



**US Army Corps
of Engineers®**

Pittsburgh District

Planning and Environmental Branch
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Public Notice Date: 13 June 2018
Expiration Date: 13 July 2018

NOTICE OF AVAILABILITY

Draft Environmental Assessment for Michael J. Kirwan Dam and Reservoir 2018 Master Plan Ohio River Watershed Portage County, Ohio

The U.S. Army Corps of Engineers, Pittsburgh District, is evaluating a proposed revision of the 1982 Michael J. Kirwan Dam and Reservoir Master Plan and invites comments on environmental impacts of the adoption of the proposed 2018 updates. The Pittsburgh District will consider all submissions received or postmarked by the expiration date of the public comment period. The nature or scope of the proposal may be revised upon consideration of the comments received.

Project information and the drafts of the Master Plan, Environmental Assessment, and Finding of No Significant Impact are available electronically at:

<https://www.lrp.usace.army.mil/Missions/Recreation/Lakes/Michael-J-Kirwan-Dam-Reservoir/Michael-J-Kirwan-Dam-and-Reservoir-Master-Plan/>

Comments can be submitted in writing to the address posted at the top of this notice to the attention of Heather Wood, or emailed to heather.l.wood@usace.army.mil. Comments must be received or postmarked no later than **13 July 2018 to ensure consideration.**

DRAFT FINDING OF NO SIGNIFICANT IMPACT
MICHAEL J. KIRWAN DAM AND RESERVOIR MASTER PLAN UPDATE
OHIO RIVER WATERSHED

The US Army Corps of Engineers, Pittsburgh District (Corps) is proposing to adopt a new Master Plan as the strategic land use planning document to guide comprehensive management and development of all project recreational, natural and cultural resources at Michael J. Kirwan Dam and Reservoir in southwestern Pennsylvania. The original Master Plan (MP) was completed in 1961 and last updated in 1982. Changes in Corps regulations and community needs necessitate a revision to these Master Plans. The revised MP will replace the draft and provide a balanced, up to date management plan that follows current Federal laws and Corps regulations while sustaining natural resources and providing outdoor recreational experiences.

In compliance with the National Environmental Policy Act, the Corps prepared an Environmental Assessment (EA) that evaluated impacts to the physical environment, biological environment and community setting. The EA examines two alternatives: No Action and the preferred alternative of adopting a revised MP with a balanced conservation/recreation mix. The preferred alternative changes the land and water classifications, most notably the addition of sensitive area and water surface classifications. The revised plan also lays out future recommendations for management of both recreation and natural resources.

The No Action alternative does not meet the purpose of providing a strategic land use management plan that balances the development of recreation features with environmental stewardship practices and natural resource conservation and is in compliance with current regulations, policies and laws governing Master Plans. Under the No Action alternative, the current document would prevent a proactive approach to resource management.

I have reasonably determined that implementation of the revised Michael J. Kirwan Dam and Reservoir MP will not constitute a major Federal action significantly affecting the quality of the human environment, as defined in the Council on Environmental Quality's current regulations for implementing the National Environmental Policy Act. The preparation of an environmental impact statement is therefore unwarranted and the public interest will be best served by the implementation of the proposed action. This determination precedes the Corps of Engineer's final decision concerning this proposed action. The MP and EA will be circulated for a 30-day review period.

Date

John P. Lloyd
Colonel, Corps of Engineers
District Engineer

Environmental Assessment

Michael J. Kirwan Dam and Reservoir Master Plan Update

Ohio River Watershed



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1 Purpose and Need

1.1 Introduction and Background

The US Army Corps of Engineers (Corps) is responsible for the maintenance, restoration and stewardship of natural resources on the multipurpose reservoir projects it manages. To facilitate the management and use of these lands, the District maintains a Master Plan (MP) for each reservoir project. An MP is a strategic land use management document that guides the comprehensive administration and conservation of natural and cultural resources, and the development of recreation at Corps reservoirs. The Pittsburgh District is proposing to adopt and implement a revision to the Michael J. Kirwan Dam and Reservoir MP.

Authorized by the Flood Control Acts of 1958, Michael J. Kirwan Dam and Reservoir became operational in 1966 after a two-year construction period. It is one link in a system of 16 Flood Control Projects and provides protection for the Mahoning River Valley, Beaver, and the Upper Ohio River.

The original MP was completed in 1961 and last updated in 1982. Changes in Corps regulations and community needs necessitate a revision. The revised MP will replace the former version and provide a balanced, up to date management plan that follows current Federal laws and Corps regulations while sustaining Michael J. Kirwan Dam and Reservoir's natural resources and providing outdoor recreational experiences. The revised MP applies changes to the land and water classifications and lays out future recommendations for management of both recreation and natural resources.

1.1.1 Land Allocations and Classifications

As part of updating the MP, land use classifications will be updated to ensure consistency with the Project's authorized purpose. Land allocations identify the authorized purposes for which Corps' lands were acquired. There are four categories of allocation:

1. Operations: These are the lands acquired for the congressionally authorized purpose of constructing and operating the Project. The location of all dam facilities, as well as the lake, are included in this allocation.
2. Recreation: These lands were acquired specifically for the congressionally authorized purpose of recreation. These lands are referred to as separable recreation lands. Lands in this allocation can only be given a land classification of "Recreation".
3. Fish and Wildlife: These lands were acquired specifically for the congressionally authorized purpose of fish and wildlife management. These lands are referred to as separable fish and wildlife lands. Lands in this allocation can only be given a land classification of "Wildlife Management".
4. Mitigation: These lands were acquired specifically for the congressionally authorized purpose of offsetting losses associated with development of the project. These lands are

referred to as separable mitigation lands. Lands in this allocation can only be given a land classification of “Mitigation”.

Land classifications indicate the primary use for which Project lands are managed.

Classifications provide for development and resource management consistent with authorized purposes and other Federal laws. The previous MP uses an obsolete classification scheme that has been rectified in this document to meet current standards. The system for land classification has been realigned to meet current standards.

Project Operations

This classification includes lands required for the dam and associated structures, powerhouse, operations center, administrative offices, maintenance compounds, and other areas that are used to operate and maintain the Lakes. Where compatible with operational requirements, Project Operations lands may be used for wildlife habitat management and recreational uses. Licenses, permits, easements, or other outgrants are issued only for uses that do not conflict with operational requirements.

High Density Recreation

These lands are designated for intensive levels of recreational use to accommodate and support the recreational needs and desires of visitors. They include lands on which existing or planned major recreational facilities are located and allow for developed public recreation facilities, concession development, and high-density or high-impact recreational use. In general, any uses of these lands that interfere with public enjoyment of recreation opportunities are prohibited. Low-density recreation and wildlife management activities compatible with intensive recreation use are acceptable, especially on an interim basis. No agricultural uses are permitted on those lands except on an interim basis for maintenance of scenic or open space values. Permits, licenses, and easements are not issued for non-compatible manmade intrusions such as pipelines, overhead transmission lines, and non-project roads, except where warranted by the public interest and where no viable alternative area or route is available.

Environmentally Sensitive Areas (ESAs)

This classification consists of areas where scientific, ecological, cultural, or esthetic features have been identified. Development of public use on lands within this classification is normally prohibited to ensure that these sensitive areas are not adversely impacted. Agricultural uses are not permitted on lands with this classification.

Multiple Resource Management Lands

This classification includes lands managed for one or more of the following activities:

- **Low Density Recreation.** These lands are designated for dispersed and/or low-impact recreation use. Development of facilities on these lands is limited. Emphasis is on providing opportunities for non-motorized activities such as walking, fishing, hunting, or

nature study. Site-specific, low-impact activities such as primitive camping and picnicking are allowed. Facilities may include boat ramps, boat docks, trails, parking areas and vehicle controls, vault toilets, picnic tables, and fire rings. Manmade intrusions, including power lines, non-project roads, and water and sewer pipelines, may be permitted under conditions that minimize adverse effects on the natural environment. Vegetation management, including agricultural activities that do not greatly alter the natural character of the environment, are permitted for a variety of purposes, including erosion control, retention and improvement of scenic qualities, and wildlife management. Hunting and fishing are allowed pursuant to tribal or state fish and wildlife management regulations where these activities are not in conflict with the safety of visitors and project personnel.

- **Wildlife Management.** Proper management techniques will be applied wherever the opportunity exists to improve conditions for wildlife, timber, wildfire prevention, pest control, watershed protection, or for use on the project.
- **Future or Inactive Recreation Areas.** This sub-classification consists of lands for which recreation areas are planned for the future or lands that contain existing recreation areas that have been temporarily closed

Water Surface

There are four possible sub-classifications:

- **Restricted.** Water areas are restricted for project operations, safety, and/or security purposes.
- **Designated No-Wake.** These protect environmentally sensitive shoreline, recreational water access areas from disturbance, and/or to protect public safety.
- **Fish and Wildlife Sanctuary (FWS).** These areas have annual or seasonal restrictions to protect fish and wildlife species during periods of migration, resting, feeding, nesting, and/or spawning.
- **Open Recreation.** These waters are available for year-round or seasonal water-based recreational use.

1.2 Project Area

The Project area is defined as the land held by the Corps in fee at Michael J. Kirwan Dam and Reservoir, located in the Ohio River watershed of southwestern Ohio. Michael J. Kirwan Dam and Reservoir is located on Mahoning Creek in Portage County. It encompasses approximately 6,326.13-acres that will be covered by the revised MP. There are 27.26 flowage acres. A project area map is located in Appendix B, Plate 1.

1.3 Purpose and Need

A MP conceptually establishes and guides the orderly development, administration, maintenance, preservation, enhancement, and management of all natural, cultural, and recreational resources of Corps lands. The purpose is to provide a strategic land use management plan that balances the development of recreation features with environmental stewardship practices and natural resource conservation in compliance with current regulations, policies and laws governing MPs. The original 1961 draft MP focused on construction and development recommendations for recreation areas. A 1982 revision updated data on existing conditions, maintenance, and expansion of recreational facilities. The 1982 MP no longer serves its intended purpose because of substantial changes to the Project, regional demographics, and surrounding land usage. The Corps has also updated its policies directing the development and implementation of MPs (most notably in EP-1130-2-550 Change 5, dated 30 January 2013), which includes updating the categories of land classifications used to define project lands.

The need for the MP update was determined by an evaluation of the existing document that identified a number of deficiencies that no longer made it a viable document. There have been significant changes in regional natural resources management, including: the naming of special status species, competing interests for resources, natural resource extraction, invasive species, and development of state wildlife plans. Changes in area demographics and culture have also changed the types of recreation demanded. Philosophical changes in agency management have occurred, with the most notable change being the 2009 establishment of a Non-Recreational Outgrant Policy that altered permitted land use on all Corps properties. Significant data gaps were also identified. In order to meet these new directives and comply with Corps policy requiring regular updates to MPs, the District proposes to adopt the revised Michael J. Kirwan Dam and Reservoir MP with updated land classifications and a revised set of recommendations for future developments and improvements.

This Environmental Assessment (EA) addresses the proposed adoption and implementation of the revised Michael J. Kirwan Dam and Reservoir MP – Balanced Conservation/Recreation Development. It analyzes potential impacts of implementing the MP upon the natural, cultural, and human environment. The EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended; regulations of the Council on Environmental Quality (CEQ); and Corps regulations, including Engineer Regulation 200-2-2, Procedures for Implementing NEPA. The EA references the 2018 Michael J. Kirwan Dam and Reservoir MP.

The typical focus of NEPA compliance consists of environmental impact assessments for individual projects. However, application of NEPA to broader and more strategic decisions not only meets the CEQ implementing regulations and Corps regulations for implementing NEPA, but also allows the Corps to begin considering the environmental consequences of their actions long before any physical activity is undertaken.

Environmental documents prepared concurrently with the MP can influence and modify strategic land use decisions. The intention of the MP is to develop land classifications that will guide the sustainable development of resources at Michael J. Kirwan Dam and Reservoir. This EA evaluates a variety of approaches to assess potential environmental impacts of proposed future recreation features. It examines recreational activities in broad categories listed as “high” and “low” density based on developmental needs, rather than specific projects. Additional coordination and documentation will be conducted, as appropriate, for future projects that are the result of this proposed MP. If the District determines it is in the best interest of the public to accept the MP and reclassify Corps-managed lands, the District would perform additional site-specific compliance with Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act and obtain any required permits for specific future projects/actions. Future projects would also be reviewed to identify which actions discussed within this EA may be classified as categorical exclusions in accordance with Paragraph 9 of ER 200-2-2, consistent with CEQ definitions under 40 CFR 1508.4, and which actions would require additional analysis under a tiered NEPA document.

1.4 Prior NEPA Documentation

A Finding of No Significant Impact, Operation and Maintenance of the Michael J. Kirwan Dam Dan Reservoir, Portage County, Ohio (1985), was prepared in conjunction with an Environmental Assessment addressing Project operations management.

2 Alternatives

This EA examines two alternatives; a preferred alternative of adopting a revised MP with an emphasis on a balanced conservation/recreation mix (40%/60%) and a No-Action Alternative in which the current MP would continue to guide operations and management.

Data collection, public comments, and findings of the Corps determined that the balanced conservation/recreation mix was the only alternative that would meet the purpose, need, and objectives of the master planning process. It also meets the need for sustainable management and conservation of natural resources within the project, while also providing for current and future quality outdoor recreational needs of the public, and providing consistency with updated Corps regulations. Compared to the No-Action Alternative, the preferred alternative presents minor changes to existing management practices and brings them in line with current practices.

2.1 No Action

Inclusion of the No-Action Alternative is prescribed by CEQ regulations and serves as the baseline against which Federal actions can be compared. Under this alternative, the District would not approve the adoption or implementation of a revised MP and would not meet current regulations or goals to regularly update a master planning document. The 1982 MP would

continue to provide the only source of comprehensive management guidance; however, information provided in the 1982 plan is out of date and no longer adequately addresses the needs of the District, other management partners, or users of Michael J. Kirwan Dam and Reservoir. Furthermore, the 1982 MP does not include the revised land classifications in accordance with current Corps regulations (See Chapter 3.2). Retaining the 1982 MP would prevent a proactive approach to managing Michael J. Kirwan Dam and Reservoir. Future major developments or resource management policies would require approval on a case-by-case basis without the benefit of evaluation in the context of an overall plan.

2.2 Revised MP – Balanced Conservation/Recreation Mix

Adopting this course of action is the District’s preferred alternative. The revision changes the land and water classifications, most notably the addition of sensitive area and water surface classifications. The revised MP also lays out future recommendations for management of both recreation and natural resources.

The management recommendations were developed through review of public comments, interviews, workshops, and the completion of surveys. These management recommendations are non-regulatory. Development of new, modern facilities would potentially include partnering with stakeholders to share in the cost, operation and maintenance of any such asset.

Table EA- 1. Existing and Proposed Land Classification Categories and Acreages*

Existing Land Use Class	Proposed Land Use Class	Proposed Land Use Acres
Esthetic Management	Project Operations	144.62
Game Management	Environmentally Sensitive Areas	303
Natural Area	MRML Low Density Recreation	1,693.71
	MRML Wildlife Management	1,251.55
Wild Area	High Density Recreation	252.06
TOTAL		3,644.94

**Calculated from GIS overlays. Acreages presented are for planning purposes only and not intended for real estate or survey use.*

Further detail of the recommendations is available within the MP (Section 7). Below are the recommendations, grouped by similar impact types:

Terrestrial recreation development:

- Continuously work to develop and connect regional multi-use trails – Provide trail opportunities of all types, with minimum adverse impacts and maximum benefits for natural, cultural, and community resources
- Buckeye Trail – Design, construct, and maintain a loop all the way around the project

- Design, construct, and maintain CAMBA proposed multi-use trails on south side of project
- Provide a connection between recreation facilities and cultural heritage sites such as the Frederick Wadsworth House
- Help maintain cultural traditions and improve or develop unique historic, artistic, and heritage sites

Aquatic recreation development

- Provide support for water trails
 - recreational corridors for canoes, kayaks, and small motorized watercraft, includes access points, boat launches, day use areas and sometimes overnight camping locations on the four islands in the lake
- Provide access to, and promote awareness of, opportunities for public participation and enjoyment of recreational fishery resources
- Support outreach programs designed to stimulate angler participation in the conservation and restoration of aquatic systems
- Develop and encourage partnerships with the private sector to advance aquatic resource conservation and enhance recreational fishing opportunities

Habitat modifications

- Improve habitat and water quality to support viable, healthy, and, where feasible, self-sustaining recreational fisheries
- Manage wildlife and wildlife habitats on public lands in a manner that expands and enhances hunting opportunities
- Prepare for increase in non-recreational requests (e.g. natural gas transmission lines)
 - Coordinate early to communicate Corps land use policies, identify ESAs and FWSs, develop mitigation plans
- Continuously monitor for invasive species
 - Focus on aquatic plants: Hydrilla is now present in the Ohio and Monongahela rivers, as well as most PA state parks
- Focus on conservation and preservation
 - Continuously work to identify Environmentally Sensitive Areas (ESAs) and Fish and Wildlife Sanctuaries (FWSs)
 - Protect open space and wildlife habitat
 - Identify opportunities for increasing regional greenways

Maintenance and visitor safety improvements

- Integrate emergency management
 - Improve communications

- Support rescue efforts and training
- Aid visitors and responders with improved signs (i.e. body of water, river mile, etc.)
- Consider response efforts in recreation resource development
- Signage improvements
- Maintenance of existing park and recreation facilities
 - Road repair and improvement
 - Identify partnering opportunities
 - Identify project areas with low use and degraded facilities; divest when appropriate

Outreach

- Continuously improve, develop, and support educational programs to support green-collar workers
 - Provide venue for environmental education
 - Provide opportunities for renewable energy
- Continuously work to stay engaged and further coordination efforts with external partners, including the Ohio Department of Natural Resources, Portage County, Ohio Buckeye Trail Association, West Branch State Park Marina, and other civic, conservation, and recreational groups

3 Affected Environment

3.1 Physical Environment

3.1.1 Hydrology and Floodplains

See MP sections 2.1 Hydrology and 2.3.7 Water Quality & Sedimentation for information.

3.1.2 Water Quality

See MP section 2.3.7 Water Quality & Sedimentation for information.

3.1.3 Air Quality

Michael J. Kirwan Dam and Reservoir is located in a generally rural area of Ohio that exhibits fair air quality compared to more urbanized areas. There are only minor sources of air contamination within the project area, primarily associated with vehicles. The following table provides current air quality standards for six principal air pollutants, as defined by the Clean Air Act, and their current levels (i.e., “status”), averaged across Armstrong, Indiana, and Jefferson Counties. The National Ambient Air Quality Standards (NAAQS) are the concentrations of these principal pollutants, above which, adverse effects on human health may occur.

Table EA- 2. National Ambient Air Quality Standards (NAAQS) and air quality status (either attained on non-attained) for Portage County as of Feb. 13, 2017.

Pollutant	NAAQS (standards)	Averaging Time	Status (County) *
Carbon Monoxide (as of 2011)	9 ppm (10 mg/m ³)	8-hour	Full Attainment
	35 ppm (40 mg/m ³)	1-hour	Full Attainment
Lead (as of 2008)	0.15 µg/m ³	Rolling 3-Month Avg	Full Attainment
Nitrogen Dioxide (as of 2010)	53 ppb	Annual	Full Attainment
	100 ppb	1-hour	Full Attainment
Particle pollution (PM ₁₀ as of 2012)	150 µg/m ³	24-hour	Full Attainment
Particle pollution (PM _{2.5} as of 2012)	12.0 µg/m ³	Annual	Full Attainment
	35 µg/m ³	24-hour	Full Attainment
Ozone (as of 2008)	0.075 ppm	8-hour	Full Attainment
Sulfur Dioxide (as of 2010)	75 ppb	1-hour	Full Attainment

*Status obtained from the USEPA Green Book
(<https://www3.epa.gov/airquality/greenbook/qbstateb.html>)

3.1.4 Climate

The climate in the project area is temperate and humid, with an appreciable seasonal variation in temperature. It is geographically in a region of variable frontal activity, being subjected to alternate polar and tropical air-mass invasion. The prevailing wind direction is from the west or has a westerly component. Summer precipitation is usually associated with thunderstorms resulting from convectional activity, and is generally confined to small areas, with short durations and high intensities. In the late fall, winter, and early spring months, precipitation is usually the result of the passage of low-pressure system over the basin. Occasional stagnation and stationary development produce prolonged precipitation. Snowmelt is frequently a contributing factor to winter and early spring flood runoff. There is a possibility of serious flooding during any season of the year. However, the frequency of flooding is highest during the late winter-early spring season.

The future effects of anticipated climate change on water resources are of increasing concern. It is considered highly likely that the region will continue to warm throughout the 21st century, with temperature increases projected to occur relatively evenly throughout the year. Such change may impact interconnected hydrologic aspects, including: precipitation, snowpack, runoff, soil moisture & drought, evapotranspiration, groundwater, stream temps, floods and water quality.

Generally, it is possible that the region's climate will become warmer and more extreme in the future, with longer dry periods and precipitation events of greater intensity. The most significant effects predicted for stream and wetland communities are increased water temperature and increased variability of the water environment. The latter may be reflected in changing seasonal patterns of water levels, reduced stream flows during dry periods, higher magnitude floods and longer droughts.

3.1.5 Geology, Topography and Soils

See MP section 2-2 for information.

3.1.6 Noise

The area surrounding Michael J. Kirwan Dam and Reservoir is mainly rural, and there are no apparent intrusive noise sources from around the lakes. At the lakes themselves, noise sources include water passing through the outflow, watercraft motors, vehicular traffic, and human voices at areas of concentrated use (for example, day use areas and campgrounds). Noises along the creek vary as a function of proximity to human noise sources, as sections by more populated areas or transportation corridors can have substantial noise from those sources.

3.1.7 Hazardous Materials

The EPA's Envirofacts website lists no specific sites within close proximity to Michael J. Kirwan Dam and Reservoir. As there are no specific plans to develop federal lands and adjacent properties are undeveloped, the potential for discovery of hazardous materials is remote. In the

event that any developments on Corps property are proposed, however, Federal law requires site-specific due diligence on a case-by-case basis before development can occur. Hazardous materials are regulated by the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act, Oil Pollution Act, Toxic Substances Control Act, and related guidelines established by the Corps and Ohio. Any change in the storage or use of hazardous materials must comply with these regulations.

3.2 Biological Environment

3.2.1 Fish and Wildlife

See MP section 2.3.1 for information.

3.2.2 Terrestrial Vegetation and Land Cover

Lands at Michael J. Kirwan Dam and Reservoir are predominately vegetated by deciduous forest. The following table lists the vegetation type and amount of acres at each project.

Table EA- 3. Terrestrial Vegetation Types

Predominant Vegetation Type	Acres
Herbaceous	3479
Deciduous Forest	31,088
Deciduous Shrub land	849
Evergreen Forest	290
Hay/Pasture	10,908
Mixed Deciduous-Evergreen Forest	14

Land Cover within the watershed consists of a variety of forested, agricultural, and developed areas. A land cover map is located in Appendix A, Plate 9.

3.2.3 Threatened and Endangered Species

See MP section 2.3.3 and Table 2-1 for information.

3.2.4 Invasive Species

See MP section 2.3.4 for information.

3.2.5 Wetlands

See MP section 2.3.6 for information.

3.3 Community Setting

3.3.1 Cultural Resources

See MP section 2.4 for information.

3.3.2 Socio-Economic Profile

See MP sections 2.5 and 2.6 for information.

3.3.3 Recreation

See MP section 2.7 for information.

3.3.4 Transportation

Located approximately 90 minutes away from Downtown Pittsburgh, Michael J. Kirwan Dam and Reservoir is bounded by several roads including Ravenna-Warren Road, Wayland Road, and Rock Spring Road. The Ohio Turnpike is 4 miles from the Project. Developed roads and parking lots exist on project lands. These roads and parking lots are confined to areas that support developed recreational sites. The undeveloped portions of the project have limited transportation infrastructure. The transportation corridor map is in Appendix A, Plate 11.

4 Environmental Consequences

This section describes and compares effects of the alternatives to existing conditions within each environmental media category. NEPA requires consideration of context, intensity, and duration of adverse and beneficial impacts (direct, indirect, and cumulative) and measures to mitigate for impacts. These elements are considered in the following impact analysis.

Adoption of the proposed MP would help define the approval process for future actions affecting project lands, depending on whether the actions are 1) specifically included in the MP, 2) not included in the MP, but consistent with the Plan, or 3) not included and not consistent with the recommendations, objectives and policies stated in Corps regulation. For actions that are identified in the MP, the approval process would still require adequate NEPA consideration (whether categorically excluded or requiring an additional tiered EA) and compliance with other environmental laws and regulations prior to initiating construction.

The following table presents a summary of potential impacts. Impacts are described in detail by environmental media category:

Table EA- 4. Summary of Impact Analysis for Alternatives

Resource	No-Action Alternative	Balanced Conservation/Recreation
<i>Physical Environment</i>		
Hydrology & Flood Plains	No Impact	No Impact
Water Quality	Potential long-term degradation from outdated planning	No Impact
Air Quality	No Impact	No Impact
Climate	No Impact	No Impact
Geology, Topography, & Soils	No Impact	No Impact
Noise	No Impact	No Impact
Hazardous Materials	No Impact	No Impact
<i>Biological Environment</i>		
Fish & Wildlife	Potential long-term degradation from outdated planning	Beneficial Impact
Terrestrial Vegetation & Land Cover	Potential long-term degradation from outdated planning	Beneficial Impact
Threatened & Endangered Species	No Impact	No Impact
Invasive Species	No Impact	Beneficial Impact
Wetlands	No Impact	No Impact
<i>Community Setting</i>		
Cultural Resources	No Impact	No Impact
Socioeconomic Profile	Potential long-term degradation from outdated planning	No Impact
Transportation	No Impact	No Impact
Recreation	Minimal Adverse Impact	Beneficial Impact

4.1 Physical Environmental Impacts

4.1.1 Hydrology and Floodplains

No-Action, Balanced Conservation/Recreation. Neither alternative would have a significant impact to hydrology or floodplains. In order to meet the missions of the Corps and the other management partners, many developed sites and facilities are located within the floodplain. Most of these structures have been designed to withstand and not interfere with the conveyance of floodwaters. This is important, as periodically it becomes necessary for these lands to be flooded to achieve the Corps' flood risk management purpose. All actions occurring within floodplains must be consistent with EO 11988, Floodplain Management, and related Corps policy. Any construction activities would not impede the flood storage capacity of the Project. This would include improvements to existing recreation facilities, addition of buildings/facilities to previously disturbed areas, addition or improvement to boat launches, and maintenance dredging and disposal of sediment.

4.1.2 Water Quality

No-Action. No significant impact to water quality would occur. The Corps would continue to operate the Project, but without the benefit of an updated MP as guidance for management decisions. Without an updated MP, it is possible that Project-wide consideration of individual actions may be lost due to outdated methodology, leading to an overall degradation of water resources over time.

Balanced Conservation/Recreation. No significant impact to water quality is anticipated. For the known proposed activities noted in Section 2 (terrestrial recreation development, aquatic recreation development, habitat modifications, maintenance and safety improvements, and outreach) overall water quality benefits are expected. Some construction activities, such as trail construction, may have temporary adverse impacts to water quality. However, these impacts would be minimal as construction would be done with an approved erosion and sedimentation plan, as needed. Clean Water Act permits would be completed, as needed, when project specific information is obtained. Removal of invasive species would only be undertaken using herbicides approved for aquatic use and in approved doses to ensure impacts to water quality are avoided. Habitat improvement projects and thoughtful management of non-recreational requests are expected to have direct benefits to water quality. Additionally, increased outreach and public education regarding water resource vulnerability can increase awareness and sensitivity, as well as community feelings of responsibility, ownership, and protection of the resource.

4.1.3 Air Quality

No-Action, Conservation/Low-Density Development. Air quality within the project boundary can be influenced by exhaust from motor vehicles and boats, the use of grills and fire pits. The large open area that is created by the reservoir allows for strong breezes to blow through the project area. These breezes can rapidly reduce and/or eliminate any localized air quality concerns caused by these pollutants. Neither the No-Action Alternative nor the Balanced Conservation/Recreation alternatives would have significant adverse impacts to air quality.

4.1.4 Climate

No-Action, Balanced Conservation/Recreation. None of the alternatives will significantly impact current or future expected climate conditions.

4.1.5 Geology, Topography and Soils

No-Action, Balanced Conservation/Recreation. No impacts will occur to geology, topography or soils from either alternative.

4.1.6 Noise

No-Action, Balanced Conservation/Recreation. Neither of the alternatives would have a significant impact on existing noise levels. Construction activities and habitat maintenance activities could have local, temporary impacts. Additionally, trail development could lead to increased human access and noise to new areas of the Project, particularly any heritage trail

development. By avoiding any known sensitive areas, such as nesting sites or culturally important quiet areas, and using adaptive management as needed to correct any unforeseen impacts, no significant impact to noise levels is expected.

4.1.7 Hazardous Materials

No-Action, Balanced Conservation/Recreation. No impacts are expected to hazardous materials from any alternative. As needed, further site-specific reviews of any development site would be conducted for compliance with the Comprehensive Environmental Response, Compensation and Liability Act and Corps real estate requirements (Environmental Condition of Property/Preliminary Assessment Screening).

Additionally, thoughtful preparation and planning for the projected increase in non-recreational requests (e.g. natural gas transmission lines) will protect the Project resources from any negative impacts. Designation of ESAs and FWSs will protect the most sensitive sites on Project lands.

4.2 Biological Environmental Impacts

4.2.1 Fish and Wildlife

No-Action. No significant impact to fish and wildlife would occur. The Corps would continue to operate the Project but without the benefit of an updated MP as guidance for management decisions. Without an updated MP, it is possible that Project-wide consideration of individual actions may be lost due to outdated methodology, leading to an overall degradation of the land and water resources over time.

Balanced Conservation/Recreation. These alternatives would have an overall beneficial impact on fish and wildlife resources through a systematic approach to management of Project land and water resources. The monitoring, adaptive management and habitat improvement efforts will all have beneficial impacts. Protection and management of sensitive areas through the designation of ESAs and FWSs will also be beneficial. Additionally, increased outreach and public education regarding fish and wildlife resources can increase awareness and sensitivity, as well as community feelings of responsibility, ownership, and protection of the resource.

Construction activities associated with the planned projects would have short duration negative impacts due to increased noise and human disturbance. Also the development of new trails into new areas of the Project could disturb individual animals. Prior to any clearing of trees or construction activities, surveys for nesting birds or protected species would be conducted as necessary to ensure compliance. By avoiding sensitive areas and sensitive seasons (nesting, bat roosting, etc.) and using adaptive management as needed to correct any unforeseen impacts, no significant impact to fish and wildlife is expected.

4.2.2 Terrestrial Vegetation and Land Cover

No-Action. No significant impact to vegetation and land cover would occur. The Corps would continue to operate the Project but without the benefit of an updated MP as guidance for

management decisions. Without an updated MP, Project-wide consideration of individual actions may be lost, leading to an overall degradation of the land over time.

Balanced Conservation/Recreation. Vegetation would be surveyed and a management plan implemented under these alternatives. Removal of invasive species and addition of environmentally sensitive areas would improve native terrestrial vegetation within the area. Additionally, increased outreach and public education can increase awareness and sensitivity, as well as community feelings of responsibility, ownership, and protection of the resource.

Proposed construction and maintenance activities could have local impacts to vegetation, however in the context of the overall size of the natural areas within the Project, these impacts would not be significant.

4.2.3 Threatened and Endangered Species

No-Action, Balanced Conservation/Recreation. Neither of the alternatives would have any effect on threatened or endangered species. Best management practices, to include seasonal restrictions on vegetation removal, would insure that no impact would occur. Any recommended development actions that may impact protected species would require consultation with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act once site specific details are available.

4.2.4 Invasive Species

No-Action. The original MP does not address invasive species, and is out of date and non-compliant with current laws and regulations. However, under the No Action alternative the District would continue to implement best management practices with regards to invasive species management.

Balanced Conservation/Recreation. The Preferred Alternative would address invasive species issues and will follow current District policy by using adaptive and best management practices in prevention, education, early detection, rapid response, and containment to try to control and manage invasive species. Overall a positive effect with regard to reducing the prevalence of invasive species is anticipated as a result of the preferred alternative.

4.2.5 Wetlands

No-Action, Balanced Conservation/Recreation. Neither alternative would impact wetlands. Wetlands are regulated under Section(s) 401 and 404 of the Clean Water Act. Section 401 Water Quality Certification ensures compliance with water quality standards. Section 404 regulates activities within Waters of the U.S., which includes Michael J. Kirwan Dam and Reservoir and their surrounding tributaries. Further direction is provided by EO11990: Protection of Wetlands and related Corps regulations. Recommendations included within the Preferred Alternative will need to comply with Clean Water Act regulations and permitting prior to initiation of construction. Any proposed development would avoid impacting wetlands. If wetland impacts could not be avoided, further analysis and coordination would be needed for that action.

4.3 Community Setting Impacts

4.3.1 Cultural Resources

No-Action. The No-Action Alternative would have “No Effect” on historic or archeological resources.

Balanced Conservation/Recreation. Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations 36 CFR Part 800 require Federal agencies to take into account the effect of an undertaking on historic and archeological resources if that Project is under the direct or indirect jurisdiction of the agency or has been licensed or assisted by that agency. The recreation recommendations contained within the Low- and High-Density Development alternatives would include site specific coordination in accordance with the Section 106 process. The Preferred Alternative would also have a beneficial impact on cultural resources by allowing these locations to be managed accordingly. Development of heritage trails would occur in such a way as to protect sensitive resources and would use adaptive management as needed to correct any unforeseen impacts. No significant impact to cultural resources would be expected

4.3.2 Socio- Economic Profile

No-Action. No significant impact to socioeconomics would occur. The Corps would continue to operate the Project but without the benefit of an updated MP as guidance for management decisions. Without an updated MP, it is possible that Project-wide consideration of individual actions may be lost due to outdated methodology, leading to an overall degradation of the land and water resources over time. Degradation of the resources could potentially reduce the recreation opportunities and, therefore, recreation related business opportunities.

Balanced Conservation/Recreation. The Preferred Alternative would not adversely impact regional socioeconomics, minority populations, low-income populations or children. Future plans could enhance concessions in the area with a likely small positive impact to the local economy.

4.3.3 Transportation

No-Action, Balanced Conservation/Recreation. Neither alternative would impact transportation. Recommendations for improvements and construction projects could have short-term adverse impact on transportation within the region from traffic diversions during construction; however, no significant long-term adverse impacts are anticipated.

4.3.4 Recreation

No-Action. Although maintenance of current recreational facilities would continue under the No-Action Alternative, continued use of the existing MP would not accurately reflect the current status of facilities or existing and future recreational needs, which would impact the recreation activities within the project area. The Corps would continue to operate the Project but without the benefit of an updated MP as guidance for management decisions. Without an updated MP, it

is possible that Project-wide consideration of individual actions may be lost, leading to an overall degradation of the land and water resources over time.

Balanced Conservation/Recreation. The recreational needs of the public would be better accommodated through the implementation of the Preferred Alternative. Potential beneficial impacts include modernizing and upgrading existing facilities and increased management of natural resources through some of the Resource Plan recommendations.

4.4 Cumulative Impacts

The CEQ regulations that implement NEPA require assessment of cumulative impacts in the decision-making process for Federal projects. Cumulative impacts are defined as impacts which result when the impact of the preferred alternative is added to the impacts of other present and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR 1508.7).

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impacts of activities in and around Michael J. Kirwan Dam and Reservoir. Past actions include the construction and operation of the reservoir and the construction of the surrounding recreation areas. Concurrent regional development included construction of residential, commercial, and industrial facilities throughout the region. All of these developments have had varying levels of adverse impacts on the physical and natural resources in the region. Many of these developments, however, have had beneficial impacts on the region's socioeconomic resources. In addition, many of the historic impacts have been offset throughout the years by the resource stewardship efforts of the District, the Ohio Division of Natural Resources.

The development of the dam and reservoir created new natural and physical conditions, and altered Mahoning Creek's hydrology, which, through careful management by the District and other management partners, have created new and successful habitats and other natural resource conditions. The District and the other management partners have also brought a wide variety of high-quality recreational opportunities to the reservoir.

Existing and future actions also contribute to the cumulative impacts in and around the reservoirs. Existing and future actions include the operation of project facilities, upgrades and maintenance of recreation sites, as well as residential, commercial, and industrial development throughout the region.

Under the No-Action Alternative (baseline conditions), project operations would continue, somewhat inefficiently, using out-of-date guidance that is not agile and slow to respond to potential environmental changes. Consequently, threats such as invasive species could establish prior to detection and remediation, potentially harming local ecosystems in the process. Existing recreational activities would continue, but no new types would be generated. Modernized

emergency response systems would not be implemented, thus leaving safety degraded. No new visitors who would otherwise be a benefit for the local economy would be attracted.

Under the Balanced Conservation/Recreation Alternative, ongoing project operations would be enhanced by new processes for efficient management of environmental resources and integrating any future recreational activities in a manner with minimal adverse impacts. Such a system would be responsive to both changes in the environment and recreational demands. The emphasis on conservation will preserve the region's aesthetics, maintain thriving ecosystems and habitats, and enhance recreation activities. The planned approach will continue to attract visitors and potentially bring in new ones, benefitting the local economy. The programmatic approach to project management, included in this EA and attached MP, would allow for future development plans and mitigation responses to be adapted to address any adverse actions. This would allow the District and other management partners to continue to reduce the negative contribution of its activities to regional cumulative impacts through proactive actions and adaptive resource management strategies.

4.5 Compliance with Environmental Statutes

Federal Policy	Compliance Status
Archaeological and Historic Preservation Act, 16 U.S.C. 469, et seq.	Full Compliance
Bald and Golden Eagle Protection Act, 16 U.S.C. 668-668c	Full Compliance
Clean Air Act, as amended, 42 U.S.C. 1857h-7, et seq.	Full Compliance
Clean Water Act, 33 U.S.C. 1857h-7, et seq.	Full Compliance
Comprehensive Environmental Response, Compensation, and Liability Act 42 U.S.C. 9601 et seq.	Full Compliance
Endangered Species Act, 16 U.S.C. 1531, et seq.	Full Compliance*
Federal Water Project Recreation Act, 16 U.S.C. 460-1(12), et seq.	Full Compliance
Fish and Wildlife Coordination Act, 16 U.S.C. 601, et seq.	Full Compliance*
Land and Water Conservation Fund Act, 16 U.S.C. 460/-460/-11, et seq.	Full Compliance
Migratory Bird Treaty Act 16 U.S.C. 703-712	Full Compliance
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full Compliance**
National Historic Preservation Act, 16 U.S.C. 470a, et seq.	Full Compliance*
River and Harbors Act, 33 U.S.C. 403, et seq.	Full Compliance
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	Not Applicable
Wild and Scenic Rivers Act, 16 U.S.C. 1271, et seq.	Full Compliance
Flood Plain Management (EO11988)	Full Compliance
Protection of Wetlands (EO11990)	Full Compliance*
Environmental Justice in Minority Populations and Low-Income Populations (EO12898)	Full Compliance
Invasive Species (EO13112)	Full Compliance

*Having met all requirements for this stage of planning, but future recommendations contained within this EA may require additional action for compliance.

**Full compliance anticipated after public review and District Commander signs FONSI.

5 Coordination and Public Involvement

Agency and public involvement was initiated in 2017, when the District published notices announcing Plan to revise the MP. This notice was followed by public comment periods, agency meetings, and additional public open houses. These public involvement activities and comments are described in detail in section 6, Agency and Public Coordination of the MP and Appendix A, Agency and Public Coordination.

The Michael J. Kirwan Dam and Reservoir MP, Environmental Assessment, and draft Finding of No Significant Impact will be circulated for a 30-day public review period.

6 Conclusion

The Conservation/Low-Density Development Alternative meets currently foreseeable recreation and environmental stewardship needs and addresses environmental issues, with no significant environmental impacts anticipated. The recommended alternative also brings the MP into compliance with updated Corps regulations. An Environmental Impact Statement is not required and a Finding of No Significant Impact (FONSI) will be prepared.

DRAFT