

# TRAPPERS IN NEW YORK AND VERMONT: COMPARISONS OF SOCIAL CHARACTERISTICS AND MOTIVATIONS

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Although trapping has a long history in North America, it is currently the focus of heated debate. Part of this debate concerns the reasons for trapping: is it a sport, a business, or a subsistence activity? Unfortunately, we know little about trappers, their attitudes, motivations, and personal characteristics. This paper presents the results of two trapper surveys—one in New York and one in Vermont. The results show great similarity across the trappers of both states. Muskrat and mink were the most common target species and most trappers in both states utilized foothold traps. The majority had an educational level of high school or less, and a median family income of between \$20,000 and \$30,000. These results may reflect more recreational than profit-oriented trappers, however, as many of the latter may have left trapping after several years of declining pelt prices.

## Introduction

Furbearer trapping has a long tradition in North America. Long before European exploration, Native Americans engaged in trapping activities using primitive devices such as deadfalls and babiche snares. Fur trade and furbearer trapping provided much impetus for early exploration and settlement by Europeans. Over time, steel traps and wire snares were introduced and cash outlets for furbearer pelts became available. As the Nation developed trapping of furbearers was the primary source of income for some individuals, but many others supplemented income by capturing and selling furbearer pelts. In more recent times, recreation trapping has become more prevalent.

In recent years, Northeast trapping has been affected by a number of factors. Anti-trappers have attempted, by legislation, to outlaw or modify severely trapping equipment and practices. Trapping opportunities have been diminished by both loss of habitat and rights to access as a result of commercial and residential development, shifts in land

ownership, and land use changes. Pelt prices for most furbearers also have declined substantially during the past decade. As a result of these and possibly other factors, the number of trappers in New York and Vermont have declined considerably since the early 1980's. In Vermont, the number of licensed trappers dropped from a high of 3,090 in 1980 to 879 in 1989. For New York (a state with a substantially larger population), the number of licensed trappers fell from over 32,000 in the 1981-82 season to 12,338 in the 1989-90 season.<sup>1</sup>

In order to gain a better understanding of trappers—their dependency on furbearers as a source of income, the motivations underlying participation, and their views toward various aspects of natural resource management—surveys were conducted of trappers in New York and Vermont by their respective state agencies. While the two studies were conducted independently of each other, they provide information on some of the human dimensions of furbearer trapping for two populations: one state which is essentially rural in character (Vermont) and one in which major urban centers play an important role in the socio-political climate (New York). In this paper, the similarities in and differences between these trappers are examined.

## Methods

Information on trappers in New York and Vermont was collected through two separate mail surveys conducted during separate years. During summer 1989, the Vermont Department of Fish and Wildlife, in cooperation with the U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station at Burlington, conducted a survey of individuals who procured a Vermont trapping license for the 1988 calendar year (Glass et al., in press). A questionnaire solicited information on trappers' characteristics, motivations, satisfactions, level of effort during the 1988 season, views toward the changing trapping environment, and proposed changes in regulations. The questionnaires were sent to 293 randomly selected individuals who trapped during 1988, with 151 returning completed questionnaires—a return rate of 51.5 percent.

The New York survey (Siemer et al. 1991) was conducted through a cooperative agreement between the New York State Department of Environmental Conservation (DEC), the Human Dimensions Research Unit at Cornell University, and the Northeastern Forest Experiment Station. In February 1990, a subsample of 1,000 trapper-license holders was selected randomly from a sample also taken at random of 1989-90 trapping license holders used by DEC to conduct their annual telephone survey of furbearer harvests. An initial mailing and up to three follow-up reminders to nonrespondents were mailed during the spring of 1990, producing a response rate of 73.6 percent (n=718) excluding nondeliverables and unusables.

The questionnaires used in the two states were similar but not identical. The analytical techniques employed also differed for several key areas of inquiry. For example, scales of trapper motivations were clustered using different techniques. In Vermont, the SPSS-X hierarchical-cluster analysis technique was applied to a list of motivation statements weighted by the respondents, while in New York, similar data were subjected to principal components factor analysis with varimax rotation. Different scales also were used to weight the responses from each state, but general comparisons of the results can be made.

<sup>1</sup>/ Trapping licenses are valid for the calendar year in Vermont, but from October 1 to the following September 30 in New York.

The New York questionnaire originally contained 26 motivation statements; this number was reduced to 23 in the final factor analysis in order to increase overall scale reliability (Siemer et al. 1991). The Vermont study contained 41 motivational statements. Some of the motivational statements in the two questionnaires were identical but, once again, involved different time periods and different populations.

The responses from the two states were subjected to student t-tests and Bonferroni's Correction, where appropriate, to determine if differences among sample respondents statistically were significant.

## Results

Generally, trappers in both states sought the same species of furbearers with similar intensity (Table 1). A higher proportion of New York respondents trapped beaver and raccoon, while more Vermont trappers pursued fishers, but no statistically valid inference could be made regarding differences in the total trapper populations within the respective states. Even though New York has longer trapping seasons than Vermont for most species of upland furbearers, there was little difference in the average number of days that respondents had traps set for given species. Meaningful comparisons of average furbearer harvests are difficult to make because of the different years involved.

Table 1. Trapper participation by species, number of days trapping for given species, and average harvest of furbearers by species, New York (1989-90 season) and Vermont (1988 season).

| Furbearer species | Percent of trappers who attempted to trap species |         | Number of days traps set for species over season |                    |         |                    | Average harvest of furbearers for those pursuing given species |         |
|-------------------|---------------------------------------------------|---------|--------------------------------------------------|--------------------|---------|--------------------|----------------------------------------------------------------|---------|
|                   | New York                                          | Vermont | New York                                         |                    | Vermont |                    | New York <sup>a</sup>                                          | Vermont |
|                   |                                                   |         | Mean                                             | Standard deviation | Mean    | Standard deviation |                                                                |         |
| Beaver            | 44                                                | 27      | 23                                               | 20.5               | 17      | 12.2               | 4                                                              | 9       |
| Bobcat            | 7                                                 | 9       | 15                                               | 4.8                | 10      | 2.7                | b                                                              | 1       |
| Coyote            | 26                                                | 28      | 22                                               | 13.9               | 23      | 15.8               | b                                                              | 4       |
| Fisher            | 11                                                | 29      | 16                                               | 6.1                | 9       | 2.8                | b                                                              | 2       |
| Gray fox          | 28                                                | 18      | 23                                               | 16.9               | 20      | 10.7               | 3                                                              | 5       |
| Mink              | 48                                                | 45      | 24                                               | 56.5               | 18      | 11.8               | 4                                                              | 5       |
| Muskrat           | 59                                                | 56      | 24                                               | 23.3               | 22      | 20.4               | 38                                                             | 70      |
| Opossum           | 5                                                 | c       | 14                                               | 4.7                | c       | c                  | 6                                                              | c       |
| Otter             | 10                                                | 12      | 27                                               | 11.5               | 23      | 22.0               | b                                                              | 1       |
| Raccoon           | 53                                                | 40      | 23                                               | 20.1               | 20      | 12.3               | 12                                                             | 13      |
| Red fox           | 49                                                | 42      | 22                                               | 17.8               | 21      | 14.3               | 5                                                              | 6       |
| Skunk             | 3                                                 | 4       | 22                                               | 5.9                | 24      | 20.4               | d                                                              | 13      |
| Other             | 0                                                 | 2       | 7                                                | 0.3                | 31      | 23.9               | d                                                              | 4       |

<sup>a</sup> Information provided by New York State Department of Environmental Conservation.

<sup>b</sup> Average harvest less than one furbearer per trapper.

<sup>c</sup> Information not available. While opossum exist in Vermont, they are not considered an important furbearer and were not included in the survey by the Vermont Department of Fish and Wildlife.

<sup>d</sup> Information not reported.

The number of traps owned by respondents did not vary substantially between the states (Table 2). In fact, the median number of traps owned by category were almost identical, although the means differed to some extent (mean number of foothold traps was 89 for New York trappers and 78 for Vermont trappers). With respect to body gripping traps, the average for New York trappers was 64, compared to 48 for Vermont trappers. Neither of these differences was statistically significant at the 5 percent level.

While an overwhelming majority of trappers in both states sold furbearer pelts to local buyers, they also were likely to utilize other outlets. The two samples revealed some differences in secondary product utilization. Other parts of furbearers besides the pelts were sold by 21 percent of New York trappers, but only 14 percent of Vermont trappers. New York trappers (24 percent) also produced more handicrafts from furbearers than their Vermont counterparts (13 percent). Slightly less than 30 percent of the trappers in each state utilized furbearer meat for personal consumption.

Table 2. Trap ownership by New York and Vermont trappers.

| Type of Trap    | Number of traps owned |        |                  |        |
|-----------------|-----------------------|--------|------------------|--------|
|                 | New York trappers     |        | Vermont trappers |        |
|                 | Mean                  | Median | Mean             | Median |
| Foothold        | 88.5                  | 56.0   | 77.6             | 54.0   |
| Body gripping   | 63.8                  | 36.0   | 48.0             | 35.0   |
| Padded foothold | 1.2                   | 0.0    | 0.4              | 0.0    |
| Other           | 1.9                   | 0.0    | 1.9              | 0.0    |
| All             | 155.4                 | 92.0   | 127.9            | 89.0   |

A minority of respondents in each state indicated that monetary income from trapping exceeded expenditures. Approximately 29 percent of Vermont trappers reported positive net returns, compared to 20 percent in New York. Another 27 percent of Vermont trappers and 21 percent of New York trappers broke

even. The remainder of the trappers (48 percent in New York and 44 percent in Vermont) had expenses that exceeded income. Eleven percent of the New York respondents indicated that they couldn't recall their expenses. It should be reemphasized that these surveys were conducted in different years, so the differences might be attributed, in part, to changing pelt prices.

In both states, trapping occurred principally on private lands, but about 40 percent of the respondents in each case also used public lands.

For the most part, the trappers of the two states had similar socio-economic and demographic characteristics (Table 3). Based on the sample alone, there is some evidence that the age structure of New York trappers is somewhat younger than that for Vermont; both mean and median ages for Vermont trappers exceed those of New York. Further, one-third of New York respondents were under 30 years of age, compared to 12 percent of Vermont trappers. A higher proportion of Vermont trappers also were over 60 years of age. While these sample characteristics are of interest, they are not statistically significant at the .05 level.

Table 3. Characteristics of New York and Vermont trappers.

| Characteristic                                | New York              | Vermont               |
|-----------------------------------------------|-----------------------|-----------------------|
| <b>Age</b>                                    |                       |                       |
| Mean                                          | 39.8                  | 48.0                  |
| Standard deviation                            | 17.2                  | 14.3                  |
| Median                                        | 37.0                  | 50.0                  |
| Percent over 60 years                         | 14.6                  | 20.0                  |
| Percent between 30 and 60 years               | 52.8                  | 68.0                  |
| Percent under 30 years                        | 32.6                  | 12.0                  |
| <b>Education: highest level of attainment</b> |                       |                       |
| Below high school                             | 26.3                  | 19.9                  |
| Percent completing high school                | 42.4                  | 46.4                  |
| Percent attending college                     | 21.9                  | 20.5                  |
| Percent completing college                    | 5.5                   | 9.9                   |
| Attended graduate school                      | 3.9                   | 3.3                   |
| <b>Household income</b>                       |                       |                       |
| Median                                        | \$20,000-<br>\$29,999 | \$20,000-<br>\$30,000 |
| Percent under \$10,000                        | 14.4                  | 13.3                  |
| Percent over \$50,000                         | 13.6                  | 9.1                   |

Measures of education attainment and income were quite similar for the trappers of both states. Over three-quarters of the respondents from each state indicated that they had completed at least high school, and it should be noted that many younger trappers were still attending school, so their final level of educational attainment had not yet been reached. Median household income levels were in the \$20,000 to \$30,000 range in both cases. For both states, household incomes less than \$10,000 were reported by approximately one-seventh of the respondents. On the other hand, over 10 percent of the respondents from both states were in excess of \$50,000.

In terms of trapping background and experience, trappers from both states were similar (Table 4). Vermont respondents indicated somewhat greater experience, but this might well be attributed to differences in wording of the questions. Experience in New York was related to purchase of a trapping license, whereas Vermont trappers were asked only to indicate the number of years they had trapped. Since younger trappers are not required to purchase licenses, this, alone, might explain the

slight discrepancy between the two states. Age when an individual began trapping was also based on purchase of a license in New York, but not in Vermont. For both states, both the mean and median ages that individuals began trapping was in the teens.

Table 4. Background and experience of New York and Vermont trappers.

| Characteristic                      | New York          | Vermont           |
|-------------------------------------|-------------------|-------------------|
| <b>Years of trapping experience</b> |                   |                   |
| Mean                                | 15.9 <sup>a</sup> | 21.4 <sup>b</sup> |
| Median                              | 12.0 <sup>a</sup> | 16.5 <sup>b</sup> |
| <b>Age began trapping</b>           |                   |                   |
| Mean                                | 19.0 <sup>c</sup> | 16.9 <sup>d</sup> |
| Median                              | 16.0 <sup>c</sup> | 13.0 <sup>d</sup> |

<sup>a</sup> Years in which a New York trapping license was procured.

<sup>b</sup> Total number of years trapped

<sup>c</sup> Age at purchase of first New York trapping license.

<sup>d</sup> Age first began trapping regardless of trapping license purchase.

Even with the differences relating to data collection and analysis with respect to motivational statements, some general comparisons for the trappers of the two states can be made. Trappers in both states tended to have a wide range of motivations, but there also was considerable commonality with respect to motivations among individuals and between states. Motivations such as being outside and interacting with wildlife, were acknowledged widely by the respondents from both states. Other reasons for trapping cited by a high proportion of respondents related to escape from daily routine, achievement, exercise and physical health, stimulation, and solitude.

For the New York study, the factor analysis grouped trapping motivations into six dimensions or factors (Table 5). Based on the loadings retained, the factors are identified as: (1) escape and relaxation; (2) appreciation of wildlife, nature, and the outdoors; (3) personal accomplishment or achievement; (4) utilitarian incentives (obtaining meat, nuisance or damage control); (5) personal health and fitness; and (6) affiliation with other people, especially family members. Sample group means indicated that the strongest dimensions of motivation related to nature appreciation and personal achievement, while motivations related to socialization and affiliation were less important.

The cluster analysis of the Vermont data reduced the number of viable motivations from 42 to 27 and identified nine clusters (Table 6). The mean weights indicate the clusters most favored by the respondents, with the maximum possible score being 5.00. As with factor analysis, each cluster is described on the basis of the elements that it contains. For Vermont trappers, the highest weighted clusters were challenge, interaction with nature, and personal achievement. Other clusters with high ratings were technical achievement, escape, health and fitness, and socialization. Disseminating trapping skills had a rating somewhat above the median but below the clusters previously described. The cluster relating to the importance of income from trapping was at mid-scale, indicating that it tended toward a neutral overall rating.

Table 5. Factor descriptions and loadings for 23-item motivational scale for New York trappers, 1989-90 season.

| Factor Description                 | Motivational Scale Element          | Factor Loading |
|------------------------------------|-------------------------------------|----------------|
| Factor 1 Nature appreciation       | To experience/enjoy nature          | .8197          |
|                                    | To observe wildlife                 | .7358          |
|                                    | To learn about wildlife             | .6829          |
|                                    | To spend time outdoors              | .5406          |
|                                    | To feel like a part of nature       | .5080          |
| Factor 2 Escape                    | To get away from everyday problems  | .7030          |
|                                    | To get some time to think           | .6883          |
|                                    | To relax and relieve stress         | .6198          |
|                                    | To get a chance to spend time alone | .5853          |
|                                    | To get a change from my routine     | .3895          |
| Factor 3 Personal achievement      | To get a sense of accomplishment    | .6030          |
|                                    | To test my skills and abilities     | .5892          |
|                                    | To do something challenging         | .5335          |
|                                    | To get a sense of self-sufficiency  | .5072          |
|                                    | To do something exciting            | .4275          |
| Factor 4 Affiliation/socialization | To maintain family tradition        | .6239          |
|                                    | To be with family members           | .5496          |
| Factor 5 Economics                 | To teach or share my skills         | .4916          |
|                                    | To control nuisance animals         | .8120          |
|                                    | To control predators                | .7647          |
|                                    | To obtain meat for myself, family   | .5435          |
| Factor 6 Health, fitness           | To get exercise                     | .7982          |
|                                    | To stay in shape                    | .5264          |

Percent variance explained by Factors: F1 (28.8) + F2 (6.1) + F3 (5.9) + F4 (4.3) + F5 (3.4) + F6 (3.0) = 51.4

Source: Siemer, W.F.; Batcheller, G.R.; Brown, T.L.; Glass, R.J. 1991. Characteristics, motivations, and involvement of trappers in New York. Human Dimensions Research Unit Series Publication 91-1. Dept. of Natural Resources, College of Agriculture and Life Science, Cornell University, Ithaca, N.Y. 37 p.

Table 6. Cluster analysis and mean weights by cluster for Vermont trappers' motives, 1988 season.

| Cluster Description     | Motivational Scale Element                                      | Mean Weight |
|-------------------------|-----------------------------------------------------------------|-------------|
| Challenge               | I enjoy being outdoors                                          | 4.71        |
|                         | I find trapping exciting                                        |             |
| Interaction with nature | Trapping is a good change in my daily routine                   | 4.48        |
|                         | I like being outside in trapping season                         |             |
|                         | Trapping helps me get away from some of life's routine demands  |             |
|                         | Trapping is a real change of pace                               |             |
|                         | Trapping makes me feel at one with nature                       |             |
|                         | I enjoy learning about all kinds of wildlife                    |             |
|                         | I enjoy observing wildlife while on the trapline                |             |
| Personal achievement    | My relationship with wild animals is personally important to me | 4.40        |
|                         | The anticipation is a big part of trapping                      |             |
| Technical achievement   | Trapping gives me a sense of personal achievement               | 4.33        |
|                         | I enjoy perfecting my trapping techniques                       |             |
| Escape                  | I enjoy the art of camouflaging sets                            | 4.23        |
|                         | I enjoy the solitude on my trapline                             |             |
| Health/fitness          | Trapping helps me relax and relieve tension                     | 4.11        |
|                         | Trapping gives me time to think                                 |             |
|                         | Trapping helps me keep in shape                                 |             |
| Socialization           | Trapping keeps me physically healthy                            | 4.11        |
|                         | I like the challenge of trapping                                |             |
| Disseminate skills      | I enjoy being part of the trapping community                    | 3.77        |
|                         | I enjoy the company of other trappers away from the trapline    |             |
| Income                  | I like to teach others about trapping                           | 2.94        |
|                         | I like to help others develop trapping skills                   |             |
|                         | I enjoy sharing my trapping skills with others                  |             |
|                         | Trapping helps pay the bills                                    |             |
|                         | Trapping provides extra spending money                          |             |

Source: Glass, Ronald J.; More, Thomas A.; and DiStefano, Jim. (in press). Vermont trappers: characteristics, motivation, and views. U.S. Department of Agriculture, Northeastern Forest Experiment Station.

## Summary and Discussion

The numbers of licensed trappers in both New York and Vermont have steadily declined since the early 1980's. A general decline in furbearer pelt prices certainly is a major factor in this decline, but other factors are also relevant. Trapping opportunities are becoming more scarce, and anti-trapping sentiment appears to be increasing. Since profit-oriented trappers are more likely to be discouraged by low pelt prices than recreational trappers, the results of these two surveys may be more reflective of those trapping for non-monetary motivations. Profit-seeking trappers are more likely to sit out years having low pelt prices and to seek alternative sources of income in the interim. Nonetheless, almost one-third of the respondents indicated that securing additional income was an important motivation for trapping. In the current market situation, recreational motivations predominate, but a significant subpopulation of income-motivated trappers remains active.

Trappers in each of these two states were quite similar in the species trapped and the average number of days in which traps were set, even though New York had longer trapping seasons for most upland species. While sample responses differed in some cases, such as a higher proportion of trappers in New York seeking beaver and raccoon, these differences were not different significantly at the 5 percent level. Only minor differences were reported in harvest levels for most species, muskrats being the lone exception. Again, the difference in muskrat harvest was not statistically significant, and did involve different years, so species availability and pelt prices may have been an influence.

Trap ownership by type was also similar for both states. In both cases, few respondents owned padded foothold traps, so regulations outlawing conventional foothold traps would require most trappers to invest in new equipment or rely on greater use of body gripping traps. The latter are viewed as more humane, but kill non-target species as well as target species.

In terms of demographic characteristics, there were, again, considerable similarities between the trappers of the two states. Educational attainment among trappers from New York and Vermont approximated one another. Household incomes were within the same range. An important consideration is that nearly 14 percent of the respondents from each state had household incomes of \$10,000 or less. Participation in trapping may provide a source of income, as well as psychological and sociocultural payoffs for which low-income, rural households have limited alternatives.

With respect to the age structure of trappers, there were apparent differences between New York and Vermont respondents. While statistically valid differences were not found, both the mean and median age of Vermont trappers exceeded those for New York trappers. Twelve percent of the Vermont trappers were under 30 years of age compared to almost one-third of New York trappers.

In both states, the strongest trapping motivations were "nature appreciation" and "personal achievement." Vermont trappers also had a strong measure for "challenge," but the variables in this cluster were included in the personal achievement factor for New York trappers. In both states, income or economic factors were at the bottom of the scale.

While there are considerable differences in the general perception of Vermont and New York with respect to pressures on resource use related to population density and urbanization, the characteristics and motivations of active furbearer trappers were quite similar. Obviously, information on the large number of trappers who have become inactive would improve our understanding of trapper behaviors, motivations, and anticipated payoffs. Certainly, the potential for dropouts to reenter the trapping community as various factors change over time is an important consideration in furbearer management. Further, trapping must be considered within the broader context of the diverse public demands for common property resources including furbearers.

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