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16. Abstract This report presents the results of surveys from 29 March through 11 May 1994 for foraging by bald eagles near the proposed FM 3278 bridge site below the Lake Livingston dam. Although a pair of eagles nested at an airport northeast of the proposed site, our surveys revealed no foraging of bald eagles at or near the bridge site in the thirty days of surveys. We believe this lack of foraging activity is due to the location of the nest.			
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**FORAGING OF BALD EAGLES AT A PROPOSED
BRIDGE SITE NEAR LAKE LIVINGSTON**

by

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Research Report 1990-2F
Research Study Number 7-1990, Task 19
Research Study Title: Nesting of Bald Eagles in Lufkin District

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IMPLEMENTATION STATEMENT

This report presents the results of surveys conducted between 29 March and 11 May 1994, on foraging behavior of bald eagles at or near the proposed FM 3278 bridge site in San Jacinto and Polk counties. In 30 days of field work, no bald eagles appeared in the area of concern. We believe this relates to the placement of the active eagle nest at an airport to the northeast of the proposed bridge site. This study will serve as a response to the U.S. Fish and Wildlife Service stated concerned about possible effects of the bridge construction on the foraging behavior of the resident bald eagles.

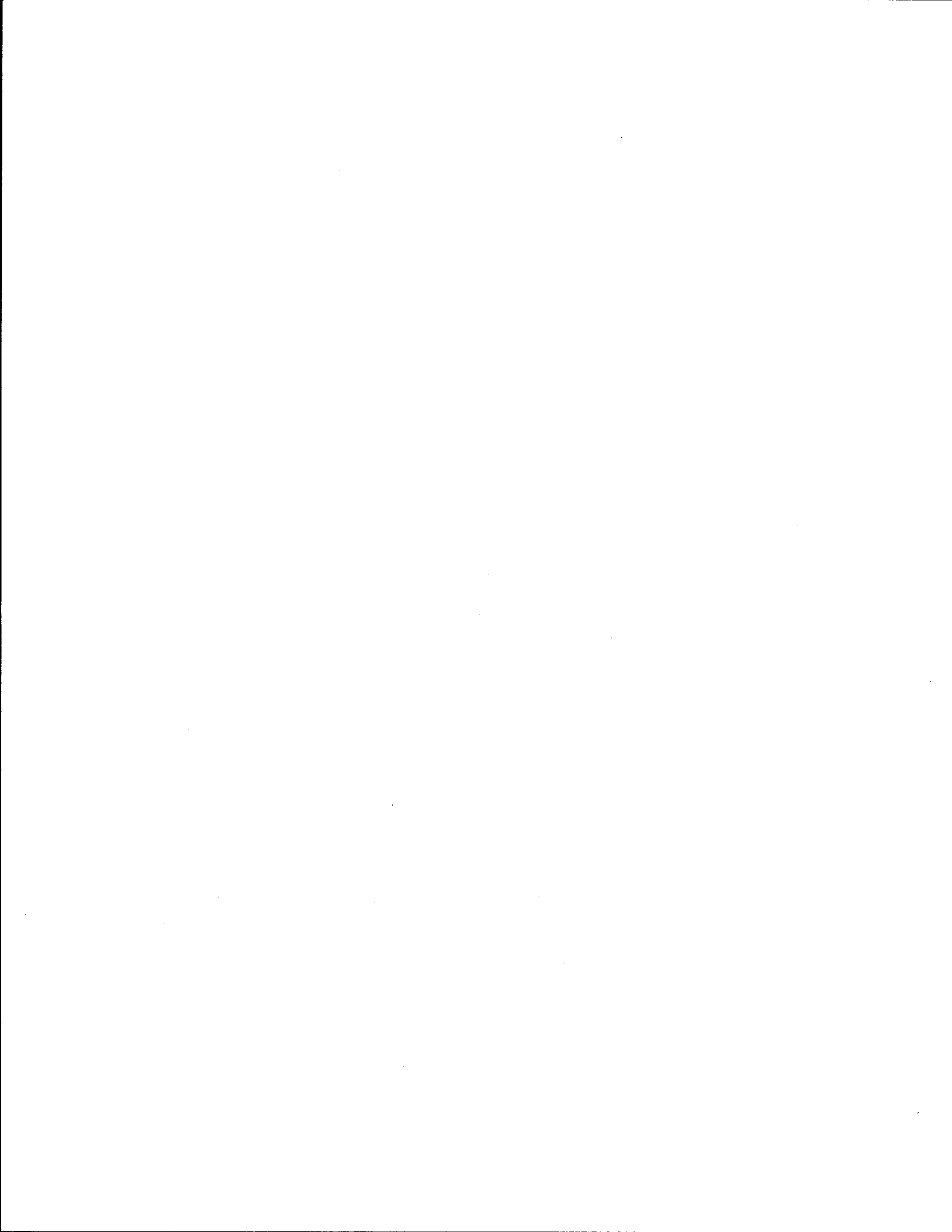


DISCLAIMER

The contents of this report reflect the views of the authors who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official view or policy of the Texas Department of Transportation. This report does not constitute a standard, specification, or regulation.

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INTRODUCTION

Based on questions raised by the Huntsville Audubon Society, particularly as to the impact of building the FM 3278 bridge on foraging by bald eagles (*Haliaeetus leucocephalus*) along the San Jacinto river at and below the Lake Livingston dam, the U.S. Fish and Wildlife Service (USFWS), in formal consultation with the Corps of Engineers, required that the Texas Department of Transportation (TxDOT) submit information on foraging activity in the areas of concern. The Lufkin District office of TxDOT contracted with this department, through the Texas Transportation Institute, to carry out surveys within the areas of concern from late March through mid-May, the latter stages of nesting for the eagles. This report summarizes the results of the surveys.

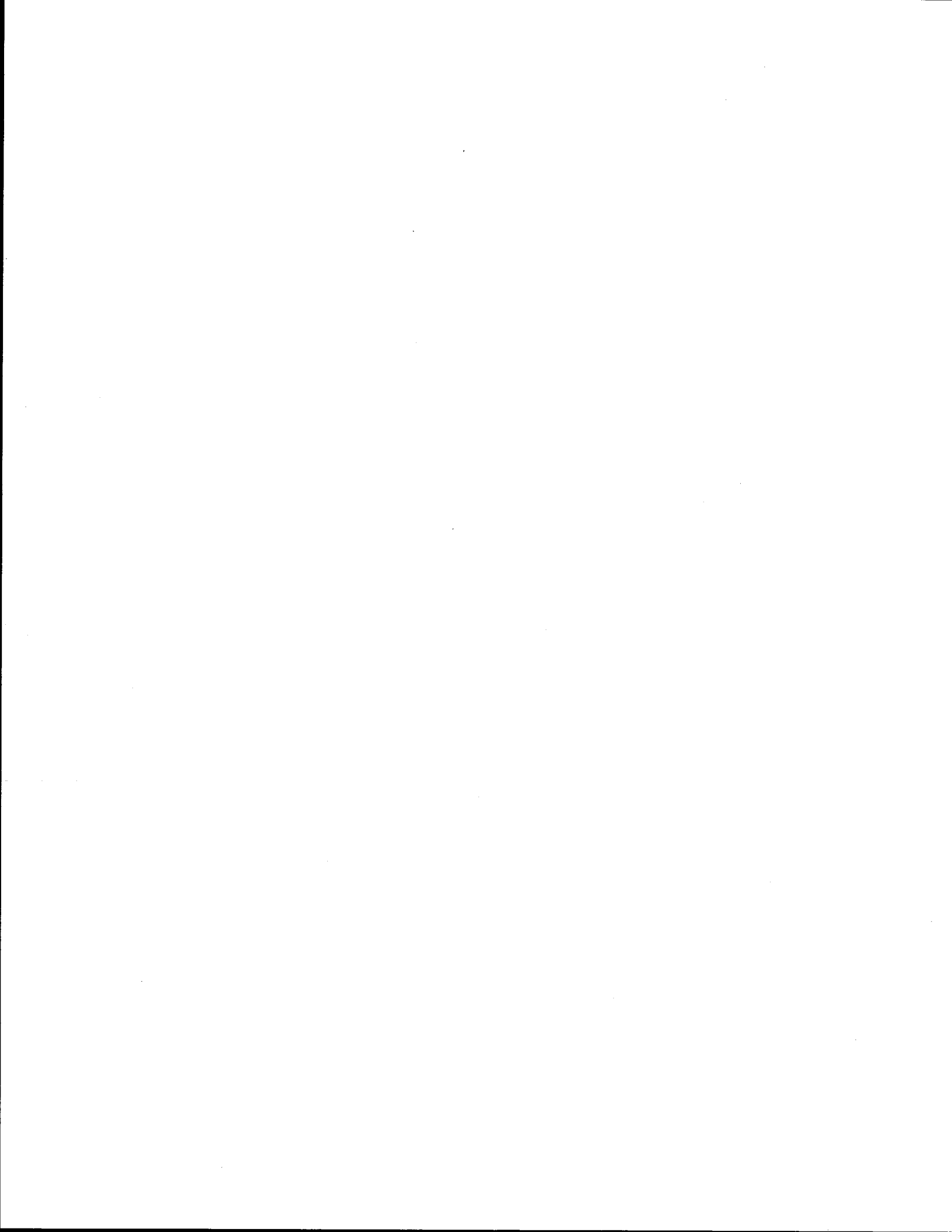


STUDY METHODOLOGY

We initiated surveys on 29 March, with 11 May as the last day in the field (Table 1). The field observer, G. D. Hodge, worked at the six sites designated by Dan Jones of the Huntsville Audubon Society in a letter to the USFWS dated 17 November 1993. Hodge spent eight hours each day in the field, working in three to five of the six sites. Over the entire observation period, he attempted to spend an equal amount of time at each site and visited the areas in a manner to minimize any bias due to time of day.

The bald eagles were nesting at the airport site, and Hodge visited the site at irregular intervals to determine the status of the nesting attempt. The nest contained two eaglets on his first visit. He last saw two eaglets at the nest on 4 May, and one on 11 May.

Table 1 summarizes the dates and times of visit to each of the six study areas.



RESULTS

During the surveys, Hodge observed the adult eagles *away* from the nest on all but one occasion: on 31 March, while working in site 2, he observed an adult eagle fly out over the lake northeast of the dam, and at some distance. The bird circled some trees far east of the Trinity river before it flew north towards the general vicinity of the nest, where it was joined by the second adult. Both birds then flew in the general direction of the airport. Hodge did not see either bird foraging.

In thirty days of observation, Hodge did not encounter an eagle *on or near* any of these sites. Given that Arnold and Wilson (1992. Final report: Nesting Bald Eagles at Lake Livingston. Unpublished contract report to TxDOT) *did* report regular encounters with the eagles below the Lake Livingston dam, the only explanation that seems to fit both observation periods would be the nest location. In 1992 the eagles nested on the Laruent property (river nest) and in 1994 at the airport site. In our opinion, the adult eagles forage at sites in proximity of the nest to maximize feeding of the young. Thus, unless, these eagles establish a new nest near the river, they will not likely forage in this area. In reviewing the 1992 study, eagles foraging or loafing below the dam seemed to pay little attention to humans fishing in that area. Based on the current surveys and the behavior of the eagles in 1992 towards humans, we do not believe that construction of the FM 3278 bridge will seriously affect the eagles.



**Table 1. Days and Observation Times for Bald Eagles at and Below the
Lake Livingston Dam, San Jacinto/Polk Counties, Texas**

DATE	LOCATION					
	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
3-29	1506-1600	1307-1350	1416-1454			
3-30	0845-0933	0735-0832		1000-1055		
3-31	1339-1426	1226-1330	0800-0900	0910-1000		1010-1100
4-1	1513-1600	1409-1500	1620-1700		0638-0830	
4-2		1101-1200	0852-1000 1435-1530	1341-1430	1538-1630	
4-6	1625-1900		1410-1600	0930-1130	0700-0900	1150-1350
4-7	1026-1126	0915-1015 1232-1330	1810-1900	1607-1800		1411-1600
4-8	0945-1145 1307-1500	1200-1300	0830-0930 1730-1825	1625-1725	1830-1930	1521-1621
4-9		1346-1446	1132-1335	0923-1125	1453-1700	
4-11	1100-1200	0843-1043				1230-1430
4-12	1325-1526		1213-1313	1100-1200	1530-1630	0845-1045
4-13	0920-1020	1130-1330	1545-1645		1335-1535	
4-14	1430-1600			1305-1405	0820-1020	1100-1300
4-16			0838-1038	1047-1247	1521-1721	1257-1457
4-18	0920-1325	0710-0810	1603-1903	1600-1800		1350-1550
4-19	1430-1800	1223-1423	1115-1215		0900-1100	

DATE	LOCATION					
	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
4-20	1506-1707	1710-1910	-200	1040-1240		0730-1030
4-21	1307-1508			1040-1240	0820-1020	
4-25			1535-1835	1325-1525		1110-1310
4-26	1240-1542	1035-1235			0830-1030	
4-27	1410-1910		1300-1400	1050-1250		
4-28	1230-1630	1015-1215			0810-1010	1700-1900
4-29			1110-1210	0900-1100		
5-3	1530-1730		1320-1520	1100-1300	0830-1030	
5-4	1020-1420	0815-1015		1445-1745		
5-5			1140-1440		0830-1130	
5-6	1630-1930					
5-7		0735-0935	0945-1145	1155-1355		1422-1722
5-9	1330-1510				1120-1320	
5-10		0830-1030		1452-1552		1130-1430
5-11	1430-1530		1216-1416	1110-1210	0850-1050	