Building a Common Voice for Healthy Stream & River Systems in the West

What they are
Why they matter
Making the case for investment

Messaging Handbook

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Welcome!

This handbook supports your communications with decision-makers in the western United States about protecting and restoring healthy stream and river systems. A movement has been building for years among diverse groups—land and water managers, restoration professionals, farmers and ranchers, Native American Tribes, conservationists, scientists, and others—to improve the stream and river systems we all depend on. You are part of that movement, too.

This messaging handbook defines a common language for communicating about healthy stream and river systems. We lay out a plain language way to talk about their benefits, problems, solutions, and a call to action to conserve and restore them across the West. The handbook will help you craft your message for decision-makers. By sharing similar messages, supported with your examples and experiences, we can work together to build a common narrative on healthy stream and river systems across many conversations.

Credit: Mark Beardsley

How to use this handbook

When it comes time to talk about stream and river systems with a decision-maker, you should bring four things to the conversation:

- **Construct your message:** This handbook shows you how to describe the Benefits, Problems, Solutions, and a Call to Action for healthy stream and river systems.
- **Connect to their interests:** Research what matters to your audience—we provide some suggestions on how to connect the message to the individual.
- **Personalize your approach:** Be prepared to bring your experiences, photos, and your "ask" to the conversation.
- **Make it matter locally:** Decision-makers are connected to a place. You need to describe how healthy stream and river systems impact their community or the resources they care about or manage.

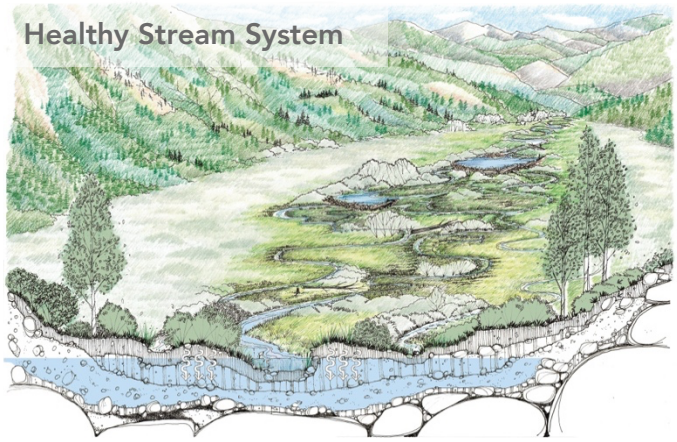
What is a healthy stream and river system?

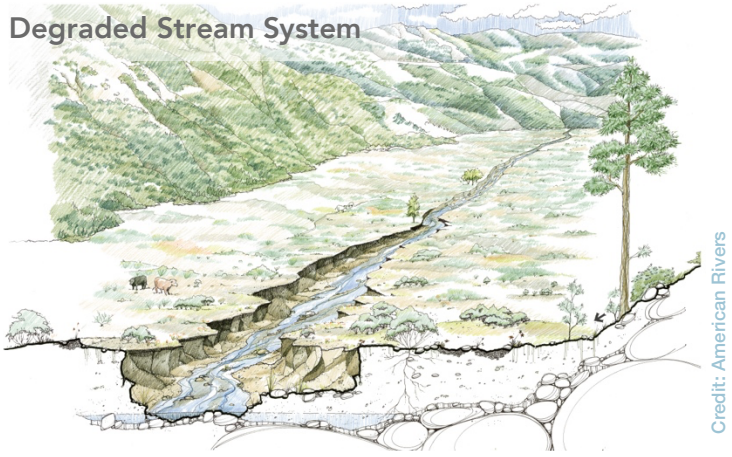
When we say **stream and river systems**, we mean it as an all-encompassing phrase for the natural waterways of the West, including their connected floodplains.

When we say **healthy**, we use an approachable term to capture the common elements of these systems that provide maximum benefits to people and nature.

Stream and river systems vary in name, shape, and scale depending on geography, elevation, size, and distance from their headwaters. You may have heard these systems referred to as riverscapes, river-wetland corridors, arroyos, wet meadows, or other terms.

Some stream systems have surface flows part of the year (i.e., intermittent streams) and/or shortly after precipitation events (i.e., ephemeral streams). While these systems do not have surface flows year round, they still provide many benefits and are essential parts of our water system.





Credit: American Rivers

Healthy stream and river systems:

- Have space to flood and for channels to shift over time
- Slow the flow of water, allowing it to sink and spread
- Look "messy," are cluttered with vegetation and wood, and have multiple channels
- Have robust wetland systems across their entire floodplain

Informed by experts

The messages in this handbook were developed through research and conversations with over **40 restoration professionals, scientists, communicators, advocates, agency staff, and the kinds of decision-makers it aims to influence**. This approach to talking about stream and river systems is designed to connect with a wide variety of leaders and is backed by the best available science.

Stepping Back: How did we get here?

Dredge-mining operations in the late 19th century, like the one depicted here on Oregon's John Day River, had profound impacts on stream and river systems.

Every system has its own story—be ready to share it with the audience in a way that brings people together around solutions rather than laying blame.

Our streams and rivers have been constrained, simplified, and stabilized for so long that many people have not seen a healthy stream or river system.

- **At first glance, stream and river systems in the West might look healthy to people, even when they are not.** However, over time, many systems have been simplified, constrained in their movement, and disconnected from essential wetlands and floodplains.
- **Constrained systems were created in part by historic practices**, including converting forests to other uses, grazing, mining, and constructing water infrastructure. Many stream and river systems remain degraded today as a legacy of these past actions.
- While it may have made sense at one time to straighten and constrain streams and rivers to prioritize the efficient movement of water, **many of our stream and river systems now can't deliver the ecological and community services** we need and expect today.
- Across the West, **we know that degraded stream and river systems as a whole are less effective** than healthy systems at retaining snowmelt, providing resilience to wildfire, naturally refilling aquifers, and slowing stormwater.

Things to Keep in Mind

Here are some tips when talking with decision-makers about healthy stream and river systems.

The order of messages is important

The messages are designed to move from Benefits to Problems to Solutions to a Call to Action. This order is an intentional storytelling path and gives everyone a similar way to speak about this work. This can be just as important as the words we use.

Keep it simple

While it may be tempting to provide a lot of detail right away, you can quickly lose people if you overload them. Start with the high-level lead messages (your "elevator pitch"), then move into adding more detail with the supporting messages and data, when needed.

Relate to your audience

The people you are talking to have much more on their plate than just healthy stream and river systems. Even if you think they are interested in the subject, empathizing about their competing priorities and pressures will open up an avenue for them to hear you more fully.

Focus on decision-makers

This handbook was designed with policymakers, funders, and agency decision-makers in mind—especially in federal and state government connected to the rural West.

The messenger is as important as the message

When possible, bring partners to your conversations that the decision-makers know and trust. This can increase the impact of your conversations and demonstrate wide support for healthy stream and river systems.

Seeing is believing

Many policymakers don't know what a healthy river or stream system looks like. We have included examples of pictures that can create a big impression. Even better? Invite them out on the ground to see a healthy stream or river system in action.

Credit: Peter Skidmore

Keep the end goal in mind

The messages are designed to accomplish our shared goal: to increase the restoration and conservation of stream and river systems. Know what you want to ask from your audience.

Lead Messages

Credit: BLM California

Credit: Mark Beardsley

These are the top-level messages that should frame your conversation—use them in this order.

Benefits

Healthy stream and river systems **provide essential benefits to people and nature** in the West.

Problems

Many of our stream and river systems are **not functioning like we need them to**, threatening our economy, safety, and natural resources—and increasing the risks from wildfires, droughts, and floods.

Solution

The good news is that there are cost-effective and proven ways to steward our stream and river systems to help address the problems we face. When we invest in the health of these systems, **we build stronger economies, increase resilience to disasters, and support fish and wildlife**.

Call to Action

Western communities can't wait. We must work together to increase the pace, scale, and impact of conservation and restoration to build resilience and support our communities in the West. **Join us!**

Step 1 - Start With the Benefits

Lead With

Healthy stream and river systems **provide essential benefits to people and nature** in the West.

Support With

Healthy stream and river systems have many benefits—their importance varies by geography and other factors. These systems provide:

Economic and community benefits:

- ☐ Sustain working lands and livelihoods of farmers and ranchers to grow our food now and into the future
- ☐ Filter pollutants and trap sediment, decreasing costs to provide clean drinking water
- ☐ Provide recreation, tourism, and river restoration jobs, especially in many rural communities

Health, wellness, and cultural benefits:

- ☐ Support many cultures and traditions, such as providing materials for cultural practices
- ☐ Create places to fish, hunt, boat, hike, camp, and swim, and enjoy the inherent benefits of nature that improve health

Resilience and safety benefits:

- ☐ Buffer communities from the impacts of droughts
- ☐ Decrease downstream flooding by slowing runoff during spring snowmelt or heavy rain events
- ☐ Provide wildfire risk-reduction benefits: wider, greener stream and river systems are more likely to act as a natural fire break
- ☐ Provide post-wildfire recovery benefits: after a fire, wetlands and beaver ponds filter out sediment and ash

Ecological benefits:

- ☐ Increase the amount and range of aquatic and wetland habitats that benefit fish and wildlife throughout their lives, including safe and continuous migration corridors
- ☐ Buffer the impact of natural disasters and act as a sponge for water and carbon.
- ☐ Reduce the impacts of warming temperatures and increased drought by keeping water cool and maintaining water levels

What are the most impactful benefits of streams and rivers in your community?

- ☐ *Example: We get both our clean drinking water and a place to recreate …*

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What are the benefits your audience will find most compelling?

- ☐ *Example: I know that you love to fish …*

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Step 1 - Start With the Benefits

Credit: Mark Beardsley, Emily Fairfax

Use photos of healthy stream and river systems to help ground your audience in the benefits they provide. The photo on the right shows how a healthy stream system with beaver ponds in Wyoming can act as a fire break.

Go Deeper

Be prepared to make a strong case for investment that will resonate with your audience. Use these examples or develop your own.

- ☐ **Aquatic restoration programs support on average 15 jobs per million dollars spent**, including those for restoration practitioners, project managers, construction workers, engineers, hydrologists, and fish biologists.[1]
- ☐ The **risks of floods and droughts to communities are mitigated when freshwater systems naturally retain water on the surface and in shallow groundwater**—they have an enhanced ability to slow flows during spring runoff or heavy rain events and release stored water during dry periods.[2]
- ☐ **Healthy stream and river systems support 70 to 80 percent of terrestrial wildlife during some part of their life cycle** by providing clean and abundant water, nutrient retention and cycling, microclimates and shade, and habitat and food—this in addition to providing essential habitat for fish and other aquatic species.[3]
- ☐ When water flow is slowed for days or weeks, **nutrients and toxics can be removed from the water column** by plant uptake or microbial decomposition, or through a process of settling out or sticking to solid surfaces.[4]
- ☐ The **ecosystem services provided specifically by beaver-modified wetlands and streams lead to clear economic benefits**. These include restored salmon runs; decreased flooding severity; savings from restoration projects that would no longer be required; aquatic habitat; longer water residency times that support fish, agriculture, and recreation; and incalculable Tribal subsistence value.[5]
- ☐ **Stream and river systems are uniquely important to those in the West**—67 percent of voters from California, Colorado, New Mexico, Oregon, and Washington favor more safeguards for U.S. rivers,[6] and 67 percent of voters from Mountain West states worry about the future of land, water, and wildlife.[7]

Step 2 - Describe the Problems

Lead With

Many of our stream and river systems are **not functioning like we need them to**, threatening our economy, safety, and natural resources—and increasing the risks from wildfires, droughts, and floods.

Support With

Degraded stream and river systems pose significant costs and risks. These include:

Economic risks:

- ☐ Decreases in farm and ranch productivity
- ☐ Increases in cost to recover from natural disasters such as wildfires, droughts and floods
- ☐ Increases in cost to provide clean drinking water when water sources are polluted, filled with sediment, or dried up

Health, wellness, and cultural risks:

- ☐ Adverse impacts to water quality and availability, impacting health and wellness, especially in rural communities with limited resources
- ☐ Decreases in the number of places to recreate and enjoy the spiritual benefits of nature
- ☐ The loss of traditional food sources and culturally significant species such as salmon, Pacific lamprey, beavers, and cottonwoods

Ecological Risks:

- ☐ Degraded habitats for supporting native plants, fish, birds, and other wildlife
- ☐ Decreases in the capacity to serve as nature's water, carbon, and nutrient sponges
- ☐ Diminished groundwater recharge, leading to declining aquifers and less water for future use
- ☐ Less resilience to increasingly intense natural disasters that impact habitat
- ☐ Thriving invasive species, threatening native plants and wildlife

Where have you seen examples of these problems in your community?

- ☐ *Example: As a result of our snowpack melting earlier, many of our streams …*

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Which problems matter the most to your audience?

- ☐ *Example: My senator cares of about the agricultural community and its viability …*

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Step 2 - Describe the Problems

Credit: Peter Skidmore, NRCS Montana

Walking your audience through photos of streams and rivers can help them spot the difference between healthy and degraded systems. These examples show unnaturally constrained, simplified, and stabilized systems.

Go Deeper

Explaining the costs and risks that are relevant to your audience can make them clearer and more understandable.

- ☐ **Poorer functioning stream systems threaten clean water and sustainable supplies.** Streams play a critical role in the quality and supply of our drinking water by ensuring a continuous flow of clean water to surface waters and helping recharge underground aquifers.[8]
- ☐ The streamflow of up to **80 percent of rivers and streams in the contiguous U.S. have been modified by human activity**.[9]
- ☐ A recent assessment of the condition of the nation's rivers and streams found that in the West, **55 percent of stream and river miles have moderate or high levels of riparian disturbance**.[10]
- ☐ In the West, **32 percent of stream and river miles have fish communities in poor condition**.[11]
- ☐ **Many stream and river systems are structurally altered as a result of the loss**, limitation, or even oversupply of sediment, vegetation (e.g., wood), and flow.[13]
- ☐ **Flood-storage capacity of U.S. rivers has been severely diminished** by loss of floodplain connectivity and is at an all-time low.[14]
- ☐ Seventy percent of Western voters say that the **low level of water in rivers is an "extremely" or "very" serious issue** in their state.[15]
- ☐ Ninety-six percent of voters say **protecting the health and safety of drinking water is important**.[12]

What local information can you share that is relevant to your audience?

- ☐ Example**:** *In Gallatin County, stream surveys indicate …*

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Step 3 - Share the Solution

Lead With

The good news is that there are cost-effective and proven ways to steward our stream and river systems to help address the problems we face. When we invest in the health of these systems, **we build stronger economies, increase resilience to disasters, and support fish and wildlife**.

Support With

We can conserve and restore healthy stream and river systems to achieve multiple community benefits. Specifically, we can:

- ☐ Restore the natural processes of stream and river systems. Healthy systems look messy and have lots of vegetation, logjams, multiple channels, and adjacent wetlands.
- ☐ Let floodplains flood. We can help streams and rivers by removing existing man-made structures (e.g., buildings and levies) in the floodplain when possible, reconnecting streams and rivers to their floodplain, and limiting future floodplain development.
- ☐ Give streams and rivers the space they need to be dynamic, deposit sediment, form new channels, adapt to changing conditions, and create habitat. Stabilizing riverbanks makes impacts downstream worse.
- ☐ Slow, sink, and spread water to recharge groundwater sources, increase resilience to natural disasters, and sustain habitat for plants and wildlife.
- ☐ Stop draining and filling in wetlands and streams.
- ☐ Utilize management practices that reduce or minimize grazing impacts near streams and rivers.
- ☐ Allow wood to accumulate in streams and beavers to build dams in places where they can be encouraged to recolonize.
- ☐ Remove obsolete man-made dams and other barriers that impair stream and river functions, block fish passage, and pose challenges or risks to communities.
- ☐ Build durable, cross-sector partnerships that connect communities, agencies, and practitioners with the positive benefits of this work.

What solutions are needed in your community?

- ☐ *Example*: *On the Rio Grande, we are working to …*_____

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What does your audience care about that would benefit from this kind of success?

- ☐ *Example*: *Farmers in your district are working to ensure water is available later in the season …*

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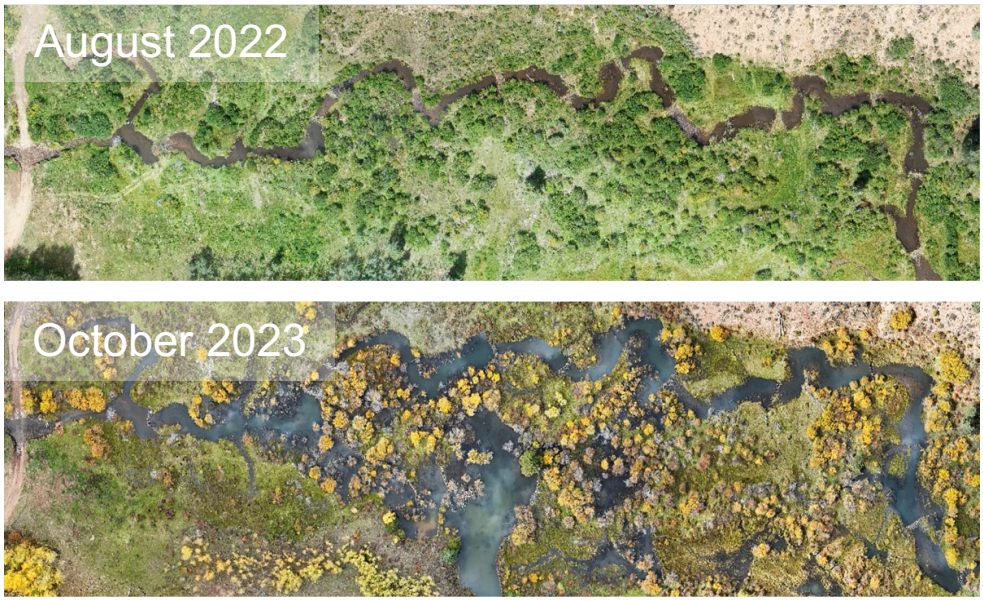
Step 3 - Share the Solution



Credit: Mark Beardsley

This example on Colorado's Rough and Tumble Creek shows how a stream can be reconnected with its floodplain through beaver-based restoration to slow flow and improve habitat.

Go Deeper

Various techniques and approaches are available to revitalize stream and river systems. Discuss those that are relevant to your project and geography:

- ☐ **Adding wood to get needed structure back into the system.** Approaches include adding whole trees with their roots, building logjams, and mimicking and promoting beavers. Historically, stream and river systems had much more wood, logjams, and beaver dams that slowed water, filtered and trapped sediment, and created habitat.
- ☐ Gully erosion-control structures, made from rock, brush, and/or turf mats, **slow and disperse water, dissipate energy, capture sediment, and increase soil moisture.** This promotes plant production in moist soils and wetlands and the recovery and expansion of wet meadows.[16]
- ☐ **Beaver management includes a variety of individual and population-management activities** including strategically limiting beaver trapping, providing tools to help people successfully live alongside beavers, and actively translocating beavers to areas where they can be encouraged to recolonize.
- ☐ Beneficial grazing management includes rotational grazing, timing and duration of grazing, and wildlife-friendly fencing to reduce or minimize grazing impacts near streams. It is used alone or with other restoration techniques **to ensure that sufficient vegetation reoccupies the historic stream and river system** so it can eventually sustain natural processes without further structural additions.
- ☐ **Removing small, man-made dams, diversion structures, and other barriers returns rivers to a free-flowing state**. This improves access to spawning and rearing habitat for native fish species, enables riparian habitat to flourish, provides shelter and habitat for a variety of wildlife, and restores natural sediment transport. Dam removal also results in benefits to the community, including cost savings, elimination of safety issues and liability, enhanced recreation, and restoration of Tribal traditions and treaty rights.

What solutions do you see?

- ☐ _____

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Step 4 - Call to Action

Lead With

Western communities can't wait. We must work together to increase the pace, scale, and impact of conservation and restoration to build resilience and support our communities in the West. **Join us!**

Priority Call to Action

Maintain and increase state and federal funding to revitalize and conserve stream and river systems for the benefits they provide to public, private, and Tribal lands.

Support With

Other calls to action that may be relevant to your work:

- ☐ Champion restoration, stewardship, and conservation efforts that support livelihoods and communities.
- ☐ Support and help fund cost-effective restoration actions that kickstart natural processes. Match the scale of solutions to the scale of problems in priority watersheds.
- ☐ Provide job-training programs that build a workforce that sustains a restoration economy.
- ☐ Support landowners with resources to protect and restore healthy stream and river systems on working land, including ways to live with beaver.
- ☐ Invest in Indigenous-led programs to restore healthy stream and river systems.
- ☐ Integrate healthy stream and river systems into federal, state, Tribal, and municipal plans designed to increase resilience and minimize risks from droughts, floods, and wildfires.
- ☐ Forge durable, lasting partnerships to identify, fund, and implement conservation and restoration projects.
- ☐ Support practical monitoring and research to improve the effectiveness of restoration projects.

What is your specific call to action for your audience?

- ☐ *Example: Teton County needs $500,000 next year to restore South Teton Creek …*

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What can your audience do to help push your work forward?

- ☐ *Example: It would be great to hear you speak about the value of this project at the field hearing …*

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Step 4 - Call to Action

The more examples you can show of these techniques improving outcomes on the landscape, the more powerful your argument will be.

Credit: Amy McNamara

Go Deeper

Be specific about the solutions you seek to advance to help your audience understand their role in the solution. These may include:

- ☐ **Public lands are particularly well positioned for rebuilding the health of stream and river systems** because they are relatively free of development and other infrastructure compared with private lands or urban settings.[17] Also, most headwater streams that flow into western rivers start on public lands.
- ☐ **Multiple pathways exist for states to prioritize restoration work** including municipal and state water plans, state wildlife action plans, state-based beaver plans, and hazard mitigation plans.
- ☐ Support new federal investments in Tribal water and fisheries programs; **work together to remove technical, funding, and capacity barriers** to restoring healthy stream and river systems on Tribally managed lands.
- ☐ Many stream and river systems flow through private lands, which makes the **voluntary protection, maintenance, and restoration of stream and river systems on private lands another critical part of the equation.** Many federal agencies have long worked with landowners to increase the health of their stream and river systems.
- ☐ Indigenous communities have long recognized the value of maintaining beavers as part of the landscape. **Federal agencies and nongovernmental organizations can partner with Tribal agencies to deploy resilient and time-tested approaches** to protect and restore our shared natural resources.

How will your call to action specifically make a difference in your community?

Example: Colorado should include stream system restoration as a nature based solution to ...

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Endnotes

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[11] Ibid.

[12] Hayley Glassic et al., "Principles of Riverscape Health," *WIRES Water*, in print.

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Acknowledgements

Metropolitan Group is grateful to the more than 40 individuals who participated in the creation of this messaging handbook. We benefited from the wisdom and experience you shared with us and are indebted for what you taught us about the work you do day-in and day-out to improve the health of stream and river systems in the West.

The following people served on the advisory group and capably steered this project, recruited participants, and served as a sounding board from beginning to end:

- **Alicia Marrs**, National Wildlife Federation
- **Amy McNamara**, Natural Resources Defense Council
- **Brian Murphy**, River Network
- **Andrew Scibetta**, Natural Resources Defense Council
- **Peter Skidmore**, Dipper Consulting

The following participated in workshops or focus groups to inform the handbook's messaging and guidance:

- **Mark Beardsley**, EcoMetrics
- **Mary Jo Brooks**, National Wildlife Federation
- **Jeanette Burkhardt**, Yakama Nation Fisheries
- **Sarah Colombo**, Borderlands Restoration Network
- **Emily Downing**, Intermountain West Joint Venture
- **Emily Fairfax**, University of Minnesota
- **Alex Funk**, Theodore Roosevelt Conservation Partnership
- **Fay Hartman**, American Rivers
- **Tomer Hasson**, Foundation for America's Public Lands
- **Blanche Hooke**, San Carlos Apache Tribe
- **Nicole Lampe**, The Water Hub
- **David Lindley**, Yakama Nation Fisheries
- **Barry McCovey Jr.**, Yurok Tribe
- **Erin Minks**, Office of Senator Michael Bennet (Colo.)
- **Kristin Neff**, National Fish and Wildlife Foundation
- **Laura Norman**, University of Arizona
- **Lindsay Schlageter**, The Nature Conservancy
- **David Seibert**, San Carlos Apache Tribe
- **Katie Sickmann**, National Forest Foundation
- **Joe Wheaton**, Utah State University
- **Alexa Whipple**, Methow Okanogan Beaver Project
- **Ellen Wohl**, Colorado State University
- **Gregg Young**, Potter Valley Tribe

We also benefited from input from current and former natural resource leaders from the Bureau of Land Management, Colorado Department of Natural Resources, National Oceanic and Atmospheric Administration, Natural Resources Conservation Service, New Mexico Environment Department, U.S. Department of Agriculture, U.S. Fish and Wildlife Service, and U.S. Forest Service.

This project was made possible with generous funding support to Natural Resources Defense Council from the Walton Family Foundation and Broad Reach Foundation.

Handbook Facilitation and Creation
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