

***ESI Pilot Project Title:***

Land Use Change in the Lower Penobscot Watershed: Implications for Public Recreation Access

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***Project Objectives:***

This study further explores the scenario set out in *Forests on the Edge* (Stein et al, 2005). This study takes the top rated watershed for the nation and examines in more detail the current attitudes of landowners in order to determine why land use conversion might occur and how it may affect the traditional Maine lifestyle of public recreation access to private land. Our objectives are to:

- Assess current recreation access on private forest land for hunting, snowmobiling, ATV riding, and hiking/walking, within selected community areas in Penobscot County.
- Increase understanding of landowner decision-making processes toward recreation access, land use change, and land ownership change.
- Evaluate landowner preferences regarding policy options to encourage public recreational access on private land and promote smart growth of residential development.
- Develop predictive models of recreation access based on land and landowner characteristics for each of the recreation activities.
- Develop maps, using geographic information systems, that illustrate estimated current recreation access and future recreation access based on development potential.
- Provide recommendations, relevant to state and local level policy makers, town planners, state agencies, recreational groups, and the tourism industry that suggest ways of sustaining recreation access on private forest land in Maine.

***Status (12/14/07):***

This project was conducted through the use of a mail questionnaire. The questionnaire was designed based on Dillman's Tailored Design Method (2007 Update) as well as input from stakeholders, peers, and feedback from pre-test participants. Questions ranged from yes/no, to Likert-scale type of rating questions, to fill-in-the-blank questions. The survey was approved by the Institutional Review Board for ethical treatment of human subjects.

Study areas included all of the unorganized territory in Penobscot County, as well as the organized towns of Hampden, Hermon, Orrington, Levant, and Clifton. Twenty five hundred surveys were sent out based on 2500 unique parcels, which represented 1300 unique landowners that comprised nearly 750,000 acres. Mailing information was obtained from tax databases; the study areas also have or will have digital parcel information available to tie in to the survey results. The survey administration included a pre-notification postcard, first wave survey mailing, reminder postcard, follow-up survey mailing, and a final third wave survey mailing. The entire mailing process took about two months. The response rate is currently nearing 50% with surveys still returning daily.

A code book for entering survey results has been created, and returned surveys are currently being entered into Excel. These data will then be analyzed using SPSS 16.0 and Limdep 9.0. SPSS 16.0 will be used to derive descriptive statistics such as mean, median, mode, frequency, variance, and standard deviation. Sets of variables will also be measured using Cronbach's alpha to determine consistency in responses. Responses will also be evaluated for strength of correlation using Pearson's test with pairwise deletion. Chi-square and t-tests will be used to check for differences between groups in the sample. Limdep will be used for logistic regression in the predictive recreation access models.

This research project is expected to be completed in August 2008.