

berries valued at \$4 a bushel. Stomachs of birds collected in the blueberry fields of Maine have been largely filled with these berries. The late Lt. Robert C. McClanahan (U. S. Biol. Surv. Wildlife Leaflet 141, 1939) described such depredations and outlined a program of prevention and control.

As further evidence that various species of gulls sometimes deliberately choose vegetable foods, the following data are cited from the extensive food-habits files of the United States Fish and Wildlife Service:

Species of gull	Locality	Date	Food	Per cent of volume
Herring	Petit Manan, N. B.	Aug. 2, 1928	107 blueberries	93
	New York, N. Y.	Dec. 1, 1930	Bread garbage	100
	Los Angeles, Calif.	Oct. 20, 1926	Pear peelings	48
Glaucous	Greenland	Aug. 13, 1932	Kelp and other algae, moss plant fiber	9
			Seedheads of <i>Alopecurus alpinus</i> and other grasses	60
	Juneau, Alaska	Jan. 11, 1920	Apple pieces	22
			Gall cases and other vegetable food	8
	St. Paul I., Alaska	April 18, 1915	Marine algae	100
Short-billed	Hayward, Calif.	Feb. 7, 1904	Marine algae	70
Ring-billed	Klamath Falls, Ore.	July 21, 1930	Leaves, flowers, seeds of <i>Bromus</i> , <i>Avena</i> , <i>Echinochloa</i> , <i>Polygonum</i> , and <i>Trifolium</i>	49
	Athabaska Lake, Canada	Aug. 29, 1920	130 seeds of crowberry (<i>Empetrum</i>)	1
	Bear River, Utah	May 29, 1915	Seeds, plant fiber of sago pondweed	85
	Napoleon, N. D.	July 19, 1915	15 seeds of bulrush	2
Bonaparte	Los Angeles, Calif.	Oct. 20, 1926	Fragments of apple, corn, and tomatoes (garbage)	40
	Lake Erie, Ohio	Nov. 28, 1922	Fragments of tubers	95
	Lake Erie, Ohio	Nov. 28, 1922	Leaves and tubers	11
Franklin	Shoal Lake, Man.	June 5, 1917	Oat kernels	30
	Stump Lake, N. D.	May 11, 1894	Wheat kernels and hulls	74
	Stump Lake, N. D.	May 11, 1894	Wheat kernels and hulls	75
	Heron Lake, Minn.	May 19, 1899	Lemnaceae plant fiber	10
	Napoleon, N. D.	July 17, 1915	Grass plant fiber	10

—CLARENCE COTTAM, *United States Fish and Wildlife Service, Chicago, Illinois, February 19, 1944.*

A Secondary Function of the Gular Pouch of the White Pelican.—The extensive bag-like sac associated with the bill of the White Pelican (*Pelecanus erythrorhynchos*) serves primarily as a scooping device enabling these birds to forage effectively for fish. Being continuous at its base with the large and distensible gullet, any food scooped up slides down the alimentary canal if the bill is tilted upward even slightly. Another feature about the bill and pouch is that the young in feeding can insert their heads into the bill and part way down the gullet of the adult and ingest partially digested food which the adult brings up. A possible secondary function of this large pouch structure is suggested by the following observations made by the writer at Gunnison Island, Great Salt Lake, on May 29, 1943.

The nesting season was well along and very few eggs were seen. For the most part adults were standing over and shading young. At some colonies, however, the young were gathered in groups, having left the nesting sites. It was a hot day and young and adults alike were "panting"; that is, they were holding their bills slightly open and were rapidly vibrating their gular pouches. I had noticed this behavior on previous visits to pelican colonies but had not attached any special significance to it. I thought it was possibly a nervous reaction because of our presence. However, on this occasion a breeze came up which had a cooling effect noticeable to the writer and significantly, the vibrating of the pouches of most of the adults ceased and to a large extent the same was true in the young. It then occurred to me that this vibration of the gular pouch was probably similar in function to the cooling device of dogs, when, after great exertion or in hot weather, they pant and "drool" with accompanying dilation of the tongue and oral area. As substantiating evidence it was observed that the tissue making up the gular sac of the pelicans was somewhat transparent and in the strong light it could be seen that the walls were highly vascular. While the pelicans were vibrating the pouches, the blood vessels appeared as prominent dark streaks in clear surroundings.

From these field observations it would seem that the pelicans have a rather unusual device for cooling the blood stream and for temperature regulation. Physiological studies may show this inference to have some merit.—WILLIAM H. BEHLE, *University of Utah, Salt Lake City, Utah, December 1, 1943.*