

COAST RANGE FOCAL SPECIES MONITORING (The Yukon-Stikine Ecoregion)

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December, 2014

This monitoring research is part of a larger series of surveys of key focal species across the Yukon. Gyrfalcons and Willow ptarmigan are tundra habitat obligates and are thought to be excellent indicators of ecosystem health for the ecoregion.

A) GYRFALCON 2014 (The Yukon-Stikine Ecoregion.)

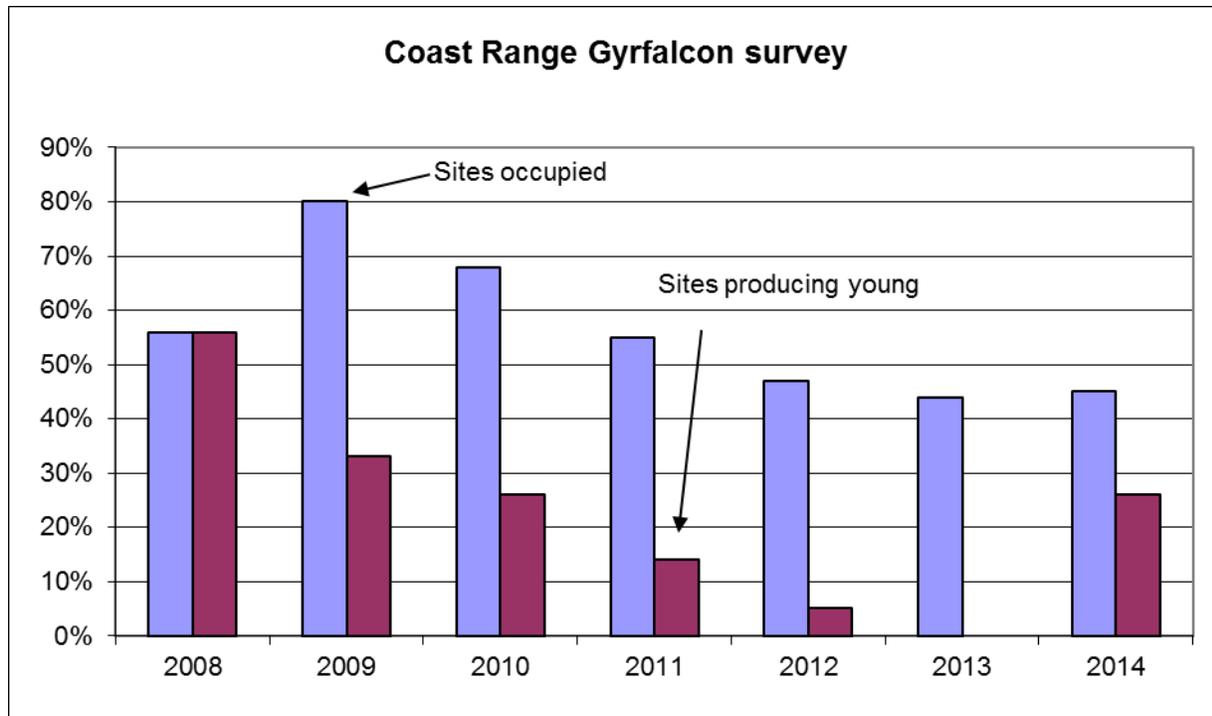
The survey: The survey was conducted on June 23 by helicopter from Whitehorse. The author made observations and recorded data, YG employees assisted with observations. The survey took just under 4 hours of helicopter time.

The survey builds on a data base from the mid 1980's. and was standardized visits to known historic nest sites established in earlier survey. Best practise that minimizes disturbance to breeding birds of prey were strictly observed. Thirty-two nesting pairs have been known in the surveyed area. Of these 22 were visited. This sample is just about 65% of all known nesting sites in the ecoregion.

Survey conditions were ideal. Confidence in the accuracy of observation is estimated at about 95%.

Results: Of the 22 nest sites visited, 10 (45%) were occupied by adults and 6 (26%) were producing young. This is a significant increase from zero production in 2013, perhaps driven by an unusual eruption in ptarmigan numbers in the preceding summer (see below).

Young being produced by the 6 successful pairs averaged 1.8 per nest site.



B) COAST RANGE PTARMIGAN 2014 (Chilkat Pass study area)

Willow Ptarmigan are clearly a “Keystone” member of the tundra community in this ecoregion. They provide a large part of the trophic energy transfer from the vegetative component through to the secondary consumer levels.

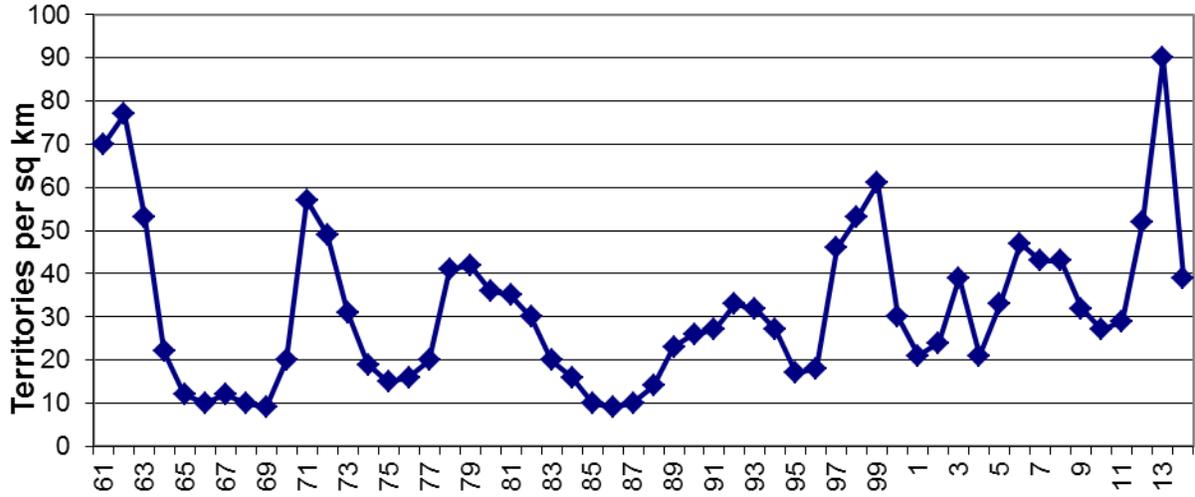
Willow Ptarmigan densities on the Chilkat Pass have been monitored most years from 1955 to the present. A 1 sq. km area of willow tundra is surveyed in early May annually. All territorial birds are counted and mapped. Territorial ptarmigan are very obvious at that time and the count is considered complete. We use “Indicated territorial pairs” -- a combination of pairs seen and isolated adult males.

The results compare with some of the **mid-level** counts made using the same methods in the earlier surveys (See figure). The apparent trend toward smaller and smaller peak densities over the decades since the early 1960’s has been replaced by confusing random changes in abundance. The ‘explosion’ in numbers observed in 2013 did not result in an unusual abundance in 2014, the population apparently declined by about 50%.

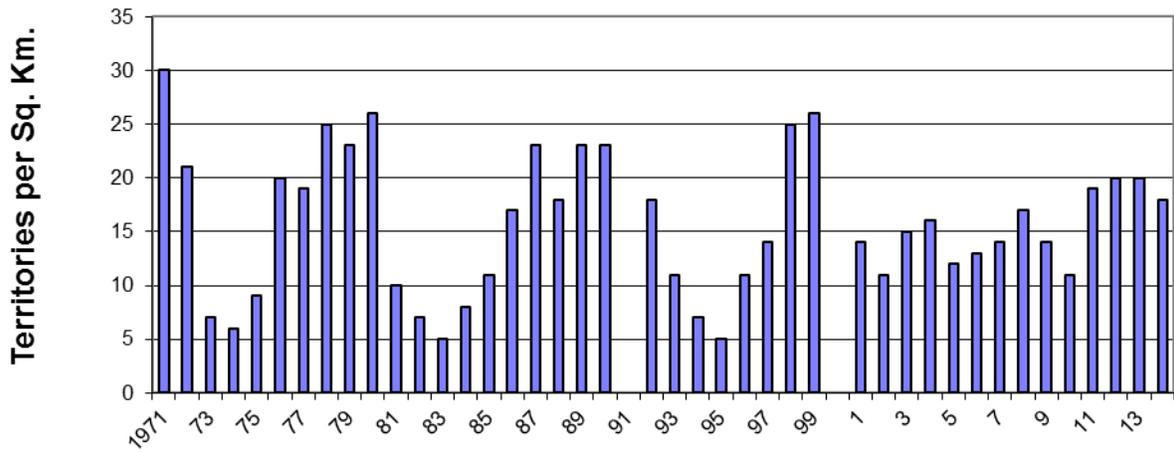
This loss of regular cyclic abundance in the Southern Yukon and for reasons unknown is suspected to be linked to climate change over the same period and seems to be correlated with overall declines at the top of the food web (Mossop 2011).

The central Yukon (Ogilvie Mountain) population, also surveyed in 2014 also stayed almost unchanged at a mid-point density which has been its state for the last approximately 15 years.

S. Yukon Willow Ptarmigan density



Central Yukon Willow Ptarmigan density



Past reporting:

Mossop, D.H. 1988. Winter survival and breeding strategies of willow ptarmigan. in: Adaptive strategies and population ecology of northern grouse. A.T. Bergerud and M.Gratson Eds. P330-378

----- 2008. Ptarmigan annual spring surveys in the Yukon Territory, Are they showing collapse of 10-year cycle?. Int. grouse symposium, Whitehorse, 2008.

----- 2011. Long-term studies of willow ptarmigan and gyrfalcon in the Yukon Territory: a collapsing 10-year cycle and its apparent effect on the top predator. In: R.T. Watson, T.J. Cade, M.Fuller, g. Hunt and E. Potapov (Eds). Gyrfalcon and Ptarmigan in a Changing World. The Peregrine Fund Publ. Boise.