

Spanning the Gap

Hawk Migration



U.S. Dept. of the Interior
National Park Service

Spanning the Gap
The newsletter of
Delaware Water Gap National
Recreation Area
Vol. 10 No. 3 Fall 1988



The Appalachian Mountains run 1,500 miles from southwest to northeast from northern Alabama to southern Quebec. In Pennsylvania and New Jersey this system is part of what is called the *ridge and valley province*. Because of its location in the Appalachian Mountain range, Delaware Water Gap National Recreation Area offers many areas where

the spectacular hawk migration can be observed. Kittatinny Ridge is certainly not host to the entire movement of the hawk migration, but because of its placement in the Appalachian chain, a good concentration of hawk species can be seen here. One of the easiest places to take in the "action" is the terrace overlooking the river at Kittatinny Point Visitor Center. (Above)



The hawks utilize not only the ridge system for guidance, but perhaps more importantly, they use the air currents that are created by the solar heating of the valleys and slopes or by the upward deflection of northwest winds. As hawks move down from Canada through New England, New York, New Jersey, and Pennsylvania, they encounter many greater and lesser ridges, each with their characteristic convection currents.

Raptors



Large soaring raptors include eagles and other *buteos*, vultures and ospreys. They have hooked bills, talons, long broad plank-like wings, and short broad tails. Common *buteos* seen during migration include the broad-winged, red-tailed hawk, and red-shouldered hawks.

(Above) An immature osprey; this fish-hunting bird is largely white and from a distance may look like a gull. (Wing span 4.5 - 6 ft.) See silhouette below, left.



Birds will utilize these currents for ultimate conservation of energy and muscle reserve. This activity is similar to that of a swimmer riding a wave toward shore where the water acts as a buoyant.

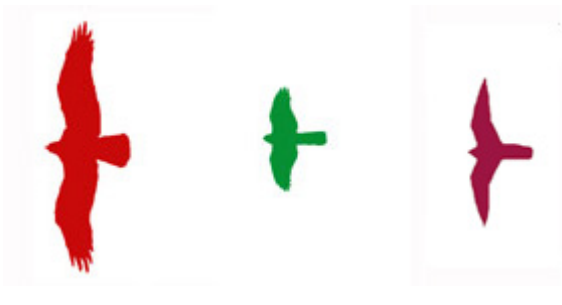
The hawks are riding on the vast sea of air with its varying currents and area buoyed upward by convection and updrafts.



At many points along the Appalachian Mountains, watchers gather in the fall in great numbers and gaze skyward for glimpses of eagles, hawks, and falcons -- but especially the migration

of hawks.

To become a "hawk watcher", the beginner should start out simply by identifying the hawk group in which the bird is taxonomically classified. Hawks are *raptors*, birds that prey upon other animals. Raptors are classified into three general groups (described at right): *large soaring raptors*, *woodland raptors*, and *open country raptors*. Raptor identification is very much concerned with shape because at a distance the overall shape of a bird is easier to see rather than individual field markings. The general shape of a distant bird is linked to the interrelationship of the tail, wing, and head.



Flight Silhouettes:
(not to scale)

(Left) Osprey.
(Middle) Sharp-shinned hawk.
(Right) Peregrine falcon.



Woodland raptors, or *accipiters*, have shorter, broader, rounded wings and long narrow tails. These features allow for great maneuverability in dense woods. Accipiters include the Coopers hawk, the sharp-shinned hawk and the goshawk.

(Above) A sharp-shinned hawk after banding. This swift, small hawk is one of the commonest seen in migration. (Wing span 10-14") See silhouette below, left.



Open country raptors include the *harriers* and *falcons*. They are long, slim birds with tapered wings and long-to-medium length tails. These birds are well suited for swift and direct serial pursuit of prey or buoyant, agile flight. The falcons include the American kestrel, the merlin, and the peregrine falcon.

(Above) A peregrine falcon feeds nestlings. (Wing span 15-20") See silhouette at left.

One of the most exciting events to witness is the movement of a *kettle*, or large number of hawks, along the Appalachian Ridge. In September, hundreds to thousands of broad-winged hawks can sometimes be seen in a kettle -- a spectacular sight.

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(Photo courtesy of NJ Division of Fish and Wildlife)