of the Upper Mississippi River Wildlife and Fish Refuge. They continued in evidence as far north as Buffalo County, Wisconsin, until October 8, the last date of observation recorded during 1938.

On April 26, 1939, a pair of American Egrets were observed at the Trempealeau Migratory Waterfowl Refuge in Trempealeau County, Wisconsin. On May 10, 1939, 15 birds were observed near DeSoto, Crawford County, Wisconsin. On May 27, four adult birds were observed feeding in a marsh at the Trempealeau Migratory Waterfowl Refuge near a known nesting colony of Double-crested Cormorants and Great Blue and Black-crowned Night Herons. Observation disclosed that the egrets were traveling from the feeding grounds and alighting in trees among the other nesting herons and cormorants. On June 8, 1939, three egret nests were located in the heron and cormorant rookery. The nests were situated about 35 feet from the water in birch trees, the bases of which were inundated, but the trees had not yet been killed. On June 30 both still and motion pictures were made of the nesting egrets, one of the three nests containing five young birds, one containing four, and the third containing four birds and one unincubated egg. On July 16 a blind was constructed from which a more complete and better series of still and motion pictures were made. On July 31 the young birds had left the nest and were observed feeding on the nearby marshes.

The young birds evidenced little disturbance while being photographed without a blind; however, the adult birds would not come to the nest to feed the young while I was in a nearby tree but after the blind was constructed within 20 feet of the nearest nest the adult birds made frequent visits to the nests and fed the young. The slightest disturbance or noise in the blind would frighten the adults away. Several hours were spent in the blind photographing and observing these birds."—IRA N. GABRIELSON, *U.S. Biological Survey, Washington, D.C.*

The Food of Young Marsh Hawks.—Since 1935 the Game Management Section of the Illinois Natural History Survey has been giving considerable attention to the status of the Prairie Chicken (*Tympanuchus cupido americanus*) in Illinois. While making a detailed study of a four square mile area of marginal prairie farmland near Hunt City, Illinois in the summer of 1936, I found the nest of a Marsh Hawk (*Circus hudsonius*). Since the area was known to harbor a population of 150-200 Prairie Chickens and more than 200 Bob-white (*Colinus virginianus*), the opportunity seemed favorable for making observations on the predator relations of this much discussed raptor to the young Prairie Chicken and Bob-white of the area.

In order to study the food habits of this family of hawks, a wire enclosure was built near the nest and the young hawks placed inside. As soon as a hawk was old enough to fly, one wing was pinioned with a leather thong. We hoped that the adult hawks would continue to bring them food and thus furnish much desired information as to the type of food that was taken from an area well populated with Prairie Chickens and Bob-white.

Although observations were made every day or two from July 10 to August 3, we were disappointed in the amount of food brought in during that time. The artificial situation created by confining the young hawks within the wire enclosure, and the prolonged dependence of the young birds may have occasioned an atypical response on the part of the parent birds. A number of times the young seemed not to have been fed from one morning till the next and occasionally seemed to lack for two or three days at a time.

During the period of observation, young (unidentified) song birds, immature rabbits and meadow mice (*Microtus*) constituted the major portion of the bill-of-fare for the young raptors. Recognizable bird remains included three young Bob-white and two young Upland Plovers (*Bartramia longicauda*). As far as could

be determined from feathers, pellets, and other fragments, no Prairie Chickens were brought into the young during the observation period.

Although the wire enclosure method of observing the hawk family was not as successful as we anticipated, the information realized seemed to indicate that Marsh Hawks are not an important factor in the survival of upland game birds on this area.—W. HENRY LEIGH, *Wright Junior College, Chicago, Illinois.*

Remnant Numbers of Prairie Chicken in Southeastern Minnesota.—The dependence of Prairie Chicken (*Tympanuchus cupido americanus*) on large undisturbed breeding grounds for their continued existence is remarkably illustrated in the vicinity of Spring Valley in southeastern Minnesota. The area immediately west and south of this village is part of the original prairie and in early days was the natural habitat of the Sharp-tailed Grouse (*Pedioecetes phasianellus campestris*). With the settlement by the white men, and the resultant increase in grain fields, the Sharp-tailed Grouse receded to the west and north and the Prairie Chicken came in from the southern range. The large areas of open wet grassland, interspersed with corn and grain on the upland, apparently provided an excellent habitat for Prairie Chicken and they increased greatly until shortly after 1900. The early 20th century sportsman enjoyed an all year season and a "wagon-box limit" on the species. Hunters often shot from blinds on the booming grounds during the spring season. The birds were easy targets as they flew in from the surrounding area. Local farmers report that since about 1910 the birds have gradually decreased in numbers as the result of more intensive cultivation, drainage, and hunting. The resident birds are at present confined to a few areas which have escaped drainage and cultivation and remain in a semi-prairie type. In the office of the Soil Conservation Service at Spring Valley, Minnesota, is an aerial photograph of the headwaters of Deer and Bear Creeks. An observer, even though not familiar with this vicinity, could readily point out on the basis of cultivation the areas on which the Prairie Chicken has been reported during the last three years.

The area southeast and southwest of Spring Valley, is unlike most of southeastern Minnesota and probably contains the only permanent resident flocks of Prairie Chickens in this section of the State. During the spring of 1936, the writer and Peder N. Lund located two booming grounds in Section 12, Township 101 N, Range 13 W. Several visits were made to these grounds and 12 to 16 birds were present on each field and were conspicuous by their general inactivity. Dancing and booming were interrupted with long periods of silence. Birds were heard occasionally in the immediate vicinity but no other booming grounds were located. One bird was observed to alight and boom near the junction of two roads a mile south, indicating the occasional promiscuous booming which was often heard at random locations nearby.

The booming grounds above mentioned were plowed in the fall of 1936 and in the spring of 1937 the Prairie Chickens abandoned the area, moving to a point one mile south in Section 13, Township 101 N, Range 13 W. They occupied a grassy knoll 100 yards north of a marshy pond. On May 7, 1937 (when *Caltha palustris* and *Populus tremuloides* were in flower) 12 birds were seen in an excellent display from 5:00 A.M. to 6:15 A.M. when a light rain seemed to stop further activity. Several visits to this vicinity in the spring of 1937, 1938 and 1939 to locate other booming grounds proved fruitless and it is rather doubtful whether other grounds were being used. On October 15 and 16, 7 and 17 birds respectively, were observed from a cornfield one quarter mile east of the booming ground in Section 13. Farmers report the presence of Prairie Chickens throughout the winter, at which time their cruising radius is extended to cornfields several miles distant from the meadows where they return each night. The last visit to these grounds was made on April 30, 1939 from 5:00 A.M. to 6:30 A.M. Eight or