

Winter Finches by Ron Pittaway

Winter finches are members of the subfamily Carduelinae in the family Fringillidae. They feed almost entirely on seeds, supplemented with insects in summer. Winter finches are noted for their irruptive migrations in search of tree seed crops. Most species come readily to bird feeders. Here, I offer some thoughts about the comings and goings of 10 species of winter finches in Ontario with a focus on Algonquin Park, including a comparison chart of finch species and numbers from all 24 Christmas Bird Counts in Algonquin Provincial Park.

Pine Grosbeak: They have been recorded on 22 of 24 Algonquin and 24 of 31 Minden Christmas Bird Counts, but they are much less frequent in Toronto.

Pine Grosbeaks are a mountain-ash specialist. Pine Grosbeaks irrupt into southern Ontario when Showy Mountain-ash (*Sorbus decora*) and American Mountain-ash (*S. americana*) berries are absent in the boreal forest. Pine Grosbeaks eat the seeds inside the berry, discarding the flesh. They also eat the buds and seeds of hardwoods and conifers. In settled areas, they feed on European Mountain-ash (*S. aucuparia*), crab apples, sumac and sometimes visit bird feeders for sunflower seeds. Except in invasion years, Pine Grosbeaks rarely occur in flocks of more than 10 birds in southern Ontario. Larger flocks are seen in the north. Bright rosy adult males are in the minority in most flocks. First year males look like females, but some are distinctly burnt-orange (instead of yellowish-olive to russet) on the crown and rump, often with a splash of burnt-orange on the breast. Pine Grosbeaks are often tame and sit still for long periods, hence the name "Mope" in Newfoundland. When excited, they flick their wings and tail. The commonest call is a whistled *tee-tee-teu*. It is easily imitated and will decoy them in closely, especially single birds. Pine Grosbeaks migrate north earlier in spring than other finches, usually leaving Algonquin Park by late March.

Purple Finch: In most years, Purple Finches leave Ontario in October, returning in mid-April to mid-May to breed. They have been recorded on 9 of 24 Algonquin and 13 of 31 Minden Christmas Bird Counts. However, in years of bumper tree seed crops, Purple Finches winter in Algonquin Park and even farther north. These are the Purple Finches that appear suddenly in mid-February and March at feeders in southern Ontario when tree seeds farther north are exhausted. Purple Finches give a distinctive metallic *pink* call that is easy to recognize as they fly overhead. Purple Finches have declined in recent years.

House Finch: Before 1940, House Finches did not occur in eastern North America. Our birds are the descendants of caged birds from California that were released by pet dealers in New York City to avoid raids by wildlife officers. The first House Finch reported in Ontario was in 1970 and the first breeding was in 1978. House Finches, unlike other winter finches, lack the ability to greatly increase their heat production in the winter. Many House Finches migrate south in fall and those that stay in very cold winters might not survive without feeders. House Finches continue to expand their range, but numbers have declined in recent years, probably because of the bacterial eye disease (*Mycoplasma gallisepticum*) now common in the species.

Red Crossbill: One researcher has described eight call types of the Red Crossbill in North America that may be separate species. They also differ in size, bill size, coloration and cone preferences. In Ontario, at least three (possibly four) call types or forms of the Red Crossbill occur and breed from time to time. Two forms prefer pines and one prefers hemlocks. One pine form is resident in small numbers in the extensive Eastern White Pine (*Pinus strobus*) forests of northeastern Algonquin Park. Another visiting pine form prefers Red Pine (*P. resinosa*) forests. The hemlock form (*Loxia curvirostra sitkensis*) is the most distinctive form. It occasionally wanders to Ontario in large numbers and breeds here. The hemlock form is the smallest crossbill with the smallest bill, even smaller-billed than the White-winged; it is adapted to open the small soft cones of Eastern Hemlock (*Tsuga canadensis*).

Road-killed *sitkensis* can be identified by measuring their stubby bills (culmen 13.5-15 mm). Red Crossbills give hard *jip-jip* calls, but one of the pine forms gives liquid *choop-choop* calls to my ears. The song is a series of loud whistles and interspersed warbles, richer and more varied than the White-winged Crossbill. The scientific names of birds and measurements follow *The Birds of Canada* (Godfrey 1986).

White-winged Crossbill: Like a pendulum, White-winged Crossbills move back and forth across the coniferous forests from Alaska to Newfoundland searching for cone crops. A record 9 of the 24 Algonquin Christmas Bird Counts have recorded the highest number of this species in North America. Nine other counts had fewer than 10 birds or none at all. Crossbills and cones are boom or bust! The range of the White-winged Crossbill is



White-winged Crossbill on Eastern Hemlock by Ron Scovell

much more boreal than the Red Crossbill. The two species normally do not form mixed flocks. Males are usually much pinker than Red Crossbills. The White-winged Crossbill's small bill is adapted to opening the small cones of spruce and Tamarack (*Larix laricina*). Black Spruce (*Picea mariana*) is a key winter food because it has regular cone crops and usually some seeds are held year-round in long lasting cones. White-wings sometimes feed in hemlocks, but almost never in pines. When spruce cones are abundant in Algonquin Park, White-winged Crossbills usually are common and they are heard singing if they are going to nest. The song is a long series of loud canary-like trills on different pitches. White-winged Crossbills give a dry and strident *cheet-cheet* call. A distant flock sounds like redpolls, but the notes are more rapid and often interspersed with a diagnostic loud musical *peet*. Unlike the Red Crossbill, the calls, songs and appearance of the White-winged Crossbill are the same across the continent.

Common and Hoary Redpolls: Redpolls resemble siskins and goldfinches in size, shape and habits. All these species often hang upside down to feed. An occasional redpoll has an orange or yellow "poll" (forehead). Common Redpolls and a few Hoaries come south in varying numbers about every second winter, with few or none in between. Common Redpolls are a White Birch (*Betula papyrifera*) specialist. White Birch has good seed crops about every two years with some seed most years. When birch catkins are loaded with seeds across the north, redpolls remain in the boreal forest. In Algonquin, redpolls often feed high in White Birch and Yellow Birch (*B. alleghaniensis*), making it difficult to pick out a Hoary. In settled areas, redpolls frequent ornamental birches, weedy fields and feeders with niger seed, making it easier to pick out a Hoary. Both species give rattling *chet-chet-chet* calls sounding like high tension wires. A distant flock has a buzzing quality. The alarm call of perched birds is a loud rising *sweet* like a goldfinch but coarser.

Pine Siskin: Like crossbills, siskins wander the continent in search of conifer seeds. They forage less often on alder, birch and in weedy fields. In most years, the majority of siskins leave Ontario for the winter. However, when hemlock, spruce, cedar and other conifers are laden with cones, siskins winter in large numbers. High numbers of siskins in Algonquin Park occur about every five years. Siskin flocks can be identified at a distance by their distinctive flight formation. They swirl in tight compact flocks whereas redpolls fly in loose undulating flocks. Through

binoculars, you can see flashes of yellow in their wings and tails. Siskins silhouetted on top of a spruce can be identified by their very long sharply pointed bills. Siskins give a wheezy *clee-ip* call that is the best way to identify them in flight. Perched birds often give a long rising buzzy *shreeEEEE* call that is unique. As spring approaches, siskins are heard singing a twittering series of husky and buzzy notes. They sometimes breed when snow still covers the ground. At feeders, siskins relish niger seeds. They are aggressive, fighting with one another, goldfinches, redpolls and even taking on Purple Finches.

American Goldfinch: Now common in winter in southern Ontario, American Goldfinches were once rare here in winter. The increase in wintering goldfinches is linked to the tremendous rise in bird feeding. In winter, goldfinches are inconspicuous and much less vocal than in summer, usually giving only low *te-te-te* notes. The bright yellow "Wild Canary" of summer disappears in winter because the adult males molt into a female-like plumage.

Evening Grosbeak: Uncommon in Ontario 100 years ago, Evening Grosbeaks are now a familiar winter finch in the province. Their population increase is partly due to bird feeders. They have been recorded on 21 of 24 Algonquin and all 31 Minden Christmas Bird Counts. In Haliburton County where I live, Evening Grosbeaks are called "Skidoo Birds" because the males are gold and black. In the Ottawa area, they are known as "Greedies" because at feeders they fight with one another and other birds while devouring millions of sunflower seeds. Their loud ringing *cleer* and *clee-ip* calls, like glorified House Sparrows, are distinctive. First year males are like adult males, but they can be separated at close range by the blackish inner margins of their tertials. As with other winter finches, the males tend to winter farther north than females.

Irruptions: The boreal winter finches are noted for their erratic and nomadic movements, here one winter and gone the next. Irruptions or invasions are periodic mass movements to new areas, occasionally beyond their normal ranges. Major irruptions are caused by tree crop failures and usually coincide with high populations. There are two main types of irruptions: one in fall and the other in late winter. Irruption finches search for areas where tree seeds are abundant and during occasional "superflights" like in 1997-98, they go well beyond their normal ranges. A second type of irruption happens in late winter when tree seeds are exhausted in the north, often forcing birds south to

Algonquin Park Christmas Bird Counts

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Pine Grosbeak	205	23	46	137	522*	10	259	178		90	4	78
Purple Finch	22		50		27				43		352	
Red Crossbill	22		5	20	42	1			8		431*	13
White-winged Crossbill	562†*	7	5	325*	641†*	50	1134†*	14	1239†*		8728†*	
Common Redpoll	9	178	13	980	1971†*	6	198	76	5	1	43	6
Pine Siskin	1747†*		29	192	1072	4	5		36		4264*	
American Goldfinch	344		90	44	317	157			178		11	
Evening Grosbeak	691		56		692	413	83	1	1801†*	4	1474†*	
Total Finches	3602	208	294	1678	5262	682	1680	269	3310	95	15307	97

Key to Symbols: † North American Highs, * Canadian Highs

Data courtesy of Ron Tozer

feeders. Do not confuse a late winter movement from the north with a return flight from the south after a fall irruption. Do two or more finch species synchronize their irruptive movements? The 24 years of Algonquin Christmas Bird Count data suggest that several boreal finches synchronize their movements and numbers to a high degree most winters, but not every winter when some species irrupt independently of one another. The variation is probably because different tree species produce varying seed crops from year to year and from place to place. All the boreal finches sometimes irrupt together when there is a widespread failure of all seed types. Continental climate is the likely common factor affecting seed crops and synchronous movements in boreal finches.

Cone Crops: Eastern White Pine has bumper cone crops every three to five years (rarely two good crops in a row) with few cones in between. White Spruce (*P. glauca*) produces bumper crops every two to six years with poor crops in between. Eastern Hemlock has good cone crops about every second year. Good or poor seed crops are usually widespread over hundreds of kilometres. Frequently several tree species have bumper crops or crop failures the same winter, helping to synchronize finch movements and numbers. Refer to the 1994 finch numbers in Algonquin when spruce, pine and hemlock crops cycled high together. That 1994-95 winter, White-winged Crossbills fed on spruce, Red Crossbills of the *sitkensis* race and Pine Siskins fed on hemlock, but redpolls were absent because White Birch seeds were abundant in the boreal forest. Many factors affect seed crops; these include early and late frosts, wet years, drought, insects and diseases. Flowering and seed ripening must be synchronized with the yearly climatic cycle. If the cycle is interrupted by unseasonable conditions, seed production is reduced. So you see why winter finches have adopted their nomadic ways!

Finch Forecasting: A knowledge of tree identification and seed crops will allow you to make reasonable predictions about the upcoming winter and in some cases the winter after. Tamarack, spruce, hemlock and cedar cones mature in one season and by late summer their crops are easily assessed. Pine and birch allow you to predict seed crops for the upcoming winter and the following winter. White pine takes two seasons for its cones to mature. By late summer of the first season, white pine has 1-2 cm long immature conelets; they grow much bigger and longer the next year, maturing in late summer. Birches have two types of

catkins: long slender male pollen-filled catkins and conelike female seed catkins. Both types normally are present on the trees and they are easy to see in fall and winter. The number of seed catkins indicates how big the crop is this winter and the number of pollen catkins indicates the size of the seed crop the next winter.

Red-breasted Nuthatch: The Red-breasted Nuthatch is a conifer seed specialist and it often irrupts south as do the boreal finches. A cone crop failure is indicated in those years that large numbers of Red-breasted Nuthatches migrate south in late August and September. Similarly, little or no southward movement indicates a good cone crop in the north, particularly on spruce. There is a very strong correlation between numbers (high and low) of Red-breasted Nuthatches and White-winged Crossbills in Algonquin Park. Pine Siskin numbers are moderately correlated with numbers of Red-breasted Nuthatches.

Mixed Flocks: Winter finches (except the two redpolls) rarely form mixed flocks, except at feeders and salted roads where they are drawn together. Goldfinches, siskins and redpolls sometimes mix in weedy fields and on birches and cedars. Lone individuals of one species may be with a large flock of a related species.

Finch Calls: Learn the distinctive calls of the winter finches as they are the best way to identify them in flight.

Squeaking: If you see or hear a flock of winter finches flying over, "squeak" as loudly as you can. They will often turn around and perch in a nearby tree.

Road Kills: Thousands of finches are killed by cars in some winters when they seek the salt (and sand) put on roads. They have no fear of cars, thinking a car is just a funny looking moose! I remember 63 siskins killed by a car in one collision. In finch winters, Common Ravens have an easy time, patrolling for road kills. If you see finches on the road, slow down, flash the lights and tap the horn. Be careful not to confuse other drivers.

Where To See Winter Finches: Algonquin Park is one of the best places in the world to see winter finches, but some years are better than others. Bring snowshoes if you want to walk the trails. For the latest information on finches, call a park naturalist at 613-637-2828 or Ron Tozer at home in the evening before 9:00 p.m. at 705-635-2315.

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	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Pine Grosbeak	95	161*	4	192	9	150	8	24	4	129		116
Purple Finch						3	125		154		57	
Red Crossbill	5	28	3	19	1	4	4		3527†*		43	
White-winged Crossbill		747	656	8092†*	1	685	1435†*		2490†*	2	2848†*	
Common Redpoll	1224#	95	2	581		1773		20		58		207
Pine Siskin	5	177	15	3862		22	261		4049†*	10	255	
American Goldfinch	1		64	7		7	187		41	5	54	
Evening Grosbeak	16	147	288	137	21	217	291	21	91	1	504	5
Total Finches	1346#	1355	1032	12890	32	2861	2311	65	10356	205	3761	328

Key to Symbols: † North American Highs, * Canadian Highs, # includes one Hoary Redpoll in 1986

Data courtesy of Ron Tozer