Supporting Statement for OMB 0596-0189

UNDERSTANDING VALUE TRADE-OFFS REGARDING
FIRE HAZARD REDUCTION PROGRAMS IN THE WILDLAND-URBAN INTERFACE

Note: This request is for the renewal of the previously approved information collection OMB 0596-0189, Understanding Value Trade-Offs Regarding Fire Hazard Reduction Programs in the Wildland-Urban Interface. The USDA Forest Service requests approval from OMB to continue the collection of information from the individuals who reside in or near the wildland-urban interface in Florida, New Mexico, Oregon, and Texas. The renewal request will replace Arizona and Colorado states with Oregon and Florida. Furthermore, a sub question was added to the homeowner insurance question, asking if homeowner's insurance cover wildfire damage.

A. Justification

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.

Laws, Statutes, and Regulations

- PL-108-148, Healthy Forests Restoration Act

Public Law 108-148, the Health Forests Restoration Act (HFRA), improves the ability of the Secretary of Agriculture and the Secretary of the Interior to plan and conduct hazardous fuels reduction projects on National Forest System (NFS) and Bureau of Land Management (BLM) lands. Such fuels reduction projects protect communities, watersheds, and other at-risk lands from catastrophic wildfire, enhancing efforts to protect watersheds and addressing threats to forest and rangeland health.

The HFRA does not mandate collection of specific information, but provides for collection of information that would help managers inform their decision-making process in establishing fuels reduction programs and actions. See Sec 2 Article 4:

SEC. 2. PURPOSES.
The purposes of this Act are—
4) to promote systematic gathering of information to address the impact of insect and disease infestations and other damaging agents on forest and rangeland health;

Federal agencies assigned wildland-fire protection responsibilities have undertaken a very ambitious and expensive forest fuels reduction program. On August 16, 2018, the FS announced a new strategy for improving forest conditions based on shared stewardship (https://www.fs.fed.us/sites/default/files/toward-shared-stewardship.pdf). The FS plan is to work collaboratively with states, tribes, and local communities to identify landscape-scale priorities for targeted treatments in areas with the highest payoffs. This new approach uses the most advanced science tools to

increase the scope and scale of critical forest treatment that protect communities and improves forest conditions. This is one of the 5 priority agenda items set by the Chief to promote shared stewardship by increasing partnership and volunteerism.

An increase in fuel reduction programs may result in an increase in legal challenges to fuel reduction programs implementation. Understanding why people support or do not support these programs and specific different types of fuel reduction activities help managers identify potential pitfalls in programs design reducing the likelihood of objections or legal challenges and improving programs acceptability. The purpose of this study is to provide credible information to fire managers, allowing these managers to develop fuels reduction treatment programs acceptable to residential communities.

Additionally, because of the large Hispanic populations in Florida (FL), New Mexico (NM), and Texas (TX) it would benefit fire managers to know if these populations behave differently in their acceptability of different fuel reduction programs to reduce wildfire risks. If there is no difference in population behavior across states, race, and ethnic groups, fire managers would not need to produce different materials explaining the fuel reduction programs, which would result in costs savings. In addition, we can use benefit transfer estimates for informing managers in other states without having to conduct additional research.

Collection of these data supports one of USDA Priorities of strengthen the stewardship of private lands through technology and research; FS Strategic Plan of sustain our nation's forests and grassland; FS National Priority to promote shared stewardship by increasing partnership and volunteerism, and FS PSW Research Station foundational programs problem areas to:

1) Understanding how wildland fire management strategies affect fire-adapted species, at-risk species, and species of conservation concern.
2) Collaboratively designing next-generation wildland fire stewardship strategies, including fuels reduction and forest restoration treatments and their strategic placement and timing, that protect human health and safety and sustain human communities, ecosystems, and ecosystem services.
3) Assessing how societal influences affect fuel conditions, wildland fires, and wildland fire stewardship strategies.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

Findings have been directly presented to fire managers in the San Bernardino National Forest, San Bernardino, California, to discuss the findings of prior research results and they have expressed interest and desirability of conducting this type of work in other regions or states for the possibility to help them inform their design of fuel treatment programs. Fire managers have used this kind of information about areas viewed as potentially high risk by communities to plan

implementation of fuels reduction programs with less challenges, and therefore, less cost.

a. What information will be collected - reported or recorded? (If there are pieces of information that are especially burdensome in the collection, a specific explanation should be provided.)

Four different states are associated with this information collection. These documents are available in both English and Spanish.

There are two points of data collection. First, an initial phone call with 11 questions to assess base knowledge and determine willingness to participate in survey. The second, and main point of data collection, is a survey, specific to the respondent's state of residence, that will be sent electronically or via postal mail depending on the respondent's preference.

Initial Script & Screening Questions
The first, an initial contact script, consisting of eleven questions is used to determine if the respondent is willing to participate in a mail/online survey, and to ascertain base knowledge of fuels reduction alternatives. Those respondents agreeing to participate are asked 11 questions regarding their base level of information and, if they are willing to participate in the survey, for either postal address (if selecting mail questionnaire), or e-mail address (if selecting online questionnaire).

Survey Questionnaire
Those agreeing to participate in the study will receive a Survey Questionnaire, specific for their state of residence (i.e., FL, NM, OR, or TX), in English or Spanish, via mail or e-mail with a link to online survey. The written and electronic surveys ask identical questions; they are just delivered in different formats depending on respondent's preference.

Respondents are asked:
- To assess the wildland fire risk condition of their residential area;
- To describe the losses they would expect in their community and residences from wildland fire;
- Preference for different fuel reduction options; and
- Standard demographic and socio-economic information.

b. From whom will the information be collected? If there are different respondent categories (e.g., loan applicant versus a bank versus an appraiser), each should be described along with the type of collection activity that applies.

Information will be collected from a statistically selected sample of individuals who reside in the WUI in FL, NM, OR, or TX. The interviewer will ask for the head of household when making initial contact.

c. What will this information be used for - provide ALL uses?

The collected information is used to evaluate change in knowledge between the initial contact and the survey (if any at all), and to determine the combination of fuel reduction alternatives respondents believe are most effective and the amount respondents would be willing to pay to implement such alternatives. Findings are reported in one or more presentations to scientific and management audiences, and reports to fire managers in FL, NM, OR, and TX.

d. How will the information be collected (e.g., forms, non-forms, electronically, face-to-face, over the phone, over the Internet)? Does the respondent have multiple options for providing the information? If so, what are they?

Collection of information occurs over the telephone for the initial screening, and then via mail or electronically, depending on respondent's preference for survey format. Respondents will have the option of selecting either to complete a mail –back questionnaire or an online questionnaire. Both questionnaires are self-administered.

e. How frequently will the information be collected?

Each respondent contacted will provide information once for a short phone survey and a second time if they decide to participate in a mail or web-based survey. After completion of survey, no further contact occurs with respondents and they do not participate in further surveys. With this renewal, we will conduct this project for the first time in these states, except for FL. However, we will not contact the same respondents.

f. Will the information be shared with any other organizations inside or outside USDA or the government?

The raw data will not be available outside the research team and no statistical summaries will be released that could potentially be used to identify individual respondents. Analyses and summaries will be distributed through reports and manuscripts, including in scientific journals, and with scientists and others through presentations.

g. If this is an ongoing collection, how have the collection requirements changed over time?

The new proposed collection requirement adds a question on whether or not homeowners' insurance covers wildfires damage. The previous sampling and data collection procedure remains the same.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other techno-logical collection techniques or other forms of information technology, e.g. permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also, describe any consideration of using information technology to reduce burden.

The sample selection is through an initial random digit dialing procedure. Random digit dialing is a comprehensive method and ensures inclusion in the survey of a wide range of households.

The primary data collection instrument is a self-administered survey. All respondents will be given the option to complete a mail-back hard-copy survey or to complete the survey online. The multi-modal approach will reduce burden by allowing respondents to select the method that is easiest and most convenient for them. Both questionnaires type contains the same questions.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.

Previously, the discrete choice experiment method has provided estimates in the value of changes in various forests attributes. The previous version of this work produced choice experiment estimates for head of households' behavior towards fuel reduction treatment programs in California (CA), Colorado (CO), and FL. Results showed the applicability of the methodology and usefulness of the results in identifying reason why people may accept certain types of fuel reduction programs better than others and how much they are willing to pay to implement such programs.

The current study constitutes an extension of this stated preference methodology to evaluate people's behavior in response to different fuel reduction treatment programs in FL, NM, OR, and TX. In addition, this work will be applied to both English and Spanish speaking head of households in each state to ascertain if there any differences in populations behavior towards different fuel reduction treatment programs. The proposed work provides a mechanism to compare results between these four states and prior work in CA and CO. If findings are similar and consistent, we can use the information to perform benefit transfer analysis instead of conducting new research on the topic. Previous research data has shown inconclusive results in comparisons between CA and CO head of households for these fuel reduction treatment programs. Including four additional states as proposed in this request may help us get clearer results on potential differences in populations' behavior towards different fuel reduction treatment programs.

We will continue to carefully review related studies and research to ensure that our contributions are unique. As far as we are aware, there are no other studies of similar extent or content.

5. If the collection of information impacts small businesses or other small entities, describe any methods used to minimize burden.

The information collection does not directly or indirectly impact small businesses. In general, this collection has limited the length of the survey and provides multiple response options (i.e., paper or electronic) to minimize the burden.

6. Describe the consequence to Federal program or policy activities if the

collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

Information from this work will help agencies with fire protection responsibilities evaluate public understanding of both proposed fuels reduction projects and programs, and the public's willingness to pay for implementing such programs. Without this information management officials would have difficulty identifying salient attributes that influence decisions by homeowners and communities to invest in activities that reduce wildfire hazard. Lack of this type of information would affect fire managers' ability to plan better accepted fuels reduction programs, increasing the possibility that Federal fuels reduction programs would not be effectively targeted. Understanding public views of and support for fuels reduction programs will inform effective implementation of the Healthy Forest Restoration Act mandates and other relevant policies.

7. **Explain any special circumstances that would cause an information collection to be conducted in a manner:**
   - **Requiring respondents to report information to the agency more often than quarterly;**
   - **Requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**
   - **Requiring respondents to submit more than an original and two copies of any document;**
   - **Requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records for more than three years;**
   - **In connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;**
   - **Requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**
   - **That includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**
   - **Requiring respondents to submit proprietary trade secret, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

   There are no special circumstances. The collection of information is conducted in a manner consistent with the guidelines in 5 CFR 1320.5.

8. **If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8 (d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in**

response to these comments. Specifically address comments received on cost and hour burden.

The announcement of the renewal of this information collection package and request for comment appeared in the Federal Register on November 24, 2021 (Volume 86, Number 224, page 67019, https://www.federalregister.gov/documents/2021/11/24/2021-25636/information-collection-understanding-value-trade-offs-regarding-fire-hazard-reduction-programs-in).

One comment was received via email. However, the comment was unrelated to the study or to the proposed sampling and survey design. Therefore, we did not make any changes to this information collection.

Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and record keeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

The following individuals have reviewed this information collection:

- University of California, Davis, 2116 Wickson Hall, Davis, CA. 95616; Phone 530-754-6212
  This individual is an expert in the field of natural resources and nonmarket valuation. She reviewed the proposed survey and found no issue or concern with the supporting package with respect to the purpose, need, practical utility, and avoidance of unnecessary duplication.

- U.S. Geological Survey, Fort Collins Science Center, Fort Collins, CO. 80526; Phone 970-226-9219
  This individual is an expert on nonmarket valuation and his primary research methods include use of socioeconomic survey. He reviewed the survey and found that the survey is well laid out and easy to follow. The survey format is appropriate and follows accepted practice in the discipline.

- MacGregor-Bates, Inc., P.O. Box 276, Cottage Grove, Oregon 97424; Phone: 541-942-5727
  This individual is nationally recognized for his expertise on risk management and human behavior under conditions of risk and stress, like large wildfires. He has conducted many surveys to explain FS managers' behavior and risk posture under large wildfire situations. He reviewed the survey paying particular attention to our definition and measurement of risk. He found the proposed approach correct and believes the responses will provide valid information.

Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years even if the collection of information activity is the same as in prior periods. There may be circumstances that may

preclude consultation in a specific situation. These circumstances should be explained.

The proposed survey instrument for the study was reviewed by three heads of household in these locations in California:

1) Anaheim, CA 92805;
2) San Bernardino, CA 92404; and
3) Riverside, CA 92507.

The homeowners that reviewed the survey questionnaire agreed the instrument was clear and questions were easy to understand. The risk ladder and the annual risk grid make sense are values are reasonable. All three mentioned that they understood the risk grid computational process. No issuers or concerns were raised during their review.

9. Explain any decision to provide any payment or gift to respondents, other than re-enumeration of contractors or grantees.

No incentive will be provided for this data acquisition effort.

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.

Participants will be informed that the information collected is not attached to any personally identifiable information. The collected information is secured via control identification numbers, restricted access, locked offices, etc. Personal identifiable information is stored separately from data and is not included in any manuscripts, reports, or presentations. Temporary tracking is used to ensure participating respondents receive the questionnaire; however, control identification numbers are applied to the data in lieu of a direct link between personal identifiable information and responses.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior or attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.

No information of a sensitive nature will be collected or asked. Study participants will be clearly told that they need not answer any questions on subjects they consider sensitive or that they don't want to. Participation in this information collection in completely voluntary and there is no penalty for non-participation.

12. Provide estimates of the hour burden of the collection of information. Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden

was estimated.

- **Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. If this request for approval covers more than one form, provide separate hour burden estimates for each form.**
  a) Description of the collection activity
  b) Corresponding form number (if applicable)
  c) Number of respondents
  d) Number of responses annually per respondent,
  e) Total annual responses (columns c x d)
  f) Estimated hours per response
  g) Total annual burden hours (columns e x f)

  Burden was estimated based on prior data acquisition experience on how long it took respondents to complete survey. Contractor provided us information to that effect. In prior focus groups and pretests performed on original work we estimated how long it took participants to complete survey. This was further corroborated with information form contractor's experience. No new focus groups or pretests are scheduled for this extension request (please see Table 1 below).

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Table 1 – Annual Burden Estimates across 4 study area regions

			RESPONDENTS (R)				NON-RESPONDENTS (NR)				
(a) Description of the Collection Activity *Assume 60% response rate for both methods*	(b) Total Number of Contacts (sample size)	(c) Number of Responses Annually for R and NR	(d) Number of R	(e) Total Annual Responses for R (c x d)	(f) Estimate of Burden Hours per R	(g) Annual Burden Hours for R (e x f)	(h) Number of NR	(i) Total Annual Responses for NR (c x h)	(j) Estimate of Burden Hours per NR	(k) Annual Burden Hours for NR (i x j)	(l) Total Annual Burden Hours for R and NR (g + k)
Survey (mail or online, includes initial phone questions)	1,675	1	1000	1000	0.67	670	675	675	0.03	20	690
TOTAL	**1,675**	**1**	**1000**	**1000**	**0.67**	**670**	**675**	**675**	**0.03**	**20**	**690**

Respondents

Initial telephone contact with 5,025 households to obtain 3,000 completed questionnaires over 3 years duration of renewal request or 1,000 per year.

Telephone Contact – Declining to participate

Spread over the 3-year life of this OMB renewal request, the estimated **annual** number of respondents declining to participate is 675.

5,025 households – 3,000 participants = 2,025 non-respondents ÷ 3 years = 675 non-respondents per year.

Initial Telephone Contact – Agreeing to participate, Reading Mailed Questionnaire, and Participating Questionnaire

Of the 5,025 households contacted over 3 years, approximately 3,000 will agree to participate in the survey. Spread over the 3-year life of this OMB renewal request, the estimated **annual** number of individuals who agree to participate via initial telephone contact, receive and read the mailed survey/questionnaire, and participate in the mail/internet survey/questionnaire is 1,000.

3,000 individuals ÷ 3 years = 1,000 individuals per year

Total annual respondents

675 non-responding respondents + 1,000 respondents = 1,675 respondents per year.

Total annual responses

1,675 initial responses - 675 non-responses = 1,000 responses per year

Burden Hours: The annual burden for each activity associated with this Information Collection Request calculated as follows:

Initial Telephone Contact – Agreeing to Participate

1,000 respondents per year x 15 minutes (.25 hour) per response = 250 hours

Initial Telephone Contact – Declining to Participate

675 respondents per year x 2 minutes (.03 hour) per response = 20 hours

Survey Completion– Agreeing to Participate

1,000 respondents per year x 25 minutes (.42 hour) per response = 420 hours

Total annual burden hours

250 hours + 20 hours + 420 hours = 690 hours per year

- **Record keeping burden should be addressed separately and should include columns for:**
  a) Description of record keeping activity:
  b) Number of record keepers:
  c) Annual hours per record keeper:
  d) Total annual record keeping hours (columns b x c):

  There is no record keeping requirement of any source for respondents.

- **Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories**

Table 2 – Estimated Annualized Cost to Respondents

(a) Description of the Collection Activity	(b) Estimated Total Annual Burden on Respondents (Hours)	(c)* Estimated Average Income per Hour	(d) Estimated Cost to Respondents
Initial telephone Contact-agreeing to participate	250	$30.96	$ 7,740
Initial telephone contact - declining to participate	20	$30.96	$ 620
Survey completion – agree to participate	420	$30.96	$13,004
Totals	690	---	**$21,364**

* Includes both booklet and online questionnaire

The estimated cost for information collection is based on the average mean national rate for all salaries, $30.96 per hour, from the Bureau of Labor News Release for the month of December 2021, http://www.bls.gov/news.release/pdf/realer.pdf.

13. Provide estimates of the total annual cost burden to respondents or record keepers resulting from the collection of information, (do not include the cost of any hour burden shown in items 12 and 14). The

cost estimates should be split into two components: (a) a total capital and start-up cost component annualized over its expected useful life; and (b) a total operation and maintenance and purchase of services component.

There are no capital operation and/or maintenance costs to respondents. Respondents don't have to gather any information prior to or during surveys. They don't have to keep files or records for participation on this research.

14. Provide estimates of annualized cost to the Federal government. Provide a description of the method used to estimate cost and any other expense that would not have been incurred without this collection of information.

The response to this question covers the actual costs the agency will incur as a result of implementing the information collection. The estimate should cover the entire life cycle of the collection and include costs, if applicable, for:

- **Employee labor and materials for developing, printing, storing forms**
- **Employee labor and materials for developing computer systems, screens, or reports to support the collection**
- **Employee travel costs**
- **Cost of contractor services or other reimbursements to individuals or organizations assisting in the collection of information**
- **Employee labor and materials for collecting the information**
- **Employee labor and materials for analyzing, evaluating, summarizing, and/or reporting on the collected information**

Table 3 – Estimated Cost to the Government

ACTION ITEM	PERSONNEL	GS LEVEL	HOURLY RATE[1]	HOURS	Total
Developing, printing, storing forms: Labor	1	13	$65.55	10	$656[2]
Developing, printing, storing forms – Materials	1	13	$65.55	6	$394[3]
Travel – Employees					$2,000
Contractor Services					$50,000
Collecting information – Labor	1	13	$65.55	10	$656
Collecting information – materials					$400
Analyzing, evaluating, summarizing, and/or reporting – labor	1	13	$65.55	20	$1,311
Analyzing, evaluating, summarizing, and/or reporting – materials	7	13	$65.55	8.5	$558
Totals					**$55,975**

[1] *Taken from: https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/21Tables/html/LA_h.aspx, Cost to Government calculated at hourly wage multiplied by 1.3*

[2] Most of the costs of developing, printing and storing the necessary materials have been incurred, as this is an extension of the research collection effort and all materials are already available. There is a minimal cost during the first year to reproduce needed materials.

[3] Due to budget issues and reorganizational changes GS-13 scientists have to perform many of the clerical activities involved in this study.
[4] A survey research center performs all necessary activities to complete the job, including but not limited to printing survey, mailing it, calling participants to secure participation, secure English and Spanish participants sample, produce a clean data set, etc.

Costs based on estimates split across the various functions and responsibilities for the Research Economist, support staff, and Federal cooperator involved in this project.

Total annual cost to the Government: **$55,975**

15. Explain the reasons for any program changes or adjustments reported in items 13 or 14 of OMB form 83-I.

This information collection is a renewal of a previously approved information collection. The previous information collection was approved for an annual burden of 690 hours. The annual burden for this approval is the same, 690 hours.

16. For collections of information whose results are planned to be published, outline plans for tabulation and publication.

One or more manuscripts will be submitted to peer-reviewed journals interested in fire management and natural resources economic issues. Presentations will be made to Forest Supervisors, fire and fuels managers, and community FireWise Councils to explain the findings and their implications.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.

The OMB control number and expiration date will be displayed on all Information Collection instruments and will be told to participants during the initial telephone contact.

18. Explain each exception to the certification statement identified in item 19, "Certification Requirement for Paperwork Reduction Act."

The agency is able to certify compliance with 5 CFR 1320.

Presentations

Sánchez, J.J., Loomis, J., Holmes, T., 2021. A comparison of mail and online surveys for eliciting homeowners' willingness to pay for reducing wildfire risk to their houses. Association of Environmental and Resource Economists Summer Meeting. Virtual presentation. June 2-4

Sánchez, J.J., González-Cabán, A., Loomis, J., and Holmes, T., 2019. Colorado homeowners' willingness to pay estimates for reducing wildfire risk: A comparison of survey methods. XXV International Union of Forest Research Organizations World Congress. Poster presentation. *Brazilian Journal of Forestry Research*, v.39, e201902043. https://doi.org/10.4336/2019.pfb.39e201902043 Curitiba, Brazil, September 29 to October 5.

González-Cabán, A., and Sánchez, J.J., 2017. Minority households' Willingness-to-Pay for public and private wildfire risk reduction in Florida. Oral presentation at *American Geophysical Union Fall Meeting*. December 11-15, New Orleans, LA. Presentation based on published results comparing Hispanic and African American households' preferences and willingness to pay for fuel risk reduction programs.

Sánchez, J.J., Loomis, J., González-Cabán, A., and Holmes, T., 2016. A comparison of wildland urban interface households WTP for wildfire risk reduction programs in California and Florida. Oral presentation based on new analysis at the *5th International Symposium on Fire Economics, Planning, and Policy*. November 14-18; Tegucigalpa, Honduras.

González-Cabán, A., and Sánchez, J.J., 2016. Minority household's willingness-to-pay for public and private wildfire risk reduction in Florida. Oral presentation based on final results at the *5th International Symposium on Fire Economics, Planning, and Policy*. November 14-18; Tegucigalpa, Honduras.

Sánchez, J.J., and González-Cabán, A., 2016. Measuring minority household willingness-to-pay for public and private wildfire risk reduction. Oral presentation by Sánchez at the *USDA Forest Service Pacific Southwest Research Station Seminar Series*. April 20; Riverside, CA. Presentation based on new model and analysis on Hispanic and African American households' preferences and willingness to pay for fuel risk reduction programs.

González-Cabán, A., and Sánchez, J.J., 2016. Minority household willingness-to-pay for public and private wildfire risk reduction in Florida: A latent class analysis. Oral presentation based on preliminary results at the *Fifth International Fire Behavior and Fuel Conference*. April 11-15; Portland, OR.

Loomis, J., Sánchez, J., González-Cabán, A., and Holmes, T. 2015. Are WTP estimates for wildfire risk reductions transferrable from coast to coast? Results of a choice experiment in California and Florida. *Agricultural & Applied Economics Association Annual Meeting*. July 26-28, San Francisco, CA.

Sánchez, J.J., Loomis, J., González-Cabán, A., Holmes, T., 2015. Comparison of wildland urban interface households for public and private wildfire reduction in California and Florida: A mixed logit analysis. *Association of Environmental and*

Resource Economics Annual Summer Conference. June 3-5, San Diego, CA.

González-Cabán, A., Holmes, T., Loomis, J., and Sánchez, J.J., 2012. Does personal experience affect choice-based preferences for wildfire protection programs? *IV International Symposium on Fire Economics, Planning, and Policy: Climate Change and Wildfires*. November 5-11, Mexico City, Mexico.

Fire Economics for Managers Course, Colorado State University, January 2009/2010;

U.S. FS Resource Policy Values and Economics Workshop, Portland State University, April 2011; and as a joint course for the University of Georgia and Portland State University, April 2010;

Holmes, T., González-Cabán, A., Loomis, J., and Sánchez, J.J., 2010. A Mixed Logit Model of Homeowner Preference for Wildfire Hazard Reduction. *Fourth World Congress of Environmental and Resource Economists*. June 28, 2010 to July 2, 2010, Montreal, Canada.

Holmes, T., Loomis, J., and González-Cabán, A., 2008. Mixed Logit Model of Homeowner Preferences for Wildfire Hazard Reduction. *Third International Symposium on Fire Economics, Planning, and Policy: Common Problems and Approaches*. April 29 – May 2, Carolina, Puerto Rico.

References

Sánchez, J.J., Holmes, T, Loomis, J., and González-Cabán, A. (in press). Homeowner willingness to pay to reduce wildfire risk in wildland urban interface areas: Implications for targeting financial incentives. *International Journal of Disaster Risk Reduction*

Sánchez, J.J., Loomis, J., González-Cabán, A., Holmes, T., 2019. A comparison of wildland urban interface households WTP for wildfire risk reduction programs in California and Florida. In: González-Cabán, Armando; Sánchez, José J. (Eds.), *Proceedings of the Fifth International Symposium on Fire Economics, Planning, and Policy: Ecosystem Services and Wildfires*. Gen. Tech. Rep. PSW-GTR-261, pp 114-131. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. (in English and Spanish).
https://www.fs.usda.gov/treesearch/pubs/57679

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