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When Public Law 108-447 was signed on December 8, 2004, the U.S. Departments of Agriculture and the Interior were tasked with setting the price of a new annual pass for federal recreation lands. Effective January 2007, the new pass would offer entrance to recreational users on federal lands that charge an access fee, including but not limited to national forests, parks, monuments, wildlife refuges, etc.

In May 2005, the federal agencies issued a national call for scholarly assistance in examining possible prices for the new pass. In June, the University of Wyoming, through its Wyoming Survey & Analysis Center, submitted a project proposal. In July, the Wyoming research team was selected to provide the assistance, through a cooperative task agreement (no. H-200040001) under the Rocky Mountain Cooperative Ecosystems Studies Unit.

Designed to assist policy-makers in setting the price of the pass, the research consisted of five interrelated tasks: producing a working “road map” that was mutually negotiated among all parties; conducting a “benchmarking” study to compare federal recreation passes with passes for state parks and Parks Canada; conducting a study of the theoretical and methodological issues in the economics of non-market valuation; convening a series of focus groups across the country; and collecting and analyzing data from a nationwide telephone survey. Below we describe the tasks and summarize the major conclusions of each. Then we provide an overall view of the multistage research process, outlining how each task informed the others. Finally, major policy conclusions from the research process are presented.

The five tasks

Task 1 was to produce a “road map” detailing the steps for completing the remaining tasks. This document drew on the initial proposal and on communications with federal agency personnel, including a kick-off meeting in Washington, D.C. in August 2005. Members of the Wyoming research team also participated in a stakeholders’ listening session in D.C. in September. The draft road map was reviewed by two external consultants internationally known in the field of environmental economics. The final road map provided the

basis for a submission to the Office of Management and Budget (OMB) laying out the plan for the survey. Authorization to proceed with the survey was granted in February 2006.

Task 2 was a “benchmarking” study to compare existing federal passes with those for state park systems throughout the nation and for Parks Canada. Information obtained from the Internet and from published sources was supplemented by interviews conducted with representatives from selected state park systems, as well as Parks Canada. The states selected for intensive study were California, Florida, Massachusetts, Oregon, Texas, Utah, Virginia, and Wisconsin. For all of these states except Texas, interviews were conducted face-to-face. For Texas, we were able to interview a park representative by telephone. The benchmarking study reached the following findings:

- Adjusted for inflation, both the \$65 Golden Eagle Passport and the \$50 National Parks Pass were more than 10% cheaper in 2006 than they were when the latter was introduced in the year 2000.
- With pass purchasers averaging three or more entrances per year, these two existing passes provide a cost savings to multi-visit households and a revenue loss to federal land management agencies, relative to the typical gate fees for entrance that are forgone as a result of the passes.
- Parks Canada offers fewer recreational sites than the U.S. national park system, and far fewer than all federal land management agencies combined. Nevertheless, at about \$140 per year in U.S. dollars, the Canadian pass costs more than double the price of the cheaper of the two existing U.S. annual passes.
- No state park system in the U.S. offers the number or variety of outdoor recreational venues available on federal lands, but eighteen states have annual passes priced equal to or greater than \$50. California’s state parks pass is the highest priced, at \$125 per year.

Task 3 examined theoretical and methodological issues in the economics of non-market valuation. That effort informed both the road map document and a subsequent econometric examination of survey data. Both the theoretical and the empirical analyses received detailed external review by two internationally known environmental economists.

The theoretical analysis developed an economic model of willingness-to-pay to guide the use of standard non-market valuation methods, with the goal that a price for the new pass should be consistent with revenue-neutrality (relative to gate receipts in the absence of a pass program). Key points included:

- The price of the pass will affect not only revenues and visitation, but also educational goals as well as costs such as visitor congestion, air and water pollution, and damage to trails and roads.
- Setting a high price for the pass is more likely to maintain revenue neutrality; setting a low pass price may reduce gate revenues but could be desirable to increase visitation to federal recreation sites.
- The pass price can be adjusted upward to account in advance for future cost-of-living increases in gate fees, or for the anticipated costs of marketing and distribution.

A fundamental concern of any contingent valuation study is “hypothetical bias,” since

respondents tend to state willingness to pay values that are greater than those revealed in real-market interactions.

This project had a built-in opportunity to calibrate hypothetical willingness to pay with real choices, by taking advantage of the fact that the new pass is similar to the existing Golden Eagle Passport as already sold in the marketplace.

The focus groups (**Task 4**) served to identify themes and issues to be addressed quantitatively in the other phases of the study, and to pre-test the survey questionnaire. These discussions were held between September 11 and September 29, 2005 (under OMB approval no. 1024-0224) in Boston, Massachusetts; Richmond, Virginia; Portland, Oregon; Fresno, California; Madison, Wisconsin; and Salt Lake City, Utah. A preliminary group discussion had previously been held in Laramie, Wyoming. The focus groups also provided suggestive qualitative information on the following topics:

- Focus group participants valued federal lands as part of the American national identity.
- Focus group participants expressed concern over the fee structure for access to federal lands.
- Participants offered suggestions for improved marketing efforts, including better advertising, more places at which to purchase the pass, and more attractive pass options and benefits, such as a “fast-pass” lane for quick park access.

Their opinions about pricing the new pass varied widely, with some participants favoring a price no higher than the current passes, and others willing to pay a substantially higher amount if assured that the revenues would be used for “stewardship,” to protect and enhance the nation’s lands.

Throughout the discussions, focus group members’ comments about forest service and park service personnel expressed high regard for the work done to preserve our public lands.

Task 5 was a national telephone survey conducted from February through April, 2006 (under OMB approval no. 1024-0248). A total of 3,773 households in two distinct sub-samples provided data. An internationally known expert on sampling was consulted on the design and analysis of the dual-frame sample. Of the households surveyed, 2,080 met the screening criteria for the main analysis, as determined by the sponsoring agencies (which limited the target population to households that had visited federal lands in the past two years and that would not qualify for either a Golden Age or a Golden Access Passport). Eligible households included 556 in a nationally representative sample (random digit dialing) and another 1,524 households in a probability sample from a list of telephone numbers of recent pass purchasers provided by the National Parks Foundation.

Development of the survey instrument incorporated input from the kick-off meeting in August, the stakeholders meeting in September, the benchmarking research, the theoretical and methodological issues identified in the economic analysis, and feedback from the focus groups. Once drafted, the questionnaire was thoroughly reviewed by the agencies, by the two external consultants, and by the Office of Management and Budget. Just before the full-scale survey interviewing began, another meeting with agency representatives was held at a National Park Service office in Fort Collins, Colorado, in February 2006. Results from a few days of pre-test interviewing were discussed, and the survey instrument was finalized.

Findings from the survey include:

- Households in the National Parks Foundation sample of recent pass purchasers tend to have higher socioeconomic status, travel farther and more often to visit federal lands, know more about existing passes, and express a higher willingness to pay for the pass than households in the random digit dialing sample.
- Households in the two samples engage in generally similar activities on federal lands.
- Reports of expected visitation and future pass purchasing from the National Parks Foundation households are more in line with their actual previous behaviors than is the case for the random digit dialing households.
- Both groups report being influenced by a combination of factors in their decisions about purchasing an annual pass, including economics, convenience, and stewardship.

Following the multistage research process

The use of several forms of research allowed each task to inform the others. For example, the sponsoring agencies specified that the survey (Task 5) should include current pass holders as well as non-pass holders. However, the benchmarking (Task 2) revealed a low rate of pass sales nationally, suggesting that a broadly representative sample would yield relatively few pass-holding households. The random digit dialing sample was therefore augmented by a sample drawn randomly from a list of U.S. telephone numbers recorded by the National Parks Foundation as having purchased a National Parks Pass between April 2004 and March 2005 (i.e., one to two years prior to the survey).

During focus group conversations (Task 4), a number of participants who expressed life-time interest in public lands were not pass-holders at the time, and some had not visited federal lands in the preceding twelve months. Therefore, it was decided that the target population for the survey (Task 5) would consist of households that had visited federal recreational lands in the past two years, a time frame longer than in some other surveys of public land users.

In Task 3 (on theoretical and methodological issues), the research team studied the relevant issues in the economics of environmental valuation. Analysis of the literature, along with input from outside consultants, suggested what questions needed to be included in the survey to support a contingent valuation analysis of the price of the new recreation pass (Task 5).

The benchmarking (Task 2) and the focus groups (Task 4) examined the pricing of passes to state parks, as well as what individuals said they thought a recreational pass for federal public lands would be worth. In the focus groups, the prices mentioned ranged from participants who thought the pass would be a bargain at \$300 to those who thought it should be a free benefit of paying taxes. This type of information augmented other methodological considerations to provide the upper and lower boundaries on the contingent valuation questions for the questionnaire (Task 5). The entire bid vector addressed in the survey contained twenty separate bid prices, beginning with \$0 and ranging up to \$325.

Respondents were asked an initial bid price and a follow-up bid price, the amount of which depended upon a “yes” or “no” to the first bid. Respondents who said “no” to both

the initial bid price and the second, lower bid amount were then asked whether they would be interested in the pass for free. Doing so identified potential “protest” bidders who may have an objection in principle to the pass, to the current management practices on federal lands, or the like. Those who would reject the pass even if it were free were asked why, to determine the nature of their objection. The focus group (Task 4) discussions as well as the relevant literature (Task 3) had revealed this possibility and therefore follow-up questions were prepared for the questionnaire (Task 4) so that protest bidders could be analyzed separately. Protest bidders defined themselves out of the potential market for the pass, and needed to be identified so that their refusal to take the pass at any bid price, even zero, did not distort the estimated demand curve for the final analysis.

Major policy conclusions

Econometric analyses of the survey data yielded the following conclusions:

- Willingness to pay for the new pass was significantly related to factors such as a desire that pass revenues be used for maintenance and services on federal recreation sites, number of typical visits, household income, race, gender, and region.
- Statistically, the predictive power of the econometric model was modest; therefore, revenue projections were generated from the raw data as well as from the model.
- Calibrated for hypothetical bias, pass revenues could be maximized at a price in the range of \$35 to \$60, but such a pass price would likely result in substantial forgone gate revenues.

Assuming that gate entrance fees were to remain at their current level and that households primarily purchase the pass to save money at the gate, the calibrated raw data from either sample indicate that a pass price of \$100 to \$125 (or higher) should come close to revenue neutrality.

Balancing the considerations of revenue-neutrality and high visitation, federal policy-makers have set the initial price of the new pass at \$80.

Additional details about the new pass, including our full reports on the various components of the research, are available on the website of the U.S. Department of the Interior, at www.doi.gov/initiatives/recreation_feeprogram.html.