

Kittitas County Bluebird Trails

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A **bluebird trail** is a series of nestboxes mounted along a walking or driving route, so that what's happening in each nest can be checked periodically. Some people monitor their boxes weekly to keep track of all the major events in the nesting season: nest building, egg-laying and incubating, hatching, parents feeding the chicks, and finally **fledging** when the grown chicks fly away from the nest. Others may just take a look or two during the season, and then check before the beginning of the next season to clean out the box.

The idea of attracting bluebirds to human-placed nestboxes began in the eastern U. S. where development and the spread of invasive bird species (House Sparrow and starling) began seriously to threaten the population of Eastern Bluebirds. An account of the history of the bluebird trail program, which has adherents and enthusiasts throughout the U. S. and Canada, can be viewed at the website of the NABS, the North American Bluebird Society, www.nabluebirdsociety.org

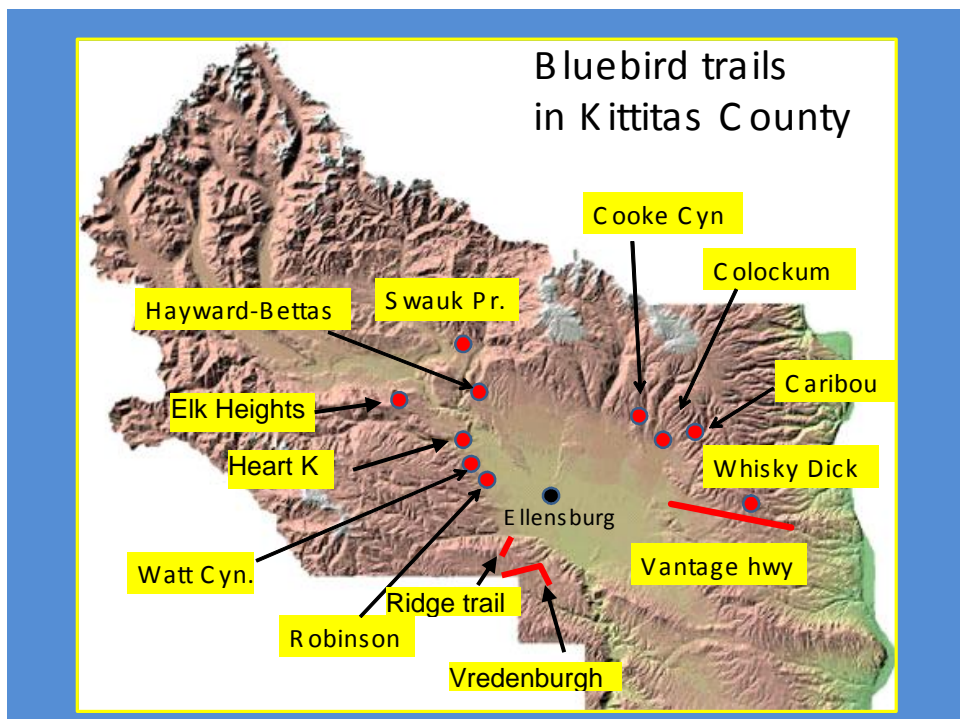
Each March to April, bluebirds returning to the area from their winter refuge instinctively seek enclosed cavities that will protect their nests from predators. In nature, that will often be an abandoned woodpecker hole in an open forest of trees, perhaps pine or aspen. The observation that they will readily accept an artificial cavity such as a



Mountain Bluebird pair

wooden box was discovered long ago, perhaps by native Americans. Placement of boxes by people effectively extends the natural range of bluebirds beyond the forest edges. Mountain bluebirds, especially, adapt very successfully to the sagebrush steppe of Kittitas County and thereby extend their nesting range for miles beyond the forest.

In Kittitas County there are a dozen or more trails, totaling upwards of 300



nest boxes. County residents of all sorts, from farmers to bird enthusiasts, as well as people from beyond the county, occasionally to regularly check on these trails, to clean out the boxes in the spring, add new boxes, or even keep records. Most of the trails are in the lower County, around the edges of Kittitas Valley itself, where the more open habitats that bluebirds prefer predominate.

A few other bird species are also attracted to these nestboxes. Tree Swallows commonly, more rarely Violet-green Swallows, chickadees, nuthatches or an Ash-throated Flycatcher may occupy boxes and coexist amicably, for the most part, with bluebirds. House Wrens and House Sparrows, on the other hand, compete for nestbox space and will evict bluebird inhabitants.

Two Kinds of Bluebirds.

The ***Western Bluebird*** is the western counterpart of the Eastern Bluebird. The male shows off a similar combination of blue head and back with a rusty breast (the Eastern male also has a rusty chin, whereas the Western male's chin is blue). However, the "blue" of the Western is a dark hue of indigo, even in bright sunlight. Females are gray with blue wings and a hint of that rusty breast. In Kittitas County, Westerns prefer nesting sites in open ponderosa forest or at forest edges. When boxes are placed a mile or two away from the pines in sage-steppe containing bitterbrush, hawthorne and serviceberry, they have also been used.



Male Western Bluebird

The ***Mountain Bluebird*** male is an unmistakable sky-blue all over. The female is gray with blue on the wings. Mountains have a wider continental range than



Male Mountain Bluebird (fluffed up on an early spring morning)



Female Mountain Bluebird

Westerns and can be found from Alaska to Mexico; they also nest as high as timberline in the Cascade Mountains of Washington. In eastern Kittitas County they adapt well to nesting in Big Sage steppe from Kittitas Valley and its neighboring ridges (1500-2000 ft elevation) to the 1000 ft elevation above the Columbia River.

The Bluebird Season.

Return from migration: Mountain Bluebirds show up along the Vantage highway as early as late February or March, although they will not select a box for some time. By late March and April both species of bluebirds are in evidence within Kittitas Valley. One might see pairs foraging together, or on cold days, larger flocks of bluebirds trying to find food sources before the good weather and its abundant insects and caterpillars arrive.

Nesting: Nest-building takes place from mid-April through May, depending on the elevation and the weather. Record-keepers mark the beginning of the nesting season with the first egg laid – this defines a “nesting attempt” that may – or may not – lead to a successful nest (at least one chick fledged). Female bluebirds lay one egg a day up to 4-7 eggs total, usually 5. She will begin sitting on the eggs just before the last one is laid, and at that point (with her warm body temperature applied), the clock starts the 14-day period to hatching. After that first egg is laid, monitors watch for hatching to start at an average of 19 days. That will be throughout May at lower elevations (Vantage), or June, higher up (Hayward Hill).



A few days old: “black head and spine”

blue, fledge-ready chicks peering out of the door of the box, takes just 17-20 days. At that point the parents stop feeding and start calling from a nearby perch, and one by one the chicks take that step into the world. By now, it is June or July; the youngsters are fed near the box for a day or two and then all disappear for a week.

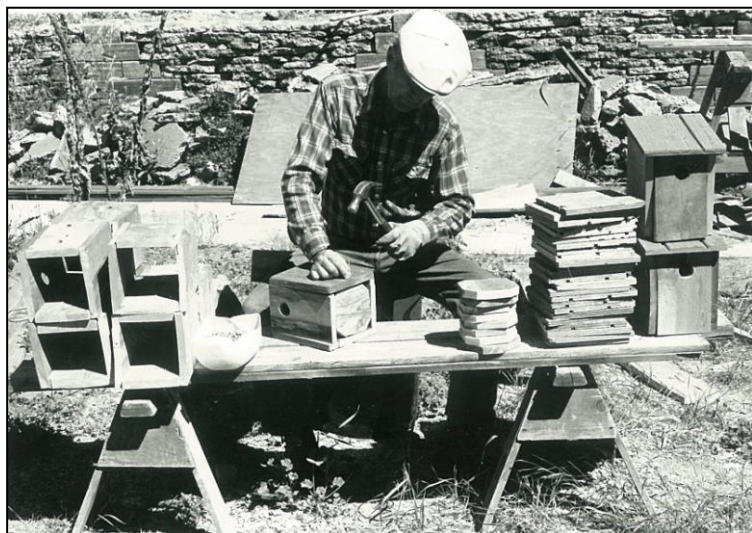
Second Nesting. If there is abundant food, the female returns to the nest in early summer, cleans it out, and

Chicks to Fledglings: Chicks are fed hour by hour by parents and grow so fast they will look different each day. From naked chicks an inch long to spotted,



2 weeks old: eye ring and some blue feathers

starts laying again. The male and the family return soon after. The pair can raise another 5-6 chicks as the process repeats itself through mid-summer. Chicks from the first family, now hunting skillfully, will even help feed the second batch. A careful observer will notice a change in diet, from caterpillars to grasshoppers, as the summer progresses. The second brood is out of the box by early August. The families probably stay together the rest of the summer but go higher, into the ponderosa, to find more abundant food, as the greenery down low dries out. By September, bluebirds are leaving the area until the following early-spring return.



Paul Sollie assembling birdboxes, 1980's

History of Bluebird Nestboxes in Kittitas County.

Around 1988, a group of Kittitas County enthusiasts began hanging literally hundreds of boxes from fence posts and trees, in places where bluebirds were known (or hoped) to frequent. Many of the early boxes were tacked together assembly-line style by Paul Sollie, a health food store owner in Ellensburg. Paul's boxes are still in use today, patched and repaired, and identified by their grooved plywood roofs. Some are in place on the Watt trail and Hayward

Hill, for example. Other generations of boxes were added in succeeding years as well by various other local builders, at places like Colockum road, Swauk Meadows, and old Vantage highway. By now, in some of these areas, rusty nails, cracked wood, and bullet holes have taken their toll of the many boxes that once existed. Kittitas Audubon Society members are building a modest number of new boxes each winter and placing them in the spring along existing nestbox trails – or setting up new trails - to keep the number growing.

Joys of Trail Monitoring

The authors have been monitoring 3 to 5 Kittitas County nestbox trails each year for six years, beginning in 2005. **"Monitoring"** in this case means frequent checking of each box on a trail, once every 2-3 weeks, and keeping records of events and numbers. This allows comparison from year to year of a number of **statistics**, which can be a focus of interest in their own right, alongside of the pleasures of intimate visits with the nesting birds, spotting many other birds along the way, and seeing the flowers and landscapes progress from spring to summer.

Examples of statistics include: the percentage of boxes occupied by bluebirds (vs. other birds or vacant boxes), the proportion of successful nest attempts (success means at least 1 fledgling), the dates of egg-laying and hatching, and the numbers of fledglings successfully launched from each trail. A summary of four trails during the 2009 season is shown in table form below.

Because of their location, these four trails favor greater numbers of Mountain Bluebirds, which reach 80% occupancy at Hayward Hill. The **Watt** and **Robinson trails**, because of the abundance of swallows along the irrigation ditch, are occupied with less frequency by bluebirds, although a fairly stable 20+% bluebird occupancy has been maintained over 6 years, and this grew to 30% in 2009. But at present, Kittitas County seems to lack a trail with a majority of Western Bluebirds, the Mountain Bluebirds having the greater success and productivity.

2009 Bluebird Trail Results

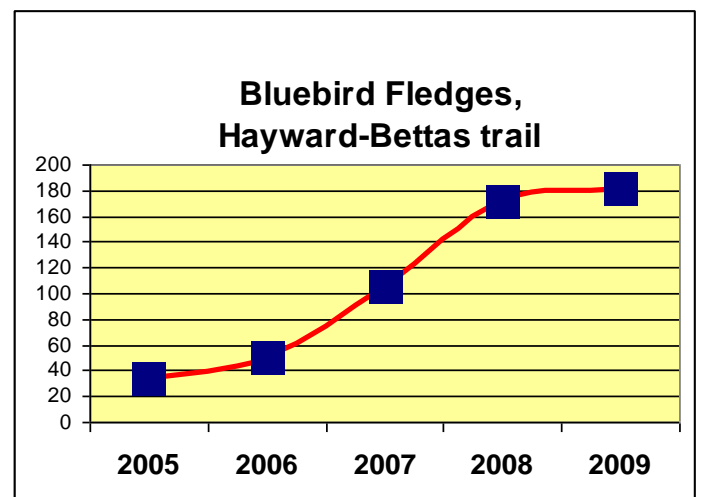
Trail	Total boxes	Boxes, WBBs	Boxes, MBBs	Total boxes, bluebirds	% Occupancy, bluebirds	WBBs fledged	MBBs fledged	Total BBs fledged	# Nest failures
Vantage	46	0	34	34	74%	0	149	149	12
Hayward-Bettas	37	3	27	30	81%	19	162	181	4
Watt	35	8	3	11	31%	39	23	62	3
Robinson	26	1	8	9	35%	7	34	41	3
Totals:	144	12	72	84		65	368	433	22

WBB = Western Bluebird

MBB – Mountain Bluebird

An illustration of the success that can be achieved by monitoring is the result from five years of monitoring the **Hayward-Bettas trail**. By patching up old boxes, mounting boxes on steel posts to minimize predator interference, eliminating box sites that attract House Sparrows, and adding more boxes each year to the trail, the number of fledglings yielded by this trail has increased from 30-some to 180.

The **Vantage trail**, after two years of monitoring, is at an early stage of improvement. It is plagued by House Sparrows at certain points, it has new boxes that have not yet been discovered by



bluebirds, and it extends so far down into the arid sage-steppe that for parts of the trail, only a single nesting per season is possible. Yet, it still managed to produce nearly 150 fledges from 46 boxes in 2009, and we expect further progress in the next couple of years.

Another feature that fascinates us is which boxes are occupied by which kinds of birds from year to year. The residence by species over 5 years at the Watt nestbox trail shows that certain boxes are persistently occupied by Western (WBB) or Mountain Bluebirds (MBB) over a 2-4 year time span. This may mean that the same pair of birds is returning to a home box, or sometimes to a nearest-neighbor box, to nest repeatedly, perhaps until one member of the pair fails to return. In addition, certain boxes are spurned year after year by bluebirds and Tree Swallows (TSw) alike.

To wrap it up, we have found that bluebird trail monitoring combines birding, hiking, cruising by car, exercise, citizen science, flower study, photography, picnicking, and lots of sunshine and fresh air – in short, a great way to appreciate Kittitas County scenery in a regular and productive way throughout the spring and summer.

Watt Canyon Box Residence by Species, 2005-2009

Box #	Species 2005	Species 2006	Species 2007	Species 2008	Species 2009
Watt Cyn					
WN-1	WBB	WBB	TSw	TSw	WBB
WN-2	TSw	TSw	TSw	TSw	TSw
WN-3	TSw	TSw	TSw	TSw	TSw
WN-4	TSw	TSw	TSw	TSw	TSw
WN-5	HSp	TSw	TSw	TSw	TSw
W-1	TSw	HSp	vacant	vacant	vacant
W-2	WBB	TSw	TSw	TSw	TSw
W-3	HWr-d	TSw	TSw	vacant	TSw
W-4	WBB	WBB	TSw	TSw	WBB
W-5	TSw	TSw	vacant	HWr-d	TSw
W-6	TSw	TSw	TSw	TSw	TSw
W-7	TSw	TSw	TSw	TSw	TSw
W-8	vacant	vacant	TSw	TSw	TSw
W-9	TSw	TSw	TSw	HWr-a	WBB
W-10	WBB	TSw	HSp	TSw	TSw
WN-6	vacant	vacant	vacant	vacant	TSw
W-11	TSw	TSw	WBB	TSw	TSw
WN-7	WBB	WBB	TSw	TSw	WBB
W-12	TSw	TSw	TSw	WBB	
WN-8	TSw	TSw	TSw	WBB	WBB
WN-9	WBB	TSw	TSw	TSw	TSw
WN-13	WBB	WBB	TSw	TSw	TSw
W-13	WBB	TSw	TSw	TSw	WBB
W-14	TSw	TSw	TSw	TSw	TSw
W-15	vacant	HWr-a	TSw	TSw	WBB
W-16	TSw	TSw	TSw	TSw	TSw
WN-10	TSw	TSw	TSw	HWr-d	TSw
WN-11	TSw	TSw	TSw	WBB	WBB
W-17	vacant	MBB	MBB	MBB	MBB
WN-12	HWr-d	TSw	TSw	TSw	TSw
W-18		TSw	TSw		
WN-14	new 06	vacant	MBB	MBB	MBB
W-19	MBB	MBB	AThF	TSw	TSw
W-20	new 06	TSw	TSw	TSw	TSw
WN-15	new 06	TSw	MBB	MBB	MBB