

# A LONGITUDINAL COMPARISON OF ACTIVITIES AND MOTIVES OF VERMONT TRAPPERS: 1994, 2000, AND 2005

---

Rodney R. Zwick  
Professor of Recreation Resource Management  
Lyndon State College  
Lyndonville, VT 05851

Bob Muth  
University of Massachusetts, Amherst

David Solan  
Mansfield University

---

**Abstract.**—Few longitudinal studies in the human dimensions of wildlife examine changes in values, motivations, and behavior of those involved in resource harvesting activities.; To contribute to this literature, this replicated study assesses changes in sociocultural characteristics, motives, and behavior of Vermont trappers from 1994 to 2005. Differences were found in expenditures, income, socialization into trapping, and the use of institutional resources to learn about trapping. Principle components analysis reduced the 25 motivation responses from each of the three survey years to five components, which showed considerable consistency. These components were used in a subsequent K-means cluster analysis to develop a typology of Vermont trappers. The three types (i.e., Wildlife-oriented Lifestyle, Uncaptured Motivation, and Committed) were used in two-way MANOVA used to examine the effect of year (1994, 2000, and 2005) and trapper type on total days participating in trapping and total species of furbearers harvested. The analysis indicated a significant main effect of both year and type on the dependent variable

---

## 1.0 INTRODUCTION

Most studies in human dimensions of natural resource and wildlife management are cross-sectional; there has been a dearth of longitudinal research. Longitudinal studies are vital to management and policy development because of the changes that occur over time in values, attitudes, motivations, and behaviors among those involved in natural resource harvesting activities. A prime example of harvest group members who faced with change are those involved in trapping. Successional changes leading to increased forestland, development of

a conservation consciousness, habitat preservation, and implementation of furbearer management programs have resulted in the reestablishment of many species of furbearers in northeastern North America. As a result, the harvest and use of furbearers by trappers continues, providing a variety of benefits and satisfactions to those who participate in such harvesting activities (Muth et al. 1996). Within the last 30 years, however, socioeconomic, demographic, and political changes have threatened the traditional harvesting of furbearers (Andelt et al. 1999). Changes in social values with regard to wildlife resources have spurred the animal welfare movement, which in turn has resulted in a politicization that has been directed—sometimes successfully—at prohibiting the harvest of furbearers by trappers (Siemer et al. 1994). For example, a ballot initiative in Massachusetts restricted the use of leg hold traps and other trapping techniques. Changes have also occurred in the economic valuation of large forestland holdings of timber management organizations, resulting in forest fragmentation, development, and habitat modification that have limited access to trapping and other harvesting activities. The spread of canine mange and rabies among some wildlife populations has decreased harvests and increased reluctance to target some species. European Union market restriction of the importation of pelts from any country or state that did not prohibit certain types of traps, or had not adopted standards for “humane” traps depressed pelt prices in the early 1990s. Although pelt prices rebounded earlier in this decade, the market continues to be volatile.

Certainly these changes have impacted trappers, who participate for a variety of commercial, social, recreational, and cultural motives (Daigle et al. 1999). In response to these changes, recent research has begun to examine the sociocultural aspects and politicization of furbearer harvesting (Mason 1990, Glasset et al. 1992, Siemer et al. 1994, Daigle et al. 1999). Understanding the motivations and behaviors of wildlife constituencies has become critical to wildlife management policy development, particularly as conflicts over land use have increased, budgets have eroded, and wildlife

issues and agency decisions have been questioned. If wildlife management agencies are to be responsive to their human constituencies (e.g., trappers, hunters, anglers, wildlife viewers, etc.) and provide a variety of benefits and satisfactions to people engaged in both consumptive and non-consumptive activities associated with wildlife, further empirical research efforts need to focus on changes over time in the motives, meanings, and behaviors. This research is especially critical for trapping, one of the most effective methods for managing many wildlife species (Muth et al. 1996).

The purpose of this study is to assess the longitudinal changes in participation and motivations of Vermont licensed trappers over the three years of 1994, 2000, and 2005. Our objectives were: 1) to examine changes in the sociocultural and economic characteristics of Vermont trappers over the three survey years; 2) to identify any changes in underlying motivations or motivational dimensions as a result of the changes in the cohort, land development, access, and economic and political climate; 3) to develop a typology of Vermont trappers based on the motivation dimensions; and 4) to examine the changes in trapping effort expended and success (as measured by the number of days spent trapping, and the actual harvest of a given species), and assess whether this differs by year surveyed and by trapper type (i.e., effectively testing the trapper typology).

## 2.0 METHODS

As part of a comprehensive 1994 six-state study of the sociocultural and economic aspects of trapping, 333 usable questionnaires (63% response rate) were obtained from Vermont (Daigle et al. 1999). Using the Total Design Method (Dillman 1983), a replication of the 1994 questionnaire was mailed to a census sample of 682 licensed trappers in Vermont during the spring of 2000. A response rate of 69.8 percent (447 responses) was received from the 640 deliverable questionnaires after three waves of the survey (Zwick et al 2002). Using a similar method in 2005, the census sample of 637 Vermont trappers was mailed the replicated questionnaire; a response rate of 62.9 percent (383 respondents) was attained.

The questionnaire asked prospective respondents about the extent of their participation in trapping activities (days spent each month in trapping related activities), species targeted and harvested (the number of each of 15 species harvested, aggregated over all species), types of traps owned and employed for selected furbearer species, economic aspects of trapping, socialization into trapping, participation in other natural resource and harvesting activities, motivations for trapping and for leaving trapping, and social and demographic information on trappers and their households.

The sample profile, extent of participation, and motivations from the 2000 and 2005 respondents were compared to the data collected in 1994 to assess changes and trends associated with Vermont trappers. Principle Components analysis was used to ascertain underlying dimensions of motivations for participating in trapping. K-means Cluster analysis was employed to develop a typology of trappers based on the five components that emerged in the Principle Components analysis. Subsequently, a two-way Multivariate Analysis of Variance (MANOVA) was used to test effect of year (1994, 2000, and 2005) and trapper type on total days trapping and total species harvested (i.e., dependent variable).

## 3.0 RESULTS

Trapper characteristics, in terms of gender, education, and type of community in which they grew up, changed very little from 1994 to 2005. Trappers from all three study years were primarily male, over half had a high school education, and about nine of 10 trappers grew up in a rural area (see Table 1). Even though educational achievement and type of community differed statistically, effect sizes ( $\eta^2$ ) were small.

As expected, the ages of trappers increased from 1994 to 2005. Expenditures and income also increased from 1994 to 2005. The three respondent groups differed in their mean income earned from trapping. In 1994 respondents earned an average of \$282.07, respondents from 2000 averaged \$234.42, and those in 2005 averaged \$448.55 (see Table 2).

**Table 1.—Trapper characteristics**

| Characteristic             | 1994  | 2000  | 2005  | $\phi$ |
|----------------------------|-------|-------|-------|--------|
| Gender (Males)             | 98.5% | 97.4% | 97.3% | .003   |
| Educational Achievement    |       |       |       |        |
| Completed high school      | 63.3% | 57.3% | 54.8% |        |
| Assoc, Bach or Grad degree | 14.6% | 23.0% | 23.6% | .176** |
| Grew up (community type)   |       |       |       |        |
| Rural area                 | 87.0% | 91.1% | 94.0% |        |
| Suburban area              | 11.4% | 6.7%  | 4.1%  |        |
| Urban area                 | 1.9%  | 1.9%  | 2.2%  | .113** |

\*\*p < .01

**Table 2.—Trapper characteristics**

| Characteristic                       | 1994     | 2000     | 2005     | Sig.   |
|--------------------------------------|----------|----------|----------|--------|
| Age                                  | 42.9     | 43.6     | 45.0     | NS     |
| Expenditures (1994 constant dollars) |          |          |          |        |
| Licenses, permits, fees, etc.        | \$72.47  | \$61.15  | 89.64    | NS     |
| Memberships, subscriptions, etc.     | \$109.29 | \$78.61  | 149.01   | < .025 |
| Income (1994 constant dollars)       | \$282.07 | \$234.42 | \$448.55 | < .025 |

The mean age at which Vermont trappers began setting traps was 15.9 in 1994, 17.1 for those responding in 2000, and 17.7 years of age for the 2005 sample ( $F = 3.063$ ,  $p = .047$ ). The 1994 respondents differed significantly in age at which they began to set traps from the 2005 respondents. Friends or neighbors were most frequently identified as the agent of socialization in 1994; 53.8 percent were introduced to trapping by friends or neighbors. In 2000, that percentage was 64.0 percent, and in 2005 it was 63.3% ( $\chi^2 = 9.168$ ,  $p = .010$ ). The percent of trappers who said they also learned to trap through state or trapping association courses doubled in 2000 (29.6%) compared to those who listed such courses in 1994 (12.9%), and tripled by 2005 (37.3%); ( $\chi^2 = 55.675$ ,  $p < .001$ ) There was no significant difference in the percentage of trappers who participated in other wildlife harvesting activities, such as deer and bird hunting, and fishing.

The number of trappers has rebounded since the 1994 study, stabilizing around 650 trappers for both 2000 and 2005. Data presented at the Northeastern Recreation Research Symposium in 2001 (Zwick et al. 2001) suggested that the motivations for participating in trapping were stable, so we hypothesized that stability would continue to the 2005 survey year. To assess our objective of comparing the sociocultural and economic

motivations for trapping in 2005 with those of 1994 (Daigle et al. 1999) and 2000 (Zwick et al. 2001), we employed Principle Components analysis. Trapper motivations were reduced from the 25 individual motives, replicated over the three study years, to linear combinations of the variables representing underlying dimensions. The motivations for trapping were assessed by 25 Likert-type questions requesting respondents to rate how important each item was to them as a reason for trapping. The items were scored from 1, "Not at all important," to 5, "Very important." The components were determined by eigenvalues > 1, an examination of a scree plot for each year, and interpretability of the components (factors). Factor loadings greater than .500 were used to interpret the components. Reliability of the motivation variables interpreting each component (dimension) was assessed using Cronbach's alpha.

A five component (factor) solution was selected as the best for each of the years. An ocular examination of each of the components was used to compare motivation variables and factor loadings across the three sample years (1994, 2000, and 2005).

The first component of 1994 "loaded" on motivations related to self-reliance and self-sufficiency, a result similar to the third component of the 2000 sample and the

**Table 3.—Self-reliant**

| Motivation                           | Component Loadings |      |      |
|--------------------------------------|--------------------|------|------|
|                                      | 1994               | 2000 | 2005 |
| Provide income for myself and family | .254               | .589 | .682 |
| Opportunity to be my own boss        | .700               | .766 | .768 |
| Maintain a sense of self reliance    | .761               | .672 | .670 |
| Do something exciting or challenging | .627               | .320 | .131 |
| Feel independence                    | .801               | .707 | .551 |
| Demonstrate skills and abilities     | .659               | .469 | .111 |
| Cronbach's Alpha                     | .837               | .758 | .758 |

**Table 4.—Lifestyle activity**

| Motivation                                 | Component Loadings |      |      |
|--|--------------------|------|------|
|  | 1994               | 2000 | 2005 |
| Learn about wildlife                       | .202               | .203 | .717 |
| Observe wildlife                           | .143               | .199 | .706 |
| Remain in touch with heritage of trapping  | .557               | .643 | .564 |
| Feel like a part of nature                 | .484               | .507 | .504 |
| Do something exciting and challenging      | .287               | .475 | .558 |
| Maintain rural tradition                   | .553               | .602 | .512 |
| Continue important part of my lifestyle    | .730               | .737 | .670 |
| Participate in a favorite outdoor activity | .836               | .784 | .746 |
| Experience fun and pleasure of trapping    | .744               | .744 | .718 |
| Cronbach's Alpha (bold items)              | .824               | .845 | .864 |

fourth component of the 2005 sample. For example, in 1994, this component or factor was found to be related (or loaded) on the following motivations: “for the opportunity to be my own boss,” “to maintain a sense of self reliance,” “to do something exciting or challenging,” “to feel my independence,” and “to demonstrate or test my skills and abilities.” For the samples of trappers from the year 2000 and 2005, the third and fourth strongest components respectively, were defined by three of these same motivations, but also included the motivation “to provide income for myself and my family.” Unlike 1994, in 2000 and 2005 loadings on the motivations “do something exciting or challenging,” and “demonstrate skills and abilities,” were less than the threshold .500 component loading used to interpret the component. Subsequently, this component was labeled as “Self Reliant,” because of the commonality of motivations between the three years.

The second component from 1994, and first (or strongest) component of 2000 and 2005, was defined by

motivations related to the fun and pleasure of trapping, lifestyle, and traditions associated with trapping. This component was also defined in 2005 by loadings on “learn about wildlife” and “observe wildlife.” We will later see where this differs for interpreting the fifth component. This second component was labeled as a “Lifestyle Activity” component.

Social and affiliation motivations define the third component of 1994 and 2005, and the second component of the 2000 samples. The is component that they have in common was labeled “Affiliation.”

The fourth component was defined as an “Animal Management Control” component. The motivations most strongly related to the factor were related to controlling vermin or predator populations, removing nuisance animals, providing the service of wildlife control for other landowners such as farmers, and keeping diseases such as rabies and canine mange from spreading (see Table 6).

**Table 5.—Affiliation**

|   | Component Loadings |      |      |
|---|--------------------|------|------|
|   | 1994               | 2000 | 2005 |
| Motivation                                |                    |      |      |
| Share experiences with friends            | .744               | .726 | .615 |
| Share my skills and knowledge with others | .794               | .748 | .794 |
| Share experiences with my family          | .658               | .733 | .763 |
| Interact with other trappers              | .727               | .541 | .506 |
| Cronbach's Alpha                          | .782               | .773 | .789 |

**Table 6.—Wildlife control**

|  | Component Loadings |      |      |
|--|--------------------|------|------|
|  | 1994               | 2000 | 2005 |
| Motivation                               |                    |      |      |
| Control predator or vermin populations   | .846               | .814 | .832 |
| Remove nuisance or problem animals       | .771               | .790 | .789 |
| Keep diseases from spreading             | .711               | .743 | .793 |
| Provide a valuable service to landowners | .651               | .660 | .703 |
| Cronbach's Alpha                         | .799               | .816 | .844 |

**Table 7.—Wildlife orientation and self-challenge components**

|                      | Component Loadings |      |           |
|----------------------|--------------------|------|-----------|
|                      | 1994               | 2000 | 2005      |
| Motivation           |                    |      |           |
| Observe wildlife     | .731               | .886 | Lifestyle |
| Learn about wildlife | .693               | .889 | Lifestyle |
| Cronbach's Alpha     | .857               | .941 |           |

  

|  | Component Loadings |               |      |
|--|--------------------|---------------|------|
|  | 1994               | 2000          | 2005 |
| Motivation                               |                    |               |      |
| Do something exciting or challenging     | Self Reliance      | Lifestyle     | .586 |
| Feel my independence                     | Self Reliance      | Self Reliance | .574 |
| Demonstrate or test skills and abilities | Self Reliance      | Self Reliance | .719 |
| Cronbach's Alpha                         |                    |               | .783 |

The fifth component for both 1994 and 2000 sample respondents “loaded” on two motivations typically related to non-consumptive aspects of wildlife related activity; the component was labeled as a “Wildlife Orientation.” As seen earlier in the 2005 sample, however, these motivations loaded in the Lifestyle component. The fifth component for the 2005 sample was labeled as a “Self Challenge” component because of its loadings on the motivations “do something exciting or challenging,” “feel my independence,” and “demonstrate or test my skills and abilities.”

The ocular examination revealed similar linear structure of motivation sub-dimensions for 1994, 2000, and 2005, suggesting similarity in motivation structure among the

three years, except for the fifth component. As many of the trappers from 1994 (about 80%) also were included in the 2000 and 2005 sample, the stability of motivations was not unexpected. Similar to other studies of recreation motivations, this study seems to confirm the relative stability of motivations for participation.

Based on the general stability of motivational components over the three years, a principle components analysis was then run on the total data set, and as expected, a five component solution emerged based on the scree test and interpretability. The five factors were labeled: Lifestyle (alpha = .845), Affiliation (alpha = .773), Self Reliance (alpha = .758), Animal Control (alpha = .816), and Wildlife Oriented (alpha

**Table 8.—Multivariate and univariate ANOVA for total days trapping and total species harvested**

| Source                 | Multivariate | Univariate          | F                       |
|------------------------|--------------|---------------------|-------------------------|
|                        |              | Total Days Trapping | Total Species Harvested |
| Survey Year            | 10.223*      | 19.199*             | 0.847                   |
| Typology               | 6.887*       | 9.999*              | 7.372*                  |
| Survey Year X Typology | 0.695        | 0.163               | 0.939                   |
| MSE                    |              | 2568.12             | 27977.53                |

Multivariate F-ratios were generated from Pillai's Trace, \* p < .001

= .942). Those motivations that loaded > .500 on each component were indexed to the original response on the motivation (rating how important each item was to them, scored from 1, “not at all important,” to 5, “very important”), for each respondent Aa mean score was calculated for each respondent over the motivations defining each component. Thus, each respondent had a mean score for each of the five motivation components (dimension).

The mean scores on the underlying motivation dimensions (indexed components) were used in subsequent hierarchical and k-means cluster analyses to develop the typology. First, a hierarchical technique was employed on 25 percent of a random sample of the entire data set (over all three years). An examination of the dendograms and interpretability of the clusters suggested a three cluster solution. A subsequent k-means analysis revealed that of the five components, wildlife orientation, lifestyle, and animal control were the strongest motivational components in all three clusters. The highest mean ratings on the five components relative to each of the clusters indicated that Cluster 1 (Wildlife-Oriented Lifestyle) was defined by the Wildlife Orientation component ( $\mu = 4.39$ ), Lifestyle ( $\mu = 4.15$ ), and Animal Control ( $\mu = 4.02$ ). Cluster 2 (Uncaptured Motivations) displayed low means on all five of the components ( $\mu = 2.01$  to 3.51). Cluster 3 (Committed) was defined by Wildlife Orientation ( $\mu = 4.79$ ), Lifestyle ( $\mu = 4.59$ ), Self Reliance ( $\mu = 4.25$ ), and Animal Control ( $\mu = 4.07$ ), and to a lesser extent by Affiliation ( $\mu = 3.55$ ).

McKinney (1966) suggests that types provide a structural frame of reference for ordering observations so they can be comprehended, and Hall (1972, p. 48) states that the function of a typology allows the researcher to examine

complex phenomena in a relatively simple manner. Typologies can also be used as a frame of reference for understanding the specific or distinguishable aspects of a cultural context (Becker 1945), and have a value in identifying and simplifying cultural structure so their similarities and differences can be examined. We hypothesized that both the number of animals harvested and trapper's total effort (in days participating in trapping related activities) would vary by trapper type. In addition, we predicted that because there were some differences in the motivation structure by year, total species harvested and effort would vary over the three years.

A two-way MANOVA was calculated to examine the effect of trapper type (Wildlife-Oriented Lifestyle, Uncaptured Motivation, and Committed) and year (1994, 2000, and 2005) on total days participating in trapping and total species of furbearers harvested (see Table 8). MANOVA was selected as the most appropriate test because rarely is one aspect of behavior so isolated from other aspects that a comprehensive picture of how someone responds is obtained (Meyers et al. 2006, p. 366). We certainly would expect that trappers who expended more effort (total days in trapping related activities) would have more success in terms of total species harvested. Meyers et al. (2006) also suggest using MANOVA when the dependent variables are moderately correlated, such as here ( $r = .299$ ).

A statistically significant Box's M test ( $p < .001$ ) indicated a lack of equality of variance-covariance matrices of the dependent variables across the levels of the independent variables. As a result, Pillai's Trace was used to measure the effects of type and survey year on the dependent variable (Mertler & Vannatta 2002, p. 126). As Table 8 indicates, Pillai's Trace indicated the dependent variable

**Table 9.—Days trapping and species harvested by survey year and typology (univariate analysis)**

|                         | Year                  | Mean  | Std. Error. | F      | Sig. |
|-------------------------|-----------------------|-------|-------------|--------|------|
| Total days trapping     |                       |       |             |        |      |
|                         | 2005                  | 53.66 | 3.07        |        |      |
|                         | 2000                  | 64.45 | 3.13        |        |      |
|                         | 1994                  | 37.44 | 3.03        | 19.199 | .000 |
| Total species harvested |                       |       |             |        |      |
|                         | 2005                  | 53.70 | 10.13       |        |      |
|                         | 2000                  | 72.50 | 10.32       |        |      |
|                         | 1994                  | 63.97 | 10.18       | 0.847  | .429 |
|                         | Type                  | Mean  | Std. Error  | F      | Sig. |
| Total days trapping     |                       |       |             |        |      |
|                         | Wildlife Oriented     | 52.75 | 3.05        |        |      |
|                         | Uncaptured Motivation | 41.58 | 3.50        |        |      |
|                         | Committed             | 61.22 | 2.67        | 9.999  | .000 |
| Total species harvested |                       |       |             |        |      |
|                         | Wildlife Oriented     | 55.15 | 10.13       |        |      |
|                         | Uncaptured Motivation | 41.98 | 10.32       |        |      |
|                         | Committed             | 93.04 | 10.18       | 7.372  | .001 |

(effort and success) was affected by the main effects of the typology (Pillai's Trace = .032,  $F = 6.887$ ,  $p < .001$ ) and survey year (Pillai's Trace = .047,  $F = 10.233$ ,  $p < .001$ ) There was no significant multivariate effect of Typology by Survey Year. Subsequently, univariate ANOVAs were conducted to determine the locus of the effect of year on total days participation in trapping related activities. Scheffe post hoc tests (see Table 9) revealed that all three years differed significantly in total days that trappers participated in trapping related activities and that trappers from 2000 ( $\mu = 64.45$ , S.E. 3.13) had participated more than their counterparts in 1994 ( $\mu = 37.44$ , S.E. 3.08) and 2005 ( $\mu = 53.66$ , S.E. 3.07). No statistically significant effects were observed among the years for species harvested  $F = .847$ ,  $p > .05$ ). An inspection of typology means showed that the Uncaptured Motivation type of trappers ( $\mu = 41.58$ , S.E. 3.50) had a significantly lower number of days trapping than either the Wildlife Oriented type ( $\mu = 52.75$ , S.E. 3.05) or Committed group ( $\mu = 61.23$ , S.E. 2.67). The Committed type had a significantly higher mean ( $\mu = 93.04$ ) in total species harvested than either the Uncaptured Motivation ( $\mu = 41.98$ ) or Wildlife Oriented ( $\mu = 55.15$  types. There was no interaction effect between typology and year, suggesting that trapper type effects did not differ by year.

#### 4.0 CONCLUSIONS AND IMPLICATIONS

Though trapping participation has traditionally fluctuated with the cycles in pelt prices and trapper effort often is a function of available time, personal health, and access (Zwick et al. 2002), this study shows that participation is also a function of the type of trapper, as defined by motivations. Those who are more committed, as shown by multiple motivations, engage in more trapping related activities than do other types—and appear to have more success.

Effort (i.e., days spent in trapping related activities) expended at trapping may be a better indicator of the extent of trapping than just the numbers of licensed trappers. Effort increased by over 70 percent from 1994 to 2000, while trapper number increased by 20 percent. Total days participating in trapping related activities, however, decreased 17 percent from 2000 to 2005, while total licensed trappers decreased by 7 percent. Simple numbers of trappers would not have shown such nuances.

Trapping continues to be a central life interest by which people organize themselves, interact with each other and the natural environment, maintain traditions, and derive recreational satisfaction. Some trappers are motivated

by a sense of self-reliance and autonomy. Others are motivated by learning about and observing wildlife, by the services they provide to landowners through removal of nuisance animals, and by the challenge and testing of skills and abilities associated with trapping. Generally, the motivations have remained stable over 11 years. Regardless of the motivations, trapping requires an intensity and commitment. Ninety percent engage in the activity both weekends and weekdays since traps, by law, have to be checked every 24 hours.

Even though the k-means cluster analysis did not produce an independent cluster or type of trapper that was affiliation-based, affiliation was important to trappers. Evidence of the importance of affiliation is seen in the approximately 50 percent of respondents who trapped with others at least part of the time, the 56 percent who were members of a trappers' association in 1994 and 2000, and the 65 percent who reported being members in 2005. This affiliation component may be important for establishing a community of meaning among trappers. Changes in trapping regulations or access, or regulations that may restrict or eliminate this activity may result in undesirable effects on maintenance of social networks, life satisfaction, and continued participation.

While more than 90 percent of trappers hunt and fish, such activities appear to part of an activity bundle rather than a substitution for trapping. Hunting and fishing, lack the intensity and effort participants associate with trapping.

The mean age of trappers is increasing, but the number of years that respondents have been actively setting traps has been decreasing since 1994 ( $\mu = 20.06$ ), through 2000 ( $\mu = 19.22$ ), to 2005 ( $\mu = 17.62$ ). This finding suggests that either new trappers are coming into the activity or existing trappers are not actively setting traps. Support for the latter account may be seen in the 47.5% of 2005 licensed trapper respondents who said they were not actively trapping during the 2004-2005 season.

Future research needs to continue to monitor these motivations and sociocultural aspects of trapping, and trapper type should continue to be empirically tested,

much like all typologies (McKinney 1966), to determine whether there are differences in the cultural context of trappers distinguished by their motivations.

## 5.0 CITATIONS

- Andelt, W.F.; Phillips, R.L.; Schmidt, R.H.; Gill, B. 1999. **Trapping furbearers: An overview of the biological and social issues surrounding a public policy.** Wildlife Society Bulletin, V27(1): 53.
- Becker, H.S. 1945. **Interpretive sociology and constructive typology.** In G. Gurwitsch and W.E. Moore, eds. Twentieth Century Sociology, New York, NY: The Philosophical Library: 70-90.
- Daigle, J.J.; Muth, R.M.; Zwick, R.R.; Glass, R.J. 1999. **Sociocultural dimensions of trapping: A factor analytic study of trappers in six northeastern states.** Wildlife Society Bulletin. 26: 624-625.
- Dillman, D.A. 1983. **Mail and telephone surveys: The total design method.** New York, NY: John Wiley and Sons.
- Glass, R.J.; More, T.A.; Distefano, J.J. 1992. **Vermont trappers: Characteristics, motivations, and attitudes.** Transactions of the Northeast Section of the Wildlife Society. 48: 134-143.
- Hall, R.H. 1972. **Organizations structure and process.** Englewood Cliffs, NJ: Prentice-Hall.
- Meyers, L.S.; Gamst, G.; Guarino, A.J. 2006. **Applied multivariate research: Design and interpretation.** Thousand Oaks, CA: Sage.
- Mertler, C.A.; Vannatta, R.A. 2002. **Advanced and multivariate statistical methods: Practical application and interpretation (second ed.).** Los Angeles, CA: Pyrczak.
- Mason, D.A. 1990. **Vermont's other economy: The economic and socio-cultural values of hunting, fishing, and trapping for rural households.** M.S. Thesis, University of Vermont, Burlington, VT.

McKinney, J.C. 1966. **Constructive typology and social theory**. New York, NY: Meridith.

Muth, R.M.; Zwick, R.R.; Daigle, J.J.; Glass, R.J.; Jonker, S.A. 1996. **The sociocultural and economic value of furbearer resources: A study of trapping in six northeastern states**. Final Technical Report submitted to: Division of Federal Aid, Region 5, USDI Fish and Wildlife Service; Pennsylvania Game Commission; and USDA Forest Service, Northeastern Forest Experiment Station. University of Massachusetts, Amherst, MA.

Siemer, W.F.; Batcheller, G.R.; Glass, R.J.; Brown, T.L. 1994. **Characteristics of trappers and trapping**

**participation in New York**. Wildlife Society Bulletin. 22: 100-111.

Zwick, R.R.; Glass, R.J.; Royar, K.; Decker, T. 2002. **Sociocultural perspectives of trapping revisited: A comparative analysis of activities and motives 1994 and 2000**. In: Todd, S., comp., ed. Proceedings of the 2001 Northeastern Recreation Research Symposium. Gen Tech. Rep. NE-289. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station.