

# DRAFT Updated: July 17, 2024

## Ox Creek Framework Strategic Implementation Plan

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# Introduction

On September 16, 2021, the Benton Harbor City Commission passed a resolution with an associated memo that together outlined a vision for the Ox Creek corridor:

*“Once cleaned up environmentally to where the creek could once again support fish and wildlife, and redeveloped, the Ox Creek corridor could become an asset of beauty, a source of expanded recreational opportunities, and could add significantly to the City’s tax base.”*

*- Excerpt from the City Resolution Introductory Memo*

*“The water quality should be returned to a level where it can support fish and wildlife and where our youth can play, canoe, and kayak in the water without fear.”*

*- Excerpt from the City Resolution*

*“The city envisions a vibrant recreational and economic Ox Creek corridor with bike paths, lighted walkways, pedestrian bridges, outdoor classrooms, and new commercial development and housing opportunities. The corridor would include Hall Park – the city’s largest park – and the Arts District. Restoration creates the potential for redevelopment of the Ox Creek corridor to have a significant positive impact on the community through its recreation potential, and as a catalyst for economic development and housing not only in the valley but throughout the city. The improved creek and a new, nonmotorized trail will link Benton Charter Township’s commercial and retail area and Benton Harbor’s downtown, including the Harbor Shores development and Lake Michigan.”*

*- Excerpt from the City Resolution*

As the city resolution states, the community desires a creek and corridor that can support fish and wildlife and be an asset of beauty and recreational opportunities to both residents and visitors. Through the resolution, conversations with the community, planning efforts, and an influx of state and federal funding, a vision of a revitalized creek and city is taking shape.

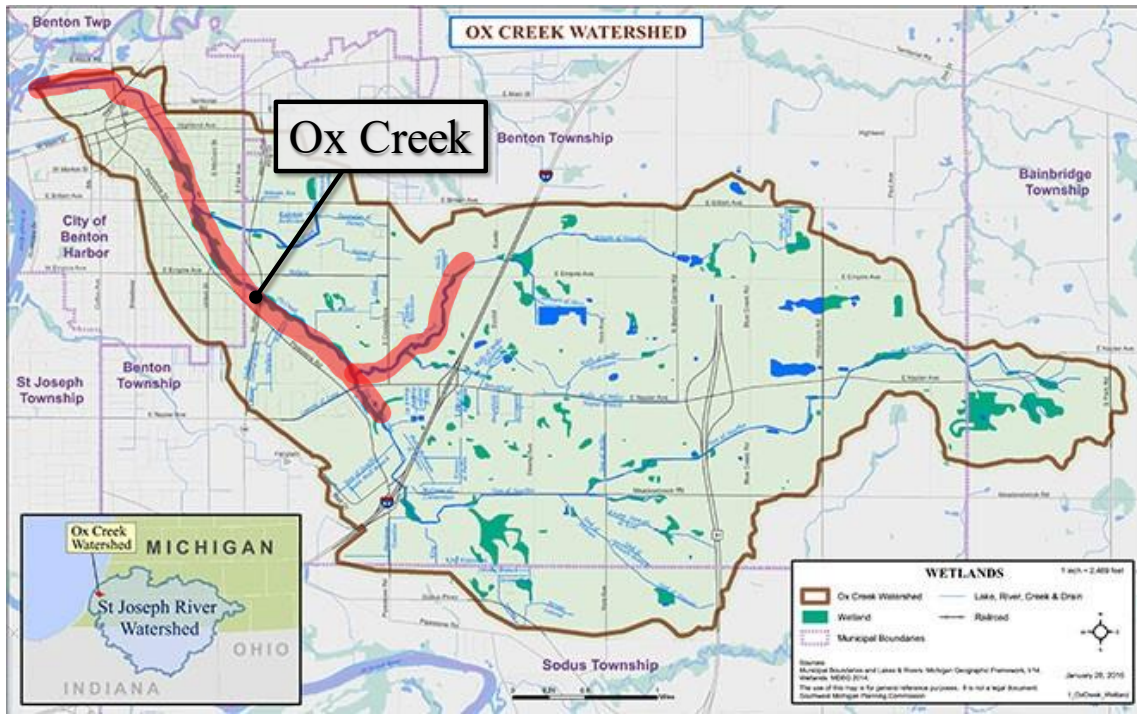
# Background

## Benton Harbor and Ox Creek

The City of Benton Harbor, MI, is identified as an underserved community, where people of color have been historically underserved, marginalized, and adversely affected by persistent racism, poverty, and inequality (as defined in Executive Order 13985). Currently containing around 9,000 residents, the city has lost more than half of its peak population in the 1960s and is one of the poorest communities in the United States with a per capita income of \$18,393 and a poverty rate of 44.2% (US Census Bureau, 2022). This is in stark contrast with its neighboring “twin” city St. Joseph, which has a per capita income of \$55,047 and a poverty rate of 5.8% (US Census Bureau, 2022). The twin cities, with Benton Harbor 85% African American and St. Joseph 86% White, also exhibit a pattern of racial segregation present in many pairs of American cities, such as Ann Arbor and Ypsilanti.

The Ox Creek Watershed (shown in green on the map below) is made up of all the land that drains into Ox Creek, a small tributary that feeds into the Paw Paw River. The watershed is in Southwest Lower Michigan’s Berrien County and is part of the larger St. Joseph River Watershed that covers parts of Southwest Michigan and Northeast Indiana. This plan will focus most closely on a small portion of this watershed, the Ox Creek corridor, which is defined here as extending from the confluence of Ox Creek and the Paw Paw River to Interstate 94. Ox Creek runs through the heart of Benton Harbor from the Benton Charter Township commercial district near Interstate 94 to the Paw Paw and St Joseph Rivers confluence that empties into Lake Michigan.

Figure 1: A map of Ox Creek Watershed, flowing West through Benton Harbor. The area in green contains the Ox Creek Watershed, while the portion highlighted in red shows the Ox Creek Corridor (draft figure, highlighted area to be confirmed). (Source: <https://sustainoxcreek.org/oxcreek>)



Over the past several decades, Ox Creek and its surroundings have been damaged by legacy pollution from industrial sites, illegal dumping, increased flooding, sedimentation, and nutrient loading due to changing land uses and weather patterns, and general disinvestment in local infrastructure and the adjacent community. Due to these impairments, residents cannot enjoy the creek. Ox Creek’s water quality and surrounding landscape needs improvement. The creek appears on Michigan’s §303(d) list because it is not meeting the state’s designated use for “other indigenous aquatic life and wildlife” due to changes in flow, sedimentation / siltation, and solids from changes in stream banks, runoff from impervious surface (such as parking lots) and other urban sources, and storm sewers. The degraded Ox Creek corridor bisects the city of Benton Harbor, forming a natural barrier impeding mobility between underserved neighborhoods on both sides.

However, Ox Creek is much more than just a tributary of the Paw Paw River passing through an underserved community enroute to Lake Michigan. Ox Creek stands as a vital environmental and social feature woven into Benton Harbor’s urban fabric. The corridor, once restored, will serve as a pivotal connector linking neighborhoods with each other, downtown, and Berrien County’s largest commercial corridors along Pipestone Road and

Napier Avenue near I-94. Moreover, a restored Ox Creek will provide improved habitat for fish and wildlife, safe spaces for the community to be outside and interact with nature, and opportunities for thoughtful, multi-use economic development.

Ox Creek also links Benton Harbor residents with their history, social life, and natural environment. Benton Harbor residents know about the creek's currently degraded state, but also remember a creek they used to play in, fish in, and enjoy. These recollections of family gatherings and recreational experiences at an accessible Ox Creek have been a driving force behind the overarching vision for restoring Ox Creek back to its central role as an asset for nature and the community.

### **The Ox Creek Restoration and Revitalization Strategic Plan**

To help realize this vision, the City of Benton Harbor has formed the Ox Creek Collaborative Partnership, which works together to apply for funding and build projects that meet the community's needs. This partnership includes the City of Benton Harbor; Abonmarche, Inc.; Southwest Michigan Planning Commission (SWMPC); Michigan Department of Environment, Great Lakes, and Energy (EGLE); and the University of Michigan (UM),

The partnership has put together this plan as a framework to guide the future of restoration and revitalization of Ox Creek that unifies the existing suite of ongoing and planned projects into one vision that can build community support, foster partnerships among local and external organizations, and facilitate larger investments from public and private entities. This plan also builds upon and describes prior and future keystone projects (e.g., Michigan Gas Utility Site, Hall Park) that are necessary to bring to life the shared vision for an Ox Creek corridor that fosters environmental, economic, and social revitalization and restoration. It identifies necessary next steps and resources needed to pursue a critical path to achieve both short term wins and long-term gains and identifies the most efficient sequence.

This plan incorporates priorities and overarching visions for the future of Ox Creek that have emerged from community engagement with recent planning efforts such as developing the 2023 Best Benton Harbor Community Plan and the City's Parks and Recreation 2024-2028 Master Plan as well as funded and proposed projects developed in collaboration with partners to implement this vision. Highlights of the Best Benton Harbor plan include beautifying the corridor and creating connections among surrounding communities, allowing immersion in nature for recreation and fishing, and providing safe spaces to gather.

In 2022, a concept of the Ox Creek corridor outlined a greenway with an elevated boardwalk and stream crossings to connect the full length of the creek from downtown Benton Harbor to the commercial center at Pipestone and I-94 in Benton Charter Township and several neighborhoods along each side of the creek. The future boardwalk along Ox Creek would increase access to the creek and provide connections between Hall and Seitz Parks, which would increase residents' access to these green spaces and encourage travel and connection between neighboring communities. There are a total of 14 parks in the area that would benefit from these connections. The concept also recommended several other specific projects: valley cleanup; riparian buffer installation; stream restoration; pollutant and sediment reduction; and restoration of Hall Park. These developments would be compatible with creek restoration goals.

Economic development is also a key component of Ox Creek revitalization, but only if done thoughtfully to foster success and increase the resiliency of the existing community and the natural environment while creating new opportunities. As outlined in the Best Benton Harbor plan, 62 homes are planned in the Ox Creek valley that would house up to 346 people. Providing affordable housing and avenues to retain existing small businesses are important strategies toward avoiding gentrification of the area. The plan outlines the needs for a parks and boulevard system “to create a comprehensive greenspace network that preserves the natural beauty of Benton Harbor, while also providing recreation access to residents.”

This plan is also a resource to share with potential partners, funders, and staff to help them implement next steps and form partnerships based on shared priorities, which can facilitate pursuing grant opportunities and other funding sources. In total as of the end of 2023, around \$7.3 million has been dedicated to this revitalization effort, including funding from the U.S. Environmental Protection Agency (EPA), National Oceanic Atmospheric Administration (NOAA), and the federal government's Justice40 Initiative. In addition to helping to guide development of a pipeline of projects for grants and other funding opportunities, this plan provides an opportunity for stakeholders to take ownership and lead some of this work by clearly showing the whole vision and steps to implement. Working together will in turn build community capacity, support, participation, and understanding of what it means to restore and revitalize Ox Creek.

Finally, this partnership and plan can assist communities in building competitive project pipelines and grant applications; accessing funds, technical assistance, and training; and coordinating with state and federal agencies towards the implementation of key priorities.

Relationships developed through working on individual projects and applying for available funding to work towards something larger together can also open new opportunities such as implementing a long-term governance structure and self-sustaining funding source.



## Vision

Building upon the City of Benton Harbor’s resolution, the Ox Creek Collaborative Partnership proposes the following vision statement:

*The Ox Creek corridor is a cultural, environmental, economic, and recreational asset providing a beautiful, healthy, safe place where current and future generations can connect to nature and experiences that enhance quality of life.*

## Values

To enact this Vision, the Ox Creek Collaborative Partnership outlined the following values, from which all restoration and development activities would extend:

- **Healthy Environment & Wildlife**

Restored habitat and improved water quality in Ox Creek supports diverse and abundant fish and wildlife populations, a sign of a healthy environment that can support immersion in nature, recreational activities, and ecological needs.

- **Connectivity**

The revitalized Ox Creek corridor connects much of Benton Harbor to Lake Michigan at all scales, including regional trail networks, pedestrian creek crossings, safe access points, and spaces that build community and neighborhood connections between current and future generations and those who are part of Benton Harbor’s history.

- **Beauty and Vitality**

The restored Ox Creek corridor is beautiful, healthy, vital, and creates positive, safe experiences and scenic gathering places and spaces that are highly valued by residents, attract visitors and travelers, and help to revitalize Benton Harbor ecologically, economically, and socially.

- **Environmental Justice**

The Ox Creek corridor renaissance, through thoughtful and active community participation and building collective prosperity to serve social and environmental justice goals, reverses many decades of neglect and misuse and transforms the Creek and its neighboring community.

- **Changing Narrative**

The revitalized Ox Creek corridor is a community centerpiece that celebrates the past and embodies a new narrative of nature appreciation, renewed hope, and opportunity.

- **Stewardship & Engagement**

The Ox Creek corridor's self-sustaining restoration fosters a shared sense of ownership, community collaboration, and partnerships, cultivating a strong ethos of stewardship and inclusive engagement through deep community commitment to long-term resilience.

# Elements and Goals

To characterize the Ox Creek corridor revitalization and restoration efforts, seven elements were identified. Each element is associated with high-level goals and near and long-term opportunities.

## **Element 1 - Restore Habitat and Increase Resilience.**

Restoration of the creek and riparian habitat along the corridor increases resiliency to a changing climate and provides a beautiful, vital landscape for fish and wildlife and the community to enjoy. Incorporating nature-based solutions and considering habitat in thoughtful economic development or redevelopment is critical to creating a restored Ox Creek corridor.

**Today (current state).** Ox Creek and its banks, wetlands, floodplains, and associated uplands are degraded due to invasive species, excessive woody debris, streambank erosion, flooding, and sedimentation.

**Tomorrow (future state).** Ox Creek and its banks, wetlands, floodplains, and associated uplands are restored, using nature-based solutions when possible, and redeveloped with space for nature to thrive and for the community to safely live, work, and play.

Goal 1.1 Restore and maintain habitat including creek, banks, wetlands, floodplains, and forests to support fish, wildlife, and human uses for ecological function and resiliency.

### Near-term opportunities

- Develop a habitat restoration plan from Highland Avenue upstream to Napier Avenue to restore stream habitat for fish and wildlife, enhance recreational uses, and mitigate flashiness, flooding, and sedimentation with input from stakeholders including the community and landowners.
- Conduct invasive species control to remove/manage invasive plants at Hall Park and surrounding area.
- Implement stream habitat restoration projects, with in-channel and floodplain modifications, to diversify the stream bed and bank habitat without impacting flood elevations.

- Develop and implement volunteer opportunities for the community to participate in implementation of restoration projects.
- Develop and implement monitoring plan to assess and maintain habitat improvements.
- Develop invasive species management strategies for the corridor.

#### Long-term opportunities

- Develop and implement a forest management plan.
- Plan, design, and implement strategies to reduce impacts of flooding and high lake levels that consider a future changing climate while restoring habitat.
- Develop and implement a habitat restoration plan for Ox Creek from Highland Avenue downstream to the Paw Paw River.
- Implement invasive species management strategies for the corridor.

Goal 1.2 - Create and enhance outdoor spaces for recreation, enjoyment, and development while maintaining habitat needed for ecological function and resilient ecosystems.

#### Near-term opportunities

- Conduct a wetland delineation for the creek corridor.
- Identify sensitive or valuable ecological areas and identify mechanisms and techniques that ensure their protection when development occurs such as open space developments.
- Ensure Hall Park improvements and trail and walking path alignments are consistent with habitat restoration plan and forest management goals.
- Educate the community about the benefits of protecting sensitive and valuable ecological areas while enhancing outdoor spaces for recreation and development.
- Complete soil sampling along the surface of the most likely trail alignment (EGLE).

#### Long-term opportunities

- Ensure that sensitive and valuable ecological areas are protected during future project development and implementation.

## **Element 2 - Improve Water Quality and Manage Water Quantity.**

Improving water quality underpins the larger goal of creating wildlife and fish habitats and healthy streams that flow into Lake Michigan and beyond. It forms the basis of restoring

habitats, ecosystems, and the stream corridor itself. Managing water quantity while creating quality habitats will slow down and reduce flows during storm events, reducing flooding, erosion, and runoff pollution and increasing community and environmental resilience in the face of fluctuating Lake Michigan levels.

**Today** – Impervious surfaces, lack of stormwater treatment, changing lake levels, and more extreme weather events cause flooding, erosion, and sedimentation bringing pollution from the landscape into the Creek. In addition, other locations such as contaminated properties, drain outfalls, and storm drains are negatively impacting the surface and groundwater quality.

**Tomorrow** – Stormwater is slowed down and treated through installing green infrastructure and working closely with upstream partners and contaminated sites are cleaned up, resulting in improved creek ecology, clean and safe water for human use, and fewer flooding events.

Goal 2.1 - Reduce urban runoff and nonpoint source pollution through nature-based solutions to increase resiliency by alleviating flashiness, sedimentation, and pollution.

#### Near-term opportunities

- Complete hydrologic study and continue collaboration with the Army Corps of Engineers (USACE) to implement solutions to increase resiliency.
- Utilize green stormwater management such as rain gardens and swales for stormwater treatment and retention in Benton Charter Township (Home Depot and Walmart parking lots) and in Hall Park.
- Continue to coordinate with MDOT and Berrien County Drain Commission to control upstream volume contributions to Ox Creek stream flows.

#### Long-term opportunities

- Implement additional Benton Charter Township commercial district green infrastructure projects including high priority sites such as Orchards Mall, along Pipestone Road, Celebration Cinema, Lowe's, etc.
- Identify additional locations within the city and township to implement flood mitigation and green infrastructure projects to increase resiliency.

Goal 2.2 - Reduce rural runoff and nonpoint source pollution from agriculture to alleviate flashiness, sedimentation, and pollution.

Near-term opportunities

- Partner with stakeholders and agricultural landowners to implement best management practices to reduce runoff and downstream impacts.
- Explore potential for pilot projects to demonstrate technological innovations for increasing agricultural yield and reducing runoff and pollution from agriculture.

Long-term opportunities

- Identify and implement future opportunities to manage the volume and flow of runoff and increase resiliency to high water levels and a changing climate.

Goal 2.3 – Reduce polluted discharges from contaminated sites, drain outfalls, and stormwater drains.

Near-term opportunities

- Continue operation of Harbor Plating site groundwater pump and treat system and conduct additional assessments of Ox Creek and unnamed creek (named Handcock-Eastman Drain on some maps/documents) at Harbor Plating site.
- Map stormwater outfalls and other discharges to waterbodies and develop plan to address sites.

Long-term opportunities

- Implement a plan to reduce pollutants from stormwater outfalls and other discharges.

### **Element 3 - Create Economic Redevelopment Opportunities that align with Ecological Goals.**

Ox Creek corridor restoration can catalyze economic development in the valley and throughout the city, contributing to reversing many decades of neglect and misuse and transforming the stream to a healthy functioning ecosystem and the residents into a thriving, connected community. Remediating, restoring, and redeveloping legacy industrial contamination and brownfield sites creates new opportunities for housing, commercial development, and recreational and natural spaces. These developments welcome newcomers while enabling long-time residents to stay and benefit from restoration and revitalization efforts. As Benton Harbor attracts new economic opportunities,

(re)development will be compatible with and in service to the vision, values, and other elements of this plan.

**Today** – Legacy contaminated sites and neglected properties, some that require remediation, pose a risk to human and ecosystem health and prevent full use of the creek corridor for people and nature.

**Tomorrow** – Through remediation, restoration, and redevelopment, legacy contaminated and brownfield sites along the Ox Creek corridor are a diverse mix of new housing, commercial development, community spaces, and natural areas that revitalize the area, attract visitors, and support residents’ ability and desire to stay local.

Goal 3.1 - Identify and address legacy contamination at Harbor Plating to improve environmental quality for future uses.

Near-term opportunities

- Complete Harbor Plating site reassessment process and submit recommendation to EPA for National Priority Site listing.
- Conduct additional site sampling and community engagement process, and complete Harbor Plating site listing process on the National Priorities List for Superfund designation.

Long-term opportunities

- Identify and implement measures to prevent human exposure pathways related to the future non-motorized recreational trail.
- Conduct community engagement and visioning to create a redevelopment plan for the Harbor Plating site.
- Conduct remediation and redevelop the site to support recreation, housing, and commercial development appropriate for site conditions.

Goal 3.2 - Identify and address legacy contamination at Modern Plastics to improve environmental quality for future uses.

Near-term opportunities

- Demolish the building and conduct environmental assessments and remediation to prepare the site for redevelopment.

Long-term opportunities

- Redevelop the site appropriately to meet health and safety standards.

Goal 3.3 - Implement economic and community development projects to achieve highest and best use of other remediation sites, brownfield sites, and underutilized properties that align with ecological goals.

#### Near-term opportunities

- Identify other priority brownfield sites along the Ox Creek corridor for potential redevelopment.
- Plans need to consider immediate surroundings of the Creek as the riparian buffer to protect the stream bank.
- Develop a vision for redevelopment opportunities including community development projects, housing, mixed use, and commercial development that revitalizes communities' assets and amenities to retain and attract residents and visitors.
- Prioritize economic and community development projects including new housing and maintaining access to affordable housing options.
- Market priority sites for development.
- Identify resources to address gentrification that can stem from revitalization and restoration.

### **Element 4 - Create and Revitalize Places to Gather, Enjoy, Explore, and Play.**

Restored and new community spaces and parks are safe and accessible, transforming Ox Creek into a destination for individuals and families to gather, recreate, and be immersed in nature. Hall Park is once again activated as the significant social and recreational area it's been for more than a century through programming and activities at this park and others that draw the community together to use these revitalized public spaces. Using these beautiful green spaces provides the community with a stronger sense of ownership and stewardship that helps change the City's narrative into one of appreciation and hope for the future, built through the power of people and partnerships to create community prosperity.

**Today** - Shared community spaces are dilapidated and underutilized, creating safety and accessibility issues.



**Tomorrow** - Existing and new shared community spaces, including Hall Park, are restored, safe, and accessible for the community to experience nature, gather, and play.

Goal 4.1 Create accessible areas to experience nature and wildlife, access the water for fishing, paddling, and playing, and participate in outdoor and indoor recreation and sports, experiential learning, and other activities and programming.

#### Near-term opportunities

- Develop and install interpretive signage communicating the vision for revitalizing Ox Creek and Hall Park, and the history, culture, and ecology of the creek and corridor.
- Create accessible fishing platforms and areas for outdoor experiential learning.
- Develop and implement outreach / education plan with public engagement activities such as site tours, wildlife walks, and kayak trips.
- Restore the Bobo Brazil Community Center into a community resilience hub and build other priority community amenities such as a splash pad and roller rink.

#### Long-term opportunities

- Improve access by identifying and constructing designated trailheads and accessible parking along the future Ox Creek Trail.
- Create accessible paths, seating, interpretive signage, and access points along the creek corridor that create public access to the Creek for fishing, paddling, wildlife viewing, and other recreational uses and outdoor learning.
- Create and maintain walking paths for interpretation and outdoor experiential learning.

Goal 4.2 - Create a safe, welcoming, and clean experience for families and the community to gather and engage that foster diverse uses and a sense of ownership and stewardship.

#### Near-term opportunities

- Add lighting, cameras, fencing, police patrols, and emergency phones to create a safe experience.
- Define a designated smoking area and disposal receptacles.
- Add recycling and waste receptacles.

#### Long-term opportunities

- Create a citizen watch program and Ox Creek safety patrol to provide personal sense of security for the park and trails.

Goal 4.3 - Restore and revitalize Hall Park as a centerpiece of the community's aspirations for a welcoming, inviting, safe, and vibrant gathering place.

#### Near-term opportunities

- Construct side street parking along Highland Avenue at Hall Park for better access to the park, Ox Creek, and the future Ox Creek Trail.
- Implement phase 1 DNR Spark grant to create new and renovate existing facilities including the basketball courts and renovate and create new pathways and amenities.
- Design and install a playground using volunteers if possible.
- Develop and install an interpretive sign communicating the vision for revitalizing Ox Creek and Hall Park.
- Conduct annual events such as Ox Creek Watershed Festival, Earth Day, and All Things Wellness at Hall Park, volunteer creek clean ups, and arts festivals and community gatherings.
- Activate the park in all four seasons to provide a community gathering place that supports outdoor learning, art, culture, entertainment, fitness, and community wellbeing.
- Conduct tree health assessments and tree management through urban forest programs.

#### Long-term opportunities

- Implement additional phases of park improvements to create new public bathrooms, drinking fountains, a pavilion, and a performance stage, and renovate and create additional new facilities and amenities.
- Create and maintain walking paths for interpretation and outdoor experiential learning.
- In the City's 5-year recreation plan, include creating an Adopt a Park Program for businesses; creating a Park/Ox Creek Ambassadors program to assist with park and creek corridor maintenance, clean up, and stewardship; creating a plan for local concessions and vendors that aligns with the City Park Plan; and implementing public Wifi at all parks in Benton Harbor.

- Develop strategy to maintain parks (for example, remove graffiti, prevent dumping of trash or leaves), possibly seeking assistance from community volunteer groups.
- Provide more ADA accessible elements in parks, including ADA parking, sidewalks and ramps, and benches.

### **Element 5 - Create an interconnected system of pedestrian trails, parks, and amenities.**

Creating an interconnected trail system along the corridor and between communities will enhance the public experience and boost their ability to enjoy their local natural and neighborhood assets, including restaurants, commercial areas, and public amenities. These safe, accessible connections at all scales, including regional trail networks, will build community relationships, restore local opportunities to recreate, fish, shop, sell, and play locally, and connect current and future generations.

**Today** - The community is disconnected from the creek and from each other due to lack of pathways to and across the creek.

**Tomorrow** - A completed elevated, accessible, lighted, non-motorized trail and creek crossings connect people of all abilities in the community to and across the creek and provide pedestrian passage across the creek. These pathways provide space for learning and gathering and connect public amenities, restaurants, commercial areas, and residents to each other and their community's past.

Goal 5.1 Create an accessible, non-motorized recreational trail system along the Ox Creek corridor to increase mobility, improve access to amenities, and improve the quality of life for residents and visitors.

#### Near-term opportunities

- Complete soil sampling along proposed trail alignment
- Conduct legal, environmental, and State Historic Preservation Office reviews, feasibility and design work, and obtain clearances and permits to begin construction.
- Integrate the Army Corps hydraulic study and NOAA Habitat restoration plan into the final trail design and alignment.
- Develop a phasing plan for implementation for trail construction and begin construction of phase 1.

- Identify and design/build trail head and parking locations for trail access including at Hall Park, Home Depot, Pipestone and in neighborhoods.

#### Long-term opportunities

- Construct future phases of the trail.

Goal 5.2 - Develop a seamless network of accessible, walkable, and bikeable paths with pedestrian bridges connecting neighborhoods to each other, to the Arts District, and to the regional trail network.

#### Near-term opportunities

- Implement wayfinding signage with a QR code throughout the trail system that includes access points, amenities, and destinations.
- Designate biking and walking sections and directionality of movement.

#### Long-term opportunities

- Construct an interconnected system of trails and pathways that link residential neighborhoods to community resources and the creek.
- Use artwork installations along the trail to enhance beauty and provide connection to the Arts District.

### **Element 6 - Clean up and prevent illegal dumping, littering, and other debris.**

A debris- and trash-free Ox Creek corridor fosters a community-wide stewardship ethic around Ox Creek and increases community and ecosystem resilience by creating beautiful, healthy, and vital spaces for people and nature to gather and thrive. Residents and visitors will more highly value these areas, helping to revitalize Benton Harbor economically and socially.

**Today** - Ox Creek and the surrounding landscape are used as an illegal dumping ground for construction materials, large household items, and general trash; approximately 7,500 tons of large debris are estimated to be present.

**Tomorrow** - All trash and commercial scale garbage, construction materials, and household items are gone, having been removed in the most environmentally friendly way

possible, resulting in an increased sense of stewardship and frequency of use as well as resources to maintain a clean landscape for people and wildlife to enjoy.

## Goal 6.1 - Clean up and prevent illegal dumping, littering, and other debris.

### Near-term opportunities

- Expand upon existing volunteer clean-up activities involving local community-based organizations and partners.
- Contract with a contractor to implement large scale trash/ debris clean up and properly dispose of or recycle materials.
- Develop and implement outreach, education, and prevention strategies that include sponsoring youth led projects in partnership with community-based organizations and focusing efforts on local actors thought to be involved in illegal dumping.
- Create a media campaign that includes public service announcements and utilizes social media outlets to promote prevention messaging.
- Work with city and other partners to strengthen regulatory frameworks and update enforcement mechanisms and efforts.

### Long-term opportunities

- Maintain physical barriers at Valley Dr/ Harbor Plating site entrances/ exits to prevent further illegal dumping.
- Implement camera systems for observing and preventing dumping to facilitate enforcement actions.
- Implement prevention activities including signage at road dead ends and highly used dumping sites.
- Engage with CBOs to develop alternative disposal and recycling options in the city.
- Begin an Adopt-a-Park/Creek/Storm Drain program to create a coordinated volunteer clean-up effort involving local community-based organizations and private and public partners.
- Develop a clean-up response fund to address future illegal dumping occurrences.

## **Element 7 – Build community capacity and stewardship.**

Supporting active community participation will build stewardship and community capacity and encourage all members to work together toward the vision for the Ox Creek corridor. Community based organizations and community members who are vested in the goals and future will help ensure ongoing maintenance and support for the area. The revitalized Ox

Creek corridor will serve as a community centerpiece that celebrates the past and creates a future of hope and opportunity.

**Today** - A small number of devoted staff and community members work to implement projects and build capacity to restore and revitalize the creek corridor.

**Tomorrow** – Capacity, resources (human, organizational, and financial), and a governance structure enable the implementation of a shared vision and foster a sense of shared ownership. All community members work towards this vision together to ensure long-term sustainability.

Goal 7.1 - Build community capacity for shared water governance and stewardship of Ox Creek, particularly among youth.

Near-term opportunities

- Create Ox Creek Coalition to engage community in implementation of the vision.
- Develop and implement Education and Outreach Plan, including providing opportunities for Benton Harbor residents to engage in Ox Creek Restoration projects and exposing residents to career pathways and opportunities to learn transferable skills.
- Develop a summer internship program that will recruit community members to train under naturalist staff at Sarett Nature Center.

Long-term opportunities

- Sustain the Ox Creek Coalition to continue community engagement, education and outreach, and partnerships with community-based organizations.
- Develop a long-term stewardship, monitoring, and maintenance plan for all Ox Creek elements including habitat restoration, invasive species management, forest management, public spaces, parks, trails, and other infrastructure.
- Work with stakeholders to create long-term citizen scientist programs such as annual bird counts, macroinvertebrate stream monitoring, and invasive species management.

Goal 7.2 - Create organizational capacity and resources – human and financial – to support the effort for long-term community capacity and maintenance.

Near-term opportunities

- Hire Ox Creek Project Coordinator at the City of Benton Harbor.
- Develop community compensation program.
- Hire Ox Creek Education and Outreach Manager at Sarett Nature Center.
- Complete acquisition of drain commission easements to extend Yore Stoeffer drainage district to include Ox Creek with no name change to the creek.

#### Long-term opportunities

- Continue the Ox Creek Project Coordinator and education and outreach positions, as well as support for community involvement.
- Develop an organizational governance structure that represents the community equitably like the Friends of the Rouge.
- Develop and implement a self-sustaining funding strategy for the organizational governance structure.
- Continue to conduct ongoing maintenance of the Ox Creek designated drain in accordance with City/Drain Commissioner legal agreement.

# Glossary

**Accessible** - all visitors, including those with disabilities, can easily access areas to experience nature and wildlife.

**Brownfield program** – At the federal level, program implemented by the EPA to empower states, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields. At the state level, a plan managed by the Department of Environment, Great Lakes, and Energy (EGLE) that is a collaboration between state and local governments to remediate environmentally degraded and polluted lands and put them back into productive use.

**Brownfield sites** - Land that is abandoned or under-utilized due to concerns of harmful pollutants due to prior use. Appropriately addressing the presence or potential presence of a hazardous substance, pollutant, or contaminant must be considered in the expansion, redevelopment, or reuse of these properties.

**Designated use** - The way in which a body of water should be used, or the purpose it should serve, as determined by federal and state regulatory officials. The Clean Water Act (CWA) requires states to report on the quality of water resources biennially to ensure they are meeting their uses. Section 303(d) of the CWA authorizes the Environmental Protection Agency (EPA) to assist states, territories, and tribes with remediating impaired waters if they are not achieving their designated use.

**Ecological function** – This is the combination of all biological and physical processes in an ecosystem and how they work together, such as how the abiotic (non-living) and biotic (living) components, or individuals of different species, interact with each other in a given ecosystem.

**Ecology** - A biological science that seeks to understand the relationships of organisms and their environment.

**Experiential learning** - Experiential education programs engage learners in constructing meaning by immersing them in direct and meaningful hands-on experiences. This approach incorporates learning by doing, where learners address real-world problems and interact with natural phenomena.



**Flashiness** - A measure of how quickly a body of water's water levels reach its peak after a rain event and how long it takes to return to its normal water level.

**Gentrification** - A process of neighborhood change in a historically underserved or disinvested area through economic investment and the arrival of wealthier residents. This economic activity leads to higher property values and taxes, causing the original and less wealthy residents to be "priced out" of the area over time. Gentrification also often results in a change to the racial and cultural makeup of an area.

**Green infrastructure** – Construction projects that use natural features and components like trees and grassy ditches to provide environmental benefits such as flood protection, heat protection, and air quality improvements.

**Impervious surface** – Materials that do not allow water to percolate into the soil. These include, for example, buildings and gray infrastructure such as sidewalks and parking lots.

**Indigenous aquatic life and wildlife** - Native plants, animals, and organisms that are found in each ecosystem due to natural processes, i.e., have not been introduced into that waterbody by human actions. These can include bacteria, fungi, algae, aquatic insects and other aquatic invertebrates, reptiles, amphibians, and fishes.

**Invasive Species** - A non-native species that causes harm to the environment, economy, or health of humans, animals, or plants.

**Legacy contamination** - Contamination that remains in the environment long after their initial exposure. Common examples include lead, arsenic, polychlorinated biphenyls (PCBs), and dichloro-diphenyl-trichloroethane (DDT).

**Legacy contaminated sites** - Lands where legacy contaminants are found, often on lands previously used for mining and other industrial uses.

**Macroinvertebrate community ratings** - A metric of health often used for creeks, streams, and rivers based on the presence and diversity of macroinvertebrates, or organisms that lack a backbone but are large enough to see without a microscope.

**National Priority Site List** - The list of sites of national priority among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout

the United States and its territories. This list represents the priorities among Superfund sites.

**Nature-based solutions** - Planning and design that incorporate nature to enhance resilience and sustainability in socio-ecological systems through the strategic use of natural features or processes to help solve both human and ecological problems. For example, utilizing treatment wetlands not only improves water quality but also contributes to habitat restoration and recreational activities.

**Non-motorized use** - Recreational area that prohibits the use of motorized vehicles except for motorized wheelchairs or other accessibility tools.

**Nonpoint source pollution** - Pollution that does not come from a direct and identifiable source. Examples include vehicle exhaust and urban or agricultural runoff.

**Open-space developments** - A type of design in which development is clustered together with the purpose of preserving green or open spaces for the community.

**Point source discharges or location** - Any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.

**Remediated sites** - Locations where land was previously degraded and has been repaired to prior environmental conditions and uses.

**Remediation** - Reversing or repairing environmental damage, such as actions taken to respond to a hazardous material release or threat of a release that could affect human health and the environment (e.g., removal of pollution or contaminants from soil, groundwater, sediment or surface water).

**Resiliency** – In general, this is the ability for a community, species, or individual to withstand pressures and/or disturbances. As defined by the EPA, resilience is a capability to anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment.

**Roller rink** - An enclosed indoor area used for roller skating or rollerblading.

**Sedimentation** - The process of soil and rock detachment (erosion), transport, and settling of these solids into the sediment in creeks and rivers.

**Sensitive or valuable ecological areas:** This is typically defined as either an:

- Environmentally Sensitive Area (ESA) - A designation given to spaces with specific and important environmental qualities, such as riparian boundaries or unique ecosystems
- Important Ecological Areas (IEA) - Areas that include important habitat for wildlife, such as migratory routes and breeding areas.

**Splash pad** – An outdoor play area for children that features water play with little standing water, often using sprinklers, fountains, nozzles, and other devices or structures that spray water.

**Superfund** - Common name for the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) that allows for the EPA to remediate contaminated sites and require the contaminating entity to fund and participate in the process. If that entity cannot fund the clean up or it is not clear who the responsible party is, the EPA is authorized and funded to manage the cleanup. These sites can include industrial facilities, waste management sites, mining and sediment sites, and federal facilities such as abandoned mines; nuclear, biological, chemical, and traditional weapons production plants; and military base industrial sites (e.g., those used for aircraft and naval ship maintenance).

**Urban runoff** – This runoff is generated from rain and snowmelt that flows over land or impervious surfaces and does not soak into the ground. Runoff can pick up and deposit harmful pollutants like trash, chemicals, and dirt/sediment into streams, lakes, and groundwater.

## **Laws & Policies**

**Executive Order 13985:** Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (Biden, 2021)

Section 303(d) of the Clean Water Act requires states to list bodies of water that are not attaining one or more designated use for visibility and remediation