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Communicating About Water in the Floridan Aquifer Region: Part 5—Increasing Collaboration Between Producers and Environmentalists on Water Challenges[1]

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In the Floridan Aquifer region, agricultural producers (farmers and ranchers) and environmentalists are essential water stakeholders, yet they are often perceived to be in conflict over water management. This perceived conflict could be a major impediment to future water policy action. This publication details recent research that examined whether the groups are fundamentally at odds or if there are areas of agreement that could unite producers and environmentalists in support of mutually beneficial water management strategies. It details areas of common concern as well as points of disagreement. The publication concludes with suggestions for using the findings to improve cross-group communication and collaboration.

Study Overview

A 2017–2018 study found that, despite perceived conflict, agricultural producers and environmentalists have similar water concerns and priorities. Representatives of both groups expressed high levels of concern for the quality and quantity of surface water and groundwater. Additionally, both groups placed high priority on the allocation of water to crop irrigation and to the protection of springs, rivers, and wetlands. However, the groups disagreed on the degree to which agriculture contributes to water challenges. They also disagreed on the extent to which they share water perspectives, with producers perceiving less similarity than environmentalists.

These findings suggest substantial similarity of water priorities between producers and environmentalists despite some areas of disagreement. Capitalizing on shared interests could provide water communicators with a strong basis for developing partnerships and addressing areas of dispute.

How Were Stakeholders' Perspectives Assessed?

Forty-nine regional stakeholders who self-identified as agricultural producers, environmentalists, or both completed a survey on their perceptions of regional water conditions, sources of regional water problems, and views of other stakeholder groups. Thirty-one of the participants were members of a new participatory modeling project examining the water and economic effects of alternative land management strategies. They were selected for the project based on their experience with regional water challenges, interest in regional water security, and self-identification as a stakeholder in the aquifer's future. An additional 18 participants were selected using the same criteria.

Participants indicated the degree to which they identified with the roles of agricultural producer and environmentalist (among others). Those who indicated moderate to high identification with either role were included in the study. Those who at least moderately identified as both roles

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were assigned to the role with which they most strongly identified.

Regional Water Concerns and Priority

Producers and environmentalists in the study both expressed high levels of concern about surface water and groundwater quality and quantity in the region (Table 1). Both groups also highly valued crop irrigation and water body protection (Table 2). Altogether, the results suggest substantial similarity of interests between environmentalists and producers.

Table 1. Mean responses regarding participants' concern for regional water.

	Agricultural producers	Environmentalists
Water pollution		
Surface water	4.4	4.6
Groundwater	4.1	4.5
Water availability		
Surface water	4.3	4.6
Groundwater	4.4	4.7

Note: Participants were asked, "How concerned are you about water [pollution or availability] in the [UFA region]?" Mean responses were valued on a 5-point scale ranging from 1 (not at all) to 5 (very much).

Table 2. Mean responses regarding participants' regional water priorities.

	Agricultural producers	Environmentalists
Water priorities		
Water for crop irrigation	4.8	4.1
Water for springs, rivers, and wetlands	4.3	4.9
Water for urban areas	3.3	3.6

Note: Participants were asked, "What are your priorities for water in the [study region depicted on map]?" Mean responses were valued on a 5-point scale ranging from 1 (not at all) to 5 (very much).

Perceived Sources of Water Pollution and Water Availability Problems

The groups differed in their perceptions of what factors contribute to regional water pollution and water availability problems. As detailed in Table 3, surveyed environmentalists perceived greater levels of threat across surveyed items compared to how agricultural producers perceived them. The difference between environmentalists and producers was greatest, however, for perceived threats from agricultural pollution.

Table 3. Sources of Water Pollution and Water Availability Problems in the UFA Region.

	Producers		Environmentalists	
	M	*SD*	*M*	*SD*
Water pollution				
Fertilizer on lawns and landscapes	3.1	1.7	3.6	1.2
Septic tanks	3.3	1.6	3.9	1.1
Stormwater runoff from urban areas	3.1	1.4	3.8	1.0
Stormwater runoff from agricultural areas	2.5	0.9	3.8	1.0
Livestock and poultry manure	2.6	0.7	4.4	0.8
Fertilizer on crops	2.9	1.4	4.1	1.1
Fertilizer on planted pine	1.8	1.1	2.2	1.0
Water availability				
City use of water	3.1	1.4	3.2	1.5
Preservation of water flows and levels for aquatic habitats	3.6	1.1	3.7	1.5
Irrigation for agricultural fields	3.7	1.2	4.4	0.8
Irrigation for lawns and landscapes	2.5	1.5	3.3	1.5

Note: Participants were asked, "Below is a list of potential sources of water [pollution or availability]. How much of a problem do you think each source is in the [study region depicted on map]?" Mean responses were valued on a five-point scale ranging from 1 (not a problem) to 5 (a big problem). M= Mean; SD= Standard Deviation.

Perception of Groups' Similarity of Water Views

Finally, participants were asked the extent to which they perceive their views on water to be similar to the views held by other stakeholder groups. On a five-point scale ranging from 1 (very different from me) to 5 (very similar to me), those who self-identified as producers perceived a similarity of only 2.6 between their water views and the views of environmentalists. However, self-identified environmentalists did not share this perception of relative dissimilarity, scoring the similarity of water views more than a point higher at 3.7.

Participants also reported their level of interaction with other stakeholder groups. This information was plotted against their perceptions of similarity, to create the linear trendline shown below. The chart indicates that among surveyed environmentalists, greater levels of interaction with producers was associated with greater levels of shared

water views. However, among surveyed producers, perceived similarity of water views did not substantially change as level of interaction changed. In other words, as surveyed environmentalists and producers spent more time with each other, environmentalists came to see more similarity in their views while producers did not.

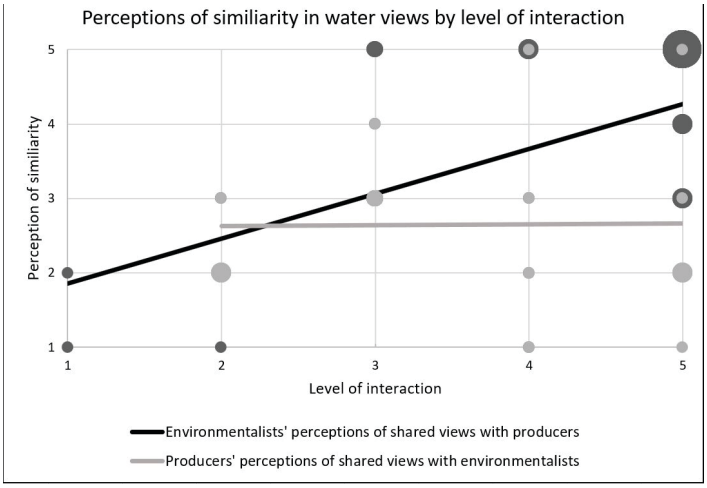

Figure 1. Linear relationships between stakeholders' perceptions of shared views on water issues and level of interaction. Individual responses are represented by data points; point size represents the number of individuals with identical responses to the related questions.
Credits: Hundemer & Monroe (2021)

When participants were asked the things on which they disagree with other stakeholder groups, surveyed producers indicated that others question their land stewardship and fail to take economics into account. Environmentalists indicated that producers prioritize their operations above the environment. These points of disagreement may relate to their difference in perceptions of agriculture's impact on water quality.

Shared Interests and Perceived Conflict

In combination, these findings suggest that despite their shared water interests and priorities, there is a perceived conflict between producers and environmentalists. Notably, however, environmentalists do not appear to share this perception despite having higher levels of interaction with producers. *Why might this be?* One possibility is that environmentalists who have little interaction with producers may assume that producers hold anti-environmental values. After spending more time with producers, environmentalists may find similar levels of concern about regional waters and shared water priorities.

Producers, on the other hand, do not perceive greater similarity in views as their interaction level with environmentalists increases. This may occur if producers feel unduly blamed for negative water conditions and if they believe environmentalists' views to be unjust.

How to Use This Information

Recognize that not all perceived conflict is a true conflict of interests. Producers' and environmentalists' interests are both advanced by water sustainability. In the study above, both groups perceive risks to sustainability and agree on how water should be prioritized. Despite these core points of agreement, they perceive their water views to be in conflict, which can impede cooperation toward shared water goals (Ratner et al., 2013).

Be mindful that agricultural producers often consider themselves conservationists. The study presented above assessed producers' identification with several roles. Most producers in the study identified more strongly as "conservationists" than "environmentalists." It can be mistakenly assumed that because agriculture can have negative impacts on natural resources, then producers are anti-environmental. Yet, utilitarian use of natural resources is not inherently inconsistent with conservation. Producers' have been found to conserve in part to preserve the capacity of natural resources for future generations (Paolisso & Maloney, 2000). Moreover, producers have indicated they will take additional steps to protect natural resources even when those steps reduce profitability (Traoré et al., 1998). Failure to recognize producers' land ethics can contribute to producers' feelings of blame and environmentalists' perceptions that producers aren't protecting the environment—both of which can create a sense of conflict.

Emphasize areas of agreement. Attention is often drawn to the differences between groups, but in this case, there appear to be more points on which stakeholders agree than on which they disagree. Emphasizing shared interests and priorities can provide a strong basis for collaboration toward shared goals.

Reduce false conflict. "False conflict" exists when groups think they disagree on a topic, when in fact they have similar perspectives. False conflict between producers and environmentalists can be addressed through strategic use of mental model research. This method for helping stakeholders find consensus is detailed in EDIS publication #AEC785, "Stakeholder's Mental Models of Regional Water Challenges," which is the sixth part of this series.

Unresolved stakeholder conflict can infect the general public. There is a risk that conflict between water stakeholder groups could spark political division within the general public. This risk may be heightened when stakeholder groups align with different political orientations. In this case, agricultural interests are often conservative (Agri-Pulse, 2016; Brasher, 2020), and interests in environmentalism is often more liberal (Pew Research Center, 2017). Therefore, if public bipartisanship is an objective, stakeholder bipartisanship may need to come first.

For more information on this study, see "A Co-orientation Analysis of Producers' and Environmentalists' Mental Models of Water Issues: Opportunities for Improved Communication and Collaboration" at https://doi.org/10.1080/17524032.2020.1828128 (Hundemer & Monroe, 2021).

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References

Agri-Pulse. (2016, January 31). *New poll sheds light on how farmers, ranchers will vote for president.* Agri-Pulse Communications. https://www.agri-pulse.com/articles/6513-new-poll-sheds-light-on-how-farmers-ranchers-will-vote-for-president

Brasher, P. (2020, March 25). *New Agri-Pulse poll: Enthusiasm for Trump grew despite farm economic woes*. Agri-Pulse Communications. https://www.agri-pulse.com/articles/13348-agri-pulse-poll-producers-enthusiasm-for-trump-has-risen-despite-farm-economy-worry

Hundemer, S., & Monroe, M. C. (2021). A co-orientation of producers' and environmentalists' mental models of water issues: Opportunities for improved communication and collaboration. *Environmental Communication, 15*(3), 320–338. https://doi.org/10.1080/17524032.2020.1828128

Paolisso, M., & Maloney, R. S. (2000). Recognizing farmer environmentalism: Nutrient runoff and toxic dinoflagellate blooms in the Chesapeake Bay Region. *Human Organization, 59*(2), 209–221. https://doi.org/10.17730/humo.59.2.g7627r437p745710

Pew Research Center. (2017). *Political typology reveals deep fissures on the right and left* (p. 110). https://www.pewresearch.org/politics/wp-content/uploads/sites/4/2018/09/10-24-2017-Typology-release.pdf

Ratner, B. D., Meinzen-Dick, R., May, C., & Haglund, E. (2013). Resource conflict, collective action, and resilience: An analytical framework. *International Journal of the Commons, 7*(1), 183–208. https://doi.org/10.18352/ijc.276

Traoré, N., Landry, R., & Amara, N. (1998). On-farm adoption of conservation practices: The role of farm and farmer characteristics, perceptions, and health hazards. *Land Economics, 74*(1), 114–127. JSTOR. https://doi.org/10.2307/3147217