INTERMOUNTAIN WEST
JOINT VENTURE

INTERMOUNTAIN INSIGHTS:

Inspiring Conservation Action Through Science

DIGGING DEEPER INTO FLOOD IRRIGATION

photo: Ryan Scavo

SHIFTING PERSPECTIVES

For generations, many western ranchers have relied on spring snowmelt to flood irrigate fields and pastures in support of hay production and livestock grazing. These "working wetlands" also serve as oases for millions of migrating waterbirds, brood-rearing habitat for sage grouse, and forage for deer and elk. While the persistence of working wet meadows depends on the management decisions of landowners, their perspectives are often missing from conservation and policy-making discussions.

Landowners in the Little Snake watershed of Wyoming and Colorado, and also the southern Oregon/northeastern California region traveled to share their experiences with local conservation professionals in unique landowner-listening workshops (a model developed by Partners for Conservation). The workshops were part of a collaborative human dimensions research project conducted by a team from Virginia Tech and University of Montana, with funding provided by the Intermountain West Joint Venture (IWJV), the USDA Natural Resources Conservation Service (NRCS) in Oregon, and the U.S. Fish and Wildlife Service (Mountain-Prairie Region).

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HEARING FROM LOCAL RANCHERS

Through facilitated discussions, ranchers described the factors that either help or hinder the use of flood irrigation on private lands. An important driver is the long history of this traditional ranching practice. Not only is flood irrigation integral to ranching culture but it is also sometimes the only feasible method given the natural hydrology of local landscapes. As one rancher said, "A lot of these meadows and areas that are flood irrigated are historically areas that have a lot of water… and…now we just…control the flooding."

Because ranchers often mimic historical flooding patterns on these lands, flood irrigation is usually more economically viable than other methods. Ranchers explained that flood irrigation is a "tried and true" practice for better quality and quantity of hay production. While economics isn't always the primary motive to practice flood irrigation, a rancher's bottom line has to "pencil out," as one landowner put it. "It's a business enterprise and the revenue has to exceed the expense."

For some ranchers, financial incentives programs make it possible to continue to flood irrigate and remain viable as an operation. But several ranchers expressed concerns over funding constraints, including limitations on maintaining existing infrastructure. Many ranches have been passed down for generations, so while much of the infrastructure is already in place, ditches and other components of flood irrigation systems are aged and require upkeep to remain operational.


photo: Anna Kerr

Nearly half of all U.S. ranches are sold every decade and recruitment of younger generations into the ranching lifestyle has declined. Most of these once-open spaces have been lost to subdivisions and other development. Land conversion not only erodes the sense of community and cultural identity among ranchers, it also eliminates important wildlife habitat.

Many ranchers expressed a sense of stewardship in providing important wildlife habitat and pointed out how they manage their land as a part of the greater ecological system. Additionally, they noted how their activities have a positive economic and social impact on their local communities. As part of their stewardship ethos, ranchers overwhelmingly conveyed a strong desire to keep working lands working. They view ranching and flood irrigation practices as tradition and a lifestyle they desire to pass on to their children and grandchildren. However, many were concerned over the willingness and skill sets of future generations to keep their ranches in production. They also commented on the importance of longstanding, trusting relationships with their neighbors, and the significance of how their operations are perceived by the local community as well as visitors to the area.

To improve awareness of the stewardship activities and role of ranchers in managing the land, individuals in both workshops suggested that surrounding communities may be an important audience for communications efforts regarding the benefits of working lands. They also discussed the importance of communicating with each other concerning water management and availability. Partnerships and open communications with conservation professionals and policymakers were identified as critical to maintaining successful operations in addition to effective, long-lasting conservation practices. Central to strong partnerships is building trust and "honest people sitting around, getting over their biases, their agendas, and listening to one another," said one rancher.

> "Most of the time you [aren't] in a family ranch to get rich; it's a way of life. And what better way of life is there?"

NEXT STEPS

Both workshops highlighted key areas where conservation professionals can increase rancher engagement and ensure working wetlands continue to benefit both landowners and wildlife. Recommendations that came out of these workshops can facilitate the success of programs such as IWJV's Water 4 Initiative, which aims to conserve "water for" agriculture, wildlife and fisheries habitat, groundwater recharge, and landscape resiliency in ways that matter to people.

"Central to the research recommendations" said Mary Sketch, the graduate student at Virginia Tech who was the lead author on this research, is "communicating the 'rancher story' to policy makers, conservation professionals, and the general public," through news outlets, story maps, face-to-face meetings, and articles that highlight rancher stewardship and land ethics. Sketch also said that one of the goals of telling the rancher story is changing misperceptions about flood irrigation and ranching overall. "Many people view flood irrigation as an inefficient use of water and are not aware of the benefits privately-owned wet meadows provide to wildlife."

OVERVIEW OF TYPES OF COMMUNITY CAPITAL

Natural	Those assets that abide in a location, including resources, amenities, and natural beauty.
Financial	The financial resources available to invest in community capacity building, to underwrite business development, to support civic and social entrepreneurship, and to accumulate wealth for future community development.
Built	The infrastructure that supports the community such as telecommunications, industrial parks, main streets, water and sewer systems, roads, etc.
Cultural	The way people know the world and how to act within it and includes the dynamics of who we know and feel comfortable with, what heritages are valued, collaboration across races, ethnicities, and generations, etc.
Human	The skills and abilities of people, as well as the ability to access outside resources and bodies of knowledge.
Social	The connections between people and organizations or the social glue that make things happen.
Political	Access to power and power brokers, such as access to a local office of a member of Congress, access to local, county, state, or tribal government officials, or leverage with a regional company.

Table reprinted from Sketch, Dayer, & Metcalf 2020

Conservation professionals that engage the ranching community could also serve as liaisons between ranchers and local policymakers to tailor incentives programs that meet the needs of both landowners and wildlife. Zola Ryan, NRCS District Conservationist in Harney County, Oregon and conservation professional who attended a workshop said, "Each area, even from one county to another, has its own specific issues that come from both the landscape and the culture, so there is not a one-size-fits-all approach."

This is where local partner biologists who focus efforts on building relationships and understanding the nuances of a given area can really make a difference. In Oregon for example, incentives programs could be expanded to include not only funding for new infrastructure but for also maintaining and improving efficiency of existing infrastructure. Other potential ways for the conservation community to work with ranchers include exploring payment for ecosystem services schemes, developing more programs that foster the next generation of ranchers, and promoting water management policies that are more aligned with local needs, including those of producers.

As more ranches are lost to development, strategies that keep working lands 'working' are essential. Maintaining the ranching lifestyle relies on an interrelated, intersectional puzzle of factors, and as one Wyoming rancher put it, "Most of the time you [aren't] in a family ranch to get rich; it's a way of life. And what better way of life is there?"

> "One of the goals of telling the rancher story is changing misperceptions about flood irrigation and ranching overall."

photo: Ryan Scavo

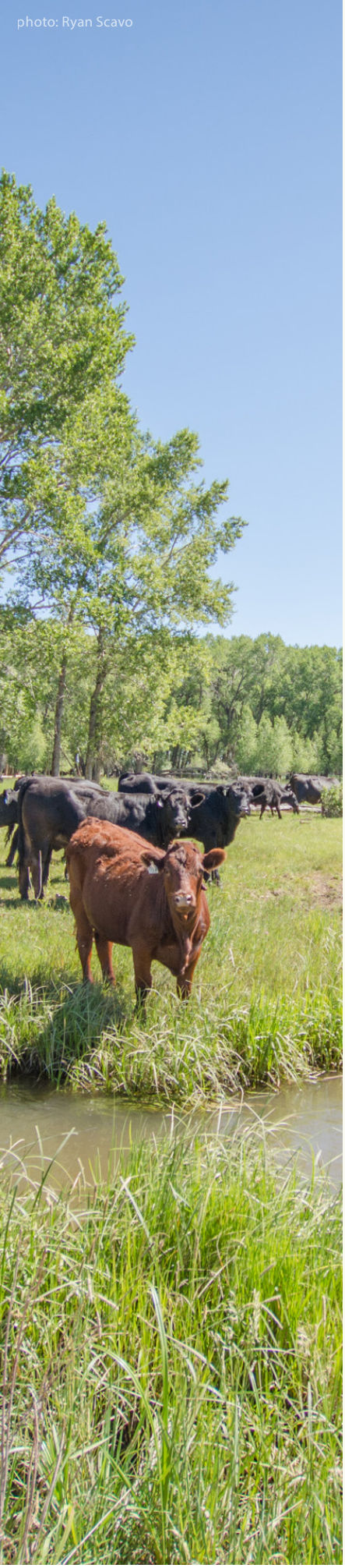
photo: Ryan Scavo

COMMUNITY CAPITALS

Below is a model for understanding the interrelated enablers and constraints that impact the co-production of working wet meadows for ranchers and the environment.

SUMMARY OF ENABLERS & CONSTRAINTS OF FLOOD IRRIGATION

CAPITAL TYPE	ENABLERS	CONSTRAINTS
Natural	• Natural history of landscape • Aesthetics of wildlife and habitat • Land health	• Erosion • Damage from wildlife • Drought
Financial	• Better hay production • Fit within economic portfolio • Minimized capital outlay • Dependable form of production	• Labor intensive
Built	• Pre-existing infrastructure	• Maintenance and upkeep
Cultural	• Lifestyle centrality	
Human		• Skilled labor • Future generations
Social	• Positive relationships • Recreation/tourism	• Development • Outsiders/negative relationships • Public misperception
Political	• Conservation delivery programs • Collaboration	• Regulation and policy (e.g. • limited conservation incentives)

Table reprinted from Sketch, Dayer, & Metcalf 2020

SOURCE

Sketch, M., Dayer, A.A., & Metcalf, A.L. (2020). Western ranchers' perspectives on enablers and constraints to flood irrigation. *Rangeland Ecology and Management*. https://doi.org/10.1016/j.rama.2019.12.003