1998's Heavy Flight of American Goldfinches in the Virginia Piedmont

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ABSTRACT

The 528 American Goldfinches (*Carduelis tristis*) banded at a Campbell County, Virginia, location from late February through May 1998 suggests another larger-than-normal incursion into the Virginia Piedmont.

INTRODUCTION

Throughout November and December 1997, local backyard bird feeder watchers reported that large numbers of American Goldfinches (*Carduelis tristis*) came to their feeders on a daily basis. These observations suggested that Campbell County, Virginia, was in the midst of another larger-than-normal incursion of American Goldfinches. Our station was opened in January 1998 in an effort to document that an incursion was taking place. This paper will report the results of the banding operation.

METHODS

The banding station is located in a residential area on the western edge of the Virginia Piedmont in Campbell County, Virginia, .4 km from the intersection of US Route 460 and State Route 622. In the early 1990's, high winds and ice storms caused loss of tall trees near the preferred net location requiring shifting to a new net location.

Station mist nets were opened on 11 January 1998. Eight days of banding in January yielded no American Goldfinches even as they were observed at the station feeders. In an effort to facilitate capture of American Goldfinches, the January net location and arrangement was changed on 8 February using experience gained during the 1992 American Goldfinch incursion (Hansrote and Hansrote 1993).

Two 2.1 m X 5.5 m (7 ft X 18 ft) mist nets (50 denier/2-ply, 4 shelves with 3.2 cm [1-1/4 in] mesh) were placed in the shape of a "V" directly under a 4.9 m (16 ft) tall flowering dogwood tree (*Cornus florida*). One 0.53 m (1 ft 9 in) long tubular plastic thistle (Niger) bird feeder, covered with wire mesh, was suspended from a low tree branch approximately 1 m (3 ft 5 in) from the ground. The feeder was suspended in the center of the wide "V" well below the top trammel of the nets. The majority of the birds captured landed in nearby tall trees then flew down into the dogwood tree toward the feeder. The nets were opened and closed randomly but were never left open at night. Nets were checked every fifteen to thirty minutes.

More intense banding efforts were carried out starting on 26 February. The station was opened on 42 of the 76-day study period. The net hours for this period equaled 317.3. Spotty rain showers throughout the study period and a two-week vacation during late April and the first half of May, accounted for the lower number of days the nets were opened and affected the number of goldfinches netted during the study period.

RESULTS

From 26 February through 12 May 1998, 718 birds were banded. Seventy-four percent (528) of the total were American Goldfinches. The station yield was about 2.2 birds per net hour or 17 birds per net day.

DISCUSSION

The American Goldfinch is a common, permanent resident and often an abundant migrant in the Virginia Piedmont (Kain 1987). They are found frequently in large flocks during the non-breeding season, and flocks numbering in the thousands have been reported during spring migration to their nesting grounds in eastern North America (Tyler 1968). American Goldfinches winter throughout

most of their breeding range in the east and west, but frequently leave the interior of the range (Bevier 1983).

Detectable shifts in bird populations within a specific area argue for more intensive efforts to determine if the perceived shift is a real event. This was the reason that a determined effort at mist net capture of American Goldfinches was initiated in January 1998.

The Cornell Laboratory of Ornithology reported that the 1997-1998 season was an atypical year when it came to winter finches (Wells 1998a). They reported that since the fall of 1997 much of the United States experienced a winter finch invasion of monumental proportions and "during an invasion, one or more winter finch species moves south from their traditional wintering areas in what are called 'irruptions.' Evidence suggests that irruptions are associated with broad-scale changes in food supply in the species' traditional ranges." Pine Grosbeaks (*Pinicola enucleator*), Purple Finches (*Carpodacus purpureus*), Red Crossbills (*Loxia curvirostra*), White-winged Crossbills (*L. leucoptera*), Common Redpolls (*Carduelis flammea*), Hoary Redpolls (*C. hornemanni*), Pine Siskins (*C. pinus*), Evening Grosbeaks (*Hesperiphona vespertinus*), and Red-breasted Nuthatches (*Sitta canadensis*) were listed in the "superflight." Goldfinches were not included with traditional winter finches in this study.

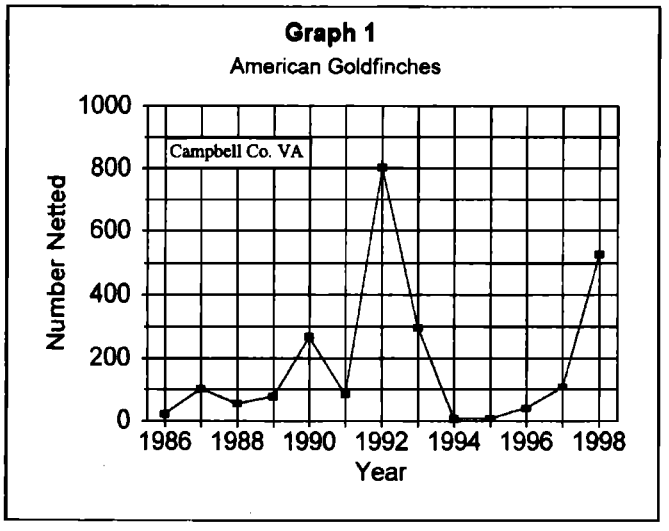
On 20-22 February 1998, the Cornell Laboratory of Ornithology and the National Audubon Society sponsored the first-ever Great '98 Backyard Bird Count participated in by 12,000 backyard birdwatchers. Data were gathered from an experiment which used the Internet to report sightings of birds in local backyards (Wells 1998b). The summary of the reports noted that nationwide observations of American Goldfinches numbered 34,452 and ranked fifth in total numbers behind European Starling (*Sturnus vulgaris*), House Sparrow (*Passer domesticus*), Mourning Dove (*Zenaida macroura*), and Common Grackle (*Quiscalus quiscula*). Although there is no previous data base with which a comparison can be made, the large numbers of goldfinches counted in this study suggest numerous American Goldfinches wintered in the United States in late February 1998.

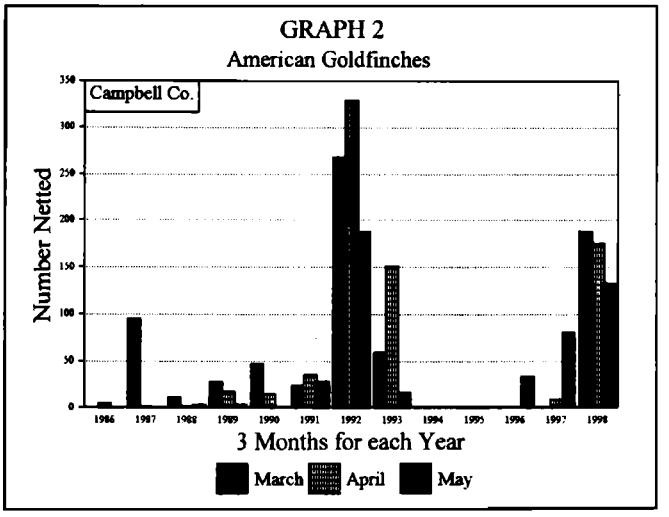
"Large numbers of American Goldfinches were the exception [to activity at feeders]: they seemed to dominate [at the feeders] in many parts of the region." This observation was noted, under a subheading entitled "Humid South," in an article by Blom (1998). His observation thus lent support to the idea that the geographic South had large numbers of American Goldfinches observed at feeders during late April through June.

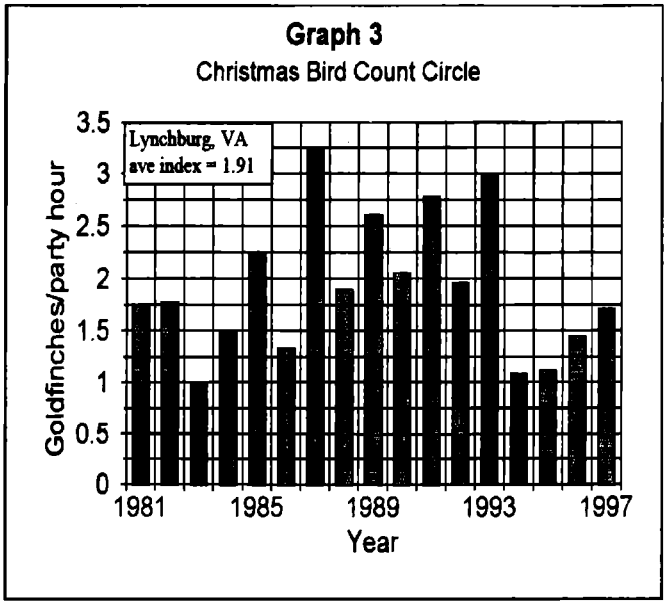
Graph 1 shows the 528 American Goldfinches banded during the period from 26 February 1998 to 12 May 1998, as the largest number of goldfinches netted at this Campbell County, Virginia, station since the 1992 goldfinch irruption (Hansrote and Hansrote 1993). No effort was spent on determining what effect net relocation had on the number of birds captured. The number of American Goldfinches reported for 1998 is only for the period February 1998 to May 1998, while the other reported totals in Graph 1 included all goldfinches banded for that particular year.

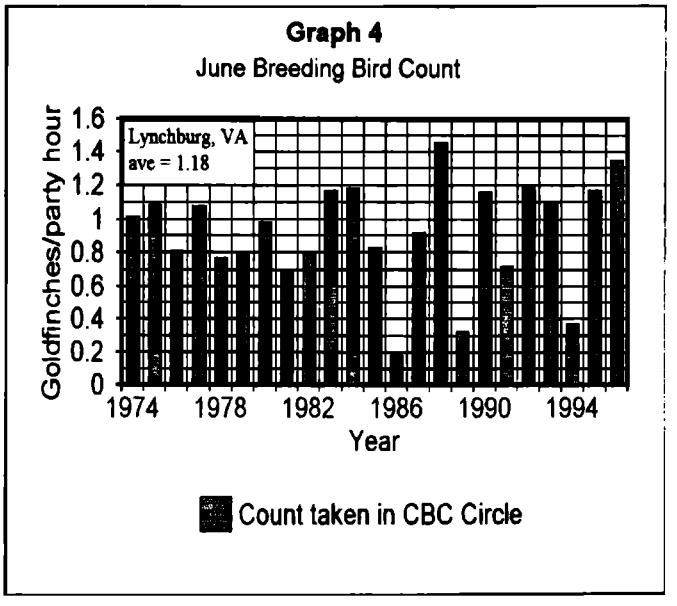
Graph 2, a bar graph of the monthly numbers of American Goldfinches banded in Campbell County, Virginia, from 1986 through May of 1998, reveals that the months of March, April, and May generally show the largest numbers of American Goldfinches present in this portion of the Piedmont Virginia. In addition, Graph 2 also shows that the 1998 spring season yielded the highest number of American Goldfinches banded since 1992.

Record-wise, the one-day spring peak count in the Virginia Piedmont was 215 goldfinches observed at Green Springs, Louisa County, on 17 April 1977; while the one-day peak count for summer was 105 in the City of Lynchburg on 25 June 1984 (Kain 1987). At our station, the largest number of American Goldfinches banded in one day during the 1998 study period was 28 birds on 18 March 1998 from 0841 until 1803. This number is low when compared to 70 goldfinches banded on 4 April 1992 from 0945 until 1636 during the 1992 incursion.









Calculations using data from the 1997 Lynchburg Bird Club Christmas Bird Count (CBC) report (Kain 1998), conducted on 20 December 1997, reveal an index of 1.7 American Goldfinches observed per party-hour as compared to a 17-year index average of 1.9 goldfinches per party-hour as shown in Graph 3.

The 25th Annual Lynchburg Bird Club Breeding Bird Count (pers. com. from count coordinators, currently M. K. Smith), a survey of the breeding birds found within the CBC circle which is generally conducted the first week in June, shows an index of 1.5 American Goldfinches per party-hour when compared to a calculated average index of 0.95 over the 25-year study period as shown in Graph 4.

These two local bird surveys (the banding station is located within the CBC circle) yielded index numbers that support the heavy flight of goldfinches documented at our station. Both reports show American Goldfinches were present in good numbers in Campbell County at the start and end of our banding efforts.

Two American Goldfinches banded locally in November 1997 were recaptured in February 1998. One of these two birds, recaptured after 120 days, suggested it had spent that time interval somewhere in the immediate vicinity. Repeated recaptures of goldfinches banded during the spring of 1998 continued throughout the remainder of the study.

Ninety-one American Goldfinches, after being initially banded at the Campbell County station, were recaptured at the same location from February through 12 May. Nineteen of the 91 were recaptured on the same day. However, other banded goldfinches lingered in the immediate area. To illustrate: a bird banded on 2 February was recaptured on 19 March (25 days later). A bird banded on 1 March was recaptured on 25 March (24 days later). A bird banded on 22 March was recaptured on 1 May (37 days later.) This number of previously banded American Goldfinches lends support to the idea that a wintering flock of goldfinches remained in the immediate area during the period of active banding.

A 17-day period, from 30 April until 16 May 1998, with no nets opened meant the number of banded goldfinches reported by us underestimated the goldfinch population actually present within the banding station area.

As of this date, we have received no reports of foreign captures or encounters from the 1998 American Goldfinch population that was banded. However, previous Bird Banding Laboratory reports of foreign captures and encounters of American Goldfinches banded at this station in years prior to 1998 are as follows: single birds at Madison, VA; Navarre MSH, OH; North Little Rock, AR; Ithaca, NY; and Java Ctr, NY. These reports suggest wide dispersal of American Goldfinches after they leave Campbell County, Virginia.

The years 1992 and 1998 have been identified by us as either irruptive or heavy flight years for American Goldfinches in this portion of the Virginia Piedmont. It is proposed, based upon the data presented, that for these two years the local population of American Goldfinches was a composite of irruptive birds, local breeding birds, and birds migrating north and westward to their traditional breeding grounds.

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