



Sustainability in the Maine Maple Sugaring Industry: How Alternative Forms of Wealth Are Conceptualized By Producers

Skye Siladi¹, Cynthia Isenhour¹, Jessica Leahy², Sara Velardi², Melissa Ladenheim³, Kourtney Collum⁴, Julia McGuire⁵

Department of Anthropology, University of Maine

¹Department of Anthropology, University of Maine, Orono, ME 04469 ²School of Forest Resources, UMaine, ³Honors College, UMaine, ⁴College of the Atlantic, Bar Harbor, ME 04609, ⁵School of Biology & Ecology, UMaine

Sugar Maple Region



Maple Syrup

- Maple syrup production range is from Kentucky to the Gaspé Peninsula in Quebec
- Canada accounts for 70% of world production of maple syrup, with Quebec producing 90% of that
- In the U.S. Maine is the third largest producer of maple syrup besides Vermont and New York
- Six- to eight-week season in early spring
- Warm days and nights below freezing necessary for sweet sap production

Future of Maple Syrup Production

- Climate change has the potential to drastically impact the maple syrup industry
- Increased temperatures have been predicted for northeast North America and has the potential to negatively impact sugar maple habitat
- Predicted that syrup season will need to start earlier to make up for temperature changes from climate change



Valuation

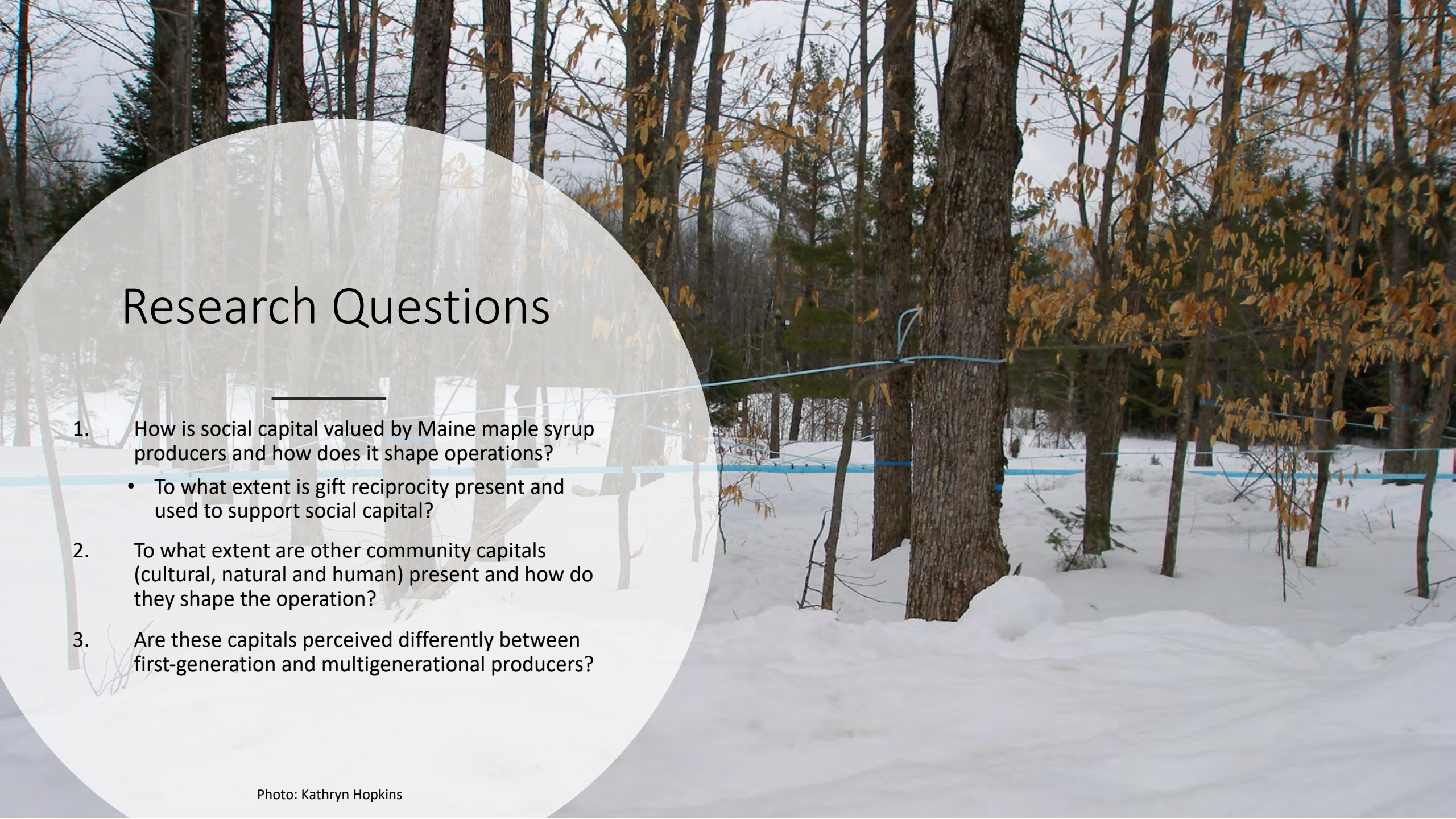
- When financial motivations do not explain the whole story, alternative forms of capital can provide insight
- Social connections, traditions and history, local ecology, and personal well-being can all be considered alternative forms of capital
- Alternative forms of capital may provide insight into Maine maple syrup producers motivations





Framework

- Community capitals framework in *Rural Communities* (Flora, Flora, & Gasteyer, 2016)
 - Social Capital
 - Cultural Capital
 - Natural Capital
 - Human Capital
- “No capital exists in isolation”.
 - (Flora, Flora, & Gasteyer, 2016, p. 32)
- Fluid and dynamic; depend on the perception of the person assigning value

A photograph of a snowy forest. The ground is covered in a thick layer of white snow. Several trees are visible, some with bare branches and others with yellowing autumn leaves. A blue string is tied around a tree trunk in the foreground, extending across the frame. The background shows more trees and a hazy sky.

Research Questions

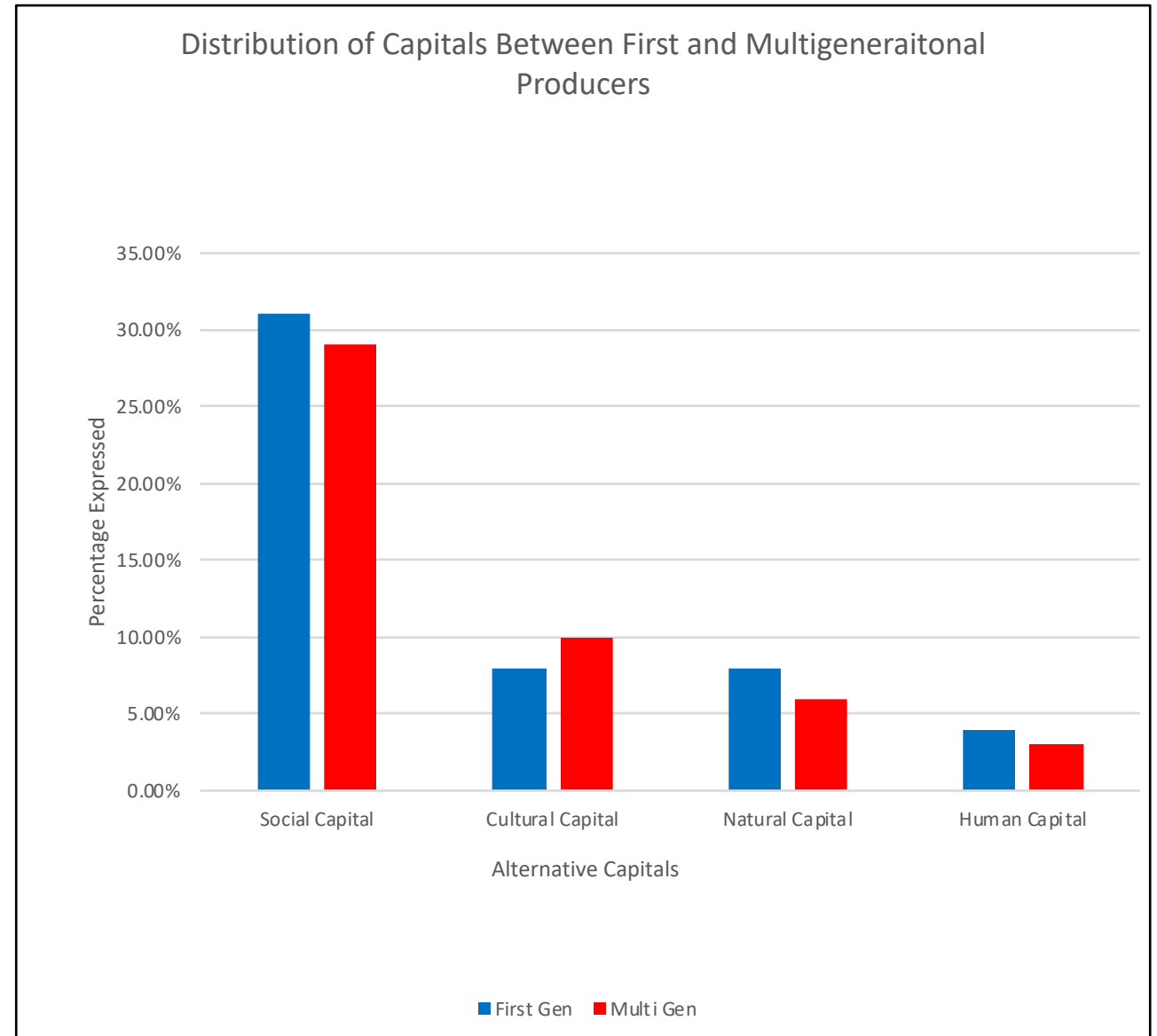
1. How is social capital valued by Maine maple syrup producers and how does it shape operations?
 - To what extent is gift reciprocity present and used to support social capital?
2. To what extent are other community capitals (cultural, natural and human) present and how do they shape the operation?
3. Are these capitals perceived differently between first-generation and multigenerational producers?

Methods

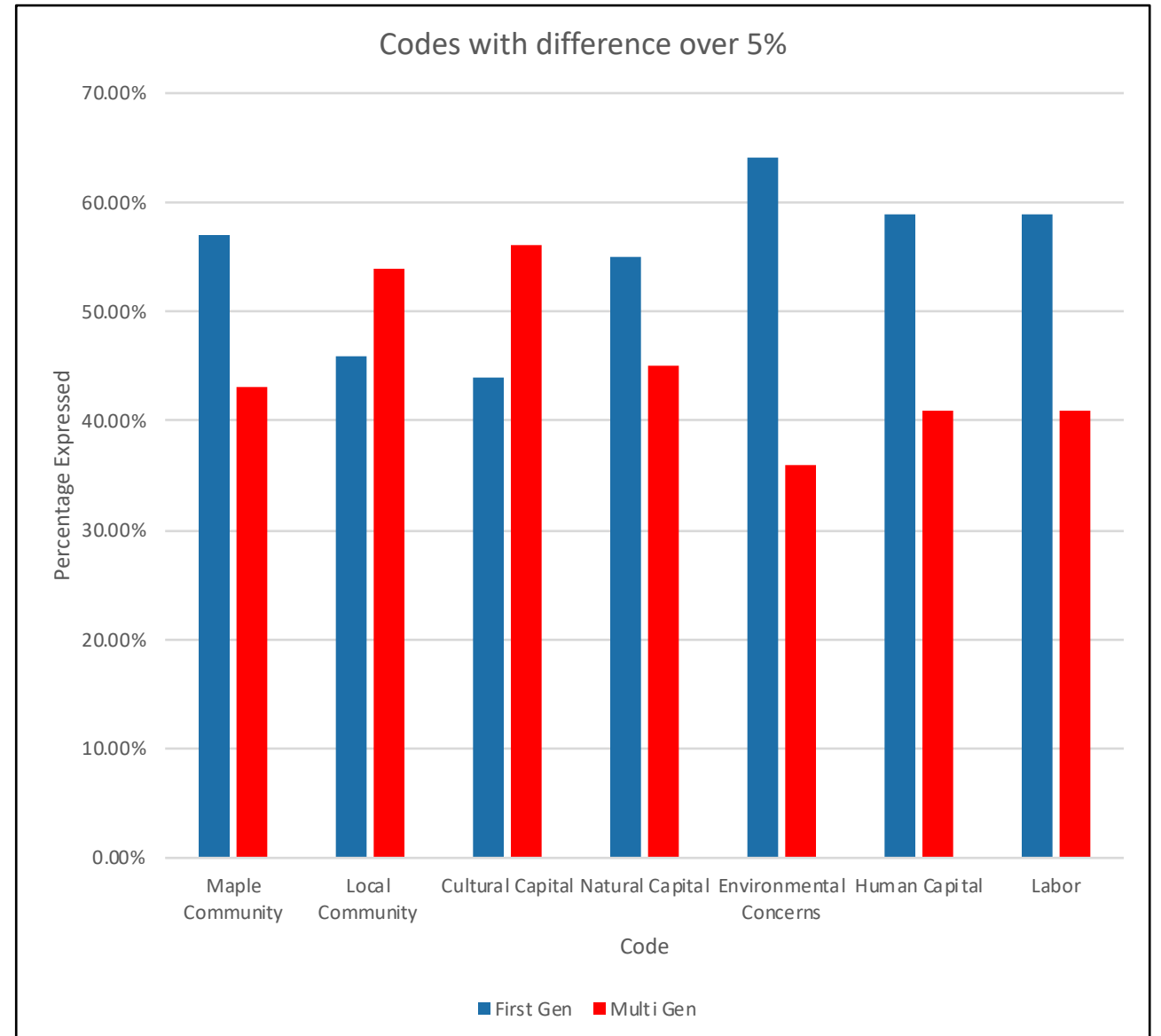
- Research conducted as part of Sweet Spot Project at UMaine
- 10 semi-structured interviews
- Conducted between August and October of 2018
- First-Generation and Multigenerational Producers
- Coded for four alternative capitals and subset ideas of each capital



Findings



Findings





First-Generation

- Social Capital
 - *...instead of buying a three hundred-dollar tool I was able to borrow it from somebody else and use it for 10 minutes and then give it back. MS9, first-generation*
- Cultural Capital
 - *...when you're brand new you don't come in with any preconceived ideas on what, how it needs to be done. MS19, first-generation*
- Natural Capital
 - *I mean to me is like wonderful to be able to own a piece of land and not have it be developed. And even though it's more of a working forest. But you don't start tapping a maple tree until its 40 years old. You can't just go out and plant a new round of trees and expect to have a business. MS2, first-generation*
- Human Capital
 - *You got to have somebody who is almost athletic to climb the trees because tapping is what it takes most of the time... MS20, first-generation*



Multigenerational

- Social Capital
 - *I offered to pay the people money, they don't want money, they want syrup. MS3, multigenerational*
- Cultural Capital
 - *That was my grandmother's recipe. Yeah and I'm not letting anybody know what it is. MS21, multigenerational*
- Natural Capital
 - *After, what I do during the winter...I can be out in the middle of the night or I could be in some crawlspace and it's like why am I doing this. And then that's over with and I go do [maple sugaring] and that's where I get my sanity back. Out with the birds and deer. So, it's more, health wise I guess, I get my health back out there. MS3, multigenerational*
- Human Capital
 - *I don't know if I could find someone I could trust for, and to be able to teach them fast enough, everything that they need to know. MS6, multigenerational*

Conclusions

- For Maine maple syrup producers, alternative forms of capital are of concern
- Social capital is utilized to obtain goods, labor, and knowledge
- First-generation producers are more concerned with environmental factors than multigenerational
- Multigenerational producers are more concerned with cultural capital and local community
- Sustainability both ecologically and continuation of tradition



References

- Artz, G., Colson, G., & Ginder, R. (2010). A return of the threshing ring? A case study for machinery and labor sharing in midwestern farms. *Journal of Agricultural and Applied Economics*, 42(4), 805-819. Retrieved from <http://www.econis.eu/PPNSET?PPN=67257439X>
- Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.) *Handbook of Theory and Research for the Sociology of Education*. New York, Greenwood, 241-258.
- Carolan, M. S. (2007). Saving seeds, saving culture: A case study of a heritage seed bank. *Society & Natural Resources*, 20(8), 739-750. doi:10.1080/08941920601091345
- Coleman, J.S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95-121.
- Curtis, A. (2014, February 23). USDA farming census: Maine has more young farmers, more land in farms. Bangor Daily News. Retrieved March 5, 2019, from <https://bangordailynews.com/2014/02/23/business/usda-farming-census-maine-has-more-young-farmers-more-land-in-farms/>
- Flora, C.B., Flora, J.L., & Gasteyer, S.P. (2016). *Rural communities legacy and change*. Boulder, CO: Westview Press.
- Gerbas, G. T. (2006, Sep 22,). Athens farmers' market: Evolving dynamics and hidden benefits to a southeast ohio rural community. *Focus on Geography*, 49, 1-6. doi:10.1111/j.1949-8535.2006.tb00160.x Retrieved from <https://search-proquest-com.prxy4.ursus.maine.edu/docview/198436557>
- Harrison, J.L., Montgomery, C. A., & Bliss, J.C. (2016). Beyond the Monolith: The Role of Bonding, Bridging, and Linking Social Capital in the Cycle of Adaptive Capacity. *Society & Natural Resources*, 29(5), pp. 525–539. <http://dx.doi.org/10.1080/08941920.2015.1103389>
- Hinrichs, C. C. (1998). Sideline and Lifeline: The Cultural Economy of Maple Syrup Production1. *Rural Sociology*, 63(4), 507-532. doi:10.1111/j.1549-0831.1998.tb00690.x
- Holman, M. B. (1986). HISTORIC DOCUMENTS AND PREHISTORIC SUGARING: A MATTER OF CULTURAL CONTEXT. *Midcontinental Journal of Archaeology*, 11(1), 125-131. Retrieved November 27, 2018, from <https://www.jstor.org/stable/20707962>.
- Houle, D., Paquette, A., Côté, B., Logan, T., Power, H., Charron, I., & Duchesne, L. (2015). Impacts of Climate Change on the Timing of the Production Season of Maple Syrup in Eastern Canada. *Plos One*, 10(12). doi:10.1371/journal.pone.0144844
- Kenny, D.C. (2017). Modeling of natural and social capital on farms: Toward useable integration. *Ecological Modelling*, 356, 1-13. <http://dx.doi.org/10.1016/j.ecolmodel.2017.04.010>
- Lange, M. A. (2017). *Meanings of maple: An ethnography of sugaring*. Fayetteville: The University of Arkansas Press.

References

Malinowski, Bronislaw (1984 [1922]). Forward, Preface, Chapter III. *Argonauts of the Western Pacific*. Long Grove: Waveland Press.

Mason, C. I. (1985). PREHISTORIC MAPLE SUGARING SITES? *Midcontinental Journal of Archaeology*, 10(1), 149-152. Retrieved November 27, 2018, from

Matthews, S. N., & Iverson, L. R. (2017). Managing for delicious ecosystem service under climate change: Can United States sugar maple (*Acer saccharum*) syrup production be maintained in a warming climate? *International Journal of Biodiversity Science, Ecosystem Services & Management*, 13(2), 40-52. doi:10.1080/21513732.2017.1285815

Mauss, M (1967). *The gift: Forms and functions of exchange in archaic societies*. New York: Norton.

Nearing, H., & Nearing, S. (1950). *The maple sugar book: Being a plain, practical account of the art of sugaring designed to promote an acquaintance with the ancient as well as the modern practise, together with remarks on pioneering as a way of living in the twentieth century*. New York: J. Day Co.

Putnam, R. D. (1995). Bowling Alone: America's Declining Social Capital. *Journal of Democracy* 6(1), 65-78. Johns Hopkins University Press. Retrieved February 15, 2019, from Project MUSE database.

Rissing, A. (2016). Alternative economic strategies and the technology treadmill: Beginning vegetable farmers in iowa. *Economic Anthropology*, 3(2), 304-314. doi:10.1002/sea2.12061

Sahlins, M. (1972). On the Sociology of Primitive Exchange. *Stone Age Economics*. Chicago, IL: Aldine Atherton. pp 185 – 230.

Skinner, C. B., Degaetano, A. T., & Chabot, B. F. (2009). Implications of twenty-first century climate change on Northeastern United States maple syrup production: Impacts and adaptations. *Climatic Change*, 100(3-4), 685-702. doi:10.1007/s10584-009-9685-0

Statistical Overview of the Canadian Maple Industry 2017. (2018, April 27). Retrieved March 22, 2019, from <http://www.agr.gc.ca/eng/industry-markets-and-trade/canadian-agri-food-sector-intelligence/horticulture/horticulture-sector-reports/statistical-overview-of-the-canadian-maple-industry-2017/?id=1524607854094>

Thomas, M. M. (2005). Historic American Indian Maple Sugar and Syrup Production: Boiling Arches in Michigan and Wisconsin. *Midcontinental Journal of Archaeology*, 30(2), 299-326. doi:10.1179/mca.2005.010

Vogel, V. J. (1987). The Blackout of Native American Cultural Achievements. *American Indian Quarterly*, 11(1), 11. doi:10.2307/1183725

Whitney, G. G., & Upmeyer, M. M. (2004). Sweet trees, sour circumstances: The long search for sustainability in the North American maple products industry. *Forest Ecology and Management*, 200(1-3), 313-333. doi:10.1016/j.foreco.2004.07.006