

## Western Ecological Research Center

# Publication Brief for Resource Managers

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**Contact:**

Michael Miller

**Phone:**

707-678-0682 x618

**Email and web page:**

michael\_r\_miller @usgs.gov

<http://www.werc.usgs.gov/dixon/miller.asp>

Dixon Field Station, USGS Western Ecological Research Center, 6924 Tremont Road, Dixon, CA 95620

## Spring Migration of Northern Pintails Assessed with Satellite Telemetry

Little is known of the migration routes, timing, and destinations of northern pintails after they depart from major wintering regions in North America. USGS scientists Michael Miller, Dr. John Takekawa, Dr. Joe Fleskes, Michael Casazza, and Dennis Orthmeyer, and U.S. Fish and Wildlife Service biologist David Haukos, conducted studies using satellite telemetry to obtain this information. The scientists attached 26 g back-mounted, satellite-received radio tags (platform transmitting terminals; PTTs) to adult female pintails during (1) midwinter 2000–2003 in the northern Central Valley of California, (2) fall and winter 2002–2003 in the Playa Region and Gulf Coast of Texas, and (3) early fall 2002–2003 in southcentral New Mexico. They tracked migrating pintails from these wintering areas to stopover locations and ultimate nesting regions. Results of these studies have been published in recent issues of several scientific journals.

Most tagged pintails departed their respective wintering areas during late February to late March. From 77–87% of those from California stopped first in the region of southcentral Oregon, northwestern Nevada, and northeastern California (SONEC). They then used migration strategies characterized by length of stay in SONEC and subsequent destinations: (1) extended stay in SONEC, migrated in late April or early May directly to Alaska over the Pacific Ocean (7–23% of tagged pintails annually) with some moving on to eastern Russia; (2) same timing as (1), but flew to Alaska along the Pacific Coast using stopovers (0–28% annually); (3) moderate period in SONEC, flew directly to primarily Prairie Canada in late March to mid April (17–39% annually), with many moving to northern Canada or Alaska; or (4) short period in SONEC, migrated to southern

### Management Implications:

- SONEC is a critical spring staging area for a vast majority of pintails migrating from the Central Valley – its importance and value cannot be overestimated.
- Ultimate nesting destination of California pintails varies by migration strategy, each of which is a function of route, use of subsequent stopovers, and timing of departure.
- We detected no major spring staging areas used by large numbers of Texas or New Mexico pintails equivalent to that provided by SONEC for California pintails.
- Alaska was a major nesting destination only for California pintails.
- Southern Canada nesting destinations were shared by pintails from all winter areas.
- Unprotected spring staging areas need to be included in conservation programs and managed to insure their availability to migrating pintails in perpetuity.

Canada in early to late March via >1 stopovers primarily in southern Idaho and western Montana (32–50% annually), with some moving to northern Canada or Alaska. Pintails that bypassed SONEC used these same strategies or moved easterly to the mid-continent.

Pintails migrating from New Mexico, tended to first continue south into Mexico before starting spring movements northward. Texas pintails tended to migrate straight north through Oklahoma, Kansas, and Nebraska to the Dakotas and southern Canada. Some tagged pintails from all 3 winter areas settled in similar

areas of southern Canada, but only California pintails migrated to Alaska in large numbers.

We obtained an average migration groundspeed of 77 km/hr for tagged pintails, which declined in head winds and increased in tailwinds. Airspeed averaged 71 km/hr in head winds and 55 km/hr in tailwinds.

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Composite map showing the migration routes of adult female pintails tracked by satellite in 2003 from wintering areas in California, New Mexico, and Texas. Map: USGS.



Adult female pintail fitted with a satellite transmitter and ready for release at Llano Seco National Wildlife Refuge in California. Photo: J. Fleskes, USGS.