

# Thinking about a future conservation agenda

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**W**e do indeed stand on the shoulders of conservation giants. Whether that is H.H. Bennett, Rachel Carlson, or Aldo Leopold among others, they have shaped our conservation agenda. Yet, I am sure these conservation pioneers would agree that we should not worship them, but try to emulate their conservation contributions in our own way at a scale commensurate with our positions. Acting like a conservationist should trump honoring a conservationist. Simply following in their footsteps down the same path does little for conservation as the challenges of today are very different than the challenges of yesteryear.

We live in a world where science and technology has advanced such that the source, cause, and potential remedy to degradation from agriculture can be specified with a high a degree of precision across spatial and temporal scales. However, while the agency names and program acronyms have changed across time, the fundamental premises behind our conservation policy have remained static—we still believe the farmer needs to be educated, assisted, and compensated for engaging in conservation. At a time in our history when the majority of farmers did not have an eighth grade education, as was the case in the 1930s, these premises may have been valid. This is not the case today, but the policy premises of the 1930s are still implicitly guiding our thinking today.

It does not have to be this way. In the spirit of our conservation pioneers, it is time to engage in an intellectual reconnaissance to explore creative ways to advance the conservation agenda. Rather than quoting past conservation leaders, we need to be creative and speculate how their genius can be applied today and tomorrow. Our thinking needs to reflect the fact that the challenges on the horizon

are dramatic and real. It is in that spirit that I offer the following ideas to begin a forward-looking discussion and exploration of developing a new conservation agenda.

## FARMER AS PROBLEM SOLVER

I begin this first idea by emphatically stating that the farmer is not a customer for conservation agencies. The customer metaphor was created at a time when conservation agencies were exploring marketing strategies to accelerate adoption of conservation practices. The belief was that they would use marketing techniques to find the “hot buttons” that could be pushed to get farmers to adopt conservation practices. This customer approach did not work then, it does not work now, and it will not work in the future. It will not work because the farmer is not a customer—the farmer is a professional problem solver. There are few if any other professions where the individual spends as much time solving a constantly changing array of problems as does the farmer. From early morning to late night, the typical farmer confronts a sequence of problems that must be addressed. These could be associated with crop production; livestock management; marketing; financial dealings; machinery; labor, family, or community issues; and even involvement with government agencies. The intensity and number of these problems ebb and flow across the production cycle, but day in and day out the farmer is solving problems. Yet, the conservation *modus operandi* has been to ignore this capability and experience while creating a wide array of programs based on educating, assisting, and paying the farmer. While this approach has provided job security for many in universities and conservation agencies, it has also completely nullified the problem-solving capacity of the farmer when it comes to conservation. All the experience and knowledge gained from working the land is excluded, and the wisdom required to integrate new practices or techniques into a functioning farm system is bypassed for

the technical standards generated on distant experimental plots. Knowledge of the capacity of local support systems to support innovation is ignored in favor of recommendations derived from academic journals and computer models. Frustration with the lack of performance with these traditional approaches then leads to the call for regulations. Yet, regulations only encourage farmers to move to the lowest common denominator. As Hebert (personal communication, 2012) clearly explains, “Mandatory regulatory programs commonly result in performance standards set at levels that are achievable by a majority of the regulated community. In the case of farmers, this can mean performance standards that are set below the mean level of performance possible across all farms. All regulated farmers would then cope with that mandated standard and treat that as the maximum performance expected of them. As a result a large proportion of the farmers are never encouraged to discover, through innovation and trial and error, the significantly higher level of performance possible on their individual farms.” Overall, we have created a system that creates a dependency on external agents to define, implement, and subsidize the conservation agenda, and when that fails, we implement regulatory schemes that encourage mediocrity rather than building on the creativity and innovation that reside in the farm community.

Pointing out dysfunctional premises in existing conservation policy is all too easy. The real challenge is to hypothesize how we can create a conservation effort that is based on the problem-solving capabilities of the farmer—a situation where real responsibility and accountability for identifying and resolving resource management problems are given to local groups of farmers. The Australian Land Care program began exploring this option, but did not go far enough. The Nobel laureate Ostrom (2007, 2009) clearly recognized the potential of local collective action relative for managing natural resources, but we

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have yet to capture her genius and apply it to soil and water conservation.

Perhaps part of the answer that Ostrom suggested may emerge if we were to link a market for ecological goods and services with a farmer cooperative. Imagine a small, contiguous group of farmers forming conservation cooperatives where payment to the cooperative would be made for overall conservation performance. No payments or contracts with individual farmers, but to the cooperative. Payments would not be for what is adopted, but for the impacts of those decisions. Landscape features, production systems, and tenure patterns would determine the size of the cooperative, but it would have to be relatively small and geographically contiguous to build on social networks and peer pressure and to facilitate accountability. Either the cooperative or independent third parties could develop ways to measure, monitor, or verify performance using accepted protocols and standards. Cooperative members would be responsible for figuring out how to enhance conservation performance to increase payments and to ensure compliance by all members within clearly defined boundaries. Agencies may work with the cooperative, but it would be on the basis of an invitation and perhaps a contract for services by the cooperative. In the same way that urban authorities create special areas to encourage economic development, this approach could focus the development of conservation cooperatives to small, highly focused priority resource management areas. The market to which these cooperatives are responding could be funded by nutrient trading in areas where this is appropriate, the designation of conservation funds in the form of block grants to specific problem areas, or through the involvement of the many nongovernmental organizations that are currently funding special conservation initiatives.

The conservation cooperative is not meant to be the answer, but only represents a framework around which we could begin to capture the problem-solving capacity of the farmer while reducing dependency on conservation programs based on the traditional educate, assist, and remunerate approaches. Markets built on paying for documented performance

coupled with local collective action in the form of cooperatives would play a critical role in this idea. The real core of this idea is the attempt to capture the problem-solving capacity of farmers in order to advance the conservation agenda.

### SOIL QUALITY FOR BANKERS

The evolution of the concept of soil quality is very interesting. My first real exposure was during a National Academy of Science panel that produced the book *Soil and Water Conservation: An Agenda for Agriculture* in 1993. Since that time, we have seen a rich accumulation of science surrounding the concept of soil quality.

While I appreciate all that has been done to explore this concept and support efforts that will link this concept to our conservation programs, there is still one major deficiency to be addressed. This deficiency is the fact that we have allowed the concept of soil quality to be dominated by physical scientists and conservationists. What is really needed, and represents my second suggestion, is a measure of soil quality that can be used by bankers. Think about this last statement. We have long struggled on how to assess value of conservation in a way that will influence market decisions. Think of the number of times you have heard statements on the worth of a ton of soil, the value of lost nutrients, or the ecological costs of degraded landscapes. More than likely, the last time you heard one of these statements, it was a conservationist talking with a conservationist. Instead of continuing to talk among ourselves, or supposedly to educate the farmer, let's create a meaningful tool that can be used by bankers.

Why bankers? Speculation in farmland continues to increase, about one in three acres of US farmland is owned by a non-operator, and tenancy rates in some of our prime agricultural areas can exceed seventy five percent. Banks, farm management firms, and other financial organizations play a major role in the production decisions of an increasing proportion of our working agricultural landscapes. It is time to bring these financial players into the conservation arena.

Imagine a measure of soil quality that is designed for the explicit use by these

financial institutions to assess the status and changes in the quality of a tract or field. This would be a relatively simple measure created for them that is congruent with their capabilities and needs. The function of the tool would be to explicitly link rental rates or collateral values to ongoing management impacts on the soil. This tool should be able to tell a bank what a particular tillage choice or rotation decision would do to this measure of soil quality. Financial and management firms could generate an annual report showing the trend in soil quality on their land in the same way other financial instruments show trends for return on investment. Annual updates and tracking soil quality measures over time for specific fields or tracts would allow an assessment if a landuser is adding to, maintaining, or subtracting from this value.

Any banker or financial organization will be interested if management decisions enhance, maintain, or degrade an asset. Up to now, we have failed to provide an answer to this fundamental question relative to the soils of our working landscapes. We have corn suitability ratings, a fairly static measure, to determine the value of a parcel in local markets, but we have no measures that have meaning in a market on how the parcel is being enhanced or degraded across crop cycles. It is time to focus the science to answer clear economic questions regarding the value of soil quality. How do changes in soil quality influence changes in crop quality, crop quantity, costs of production, or the ability to cope with stresses from atypical weather, pests, or disease incidents? Answers to these and similar questions need to be integrated into an index that can be used by financial institutions to track trends in the value of the land they control.

Again, this should not be a measure of soil quality that is designed to meet the academic requirements of physical scientists, but a measure that will influence market decisions made by the financial institutions associated with commercial agriculture. I need a tool that provides a measure of soil quality that makes sense to a banker and in terms that are meaningful to the banker. Rather than trying to turn the banker into a junior soil scien-

tist or conservationist, the initial reaction of many to this idea, we need bankers to determine the nature of the tool that would have the greatest utility or meaning to them. Soil quality has the potential of advancing the conservation agenda, but only if we can make it salient to market decisions rather than our current emphasis on academic publications, convention themes, or agency reports.

### WHERE TO NEXT?

Several times I have stated that the context of the conservation agenda today is very different from yesteryear. Climate change, exponential growth in the human population causing massive land use changes, increasing incidence of water wars, and a growing demand for food, fiber, and fuel all provide a very different context on how we should be thinking about the conservation agenda. At the same time, we

have witnessed a revolution in our ability to communicate with each other and measure and analyze the world around us, and we share a growing maturity in how we think about our relation to the land and nature. Yet, in spite of all this science, technology, and even wisdom, we still look over our shoulder when charting the conservation path forward.

This essay is meant to ask others to join a discussion of how we can create a new conservation agenda—an agenda that respects and builds on the genius of the conservation giants of yesteryear, and also that is explicitly cognizant of the challenges facing our future. Conservation is a journey (Nowak 2011), and it is time to create and share ideas with the intent of moving forward on this journey rather than defending past positions. It is time to create ideas that have nothing to do with agency agendas or political platforms, but

have much to do with our soil, water, and other natural resources. It is time to think about a conservation agenda for tomorrow.

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