

**JOB PROGRESS REPORT
RESEARCH PROJECT SEGMENT**

STATE: Territory of Guam

PROJECT NO.: W-1R-5
SUB-PROJECT NO.: W-1
STUDY NO.: 2
JOB NO.: 1

JOB TITLE: Population Size and Distribution of Wild Pigs on Guam (1460)

PERIOD COVERED: October 1, 1996 to September 30, 1997

SUMMARY

Examination of hunter logs for Andersen Air Force Base (AAFB) revealed a total of 5,369 hunter sorties, a harvest of 412 pigs, and a harvest rate of one pig per 5.5 hunter-days. On Naval Computer and Telecommunications Area Master Station (NCTAMS), there were 1,070 hunter sorties, a take of 45 pigs, and a harvest rate of one pig per 10.3 hunter days. Harvest data were not available for other parts of Guam.

BACKGROUND

Wild pigs (*Sus scrofa*) are Guam's most important game species in terms of total numbers of animals harvested. This species has been studied by the Division of Aquatic and Wildlife Resources (DAWR) since 1967 (Conry 1988, DAWR 1967-1996). The island's wild pig population is descended from domestic *S. scrofa* introduced by the Spanish from the Philippines between 1672 and 1685. Wild pigs are found islandwide, but appear to be most numerous in the secondary limestone forests of the north and the ravine forests of southern Guam. Pigs occur at high enough densities in many forested areas that rooting and wallowing damage is common and can be quite severe locally. Depredation on agricultural crops is also a problem, especially in southern Guam. Controlling the effects of pig damage is recognized as an important measure to protect native forest and agricultural resources. Recreational harvest is the primary tool used to control pig numbers and current hunting regulations allow for a year-round season with bag limits of 2 pigs per day and 40 per year. There is a need to consider more liberal regulations to control pig populations island-wide and in localized areas.

OBJECTIVES

To monitor trends in pig population size and hunter participation and harvest.

PROCEDURES

1. Monitor hunter participation and harvest during the legal hunting season.

2. Collect biological data from animals killed during the hunting season and from incidental sources such as road kills or confiscated animals.

RESULTS

Pig Hunting Statistics

Hunter questionnaires were discontinued in FY96 because of a lack of manpower and low return rates, which may have resulted in biased sampling of the hunter community. Proposed revisions to hunting regulations may remedy this problem by requiring hunters to complete a questionnaire for the previous season prior to purchase of a new license.

Records of hunting activity and harvest were kept by officials at AAFB and NCTAMS during the year (Table 1). According to hunter logs from AAFB, 2,287.7 hunter-days (3,868 sorties; gun hunting only) were expended at Northwest Field and resulted in the harvest of 268 pigs. Hunting areas on the main portion of the base (Munitions Storage Area, Tarague basin, and areas near the landfill and to the north and east of the flightline) recorded 564 hunter-days (1,396 sorties; primarily bow hunting), with 136 pigs killed. At Andersen South, 33.5 hunter-days (105 sorties; bow hunting only) were registered, with 8 pigs taken. At NCTAMS, a minimum of 464.3 hunter-days (1,070 sorties) were expended, with a kill of 45 pigs. These records indicate a total harvest of 457 pigs on military lands.

Table 1. Hunter effort and wild pigs taken on Andersen Air Force Base and Naval Computer and Telecommunications Area Master Station (NCTAMS) during FY '97, based on official hunter logs.

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Total
Andersen Air Force Base													
<u>Northwest Field</u> (gun hunting only)													
No. hunter sorties	732	685	728	92	109	191	147	141	155	166	2	720	3868
No. hunter days (8 hr)	452.1	396.1	498.0	39.9	45.5	72.1	59.3	56.8	65.9	75.3	1.0	525.7	2287.7
Pigs taken	31	32	46	8	19	24	20	19	13	22	0	34	268
Days effort/take	14.6	12.4	10.8	5.0	2.4	3.0	3.0	3.0	5.1	3.4	-	15.5	78.2
<u>Main Base</u> (primarily bow hunting)													
No. hunter sorties	126	195	224	70	19	62	55	67	58	85	100	335	1396
No. hunter days (8 hr)	47.0	72.1	86.9	26.4	7.3	25.3	22.3	28.0	27.0	38.3	42.8	140.6	564
Pigs taken	8	9	6	13	4	13	11	12	12	13	20	15	136
Days effort/take	5.9	8.0	14.5	2.0	1.8	1.9	2.0	2.3	2.3	2.9	2.1	9.4	55.1
<u>Andersen South</u> (bow hunting only; closed October-April)													
No. hunter sorties	-	-	-	-	-	-	-	19	11	33	16	26	105
No. hunter days (8 hr)	-	-	-	-	-	-	-	7.1	2.9	9.4	6.0	8.1	33.5
Pigs taken	-	-	-	-	-	-	-	1	2	0	2	3	8
Days effort/take	-	-	-	-	-	-	-	7.1	1.5	-	3.0	2.7	14.7
NCTAMS (gun and bow hunting; closed June 3-September 30)													
No. hunter sorties	205*	136	197	135	138	97	73	81	8	-	-	-	1070*
No. hunter days (8 hr)	85.9*	59.5	86.2	59.1	60.4	42.4	31.9	35.4	3.5	-	-	-	464.3*

Pigs taken	5*	8	11	4	6	6	4	1	0	-	-	-	45*
Days effort/take	17.2*	7.4	7.8	14.8	10.1	7.1	8.0	8.9	-	-	-	-	81.3*

*data incomplete for first 10 days of September

Survey Results

In November, staff of the DAWR assisted the U.S. Fish and Wildlife Service with a large mammal survey of Ordnance Annex (Walker et al. 1996). Survey methodology replicated that used by Biosystems Analysis Inc. (1989) in a previous study. In contrast to deer (*Cervus mariannus*) and carabao (*Bubalus bubalis*), transect results showed a no increase ($P = 0.828$) in pig sign from 1989 to 1996. Pig sign was most common in degraded ravine forest habitats.

RECOMMENDATIONS

Continue to monitor the annual pig harvest and hunter participation. Coordinate accurate record keeping and reporting of hunter effort and harvest at military bases.

PROGRAM COST

The estimated cost of the wild pig project under W-1R-5 is \$37,000.

LITERATURE CITED

- Biosystems Analysis, Inc. 1989. Natural resources survey for the U.S. Naval Magazine, Guam (NavMag). Naval Facilities Engineering Command, Pearl Harbor, Hawaii.
- Conry, P. J. 1988. Ecology of the wild (feral) pig (*Sus scrofa*) on Guam. Tech. Rept. No. 7. Div. Aquatic and Wildl. Res., Dept. Agric., Mangilao. 60 pp.
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- Walker, R., G. J. Wiles, J. M. Morton, M. R. Lusk, and A. P. Marshall. 1996. Large mammal surveys on the Ordnance Annex. pp. 109-131 in U. S. Fish and Wildlife Service. Faunal survey for the Ordnance Annex, Naval Activities, Guam. U.S. Fish Wildl. Serv., Honolulu, Hawaii.

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