	Banded	Gray	6		Lodgepole	Hooting; landed on ground	
	Male	20080516	1125	9	539625	6011848	1640		Banded	Gray	6	18	Lodgepole	Landing on loud wing in response to tape	
	Male	20080517	855	9	541048	6042970	2810	Unknown	Banded	Gray	6		Hemlock	Hooting; with 2 females in area	
	Female	20080517	905	9	541025	6042953	2590					16	Ground	Call response; with 1 male & 1 female	
	Female	20080517	935	9	540940	6042980	2590					18	Hemlock	Call response; with 1 male & 1 female	
	Female	20080517	957	9	540926	6043162	2800						Ground	Flushed off ground; no response	
	Male	20080517	1115	9	540922	6043248	2900	Red	Banded	Gray	6	18	Ground	Hooting; approached us in response	
	Male	20080517	1755	9	539328	6030492	2760	Red	Banded	Gray	5		Ground	Hooting; landed on loud wing	
	Male	20080518	837	9	539328	6030462	2770	Red	Banded	Gray	6 (also 5)	18	Hemlock	Hooting; landed on loud wing	
	Male	20080518	1630	9	502944	6037102	2300	Red	Banded	Gray	6 (also 5)		Hemlock	Hooting; landed on loud wing	
	Male	20080519	1710	9	445796	6212087	3150	Red	Banded	Gray	6 (also 7)	20	Hemlock	Hooting; flew toward us in response	
	Stewart	Female	20080519	1741	9	445862	6212291	3150						Hemlock	Call response
		Male	20080519	1851	9	445180	6211923	2950	Red	Banded	Gray	6 (also 7)	18	Hemlock	Hooting; landed on loud wing
Male		20080520	1155	9	445882	6211959	3200	Red	Banded	Gray	6	20	Hemlock	Hooting; faster hooting in response	
Male		20080520	1244	9	446077	6212369	3250	Red	Banded	Gray	6 (also 5)	20	Hemlock	Hooting; landed on loud wing	
Male		20080520	1325	9	446079	6212564	3350	Red	Banded	Gray	6	19	Hemlock	Hooting; landed on loud wing	
Male		20080520	1440	9	446149	6212072	3410	Red	Banded	Gray	5 (also 6)		Hemlock	Hooting; landed on loud wing	

All males in the Stewart area had red apteria (Fig. 2), in contrast to the predictions based on distribution of the sooty grouse. Although most birds in the Terrace area also seemed to have red apteria (Fig. 3 and 4), there appears to be a tendency for birds further south of Terrace to have some mixed characteristics associated with their apteria (Fig. 5). All males observed in the Bella Coola area had yellow apteria (Fig. 6). It is not clear where the transition between yellow and red apteria is.

Fig. 2. The male blue grouse observed on 20 May 2008 at 14:40 near Stewart, British Columbia (Table 1) clearly has red apteria and a gray-banded tail.



Fig. 3. The male blue grouse observed on 15 May 2008 near Terrace, British Columbia (Table 1) clearly has red apteria and a gray-banded tail.



Fig. 4. The male blue grouse observed on 18 May 2008 at 16:30 above the Shames River near Terrace, British Columbia (Table 1) clearly has red apteria and a gray-banded tail.



Fig. 5. The male blue grouse observed on 15 May 2008 at 16:50 near Terrace, British Columbia (Table 1) clearly has red or orange apteria and a gray-banded tail.



Fig. 6. The male blue grouse observed on 24 May 2008 at 11:47 near Bella Coola, British Columbia (Table 1) clearly has yellow apteria and a gray-banded tail.



We were able to obtain counts of tail feathers on numerous blue grouse (Table 1) and found that most males in the Terrace and Bella Coola area had 18 tail feathers areas, with a few exceptions (3 males with 17 tail feathers and 1 female with 16 tail feathers). In the Stewart area, 3 of 5 males had 20 tail feathers and 1 male had 19 tail feathers, which appears to be unusual in sooty grouse.

Additional behaviors were observed among these males including ‘landing on loud wing’ (tree to ground, ground to tree, tree to tree, and ground to ground). No courtship behavior (such as ‘whoop’ calls) was observed, but we didn’t observe males with females on a regular basis. We did photograph one female (Fig. 7).

The birds were found at an average height of 1,700 feet, with of 1,620 to 3,850 (Table 1). Although birds were found lowest in the area south of Terrace, much of what was observed may have been related to variation in habitat configuration and topography. Most of the birds in the Terrace area were also observed close, or adjacent to, clearcuts (within 50 m). Only 2 males were found in continuous forest in the Terrace area, both in very steep topography. In the Stewart area all the observed males except one were adjacent to mountain meadows and/or avalanche chutes; the one exception was in relatively continuous forest. All of the males in the Bella Coola area were found adjacent to avalanche chutes.

It was clear that some of these observations were a function of access. We were unable to get to the highest elevations near Terrace due to heavy snow and it was clear from detected vocalizations that these areas had many blue grouse. In fact, it appeared

that the densities of blue grouse were highest near treeline. Unfortunately, the deep snow at higher elevations made these locations difficult to access. Regardless of the landscape, all 24 blue grouse observed (Table 1) were in 'old growth' forest. In fact males were typically hooting from a high perch in one of the tallest trees in the area.

Fig. 7. The female blue grouse observed on 24 May 2008 at 8:55 near Bella Coola, British Columbia (Table 1) was in an avalanche chute.



This trip helped to fill a gap in information from previous grouse investigations near Smithers (E of Terrace), Queen Charlotte Islands (W of Terrace), Kethikan, Alaska (NW of Terrace), Juneau, Alaska (NW of Stewart), and the Fraser Plateau (SE of Bella Coola). However, even with this additional information, there is still much to learn about blue grouse in the region.