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Clayton M. White
Brigham Young University

Merle Tanner-White
Brigham Young University

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UNUSUAL SOCIAL FEEDING AND SOARING BY THE COMMON RAVEN (*CORVUS CORAX*)¹

Clayton M. White² and Merle Tanner-White¹

ABSTRACT.— A flock of some 1000 ravens, not associated with night roosts, was seen during the breeding season. Some were feeding on the ground while others soared in the air above them. It is suggested that the large soaring flock acted as information transfers for feeding conditions.

The Common Raven (*Corvus corax*) can be a highly social species. Social aerial soaring, play, and other forms of group interactions are known (Rubey 1933, Lockley 1953, Hewson 1957, Davis 1967, Dorn 1972). There is lack of agreement over the function of such soaring because of its temporal variation (summer vs. winter), as reviewed by Knight and Call (1980). There is likewise little knowledge as to whether participants of such behavior are breeding or nonbreeding individuals (Jollie 1976). The aforementioned social events frequently involve fewer than 200–300 individuals. However, large numbers of over 800 birds are known to gather in autumn and winter at overnight communal roosts (Stiehl 1981). Knight and Call (1980) likewise do not mention literature reference to large feeding aggregations, which may actually take the form of a social aggregation. Ravens may, however, congregate at refuse dumps, but such groups usually occur in the nonbreeding season or in developing areas with exploitable refuse dumps. Unlike the huge winter flocks of the American Crow (*Corvus brachyrhynchos*) that gather at dumps, our experience has been that fewer than 100 or so ravens gather at such feeding sites. The following observations involving more than 1000 ravens, but not at communal roosts, may shed some light on these topics.

On 11 April 1982 at midday, near the junction of US 191 and U-211, about 26 km north of Monticello, Utah, two different groups of ravens were seen about 1 km apart. The first flock contained about 400 birds, (part count, part estimate) feeding on the ground over

about a 3-ha area, and more than 380 were counted soaring in a boil above those on the ground. This soaring flock contained individuals from about 50 m to more than 300 m in the air. A second flock of more than 250 was also seen soaring within 1 km northeastward of the former flock. Since none of the birds from the first flock were seen soaring or flying in the direction of the second flock, we are confident that the birds were not double counted.

Those feeding on the ground were in a tansy mustard (*Descurainia*)-native grass-mixed small sagebrush (*Artemisia*) habitat. From what we could determine, they were feeding on an abundant locust hatch. The habitat of the immediate surrounding area consisted of barren rock structures characteristic of the Utah canyonland country and juniper (*Juniperus*) stands. Birds from the first flock that were seen to depart from the main group flew at about 300 m plus in the air in a south-westward direction. We had just seen pairs of ravens still on breeding territories, some with young in the nest, or family groups of recently fledged young (perhaps some year-old groups) about 14–25 km to the west closer to the Canyonlands National Park.

The cumulative data from this observation suggest the following information relative to the initially stated questions. Because of the date, these were not from wintering flocks, unless such flocks remain together long after the start of the breeding season, in which case members of the flock would consist of mainly nonbreeding birds. Because we had earlier seen pairs near nesting territories and

¹Data gathered while on Agreement 12354-TSA-1 to Bechtel Group, Inc. Department of Zoology, Brigham Young University, Provo, Utah 84602.
²College of Physical and Mathematical Sciences, Brigham Young University, Provo, Utah 84602.

also postnesting groups, it is likely that the flocks we saw were nonbreeding or certainly postbreeding individuals. The presence of the foraging flock below the soaring birds suggested that soaring not only may have a social or play function, but also an information transfer function. The soaring flock may provide information on food sources as suggested for the idea of "centers of information" in soaring vultures and eagles (Ward and Zahavi 1973, Sherrod et al. 1977). If the latter explanation is reasonable, then some of the birds may be assumed to be members of pairs within commuting distance of the food source. Because of the density of breeding pairs over the distance that such communication could be effective, it seems unlikely that more than 100 of the individuals could have been from breeding territorial birds. Lastly, if these flocks constituted nonbreeding social flocks in the sense of those described by Stiehl (1978), their roosting sites would need to be on cliffs, within the juniper forest, or perhaps on some distant electric power pylon as recently observed by K. Steenhof (pers. comm.).

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