



**NATIONAL
WILDLIFE
FEDERATION**



**OHIO RIVER BASIN
ALLIANCE**

Community Priorities for Ohio River Basin Restoration and Protection

FINDINGS FROM 31 COMMUNITY LISTENING SESSIONS
FACILITATED BY THE NATIONAL WILDLIFE FEDERATION AND
OHIO RIVER BASIN ALLIANCE

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Community Priorities for Ohio River Basin Restoration and Protection

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This report highlights key findings and priorities that came out of 31 community listening sessions hosted for residents in the Ohio River Basin, between June 2022 and May 2023. Input from the sessions is being used to inform the Ohio River Basin Alliance’s (ORBA) plan to restore and protect the waters of the Ohio River Basin. The plan is currently being written under the leadership of the National Wildlife Federation (NWF) and Ohio River Valley Water Sanitation Commission (ORSANCO). The plan, once complete, will be delivered to the U.S. Congress, with the goal of securing and sustaining the federal investments necessary to implement the plan’s recommendations.

The 31 community listening sessions referenced in this report attracted more than 535 people, who discussed their concerns about local waters, as well as solutions to address those concerns. Feedback from the listening sessions is helping to identify community-driven restoration priorities for the 14-state Ohio River Basin, which includes portions of Alabama, Georgia, Kentucky, Illinois, Indiana, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia.

The community listening sessions were conducted by NWF in collaboration with ORBA and ORSANCO, as well as the community partners listed in the acknowledgements.

A top priority for ORBA and NWF is to ensure that the final Ohio River restoration and protection plan is a communi-

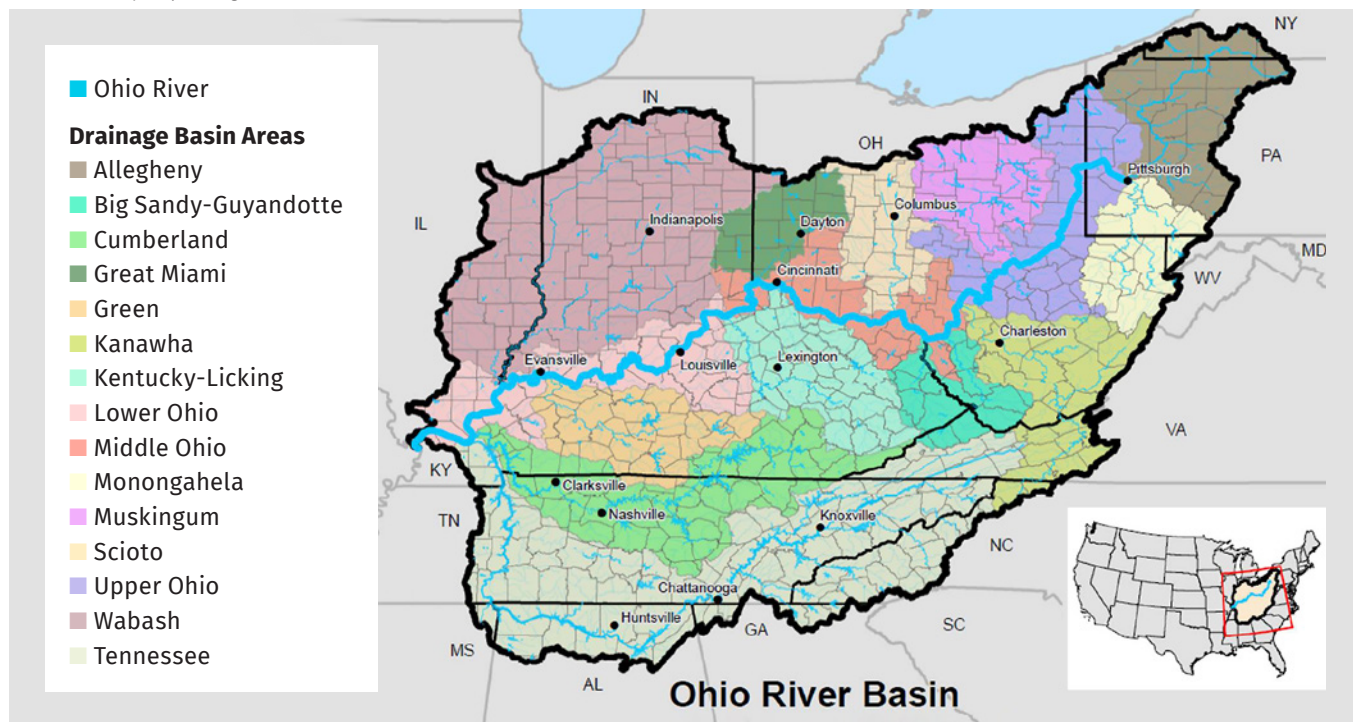
“We are the Ohio River, because we drink the water.”

ty-driven document that encompasses the clean water priorities of rural and urban communities in the region. The 31 listening sessions provided the opportunity for local residents to have their voices heard and to provide input into the restoration plan.

The listening sessions included 16 in-person meetings in Cairo, Ill.; California, Pa.; Cincinnati, Ohio (2); Evansville, Ind.; Huntington, W.Va.; Louisville, Ky; Marietta, Ohio; Nashville, Tenn.; Pittsburgh, Pa. (2); Waynesville, Ohio; Wheeling, W.Va.; Williamson, Ky./W.Va.; and Winchester, Ky. (2). An additional 15 sessions were conducted online via video conferencing app Zoom, making it possible for people across the region to participate. See Appendix A for more details regarding the timing, location, and number of attendees for each listening session.

Due to COVID-19 restrictions in the summer of 2022, all of the in-person listening sessions were held in outdoor locations. Those restrictions were lifted in the fall of 2022. Participation in the community listening sessions

Source: U.S. Army Corps of Engineers



was voluntary. People attending in-person sessions received complimentary food and beverages at the event; and, in some instances, participants received gift cards to offset the time and cost of attendance. The sessions were held in both urban and rural areas.

The structure of each listening session included three parts in which participants could offer their thoughts on water quality concerns, solutions to those problems, and priorities for a federal restoration and protection plan. The participants began with a community dialogue around their connections to the water, which then transitioned into a discussion about local water concerns in their communities. Participants then discussed solutions to address those concerns. The final activity was a written exercise in which participants were instructed to provide a list of priorities they would like to see in a federal restoration and protection plan. The findings and information provided in this report is based on the community conversation, flip chart prioritization exercises (for in-person sessions), chat dialogue (for online sessions), and final written exercises from both the in-person and online sessions. Participants were promised

anonymity; therefore, this report does not contain any personally identifiable information of any listening session attendee.

Additional work on the restoration and protection plan is being conducted with stakeholders in academia, business, utility sectors, non-governmental organizations, and state and federal agencies. Those collaborations, while important, are not reflected in this document.

Further, NWF and other partners recognize the importance of thorough Tribal engagement throughout the Ohio River Basin planning process to honor Tribal sovereignty and elevate Indigenous stewardship. Engagement with federally recognized tribes is ongoing. While the final Ohio River Basin restoration and protection plan aims to prioritize Tribal environmental, cultural, and education priorities, this document does not reflect those important considerations.

The community listening sessions were paid for by NWF, with support from the Center for Large Landscape Conservation.

Photo credit: John Nation



The following report reflects a summary of the conversations and feedback from more than 535 community residents, facilitated by NWF with support from local sponsors and organizations. Due to the nature of the discussions, all participants' names and identifications were kept anonymous. Key findings are listed below, with a more expansive discussion of some supporting themes in the section that follows. A more thorough list of issues can be found in Appendix B. Comprehensive List of Concerns and Solutions.

1. Residents have a deep connection to the Ohio River, its tributaries, and local waters. People see the Ohio River and its tributaries as a defining part of their life, health, and culture. People in small towns and urban centers alike talk with passion and nostalgia about summer gatherings along the banks with family and friends, as well as water recreation, including fishing, boating, paddling, and swimming. Many refer to growing up along the banks of the Ohio River and different tributaries, attending beach concerts, volleyball games, and picnics. People acknowledge, and in many cases embrace, the region's industrial and mining heritage, yet they believe that cleaner and healthier water policies can be implemented to protect their drinking water and their health.

“I am an eighth generation West Virginian, and I’ve lived along the Ohio River or one of its tributaries almost my entire life. It’s hard for me to imagine living anywhere else, it’s home, it’s been the water that I drank and washed in, and it’s been the water that’s part of my body and my life, all my life.”

2. People see threats to their waters all around them—with threats to local drinking water being a top concern. People are concerned about toxic pollution and its impact on their health and drinking water. Many residents mentioned the history of chemical manufacturing—including toxic PFAS—that has led to inter-generational health concerns such as cancer and other illnesses for family members and loved ones. Acid mine drainage from abandoned coal mines remains a concern for many people, as well as coal ash from coal burning power plants. People are also concerned about runoff pollution

and harmful algal blooms, like the 2015 bloom that stretched for 650 miles down the Ohio River.

“We see that all the time in small towns along the river—they’re flooding pretty regularly...”

3. People want these problems to be addressed with urgency and with better communication with local residents. There is a widely held belief that information is not being shared widely or effectively. Sometimes, information is not available. For example, a West Virginia resident pointed out that in that state, there is no funding for testing for toxic PFAS in private wells. The information does not exist, because it has not been prioritized. In a similar vein, a homeowner in Marietta, Ohio, paid for his own water quality testing in his residential well after failing to get answers to his questions about the health of his water and whether PFAS contaminants were present. In some cases, the breakdown of communication has led to misinformation spreading (for example, water utility systems have made municipal water safer since passage of the Clean Water Act), as well as to mistrust in decision-making processes. People want more information about the health of their waters, and they want to be informed when decisions are being made.

4. People believe that polluters are not being held accountable. People understand that the region's history is rooted in industry, mining, and manufacturing and that those businesses have been responsible for pollution. People cite many concerns: mine waste leading to acid mine drainage, chemical spills such as the 2014 Elk River spill in West Virginia, and toxic pollution like widespread PFAS contamination in drinking water. Further, there is broad concern that polluters are not doing all they can to control harmful contaminants from getting into the environment and that state and federal agencies are not doing all they can to cut pollution and enforce pollution prevention laws.

“It’s hard for the average citizen to figure out how clean the water is. People should have access to this information in a more accessible format...”



Photo credit: Jordan Lubetkin

5. People voice strong support for federal investment to help restore local waters. People are concerned that local communities cannot address water pollution problems on their own. People strongly support federal investments to help local communities address threats to local waters. People support the kinds of restoration actions that could be part of a federal Ohio River program: fixing outdated water infrastructure, restoring fish and wildlife habitat, paying farmers to protect soil and water quality, cleaning up mine waste, halting toxic pollution, and preventing invasive species, among others.

6. People want stronger clean water protections and enforcement to prevent new pollution. Residents overwhelmingly think that investments to restore local waters must be paired with efforts to prevent further pollution. Toxic PFAS contamination is front of mind for many communities. Listening session participants brought up the February 2023 train derailment in East Palestine, Ohio, as an example of both the threat to local waters and the fact that companies are not doing enough to prevent new pollution. Among many residents, there is a sense that the country needs stronger clean water protections and enforcement of those protections to maintain clean and safe drinking water and to protect the health of people.

“To me, it’s more important to stop pollution from happening than responding to it after it happens.”

“Restoration funding requires a prepared and trained workforce to take action when allocating the funding. We need to plan strategically on how to prepare for this.”

7. People see federal Ohio River restoration investments as a strong local economic driver—and they want their communities to benefit. People understand that federal investments in the region can be strong economic drivers. Residents want to see those investments in the hands of local workers, local businesses and local contractors. People see the potential for new local jobs in the water sector—from excavation crews, to water utility workers, to researchers, to engineers, to recreational and outdoor businesses. Residents see Ohio River restoration as providing strong local employment opportunities. Both urban and rural residents want to see federal investments in workforce development, job training, and technical assistance to ensure that local people have the skills and know-how to take advantage of this opportunity so that they can do the work to restore and protect local waters. This includes training for jobs that support the long-term operations and maintenance of projects, such as water treatment systems to remediate acid mine drainage.

8. People want more monitoring, data collection, and information sharing. As noted above, people want more

information about their water quality and believe that a good use of federal funds will be to increase the data collection and information sharing with communities. This includes information and data that is in theory available, but not easily accessible for community residents. People see investments in environmental monitoring as essential to making decisions to protect the health of people and communities. And they see a more robust system of data collection and monitoring as essential for accountability.

“...you don’t know whether you’ve made progress—or if your programs are being effective—if you don’t have monitoring.”

9. People want to help the communities that have been impacted the most by pollution and environmental harm.

People understand that everyone deserves clean, safe, and affordable water. Yet there are some communities that are impacted more than others—and people at the listening sessions believe that communities that have been harmed by pollution deserve to be prioritized when it comes to cleanup. For example, some rural communities have been devastated by mine waste polluting local streams. Some neighborhoods are located near a toxic Superfund site. Other cities and towns face severe flooding.

Many people at the listening sessions discussed poor communities that still lack access to treated water, as well as water sanitation services: For example, straight pipes delivering human waste directly from a home into a local water source. People in the listening sessions support the value that people of all backgrounds deserve access to clean water—and federal restoration investments should prioritize the people most impacted by pollution and harm.

10. People want federal restoration investments to help communities prepare for the impacts of climate change, such as flooding.

People see flooding everywhere. One resident in West Virginia discussed how he and his friends monitor the river gauges during storms, and once water levels pass a certain threshold, they start bringing furniture and other belongings up from their basements to protect them. People see that climate change is real. The impacts are real. And they want federal restoration actions to help them prevent climate impacts that are coming, such as increased flooding from heavier, more frequent rain events.

“We need to find solutions that combine water restoration and positive outcomes for communities.”

Photo credit: Holly Gallagher



1. People see threats to their waters all around them—with threats to local drinking water being a top concern.

DRINKING WATER THREATS

People are concerned about the health of their drinking water. Residents see drinking water as an environmental issue and a public health issue. Concerns around toxic chemicals like PFAS, plastic pollution, pharmaceuticals, coal ash waste, and other contaminants are top of mind for many residents. Further, people believe that they don't have adequate information about the health of their water. They believe that federal restoration actions need to prioritize safe drinking water for all communities.

Community members are concerned about several forms of pollution, including legacy chemicals, such as PCBs, and toxic hot-spots, such as Superfund sites; chemicals of emerging concern, such as PFAS; mining pollution, such as acid mine drainage; and industry-related pollution, such as coal ash disposal from power plants, fracking waste, landfills, brownfield sites, and illegal dumping. It is important to mention that the train derailment in East Palestine, Ohio, occurred during the listening session period and received significant attention from residents.

Water infrastructure also played a role in pollution discussions. Community members had concerns regarding sewage contamination resulting from poor wastewater management, lead pipes leading into people's homes, as well as drinking water utilities that may not be able to treat drinking water for new or more potent toxic chemicals (such as PFAS chemicals). Many people desired funding for infrastructure repair and expansion, including the development of new water treatment plants or in-home water purification systems.

ENVIRONMENTAL INJUSTICES

Local residents understand that pollution and environmental harm impact some communities more than others; and, people want to make sure that all communities get the help that they need to ensure all of the region's residents have access to clean, safe, and affordable water. People at the listening sessions can rattle off communities that are facing the brunt of environmental impacts, from residents who live close to a Superfund site, to those whose neighborhoods flood frequently, to those who do not have access to drinking water and have to get it trucked in to their homes on a weekly basis. People want a federal restoration plan to address these and other injustices.

People also worry that, historically, the communities most impacted by pollution have not always received the

resources to tackle the serious problems they face, such as toxic pollution, acid mine drainage, or inadequate water infrastructure. Several community members mentioned the lack of funds and on-the-ground support reaching communities most impacted by pollution throughout the region. People expressed a clear need for tracking and evaluation of communities vulnerable to flooding and other drinking water related health issues. The overwhelming majority of listening session participants believed that federal investments to restore and protect the waters of the region should be targeted towards the communities that have borne the brunt of pollution and harm.

People at several listening sessions expressed a concern that elected officials tended to favor institutions or businesses in decision-making at the expense of local residents. As a result, one of the solutions discussed was the creation of public advisory structures that include a range of voices and backgrounds from both rural and urban communities to inform and guide the development of water policies and investments in the region. Many people also voiced concern that a federal infusion of funding to address clean water issues could easily lead to jobs going to non-local contractors (rather than local workers), as well as fuel gentrification, whereby long-term residents would eventually be priced out of the communities that they have resided in for years, or find newly created recreational opportunities inaccessible.

FARM RUNOFF

Residents in the region are concerned about the impacts of farm runoff on water quality, specifically, toxic algal blooms in the Ohio River, tributaries, and inland lakes. Several sessions delved into the challenges in supporting sustainable farming practices with the increasing consolidation of farming and more industrial agriculture, increasing management of farmland by absentee landlords, and large agrochemical companies who dominate seed, fertilizer and herbicide and pesticide distribution. Residents support farm conservation policies that help protect soil and water quality.

FLOODING

Residents across the region are extremely concerned with increased flooding. There is widespread understanding in communities large and small that the geography of the Ohio River Valley makes it susceptible to flooding. Residents have struggled with post-flood property and infrastructure damage, resulting in burdensome repair costs, such as mold remediation. Throughout the basin, flooding has led to riverbank erosion and inland sediment build up from decades of poor urban planning and inadequate storm-water infrastructure. In many conversations, flooding was

discussed through a climatic lens; therefore, many solutions focused on climate change prevention and mitigation. Other solutions included the implementation of nature-based infrastructure, such as wetlands, parks, bioswales, and rain gardens to help manage excess stormwater. Many people also are aware that current flood maps are out of date and support resources to update flood maps to accurately reflect current risks. Communities also wished to see more financial support pre-flood to help communities prepare for the impacts of increased rain and flooding. Financial measures included flood insurance and increased assistance for small businesses.

INADEQUATE WATER INFRASTRUCTURE

Residents are concerned about inadequate water infrastructure and the impacts on communities. People noted several issues with sewage management and water treatment plants, including sewage overflows. Several participants mentioned various factors contributing to poor water infrastructure, including lack of investment to maintain them, zebra mussels damaging water pumps, and outdated septic systems that need upgrading. They emphasized the need for access to opportunities and programs to upgrade, operate, and maintain these systems and replace outdated systems (i.e. lead pipes). Many community members advocated for green infrastructure, or nature-based infrastructure, where wetlands, trees, vegetation, parks and rain gardens absorb stormwater before it can flood and overwhelm infrastructure.

RECREATIONAL ACCESS BARRIERS

For many residents, lack of access to the river and connecting waterways was a concern. Older residents cited recreation opportunities present in their youth that are no longer available today, raising issues regarding the current ability to connect with and learn about the environment. Activities like swimming, fishing, boating, and more have been impaired by litter and debris, algal blooms, bank erosion, and lack of recreational infrastructure. People understand that pollution has impaired recreational opportunities throughout the watershed, including fish consumption and no-swim advisories, limiting access to the river and its tributaries. Residents also expressed concern about the lack of trails and roads to connect communities to rivers and waterways. Some community members noted that access seems to be most obstructed in lower-income communities and Black, Latino, and other non-majority-white communities.

WATER QUANTITY

People are concerned about how water is being used and whether there are safeguards to prevent water in the region from being pumped and sold (or diverted) outside

the region. Several people want the region to develop a forward-thinking water management structure that promotes wise water use in the region to make sure that people and communities have the water they need now and into the future. A few people mentioned the 2008 Great Lakes Compact that prevents water diversion outside of the eight Great Lakes states and establishes a sustainable water structure in the region. People see the region's waters as connected, and they want to see more monitoring to assess water quality and water quantity. This is especially true for groundwater, which, for many residents, is not adequately studied or protected.

2. People believe that polluters are not being held accountable.

LEGACY POLLUTANTS

Many residents are aware that the region's history of manufacturing and industry has led to health-threatening pollution, such as mercury and PCBs. People are concerned that some of the most polluted sites in the region, such as Superfund sites, have yet to be remediated after being identified as hot-spots decades ago.

CHEMICALS OF EMERGING CONCERN

Toxic PFAS is top-of-mind with residents, although it is not the only so-called chemical of emerging concern that people are worried about. Fracking waste, plastic pollution, and potential impacts from the new build out of petrochemical facilities in the Ohio River Valley are issues that people brought up as a reason to be concerned about the health of local waters.

SPILL RESPONSE

Several people at the listening sessions discussed the Elk River, W.Va., chemical spill of 2014 as a powerful moment illustrating the need for stronger regulations to protect communities from harmful spills. As noted earlier, several of the community listening sessions occurred after the East Palestine, Ohio, train derailment, which again highlighted the need for better laws, enforcement, and accountability.

LACK OF ENFORCEMENT

People overwhelmingly think that polluters are not being held accountable and that current array of fines and penalties are not an effective deterrent for future abuses. In several sessions, community members voiced the belief that companies wrote off potential fines or penalties as "just the cost of doing business."

3. People voice strong support for federal investment to help restore local waters.

HABITAT RESTORATION

A key theme throughout the 31 listening sessions was a desire for greater restoration of natural areas in the watershed, including streams and tributaries, forests, wetlands, and riparian zones. Fish and wildlife restoration actions that were discussed included stocking native species, like fish and mussel species, so that they can restore the food web and contribute to recreational opportunities; addressing habitat fragmentation so that aquatic and terrestrial species have connected habitat; and removing hydrological disruptions (i.e. taking down unsafe dams). Riparian zone and wetland restoration would also enhance the habitats of terrestrial and aquatic species, on top of benefiting people through natural flood mitigation. Several residents also mentioned the need to focus on removal of terrestrial invasive species to help promote native and riparian vegetation, as well as natural infrastructure. Overall, many residents called for more sustainable development practices that would protect, rather than encroach on, rivers and riparian habitats. This would work as a preventative measure to protect the remaining species and their habitats. One resident noted that species loss has been a growing issue since their youth, stating “Over my 76 years on Earth, I have seen some real losses, but also some big gains—eagles, coyotes, etc. If you don’t preserve their habitat, they won’t be here much longer.”

DAM REMOVAL

While there is widespread acknowledgement that lock-and-dam infrastructure on the mainstem of the Ohio River is necessary for maritime navigation and transportation, many people see outdated and dangerous dams on the tributaries as candidates for removal. Dams block fish migration routes, separating feeding and spawning grounds, which impairs fish’s biological functions. Dams can also lead to sediment build up, which disrupts riverbed dynamics. They can also present a danger for water recreation (boaters and swimmers).

FARM CONSERVATION AND AGRICULTURE

Several community members mentioned farm runoff as a concern that needs to be addressed through conservation programs that pay farmers to take specific actions (known as best management practices) to protect soil and water quality. People voiced support for these programs that reduce runoff into nearby rivers, streams, and tributaries,

as well as to prevent erosion and sedimentation. Some felt that farm conservation needed to be mandatory—not voluntary—to accelerate the adoption of best management practices and scale of adoption needed to improve and protect water quality in a region as vast as the Ohio River Basin.

People also expressed an interest in limiting pesticide use to prevent water pollution, as well as to help restore pollinators. There was also an emphasis on livestock rotation as a solution for nonpoint nutrient pollution. Community members mentioned the Farm Bill conservation programs and the need for increased agroecology practices, as well as increased soil and lab testing. Support and funding for farmers was a consistent theme in many listening sessions with a call for more sustainable farming that improves environmental quality.

GROUNDWATER CONSERVATION

Many people talked about the connectivity of regional waters—from wetlands and streams that flow into rivers that eventually flow into the Ohio River, to groundwater and aquifers. Many people emphasized the importance of healthy groundwater to the ecosystem, and they are concerned that groundwater is not prioritized in restoration discussions. People want federal restoration and protection actions to support healthy groundwater supplies that support water sustainability as well as healthy communities.

INFRASTRUCTURE IMPROVEMENT

People support the idea of bolstering the region’s water infrastructure to ensure clean, safe, and affordable drinking water and wastewater can be provided to all residents. There is a special concern about whether drinking water utilities can handle the increasing list of chemicals that are being produced and found in the environment. Residents are also concerned about private homeowner water infrastructure; i.e. water wells for drinking water and onsite water treatment systems (septic systems).

INVASIVE SPECIES MANAGEMENT

Many people brought up and support the need to manage and control aquatic and terrestrial species that threaten native species and habitat. This is especially true on abandoned mining areas, such as mountain top removal sites, which can be a haven for invasive plants.

4. People want stronger clean water protections and enforcement to prevent new pollution.

CLEAN WATER PROTECTIONS

People want to stop pollution from impacting their drinking water and their health. Toxic PFAS contamination is front-of-mind for many communities, and the February 2023 train derailment in East Palestine, Ohio, elicited passionate pleas for strengthening clean water protections to protect communities from dangerous, health-threatening chemicals and pollution. Among residents, there is a near-universal sense that current laws are not adequate to protect local waters and that the laws are not being adequately enforced.

COMMUNITY INPUT IN DECISIONS

Residents continually brought up their lack of voice in decision-making, including the regulatory sector, and requested more input on permitting projects and increased protection for wetlands and waterways. Proper and thorough notification of community members within the decision-making process was a repeated theme.

LOCAL, STATE, FEDERAL POLICY ALIGNMENT

People also questioned whether local, state and federal laws were always aligned; people wanted to make sure that clean water protections in one jurisdiction were not being undermined by loopholes or weak protections in other jurisdictions. There was also a continued and pronounced call for enforcement and accountability from agencies to protect the health of communities. People believe that a top priority of federal restoration actions is to enforce current clean water laws such as the Clean Water Act.

UPDATING, STRENGTHENING CLEAN WATER PROTECTIONS

Residents also mentioned the need for stronger rules and regulations for newer emergent chemicals such as toxic PFAS chemicals and microplastics. People at the community listening sessions were presented with five ways to protect local waters by updating clean water laws; there was strong support for each one. These included:

- Ensure that industry and manufacturing facilities install the most current pollution-control technology so that harmful chemicals are not released into the water.
- Ensure that state and federal agencies protect local drinking water by setting standards so harmful pollutants are not released into drinking water.
- Ensure that the federal government regularly updates the list of toxic chemicals that are prohibited from being discharged into local waters.

- Ensure that companies prove a chemical is safe and will not cause impacts to people's health before being allowed to discharge into the environment, the so-called "precautionary principle."
- Ensure that state and federal information about pollution issues is shared with the public so that people know about threats to local waters, such as drinking water restrictions, fish consumption advisories, chemical spills, and closed recreation areas.

People also want to prevent sewage contamination and want laws to prevent algae blooms and nutrient loading.

ENFORCEMENT AND ACCOUNTABILITY

Many residents across the region expressed their concern about the lack of enforcement of current laws. Residents are supportive of current laws, such as the Clean Water Act, but do not think they are being sufficiently enforced. Residents called for stronger enforcement of such regulations, as well as additional agency capacity and personnel to increase enforcement abilities. Community members also mentioned the need for greater enforcement of other related regulations that affect waterways, such as rail safety measures to prevent chemical spills into waterways like what occurred in East Palestine, Ohio. People see enforcement as a three-pronged approach: having the necessary data and monitoring to know where the pollution is coming from, agency capacity to enforce the laws, and penalties that will deter future transgressions. Many residents were concerned that for many companies, existing fines and penalties were just a cost of doing business and were not sufficient to change behavior.

COMMUNITY ENGAGEMENT

People believe that local communities need more information and that they need to be included throughout the process when decisions are being made.

MONITORING AND RESEARCH

A backbone of identifying pollution and deciding how best to prevent and deter future pollution relies on a robust monitoring and research regime, which is discussed more fully later in this section.

5. People see federal Ohio River restoration investments as a strong local economic driver—and they want their communities to benefit.

ECONOMIC DEVELOPMENT, WORKFORCE DEVELOPMENT, AND JOB TRAINING

Community members want federal investments in ecosystem restoration and protection to reach local people, contractors, and businesses. During the listening sessions, local residents rallied around three themes tied to the development of local water restoration economies:

- Local workers and companies should receive priority for contracts to do pollution clean-up.
- Training programs are needed to provide local workers and businesses with the skills needed to carry out pollution clean-up and restoration work.
- Workforce development programs should prioritize a multi-generational approach so that young people are also getting the training they need to secure jobs.

Local residents want to hire local workers for restoration projects; for example, to restore a local wetland to provide habitat and flood protection, or to build a water treatment facility to remediate acid mine drainage, or to remove an old unsafe dam. Further, they want federal programs that provide skills and job-training to local workers so that local people can carry out these jobs. Community residents especially want to extend job training programs to young people to ensure youth development, to retain talented young people, and to spur economic growth. The majority of people at the community listening sessions rallied around the need for local workforce development. This includes training programs for sectors like water utility workers, as well as other jobs tied to clean water restoration and protection. People have an expansive view of the kinds of water jobs that will be needed: Some people mentioned the shortages in the water utility sector; others mentioned the need for more researchers; and others mentioned that the enforcement of clean water protections would entail more staff at agencies charged with enforcing the laws. Several residents also mentioned the need to promote renewable energy and clean energy jobs to help promote a more sustainable and diversified regional economy.

EDUCATION AND COMMUNITY ENGAGEMENT

Community members prioritized the need for more public education as well as public engagement in decision-making related to the region's waterways. Community members

mentioned the need to increase youth engagement, particularly with students, to broaden access to environmental education, promote recreation, emphasize public health, and boost the local economy through new jobs.

There was a sense of frustration among some community members around the lack of information reaching community members about their local water quality from elected officials and institutions, as well as the lack of opportunity to participate in environmental decisions. People want to be notified about pollution issues (i.e. drinking water restrictions, fish consumption advisories, chemical spills, and closed recreation areas), and they want to be informed about potential decisions that will impact them so that they can have a say in solutions. Residents responded favorably to the establishment of long-term and ongoing public engagement structures (such as well-resourced public advisory councils) to facilitate information sharing and decision-making. In addition, community members expressed a need for better communication about programs, grants, and other opportunities for individuals and businesses—as well as the tools and resources (i.e. technical assistance) to be able to compete and secure federal resources.

RECREATIONAL ACCESS

Residents who want increased recreational access argue that investments in improved access to and along the river will provide new recreational opportunities, strengthen communities, and build support for river conservation and restoration. River access and recreation infrastructure are huge opportunities that have the power to inspire care for the river, improve public health and connectivity, create additional investment and economic development activity, and enhance the long-term physical, fiscal, and social well-being of riverfront communities.

YOUTH ENGAGEMENT AND OPPORTUNITIES

People in the region see the restoration and protection of local waters tied directly to the health of communities and the quality of life of people in those communities—and a way to engage young people and provide a better future for them. People want to create communities in which young people thrive and contribute to communities. Multigenerational work opportunities and recreational opportunities can be strong incentives to attract and retain young people.

6. People want more monitoring, data collection, and information sharing.

MONITORING AND RESEARCH

Many listening session participants noted the need for greater environmental monitoring, data collection, and research within the basin. One resident wrote, “We don’t really have the data to inform which communities are being impacted. The monitoring aspect is important for making that an important principle and following through.” Some topics in need of further investigation include pollutants and emerging contaminants such as heavy metals and PFAS, nutrient loads leading to algal blooms, and overall river and drinking water quality. Residents emphasized that this information must be available to, and digestible for, the general public to avoid confusion and the spread of misinformation. Many residents believed that data coordination across the region would also be beneficial. Community members believed that citizen science programs and local monitoring projects could hold many benefits. Not only would they increase research capacity and help fill knowledge gaps, these initiatives could help bolster community engagement and environmental education. Lastly, several residents pointed out that increased data collection and ongoing monitoring and evaluation are essential to establish baselines to track progress of future restoration actions.

ADAPTIVE MANAGEMENT AND ACCOUNTABILITY

Increased data collection and dissemination will be essential to not only run an effective restoration and protection framework, but also to hold officials accountable for restoration outcomes. Residents strongly believe that increased data collection and the communication of that information on an ongoing basis will be essential to honoring and administering local conservation priorities.

EDUCATION AND COMMUNITY ENGAGEMENT

As noted in this section and elsewhere, increased monitoring, research and data dissemination will be essential for community buy-in and trust building, according to community members.

SUSTAINABILITY

The concept of sustainability came up in every listening session in several ways: 1) effective long-term policies that promote environmental sustainability in the region; 2) alignment of local, state and federal policies to ensure that sustainability goals are supported and not inadvertently undermined; 3) coordination and enactment of land-use decisions that support clean and healthy waters locally and regionally; and 4) funding structures that help

communities protect and restore their waters; for example, funds that can help with ongoing operations and maintenance, as well as supplying federal investment as grants, not loans, so that low-income and smaller communities can have access to federal funding to help support their projects.

7. People want to help the communities that have been impacted the most by pollution and environmental harm.

COMMUNITIES IMPACTED BY POLLUTION

Community members understand that not all communities are impacted equally by pollution in harm. As discussed elsewhere in the report, people can point to specific communities or even neighborhoods in communities, that have borne the brunt of pollution and harm in the form of toxic pollution, flooding, contaminated well water, and other threats. There is widespread agreement that helping to restore and protect the waters of the Ohio River region need to help the communities that need help the most.

GRANTS INSTEAD OF LOANS

People understand that addressing the multitude of environmental challenges to the region will not be easy—and it will cost a lot of money. Many residents understand that most federal programs require a local financial match. There is widespread agreement that for many communities that have a small tax base due to small population, high rates of poverty, or both, the local match can make it difficult to access federal funds—and, in the case of low-interest loan programs, communities can find repayment of the load difficult. Many residents advocated for more federal programs to be delivered as grants, not loans, to help communities (especially low-income communities).

HOMEOWNER ASSISTANCE AND AFFORDABLE HOUSING

Many residents want federal investment and restoration actions to prioritize homeowners. Several residents mentioned affordable housing as a top concern and rallied around solutions consisting of assistance to homeowners. Community members spoke adamantly around the need for federal investments to not only get to local businesses and people, but the homeowners themselves. The people who are on the front lines of environmental harm in local neighborhoods in some cases (or many cases) do not have the resources to fix

environmental problems on their own. For example, replacing lead pipe service lines and dealing with chronic basement flooding (and other property flooding) can be expensive and involve complicated remedies. Residents that are on private well water and on-site wastewater treatment systems (septic systems) can be hit with a large cost to treat their water if pollution problems arise or if they have to replace a failing septic system.

Homeowner assistance also extended to the need for affordable drinking water for low-income communities, either in urban areas where rates are high or in rural areas where the cost of drilling a well can be prohibitively expensive. Several residents brought up the fact that in rural areas, the cost of connecting to “city water” can also be cost prohibitive, because residents are responsible for paying for miles of water pipe to be connected to their homes. Residents insisted that help needs to extend to local homeowners, not only to address environmental threats and provide clean water service and flood prevention, but to allow for people to remain in their neighborhoods and maintain their communities. Support for homeowners can also help prevent gentrification, allowing long-time residents to remain in their neighborhoods and enjoy the benefits of restored and healthy waters.

Photo credit: Holly Gallagher



8. People want federal restoration investments to help communities prepare for the impacts of climate change, such as flooding.

Residents in the Ohio River Basin are seeing more extreme weather than ever before, especially flooding, and want elected officials to act to prevent climate change from getting worse by reducing pollution, improving energy efficiency, and transitioning to clean energy. At the same time, people see the need to prepare for the impacts of climate change that are already occurring, such as increased flooding. This means protecting or rebuilding wetlands and upgrading our sewer systems to create more protection from extreme weather like flooding.

NATURE-BASED INFRASTRUCTURE AND GREEN INFRASTRUCTURE

Many residents discussed the benefits of nature-based infrastructure, also called green infrastructure, for communities throughout the region to prepare for and adapt to impacts from climate change, such as flooding. Examples of these projects include rain gardens, bioswales, permeable pavement, and urban tree canopies. These projects can be implemented in both urban and rural areas to help filter stormwater runoff and prevent flooding, while also improving habitats for native species. In several communities, residents wanted their local wastewater utilities to embrace more natural solutions to deal with stormwater issues (as opposed to man-made structures such as massive underground holding tanks).

HEAT ISLAND EFFECT

Several communities mentioned that restoring urban tree canopies can not only help prevent urban flooding, but also can reduce the oversized temperature increases that cities experience (the heat island effect) that threatens the health of community members.

STORMWATER, DRINKING WATER, AND WASTEWATER INFRASTRUCTURE

In every community session, people talked about flooding and the impacts it had on communities. Many people are well aware that local water infrastructure is either being overwhelmed—or has the potential to be overwhelmed—as more intense rain events occur. People want to make sure that their community drinking water and wastewater infrastructure can handle these changes.

The perspectives, insights, feedback, and priorities obtained from these 31 listening sessions are intended to serve as the foundation for a comprehensive Ohio River Basin restoration and protection plan. The feedback from these listening sessions is being incorporated by the multi-stakeholder workgroup currently crafting the plan consisting of non-governmental organizations, state and federal agencies, colleges and universities, businesses, utilities, and other interested parties. As mentioned earlier, Tribes and Indigenous Peoples are also being engaged in this process to ensure that their priorities are reflected in the plan.

Based on community feedback, we recommend the following for inclusion in the Ohio River restoration and protection plan:

1. Core restoration actions that can provide a solid foundation for an Ohio River restoration and protection plan.

People support, and want to invest in, core restoration actions, such as habitat restoration, farm conservation, and invasive species control and management.

2. Pollution prevention and clean water protection that can complement and support restoration actions.

People clearly want to stop future pollution and want investments and policy solutions that prevent future harm.

3. Robust monitoring, data collection, and evaluation that can be used to effectively and efficiently manage a restoration and protection program across 14 states.

People want to be informed about threats to local waters and whether progress is being made to keep their waters healthy.

4. Homeowner support that can help ensure that no person is denied clean, safe, and affordable water based on their economic status or where they live.

People understand the challenges that many residents in the region face to secure clean water and want federal actions to help lower income people or people who live in areas where access to water and sanitation services is difficult.

5. Workforce development and job training that can help create strong, local economies based on water protection and restoration.

People know that federal investment can be a game-changer in the effort to boost local economies, as well as attract and retain people in local communities. They do not want outside contractors coming in

to do the work and then leaving. They want programs whose investments benefit the community for the short- and long-term.

6. Strong local public engagement structures to ensure that residents have a seat at the table to weigh in on restoration decisions and hold elected officials accountable.

People want a clear public advisory role before, during, and after restoration actions that will allow the federally run restoration program to have strong local direction, as well as accountability to local communities.

7. Investments and policies that help communities prepare for the impacts of climate change, like flooding.

People see that climate change is real and that federal restoration actions are needed to prevent the worst impacts of climate change, as well as help communities prepare for the impacts like flooding that are already occurring.

8. Investments and policies that help the communities most impacted by pollution and environmental harm.

People want to focus federal attention on the people and communities that need it the most.

List of Listening Sessions

Date	Time	Location	# Attendees
6/9/2022	11:00 a.m.	Online	11
6/28/2022	6:30 p.m.	Online	5
6/29/2022	3 p.m.	Online	15
7/12/2022	6:30 p.m.	Wheeling, WV	6
7/13/2022	6:30 p.m.	Marietta, OH	18
7/14/2022	6:30 p.m.	Huntington, WV	12
7/26/2022	3 p.m.	Online	5
7/27/2022	3 p.m.	Online	8
7/28/2022	6:30 p.m.	Online	6
8/2/2022	3 p.m.	Online	13
8/10/2022	6:30 p.m.	Louisville, KY	75
8/22/2022	3 p.m.	Online	9
8/23/2022	2 p.m.	Online	13
8/24/2022	3 p.m.	Online	13
9/21/2022	6 p.m.	Cincinnati, OH	30
10/11/2022	8:30 a.m.	California, PA	22
10/25/2022	3 p.m.	Online	8
10/26/2022	3 p.m.	Online	5
11/1/2022	2 p.m.	Pittsburgh, PA	15
11/1/2022	6 p.m.	Pittsburgh, PA	15
11/10/2022	6 p.m.	Nashville, TN	20
2/9/2023	2 p.m.	Waynesville, OH	20
2/27/2023	6 p.m.	Cairo, IL	18
3/15/2023	4 p.m.	Cincinnati, OH	24
3/25/2023	3 p.m.	Williamson, WV/KY	22
5/4/2023	3 p.m.	Online	7
5/9/2023	5:30 p.m.	Evansville, IN	50
5/11/2023	3 p.m.	Online	7
5/23/2023	2 p.m.	Winchester, KY	26
5/23/2023	6 p.m.	Winchester, KY	26
5/24/2023	3 p.m.	Online	11

Concerns and Solutions

The following words, phrases and themes were pulled directly from listening session discussions and written responses.

CONCERNS

Acid Mine Drainage

Highly polluted acidic water, resulting from mining operations, that can enter groundwater, surface water, and soil. When it enters surface waters, it can make them uninhabitable for fish and wildlife.

Agriculture

Fertilizers and pesticides used in agriculture can run off of farm field, polluting local water bodies. Soil tilling can impair soil quality, as it disrupts soil structure. Agriculture irrigation can also lead to unsustainable consumption of water.

Algal Blooms

Increased nutrient levels, often caused by erosion and runoff, can lead to overgrowth of algae. These algal blooms over-consume oxygen and block out sunlight, making it difficult for aquatic species to survive. Harmful Algal Blooms (HABs) can also produce toxins that are harmful to humans and wildlife. Several residents mentioned the 650-mile long algal bloom that blanketed the Ohio River in 2015.

Chemicals of Emerging Concern

Chemicals with the potential to significantly impact ecological and human health. Pollutants regularly identified throughout listening sessions include PFAS chemicals, pharmaceutical pollution, and plastics, among others.

Climate Change

Long-term shifts in climate patterns that have wide-ranging environmental effects, including increased temperatures, flooding, drought, intense storms, and more.

Coal Mining

Mining of coal can have many negative environmental effects, including acid mine drainage, habitat loss, and air pollution from coal-fired power plants. Residents also raised the issue of coal ash dumping sites that often contain toxic residues such as lead, arsenic, and mercury that could be released, if the Ohio River overflows its banks.

Dams

Dams and other man-made water infrastructure can block fish migration routes by separating feeding and spawning ground, which impairs fish's biological functions. Dams can also cause sediment build up and can lead to danger for water recreation.

Environmental Injustices

The disproportionate placement of hazardous waste disposal and environmental contamination near low-income communities or communities of color that has negative health effects on these populations. Other injustices impacting these communities include unequal access to clean drinking water, lack of funds and on-the-ground support, increased flood risk, and affordable housing.

Fish Consumption Advisories

A recommendation to avoid eating fish or shellfish caught from a particular body of water due to water contamination that has made the organisms unsafe to eat. Fish consumption advisories are often accompanied by no-swim advisories.

Flooding

Water overflows that can damage homes, buildings, and infrastructure, as well as disrupt transportation routes, pollute drinking water, and cause environmental problems. Flooding has also led to increased erosion and in-land sediment build up.

Fracking

The process of fracking for natural gas creates a large amount of wastewater, leads to large amounts of methane air pollution, pollutes surface and groundwater, and degrades habitats. Residents are concerned that the practice of spreading brine-laced fracking wastewater or its byproducts for de-icing on roads has the potential to contaminate nearby fields and waters.

Gentrification

The displacement of inhabitants from their long-time or original neighborhoods, caused by increased rents and cost of living as wealthier people move into the area.

Habitat Loss

Development of natural areas resulting in destruction, degradation, and fragmentation of the environment home to native plants and animals.

Inadequate Drinking Water, Stormwater, and Wastewater Infrastructure

Many residents believe that water infrastructure, including stormwater, wastewater, and drinking water, is degraded

or lacks the capacity to conduct proper management. After heavy rainfall or floods, inadequate stormwater and wastewater management can result in combined sewer overflows, polluting water bodies with sewage.

Invasive Species - Aquatic and Terrestrial

Non-native species that are introduced to an environment. With no natural predators, these species are allowed to thrive and overpopulate, resulting in the extinction of native species, reduced biodiversity, habitat alteration, and economic damage. Specific invasives mentioned by residents include zebra mussels, which can damage water infrastructure and impair recreation, and vine species, which can strangle trees and suffocate native growth on the forest floor.

Lack of Communication With Public

Many residents feel that they do not receive adequate communication from all levels of government regarding environmental issues, community programs, and funding opportunities.

Lack of Coordination and Watershed Planning

Many residents felt that there was a lack of coordination and widespread planning within the Basin, leading to inconsistent enforcement and monitoring efforts.

Lack of Education and Community Engagement

Many residents feel that there is not enough environmental education available to residents, both in K-12 programs and beyond. They also mentioned a general lack of information regarding water quality and lack of opportunities to participate in environmental decision making.

Lack of Enforcement and Accountability

Many residents feel that there is not enough enforcement of existing environmental protection laws. They also feel that agencies lack the capacity and personnel to adequately enforce these laws and regulations. Residents were also concerned that existing fines and penalties have become a cost of doing business for many companies and do not encourage changes in behavior.

Lack of Groundwater Protections

Many residents felt that groundwater protections have not received adequate attention in restoration discussions. They worry that existing protections are not enough to ensure that groundwater supplies remain healthy and are used sustainably.

Lack of Monitoring and Research

Many residents believe that there is insufficient monitoring and research being conducted in local waterways to track harmful pollutants, nutrient loads, and overall water

quality. The information that is available can also be hard to understand for a general audience, impairing public awareness.

Lack of Recreational Access

Many residents feel that their access to the river and its surrounding environment have been limited by pollution, development, and lack of recreational infrastructure. Some residents noted that access seems to be most obstructed in lower-income and non-white communities.

Land Use/Sprawl

Many residents are concerned that unwise land use and sprawl is having negative impacts on water quality (as well as habitat and air quality).

Lead Contamination

Lead pipes, faucets, and plumbing fixtures have the potential to contaminate drinking water with lead, causing severe health problems.

Nonpoint Source Pollution

The introduction of pollution to waterways that does not come from a single definable source. This includes pesticides, fertilizers, road salt, and contaminated sediments that are moved through runoff into surface waters.

Outdated/Inadequate Regulations

Many residents feel that existing environmental regulations are not sufficient, or have not been updated to reflect known pollutants and environmental safety standards.

Point Source Pollution

Pollution coming from a single identifiable source, such as smokestacks, sewage discharge, or industrial waste disposal. Residents believe that more can be done to curtail point source pollution.

Pollution

Pollution can originate from a variety of sources, all of which degrade the natural environment. Types of pollution discussed include chemicals of emerging concern (PFAS, PFOS, PCBs, etc.), industrial pollution (including superfund sites and brownfields), illegal dumping, and energy production (coal power plants, fracking, etc.). Other pollutants of concern included grease from boating, petrochemicals, plastics, microplastics, and trash. Pollution of water sources can have negative environmental effects, including eutrophication, habitat degradation, and bioaccumulation of toxins. Water pollution can also have negative health effects in humans when come in contact with.

Poor Water Quality

Residents are aware of pollution issues (such as fish

consumption advisories) and are concerned with both legacy and emerging pollutants and the impacts on water quality and public health.

Road Salt

Road salt used to melt snow and ice can be washed into soil and water bodies, contaminating the water and endangering wildlife.

Runoff

When more water is present than land can absorb, often due to storms or flooding, it flows across the surface and into nearby water bodies. Runoff is increased by impervious surfaces, such as concrete, that prevent water absorption. As water moves, it can collect debris and pollutants that are then deposited into surface waters.

Sedimentation

High concentrations of settled sediments in a stream bed can affect fish reproduction processes and create cloudy water, making it difficult for aquatic life to see food, among other environmental problems. Sediments can also carry harmful pollutants that have negative environmental health effects. Sedimentation can also impact water flow and reduce water depth, impairing recreational opportunities.

Toxic Pollution

Toxic pollutants, coming from chemical plants and other industrial sites, can have negative health effects for

humans and the environment. Residents are extremely concerned about toxic pollutants contaminating local waters and the threat of future contamination.

Unsustainable Development

Development which advances modern progress at the expense of future generations. This can include irresponsible planning, overuse of environmental resources, and pollution.

Water Loss and Withdrawals

Unsustainable withdrawal and consumption of water from surface or groundwater sources can lead to reduced streamflow, dry wells, compacted soil, and other negative environmental effects.

Water Quantity

Residents are concerned about how water is being used within the region. This includes water diversions outside the region and unsustainable water management structures that promote overuse.

Waterway Obstructions

Similar to dams, other water obstructions, such as levees and locks, alter waterflow, reduce fish passage, increase sedimentation, and degrade habitat, among other negative environmental effects.

SOLUTIONS

Accessibility

Residents want to see more recreational access to the river, including fishing, boating, paddling, and hunting. Residents also want to see increased recreational infrastructure, such as trails and roads to connect communities to waterways.

Acid Mine Drainage Remediation

Acid mine drainage remediation can include the addition of materials to neutralize the acidity or direct water treatment, among other solutions.

Affordable Drinking Water

Residents want clean drinking water to be affordable to all residents, regardless of socioeconomic status. It is important that access is provided to low-income communities in both urban and rural areas.

Agency Capacity

Increasing state and federal agency capacity can allow for better monitoring and information about environmental threats as well as enforcement of clean water laws.

Barge Regulations

Residents want to see streamlining of barge traffic control and limitation of barge docking areas below dams. This would increase recreational access.

Basin-Wide Oversight and Accountability Authority

Many residents mentioned the need for a basin-wide oversight and accountability authority to effectively manage a restoration program across a geography as vast as the Ohio River Basin. This authority would help facilitate collaboration between local, state, and federal partners on issues including data collection, priority-setting, efficient management, and accountability.

Centralized Data Collection

Residents want environmental data to be publicly available and easily accessible. Many proposed the idea of a centralized data collection and distribution scheme.

Citizen Science and Reporting

Citizen science and reporting encourages community engagement and stewardship by involving the public in scientific research. This could increase the capacity for monitoring and research within the Basin.

Civic Engagement

Residents believed that civic engagement and providing opportunities for residents to work within their own communities was important. This also includes engagement in environmental decision making.

Civilian Conservation Corps for Water Restoration

Many residents are interested in a regionwide mobilization of young people to work to help restore and protect the region's waters, through a concept analogous to the Civilian Conservation Corps, the voluntary federal work program in the 1930s and 1940s. Residents see this as helping boost local employment, while improving the environment.

Clean Water Protections

Residents want to see increased protections to keep waters clean and unpolluted. These protections can be used to safeguard communities from dangerous, health-threatening chemicals and pollutants. Residents also proposed the alignment of clean water protections between jurisdictions (federal, state, and local) to eliminate loopholes in enforcement and accountability.

Climate Change

Residents are seeing more extreme weather than ever before, especially flooding, and want elected officials to act to prevent climate change from getting worse by reducing pollution, improving energy efficiency, and transitioning to clean energy. At the same time, people see the need to prepare for the impacts of climate change that are already occurring, such as flooding. This means protecting or rebuilding wetlands and upgrading our sewer systems to create more protection from extreme weather like flooding.

Collaborative Networks

Residents want to see more collaboration between agencies at the local, state and federal levels to streamline regulation and environmental management. Residents also want to see collaboration between NGOs and businesses throughout the Basin on these issues.

Community Engagement

Residents want frequent, effective, and ongoing communication so that they know about issues that impact their water quality and their use of water resources. This can include more formal and well-resourced community advisory councils that have access to information and can hold elected officials accountable.

Community Funding

Residents want to see federal restoration investments go towards community organizations and initiatives, they want to be kept abreast about federal funding opportunities, and they want technical assistance (if necessary) so that they can compete successfully for restoration projects.

Compliance Assistance

Providing businesses with resources and training opportunities to ensure they are able to comply with environmental regulations.

Conservation Best Management Practices (BMPs)

Residents support and want to see widespread adoption of farm conservation practices that pay farmers to take specific actions to protect soil and water quality.

Dam Removal

Residents want to see outdated and unused dams, including low-head dams, removed to restore the natural flow and habitat of the river and its tributaries.

Decarbonization

Reducing carbon dioxide emissions through the use of renewable energy sources.

Decouple Combined Sewers

Combined sewer systems collect both stormwater and wastewater in the same pipe. Decoupling these systems would reduce the chance of overflow into nearby water bodies when stormwater flow increases.

Detention and Retention Ponds

Detention and retention ponds temporarily store stormwater runoff, which reduces flooding during major rain events.

Dredging

Dredging can help remove trash, debris, and excess sediments from rivers, cleaning and preserving the habitat.

Drinking Water, Stormwater, and Wastewater Infrastructure

Residents want to see improved and increased water infrastructure to manage drinking water, wastewater, and

stormwater. This includes improving current water treatment plants, as well as constructing new plants to increase treatment capacity. Increasing and improving infrastructure will prevent pollution and reduce flooding.

Economic Development, Workforce Development, and Job Training

Residents want to see greater investment in local economic and workforce development. This includes the promotion of green jobs, job training programs, and job retention programs. Residents also want to see contracts for environmental projects go to community members and local businesses.

Education

Residents want to see environmental education programs within K-12 schooling and the greater community to foster the next generation of water stewards and keep local residents apprised of developments that impact their drinking water, public health, and recreational access.

Elimination of the Privatization of Public Necessities

Several residents do not want to see public water utilities privatized.

Enforcement and Accountability

Residents want polluters to be held accountable for their actions.

Environmental Justice

Residents want to see the restoration plan prioritize communities that have been most impacted by pollution and environmental harm in rural and urban areas. Communities that have borne the brunt of environmental harm – toxic pollution and flooding, for example, should be prioritized in pollution cleanup and clean water provisions.

Farm Conservation and Agriculture

Residents support conservation programs that pay farmers to protect soil and water quality. Some residents felt that farm conservation programs needed to be mandatory (rather than voluntary) to accelerate adoption of best management practices to protect water quality.

Fish Stocking Programs

Fish stocking programs can increase populations of native fish species that have been reduced by overfishing, habitat degradation, and invasive species. Fish-stocking can also improve recreational experiences for anglers.

Flood Prevention Infrastructure

Residents want to see infrastructure that helps communities deal with flooding, including early warning systems,

emergency services, and stormwater infrastructure that can handle intense rain events. Many residents want to see investments in nature-based infrastructure, whereby the natural landscape can absorb storm water and prevent flooding.

Groundwater Protections

Residents want to see increased groundwater protection. This includes increased research and monitoring to understand the health of local groundwater, as well as measures to conserve and sustainably use groundwater. Further, people want protections regarding the disposal of wastes that have the potential to infiltrate groundwater.

Habitat Restoration

Residents want to see broad habitat restoration initiatives that restore and protect the habitats of native fish and wildlife.

Headwater Protections

Residents want to see increased protections of the headwaters, or source waters, of the Ohio River. This is because degradation of the waters that feed the Ohio River will have lasting effects throughout the Basin.

Homeowner Assistance and Affordable Housing

Residents want to see increased assistance to homeowners, especially low-income residents, to replace lead pipes, mitigate chronic flooding, and manage private wells and on-site wastewater treatment systems (septics).

Homeowner Projects

Residents want to assist local people to take action to improve water quality and reduce flooding by implementing sustainability-related projects at home, such as installing rain barrels, rain gardens and green roofs, completing in-home water testing, or upgrading household water purification systems.

Hydrologic Flow Restoration

Removal of dams, levees, and other obstructions will restore the hydrologic flow of the river, resulting in floodplain reconnection and restored fish passage, among other benefits.

Incentives and Tax breaks

Residents want to see monetary incentives, such as tax breaks, for homeowners, communities, and businesses to implement sustainability initiatives. For businesses, this may include incentives for the use of greener, cleaner chemicals. On a community level, this could include incentives for public cleanup events.

Increase Water and Air Quality Standards

Residents want to see increased water and air quality standards inline with current scientific recommendations to protect public health.

Indigenous Management and Traditional Ecological Knowledge

Residents recognize the importance of Tribal sovereignty and the right of Tribes to act as stewards of their own lands. Residents also recognize the benefits associated with Traditional Ecological Knowledge (resource management gained from hundreds of years of land and water management by Indigenous peoples), and would like it to be considered and used in environmental restoration initiatives.

Information Sharing

Residents want to see greater distribution and access to environmental information. This includes water monitoring results and flood risks for homeowners. It is important that the information being shared is also easily understandable and digestible.

Invasive Species Management - Terrestrial and Aquatic

Residents want to see greater management of invasive species, both terrestrial and aquatic. Residents recognize the harm invasive species can have on native species and their habitats. Management strategies include removal of invasives, restoration of native species, and prevention of new non-native species.

Land Acquisition

Residents support purchasing land to promote ecosystem health, corridors for wildlife, and access to outdoor recreation.

Law Enforcement

Some residents mentioned the desire for increased law enforcement presence in environmental protections, including river patrols to monitor boaters and to prevent illegal dumping.

Lead Pipe Replacement

Residents want lead pipes within municipal water systems to be replaced in order to prevent lead contamination in drinking water. They also want homeowners to receive financial assistance replacing lead pipes and water fixtures within their homes.

Legal Rights for Nature

Some residents proposed the idea of creating legal rights for nature to ensure its safety and protection. This could include the development of a Bill of Rights for the Ohio River.

Long-Term Planning and Maintenance

Residents support investments to make wise, long-term planning decisions, as well as funds to maintain (and in some cases operate) restoration sites, such as an acid mine drainage water treatment facility.

Low-Impact Development

Development which mimics natural processes to ensure the protection of water supply and quality. Low-impact development includes green infrastructure development that increases stormwater infiltration to prevent runoff and reduce flooding.

Monitor Water Withdrawals

Residents also want increased monitoring for water withdrawals from groundwater aquifers. This will help prevent unsustainable water usage.

Monitoring and Research

Residents want to see increased monitoring and research within the Basin to keep residents informed about water quality threats to their communities, to coordinate restoration actions in the region, and to keep apprised of progress and challenges.

MS4 Regulations (Municipal Separate Storm Sewer System)

Regulations which require the separation of stormwater and sewer systems to prevent the discharge of sewer pollutants into surface waters.

Native Species Planting

Residents want to see increased plantings of native species in both rural and urban areas. In urban areas, planting of native trees can create an urban tree canopy that reduces the chance of flooding as well as impacts from extreme heat.

Nature-Based Infrastructure and Green Infrastructure

Residents want to prioritize natural solutions to restore ecosystem health throughout the region, including wetlands, forest, parks, rain gardens, bioswales, permeable pavement, and urban tree canopies. Nature-based infrastructure can be an affordable and sustainable form of flood mitigation.

New Flood Maps

Residents want to see the development of new flood maps that accurately represent the risk of flooding in their communities. This will help reduce or prevent the destruction associated with flooding.

Nutrient Reduction and Management

Reduction of nutrients in waterways can be accomplished through pollution control and capture, as the majority of nutrients enter waterways through runoff.

Plug Orphan Wells

Plugging old wells, including mine wells, protects drinking water aquifers and limits the potential for groundwater contamination.

Pollution Reduction and Prevention

Residents want to see greater pollution reduction and prevention to restore and protect waterways. This includes greater control of pesticide usage and toxic chemicals that often enter surface waters.

Pond and Lake Construction

Some residents proposed the creation of more ponds and lakes for recreational use.

Proper Waste Disposal

Residents want to ensure that all waste, both residential and industrial, is being disposed of properly to prevent the pollution of surface and ground waters. For residents who struggle financially, one solution to trash pollution was to provide free/affordable and accessible trash disposal.

Public Awareness

Residents want to increase public awareness of the river, the environmental issues it faces, and how it influences public health.

Recreational Opportunities

Many residents view the Ohio River and its connected waters as the foundation of regional outdoor recreation and want to see greater recreational opportunities in and along the river and its tributaries. This includes pollution remediation to remove fish consumption and no-swim advisories, as well as development of recreation infrastructure like walking trails and connected water trails for paddlers. Increased recreational opportunities also demand increased access for communities.

Recycling

Residents want to see increased accessibility and use of recycling facilities.

Reforestation

Residents want to see the planting of native trees to reforest areas impacted by habitat loss.

Remediation

Residents want to see the cleanup of legacy and emerging contaminants, such as industrial sites (brownfield sites), toxic hotspots (Superfund sites), and abandoned mines.

Renewable Energy

Many residents see water restoration investments and clean energy investments as going hand-in-hand to help improve water and air quality, protect public health,

diversify and grow the region's economy, and bolster local communities.

Restoration of Bioindicator Species

Residents want to see conservation priority given to bioindicator species, which are species whose presence and abundance reflects the changing conditions of a given environment.

Riparian Buffers

Construction and restoration of riparian buffers, the natural vegetation along the edge of a stream, can assist with filtration of pollutants, stabilize erosion, and provide habitat to native organisms.

Road Salt Management and Prevention

Residents want to see increased management of road salt and its effects on the environment.

Runoff Reduction

Urban runoff can be reduced through ground infiltration, which can be increased using nature-based infrastructure, such as parks, rain gardens, or permeable pavement. Farm runoff can be reduced through the adoption of best management practices, such as no-till farming and planting of cover crops.

Soil Health and Soil Testing

Residents want increased monitoring to include testing of soil to monitor soil health. Soil health plays a large role in the productivity of an ecosystem, so, for soil facing degradation, residents are also looking to introduce soil remediation and conservation programs.

Stream Corridor Protections

Residents want to ensure that all parts of the stream corridor, which is made up of a complex ecosystem of stream channels, banks and riparian areas, and the organisms within them, are protected.

Stronger Permitting Regulations

Residents want to see stronger clean water protections, limiting the amount of pollutants discharged into waterways.

Surveillance Surveys for Invasive Species

Surveillance surveys for invasive species can help detect the presence and location of invasive species, aiding in invasive species management.

Sustainable Planning for Communities and Businesses

Residents want both communities and businesses to use sustainable planning that will help ensure the present and future needs of communities are met.

Technical Assistance

Many people would like to see technical assistance, planning assistance, or matching funds to help communities compete for federal restoration grants.

Tourism

Residents want to see increased eco-tourism to help promote restoration and economic development.

Transparency About Water Quality

Residents want water quality data to be publicly accessible and digestible.

Tributary Restoration

Residents recognize the interconnectedness of the region's waters, and they want to see the restoration and protection of all Ohio River Basin tributaries, streams, and wetlands, not just the main stem.

Upgrade Monitoring Technology

Residents want to see investments in technology to provide the most comprehensive, accurate, and timely data about water quality and flooding.

Waste Load Allocation Plan

Some residents want to see more stringent and ambitious plans to curtail pollutants coming from point sources, i.e. pipes.

Water Reuse

Residents want to see increased water reuse from wastewater, mine water, and other sources. This process, also known as water recycling, reclaims and reuses water for purposes such as agriculture, groundwater replenishment, or industrial processes.

Watershed Management and Protection Plans

Residents want to see environmental management and protection plans occur at a watershed level, which will require collaboration between local, state, and federal governments and non-governmental organizations.

Wetland Restoration and Protection

Residents want to see increased restoration and protection of wetlands. Wetland protection improves water quality, erosion control, flood abatement, and provides water storage for periods of drought.

Youth Engagement and Opportunities

Residents want to engage young people in environmental restoration and protection. People want to create communities in which young people thrive and contribute to communities. Multigenerational work opportunities and recreational opportunities can be strong incentives to attract and retain young people.

Zoning Control and Regulations

Residents want to see increased zoning regulations for areas of development in order to protect existing natural areas.



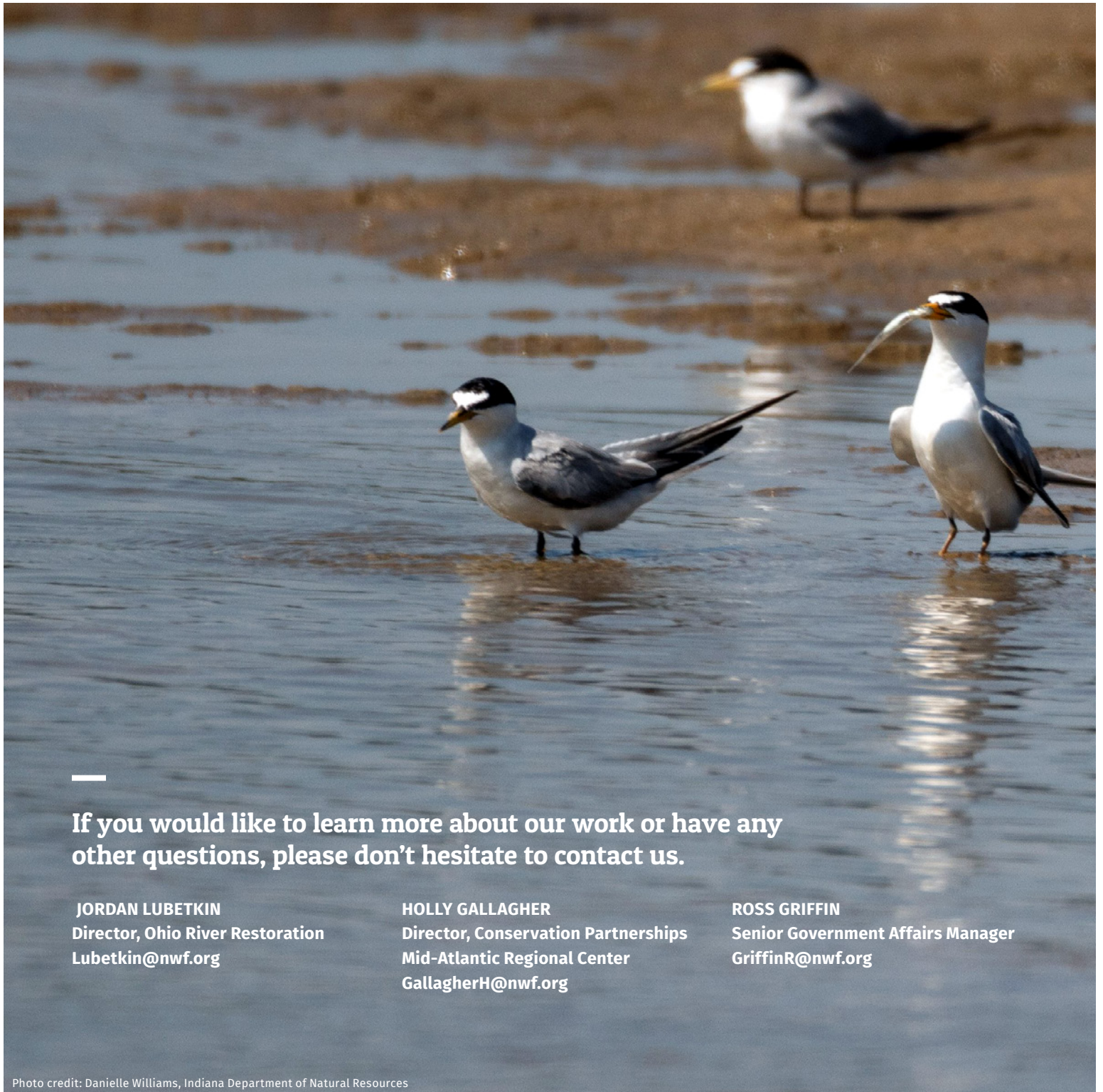
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If you would like to learn more about our work or have any other questions, please don't hesitate to contact us.

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