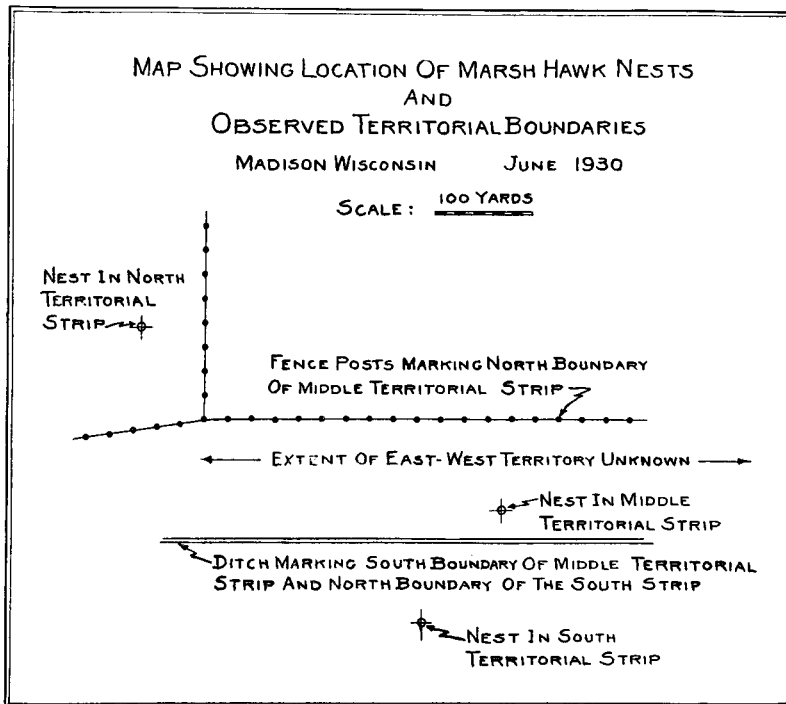


TERRITORY DISPUTES OF THREE PAIRS OF NESTING MARSH HAWKS

BY PAUL L. ERRINGTON

Early in June, 1930, three Marsh Hawk nests were located for study in a small portion of a drained marsh near the State Fish Hatchery, Madison, Wisconsin. The marshy land, upon which the studies were conducted, was largely uncultivated, grown up to golden-rod, nettles, etc., and roughly a square mile in area. The east end



of this tract was occupied by only one pair of Marsh Hawks; the west end by the three pairs to be discussed.

The nests were situated in three approximately parallel strips of territory, and with regard to each other somewhat as the points of an isosceles triangle. The nest representing the apex of the triangle was about 400 yards from those at the base, which latter were about 130 yards apart. No explanation is offered as to why the three pairs of hawks nested so closely together; they had ample space for spreading out farther, had they wanted to.

As might be expected, the occupants of the middle territorial strip were frequently involved in disputes with one neighbor or the other, especially in the forepart of the nesting season. The middle strip, 120 yards in width, apparently was not restricted to any particular length, but was bounded on the south by a drainage ditch and on the north by a wire fence. All of the nesting hawks seemed to accept these man-made landmarks, at least for a considerable distance, as the proper bounds of their adjacent territories. The ditch was neutral ground, which the rival birds would not ordinarily approach nearer than 30 to 50 feet. The fence posts to the north were recognized as the inviolable feeding and lookout perches of the middle pair.

The greatest strife was noted during the incubation and hatching period, when the returning prey-laden male of the middle pair would cut across the territory on the south. Such trespass would not meet with the approval of the south pair and they would shortly point out to the offender the magnitude of his error, often to the extent of persuading him to leave the way he arrived, thus compelling him to make a pronounced detour to his own nest. The incubating female of the middle strip would join her mate if the trespass was committed by the other parties. On one occasion, before the ditch and the fence were respected as territorial borders, the entire population of six hawks was observed in the air, engaged in simultaneous argument as to who was who and why.

Intra-specific raptorial relations grew more amicable as the summer progressed. The birds of the middle territory learned to enter their strip from the end, thereby sparing themselves no small amount of grief. Virtually the only subsequent unpleasantness came about on account of the detested man-creature, who appeared every day or so to squeeze the ground-squirrels from the gullets of the nestlings. The female resented the most this maltreating of the offspring, and a person had to be quick on the dodge to keep her talons out of his hair.

Even an object of special hatred like a meddling human visitor seldom caused the parent birds to forget the ditch and fence. To the ditch or to the fence they would attend the invader, but there the pursuit would cease. If the female Marsh Hawk from south of the ditch would follow across, she would be embarrassed by the female from the north side.

Less parental jealousy was witnessed between the pairs as the young attained their growth and power of flight, however vicious the adults became toward the investigator. No animosity was shown the heavy-flying juveniles by adults, although it is presumed that the

youngsters attached no unusual significance to the ditch or to the fence. For a few days after they had left the grass and weeds in late July, buffy juveniles were seen sitting on posts throughout the whole west half of the marsh; territorial intolerance plainly did not persist this long in the season.

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SEASONAL CHANGES IN A BIRD HABITAT IN TEXAS

BY G. EIFRIG

During thirty years of bird observation I have seen many and profound changes taking place in the country as a whole as well as in local, circumscribed bird-habitats. Many of these were unavoidable, such as the clearing of forests to be made into farms, which has been going on ever since the first settlement of the country. Some of these changes are violent and disastrous to bird and animal life in general, and many are unnecessary and even foolish. This would seem to apply especially to many of the changes, or rather the havoc, wrought by our modern genus of "realtors", or worse yet "sub-dividers". How they often unnecessarily and even foolishly cut down a copse of trees or a thicket of bushes is well known.

Equally disastrous is some of the modern draining of swamps, which so entirely changes the aspect of a countryside and deprives hundreds and thousands of birds and other animals of their legitimate habitat.

Once in awhile, however, it happens that nature herself produces a change for the better in a certain habitat. A very interesting instance of this kind was noticed by the writer in Texas during two stays there in 1925 and 1926. The former year was an exceptionally dry one, even for Texas, it not having rained in some parts for over a year or more. During the stay near Kingsville, some twenty miles north of Corpus Christi, I visited a so-called pasture. This, in the local vernacular, means a piece of original prairie, sparingly covered with the typical Texas small trees, such as mesquite, huisache, retama, and rattle-box (*Daubentonia longifolia*). In 1925 this place was bone-dry. The sparse grass more or less turned gray and brown, and the cow paths were distinctly dusty. The bird population was correspondingly small in this area of about a hundred acres. The only birds seen were Scissor-tailed Fly-catchers, Yellow-billed Cuckoos, Western Lark Spar-