

Summary of Klamath Pilot Test Results

The U.S. Department of Interior (DOI) submitted an Information Collection Request (ICR) to the Office of Management and Budget (OMB) to conduct a pretest of the Klamath Nonuse Valuation Survey. Following approval of the ICR in April 2011, the pretest was conducted in May and June of 2011. The primary goal of the pretest was to assess whether the survey instrument and data collection process worked as expected. The material below summarizes the results from the pretest. Overall, the data from the pretest suggest that the survey instrument worked well.

1. Response rates

- a. The response rate is somewhat higher than expected, with all three geographic strata responding in similar proportions.**

The pretest followed the data collection plan described in the ICR and supporting statements. The households in the sample were mailed a pre-notification postcard informing them that their household had been selected to be part of the survey. Following the postcard, households received a packet containing a cover letter on DOI letterhead introducing the survey, a copy of the survey instrument, \$2 incentive, and a postage-paid return envelope. A reminder postcard with information about the Web version of the survey and the respondent's username and password were sent a few weeks later. Finally, a second packet was sent that included a letter asking the respondent to complete the survey and providing the information about the Web version of the survey and a second copy of the survey instrument. Table 1 shows the mailing schedule for the documents.

Table 1. Pretest Survey Mailing Schedule

Type of Respondent	Date Mailed
Prenotification postcard mailing	April 20, 2011
First mailing of survey instrument	May 13–17, 2011
Reminder postcard including Web address	May 26, 2011
Second mailing of survey instrument	June 13, 2011

A total of 1,200 household addresses were selected for the pretest sample, divided evenly across three strata: (1) the 12-county area adjacent to the Klamath River, (2) the rest of Oregon and California, and (3) the rest of the United States. Table 2 shows the responses as of June 19, 2011. As described in Supporting Statement A submitted with the ICR, we expected a total of 263 responses based on the following assumptions: response rates of 20 percent of the households in the Klamath area and 15 percent of households from outside the Klamath area for the first mailing, and an additional 10 percent from the reminder postcard and second mailing. **As of June 19, 2011, we had received 320 completed surveys, for a combined response rate of 28 percent, after subtracting undeliverable surveys.**

Table 2. Responses as of June 19, 2011

	Number of Surveys
Paper surveys returned	314
Paper surveys returned blank	7
Web surveys	6
Undeliverable	51

Data from the first 276 surveys returned have been tabulated and analyzed to assess the results from the pretest. Tables 3 to 5 provide information on the responses by sampling strata, survey length, and undeliverable surveys by sampling strata. Each stratum supplies roughly one-third of the sample, although the response rates are slightly higher outside the Klamath area (Table 3). The long version of the survey has a somewhat higher response rate than the short version (Table 4). The number of undeliverable surveys returned is similar across the three strata (Table 5).

Table 3. Responses by Sampling Area

	Number of Responses	Percent of Sample
12-county Klamath area	83	30%
Rest of Oregon and California	94	34%
Rest of the U.S.	99	36%
Total	276	

Table 4. Response by Survey Length

	Number of Responses	Percent
Long version	147	53%
Short version	129	47%
Total	276	

Table 5. Undeliverable Surveys by Sampling Area

	Number of Responses	Percent
12-county Klamath area	15	33%
Rest of Oregon and California	14	31%
Rest of the U.S.	16	36%
Total	45	

2. Was the survey instrument understandable to the public and to people outside the Klamath River Basin?

- a. The results from the pretest suggest that most respondents could understand the questions, followed instructions, and had adequate information to answer the stated-preference conjoint questions.**

As part of the survey, respondents were asked their level of agreement with a series of statements related to the choices they made in the conjoint. There were two statements that dealt directly with comprehension, presented in Table 6. Looking first at the statement “The descriptions of the plans were hard to understand,” only 14 percent of the Klamath area respondents agreed with the statement and 10 percent or fewer of the respondents from outside the Klamath area. For the statement “The survey provided me with enough information to make a choice between the options shown,” a similar number of respondents disagreed with the statement (10 percent in the Klamath area and the rest of the United States and 11 percent in the rest of California and Oregon).

Table 6. Responses to Comprehension Questions

The descriptions of the plans were hard to understand.					
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
12-county Klamath Area	4%	10%	25%	38%	24%
Rest of Oregon and California	0%	9%	23%	49%	19%
Rest of the U.S.	2%	8%	27%	45%	18%
Total	2%	9%	25%	44%	20%

The survey provided me with enough information to make a choice between the options shown.					
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
12-county Klamath Area	20%	47%	22%	9%	2%
Rest of Oregon and California	13%	58%	18%	11%	0%
Rest of the U.S.	16%	55%	19%	7%	3%
Total	16%	53%	20%	9%	2%

We also looked at the written comments provided at the end of the survey for evidence that the survey was hard to understand or biased. A total of 77 respondents out of the 276 wrote additional comments at the end of the survey (33 comments from Klamath area respondents, 22 comments from the rest of Oregon and California, and 21 comments from the rest of the United States). As expected, there are comments on both sides of the issue, as well as comments that were unrelated to the topic of the survey. In Table 7, comments related to the overall clarity of the survey and potential biases are presented. The comments represent anecdotal information on how the survey was received. Overall, there were very few comments charging bias, and a number of comments that the survey was interesting and well-written. A number of respondents expressed thanks for the opportunity to complete a survey on the topic, especially among the Klamath area respondents.

Table 7. Handwritten Comments at the End of the Survey.

Comment	Geographic Area
We would like say thank you for this opportunity. The klamath river is the life blood of our area. It is everything to my wife's family.	Klamath Area
You didn't address the main problem, the shasta river, scott river, & salmon river-history has said the shasta was the main spawning river for salmon. I still think we should be able to do both thanks for the survey.	
Thanks for opportunity to provide input.	
Your questions are slanted	
I think you should consider using a similar survey for the san joaquin river restoration program in california.	
I've read a lot of form letters and surveys and i was impressed with how plainly worded and clear this one was. It also made me curious to find out more about this issue.	Rest of Oregon and California
I am glad to see a survey such as this being sent to gather public opinion, unfortunately, most people don't have a good biology background to grasp what is happening to our rivers and wetlands. Very sad!	
This survey does not provide me the most important information-will water supply be adequate after dam removal. That is my top concern. Without that info, I am not able to choose either plan a/b or no action.	
This survey is completely one-sided to support the out of control environmentalists & their allies in the federal government. There was absolutely no consideration of the plight of the farmers that have no water to farm their land...	
... This was an excellent survey. I wish ballots and/or info about voting was as clear and well written.	
I found the survey very informative.	Rest of the United States

3. Did the levels for the conjoint questions work?

- a. Overall, roughly two-thirds of the sample voted in favor of the action plan, but as expected, this percentage was lower when the cost of the plan (bid amount) was higher.**

Table 8 presents the percent of respondents voting for the action plans and the no action plan by geographic strata. Overall, without accounting for differences in attribute levels across the plans, 63 percent of the respondents selected a plan and 37 percent selected no action (last column of Table 8).

Table 9 breaks down the percent voting for a plan by the cost of the plan for the full sample and for the three geographic strata. Pooling the three geographic strata, the percent voting for a plan remains steady until the \$90 cost level. By geographic strata, the percent selecting a plan in the rest of the United States drops earlier at \$48 cost level (note that the number of respondents in each cell is small, so we do not want to place too much weight on the results by strata).

b. Based on the responses to the conjoint questions, we propose to change the levels of the cost attribute to \$12, \$48, \$90, and \$168, instead of \$12, \$24, \$48, \$90.

As shown in Table 9, currently the highest bid amount (\$90) represents roughly the median willingness to pay (WTP) for the total sample (i.e., 50 percent vote for the plan). Ideally, we would like the range of cost levels to include WTP for the majority of respondents, not just for those with WTP at or below the median. The percent voting for the plan should decline as the cost increases, and we would like to select a top cost level where roughly 30 percent or fewer vote for the plan.¹

Given these results, we propose adding a higher cost level that would be closer to the right-hand tail of the distribution. A cost of \$168 per year (\$14 per month) would be substantially higher and should result in a lower percent selecting the plan. However, adding another level to the cost attribute (for a total of 5 levels), complicates the experimental design and increases the sample size needed to obtain the same level of precision in the estimates. Therefore, we propose dropping the \$24 cost level. The percent selecting a plan does not change for any of the three

¹ For example, in a similar stated preference study of a fish restoration program in the Adirondacks, Banzhaf et al. (2006) included bids that targeted the median, the 30th and 70th percentiles of the WTP distribution. Similar to our study, roughly 70 percent voted for the plan at \$25 and 50 percent voted for the plan at \$90. In their study roughly 30 percent voted for the plan at \$250.

geographic strata between \$12 and \$24, so dropping the dollar amount should not cause problems in the analysis.

Table 8. Responses to Conjoint Questions by Strata

	12-County Klamath Area	Rest of Oregon and California	Rest of the U.S.	Total
Voted for no action	50%	33%	29%	37%
Voted for plan	50%	67%	71%	63%

Table 9. Vote by Cost of Plan

	\$12	\$24	\$48	\$90
Voted for plan, Total Sample	66%	69%	67%	49%
Voted for plan, Klamath Area	51%	50%	64%	32%
Voted for plan, Rest of Oregon and California	73%	73%	72%	51%
Voted for plan, Rest of United States	76%	78%	63%	61%

c. The lower rate of pro-plan voting by respondents in the Klamath area reflects different attitudes and perceptions about the effectiveness and desirability of Klamath Basin restoration activities

The finding that respondents living closest to the restoration area have a lower average propensity to vote for the plans (and hence a lower WTP) runs somewhat counter to the findings from other similar studies. For example, Schaafsma (2008) identifies 18 contingent valuation and choice experiment studies applied to environmental programs in the United States or Europe that have found statistically significant “distance-decay” effects, where WTP is negatively related to a respondent’s distance from the program area. For this project, the most directly

relevant and comparable study is the Loomis (1996) analysis of the Elwha Dam removal program. That study used results from a nationwide mail CVM survey to estimate average household WTP for increases in native salmon populations resulting from the program. It found that distance (from the respondent's residence to the Elwha River) had a small, but negative and statistically significant effect on WTP. For example, Loomis estimated that average household WTP by Washington residents was roughly 15 percent higher than for residents in the rest of the United States (\$78 compared to \$68 in 1995 dollars).

One of the most important issues in a conjoint survey like the Klamath non-use survey is to ensure, to the extent possible, that individuals responding to the survey are presented with the same information. In short, the goal is for individuals to value a good that is presented consistently across all individuals that receive the survey. However, the fact that Klamath Basin residents may have a lower WTP than residents outside of the Klamath Basin does not imply that they are valuing a different good, but that their stated values may account for a different pre-survey information set about the contentious history behind the development of the Klamath Basin agreements due to their proximity to the resource. The attitudinal and debriefing questions in the survey were designed to control for how these factors influence WTP and could be expected to vary across the three strata.

Our pretest findings suggest that there are important differences in the attitudes and perceptions of individuals living near the Klamath Basin compared to those living farther away. The results in Table 10 highlight these differences. In particular, respondents in the Klamath area stratum are significantly more likely to believe that (1) the plans would hurt the local economy, (2) the plans would not work as described in the survey, and (3) removing Klamath dams is a bad idea. Despite being presented with the same information in the survey, Klamath area residents tend to exhibit much more skepticism about the effectiveness and desirability of the plans.

We find that these differences account at least in part for the lower average WTP by Klamath area residents. For example, Table 11 compares rates of pro-plan voting across strata, controlling for differences in perceptions about whether the plans would work as described.

Comparing across only the respondents who agree that the plans would work as described, Klamath area residents actually have the highest propensity to vote for the plan.

In our analysis of the final survey data, we will continue to control for these differences in attitudes and perceptions and to investigate their role in explaining differences in WTP. We will also examine differences in other factors, in particular socioeconomic conditions, to determine their role.

Table 10. Percentage of Respondents Who Agree or Strongly Agree with Statement by Strata

	12-County Klamath Area	Rest of Oregon and California	Rest of the U.S.	Total
	N=83	N=94	N=99	N=276
q18a "My choices would be different if the economy in my area were better"	24.1%	24.5%	22.2%	23.6%
q18b "It is important to restore the KRB, no matter how much it costs"	22.9%	33.0%	35.4%	30.8%
q18c "I do not think I should have to contribute to the restoration of the KRB"	38.6%	17.0%	35.4%	30.1%
q18d "I am concerned that the plans would hurt the economy in the KRB"	37.4%	23.4%	18.2%	25.7%
q18e "The descriptions of the plans were hard to understand"	13.3%	8.5%	10.1%	10.5%
q18f "I do not believe that the plans will actually increase the number of fish as described"	41.0%	10.6%	12.1%	20.3%
q18g "Removing the dams from KR is a bad idea"	44.6%	19.2%	15.2%	25.4%
q18h "Some of the plans cost too much compared to what they would deliver"	45.8%	25.5%	24.2%	31.2%

q18i "The changes offered by the plans happen too far in the future for me to care"	19.3%	10.6%	15.2%	14.9%
q18j "The survey provided me with enough info to make a choice b/w the options shown"	65.1%	69.2%	70.7%	68.5%

Table 11. Percentage of Respondents Choosing Action Plan A (over No Action) by Strata and by Belief that Plan Would Work as Described

	12-County Klamath Area	Rest of Oregon and California	Rest of the U.S.	Total
Respondents who agree with "I do not believe that the plans will actually increase the number of fish as described"	11.8% of 34	20.0% of 10	8.3% of 12	12.5% of 56
Respondents who do NOT agree with "I do not believe that the plans will actually increase the number of fish as described"	79.6% of 49	77.4% of 84	78.2% of 87	78.2% of 220
All respondents	51.8% of 83	71.3% of 94	69.7% of 99	64.9% of 276

4. Was there a difference between the long version of the survey (two conjoint questions) and the short version of the survey (one conjoint question)?

- a. The percent selecting Plan A in the long and short versions of the survey is the same, suggesting that the presence of the second conjoint question in the long version did not affect the responses to the first question (see Table 12).

Table 12. Responses to Conjoint Questions

	Long Version (N=142)	Short Version (N=123)
Voted for Plan A	68%	67%

5. Additional information on votes for no action.

- a. We propose to add the statement with “I would not vote for the action plans even if there were no added cost to my household” to question 19 and drop “I voted for NO ACTION because I believe my taxes are already too high.”**

After the conjoint questions, question 19 (in the long version of the survey) reads:

If you voted for NO ACTION in either of the two choices, please rate how much you agree or disagree with each of the following statements. If not, skip to Q20.

	1	2	3	4	5
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I voted for NO ACTION because I am against any more taxes or government spending.	1	2	3	4	5
I voted for NO ACTION because I believe my taxes are already too high.	1	2	3	4	5

Question 19 was included for sensitivity analysis. Such debriefing questions are standard practice for stated-preference surveys. These and other similar questions about the respondents choices were included in this survey to look at the impact of opinions about government spending and taxes on responses. Comparing responses to the two statements, the correlation coefficient is 0.87. Because the responses are highly correlated, we propose replacing the second statement with “I would not vote for the action plans even if there were no added cost to my household.” This question would provide information about respondents who may not have a WTP greater than zero, and we feel it would provide more information for sensitivity analysis.

References

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