

son's Hawk dived and screamed at them with talons extended for more than 30 minutes. The Red-tailed Hawks ignored him and eventually the Swainson's Hawk gave up. We soon found that this Swainson's Hawk had a nest 100 m (110 yards) away with a newly fledged young.

**Hunting.** Swainson's Hawks spend a considerable amount of time soaring, often at great altitude. While their soaring serves other purposes, such as advertising the occupancy of a territory and looking for potential enemies, it is also their main hunting method. Swainson's Hawks will often hang in the wind and hover as Red-tailed Hawks do to scan the ground below. When prey is sighted the hawks descend, often checking and continuing to hover until the strike is launched, and then the bird plummets to the ground with talons outstretched.

A variation of this hunting method can be seen when the hayfields are cut. Swainson's Hawks will fly low over hayfields that are being cut and follow a tractor to pounce on small mammals that are flushed. After the hayfields have been cut, it is possible to see Swainson's Hawks land in the hayfield and stalk prey on foot. We watched a pair of adult hawks for 90 minutes stalking prey in this manner. The hawks sat still for a long time and then suddenly raised their wings and ran with legs outstretched to catch prey, presumably an insect. Interestingly, two juveniles were perched in nearby trees but did not join in with the parents. Johnson et al. (1987) recorded similar ground feeding by Swainson's Hawks in Idaho, and pellet analysis showed grasshoppers to be the main prey item.

Swainson's Hawks readily feed on flying insects, too. Throughout our fieldwork we recorded numerous instances between June and August of both adult and juvenile hawks catching insects on the wing in the manner of a Mississippi Kite (*Ictinia mississippiensis*). Swainson's Hawks fly up or dip down to

take an insect with the talons and then eat the prey while flying. In late summer in Kane and McHenry counties, there are large numbers of dragonflies on the wing. Dragonflies have been shown to be an important food for wintering Swainson's Hawks in Argentina (Jaramillo 1993, Rudolph and Fisher 1993). Only very occasionally have we observed Swainson's Hawks adopt the perch and scan technique employed commonly by Red-tailed Hawks and other buteos.

The importance of insects in the diet of Illinois Swainson's Hawks is unknown at this time. Mammalian prey is certainly important and we have observed male hawks bringing unidentified small mammals to females incubating eggs or guarding nestlings. A variety of vertebrate prey has been recorded as important for Swainson's Hawks diets, such as gophers (*Thomomys talpoides*), ground squirrels (*Spermophilus richardsonii* and *S. tridecemlineatus*), rats, mice, voles and occasionally, birds and reptiles (Bent 1937, Bechard 1983, Gilmer and Stewart 1984, Johnsgard 1990).

### The Future

The Swainson's Hawk is on the Illinois Endangered Species List B. See <http://dnr.state.il.us/espb/date-list.htm>. Their breeding grounds in Kane and McHenry counties have been listed as a top site for Audubon's Illinois Important Bird Areas program (<http://www.habitatproject.org>).

There is grave concern over the future of Swainson's Hawks in Kane and McHenry counties of Illinois. Recent articles in the Chicago Tribune (Wronski, 2003) and Chicago Wilderness (Spencer 2004) give details of plans to develop this region over the next few years, estimating the population of Hampshire to expand from 3,800 to 52,000. If this development goes unchecked and does not leave significant areas for Swainson's Hawks to hunt and nest undisturbed, these hawks could be lost from Illinois.

Due to population declines caused by habitat destruction, reduction in its main prey species and pesticide use, Swainson's Hawk has recently been put on the Audubon Society Watchlist as a species of national conservation concern (<http://audubon2.org/web-app/watchlist/viewSpecies.jsp?id=199>).

The population in Central Valley, California has been threatened by development for many years (Estep and Theresa 1992). In fact, California has remaining only 10% of its historic Swainson's Hawk population. To mitigate the conflict between urban expansion and the needs of endangered species, it has been proposed that a Regional Conservation Plan be implemented in Central Valley, California to achieve long-term protection for a significant number of breeding Swainson's Hawks, as well as allowing for controlled urban expansion. The Swainson's Hawk Technical Advisory Committee in Central Valley, California has developed a management plan to ensure the survival of the Swainson's Hawk that includes ensuring the availability of suitable nesting and foraging habitat, and maintenance of foraging habitat suitable for hawks. These include alfalfa, fallow fields, pasture and row crops. (Estep and Theresa 1992, Berry et al. 1998, Smallwood 1995.)

It would appear that Illinois has similar choices to make to those in California's Central Valley. If we want endangered species such as Swainson's Hawks to survive in Illinois, then conservation of sufficient foraging habitat such as hayfields, pasture and row crops is essential.

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