

# Michael P. Brady

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## Professional Appointments

2022-Present	Director of the Masters in Applied Economics Program School of Economic Sciences, Washington State University
2018-Present	Associate Professor and Extension Economist (specialty crops) School of Economic Sciences, Washington State University
2012-2018	Assistant Professor and Extension Economist (specialty crops) School of Economic Sciences, Washington State University
2015-2017	Affiliate Assistant Professor School of the Environment, Washington State University
2009-2012	Assistant Research Professor School of Economic Sciences and IMPACT Center, Washington State University
2007-2009	Research Economist Economic Research Service, USDA, Washington D.C.
1998-2000	Research Assistant Sciences International, Inc., Alexandria, VA (toxicology consulting firm)

## Education

2007	PhD, Department of AED Economics, Ohio State University
2004	MA, Department of Economics, Ohio State University
2001	MSc, Department of Geography and Environment, London School of Economics
1998	BA, Department of Zoology, Miami University

## Research Fields

Agricultural Economics; Water Economics; Land Values, Ownership, and Use; Bio-Economic Modeling

## Publications and Articles in Review

Peer-reviewed	Brady, M., D. Granatstein, E. Kirby. Survival and Growth of Organic Farms Over the Long-Run. Revise and Resubmit, Journal of the Agriculture and Applied Economics Association. Lin, H., K. Gallardo, M. Brady. Climate Change and the Increased Recurrence of Pests and Disease Outbreaks: The Case of the Organic and Conventional U.S. Apple Industry. Revise and Resubmit, Journal of Agricultural and Applied Economics. Chaudhary, S., K. Rajagopalan, C. Kruger, M. Brady, C. Fraisse, D. Gustafson, S. Hall, G. Hoogenboom, R. Melnick, J. Reyes, C. Stockle, T. Susler. Analogs for Dialogs: A Network to Catalyze Climate Change Adaptation for US Specialty Crops. In review, Scientific Reports. Zhang, Q., J. McCluskey, K. Gallardo, M. Brady. 2021. Avoidance Behaviors Circumventing the Sugar-Sweetened Beverages Tax. Food Policy, 105:102166.
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- Khanal, R., M. Brady, C. Stöckle, K. Rajagopalan, J. Yoder, M. Barber. 2021. The Economic and Environmental Benefits of Partial Leasing of Agricultural Water Rights. *Water Resources Research*, 57(11).
- Malek, K., J. Adam, J. Yoder, J. Givens, C. Stockle, M. Brady, T. Karimi, K. Rajagopalan, M. Liu, P. Reed. 2021. Impacts of Irrigation Efficiency on Water-Dependent Sectors are Heavily Controlled by Region-Specific Institutions and Infrastructures. *Journal of Environmental Management*, 300, p.113731.
- Malek, K., P. Reed, J. Adam, T. Karimi, M. Brady. 2020. Water Rights Shape Crop Yield and Revenue Volatility Tradeoffs for Adaptation in Snow Dependent Systems. *Nature Communications*, 11(1):1-10.
- Katz, S., J. Padowski, M. Goldsby, M. Brady, S. Hampton. 2020. Defining the Nature of the Nexus: Specialization, Connectedness, Scarcity, and Scale in Food-Energy-Water Management. *Water*, 12(4), <https://doi.org/10.3390/w12040972>.
- Brady, M.P., J. Padowski, J. Yoder, E. Jessup, D. Christensen, Q. Yang, B. Anderson. 2019. Mitigating Groundwater Impacts of Residential Wells Through Small-Scale Distributed Storage in the Skagit River Basin. *Journal of the American Water Resources Association*, 55(6):1464-1478. <https://doi.org/10.1111/1752-1688.12795>.
- Mandal, B. and M.P. Brady. 2019. The Roles of Gender and Marital Status on Risky Asset Allocation Decisions. *Journal of Consumer Affairs*. Online Published, <https://doi.org/10.1111/joca.12261>.
- Malek, K., J. Adam, C. Stockle, M.P. Brady, K. Rajagopalan. 2018. When Should Irrigators Invest in More Water-Efficient Technologies as an Adaptation to Climate Change?. *Water Resources Research*, 54(11):8999-9032.
- Rajagopalan, K., K.J. Chinnayakanahalli, C.O. Stockle, R.L. Nelson, C.E. Kruger, M.P. Brady, K. Malek, S.T. Dinesh, M.E. Barber, A.F. Hamlet, G.G. Yorgey, J.C. Adam. 2018. Impacts of Near-Term Climate Change on Irrigation Demands and Crop Yields in the Columbia River Basin. *Water Resources Research* 54(3):2152-2182.
- Brady, M.P., R.K. Gallardo, S. Badrudozza, and X. Jiang. 2016. Regional Equilibrium Wage Rate for Hired Farm Workers in the Tree Fruit Industry. *Western Agriculture Forum*, Volume XV, No. 1, Fall.
- Yoder, J., J. Adam, M.P. Brady, J. Cook, S. Katz, S. Johnston, K. Malek, J. McMillan, Q. Yang. 2017. Benefit-Cost Analysis of Integrated Water Resource Management Projects: Accounting for Interdependence in the Yakima Basin Integrated Plan. *Journal of the American Water Resources Association*, 53(2):456-477.
- Yoder, J., M.P. Brady, J. Cook. 2016. Water Markets and Storage - Substitutes or Complements for Drought Risk Mitigation? *Water Economics and Policy*, Vol 2, Issue 2.
- Granatstein, D., E. Kirby, M.P. Brady. 2016. Characteristics of Washington's Organic Farming Sector in a Period of Rapid Change. *Acta Horticulturae* 1137, 307-314.
- DeVetter, L., D. Granatstein, E. Kirby, and M.P. Brady. 2015. Opportunities and Challenges of Organic Highbush Blueberry Production in Washington State. *HortTechnology*, Vol. 25, No. 6, 796-804.
- Gallardo, K., and M.P. Brady. 2015. Adoption of Labor-enhancing Technologies by Specialty Crop Agriculture: The Case of the Washington Apple Industry. *Agricultural Finance Review*, 75(4), 514-532.
- White, R.R., M.P. Brady, J.L. Capper, K.A. Johnson. 2015. Cow-calf Reproductive, Genetic, and Nutritional Management to Improve the Sustainability of Whole Beef Production Systems. *Journal of Animal Science*, 93, 3197-3211.

Brady, M.P., T. Li, and J. Yoder. 2015. Renegotiation of the Columbia River Basin Treaty from the Perspective of Contract Theory. *The Journal of Contemporary Water Research and Education*, 155, 1, 53-62.

White, R.R., M.P. Brady, J.L. Capper, K.A. Johnson. 2014. Optimizing diet and pasture management to improve sustainability of US beef production. *Agricultural Systems*, 130, 1-12.

White, R.R., M.P. Brady. 2014. Can consumers' willingness to pay incentivize adoption of environmental impact reducing technologies in meat animal production?. *Food Policy*, 49, 41-49.

Adam, J.C., J.C. Stephens, S.H. Chung, M.P. Brady, R.D. Evans, C.E. Kruger, B.K. Lamb, M.L. Liu, C.O. Stöckle, J.K. Vaughan, K. Rajagopalan, J.A. Harrison, C.L. Tague, A. Kalyanaraman, Y. Chen, A. Guenther, F.Y. Leung, L.R. Leung, A.B. Perleberg, J. Yoder, E. Allen, S. Anderson, B. Chandrasekharan, K. Malek, T. Mullis, C. Miller, T. Nergui, J. Poinsette, J. Reyes, J. Zhu, J.S. Choate, X. Jiang, R. Nelson, J.H. Yoon, G.G. Yorgey, K.J. Chinnayakanahalli, A.F. Hamlet, B. Nijssen, 2014. BioEarth: A regional biosphere-relevant earth system model to inform agricultural and natural resource management decisions, *Climatic Change*, 1-17.

Ponnaluru, S., T.L. Marsh, M.P. Brady. 2012. Spatial Price Analysis of Used Construction Equipment : The Case of Excavators. *Construction Management and Economics* 30(11):981-994.

Yang, N., J. McCluskey, M.P. Brady. 2012. The Value of Good Neighbors: A Spatial Analysis of the California and Washington Wine Industries. *Land Economics* 88(4):674.

Brady, M.P., and E. Irwin. 2011. Environmental Effects of Land Use Change Revealed Through Spatially Explicit Empirical Models: Recent Developments and Challenges Ahead. *Environmental and Resource Economics*, 48(3):487-509.

Brady, M.P., and S.Y. Wu. 2010. The Aggregation of Preferences in Groups: Identity, Responsibility, and Polarization. *Journal of Economic Psychology*, 31:950-963.

Williamson, J., M.P. Brady, and R. Durst. 2010. Tax-deferred Exchanges of Farmland: Theory and Evidence from Federal Tax Data. *Agricultural Finance Review*, 70(2):214-230. 2011 Outstanding Paper Award: Highly Commended (2nd Place).

Fernandez-Cornejo, J., A. Somwaru, M.P. Brady, and H. An. 2008. Global Effects of Biofuel Production in the Medium Term. *Outlooks on Pest Management*, 19(5):220-224.

Extension and Outreach

Columbia River Basin Long-Term Water Supply and Demand Forecast, Legislative Report. Washington Department of Ecology, Office of Columbia River.

Brady, M. 2021. Specialty Crops Outlook. In: *Washington Agribusiness: Status and Outlook 2021*, Edt: T. Nadreau. Coordinated by the IMPACT Center, School of Economic Sciences, WSU.

Brady, M. 2020. Specialty Crops Outlook. In: *Washington Agribusiness: Status and Outlook 2020*, Edt: T. Nadreau. Coordinated by the IMPACT Center, School of Economic Sciences, WSU.

Brady, M., J. Padowski, and J. Yoder. 2019. Review of "Switzler Reservoir Economic Assessment: Benefits, Costs, and Market Impacts". A report to Washington State Department of Ecology: Office of the Columbia River, Coordinated by State of Washington Water Research Center.

Brady, M., J. Cook, N. Potter, and J. Yoder. 2019. Speculation in Water Banking: What it is, what it is not, and what are its consequences. Report to the Washington State Department of Ecology.

- Brady, M. 2019. Specialty Crops Outlook. In: Washington Agribusiness: Status and Outlook 2019, Edt: T. Nadreau. Coordinated by the IMPACT Center, School of Economic Sciences, WSU.
- Barik, M., J. Adam, M. Barber, C. Stockle, A. Allen, S. Hall, M. Brady, C. Kruger, K. Rajagopalan, G. Yorgey. 2019. Modeling Environmental Change: Scenarios in the Washington Water Supply and Demand Forecast. WSU Extension Factsheet FS327E.
- Brady, M.P. 2019. Lessons for Compost Policy: What Can Recycling Policy Tell Us? A report for: The Waste to Fuels Technology Partnership 2017-2019 Biennium: Advancing Organics Management in Washington State.
- Hills, K., M.P. Brady, G. Yorgey, and D. Collins. 2019. Differentiating the Value and Cost of Compost Across Likely Farm Use Scenarios in Western Washington. A report for: The Waste to Fuels Technology Partnership 2017-2019 Biennium: Advancing Organics Management in Washington State.
- Garcia-Perez, M., M.P. Brady, A. Tanzil. 2019. Biochar Production in Bionmass Power Plants: Techno-Economic and Supply Chain Analyses. A report for: The Waste to Fuels Technology Partnership 2017-2019 Biennium: Advancing Organics Management in Washington State.
- Allen, E., S. Hall, G. Yorgey, K. Rajagopalan, J. Adam, M. Brady, M. Barber, C. Stockle, M. Barik, C. Kruger. 2020. Modeling Environmental Change: A Guide to Understanding Scenarios. WSU Extension Factsheet, FS327E.
- Katz, S., H. Beecher, M. Brady, J. Cook, K. Gates, J. Padowski, G. Pess, M. Scheuerell, J. Yoder. 2018. Technical Supplement to Interim Guidance for Determining Net Ecological Benefit. Report to Washington State Department of Ecology.
- Granatstein, D., M. Brady, E. Kirby, M. Ostrom. 2018. Trends in Washington State Organic Diversified Vegetable Production. WSU Extension Factsheet FS310E.
- Cook, R.J., M. Brady, J. Reimer, J. McFerson, and D. Sumner. 2016. Evaluation with Recommendations by the Washington State Academy of Sciences of Interim Report: 2015 Drought and Agriculture.
- Brady, M., J. Padowski, E. Jessup, Q. Yang, and J. Yoder. Skagit Basin Water Mitigation Feasibility Study, Report to the Washington State Legislature. December, 2016.
- Brady, M. Compost Use Decision-Making Tool. Report to King County Solid Waste Division.
- Mandal, B., M. Brady, and K. Gallardo. 2016. Reactions to the Employer Mandate in Washington State's Labor-Intensive Agriculture Industry. WSU Extension Technical Bulletin TB33E.
- Mandal, B., M. Brady, and K. Gallardo. 2016. Trends in Health Insurance and Health Care Access in Rural Washington. Washington State University Extension Technical Bulletin TB30E.
- Washington Agribusiness: Status and Outlook. Chapter on specialty crops. 2016. An annual report by Washington State University's School of Economic Sciences.
- Granatstein, D., E. Kirby, and M. Brady. 2015. Trends and economics of Washington State organic vegetable production. WSU Extension Fact Sheet EM097E. 27 pages.
- Neibergs, J.S., S.P. Galinato, P. Tozer, and M.P. Brady. 2014 Economic Contribution Analysis of the Washington Beef Industry. August, 2015.

Mandal, B. and M. Brady. The Affordable Care Act's Employer Mandate: How will it Affect Agricultural Employers and Employees in the State of Washington. Newsletter. Whatcom Ag Monthly, Vol. 3, Issue 2.

Kirby, E., M. Brady, and D. Granatstein. 2014. Trends in Washington State Organic Berry Production, Acreage, and Crop Value. WSU Extension Factsheet FS144E.

Brady, M.P. 2014. Public Land Ownership and Local Economic Activity: A County-Level Analysis of Washington State. A report to the Washington State Joint Legislative Audit and Review Committee.

Yoder, J., J.A. Adam, M.P. Brady, J. Cook, S. Katz, D. Brent, S. Johnston, K. Malek, J. McMillan, Q. Yang. 2014. Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects. Report to the Washington State Legislature.

Brady, M.P., K. Gallardo, and X. Jiang. 2014. Forecasting the Demand and Supply for Tree Fruit Farm Labor. Report to the Washington Tree Fruit Research Commission.

Brady, M.P., and J. Yoder. 2012. The Relationship Between Water Price, Value, and Cost. WSU Extension Factsheet FS110E.

Yorgey, G.G., Adam, J.C., Barber, M.E., Brady, M.P., Kruger, C.E., Rajagopalan, K., Chinnayakanahalli, K.J., Malek, K., Dinesh, S. Yorgey, G.G., Adam, J.C., Kruger, C.E., Barber, M.E., Brady, M.P., and Rajagopalan, K. 2012. Columbia River Basin Long-Term Water Supply and Demand Forecast. 2011 Washington State Legislative Report Olympia, WA. Technical Report Washington Ecology Publication 11-12-011.

Adam, J.C., Barber, M.E., Rajagopalan, K., Brady, M.P., Stockle, C.O., Kruger, C.E., Nelson, R.L., Chinnayakanahalli, K.J., Malek, K., Dinesh, S., Yorgey, G.G. 2012. 2011 Technical Report for the Columbia River Basin Long-Term Water Supply and Demand Forecast. Washington Department of Ecology Publication Olympia, WA. Technical report 12-12-001.

Brady, M.P. 2012. Economic Assessment of the Alpowa Creek Watershed. Report to the Asotin County PUD.

Brady, M.P. Port of Grandview (Yakima County) Zone Agricultural Impact Analysis, 2012. Used in supporting documentation for bond rating review.

Brady, M.P. 2011. The Economic Impact of Potatoes in Washington State. IMPACT Center Bulletin.

Brady, M.P. and J. Taylor. 2010 The Contribution of Agriculture to Washington's Economy. IMPACT Center Bulletin.

Chapters or  
Essays in Books

Barber, M.E., Adam, J.C., Brady, M.P., Chinnayakanahalli, K.J., Rajagopalan, K., Dinesh, S., Kruger, C.E., Stockle, C.O., Yorgey, G.G. (2012). Global Change Implications on Long-Term Water Supply and Demand Forecasts in the Columbia River Basin. In H. Bjornlund, C.A. Brebbia (Eds.), Sustainable Irrigation and Drainage IV: Management, Technologies, and Policies (pp 77-86). Southampton, UK: WIT Press

Brady, M. and M. Vesterby. "Urbanization", The Encyclopedia of Rural America. Published by Grey House Publishing, ISBN: 978-1-59237-227-8.

## Grants

Sub-award shown in parentheses for relevant grants reflecting economics share of funds provided.

Competitive Harrison, J. (PI), (Co-PIs) M. Brady, J. Yoder, G. Rollwagen-Bollens, S. Bollens, (Co-Investigator) K. Rajagopalan. DISES: RUI: Understanding the Use of Discretion and its Socio-Environmental Consequences for Reservoir Systems. \$1,600,000. National Science Foundation, Dynamic Integrated Socio-Environmental Systems (DISES). 8/2020-7/2025.

Brady, M. (PI), K. Rajagopalan (Co-PI). Long-term mapping and trend analysis of double-cropping extent in the Columbia River Basin with Landsat and Google Earth Engine. \$99,986. NASA Jet Propulsion Laboratory, Western Water Applications Office. 8/2021-6/2022.

Rajagopalan, K. (PI), M. Brady, S. Neibergs. Rangeland analogs and economic implications of climate change on cattle production. \$102,807. U.S. Forest Service, USDA. 7/2019-12/2023

Kalyanaraman, A. (PI). PMU: AI Institute: Agricultural AI for Transforming Workforce and Decision Support (AgAID). M. Brady is one of many Co-PIs and is Co-lead of the Technology Transfer Group. USDA NIFA 9/1/2021-8/31/2025. \$20,000,000.

Yoder, J., M. Brady, and J. Adam. Water Markets for the Yakima Basin: Researching and Developing Strategies for Multi-Benefit Markets.’ Leveraging Agricultural Water Transactions to Increase Instream Flow. \$47,483. Kittitas Reclamation District and Trout Unlimited. 4/1/2019-7/30/2020

Farmer Adaption to Climate Change May Increase Water Use: Facilitating Quantification of Potential Increase. State of Washington Water Research Center Seed Grant PI: K. Rajagopalan, CoPIs: M. Brady and C. Stockle. 3/1/2019 - 2/28/2021. \$29,994.

Technology for Trade: Improving water use and allocation efficiency in agriculture and beyond. (PI) J. Yoder, (Co-PI) C. Kruger, J. Cook, M. Brady, J. Abatzoglou, J. Adam, C. Stockle, K. Rajagopalan, M. Barber, B. Nijssen, J. Padowski, D. Haller, R. Young, T. Peters, N. Pickering, M. Liu. AFRI Water for Agriculture Food Production Systems Challenge Area. \$5,100,000.

Improving Information Framing Through Field Experiments to Increase Hispanic Farmer Participation in Conservation Programs. (PD) P. Wandschneider, (Co-PD) M.P. Brady, H. Chouinard. 10/1/2016-9/30/2018. \$250,000. AFRI Foundational Program, USDA NIFA. **(2,3,5)**

Optimizing GSI Efficacy by Integrating Hydrologic, Cultural, and Socioeconomic Elements in a Watershed Spanning the Urban-Agriculture Continuum. 7/1/2016-12/31/2017 (PI) A. Jayakaran, (Co-PI) J. Wu, M. Brady, M. Sanchez, J. Kaytes, D. Moore, S. Hampton, J. Stark, J. Harrison. \$74,509, WSU Office of Research, Grand Challenges Seed Grant. **(2,3,4,5)**

An Integrated Biophysical-Economic Study of a Model FEW System: Columbia River Reservoir Storage and Spill. (PI) Bollens, S.M. (Co-PI) M. Brady, H. Chouinard, J. Harrison, G. Rollwagen-Bollens, P. Wandschneider. \$25,000, SWWRC/CSANR/CEREO. **(2,3,4,5)**

Promoting Urban FEW Resource Resilience via the Regional Food System. (PI) B. Gao-lach (CoPI) M. Brady, D. Collins, K. Moffett, K. Rajagopalan, and S. Richey. \$10,000. , SWWRC/CSANR/CEREO. **(2,3,4,5)**

WSC-Category 3: Watershed Integrated System Dynamics Modeling (WISDM): Feedbacks among biogeochemical simulations, stakeholder perceptions, and behavior 8/15/2012-8/15/2017. (PI) M. Brady, (Co-PIs) A. Beall-King, M. Barber, J. Adam, J. Harrison, K. Keller, C. Kruger, C. Stockle, J. Yoder. \$1,495,640(\$134,608), USDA NIFA. **(1,2,3,4,5)**

Understanding Biogeochemical Cycling in the Context of Climate Variability Using a Regional Earth System Modeling. 3/2011-3/2016. (PI) J. Adam, (Co-PI) B. Lamb, S. Chung, M. Brady, R. Evans, J. Harrison, A. Kalyanaraman, C. Kruger, F. Leung, A. Perleberg, C. Stockle, J. Vaughan, Y. Chen, J. Yoder. \$3,053,000(\$234,775), USDA NIFA. **(2,3,4,5)**

An Integrated Biophysical-Economic Study of a Model FEW System: Columbia River Reservoir Storage and Spill. (PI) S. Bollens, (Co-PI) M.P. Brady, H.H. Chouinard, J. Harrison, G. Rollwagen-Bollens, and P. Wandschneider. \$24,943. Food, Energy, and Water Research Initiatives, WSU, CEREO/SWWRC/CSANR. **(2,3,4,5)**

Impact of the Affordable Care Act on Health Coverage and Employment among Migrant Workers and in Rural Communities in the State of Washington. (PI) B. Mandal, (Co-PI) M.P. Brady and R.K. Gallardo. \$75,914. WSU Emerging Research Issues Internal Grant - ARC. **(1,2,3,4)**

Database Development and Economic Analysis for a Study on Public Recreation and Habitat Lands. 5/1/2014-6/1/2015. (PI) M. Brady. \$65,000, Washington Joint Legislative Audit and Review Committee. **(1,2,3,4,5)**

Forecasting the Demand and Supply for Tree Fruit Farm Labor. 2013-2014. (PI) K. Gallardo and (Co-PI) M. Brady. \$144,127, Washington Tree Fruit Research Commission. **(2,3,4,5)**

Sustainable Cropping Systems for Dual-Purpose Biennial Canola. 4/1/2014-3/1/2017. (PI) K. Desta (Co-PI) D. Llewellyn, M.P. Brady, and K. Sowers. \$256,397(\$10,000). USDA NIFA. **(5)**

Development of Washington Organic Producer-Level Database on Crop Yields, Sales Value, and Price. 6/1/2013-6/1/2014. (PI) M.P. Brady (Co-PI) D. Granatstein and E. Kirby. \$16,815. BIOAg Program, WSU CSANR. **(1,2,3,4,5)**

An Integrated Economic and Engineering Analysis of the Renegotiation of the Columbia River Treaty Using Game Theory. 9/18/2013. (PI) M. Brady (Co-PI) J. Yoder, and J. Adam, \$27,499. State of Washington Water Research Center. **(1,2,3,4,5)**

Snap pea: enhancing and expanding the production of nutrient-dense vegetable legumes. 9/25/12. \$34,046(\$8,512). (PI) D. Main (Co-PI) C. Miles, M. Brady. **(3)**

The Potential for Data-Based Irrigation Management Adoption to Improve the Sustainability of Water and Nitrogen Resources. 7/1/2012-6/30/2013. (PI) M. Brady, (Co-PI) T. Peters, and K. Desta. \$21,723, WSU CSANR. **(1,2,3,4,5)**

Non-competitive

2021 Columbia River Supply and Demand Forecast. 1/1/2020-12/31/2021. \$1,301,223.

Waste to Fuels Technology Partnership. Department of Ecology. 12/15/2017-6/30/2019. \$30,000.

Skagit Basin Water Mitigation Feasibility Study. 5/15/2016-12/30/2016. (PI) M. Brady, (Co-PI) J. Padowski, E. Jessup, and J. Yoder. Washington State Legislature, Capital Budget, \$72,000.

2014 Economic Contribution Analysis of the Washington Beef Industry. 1/1/2014-6/30/2014. (PI) S. Neibergs (Co-PI) P. Tozer and M. Brady. \$22,990. Washington Beef Commission.

Benefit-Cost Analyses of the Yakima River Basin Integrated Plan Projects. 9/14/2013-12/15/2014. (PI) J. Yoder (Co-PI) J. Adam, M. Brady, J. Cook, B. Cosens. \$300,000(\$20,000). Washington State Legislature, Capital Budget.

Economic Impact of Washington's Dairy Industry at the Farm Level and from Farm Gate to Retail Sales. 7/1/2012-5/1/2013. (PI) M. Brady and S. Neibergs, \$23,490.

Competitiveness of Agricultural Products - WA. PIs: T. Marsh, M. Brady. CSREES, USDA, \$252,289.

Economic Impact of Potatoes in Washington State. M. Brady, M. Taylor, Washington State Potato Commission, \$30,000.

Columbia River Basin Water Supply Investment Plan: A Strategy to Develop Water Supply to Meet Water Demand Needs through 2030. 9/2009 to 12/2011. Adam, J. (PI), M. Barber, M. Brady, T. Marsh, M., Yoder, J., Peters, R., Granatstein, D., Stockle, C., Kruger, C. Washington State Department of Ecology. \$974,500(\$194,500).

Competitiveness of Agricultural Products - WA. Marsh, T. (PI), M. Taylor, R. Gallardo, M. Brady. 9/1/2009 to 8/31/2009. CSREES, USDA, \$252,289.

## Academic Presentations and Posters

\* denotes Brady was presenter.

- 2020 \*Mitigating the Impact of Drought with Improved Drought Forecasting and Innovative Water Markets. AAEA Annual Conference 2020 - Post-Conference Workshop on Specialty Crops.
- 2018 \*What drives demand for housing in rural environmental amenity rich regions and what are the implications for local economies and natural resources? M. Brady. Invited presentation organized by the PERC and the Anne Wrigley Institute of Sustainability, Arizona State University. October 18-19, 2018.
- \*Best practices in modeling economic impacts of drought on agriculture. M. Brady and T. Nadreau. North American Regional Science Conference, San Antonio, TX. November, 2018.
- \*Improving participation of hispanic farmers in conservation programs through field experiments. Brady, M., H. Chouinard, and P. Wandschneider. Annual meeting of the Agriculture and Applied Economics Association, Washington, D.C.
- 2016 \*Constructing house price indices for recreation counties: hedonic, repeat sales, and matching approaches. M. Brady. Pacific Northwest Regional Economics Conference, Portland, OR, May 12-13.
- The Economic Value of Emergency Groundwater Pumping During Drought: The Yakima Basin, Washington State. A. Ballav, M. Brady, J. Yoder. Toward Sustainable Groundwater in Agriculture Conference, 2nd International Conference organized by the University of California, San Francisco, CA, July, 2016.
- Coordinating Mitigation Strategies for Meeting In-Stream Flow Requirements in the Skagit River Basin, WA. J. Padowski, M. Brady, E. Jessup, Q. Yang, and J. Yoder. American Geophysical Union Annual Meeting, December, 2016.
- 2015 Labor intensive farm businesses and the health care reform. B. Mandal and M. Brady. Federal Reserve Bank of Chicago and the W.E. Upjohn Institute, Invited Presentation, November 17, 2015
- \*Modeling Institutional Change in Water Management in the Columbia River Basin. National Science Foundation, Water Sustainability and Climate Principal Investigators Meeting, Arlington, VA, March, 2015.
- Trends and opportunities with organic blueberries. D. Granatstein, E. Kirby, and M. Brady. Oregon State University Blueberry School, March 16 and 17, Corvallis, OR.
- \*The Columbia River Treaty from the Perspective of Contract Theory. Pacific Northwest Regional Economics Conference, April, 2015.
- \*Estimating the Value of Water from Property Sales in an Arid High Environmental Amenity Region: A Difference-in-Difference Approach. Brady, M. and P. Tantiakarnchana. Selected Paper at the Annual Meetings of the Agriculture and Applied Economics Association. San Francisco, CA, July, 2015.



- \*The importance of climate on the benefits and economic viability of the Yakima Basin Integrated Water Resource Management Plan. M. Brady and J. Yoder. Northwest Climate Conference, Couer D'Alene, ID, Nov. 5th, 2015.
- \*A retrospective economic impact assessment of the 2005 drought in Washington State under alternative industry aggregation schemes. M. Brady. Northwest Climate Conference, Couer D'Alene, ID, Nov. 4th, 2015.
- Water Storage and Water Markets as Technical Substitutes for Drought Risk Mitigation. J. Yoder, M. Brady, and J. Cook. Western Agricultural Economics Association Annual Meetings, San Francisco, CA, July, 2015.
- Do farmers really plant apples for their incomes and cherries for their retirement? The effects of risk, scope, and scale on orchard land allocation. Agriculture and Applied Economics Annual Meeting, San Francisco, CA, July, 2015.
- 2014 \*Water Market Development Driven by Environmental Amenity-Based Growth. Brady, M.P. and J. Yoder. Water Markets Design Workshop, Bren School of Environmental Science and Management, UC Santa Barbara. November 7-8, 2014.
- Renegotiating the Columbia River Treaty: A Game-Theoretic Analysis. Li, T., M.P. Brady, and J. Yoder. The 2014 UCOWR-NIWR-CUAHSI Conference. Water Systems, Science, and Society Under Global Change. Boston, MA. June 16-18, 2014.
- Food for Thought: crop yields in the Columbia River Basin in an Altered Future. K. Rajagopalan, K. Chinnayakanahalli, R. Nelson, C. Stockle, C. Kruger, M. Brady, J. Adam. Poster. American Geophysical Union Winter Meeting, San Francisco, CA, Dec. 9-13, 2014.
- A Comparative Study of Spatial Aggregation Methodologies Under the BioEarth Framework. Chandrasekharan, B., K. Rajagopalan, K. Malek, M.P. Brady, J. Adam, and C. Stockle. American Geophysical Union Fall Meeting, San Francisco, December 15-19, 2014.
- Informing Sustainable Irrigation Management Strategies in Response to Implementation of Washington State's Yakima Basin Integrated Plan (YBIP). Malek, K., J. Adam, J. Yoder, M.P. Brady, C. Stockle. American Geophysical Union Fall Meeting, San Francisco, December 15-19, 2014.
- \*Water Law and Patterns of Residential Development. Brady, M.P. and P. Tantiakarnchana. SES Seminar Series, Washington State University, September 12, 2014.
- \*Production and Price Trends in Washington's Organic Farm Sector in a Period of Rapid Change. Brady, M.P., D. Granatstein, and E. Kirby. BIOAg Poster Session and Symposium, WSU Pullman, October 28th, 2014.
- An Econometric Approach to Forecast Farm Labor for Perennial Labor Intensive Agricultural Crops. Jiang, X., M.P. Brady, and R.K. Gallardo. Agriculture and Applied Economics Association Annual Meeting, Minneapolis, MN, July 27-29, 2014.
- Assessing Farm Landowner's Interests and Concerns Regarding Bioenergy Crops in the Pacific Northwest. N. Haider, S. Kar, P. Townsend, M. Brady. AHB Third Annual Meeting, Davis, CA, September 11, 2014.
- 2013 \*Do Changes in Orchard Supply Occur at the Intensive or Extensive Margin of the Landowner? Michael Brady and Thomas L. Marsh, Agriculture and Applied Economics Association Annual Meetings, Washington D.C., August 4th, 2013.
- \*Is Irrigation Inefficiency a Result of Incentives or Complexity? Brady, M.P. and U. Bastola. Western Agriculture Economics Association Annual Meeting, Monterey, CA, June 24th, 2013.

- 2012 \*From 8 to 80 Inches a Year: Managing Water and Agriculture Across Washington's Diverse Landscape. Extension Keynote Address, Agriculture and Applied Economics Association Annual Meetings, Seattle, WA, August 12-14th, 2012.
- Assessing the Impact of Climate Change on Columbia River Basin Agriculture through Integrated Modeling. Fourth International Conference on Climate Change, 2012. Rajagopalan, K., K.J. K.J. Chinnayakanahalli, J.C. Adam, R.L. Nelson, C.O. Stockle, M.P. Brady, K. Malek, S. Dinesh, M.E. Barber, G.G. Yorgey, C.E. Kruger.
- BioEarth: A regional-scale earth system model to inform land and water management decisions. ASA-CSSA-SSSA International Annual Meeting, 2012. Adam J.C., K. Rajagopalan, C.O. Stockle, C.E. Kruger, M.P. Brady, M.E. Barber, K.J. Chinnayakanahalli, G.G. Yorgey, R.L. Nelson, S. Dinesh, K. Malek, J. Yoder, S. Chung, J.K. Vaughan, F. Leung, B.K. Lamb, R.D. Evans, J. Harrison, J. Stephens, A. Guenther, A. Kalyanaraman, L.R. Leung, M. Liu, C. Tague, A.B. Perleberg, Y. Chen, T.M. Norton, X. Jiang, J. Zhu.
- 2011 \*Spousal Risk Preferences and Household Investment Decisions. Agriculture and Applied Economics Association Annual Meetings, Pittsburgh, PA, 2011. M. Brady, B. Mandal.
- 2010 How Marriage Aggregates Individual Risk Preferences Towards Household Investment Decisions. Western Economic Association International, 2010. Portland, OR. M. Brady, B. Mandal.
- 2009 \*The Competition for Land and Agricultural Competitiveness: Urbanization, Energy, and The Role of Uncertainty. Policy Education Program, University of Guelph and the Ontario Ministry of Agriculture, Food and Rural Affairs, Guelph, ON, Canada, November 12, 2009.
- Survey of Land Representation in Economic and Biophysical Models. Selected Paper, Twelfth Annual GTAP Conference on the Future of the Global Economy, Santiago, Chile, June 2009, R. Sands, M. Brady.
- The Effect of the Housing Boom on Farm Land Values via Tax-Deferred Exchanges. Agriculture and Applied Economics Association Annual Meetings, Milwaukee, WI, 2009. J. Williamson, M. Brady, and R. Durst.
- \*A Spatial Analysis of Conservation Reserve Program Participants: The Impact of Absenteeism on Participation Decisions. Agriculture and Applied Economics Association Annual Meetings, Milwaukee, WI, 2009. M. Brady, C. Nickerson
- 2008 Agricultural Productivity, Technological Change, and Deforestation: A Global Analysis, Selected Paper, American Agricultural Economics Association Annual Meetings, Orlando, FL, July 2008. M. Brady, B. Sohngen.
- \*Biofuel Subsidies, Rural Economies, and Absentee Landlords: How Much of the Ethanol Tax Credit Stays in the Rural Economy, Selected Paper, American Agricultural Economics Association Annual Meetings, Orlando, FL, July 2008. M. Brady.
- \*Innovations in the FARM Model for Evaluating the Resource Demand of Food and Bio-Energy Production, Consultation Meeting Between OECD, EEA and Invited Technical Experts, Organization for Economic Development and Cooperation, Paris, France, June 2008. J. Fernandez-Cornejo, A. Somwaru, M. Brady, H. An.
- Modeling the Global Economics and Environmental Implications of Biofuels Production: Preliminary Results for the Medium Term, Selected Paper, Eleventh Annual GTAP Conference on the Future of the Global Economy, Helsinki, Finland, June 2008. J. Fernandez-Cornejo, A. Somwaru, M. Brady, H. An.
- \*Teams and Social Preferences, Selected Paper, American Economic Association Annual Meetings, ASSA, New Orleans, LA, January 2008. M. Brady and S. Wu.

- 2006 \*How do Groups Make Risky Decisions?, Selected Paper, American Agricultural Economics Association Annual Meetings, Long Beach, CA, July 2006. M. Brady and B. Roe.  
Group Decision Making Under Risk, Selected Paper, SCC-76 Meeting on Economics and Management of Risk in Agriculture and Natural Resources, Myrtle Beach, SC, March 2006. M. Brady and B. Roe.
- 2005 \*The Impact of Suburban Growth on Farm Investment Decisions, Selected Paper to be presented at NC-1014 Agricultural and Rural Finance Markets in Transition Annual Meeting, Minneapolis, MN, October 2005. M. Brady and L. Forster.  
Land Use Change and Agricultural Competitiveness, Selected Paper presented at Northeastern Agricultural and Resource Economics Association Meetings, Annapolis, MD, June 2005. M. Brady, L. Forster.

## Outreach and Extension Presentations and Workshops

\* denotes Brady was presenter.

- 2019 Overview of 2021 Long Term Water Supply and Demand Forecast. Lake Roosevelt Forum, Spokane, WA. November 19th, 2019.  
WA Department of Natural Resources Climate Resilience Advisory Panel Discussion, February 25th, June 20th, and December 3rd, Olympia Washington.
- 2018 \*Potential for double cropping to increase water use due to climate change. Presentation to representatives from Washington State agencies including Department of Ecology, Office of Columbia River, Washington State Department of Agriculture, and Department of Commerce.  
ESSB 6091 Outreach Meetings. Co-facilitator and advisor. Outreach meetings were held in two separate sessions for key stakeholder groups related to the legislation ESSB 6091 passed in response to the “Hirst Decision”. The first meeting was for tribal groups while the second was for state agencies.
- 2016 \*Skagit Basin Mitigation Feasibility Study Overview. Testimony to the Washington State Senate Agriculture, Water, and Rural Economic Development Committee. Olympia, WA, November 15, 2016.  
\*Overview of Skagit Basin Mitigation Feasibility Study, Water Resources Advisory Committee Meeting, Department of Ecology, Lacey, WA, September 19, 2016.  
\*Skagit Mitigation Feasibility Study Stakeholder Meeting, Padilla Bay, WA. August 25, 2016.  
\*Skagit Mitigation Feasibility Study Stakeholder Meeting, Padilla Bay, WA. June 1, 2016.  
\*Long-term water supply and demand forecast outreach, WSU Tri-Cities, June 21, 2016.  
\*Long-term water supply and demand forecast outreach, Wenatchee, WA, June 22, 2016.  
\*Long-term water supply and demand forecast outreach, Spokane, WA, June 23, 2016.  
\*Forecasting water supply and demand in the Columbia River Basin. Walla Walla Watershed Management Partnership, Walla Walla, WA, March 3, 2016.
- 2015 \*The scientific case for climate change. Couer D’Alene High School Science Classes, Nov. 5th, 2015. Approximately 100 students.

- \*Overview of Long-Term Water Supply and Demand Forecast. Washington Association of Counties Conference, Stevens, WA, Nov. 19th, 2015.
- \*International Macroeconomics and Grain Prices. Tristate Grain Growers Annual Meeting, November, 2015, Spokane, WA
- \*Success and Failure in Organic Agriculture in Washington: A Farm Level Analysis of Entry, Exit, and Growth, Mt. Vernon Research and Extension Station Brown Bag Seminar, Washington State University, June 12th
- \*Overview of Long-Term Water Supply and Demand Forecast. Water Resources Advisory Committee Meeting, Lacey, WA
- \*Economic trends in organic farming. Washington Organic Stakeholder Meeting, organized by ARC, Washington State University, Snoqualmie Falls, WA, June, 2015.
- \*Introduction to Enterprise Budgets. Cultivating Success, Washington State University Extension, March 21st, Snohomish County, 2015.
- \*Introduction to Enterprise Budgets. Cultivating Success, Washington State University Extension, December 3rd, Pierce County, 2015.
- 2014 \*Water Rights, Climate Change, and Forage Production. M.P. Brady. June 2, 2014. Livestock Nutrient Management Program, WSU Extension.
- \*Forecasting Labor Costs in the Washington Tree Fruit Industry. Washington Tree Fruit Research Commission Annual Meeting. Yakima, WA. January 29, 2014.
- \*Forecasting Labor Costs in the Washington Tree Fruit Industry. M.P. Brady. Washington Tree Fruit Research Commission, Technology Committee. March 12, 2014.
- \*Introduction to Enterprise Budgets. Cultivating Success, Washington State University Extension. December 2, 2014. Webinar.
- \*WISDM: Understanding Feedbacks Between Human and Natural Systems through Changes in the Institutions of Water Resource Management. M.P. Brady. 5th Annual Pacific Northwest Climate Conference, University of Washington, Seattle, September 10, 2014.
- 2012 Climate Change Impacts on 2030 Water Supply and Demand in the Columbia River Basin. 3rd Annual Pacific Northwest Climate Science Conference, 2012. Barber M.E., J.C. Adam, M.P. Brady, C.E. Kruger, R.T. Peters, C.O. Stockle, J. Yoder, G.G. Yorgey.
- “Enhancing Stakeholder Feedback on the 2011 Long-Term Forecast of Water Supply and Demand for the Columbia River Basin”, poster presentation at WSU Academic Showcase, 2012. Yorgey G.G., C.E. Kruger, S. Kantor, T.J. Zimmerman, J.C. Adam, M.E. Barber, M.P. Brady, K. Rajagopalan, E. Allen.
- “Assessing the Impact of Climate Change on Columbia River Basin Agriculture Through Integrated Modeling”, poster presentation at WSU Academic Showcase, 2012. Rajagopalan K., K.J. Chinnayakanahalli, J.C. Adam, K. Malek, R.L. Nelson, C.O. Stockle, M.P. Brady, S. Dinesh, M.E. Barber, G.G. Yorgey, C.E. Kruger.
- “International Capital Flows and Interest Rates”, talk to the Washington Association of Bankers, Spokane, WA, 5/2/2012.
- “What is Meant by a Farmland Real Estate Bubble?”, talk to the Coalition of Agricultural Mediation Programs CAMP Conference, Couer D’Alene, ID, 6/6/2012.
- 2011 Washington State Long-Term Water Supply and Demand Forecasting Outreach Meetings, September 8, 9, 10th, M. Brady, T. Marsh, J. Yoder.
- “Putting Wheat Price Variation Into Perspective”, Whitman County Farm Days Lunch Lecture, Colfax, WA, 3/15/2011.

- 2010 “The Federal Debt and the Next Farm Bill”, Presentation to the American Society of Farm Managers and Rural Appraisers, Pullman, WA, 10/7/2011.
- 2010 “Economic Issues Involved in Breaking Out CRP Land”, Farm Managers and Rural Appraisers Meeting, Walla Walla, WA, April 2010. M. Brady.
- “Economic Modeling for Long Run Water Demand Forecasting”, Office of the Columbia River and OCR Policy Advisory Group. Multiple Dates: July 2009; March 2010; October 2010.
- “Economic Modeling of Water Use in Washington”, Webinar, WA Department of Ecology Pub. No. 11-12-013. M. Brady, T. Marsh, J. Yoder, <http://www.youtube.com/watch?v=CnQSI6zUAcM>

## Media Relations and Coverage

- 2021 “Every season except summer is getting shorter, a sign of trouble for people and the environment”, Kasha Patel, Washington Post, 9/22/2021. <https://www.washingtonpost.com/weather/2021/09/22/longer-northern-hemisphere-summer-climate/> , Audience reach: 67 million.
- ”NSF-funded research examines socio-economics of flexible environmental rules”, A. Aumen, CAHNRS News and WSU Insider, 10/11/2021. <https://news.wsu.edu/news/2021/10/11/nsf-funded-research-examines-socio-economics-of-flexible-environmental-rules/>
- “NASA funds satellite image project measuring double cropping”, WSU Insider, 9/7/2021. <https://news.wsu.edu/news/2021/09/07/nasa-funds-satellite-image-project-measuring-double-cropping-fields/>
- “WSU researchers to study double-cropping trends in western U.S.” Moscow-Pullman Daily News, Scott Jackson, 9/9/2021.
- “NASA funds satellite image project measuring double cropping in fields”, Mirage News, 9/7/2021. Audience Reach: 274,000

## Teaching

- Washington State University  
 Instructor, Advanced Business Management Economics, EconS452, School of Economic Sciences, Washington State University, 2021.
- Instructor, Farm and Ranch Management, EconS350, School of Economic Sciences, Washington State University, 2010-Present.
- Instructor, Advanced Farm and Ranch Management, EconS450, School of Economic Sciences, Washington State University, 2012-2013.
- Ohio State University  
 Instructor, Environmental and Natural Resource Economics, Dept. of AED Economics, Ohio State University, 2005.
- Teaching Assistant, Problems and Policies in World Population, Food and Environment, Dept. of AED Economics, Ohio State University, 2006.
- Teaching Assistant, Environmental and Natural Resource Economics, Dept. of AED Economics, Ohio State University, 2006.

## Student Advising

Listed by graduation year

2021	Nicholas Potter, School of Economic Sciences, WSU, PhD Committee Chair (graduated)
	Jugal Marfatia, School of Economic Sciences, WSU, PhD Committee Chair (graduated)
	Hyunjin Lim, School of Economic Sciences, WSU, PhD Committee Chair (graduated)
	Samantha Johnson, School of Economic Sciences, WSU, PhD Committee Co-Chair (graduated)
	Samiya Al-Mamari, School of Economic Sciences, WSU, PhD Committee Chair (graduated)
	Katelyn Swanson, School of Economic Sciences, WSU, PhD Committee Chair (graduated)
	Jui Sen, School of Economic Sciences, WSU, PhD Committee Chair
	Reetwika Basu, School of Economic Sciences, WSU, PhD Committee Member
	Tiana Randriamaro, School of Economic Sciences, WSU, PhD Committee Member
	Ashish Kondal, Civil and Environmental Engineering, PhD Committee Member
	Chu Xen, Civil and Environmental Engineering, PhD Committee Member
	Jonathan Gramann, Biosystems Engineering, WSU, PhD Committee Member
2020	Hao Li, School of Economic Sciences, WSU, PhD Committee Member (graduated)
	Ballav Aryal, Interdisciplinary, WSU, PhD Committee Member (graduated)
2019	Timothy Nadreau, School of Economic Sciences, WSU, PhD Committee Chair (graduated)
	Kim Castellin, School of the Environment, WSU, PhD Committee Member (graduated)
	Lindsay Schilperoot, Undergraduate Honors Thesis, WSU Honors College (graduated)
2016	Baghyam Chandrasekharan, School of Economic Sciences, WSU, PhD Committee Chair
	Pitchayaporn Tantihkarnchana, School of Economic Sciences, WSU, PhD Committee Co-Chair
	Liz Allen, School of the Environment, WSU, PhD Committee Member
	Keyvan Malek, Biosystems Engineering, WSU, PhD Committee Member
	Kirti Rajagopalan, Civil and Environmental Engineering, WSU, PhD Committee Member
	Rushi Begham, Civil and Environmental Engineering, MS Committee Member
2015	Umesh Bastola, School of Economic Sciences, WSU, PhD Committee Member

2014	Brandon Ware, Interdisciplinary Studies, WSU, PhD Committee Member
	Robin White, Department of Animal Sciences, WSU, PhD Committee Member
	Sylvia Olivo, School of Economic Sciences, WSU, Masters Committee Member
2012	Joel Michaelski, School of Economic Sciences, WSU, PhD Committee Member
2011	Shuo Li 2011, School of Economic Sciences, WSU, PhD Committee Member
2010	Nan Yang, 2010, School of Economic Sciences, WSU, PhD Committee Member

## Awards

Largest New Team Grant Award for FY2019 from the WSU Office of Research.

Bruce Gardner Memorial Prize for Applied Policy Analysis from the Agricultural and Applied Economics Association, 2016. Awarded for the report “Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects” by Yoder et al., report to the Washington State Legislature.

CAHNRS Team Interdisciplinary Award for the report “Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects” by Yoder et al., report to the Washington State Legislature.

WSU Agricultural Education Club Teaching Award, Introduction to Farm and Ranch Management, 2013.

WSU Agricultural Education Club Teaching Award, Introduction to Farm and Ranch Management, 2012.

## Quantitative Analysis Tools

Data	IPython and Matplotlib
Stats	R and STATA
Numerical	Matlab and GAMS
Geoprocessing	ArcGIS and Python

## Service

Washington State Representative to the Western Agricultural Economics Association, 2016-2017.

Production Economics Session Organizer, Agricultural and Applied Economics Association, 2016-2017.

Reviewer for Nature Sustainability, Water Resources Research, Land Economics, Journal of Agricultural and Resource Economics, Agricultural Systems, Food Policy, American Journal of Agricultural Economics.

SES Seminar Committee.

WSU Contact for the Washington Statewide Parcel Database Project.