

Diurnal feeding periodicity of juvenile Mallards.—Brood activity of Mallards (*Anas platyrhynchos*) and other species of waterfowl apparently varies with time of day. For example, Diem and Lu (1960. *J. Wildl. Mgmt.*, 24:113-133) counted more broods (and adults) of Mallards, plus other "motile puddlers," in 5:30 AM than 9:30 AM and 1:30 PM censuses. Also, broods of Ring-necked Ducks (*Aythya collaris*) and Canvasbacks (*A. valisineria*) were reported most active in morning and evening by Mendall (1958. *Univ. Maine Bull.* 16, 317 pp.) and Hochbaum (1944. *Amer. Wildl. Inst.*, 201 pp.) respectively.

I observed diurnal peaks in the activity of Mallard broods which appeared to be correlated with feeding activity. The number of food items was greater in the stomach contents of

TABLE 1
MEAN NUMBER OF FOOD ITEMS OCCURRING IN GULLET-GIZZARD SAMPLES OF MALLARDS ON
THE BEAR RIVER MIGRATORY BIRD REFUGE, UTAH, IN 1961

	Morning (7:45-11:30 AM)	Afternoon (2:00-3:30 PM)	Evening (5:05-7:45 PM)
Age class of ducklings: ¹			
Class Ia (1-6 days old)	—	124 (9) ²	184 (13)
Class Ib (7-12 days old)	211 (6)	76 (10)	276 (5)
Class IIa (19-25 days old)	—	28 (3)	268 (6)
Class IIb (26-35 days old)	306 (2)	127 (4)	421 (4)

¹System of aging used by Gollop and Marshall (1954. *Miss. Flyway Council Tech. Sec.*, 14 pp.).
²Number of ducklings examined.

juveniles collected in the evening than in those taken in the afternoon (Chura, 1961. *Trans. N. Amer. Wildl. Conf.*, 26:121-134). Subsequent data on the contents of gullet-gizzard samples from four age classes of juvenile Mallards also indicate greater food consumption in the evening than in the afternoon. Furthermore, birds in two of these age classes also showed the tendency for greater food consumption in the morning as well (Table 1).

The gizzards of all the sampled birds contained food. Freshly ingested food items occurred in most gullets of the birds collected in the afternoon. Young Mallards apparently did not refrain from feeding altogether, but simply fed more sparingly in the afternoon. Thus, an early manifestation of diurnal peaks of feeding exhibited by adults exists in juvenile Mallards. This periodicity in the activity of non-flying young may be likened to the field-feeding flights of adults which appear to be concentrated into morning and late afternoon or evening hours as reported and discussed by Bellrose (1944. *Ill. Nat. Hist. Surv. Bull.* 23:327-372), Hochbaum (1955. *Univ. Minn. Press, Minneapolis*, 301 pp.), Bossenmaier and Marshall (1958. *Wildl. Monog.* 1, 32 pp.) and Winner (1959. *J. Wildl. Mgmt.*, 23:197-202).—NICHOLAS J. CHURA, *Utah Cooperative Wildlife Research Unit, State University, Logan, Utah, 10 March 1962.*