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## STATUS OF GOLDEN EAGLES IN THE TEXAS PANHANDLE

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The status of the Golden Eagle (*Aquila chrysaetos*) has become increasingly uncertain across its range, but the prevailing opinion is that declines of the species have been widespread (Bechard and McGrady 2002). The Golden Eagle was once considered common and its populations stable throughout much of North America (Bent 1937, Hamerstrom et al. 1975). However, the species has become exceedingly rare in the eastern United States (Kochert et al. 2002), and some nesting populations have declined in the western United States (Kochert and Steenhof 2002). Migration counts also suggest concern is warranted for the species in western North America (Hoffman and Smith 2003, but see McCaffery and McIntyre 2005).

Golden Eagles were persecuted in western Texas during the last century. The suspected depredation of sheep by Golden Eagles led to an estimated annual kill of more than 1000 eagles per year in western Texas; however, this level of predator control mortality elicited conservation concern for the species as early as 1964 (Spofford 1964). Indeed, the extensive aerial gunning of Golden Eagles in western Texas and eastern New Mexico contributed to the 1962 amendment of the Bald Eagle Protection Act of 1940 to include Golden Eagles (Boeker 1974). Subsequently, ground transect surveys in winter and early spring suggested Golden Eagle numbers appeared stable from 1967 to 1970 in western Texas (Glover and Heugly 1970), although these data may have included migrant eagles, or eagles emigrating from elsewhere.

Little current information is available regarding populations of Golden Eagles in Texas (Kochert et al. 2002). The most recent data, derived from surveys in the Trans-Pecos (western) and Panhandle (northern) regions of Texas in 1980–83, led the authors to consider the Texas population as stable (Rideout et al. 1984). However, given the uncertain status of population trends throughout the Golden

Eagle's range (e.g., Bechard and McGrady 2002, Kochert et al. 2002), the increasing number of requests for depredation and other take permits, and mortality due to electrocution and collision with wind power turbines, an assessment of the species' population in the Texas Panhandle seemed prudent. We here report results of our survey of breeding Golden Eagles in the Panhandle region of Texas. Our objectives were to (1) survey a section of the Caprock Escarpment of the Texas Panhandle that was known to be occupied by multiple eagle pairs, (2) visit historical Golden Eagle nesting areas elsewhere in the Texas Panhandle, to the extent possible, and (3) compare current nest occupancy rates to those from the early 1980s.

### STUDY AREA

Our surveys were conducted in areas of the Panhandle of Texas encompassed within, approximately, the latitudes of 34°00'S and 36°00'N and longitudes of 100°40'E and 103°00'W. The western part of this area is within the High Plains ecoregion, and the eastern part is the lower-elevation Rolling Plains ecoregion (Gould et al. 1960). The High Plains were once covered by shortgrass prairie, but have been extensively converted to agricultural crop production. Open grazing is still practiced in many areas and some lands are enrolled in the Conservation Reserve Program. The Rolling Plains are characterized by generally rolling terrain with large amounts of grazing lands, mesquite scrub, and grasslands. Land in the Panhandle is primarily privately owned, which necessitated obtaining permission to access numerous private holdings for ground-based surveys.

Separating the High Plains from the Rolling Plains is the Caprock Escarpment, a steep region of cliffs and canyons stretching from approximately Fluvanna, Texas, northward to the Canadian River. The escarpment is an abrupt elevation change from 30 m to over 300 m. Along the escarpment are numerous undulating side canyons. The steep sides of the escarpment consist of banded layers of

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