



Social Acceptability of Biomass and Biofuels

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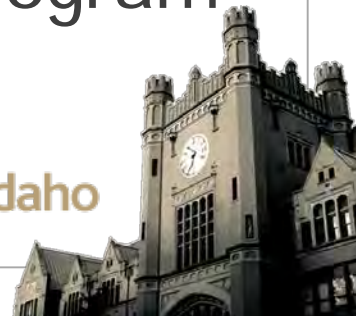
Roadmap

- Why is stakeholder assessment important?
- Survey instrument
- Surveying process
- Findings
- Relevance to NARA
- Next steps



Why do Stakeholder Assessment?

- Identify knowledge gaps or opposition and determine best ways to mediate/mitigate
- Assess knowledge, interests, positions, alliances, and importance related to the program
- Allows policymakers and managers to interact more effectively with key stakeholders and to increase support for a given policy or program



“Nearby residents formed the North Springfield Action Group to fight the project, saying it would be a blight on the landscape, as well as pumping tons of toxic pollutants and particulate into the atmosphere, harming the region’s air quality.”

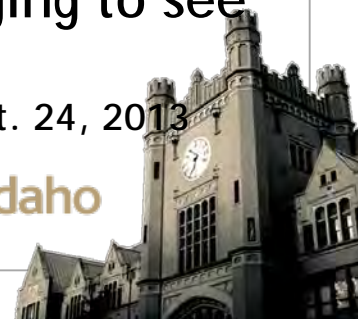
- **Biomass Plant Suffers Setback During Review, Valley Times, Nov. 12, 2013**

“The project has been opposed by environmentalists concerned about the unregulated ultrafine particles that will be created by burning the biomass.”

- **Gov. Inslee Cancels Appearance at Port Angeles Biomass Ceremony, Peninsula Daily News, Oct. 29, 2013**

“The biomass plant is nearly ready to go, and Eagle Valley Clean Energy is already accepting job applications. EVCE representative Dean Rostrom said ‘We’ve been getting many applications, and it’s encouraging to see how much talent there is in the area.’”

- **Biomass Project Heats Up, Vail Daily, Oct. 24, 2013**



Survey Instrument

- Topics covered include:
 - Support
 - Agreement
 - Perceived Benefits/Drawbacks
 - Worry
 - Trust
 - Perceived Knowledge



Survey Instrument cont.

- 22 qualitative and quantitative questions
 - Scaling/Likert type questions
 - Open ended questions
- 7 demographic questions
 - gender, education, political affiliation, age, zip code
- Option to take online, by phone, or hard copy through mail



21 Stakeholder Groups

Government

- Tribal Organizations & Communities
- Research/Academic Institutions
- City/Town Government
- County/State Government - EDD, DNR
- Federal Agencies: USDA, National Parks, BLM
- Local Influential Leaders

Industry

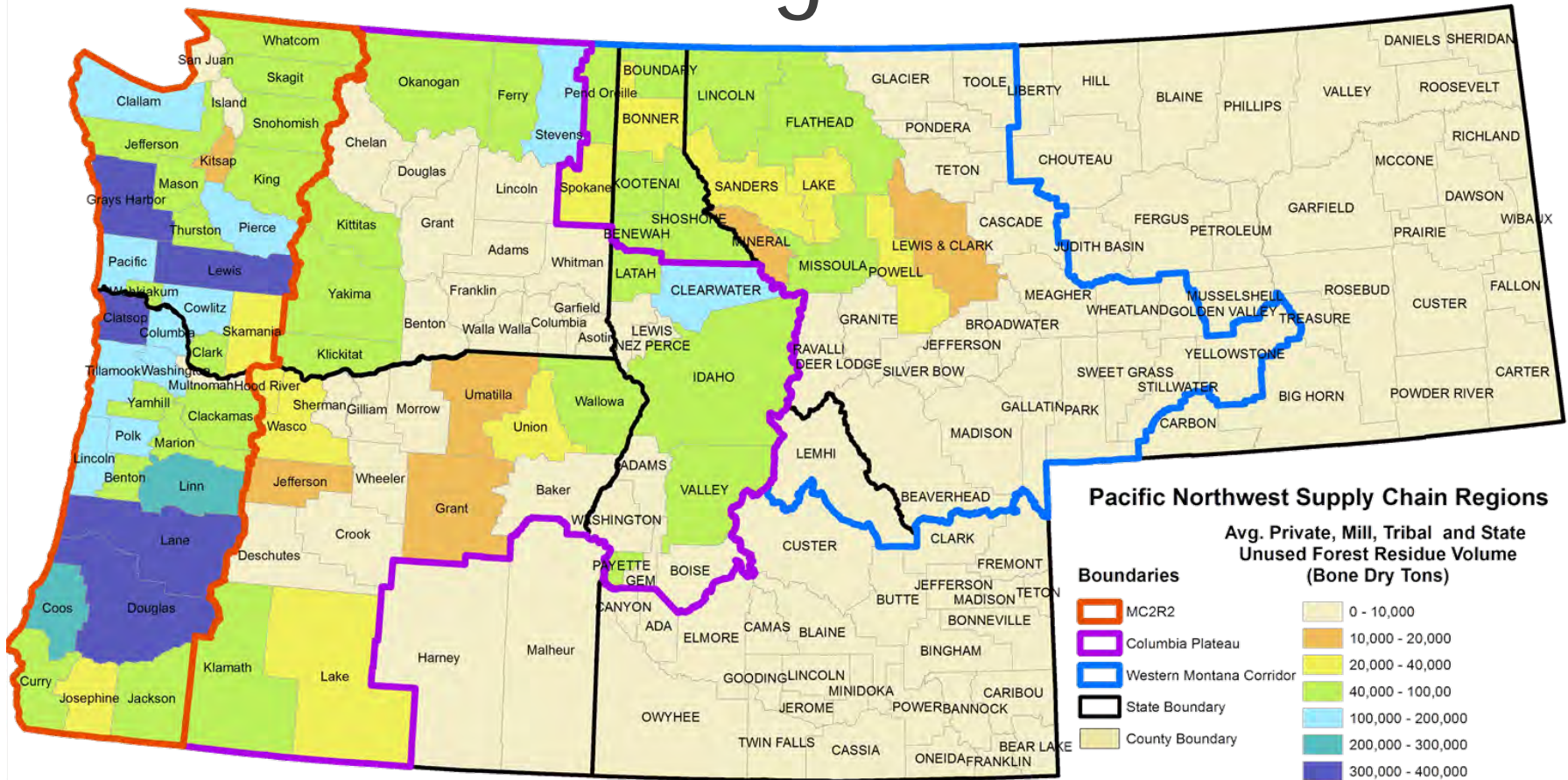
- Harvesters/Haulers
- Primary Products
- Secondary Products
- Forestry & Forest Products Industry/Associations
- Non Industrial Landowners
- Industrial Landowners
- Chemical Industry
- Bio refinery
- Petroleum Industry
- Transportation
- Interested Local Businesses/Investors

Environmental

- Renewable Energy
- ENGOs
- Wilderness Outfitters & Recreation Organizations
- Local Resource Management Associations



3 Regions



State forest residue volumes are approximated using Timber Product Output (TPO) datasets from the University of Montana Bureau of Business and Economic Research (BBER). They sample Oregon, Montana and Idaho on a bi-decadal basis. Washington is sampled by the Washington State Department of Natural Resources, and the numbers are reported to the BBER.

Dates Used for State Forest Harvest Volume Averaging:

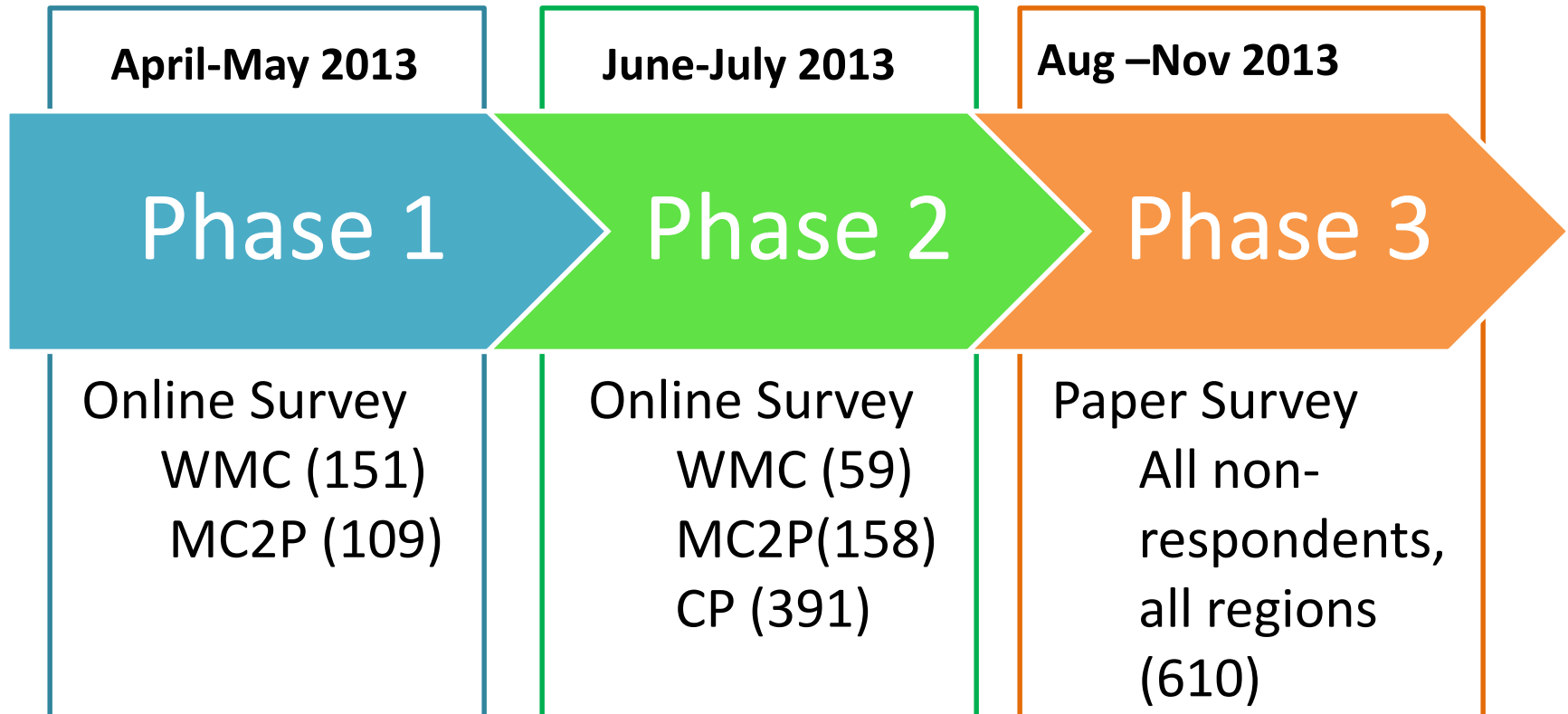
Oregon -- 2003, 2008 Washington -- 2002, 2010
 Montana -- 2004, 2009 Idaho -- 2001, 2006



Data Collection Stages

Survey Pilot:

10 in person interviews with WMC Stakeholders January 2013

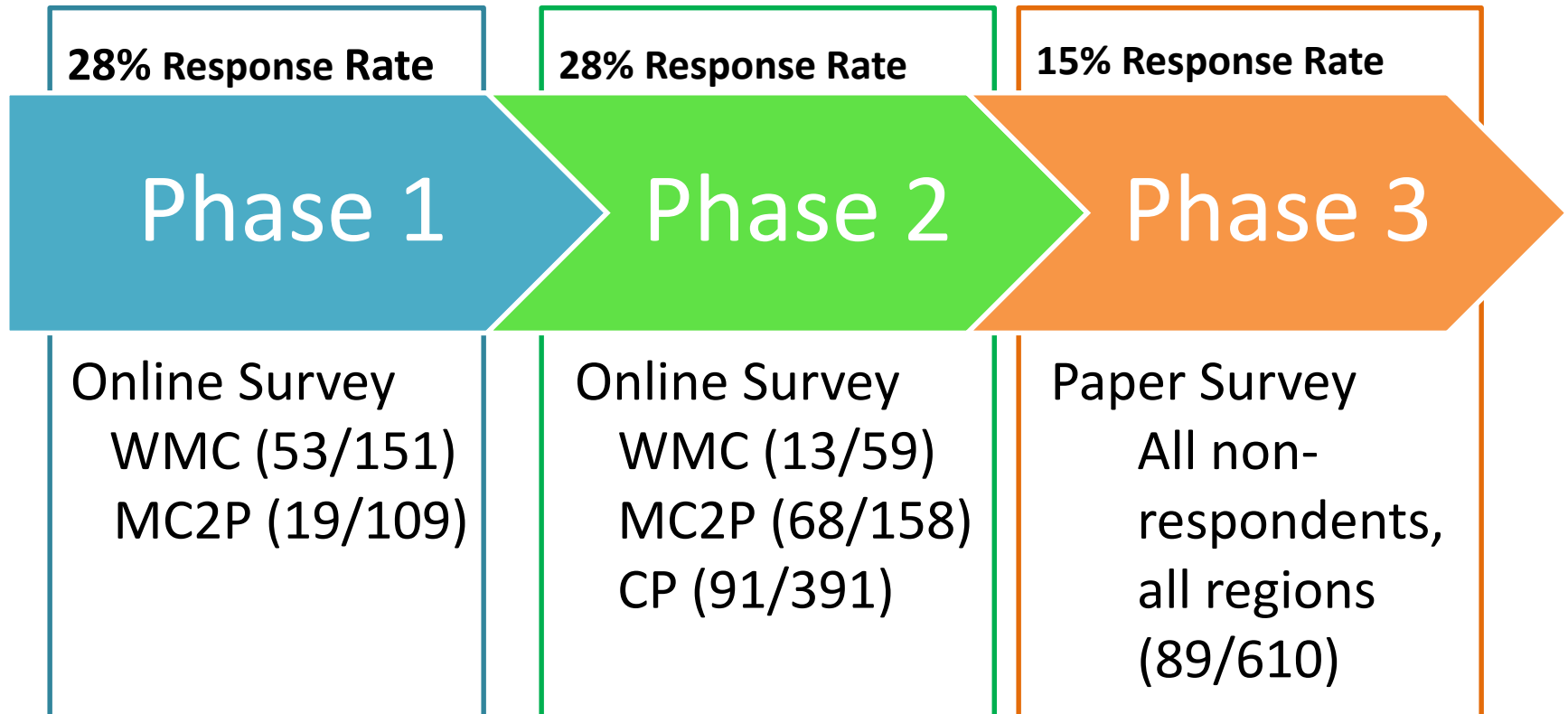


Survey Responses

Total population: n= 868

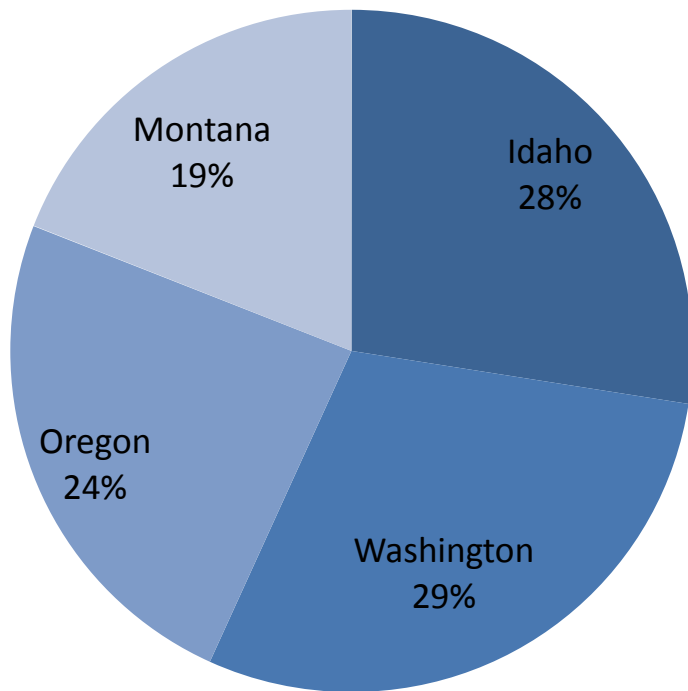
Total respondents: 333

Overall response rate: 38%

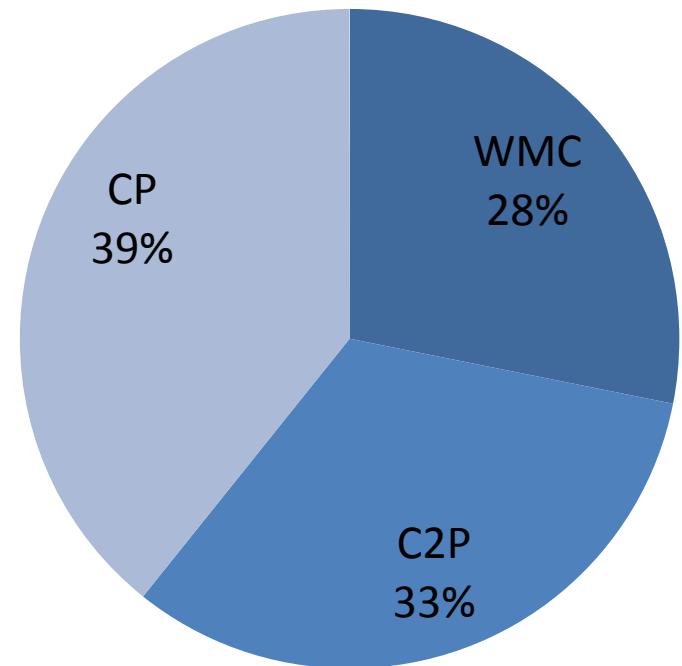


Participant Demographics

Participant Response by State

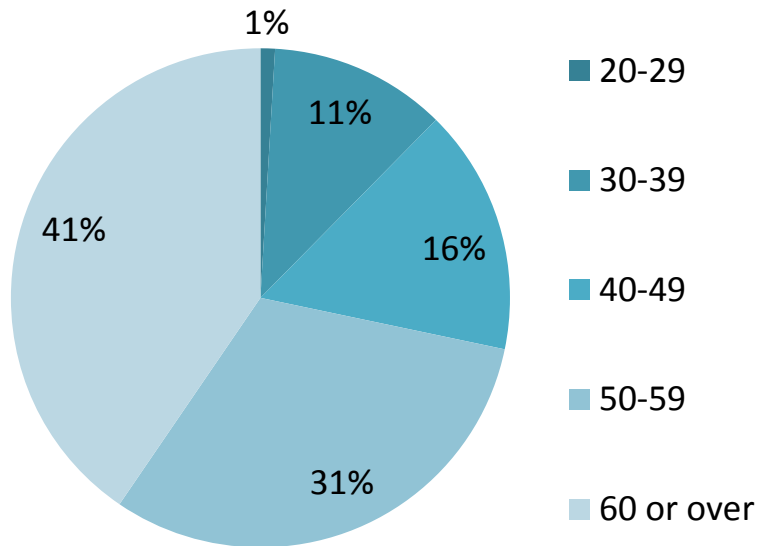


Participant Response by Region

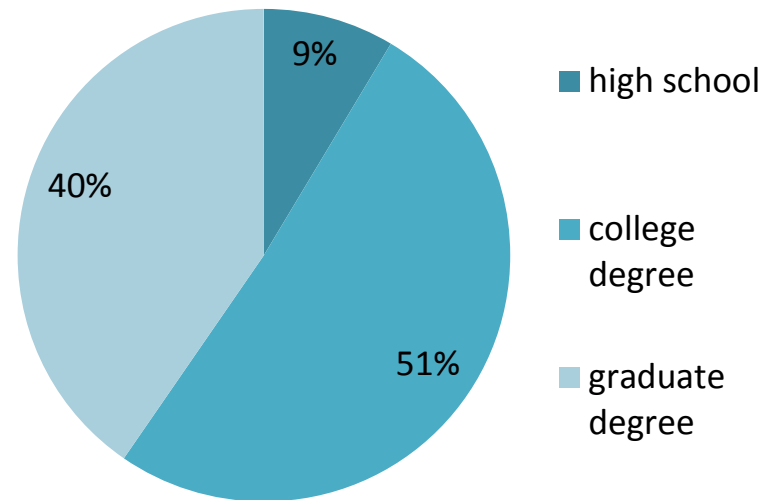


Demographics

Age

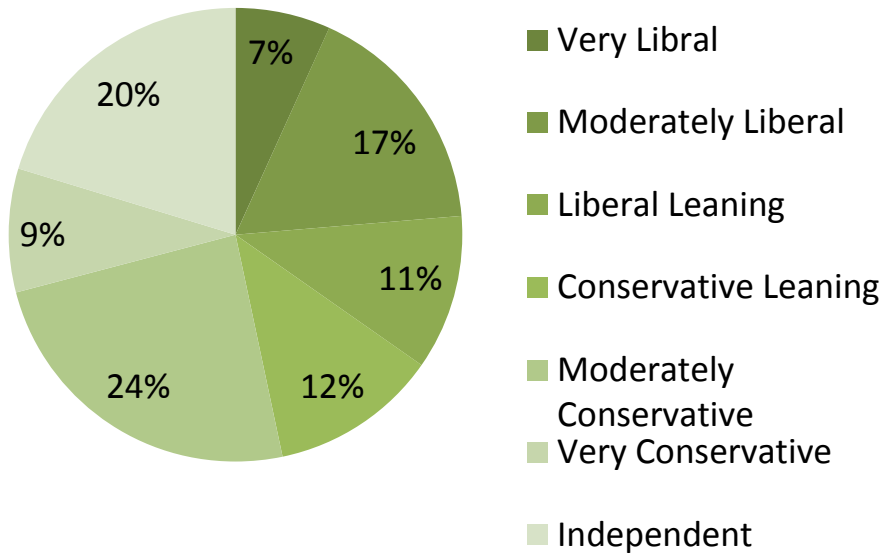


Level of Education

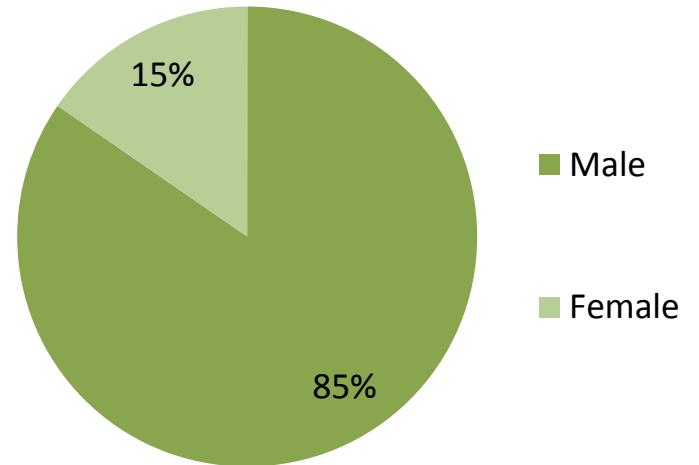


Demographics

How would you describe yourself politically?



Gender



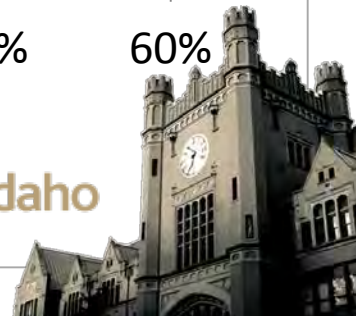
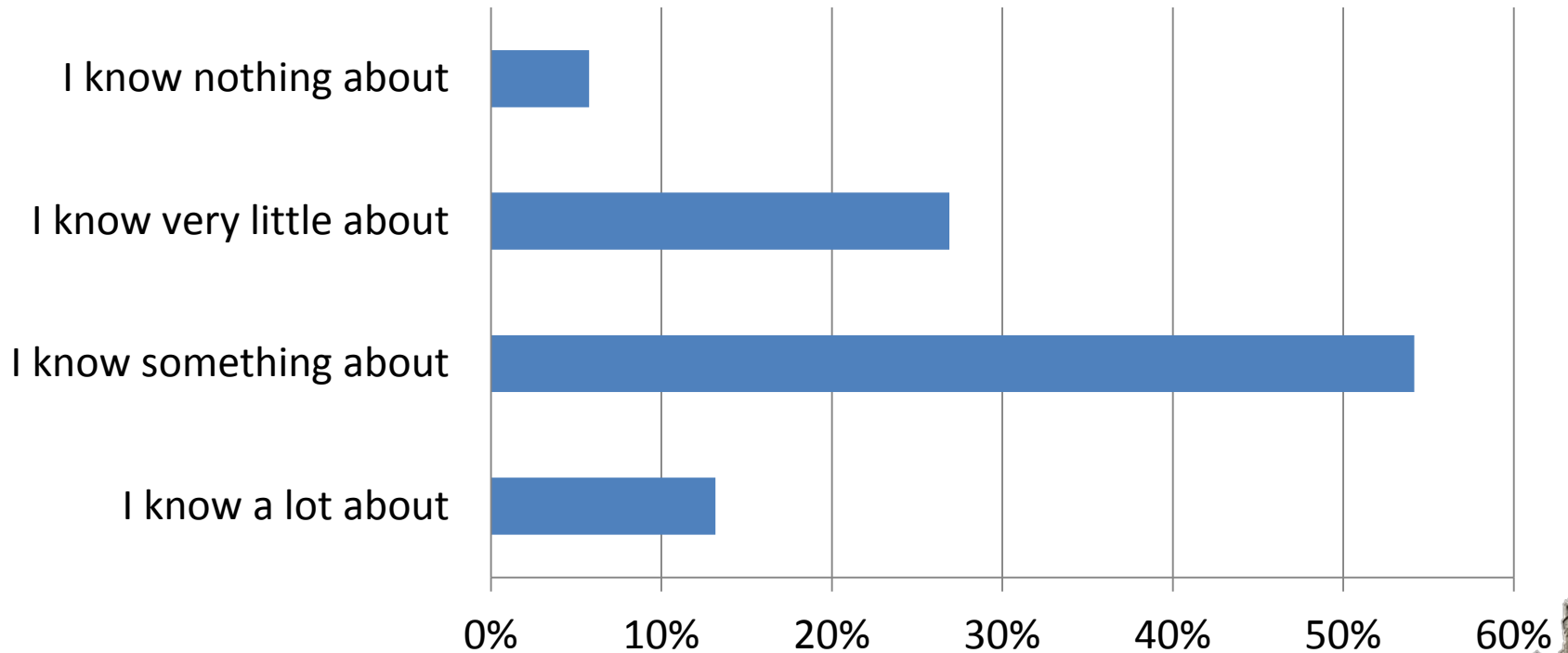
Qualitative Questions

“What benefits, if any, might come from using woody biomass to create liquid biofuels in your state?”



Quantitative Questions

“How much do you know about using woody biomass to produce liquid biofuels?”



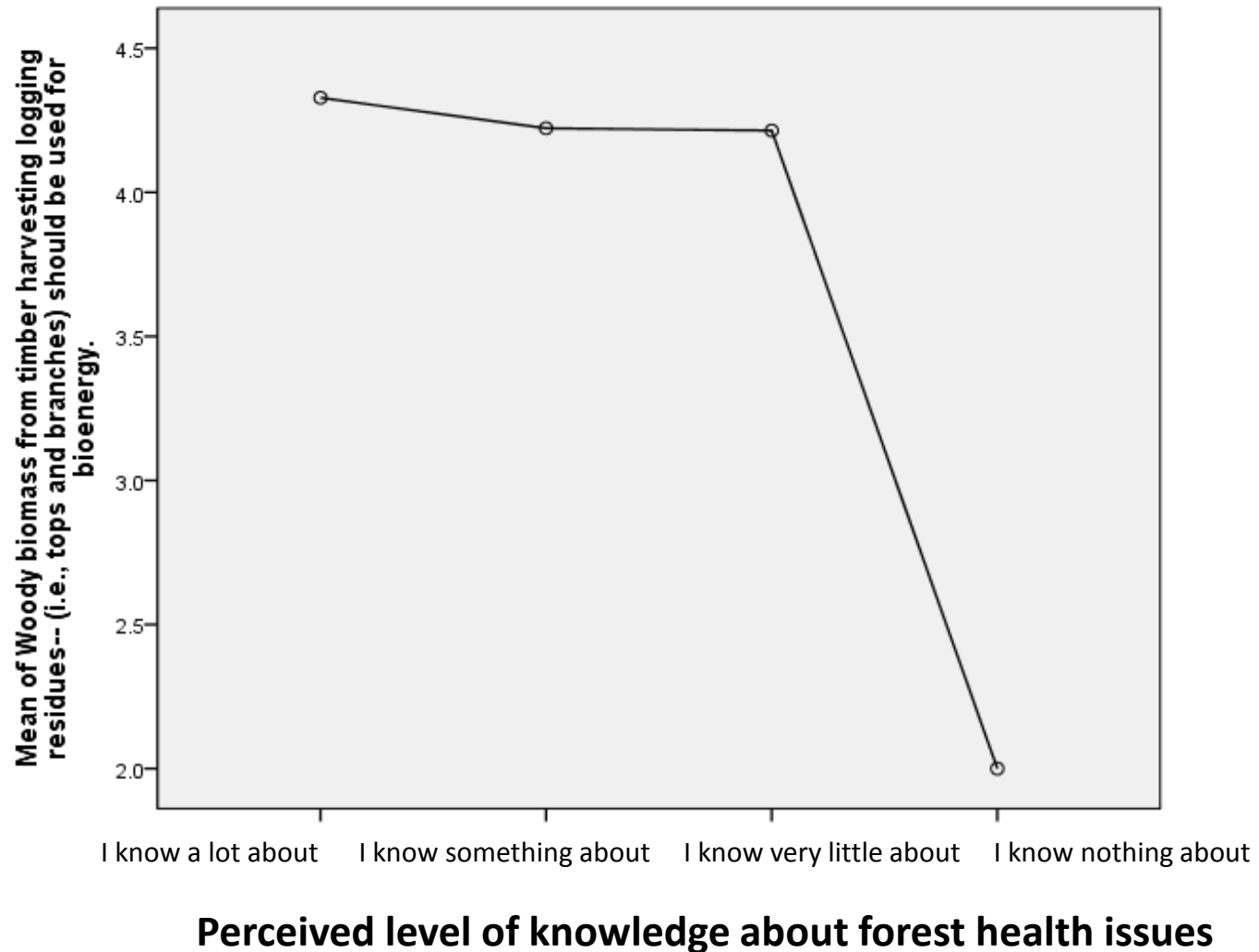
Perceived Knowledge of Forest Health Issues compared to Agreement

Question: Is there a significant difference ($<.05$) in agreement on certain issues between stakeholders with different levels of knowledge forest health issues?

	Sig.
Woody biomass from timber harvesting logging residues-- (i.e., tops and branches) should be used for bioenergy.	.002
Woody biomass from forest thinning should be used for bioenergy.	.001
Woody biomass from bug infested/diseased trees should be used for bioenergy.	.000
On public lands, when cutting trees only small diameter trees should be removed.	.000



Perceived Knowledge of Forest Health Issues and Level of Agreement



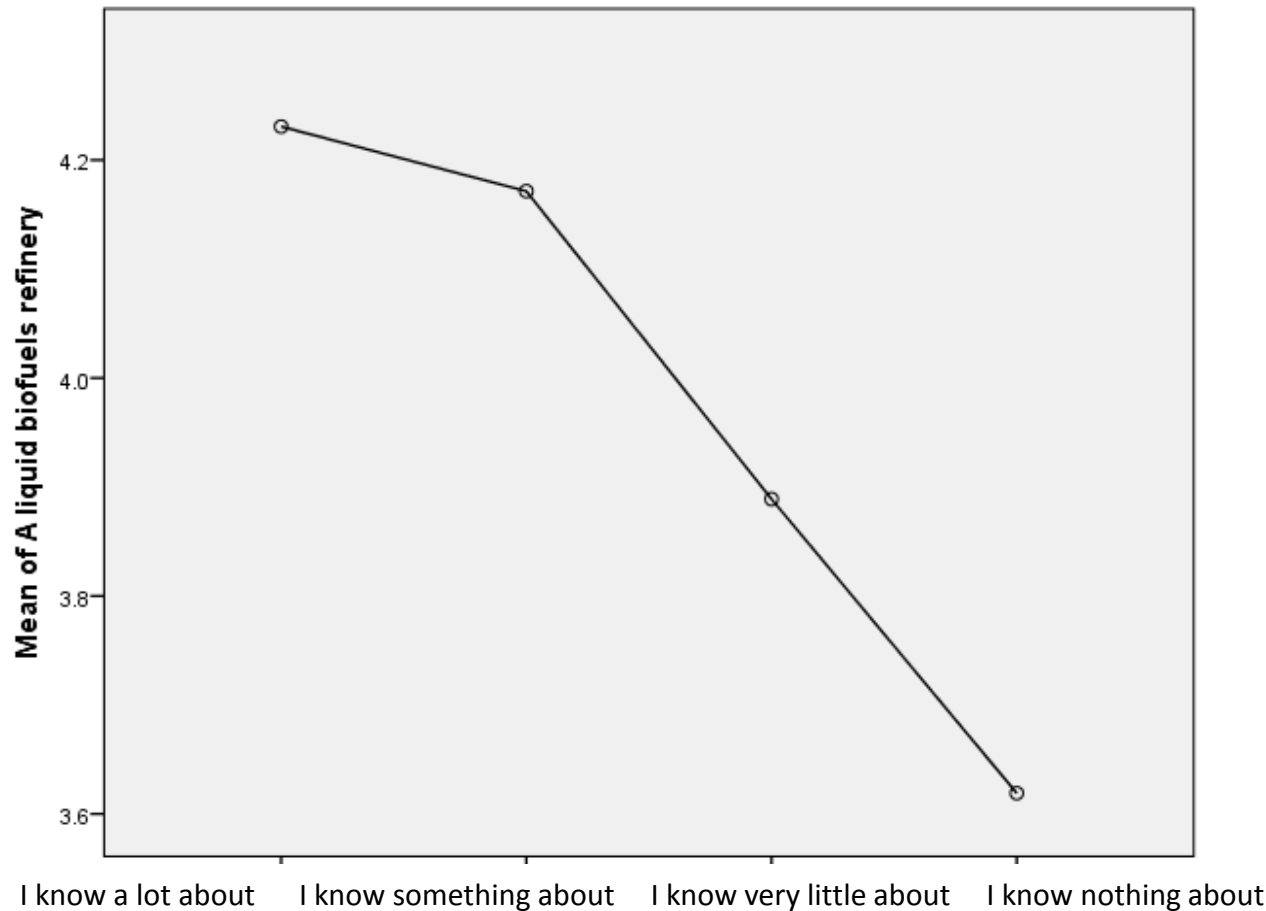
Perceived Knowledge of using woody biomass to produce liquid fuel compared to Support

Question: Is there a significant difference ($<.05$) in level of support for certain issues between stakeholders with different levels of knowledge about using woody biomass to produce liquid fuel?

	Sig.
A bioenergy power plant	.001
A liquid biofuels refinery	.006
I believe the biofuel industry will have more benefits than risks for the society.	.002
Increased use of liquid biofuels could off-set climate change.	.134



Perceived Knowledge of Using Woody Biomass to produce Liquid Fuels and Support



Perceived level of knowledge about using woody biomass to produce liquid fuel



Higher
Perceived
Knowledge



Higher
Support and
Agreement



Literature Reviewed

- Uncertainties may weaken support
- Studies have found stronger support for renewable energy sources which stakeholders know more about
- Lack of knowledge about the environmental impacts of removing woody biomass has been identified as one obstacle in gaining public support
- General unawareness of the benefits of using woody biomass influences the public's perception



Literature Reviewed cont.

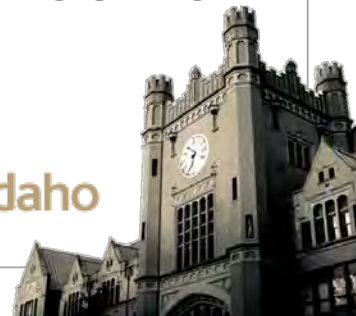
- Can remedy knowledge gaps through improved communication
- Using education to address these issues will strongly contribute to success in the biofuels industry



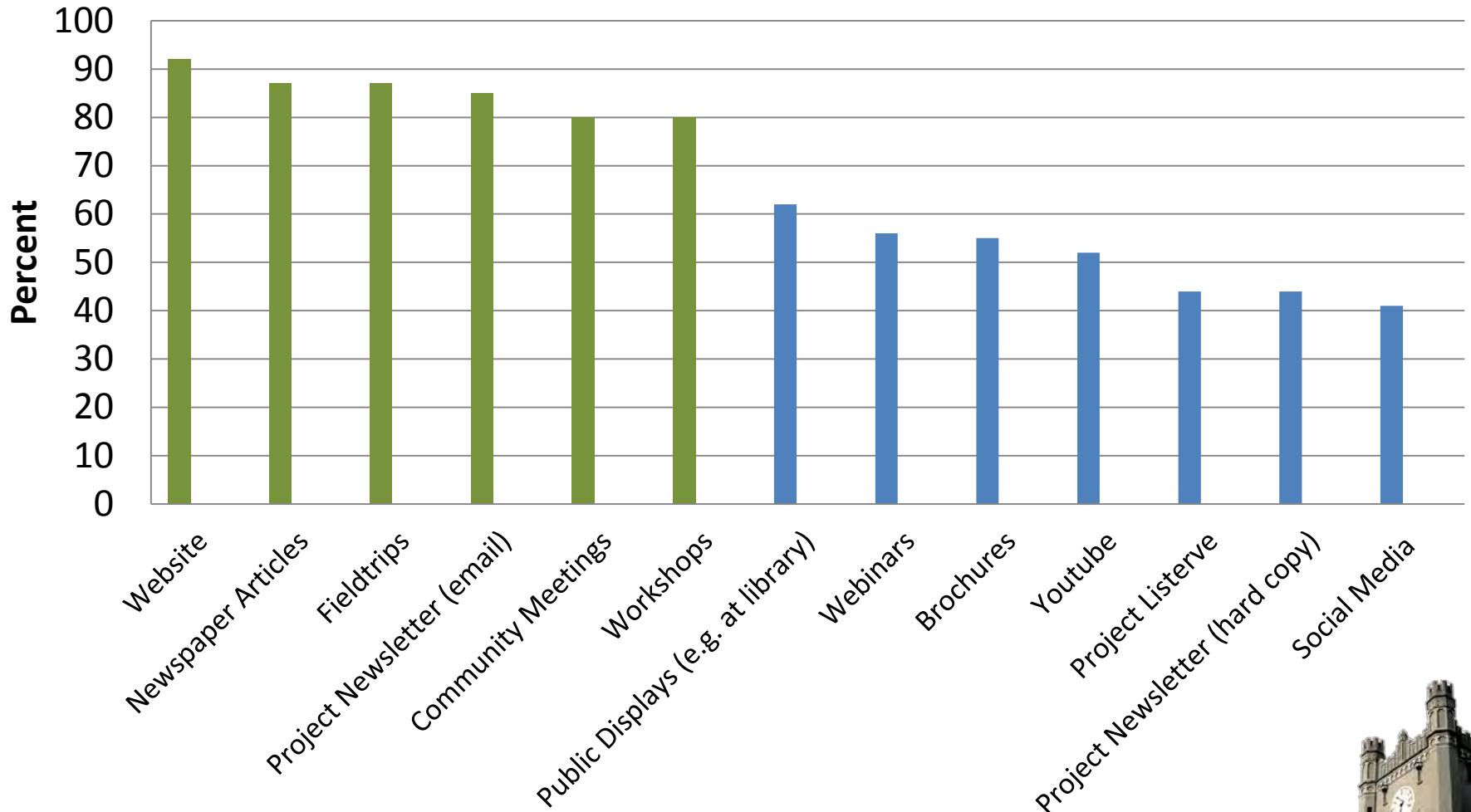
Knowledge Gaps/Concerns

Based on qualitative and quantitative analysis, it is recommended that education efforts focus on:


- Information regarding environmental and economic impacts
- Processes involved in using woody biomass to produce liquid fuel
- Forest health and forest health issues in the Pacific Northwest





Preferred Method of Communication



Next Steps

- 
- Further survey result analysis by demographics, region, and stakeholder group.

- 
- Triangulation of results with existing county-level national and local data, as well as biogeophysical information.

- 
- Ground-truthing through targeted in-depth interviews in low and high potential counties to verify survey findings.



Summary

- 333 informed stakeholders surveyed
- Found stakeholder support and agreement varies by perceived level of knowledge regarding various biofuels related topics
- Literature suggests education aimed at remedying knowledge gaps can increase support
- Opportunity for NARA outreach and education team
- On going dataset analysis
- Ground-truthing to verify findings



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