# Migration

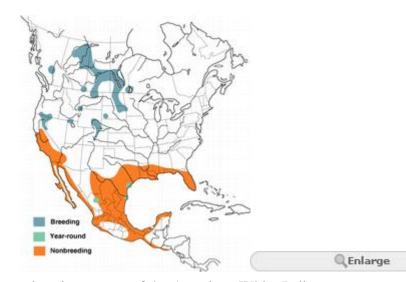


Figure 1. Breeding and

wintering ranges of the American White Pelican.

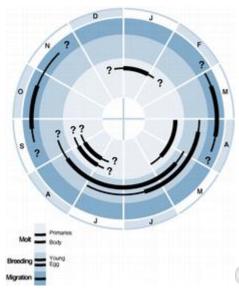


Figure 3. American

Enlarge

White Pelican annual cycle.

#### **Nature Of Migration In The Species**

Annual, except for birds breeding in Texas (<u>Chapman 1988</u>) and Mexico, which are resident (<u>Fig. 1</u>). Some migrate to breeding colonies at age 2 yr, before breeding age (<u>Miller 1977</u>), and apparent nonbreeders may occur within breeding range (<u>Stepney 1987</u>). Some remain on winter range, with stragglers well beyond normal range (<u>Palmer 1962</u>). Freezing of lakes and rivers over northern breeding range necessitates southward winter migration.

### **Timing And Routes Of Migration**

Populations breeding east of the Rocky Mountains migrate primarily southward and eastward towards the Gulf of Mexico coast, occasionally recorded from inland and west coast of Mexico (Houston 1970, 1972, Ryder 1981). Populations breeding west of the Rocky Mountains move primarily southward to California and the west coast of Mexico, rarely eastward to Gulf Coast (Behle 1958, U.S. Fish and Wildlife Service 1984). These generalizations have the exceptions of birds from the Molly Islands of Yellowstone Lake (Diem and Condon 1967) and Canyon Ferry and Arod colonies of western Montana (Hendricks and Johnson 2002) actually crossing the continental divide to winter mostly along the Pacific rather than Atlantic coastline.

Arrival of spring migrants abrupt and regular, early Mar in Utah (see Fig. 3; Behle 1958). Last arrival dates uncertain. Arrivals late Feb and early Mar common in Nevada (Alcorn 1943), delayed until late Apr to May at Yellowstone Park, nw. Wyoming (Schaller 1964). Birds usually return to Canadian breeding grounds before lakes are free of ice but when rivers have some open water for foraging (Vermeer 1970). First arrivals in Manitoba during the first 2 wk of Apr, most arriving 15 Apr to early May (RME).

Autumn migration spread out (see <u>Fig. 3</u>), local dates uncertain owing to transients from other areas (<u>Behle 1958</u>). In Utah, stragglers of unknown origin noted on foraging grounds until 19 Dec (<u>Low et al. 1950</u>). Compressed departure reported for Yellowstone, from 5 to 15 Sep (<u>Behle 1958</u>), suggesting an effect of temperature.

# **Migratory Behavior**

In flocks of varying size up to at least 180 (<u>Behle 1958</u>), diurnally in formations except when making use of energy saving thermals on sunny days (see Behavior: flight). Sexes migrate together, may stop overnight and continue on the next morning (spring migrants, East Shoal Lake, Manitoba; RME).

## **Control And Physiology Of Migration**

No information.

#### **Habitat Systematics**

**Recommended Citation** 

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