

**PENNSYLVANIA GAME COMMISSION
BUREAU OF WILDLIFE MANAGEMENT
RESEARCH DIVISION
ANNUAL PROJECT REPORT**

PROJECT CODE NO.: 06110

TITLE: Survey and Statistical Support

PROJECT JOB NO.: 11101

TITLE: Game Take and Furtaker Surveys

PERIOD COVERED: 1 July 2004 to 30 June 2005

COOPERATING AGENCIES: Bureau of Automated Technology Services (BATS), Bureau of Administrative Services

WORK LOCATION(S): Harrisburg, Pennsylvania

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Abstract: A questionnaire has been mailed annually, to a random sample of purchasers of a general hunting license to estimate number of hunters, harvest, and hunter-days of small game species during the hunting season. A separate questionnaire has also been annually mailed to a random sample of purchasers of a furtaker license to estimate harvest of furbearer species and trapper-days. Junior and senior combination license holders are not included in the furtaker sample, thus some furtakers are not included in survey estimates. Due to budget cuts, the Game Take and Furtaker surveys were not conducted during 2004-2005.

OBJECTIVES

1. To estimate the number of animals harvested, number of participants, and number of days spent hunting (hunter-days) for small game species during hunting season.
2. To estimate the number of furbearers trapped or shot and number of trappers/hunters during the furbearer seasons.
3. To monitor long-term trends in harvest, number of hunters and trappers, hunter-days, and harvest per 100 hunter-days.

METHODS

In March, following the close of trapping and small game hunting seasons, the names and addresses of general hunting license buyers whose license number end in either 01 or 51, and furtakers whose license number ended in either 1 or 6, were drawn from the duplicate licenses on file in the License Division of the Bureau of Administrative Services and from the electronic file of over the counter (OTC) sales. Photocopies of the duplicates and the OTC file were used by BATS to prepare the mailing list. BATS and Bureau of Administrative Services addressed and mailed the Game Take

questionnaires and Furtaker questionnaires. In addition to the initial mailing, 2 follow-up mailings were sent to non-respondents of the Game Take Survey and 1 follow-up mailing was sent to non-respondents of the Furtaker Survey.

Respondents to the Game Take Survey were post-stratified on the basis of whether or not they had purchased special licenses or stamps, to reduce the effect of non-response bias on estimates (see Shope 1985).

Total harvest, number of participants, hunter-days, and harvest per 100 hunter-days were estimated by species based on the total number of general hunting licenses sold for the Game Take Survey, and the total number of furtaker licenses sold for the Furtaker Survey. Trends are estimated over time using Pearson product-moment correlation coefficients.

In addition to the harvest and participation estimates, bobcat and fisher sightings by archery and firearms deer hunters and spring turkey hunters were included to monitor distribution and range of these species. These results are presented in furtaker and bobcat population and management reports. Previously, questions have been asked to assess hunter support for a number of proposals.

RESULTS

No activity was conducted in 2004-2005 due to budget cuts.

RECOMMENDATIONS

1. The Game Take and Furtaker Surveys are the best source for harvest and participant data; thus, continuing these surveys is strongly recommended.

2. Major changes to the Game Take and Furtaker Surveys will need to be instituted when more efficient sampling of license buyers, such as a computerized licensing system, is possible. Implementing a computerized licensing system would allow samples to be stratified by license type and location of residence, and would provide more accurate and precise harvest estimates. A computerized licensing system would allow us to survey hunters much sooner after hunting seasons ended, which has been shown to result in more accurate estimates of harvest and hunter participation (e.g., Barker 1991). Phone calls to obtain estimates of harvest and hunting effort of non-respondents to the mail survey may be useful once this computerized system is implemented. Moreover, a computerized license system would provide greater flexibility in adapting sampling methods to future licensing changes.

LITERATURE CITED

- Barker, R. J. 1991. Nonresponse bias in New Zealand waterfowl harvest surveys. *Journal of Wildlife Management* 55:126-131.
- Shope, W. K. 1985. Game Take Survey. Annual Job Report. Pennsylvania Game Commission, Harrisburg, Pennsylvania, USA.