# HAWKWATCHING ALONG THE CUMBERLAND RIDGE, KENTUCKY

BRAD ANDRES

## INTRODUCTION

In recent years, the popularity of hawkwatching as an ornithological hobby has grown considerably. With the creation of the Hawk Migration Association of North America (HMANA) ten years ago, hawkwatchers have sprung up all across the country. However, only spotty information exists on raptor migrations in Kentucky. Outside scattered incidents of migration along the Mississippi and Ohio Rivers, the most regular migration in the state occurs along the Cumberland Mountains in southeastern Kentucky. Cumberland Gap National Historic Park provides easy access to the ridge to view the migration spectacle. Several observers have witnessed the migration on this ridge, mainly in September, and have published their observations (Stamm 1972, 1979, 1980, 1981, 1982, 1985). In helping other Kentucky birders discover hawkwatching, the purpose of this paper is to explain the role of the Cumberland Mountain in migration and provide information on the species occuring along the ridge. A bibliography is provided for those interested in reading further on the subject.

## THE ROLE OF THE CUMBERLAND MOUNTAIN IN HAWK MIGRATION

The Cumberland ridge runs one hundred miles from eastern Virginia along the Virginia-Kentucky border, and into Tennessee. This ridge lies on the western edge of the ridge and valley province formed by the Appalachians. These ridges run in a northeast to southwest orientation from Maine to Alabama. It is on the eastern edge of this system that Hawk Mountain Sanctuary in Pennsylvania is located. Because of the Cumberland's position in this arrangement, patterns of migration may vary from the norm at Hawk Mountain. It has been generally found that days of northwest winds produce the best hawk flights. These winds, by perpendicularly striking the ridges, produce deflective currents that are used by hawks on their push south. Northwest winds also tend to drift hawks toward the most eastern ridges concentrating them in places like Hawk Mountain. Thus, on the western ridges, flights may be best when winds are from the north or the east resulting in little drift or even "reverse drift". Hurly (1970) found that on a similarly positioned ridge in West Virginia, peak flights occurred on days with southeast winds. Although this may be an example of reverse drift, Hurly's data was concerned with Broad-winged Hawk flights in September which peak in a rather constricted time frame. Further investigations on ridges like the Cumberland may reveal some interesting patterns. One such pattern would be the utilization of these western ridges in spring migration. Besides deflective air currents, hawks also utilize rising warm air masses, thermals, to minimize their energy expenditure during migration. Broad-winged Hawks are well known for their behavior of kettling in large numbers in thermals. Hawks also use ridges as a navigational aid. These "leading lines" aid the bird visually in heading south. (For a thorough treatment of wind drift and leading lines see Mueller 1967).

## HAWKWATCHING ON THE RIDGE

In the past, observers have found the parking lot at the park headquarters (Stamm pers. comm.) and the pinnacle overlook to be satisfactory places to view the passage of migrating raptors. From the front of the overlook, facing north, birds can be spotted coming down both sides of the ridge and directly overhead. On days of clear skies and warm temperatures, birds are often spotted straight up at the limit of binocular vision. Overcast conditions provide the observer with an easier viewing of a low altitude flight. The passing of a front and moderate winds yield the best results. Hawkwatchers are encouraged to record weather parameters according to HMANA's "Instructions for Daily Report Forms". These parameters include: Maximum visibility, temperature, sky condition, wind speed and direction, altitude of flight, flight direction, number of observers, minutes of observation, and hourly species observations. All these bits of information are logged onto a computer form which can be turned into HMANA for nationwide compilation. By being diligent in recording, one can contribute to the general knowledge of hawk migration as well as discern daily and seasonal trends at a specific site.

## THE FLIGHT ON CUMBERLAND MOUNTAIN

Generally, hawk migration along the Appalachian occurs from late August to early December. In the past two years I have spent 43.5 hours at the pinnacle observing fall migrating hawks. In this time I have recorded 259 individuals representing ten species. Table I presents the numbers of individuals and the species observed. The lookout has produced an average of six birds per hour over this time. As can be expected, Broad-winged Hawks were the dominant species observed. This species is also probably the most variable from year to year depending upon the September temperatures. (See Stamm 1972 regarding a spectacular flight of Broad-wings on the ridge). One surprise was a rather large movement of 166 Turkey Vultures and 16 Red-shouldered Hawks on November 8, 1985 (Stamm 1986). I believe October and November hold the most promise of interesting and unique hawkwatching experiences on the Cumberland ridge. Another interesting aspect of the fall migration is the movement of Sharp-shinned Hawks in relation to Cooper's Hawks. Both Mengel (1965) and Monroe (1969) regard the Cooper's as more abundant in the fall than the Sharp-shinned. I have found the ratio of Sharp-shinned to Cooper's to be heavily skewed toward the former and in accordance with those of other Appalachian lookouts (Table II). In fact, Mengel's *Birds of Kentucky* (1965) provides little information on raptor migration within the state. It is my hope that these brief notes will spark interest in other Kentucky birders to explore hawkwatching and fill in the gaps in our ornithological record. As the Stamms will agree, once you've gazed upon a kettle of Broad-wings, you will forever have your eyes to the skies.

Table I. Numbers and species of raptors observed at Cumberland Gap.

| DAYS | HOURS | BV | TV | SS | CR | RT | RS | BW | BE | NH | OS | PF | AK | UU[1] | TOT[2] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 43.5 | 4 | 166 | 58 | 6 | 61 | 17 | 188 | 1 | 7 | 5 | 2 | 8 | 6 | 259 |

Species are listed taxonomically from Black Vulture to American Kestrel.
1 - unidentified
2 - total does not reflect vultures

Table II. Ratios of Sharp-shinned Hawks : Cooper's Hawks at Appalachian lookouts.

| Lookout | SS : CH |
|---|---|
| Hawk Mountain, PA | 14 : 1 |
| Raccoon Ridge, NJ | 15 : 1 |
| Chilhowee, TN | 10 : 1 |
| Mount Tom, MA | 11 : 1 |
| Cumberland Gap, KY | 10 : 1 |

## BIBLIOGRAPHY


Brett, J. J. and A. C. Nagy. 1973. Feathers in the Wind. Hawk Mountain Sanctuary Association. Kempton, PA. 70 pp.

Broun, M. 1949. Hawks Aloft: The Story of Hawk Mountain. Dodd, Meade Co., New York. 222 pp.

Harwood, M. 1973. The View from Hawk Mountain. Charles Scribner's Sons, New York. 191 pp.

Haugh, J. R. and T. J. Cade. 1966. The spring hawk migration around the southeastern shore of Lake Ontario. Wilson Bull. 78: 88-110.

Heintzelman, D. S. 1975. Autumn Hawk Flights: The Migration in Eastern North America. Rutgers University Press, New Brunswick, NJ 398 pp.

——. 1976. A Guide to Eastern Hawk Watching. Pennsylvania State University Press. University Park, PA. 284 pp.

Hurly, G. 1970. Fall hawk migration along Peters Mountain in Monroe County, West Virginia. Redstart 36(3) : 82-86.

Mengel, R. M. 1965. The Birds of Kentucky. American Ornithologist Union, Ornithological Monograph No. 3. 581 pp.

Monroe, B. L. Jr. 1969. Summary of occurence of birds of Kentucky. Kentucky Warbler 45: 47-56

Mueller, H. C. and D. D. Berger. 1967. Wind drift, leading lines, and diurnal migrations. Wilson Bull. 79: 50-63.

Stamm, A. L. 1972. Migrating hawks over southeastern Kentucky. The Kentucky Warbler 48: 25-26.

——. 1979. The Fall Migration Season 1978. The Kentucky Warbler 55: 15.

——. 1980. The Fall Migration Season 1979. The Kentucky Warbler 56: 15.

——. 1981. The Fall Migration Season 1980. The Kentucky Warbler 57: 20.

——. 1982. The Fall Migration Season 1981. The Kentucky Warbler 58: 14-15.

——. 1985. The Fall Migration Season 1984. The Kentucky Warbler 61: 15.

——. 1986. The Fall Migration Season 1985. The Kentucky Warbler 62: 4-5.


— 506 Spring Hill Dr., Lexington, KY 40503.