Lake Red Rock Project

MASTER PLAN

APPENDIX A

Environmental Assessment

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ENVIRONMENTAL ASSESSMENT

DES MOINES RIVER WATERSHED

KNOXVILLE, IOWA

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COVER SHEET

Proposed Actions (Project)	*Lake Red Rock Master Plan* - Adopt and implement the Master Plan revision which includes reclassification of U.S. Army Corps of Engineers-managed lands and lays out future recommendations for management activities.
Type of Statement:	Environmental Assessment
Lead Agency	U.S. Army Corps of Engineers, Rock Island District (Corps)
For Further Information:	Wendy Frohlich, Biologist Economic & Environmental Branch U.S. Army Corps of Engineers Rock Island District Clock Tower Bldg. PO Box 2004, Rock Island, IL 61204-2004 Phone: (309) 794-5573 E-mail: wendy.m.frohlich@usace.army.mil
Abstract:	This EA seeks to evaluate resources in the project area for potential effects that may be caused by the adoption and implementation of the proposed Master Plan revision. Implementing the Master Plan will provide a vital tool for the responsible stewardship of resources at Lake Red Rock to benefit present and future generations. The following factors were taken into account when forming resource objectives, development needs, and alternatives to be evaluated in the environmental analysis: 1) meeting project purposes; 2) minimizing adverse environmental impacts; 3) taking into account public interests and regional plans; and 4) complying with relevant laws and regulations. This EA determined that there would be no significant impacts and that no mitigating actions or permits would be required by adoption and implementation of the Master Plan.

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1.0. PURPOSE OF AND NEED FOR ACTION

1.1. Project Location. Lake Red Rock is located in central Iowa, with managed lands and waters spreading across four counties: Marion, Warren, Polk, and Jasper. Lake Red Rock is a reservoir on the Des Moines River, approximately 16 miles downriver from Des Moines and 143 miles upstream from its confluence with the Mississippi River (Figure EA-1).

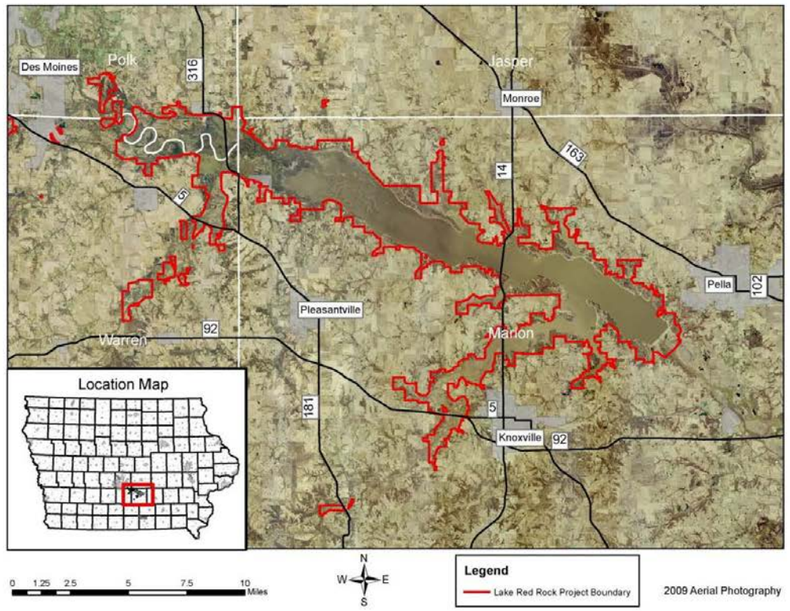

Figure EA-1. Lake Red Rock Master Plan Project Area Map

1.2. Proposal for Federal Action. The Corps proposes to adopt and implement a revision of the Lake Red Rock Master Plan. The Master Plan applies changes to the land classifications, most notably the addition of sensitive area classifications and future recommendations for management actions. The Master Plan deals in concepts, not details of design or administration. It projects what could and should happen over the next 15 to 25 years through recommendations for future management activities. Detailed management and administration functions are addressed in the Operational Management Plan (OMP) (Figure EA-2), which implements the concepts of the Master Plan through management actions for both recreation and natural resources.

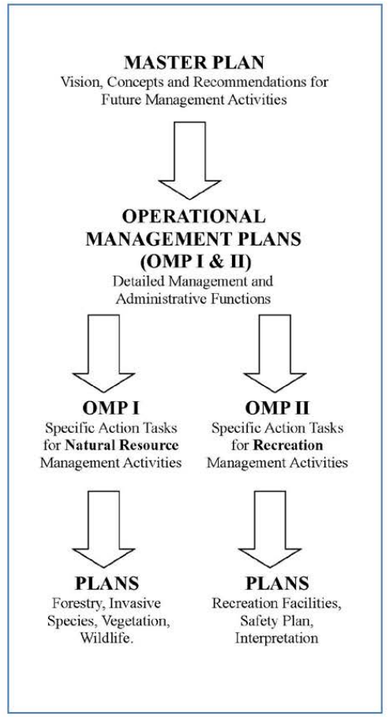

Figure EA-2. Operational Management Plan

1.3. Need for Proposed Action. The Master Plan is a vital tool for the responsible stewardship of resources at Lake Red Rock to benefit present and future generations. The Plan provides guidance and includes direction for appropriate management, use, development, enhancement, protection, and conservation of the natural, cultural, and man-made resources at Lake Red Rock. The 1976 Master Plan focused on initial construction of recreation areas and management of natural resources. The objectives for management have changed since 1976. For example, one objective was to increase Canada goose populations. Current focus is on managing for a sustainable environment, maintaining traditional recreation areas, developing new recreation opportunities, and establishing natural and human connections. The revised Master Plan seeks to replace the 1976 Master Plan and provide a balanced, up-to-date management plan that follows current Federal laws and regulations while sustaining Lake Red Rock's natural resources and providing outdoor recreational experiences.

1.4. Background. The Corps is responsible for the maintenance, restoration, and stewardship of natural resources on the flood control projects it manages. To facilitate the management and use of these lands the Corps maintains a Master Plan for the reservoir project. The original Master Plan for Lake Red Rock was approved in May of 1968, with a revision completed in December of 1976, and was intended to serve as a guide for the orderly and coordinated development and management of all land and water resources of Lake Red Rock. The Master Plan provides a programmatic approach to

the management of all of the lands included within the Lake Red Rock boundary. Therefore, for the purposes of this Environmental Assessment, the project area includes all of the area within the reservoir boundary. The Lake Red Rock project has approximately 53,000 acres of land and water, which includes 40% managed by Iowa DNR, 4% managed by the Marion County Conservation Board (MCCB) and reminder managed directly by the Corps. Lands managed by other agencies are under a lease agreement from the Corps to facilitate stewardship and expand outdoor recreation opportunities.

The 1976 Master Plan focused on construction and development of recreation areas and is now over 38 years old. A revised Master Plan will present current data on existing conditions, anticipated recreational use, type of facilities needed to service the anticipated use, and an estimate of future needs. Over the last 38 years, the majority of the recreation areas and facilities have been constructed. A few of the planned facilities were not developed due to change in public needs and resource compatibility. During that time, the Corps has also updated its policies directing the development and implementation of Master Plans. This includes updating the categories of Land Classifications used to define project lands. In order to meet these new directives and comply with Corps policy requiring regular updates to a Master Plan, the Corps proposes to adopt the revised Master Plan at Lake Red Rock.

This EA addresses the proposed adoption and implementation of the Master Plan for Lake Red Rock. This EA further analyzes the potential impact that implementing the Master Plan would have on the natural, cultural, and human environment. This document has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended; regulations of the Council on Environmental Quality (CEQ, 2005); and Corps regulations, including Engineer Regulation 200-2-2 (USACE, 1988), Procedures for Implementing NEPA. This EA relies on the attached Lake Red Rock Master Plan for cross reference.

The typical focus of NEPA compliance consists of environmental impact assessments for individual projects, rather than for long-range plans. However, application of NEPA to earlier and more strategic decisions not only meets the CEQ implementing regulations (CEQ, 2005) and Corps regulations for implementing NEPA (USACE, 1988), but also allows the Corps to begin considering the environmental consequences of their actions long before any physical activity is planned. Multiple benefits can be derived from such early consideration. Effective and early NEPA integration with the master planning process can significantly increase the usefulness of the Master Plan to the decision maker, if environmental information can be provided to the correct individuals at the right time and in the right form. If such utility can be realized, organizational outcomes, such as support for the project mission and NEPA compliance can be improved.

Environmental documents prepared concurrently with the Master Plan can influence and modify strategic land use decisions, whereas environmental documents prepared after the Master Plan would have little influence on strategic decisions already made. The intention of the Master Plan is to develop land classifications that will guide the sustainable development of resources within the Lake Red Rock Project. It is not feasible to define the exact nature of potential impacts for all potential actions prior to receiving specific project proposals. Therefore, environmental consequences may be less than or may, in fact, exceed what is described in this EA. To ensure future environmental consequences are identified and documented as accurately as possible, additional NEPA coordination will be conducted, as appropriate, for future projects that are the result of this proposed Master Plan.

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1.5. Proposed Action Objectives. The goals of the proposed Master Plan are to provide for the responsible stewardship of resources at Lake Red Rock to benefit present and future generations. The Master Plan provides guidance and includes direction for appropriate management, use, development, enhancement, protection, and conservation of the natural, cultural, and man-made resources at Lake Red Rock based on regional and local needs, resource capability and suitability, and expressed public interests consistent with authorized project purposes and pertinent legislation and regulations.

The following objectives are specific to master planning. Refer to Chapter 3 of the Red Rock Master Plan for management goals pertaining to environmental stewardship and recreation resources.

The U.S. Army Corps of Engineers (USACE) objectives for the proposed Master Plan are to:

- Comply with Engineer Regulation (USACE, 2013) 1130-2-550 Project Operations-Recreation Operations and Maintenance Guidance and Procedures which was last updated on January 30, 2013;
- Provide District-level policy consistent with national objectives and other state and regional goals and programs;
- Use the Master Plan to guide and keep current the OMP, which provides detailed management and administrative functions;
- Identify conceptual types and levels of activities for future recommended use and management;
- Provide consistency to all actions proposed on Federal lands by the Corps, agencies, and individuals granted leases to Corps managed lands (out-grantees); and
- Ensure the Corps' Environmental Operating Principles (USACE, 2012) to manage, conserve, and improve environmental, cultural, and archeological resources at Corps' reservoir projects are achieved.

1.6. Related National Environmental Policy Act (NEPA) Documentation.

The Environmental Impact Statement titled *Operations and Maintenance, Red Rock Dam and Lake Red Rock, Des Moines River, Iowa, 1975*, addressed impacts of the Rock Island District's operation and maintenance of Lake Red Rock. In general, this involves regulation of lake levels for flood control, recreation, and downstream flow augmentation. It also consists of routine maintenance of structures, recreation developments and facilities, and operation and maintenance of areas for management of fish and wildlife resources.

The Environmental Assessment (EA) prepared by the Rock Island District titled *Lake Red Rock Marina Cove Flood Recovery, Marion County, Iowa, 2010* addressed impacts related to relocating the Lake Red Rock Marina water based and land based facilities deeper into the Marina Cove in order to reduce high water damage to the marina facilities and reduce repeated repairs.

The Rock Island District prepared an Environmental Assessment (EA) titled *Lake Red Rock Master Plan Supplement for the Hickory Ridge Acquisition and Reclassification of Adjacent U.S. Army Corps of Engineers Managed Land, Marion County, Iowa, 2011*, which addressed classification of a new

land acquisition and reclassification of the surrounding Corps managed lands from Reserve Forest to Multiple Use: Recreation Low Density.

1.7. Decision. The Corps must consider and decide whether to accept the Master Plan not only to comply with current regulation but also guide appropriate management of the natural, cultural, and man-made resources at Lake Red Rock. Ultimately the Corps must decide to implement one of the following alternatives:

- Not approve the revised Master Plan, allowing the 1976 Master Plan to continue to provide the only source of comprehensive management guidance and philosophy. The 1976 Master Plan was a development focused document and prevents a proactive approach to guide current management. **(No Federal Action)**
- Approve the revised Master Plan with a natural resource focus, replacing the 1976 Master Plan. This alternative would provide management an up to date document which is focused on environmental protection and conservation through classifying high acreage amounts of Lake Red Rock managed lands as environmentally sensitive and/or multiple resource management – wildlife management. Future management recommendations (15-20 years) would not include any new high density or low density recreation activities. **(Natural Resource Focus)**
- Approve the revised Master Plan with a recreation focus, replacing the 1976 Master Plan. This alternative would provide management an up to date document which is focused on recreation through classifying high acreage amounts of Lake Red Rock managed lands as either high density or low density recreation. This would open up more lands for intensive use which would have higher impacts to natural resources but would allow for higher recreational usage. Few acres would be considered environmentally sensitive and some of the current wildlife management areas could be opened for development. **(Recreation Focus)**
- Approve the revised Master Plan with a **balanced** focus on natural resources and recreation, replacing the 1976 Master Plan. This alternative would provide management an up to date document which is based on current regional and local needs, resource capability and suitability, public interests consistent with authorized project purposes, and regulations. **(Preferred Alternative)**

1.8. Scoping and Significant Issues. Public involvement began May of 2011 when the Corps announced its plan to revise the Master Plan. The Corps has involved the public, coordinated with, Federal, State, local agencies and communities in the revision process. The Corps held public and agency scoping meetings from about May 2011 to December 2011. Many different means were used in order to obtain public and agency input into the master planning process, these included: a web page, focus groups, news releases, local media, comment boxes, and one-on-one communication.

A public meeting was held in December 2012. The announcement was mailed and/or e-mailed directly to congressional interests; adjacent landowners; Tribes; Federal, State and local governmental agencies; businesses; environmental organizations, media and the general public inviting them to attend an open house. It was also advertised through press releases and published in newspapers. Results and specifics regarding Agency and Public Scoping can be found in both Chapter 7 and Appendix B of the Master Plan.

1.8.1. Concerns That Arose During Agency and Public Scoping[1]

- Concern that Lake Red Rock is experiencing high rates of sedimentation, "filling in" faster than it should. Concerns were expressed regarding the impacts of activities both on and off Corps-managed lands that impact natural resources. For example, siltation, pollution from runoff (water quality), and erosion (upstream and shoreline).
- Concern was expressed by both the public and agencies regarding the management needed to control the spread and also the damage to habitat and native species caused by invasive species at Lake Red Rock and the region.
- Concern for Lake Red Rock's natural resources and availability of those natural resources to the public. There was concern that public hunting acreages would decrease. A strong sense of place and protecting Lake Red Rock's natural resources was represented by numerous comments many of which came from children living near Red Rock (see School Children Input Appendix B).
- Concern by the public for improved fishing opportunities at Lake Red Rock to include improved habitat (management and rearing ponds), shoreline access, and amenities (docks, cleaning stations, etc). The Iowa DNR expressed concern over the transport of non-native fish (e.g., Bighead and Silver carp), fish kills related to dissolved gas from tailrace, and anglers snagging the State Endangered Lake sturgeon.
- Concern for improvements and continued maintenance of Lake Red Rock's recreation facilities. Stated desires to maintain what is currently available and future expansion in these areas: marina, rentals, trails (including soft, hard, water, equestrian, and all terrain vehicle), concessions, an updated archery range were expressed. The Iowa DNR also provided input for future improvements and long term goals for water trails.
- Concern for habitat fragmentation both at Lake Red Rock and the region which will impact the quality of the environment for both wildlife and people seeking outdoor experiences, i.e. specifically, the need for green space and a place to "get away".
- Concerns over wayfinding and signage, many people commented on the number of tourists getting lost on the way to Red Rock.
- Concern or requests to have more interpretive programming and/or kiosks in and around Lake Red Rock.
- Concern that access (roads and walk-in areas) to public land will be limited or is decreasing through loss of right of way or right of entry easements.
- Concern over water level management.

[1] The list is not in order of importance. The list is also not exhaustive, but focuses on the issues that were mentioned the most during scoping and/or were specifically addressed in the Master Plan and this EA.

1.8.2. Proposed Solutions to Issues and Concerns. The master planning team used its experience and expertise to work through the issues that arose during public scoping. Responses from the public were received and taken into consideration when considering management options and alternatives. The Corps invited comments on this decision-making process from several Federal, State, and local agencies as well (Figure EA-3).

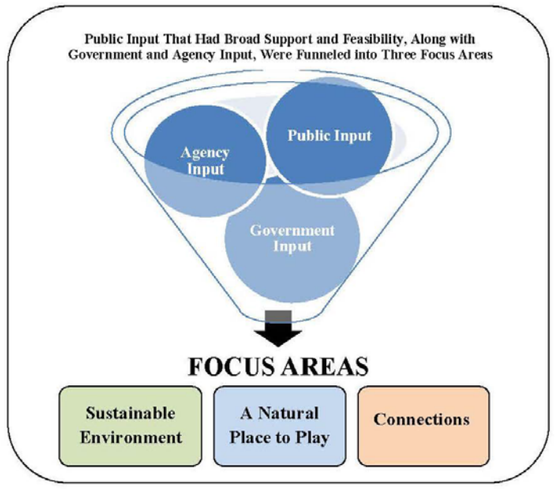

Figure EA-3. Public, Agency, and Government Input

Following are some of the proposed solutions to the issues and concerns expressed by the public. The Corps endeavored to balance the needs of all user groups to the greatest extent possible within the constraints of the primary mission, which is flood risk management. Water management policies are laid out in the Des Moines River Master Manual which establishes procedures established by the Corps' Mississippi River Division. Therefore, water management is not addressed in the Master Plan. The Master Plan focuses primarily on recreation management and the management and stewardship of natural and historic resources. The proposed solutions to issues and concerns are covered more extensively in Appendix B, *Agency and Public Coordination*. The following solutions can be categorized into three focus areas:

Sustainable Environment

The Corps will use changes in land classifications to guide management decisions aimed at protecting and improving land and water resources. The Corps will also continue coordination

with Federal, state, and local agencies and municipalities which will have positive impacts on natural resources on and around Lake Red Rock. Goals of this focus area are:

- protect threatened landscapes
- manage Environmentally Sensitive Areas (ESAs)
- control/eliminate invasive species
- improve fisheries
- maintain 95% hunting acreage.

A Natural Place to Play

The Corps will continue to provide visitors with a high quality recreational and natural experience. Lake Red Rock offers 29 recreation areas around the lake with a wide variety of facilities including 10 campgrounds; 2 beaches; 11 boat ramps; 22 picnic shelters; a marina; land access points; 32 miles of trails; an archery range; a disc golf course; and a visitor center that caters to these different types of recreational activities. These recreation areas are managed by several entities including the Corps, the Iowa Department of Natural Resources (Iowa DNR), and the MCCB. Goals of this focus area are:

- maintain and expand existing water based recreation opportunities to meet public desire within carrying capacity (existing recreation areas, marina upgrade, Volksweg trail expansion, and water trail amenities)
- develop low impact, active resource based recreation opportunities (new archery range location, soft trails, and equestrian trail expansion)
- Develop unique recreation opportunities that encourage respectful connection to the Environment (Cordova)

Connections

The Corps will guide and ensure opportunities to connect people with nature at Lake Red Rock through protecting and enhancing public use, access, and education. Goals of this focus area are:

- reduce habitat fragmentation
- develop trail connections to area communities
- develop effective wayfinding
- develop interpretive opportunities that connect people to the environment and encourage play in nature
- and protect/enhance access to public lands

Detailed information for each focus area can be found in Chapter 3 of the Lake Red Rock Master Plan.

1.9. Authority and Environmental Compliance

The Flood Control Act of 28 June 1938 (Public Law 761, 75th Congress, 3rd Session) authorized construction of the Red Rock Dam and Lake Red Rock on the Des Moines River for flood control and related purposes. Recreation and fish and wildlife were authorized in Public Law 534, 78th congress (approved 22 December 1944) and Section III of the Water Resources Development Act of 1976 (Public Law 94-587).

The Lake Red Rock Project is a unit of the comprehensive plan for flood control in the Upper Mississippi River Basin. Although originally authorized for flood control and for low-flow augmentation, the Project is considered to fulfill a multi-purpose role with benefits to recreation and fish and wildlife management as well.

Design Memorandum No. 24B, Master Plan for Resources Management, the original master plan, was submitted on June 30, 1967 and was approved by the Corps on May 18, 1968. The document, subsequent updates (1976), and supplements provided the basis for initial development and land and water use on the Project.

Title 16 of United States Code, Section 460d (16 USC 460d), authorizes the Chief of Engineers, under the supervision of the Secretary of the Army, to construct, maintain, and operate public park and recreational facilities at water of such facilities by local interests (particularly those to be operated and maintained by such interests), resource development projects under the control of the Department of the Army, to permit the construction and to permit the maintenance and operation of such facilities by local interests.

If the Corps determines it is in the best interest of the public to accept the Master Plan and reclassify Corps-managed lands, the Corps would have to comply with several Federal environmental statutes and obtain any required permits for specific future projects/actions. The Corps is the responsible for complying with all legal compliance and meeting the requirements to obtain any permits or certifications from other governing bodies. If the Corps adopts and implements the Master Plan, it will comply with or obtain the following necessary requirements prior to initiating implementation of the Master Plan:

- This EA, ultimately concluding with a signed Finding of No Significant Impact (draft version attached), serves as a means to fulfill environmental compliance coordination for several statutes, such as the Endangered Species Act and National Historic Preservation Act. See also Section 4.0, *Environmental Consequences*.

- This EA addresses any impacts to federally-listed endangered or threatened species protected by the Endangered Species Act, in particular, the Indiana bat (*Myotis sodalis*); Northern long-eared bat (*Myotis septentrionalis*); Least tern (*Sterna antillarum*); Mead's milkweed (*Asclepias meadii*); Western prairie fringed orchid (*Platanthera praeclara*); and Prairie bush clover (*Lespedeza leptostachya*).

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2.0. ALTERNATIVES INCLUDING THE PROPOSED ACTION

This section of the EA describes the **reasonable** alternatives for updating the Master Plan. This EA will evaluate the two primary alternatives: the Preferred Alternative of adopting the proposed Master Plan and a No Action Alternative in which the 1976 Master Plan would remain the management guidance document (status quo). The Corps only considered feasible and reasonable alternatives. The two alternatives that were dropped out of detailed analysis were the Resource Focused and Recreation Focused alternatives which do not meet the purpose and need of providing a balanced management plan that provides both natural resource protection and quality outdoor recreational experiences. There are many possible alternative combinations using the different goals and objectives of various land use classifications and future management recommendations.

The Master Plan Team received a significant volume of stakeholder input on the different alternatives for each focus area. This broad input was then put into input topics that were similar in context (Figure EA-4). Some input categories were not able to move forward in the Master Planning process due to conflict with public law and/or the topic was not within the scope of the Master Plan (reservoir water regulation is planned & managed through the reservoir regulation manual). For a detailed analysis of how different management recommendations were screened and applied to the preferred alternative, see Appendix B, *Agency and Public Coordination.*

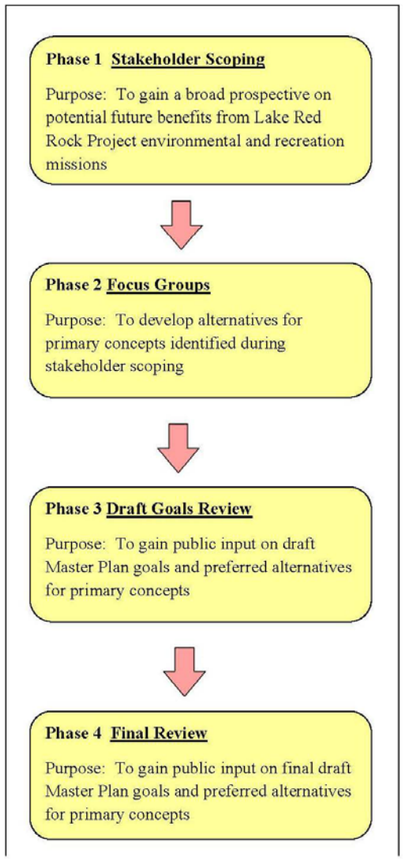

Figure EA-4. Public Input Screening Process

The Preferred Alternative is a blending of ideas from all the different groups (stakeholders) involved in the master planning process. The Preferred Alternative will meet the need for sustainable management and conservation of natural resources within the project, while providing for current and future quality outdoor recreational needs of the public.

The Corps and its partners embarked upon an extensive data collection effort that included coordination with Federal, state, and local agencies, as well as institutions and groups with knowledge of the project resources. In May 2011, the Corps hosted a meeting with representatives from State and local agencies with leases or interest in the resources at Lake Red Rock. Additionally extensive public input was sought during this time. The public open house was held in December 2012, to solicit public input on the planning process.

The Corps and other management partners have worked to develop options for classifying project lands and identifying Resource Objectives (Master Plan, Chapter 3) for these lands. The data collection, public comments, and findings of the planning team revealed that there was only one action alternative that would meet the purpose, need, and objectives of the master planning process. This alternative is the Preferred Alternative and is discussed in detail in Section 2.2 of this EA.

2.1. No Federal Action. Inclusion of the No Action Alternative is prescribed by CEQ regulations and serves as the benchmark against which Federal actions can be evaluated. Under the No Federal Action Alternative, the Corps would not approve the adoption or implementation of the revised Lake Red Rock Master Plan and would not meet current regulations or goals of regular update to a master planning document. The 1976 Master Plan would continue to provide the only source of comprehensive management guidance and philosophy. Information provided in the 1976 plan is out of date and no longer adequately addresses the needs of the Corps, other management partners, or users of Lake Red Rock. Furthermore, the 1976 Master Plan does not include the revised Land Classifications. The original development/construction-focused document would prevent a proactive approach to managing Lake Red Rock. 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. Accept the Revised Lake Red Rock Master Plan (Preferred Alternative). The proposed Master Plan revision is the Corps Preferred Alternative. Under the Preferred Alternative, the Corps would adopt and implement the Lake Red Rock Master Plan. The Master Plan seeks to replace the 1976 Master Plan and provide a balanced, up-to-date management plan that follows current Federal laws and regulations while sustaining Lake Red Rock's natural resources and providing outdoor recreational experiences.

The Master Plan applies changes to land classifications, most notably **the addition of sensitive area** classifications (Figure EA-5). The revised plan also lays out future recommendations for management of both recreation and natural resources, see Chapter 3 of the Master Plan.

The primary element of the Preferred Alternative is the new Land Classifications that would be applied to all project lands. The proposed Land Classifications would be accompanied by Resource Objectives which recommend future management actions on Lake Red Rock lands. Most of the current Land Classifications will be carried forward, such as an existing recreation or operations sites.

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Resource Goals (Master Plan, Chapter 3) identify how the Corps would like to see project lands managed including goals for future uses of these lands.

All lands at Lake Red Rock Project were allocated for Operations in the 1976 Master Plan. The 2015 Proposed Master Plan continues to allocate all lands for Operations.

The primary change in the Land Classifications is the way low intensity/undeveloped lands are addressed. Previously, in the 1976 Master Plan, there were five Land Classifications used to describe different lands. These are now consolidated under the Multiple Resource Management Land Classification in the proposed 2015 Master Plan. In addition, the Land Classifications included in the proposed 2015 Master Plan no longer reference the Land Allocations as was done in the 1976 Master Plan. Instead, Land Allocations are discussed independently of the Land Classifications. As a result, more of the project lands are classified as Recreation or Multiple Resource Management than would have been under the 1976 Master Plan. Current Land Classification definitions can be found in Chapter 4 of the Master Plan.

What is the difference between Land Allocation and Land Classification? [1]
Essentially the Master Plan divides Lake Red Rock lands into individual management areas based on resource capabilities. The boundaries of management are based on physical, administrative, and operational characteristics.

Land Allocation is the original authorized purpose for which the lands and waters at Lake Red Rock were acquired. There are only four possible allocations: Operations, Recreation, Fish and Wildlife and Mitigation.

Land Classifications provide for a more specific breakdown of the type of development and resource management to occur on Lake Red Rock Lake lands and waters. There are six categories of land classification: Project Operations, High Density Recreation, Mitigation, Environmentally Sensitive Areas, Multiple Resource Managed Lands, and Water Surface.

Multiple Resource Managed Lands and **Water Surface Classifications** can be broken down into further sub-categories: Low Density Recreation, Wildlife Management General, Vegetation Management, and Future/Inactive Recreation Areas and Restricted, and Designated No-Wake, Fish and Wildlife Sanctuary, and Open Recreation respectively.

[1]For full definitions, see Chapter 4 of the Lake Red Rock Master Plan

Figure EA-5. Land Allocation vs. Land Classification

Table EA-1 shows the 1976 Land Classifications in comparison to the revised land classifications for the 2015 Proposed Master Plan. The new classifications allow project lands to be broken down and clarified for the types of management best suited to the land. The Environmentally Sensitive Areas Classification provides a new level of environmental protection.

Table EA-1. Conversion of Land Classifications Between 1976 Master Plan and 2015 Master Plan

1976 Master Plan	Proposed 2015 Master Plan
Project Operations	Project Operations
Operations-Recreation Intensive Use	High Density Recreation
Operations – Recreation Low Density	Multiple Resource Management – Low Density Recreation
Operations – Wildlife Management/Reserve Forest Land	Multiple Resource Management – Wildlife Management
	Multiple Resource Management – Vegetative Management
Operations – Natural Area	Water Surface
N/A[1]	ESAs

[1] ESA and Water Surface Classifications were not available in 1976 Master Plan.

It is difficult to show the acreage change from the classifications used in the 1976 Master Plan to the current classifications in the Proposed Master Plan. This is due to a number of permanent lake level changes through the years that changed "land" to "water surface" and acquisition of over 3,000 acres of flowage easement in fee title ownership.

To best demonstrate the changes in the proposed 2015 Master plan, current lands at Lake Red Rock were classified under the new land classification categories with acreages shown before and after the proposed plan. The acreage shown in column two on Table EA-2 reflects the current acres under the new classification system, but without the proposed Master Plan changes. Column three shows the acreage of land in each classification category if the proposed Master Plan is approved The primary change in land classifications was due to the addition of more specific land classification categories. Additionally, research, inventory and the development of the proposed concepts in Chapter 3 indicated a need to change the classification designation of some areas.

Table EA-2. Current and Proposed Land Classification Acreages[1]

Land Classification	Current Acreage	Acreage Proposed 2015 Master Plan
Project Operations	155	162
High Density Recreation	4,382	3,517
ESAs	N/A[2]	1,967
Multiple Resource Management -Recreation Low Density	407	277
Multiple Resource Management - Wildlife Management	30,591	32,086
Multiple Resource Management - Future Recreation Areas	N/A[2]	25
Water Surface	15,240	15,240

[1] Acreages represented are at 2015 conservation pool of elevation 742 NGVD
[2] Land classification did not exist in the 1976 Master Plan.

The Preferred Alternative would allow the Corps to revise the Master Plan. Later updates, also referred to as supplements, could document completed actions and refocus the management of any given site. Updates or supplements could also include changes in Land Classifications; however, this level of update would involve further NEPA consideration and coordination with the Corps' Rock Island District Office.

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Following are the Corps proposed features (changes) of the Preferred Alternative:

Addition of Acres to Project Operations Classification. The minor increase in acres is primarily due to the new hydropower facilities and inclusion of a radio tower near the current administrative office.

Reduction of Acreages from High Density Recreation is primarily due to reclassification of some of the lands within recreation areas to Environmentally Sensitive and Multiple Resource Management. The 1976 Master Plan designated large areas for high density recreation, many recreation areas were established but some of the areas within those high recreation categories were not suitable for recreational development. Another minor reduction is due to reclassification of the hydropower footprint to Project Operations. Acres are gained in High Density Recreation by inclusion of the proposed soft trail area.

Addition of Environmentally Sensitive Area Classification. The proposed Master Plan would classify 1,967 acres as Environmentally Sensitive. In accordance with regulation changes, this classification was added to the proposed Master Plan and consists of areas where scientific, ecological, cultural, or aesthetic features have been identified. Development of public use on lands within this classification is normally prohibited to ensure that the sensitive areas are not adversely impacted. (Chapter 3; Appendix H, Multiple Maps) Designation of ESAs reduced acreage primarily within High Density Recreation or Multiple Resource Management – Wildlife Management.

Reduction of acreages from Recreation Low Density is a reflection of acres reclassified under the new plan as Recreation High Density for development of the proposed soft trails.

Addition of Acres to Multiple Resource Management – Wildlife Management. The increase is primarily due to the acquisition of previous flowage easement lands in fee title. Over 3,000 acres were acquired, however lands were also moved from this classification and added to ESAs.

Addition of Acres to Multiple Resource Management – Future Recreation Area. The 25 acres classified as future recreation area is for the proposed equestrian campground at the south end of the planned trail expansion.

Future Recommendations for Management Actions (Improvements). Implementation of recommendations detailed in Chapter 3 of the proposed Master Plan is dependent on resource (funding, staff, and time); availability; and competing priorities. These recommendations will be further defined and reviewed in OMP I and OMP II as resources become available.

The following list of recommendations is included in Chapter 3 of the proposed Master Plan. The Corps developed these recommendations from comments they received at scoping meetings, public input, agency input, and internal expertise. Table EA-3 incorporates of these recommendations by issue.

- Protect threatened landscapes and restore native resources.
- Eliminating invasive species in ESAs and other important environmental units, with focus on but not limited to Autumn Olive, Honeysuckle and Chinese Bush Clover.

- Develop fish rearing ponds to help improve fishery.
- Maintain 95% of current number of acres open to public hunting.
- Maintain and modernize facilities at existing recreation areas.
- Develop the new marina site in order to create a "hub" of commercial recreation activities.
- Expand Volksweg Trail to Cordova Park and connect as possible area trails to communities.
- Expand water based recreation, working with DNR and Paddlers groups to expand water trail with addition of primitive paddle-in campsites and a portage to river downstream of Red Rock Dam.
- Relocate the Robert's Creek Archery Range to the Elk Rock Bridge area and develop amenities such as parking, restroom, target lanes, central and shelter. a building, shelter, Develop soft trails for mountain biking.
- Add 15.4 miles to the current equestrian trail system at Elk Rock State Park. and develop a camping area at south end of trail with amenities to include camp area, parking lot, restrooms, hitching posts, water access, and trailhead kiosk.
- Continue development of the Cordova Interpretive Area and continue an active interpretive program.
- Reduce habitat fragmentation.
- Connect to existing trails and communities as possible with water trails, paved trails, equestrian trails and/or soft trails.
- Maintain and improve public access to public lands to include improved wayfinding include navigation to and around the project.
- Develop innovative play areas such as playscapes with interpretive hubs to connect children and visitors with nature.

Management of Lake Red Rock would be accomplished in accordance with the goals outlined in the revised Master Plan, Chapter 3. The revised Master Plan also provides a framework for implementation through the Operational Management Plan Management Actions (tasks) and a basis for reviewing out grant and recreation development proposals. The Master Plan is expected to be in effect for approximately 25 years. Master Plan supplements will be prepared as appropriate and justified in order to keep the Master Plan as current as possible.

Table EA-3. Future Recommendations of Management Actions

Issue	Recommendations
Habitat fragmentation and urbanization continues to occur in the region. Fragmentation threatens large block habitats and species, some of which are listed as species of greatest concern in Iowa	**Addition** of the ESA land classification to the master plan. Sensitive areas as part of the master plan will ensure the protection of valuable resources. Many factors contribute to identifying sensitive areas, and often times an area may have multiple contributors from the following: large tract woodlands, cultural resources, savanna remnants, mature oak woodlands, , remnant prairies, wetlands, lands possessing unique wildlife value by diversity or conservative species, , aesthetic quality or aesthetic views (scenic), green corridors that protect connectivity. **Continue** to protect threatened landscapes. The Corps will continue to manage lands designated for stewardship of fish and wildlife resources. The primary strategy is to manage areas to sustainable pre-settlement resource conditions which provides a diverse habitat benefitting both game and non-game species.
Invasive species alter ecosystem compositions, but also are costly to manage.	**Improve** measure to control invasive species. In analyzing ESAs and important natural resource areas, it was determined that the greatest threat facing the natural resources at Lake Red Rock was invasive species reducing or eliminating native species. A primary goal of the Master Plan is to control invasive species and recover or restore native sustainable resources in ESAs and important natural resource areas.
Keeping a vibrant fishery is a challenge due to fluctuating water, limited submerged plant growth, and disruptions in fish spawning.	**Improve** fishery in order to improve angler success and provide a positive impact for tourism for area economy. Establish rearing ponds to increase stocking survivability by raising fry to fingerling prior to release and add fish habitat structure.
Wildlife habitat and hunting opportunities are proportionately very scarce in Iowa due to habitat loss and lack of suitable habitat.	**Maintain** 95% of current hunting acreage, current huntable acreage stands at approximately 44,507. Wildlife habitat management and habitat improvements in general, (actions mentioned above) will continue to have a positive influence on hunting opportunities.
Urbanization of the region means more people accessing natural areas for recreation.	**Maintain and modernize** existing infrastructure (water and land based) while adding facilities and amenities within the existing recreation areas based on changing public desires and recreational trends. This includes proposal for future expansion of the Marina and continuing plans for the Cordova Learning Center.
Lack of tail connectivity and limited number of trails.	**Expand** paved trails at Lake Red Rock, a priority area is to finish the Volksweg Trail to Cordova. The current paved trail is 14.5miles long, but is isolated from area trail systems, need to establish a plan for trail connection points. Expansion of the trail would allow linkage to the Central Iowa Trail and several other major trail systems. **Connect t**o existing trails and communities as possible with water trails, paved trails, equestrian trails and/or soft trails. **Develop** proposal for addition of soft trails (mountain biking type trails) near North Overlook and South Tailwater area.

Table EA-3. Future Recommendations of Management Actions

Issue	Recommendations
Increasing numbers of paddle sport recreationalists.	**Establish** a portage connection from the lake to the Des Moines River downstream of the dam. Evaluate additional locations for paddle-in camping. Two proposed locations were evaluated for location characteristics, implementation costs, operation and maintenance costs, potential user conflicts, & potential environmental impacts.
Archery has become a growing recreational pastime, the Robert's Creek Archery Range has been impacted by the Volksweg Trail expansion, is inundated by water on occasion and parking is limited.	Currently the archery range has been moved to the underutilized Bridge Area and trails with shooting lanes have been added. **Proposed** future plans are to expand parking, add an enclosed facility with kitchen, restroom, and storage facilities.
Current Equestrian trail system is limited/short and experiences heavy use as one of the few facilities that offers this opportunity.	**Expand** the current equestrian trail along Whitebreast Creek and establish a connection existing trail at South Elk Rock. Propose to develop a new campground (24 acres) with staging at the south end.
Fragmentation, urbanization, growing population and technology presents a challenge to keep people connected to nature and each other.	**Continue and expand** efforts aimed at connecting the public with the resources that Lake Red Rock has to offer. These "connection" efforts include reducing habitat fragmentation; developing trail connections to area communities; developing effective wayfinding; and continuing to enhance interpretive opportunities (programming, kiosks, Cordova, natural playscapes).
Roads that allow people the ability to access public lands have been degraded, vacated, or closed.	**Restore and preserve** all existing access routes onto Red Rock land for public and agency access. Seek acquisition of right of way easement, right of entry, or similar device in areas where there is no access to federal lands for management, maintenance, search and rescue, and public access.

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3.0. AFFECTED ENVIRONMENT

This section describes the baseline environmental conditions potentially affected. The Corps considered all possible environmental factors potentially influenced by the proposed Master Plan prior to writing this EA. From this analysis, the Corps was able to focus its environmental review on specific resources and eliminate others from further evaluation.

3.1. Resources Not Evaluated In Detail. This EA does not contain detailed discussions on resources that would not be impacted by adaption of the Master Plan. Resources not covered in detail are:

- Geology, Topography, and Soils
- Floodplains.
- Climate and Weather
- Prime Farmland
- Water Quality & Hydrology
- Air Quality
- Noise
- Wild and scenic Rivers
- Migratory Birds

3.2. Relevant Resources Evaluated. The Corps focused their evaluation to those resources potentially affected by any of the alternatives.

- Recreation and Aesthetic Resources
- Wetlands
- Vegetation
- Fish and Wildlife
- Threatened and Endangered Species
- Invasive Species
- Population and Economy
- Transportation.
- Utilities
- Safety
- Cultural and Historic Resources
- Hazardous Materials

3.3. Physical Environment - Recreation and Aesthetic Resources. In addition to the lands associated with operation of the dam, the Corps also provides and manages recreation facilities, including the Visitor Center which overlooks the lake upstream of the dam. Additional lands are directly leased to the Iowa DNR and the MCCB. These leases (outgranted lands) specify what types of activities are allowed on Federal lands and all Federal regulations still apply. See Appendix H map, *Managing Agencies Overview*. The Corps operates the majority of developed recreation facilities at Lake Red Rock. For more information on these recreation areas go to Chapter 3 of the Lake Red Rock Master Plan.

The aesthetic value of the lake area is a function of the lake itself, the shoreline, adjacent uplands and red rock bluffs. The area offers a wide variety of natural habitats ranging from forested areas to open prairies. Due to normal lake level fluctuation it is difficult to grow vegetation along areas of shoreline which at times may be less aesthetically pleasing.

3.4. Natural Resources

3.4.1. Wetlands. Wetlands are known to exist within all Land Classifications at Lake Red Rock. Using the National Wetland Inventory, wetland types with codes shown in parentheses and approximate acreages found within project boundaries include: Lake/Reservoir Basin 16,936; Freshwater Forested Wetland 2,160; Freshwater Emergent Wetland Marsh or Meadow 5,085; Riverine 619; Freshwater Shrub Wetland 1,772; and Freshwater Pond 1,821. The mapping of wetlands using the National Wetland Inventory is generalized; therefore, any proposed future actions would require a wetland determination on a site-by-site basis.

3.4.2. Vegetation. The approximate distribution of vegetation and land use types on project lands is as follows: Forested 43%, Prairie/Open 25%, Crop 15%, Wetland 13%, and Developed 4% (Iowa DNR, 2009). Along with management actions described above in Table 3, changes to the previously documented vegetative communities may be influenced by development outside the project boundaries. Vegetation resources also are discussed in Chapter 5 of the Master Plan. The clearing of vegetation is regulated by many of the same laws and regulations that apply to other natural resources. These laws include the Clean Water Act (404), Section 401, and Endangered Species Act. The Corps is also responsible for assuring Best Management Practices to include avoidance and minimization when designing and/or implementing actions on Lake Red Rock lands. Threatened and endangered species are discussed further in Section 3.5 of this EA.

3.4.3. Fish and Wildlife. The Lake Red Rock aquatic habitat supports a productive fishery. Fisheries and other aquatic resources are managed by the Iowa DNR Fisheries Bureau. Work is primarily aimed at maintaining a sport fishery for anglers. Primary management species include walleye, wiper and largemouth bass, which require stocking due to limited or no reproduction in the lake. Largemouth bass, channel and flathead catfish, white bass, crappie and other pan fish reproduce naturally and only require supplemental stocking when necessary. The Iowa DNR also inventories and documents fish and wildlife populations at Lake Red Rock, targeted primarily at white-tailed deer, wild turkey, waterfowl and mourning doves. The Iowa DNR regulates hunting and fishing of game species at Lake Red Rock. Permits and/or licenses are issued to manage populations of different species.

Six federally-endangered species are identified as present or potentially occurring on project lands. Multiple state endangered species occur or potentially occur on Federal lands as identified by the Iowa DNR in their management program. While most Lake Red Rock lands are characteristic of the Central Iowa region, several unique areas are found and support a diversity of species, including many Iowa Species of Greatest Conservation Need. There are 74 state listed species for Marion, Warren, Polk, and Jasper counties. The list includes 44 plant, 9 bird, 3 fish, 5 mammals, 6 insects, 2 mussels, and 5 reptile species.

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In 2007 the District began to draw down Lake Red Rock 10 feet from its current conservation pool elevation of 742MSL, to 732MSL for dam maintenance. In the Brush Creek Bay, a shallow bay near Highway 14, the low water levels revealed many mussels in the lake's soft bottom. These species included Mapleleaf, (*Quadrula quadrula*) and White heelsplitter (*Lasmigona complanta*). In addition to native mussels, some of the common benthic organisms inhabiting the lake bottom may include *Chironimidae* (midges); *Diptera* (true flies); *Oligochaeta* (aquatic worms); *Ephemeroptera* (mayflies); *Sphaeriidae* (fingernail clams); *Corbicula fluminea* (Asian clams); *Dreissena polymorpha* (zebra mussels); *Odonata* (Dragonflies and damselflies); and *Gastropoda* (snails).

The value of Lake Red Rock project lands to fish and wildlife continues to be enhanced through work by the Corps, Iowa DNR, and other partners at wildlife areas, natural areas, and impoundments. These areas were designed to meet the Corps' purpose of enhancing fish and wildlife habitat, as well as providing recreational opportunities for wildlife viewing or hunting. Additional information on fish and wildlife resources is included in Chapter 2 of the Master Plan.

3.5 Threatened and Endangered Species. Table EA-4 lists the federally-endangered, threatened, and proposed species possibly found in the four-county area (USFWS, 2015).

Table EA-4. Federally-Endangered, Threatened, and Proposed Species Possibly Found in Marion (M), Warren (W), Polk (P), and Jasper (J) Counties, Iowa

Species	Scientific Name	Status	Habitat
Indiana bat [M, W, P, J]	*Myotis sodalis*	Endangered	Caves, mines (hibernacula); small stream corridors with well-developed riparian woods; upland forests (foraging)
Northern long-eared bat [M, W, P, J]	*Myotis septentrionalis*	Proposed as Endangered	Hibernates in caves and mines – swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during late spring and summer.
Prairie bush clover [M, W, P, J]	*Lespedeza leptostachya*	Threatened	Dry to mesic prairies with gravelly soil.
Western prairie fringed orchid [M, W, P, J]	*Platanthera praeclara*	Threatened	Wet prairies and sedge meadows.
Least tern [P]	*Sterna antillarum*	Endangered	Bare alluvial and dredged spoil islands.
Mead's Milkweed [W]	*Asclepias meadii*	Threatened	Moist tallgrass and remnant prairies.

The Indiana bat is a federally-endangered species found in central and southern portions of Iowa. This species occupies forested areas, usually near permanent sources of water. It typically roosts under the peeling bark of shagbark hickories (*Carya ovata*) or dead trees and occasionally in tree cavities. Since trees with cavities and dead trees are more abundant in mature forests, the Indiana bat tends to be most common in moderate-aged to older forests containing large trees as well as standing dead trees.

Since the Project area contains suitable habitat for the Indiana bat, and the species utilizes nearby habitat (within 5 miles) in the Lake Red Rock area, the Corps conducted a mist net survey for bats in

2009 (Benedict, 2009). The survey captured bats moderately common to very common in forested areas in Iowa. Three big brown bats (*Eptesicus fuscus*); two eastern red bats (*Lasiurus borealis*); four northern long-eared bats (*Myotis septentrionalis*); and one evening bat (*Nycticeius humeralis*) were captured. No Indiana bats were captured during this survey of the proposed construction projects within the vicinity of Lake Red Rock.

Indiana bats have been caught in the area around Lake Red Rock; for instance, reproductively active females have been found repeatedly since the 1970s over Sand Creek roughly three miles downstream of the dam holding Lake Red Rock, as recent as 2005 (unpublished data, R. A. Benedict; unpublished data, John Bowles). Furthermore, habitat appearing strongly suitable for this species is present at the North Overlook Campground area. Therefore, it is possible Indiana bats periodically use these forests or may move into them in the future. Young woods, such as those dominating the marina area, usually do not support large populations of bats as the thicker understory is not conducive to suitable flyways.

The Northern long-eared bat (*Myotis septentrionalis*) is proposed as endangered. Its range includes much of the eastern and north-central United States. It hibernates in caves and mines and swarms in surrounding wooded areas in autumn. It roosts and forages in upland forests and woods.

Prairie bush clover (*Lespedeza leptostachya*) is a federally-threatened prairie plant found only in the tallgrass prairie region of four Midwestern states. At the beginning of the 19th century, native prairie covered almost all of Illinois and Iowa, a third of Minnesota and 6 percent of Wisconsin. Prairie with moderately damp-to-dry soils favored by prairie bush clover was also prime cropland; today only scattered remnants of prairie can be found in the four states. Many of today's prairie bush clover populations occur in sites that were too steep or rocky for the plow.

The western prairie fringed orchid *(Platanthera praeclara)* is restricted to west of the Mississippi River and currently occurs in Iowa, Kansas, Minnesota, Nebraska, North Dakota, and in Manitoba, Canada. This orchid occurs most often in mesic-to-wet unplowed tallgrass prairies and meadows, but has been found in old fields and roadside ditches.

The least tern (*Sterna antillarum*) is listed as endangered in Polk County, Iowa. Historically, terns nested on sparsely-vegetated sandbars along major rivers in the Central United States. Much of their natural habitat has been lost because of broad-scale changes to our natural river systems that include invasive plants, dams and reservoirs, river channelization, bank stabilization, hydropower generation, and water diversion.

Mead's milkweed is a perennial plant of the tallgrass prairies. It was listed as threatened in 1988. This milkweed formerly occurred throughout the eastern tallgrass prairie region of the central United States, from Kansas through Missouri and Illinois and north to southern Iowa and northwest Indiana. Like other prairie species, Mead's milkweed is threatened because of the loss of prairie habitat. Protections efforts have concentrated on working with landowners to insure that these few remaining populations are protected.

3.6. Invasive Species. Exotic and invasive species are a part of the existing ecosystem at Lake Red Rock. These invasive species have the ability to rapidly disrupt land and water resources if not aggressively managed. Over time, native species can be replaced and the ecology altered.

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Additionally, the interdependence and connectivity between the flora and fauna will be out of balance, and the fauna may relocate to find habitat required for preferred food, shelter, or habitat structure. Invasive species not only have tremendous consequences on altering ecosystem compositions, but also economically, high costs stem from labor, materials, and equipment to control. For example, Lake Red Rock's worst invasive offenders are Autumn Olive, Honeysuckle, and, Serecea Lespedeza. All of these invasive species cause serious threat and are expensive to control on an annual basis. Table EA-5 contains invasive species known to occur and/or that pose a future threat to lands and waters at Lake Red Rock.

Table EA-5. Invasive Species Common and/or of Concern[1]

Species Common Name	Scientific Name
Autumn Olive	*Elaeagnus umbellate*
Bush Honeysuckle	*Lonicera maackii*
Black Locust	*Robinia pseudoacacia*
Sericea Lespedeza	*Lespedeza cuneata*
Multiflora Rose	*Rosa multiflora*
Reed Canary Grass	*Phalaris arundinacea*
Crown Vetch	*Securigera varia*
White Sweet Clover	*Melitotus alba*
Wild Parsnip	*Pastinaca sativa*
Garlic mustard	*Alliaria petiolata*
Smooth Brome	*Bromus inermis*
Siberian Elm	*Ulmus pumila*
Yellow Sweetclover	*Melilotus officinalis*
Quackgrass	*Elytrigia repens*
Queen Annes Lace	*Daucus carota*
Japanese Knotweed	*Fallopia japonica*
Glossy Buckthorn	*Frangula alnus*
Curly-leaf Pondweed	*Potamogeton crispus*
Eurasian Watermilfoil	*Myriophyllum spicatum*
Purple Loosestrife	*Lythrum salicaria*
Brittle Naiad	*Najas minor*
Emerald Ash Borer	*Agrilus planipennis*
House Sparrow	*Passer domesticus*
Gypsy Moth	*Lymantria dispar*
Rusty Crayfish	*Orconectes rusticus*
Zebra Mussels	*Dreissena polymorpha*
Quagga Mussels	*Dreissena rostriformis*
Bighead Carp[2]	*Hypophthalmichthys nobilis*
Silver Carp[2]	*Hypophthalmichthys molitrix*

[1] This list includes the most prominent invasive species that are either found on project lands or are considered a potential threat in the near future.

[2] Bighead Carp and Silver Carp have been found in the Des Moines River south of Lake Red Rock

The Corps has an Invasive Species Leadership Team, which will provide oversight of the Corps invasive species program established by policy in June of 2009 (Appendix G.17). This Corps Policy supports the National Invasive Species Management Plan. The Corps goals mirror and add to the strategic goals found in the National Invasive Species Management Plan, which are:

1. Leadership and Coordination
2. Prevention
3. Early Detection and Rapid Response
4. Control and Management
5. Restoration
6. Research
7. Information Management
8. Education and Public Awareness

Creation and implementation of these goals would not only help prevent the introduction of invasive species, but also control and monitor invasive species already present at Lake Red Rock.

Executive Order 13112 provides direction and asks Federal agencies to identify and reduce actions that introduce or spread invasive species. All Federal land and water management agencies within the Department of Interior, NOAA, and Defense have authority to control and manage invasive species as well as restore affected areas on their lands and waters. This authority arises from the various agency regulations and other statutes that govern management, uses, and planning on the lands and waters under their jurisdiction. The level of effort and budgetary resources for management, control, and restoration vary with each Department. None of them has the resources to control every invasive species present on Federal lands and waters. Departments and their agencies also work in partnership with States and private landowners to control invasive species on public lands.

3.7. Socioeconomic Resources

3.7.1. Population and Economy. The primary zone of influence is an approximate 50 mile radius of Lake Red Rock. 2010 Census Figures indicate that there are 943,227 people, 30.9% of the state's population, living in counties within this radius of the Lake (Table EA-6).

The current population of Iowa is 3,046,355. The Census estimates the population will reach 2,955,172 by 2030 (2.3 percent decline). However, the Greater Des Moines Metropolitan Area, to which Lake Red Rock is adjacent, saw a 17 percent growth in population since the 2000 census (Figure EA-6).

Table EA-6. Pertinent Population Data (Source: 2010 U.S. Census Bureau)

Locality	Population (2010)	2013 Population Estimate	Median Household Income (2009-2013)	Population Below Poverty Level (2009-2013)
Marion County	33,309	33,252	$54,723	9.2%
Jasper County	36,842	36,641	$50,513	11.8%
Polk County	430,640	451,677	$59,018	11.8%
Warren County	46,225	47,336	$62,535	7.3%

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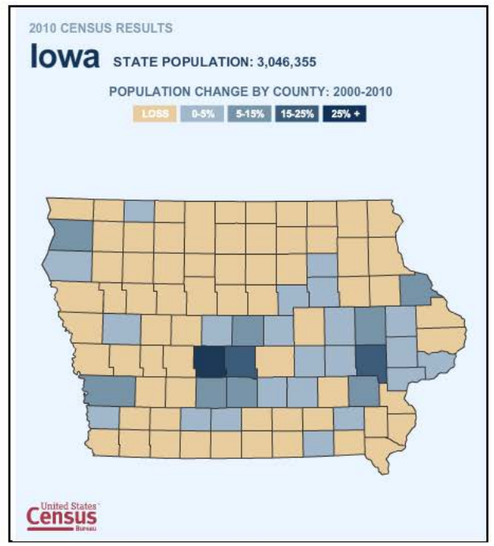

Figure EA-6. Population Change by County in the State of Iowa, 2000-2010

Recent studies from The Tomorrow Plan have projected that the current population of 558,700 in the Des Moines metro area will increase to approximately 745,000 within the next 25 years. (State of the Region Greater Des Moines; The Tomorrow Plan.).

3.7.2. Transportation. Lake Red Rock is located approximately 45 minutes southeast of Des Moines, Iowa. The project has good primary road access with four lane roads within a few miles to the north (Hwy 163) and south (Hwy 5) of the project> Highway 14 crosses the upper end of the main lake and Highway T15 crosses the Des Moines River at the Red Rock Dam. These two cross roads tie into the four lane east-west roads. Access to specific locations within the project is provided by a network of State and local roads. Within the project boundary, a mix of paved and unpaved roads, parking lots, and trails provide access to different sites. Internal access also is provided by trails—such as the Volksweg Trail and Elk Rock Equestrian Trail—developed and maintained by the Corps, the Iowa DNR, and the MCCB. Transportation within the project also is facilitated by the existing marina and numerous boat ramps.

Roads and parking lots support project operations areas, developed recreational sites and some resource sites. The undeveloped portions of the project have limited transportation infrastructure. Trails run throughout the project and provide access to certain portions of these lands. Access to flowage easements is controlled by the individual property owner, with the Corps retaining the right to

enter these lands for inspection purposes. Land Classification definitions are discussed in greater detail in Chapter 4 of the Master Plan.

3.7.3. Utilities. In 2009, the Corps issued a Non-Recreational Outgrant Policy (USACE, 2009a), which states that the primary rationale for authorizing any future non-recreational outgrant request for use on Corps lands or waters will be 1) no viable alternative to the activity or structure being located on Civil Works land or waters or 2) a direct benefit to the government. Public utilities including power lines and gas and fuel pipelines, fiber optic, and rural water are past examples of outgrant requests the Corps has received.

3.7.4. Safety. The Corps, the Iowa DNR, the MCCB and other management partners work to ensure a safe and enjoyable experience for all visitors at Lake Red Rock. Safety at Lake Red Rock is maintained through a variety of different mechanisms. The Lake Red Rock Safety Plan, included in the Operations Management Plan, identifies safety concerns, responsibilities, and management techniques for different environments at the project. Management agencies have similar plans to direct staff at specific locations within the project. To promote general visitor safety, bulletin boards are posted throughout the different recreation sites with information on water safety, trail use, and hunting. Some of the educational programs provided also are focused on safety, with a special emphasis on water safety. Safety within project lands is a responsibility of the Corps and other management partners, with the assistance of local emergency services.

3.8. Cultural Resources. Background research, including consultation with Corps archaeologists, the State Historical Society of Iowa, and relevant federally-recognized Tribes have identified more than 378 previously recorded archaeological sites within the boundary of Lake Red Rock. Presently there are 114 archaeological sites that have been determined potentially eligible for inclusion in the National Register of Historic Places (NRHP) and require additional testing to assess their NRHP eligibility across the project. The Historic Properties Management Plan prepared for Lake Red Rock in 1996 identified a suite of ongoing and potential impacts to archeological sites and guides the management of these resources. Additional information on cultural resources is included in Chapter 2 of the Master Plan.

3.9. Hazardous, Toxic, and Radioactive Waste. The EPA's Envirofacts Web site lists 129 EPA-regulated facilities within close proximity to Lake Red Rock (EPA, 2014). Given the level of ongoing development in the region it is difficult to accurately identify all of the potential hazardous materials that may exist within or adjacent to the project boundary. Federal law requires site-specific due diligence on a case-by-case basis before development can take place. If the Rock Island District identifies any recognized environmental condition during the planning or construction of future project features, the work would cease and the District's Environmental Engineering Branch must be notified immediately to assess the project area.

4.0. ENVIRONMENTAL CONSEQUENCES

This section of the EA describes the environmental consequences associated with the alternatives presented in Section 3.0. NEPA requires consideration of context, intensity, and duration of adverse

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and beneficial impacts (direct, indirect, and cumulative) and measures to mitigate for impacts. These elements are considered in the following impact analysis.

Use of the proposed Master Plan would help define the approval process for future actions affecting project lands, depending on whether the actions are 1) specifically included in the Master Plan, 2) not included in the Master Plan, but consistent with the Plan, or 3) not included and not consistent with the recommendations, objectives and policies stated in Corps regulations (USACE, 2009). For actions that are identified in the Master Plan, the approval process would still require adequate NEPA consideration prior to initiating construction.

The Master Plan will consist of Land Classifications, Resource Goals, and other specifically-stated policies. It is important to note that this EA assesses the impacts of adopting the Land Classifications and the recommended future management actions and opportunities outlined in the Master Plan and organized in Table EA-8. Further development of these recommendations into specific tasks will be accomplished through the Operational Management Plan. Because of the wide variety of possible future management recommendations or tasks that could be proposed, additional evaluation to determine consistency with the stated site objectives and further NEPA consideration would be required as these tasks are undertaken.

Written requests for new recreation development within the Lake Red Rock boundary which includes the areas leased to the Iowa DNR and other managing agencies and partners will be routed through the Lake Red Rock Project Manager. Applicants will coordinate with the Lake Red Rock Project Manager or other managing entity prior to submitting a written request. The Corps, Rock Island District determines if requests are consistent with Master Plan policies. The first step in determining consistency would be to evaluate if the land classification for the location of the Preferred Alternative is appropriate using the Lake Red Rock Land Use Evaluation Process (USACE, 2014). Proposals will also be evaluated in accordance with Corps Non-recreation Outgrant Policy (USACE 2009a) and ER 1130-2-550 Chapter 16, Recreation Outgrant Policy for Outgranted Corps Lands (USACE 2009). The requests include purpose, need, alignment with project purpose, impacts, avoidance, and/or minimization.

The implementation of the Master Plan would not result in any irreversible environmental conditions. Possible environmental impacts of the No Action and Preferred Alternative (adopt and implement Master Plan) are shown in table EA-7. When future recommendations are ready for implementation, additional site specific analysis and review for NEPA compliance will be undertaken. Only resources that have either a beneficial or possible adverse impact will be discussed further in Section 4.1.

Table EA-7 Anticipated Environmental Impacts

	NO ACTION			PREFERRED ALTERNATIVE		
Resource	**No Impact[1]**	**Beneficial**	**Adverse**	**No Impact[1]**	**Beneficial**	**Adverse**
Physical Environment						
Geology, Topography, Soils	X			X		
Floodplains	X			X		
Water Resources/Quality			X		X	
Air Quality	X			X		
Climate	X			X		
Noise	X			X		
Hazardous Materials	X			X		
Recreation and Aesthetics			X		X	
Natural Resources						
Vegetation			X		X	
Fish and Wildlife			X		X	
Threatened and Endangered			X		X	
Wetlands	X			X		
Invasive Species			X		X	
Socioeconomics						
Community Growth			X		X	
Community Cohesion			X		X	
Displacement of People	X			X		
Environmental Justice	X			X		
Property Value/Tax Base			X		X	
Public Facilities & Services	X			X		
Employment			X		X	
Business Growth			X		X	
Farm Displacement	X			X		
Transportation			X		X	
Utilities	X			X		
Safety	X			X		
Cultural Resources	X				X	

[1] No Adverse Impacts Anticipated

4.1. Environmental Impacts. The greatest drivers of impacts on environmental resources in the Lake Red Rock area are invasive species, and watershed issues: primarily sedimentation and water quality. Sedimentation and water quality is heavily impacted by agricultural practices in the Des Moines River watershed. An additional threat is the anticipated large increase in population in the Des Moines Metro region between 2010 and 2050. Over the past decade, the Des Moines metro area has seen tremendous growth. The rapid growth has resulted in conversion of agricultural lands and woodlands into residential and commercial developments, with associated impacts on a range of environmental amenities including loss of wetlands and terrestrial habitat for wildlife, increased traffic congestion, reduction in air quality, and higher ambient noise levels. These development trends are expected to continue into the foreseeable future and will be the principal driver of adverse impacts on

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the environmental attributes for this area. The Lake Red Rock Project is located approximately 45 minutes from Des Moines, however, the population expansion will result increased visitation to Lake Red Rock. Additionally, the increased development will impact water resources and water quality.

4.1.1. Effects on Recreation and Aesthetic Resources. Although maintenance of current recreational facilities would continue under the No Action alternative, the1976 Master Plan would not accurately reflect the current status of facilities, public desires or higher use patterns. The recreational needs and desires of the public would be benefitted through implementation of the Master Plan. Future recommendations for management actions (Table EA-3) are based on review of the existing facilities, resource suitability, trends and forecasts of future demand. There would be beneficial impacts on recreation, not only from modernizing existing facilities and developing expanded or new opportunities, but also from improved natural resources through implementation of the Master Plans environmental stewardship goals. Such recommendations would improve the health of local habitats and encourage wildlife diversity. Enhancing the camping experience with modern facilities would also complement the campsites presently available.

Increased recreational use in an area may reduce the aesthetic qualities at any scale. Although a small amount of development is needed for health and safety reasons, it is critical to make determinations on the types of amenities that will result in the lowest impact to the resource. Overall, the implementation of the proposed Master Plan would not impact the viewshed; the area would remain similar to the existing conditions with minimal or no negative impacts to aesthetics of the area. Protection of Federal lands under environmentally sensitive area classification will ultimately benefit recreational and aesthetic resources located at Lake Red Rock.

4.1.2. Effects on Wetlands. The effects to wetlands for both the No Action and Preferred Alternatives are essentially the same with the exception being the addition of environmentally sensitive areas to the Master Plan, which would provide another level of protection and consequently benefit to natural resources. 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 Lake Red Rock and its surrounding tributaries. Further direction is provided by EO11990: Protection of Wetlands and related Corps regulations. The Corps and the Iowa DNR are responsible for implementing these regulations through a permitting process.

4.1.3. Effects on Vegetation. The Corps would continue to manage vegetation under the No Action alternative, but the1976 Master Plan no longer accurately reflects the current status of vegetative resources at Lake Red Rock or best management practices for stewardship. With implementation of the proposed Master Plan, vegetative resources would be benefitted through analyzing natural resources based on current conditions, resource suitability, and trends occurring on the landscape. Existing vegetation and the desire to protect it from further degradation was the primary driver in designation of an area as environmentally sensitive. This designation and the goals of the proposed plan will improve and protect these critical areas of biodiversity. Chapter 3 of the Master Plan identifies environmental stewardship goals that are beneficial for vegetation.

4.1.4. Effects on Fish and Wildlife. Although fish and wildlife management would continue under the No Action alternative, the1976 Master Plan, species dependent on quality habitat could be

adversely impacted. This includes state or federal endangered, threatened or species of special concern. With implementation of the Master Plan, fish and wildlife resources would be benefitted. Lake Red Rock fish and wildlife have been affected by increasing habitat fragmentation, invasive species, sedimentation, and water quality. . The Master Plan has several goals, as detailed in Chapter 3, that directly benefit fish and wildlife. The classification of environmentally sensitive areas and the resultant management focus on these and high priority resource areas will result in a high quality habitat capable of supporting a diversity of wildlife. The goal to manage for sustainable habitat is extremely important in providing the biological community necessary for many species struggling for a foothold.

4.1.5. Effects on Threatened and Endangered Species. The Corps expects adoption and implementation of the revised Master Plan will not likely affect listed or proposed endangered species shown in Table EA-5. The Corps based this statement on the fact that the adoption and implementation of the Master Plan will benefit threatened and/or endangered species. Lake Red Rock will continue to provide a corridor of habitat that is becoming scarce in Iowa. The new addition of the environmentally sensitive area classification would further protect natural resources from development encroachment and habitat fragmentation. Where identified, state listed species and species of greatest conservation need are included in sensitive area determinations. Additional benefit is gained by the goal to manage for sustainable habitat which will provide for greater biological diversity.

The No Action alternative does not include the revised land classifications and management actions affecting Federal lands would be analyzed on a case-by-case basis without the benefit of evaluation in the context of an overall plan. Additional protection is provided by specific legislation, such as the Bald Eagle Protection Act and the Migratory Bird Act. The Corps will take actions, in compliance with Federal and State regulations, to ensure that the recommendations will not adversely affect any threatened and endangered species or any critical habitat that may have been established in or near areas potentially affected by the proposed undertakings. Specific management actions will be reviewed and at that time the determination on the type of NEPA documentation needed will be made.

4.1.6. Effects on Invasive Species. Implementation of the Preferred Alternative will have a beneficial effect on invasive species management. A major environmental stewardship goal of the proposed Master Plan is the elimination of invasive species within ESAs and other Important Natural Resource Areas. Focus on this goal will have long term benefits on project resources and help achieve an overarching goal of a sustainable environment. The 1976 Master Plan has no language pertaining to invasive species and is out of date and non-compliant with current laws and regulations. Implementation of the revised Master Plan will allow the Corps to implement best management practices in regards to invasive species management at Lake Red Rock. Following Corps policy and using adaptive and best management practices in prevention, education, early detection, rapid response, and containment in trying to control invasive will aid in cost effective and environmentally sound invasive species management.

4.1.7. Effects on Socioeconomic Characteristics

- **Community Cohesion and Regional Growth.** Lake Red Rock's large number of recreation opportunities provides a benefit for the surrounding community and the region at large. Implementation of the proposed Master Plan is expected to be beneficial by providing new recreation opportunities. The proposed water trails, soft

trails, equestrian trails and other unique developments inspire new and younger visitors. These unique opportunities become attractants for resident recruitment and add to area quality of life offerings. Lake Red Rock provides nearby and surrounding communities with vast opportunities for boating, hunting, fishing, swimming, wildlife observation, photography, plus activities enhanced by proximity to water such as hiking, picnicking, bird watching, camping, and water sports.

- **Property Values and Tax Revenues.** Implementation of the proposed Master Plan is anticipated to have a beneficial impact on property values or tax revenues. The proposed recreational opportunities would likely increase recreational visitors to the area and result in more dollars spent in local economies, resulting in an increase in tax revenues for the surrounding communities. Lake Red Rock plays a large role in the $48 million in current tourism spending in Marion County. Additionally, the environmental resources and recreation opportunities at Lake Red Rock enhance the value of adjacent property. Developments or improvements in the proposed plan will likely add to this value.
- **Public Facilities and Services.** Overall, the implementation of the proposed Master Plan would have no impact to public facilities and services such as fire and public safety.

4.1.8. Effects on Transportation. Implementation of the Master Plan will have a beneficial effect on transportation. Benefits are gained locally with extension or development of paved trails; horse trails, and water trails which allow visitors to travel between recreation areas while at Lake Red Rock. Regional transportation benefits are gained with trail connections to area communities described in Chapter 3, Connections. Proposed wayfinding recommendations will benefit visitors that travel to and around the project. In addition, the goal of maintaining and improving the ability to access to public land will provide transportation benefits.

4.1.9. Effects on Utilities. Implementation of the Master Plan will have no impact on Utilities. There are no major utility corridors planned at Lake Red Rock in the Master Plan. Following established USACE policy will minimize adverse environmental impacts by avoiding sensitive resources such as wetlands and known historic and archaeological sites, as well as popular and heavily-utilized recreational areas. Requests will identify potential impacts and alternatives to minimize impacts. Mitigation will be required for both temporary and permanent resource and/or recreation degradation.

4.1.10. Effects on Safety. Implementation of the Master Plan will have no effect on the current Lake Red Rock Safety Plan which identifies safety concerns, responsibilities, and management techniques for different environments at the project. The Corps will continue to actively promote general visitor safety including a strong focus on water safety.

4.1.11. Effects on Cultural Resources. 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 properties. The Corps determined that the adoption and implementation of the Master Plan would have "No Effect" on historic properties.

The Master Plan reclassification for environmentally sensitive area designations will further protect historic properties and sites. The Corps will continue to manage Lake Red Rock and coordinate with interested parties on any future management practices which result in separate undertakings in accordance with the Section 106 process. While the Corps is assured that no historic properties would be affected by the preferred alternative, if any undocumented cultural resources are identified or encountered, the Corps would discontinue activities and resume coordination with the consulting parties to identify the significance of the historic property and determine any potential effects.

4.2. Probable Adverse Effects Which Cannot Be Avoided. Implementation of the Preferred Alternative should not result in unavoidable adverse impacts to any of the resources analyzed in this EA. The Resource Objectives and direction on agency coordination would help the Corps avoid, offset, and mitigate for any unforeseen impacts. Any anticipated impact is considered minor and localized and would not have significant long-term adverse impacts to project resources.

4.3. Relationship Between Short-Term Use and Long-Term Productivity. The Master Plan is a land use planning document which will benefit productivity of Lake Red Rock lands and waters in the long term. While any future maintenance and construction activities may temporarily disrupt wildlife and human use in project areas, negative long-term impacts are expected to be minimal or non-existent on all ecosystems associated with this Master Plan.

4.4. Irreversible or Irretrievable Commitment of Resources if the Project Is Implemented. The commitment of man-hours required to write, coordinate and review the proposed Master Plan are irretrievable. Other than the aforementioned, none of the proposed actions are considered irreversible.

4.5. Relationship of the Proposed Project to Land-Use Plans. Implementation of the Master Plan is a proposed land-use planning change. The Land-Use changes, which the Corps refers to as Land Classifications, are being changed to reflect current conditions and meet current regulations. The Master Plan is consistent with other State and regional goals and programs. If implemented, the Corps does not expect the proposed action to alter or conflict with other authorized civil works projects.

4.6. Indirect and Cumulative Impacts of the Preferred Alternative. 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). The cumulative impacts associated with the Preferred Alternative and the No Action Alternative are described below.

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impacts of activities in and around Lake Red Rock. Past actions include the construction and operation of the reservoir, the recreation sites surrounding the reservoir, as well as 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

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addition, many of the historic impacts have been offset throughout the years by the resource stewardship efforts of the Corps, Iowa DNR, and other management partners.

The most significant past action was the construction and development of the Lake Red Rock Reservoir. This change created new natural and physical conditions, which, through careful management by the Corps, Iowa DNR, and other management partners, have created new and successful habitats and other natural resource conditions. The construction of the project also had an impact on cultural resources, those impacts were coordinated with the Iowa Historic Preservation Office. This coordination included appropriate research and documentation of cultural resources. Since that time, the Corps, Iowa DNR, and other management partners have worked to preserve, protect, and document cultural resources within the project boundary. The Corps and the other management partners have also brought a wide variety of high-quality recreational opportunities to the region.

Existing and future actions also contribute to the cumulative impacts in and around the reservoir. 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. Continued project operations would result in the sustained maintenance and development of recreational facilities. These facilities would enhance the recreational offerings made by the Corps and other management partners. Such improvements would result in varying levels of impacts to the surrounding resources. Similarly, surrounding residential, commercial, and industrial development could result in varying levels of adverse impacts to many resources. Within the project boundary, adverse impacts would be offset through resource stewardship efforts. The programmatic approach to project management, included in this EA and attached Master Plan, would allow for future development plans and mitigation responses to be adapted to address any adverse actions. This would allow the Corps and other management partners at Lake Red Rock to continue to reduce the contribution of its activities to regional cumulative impacts through proactive actions and adaptive resource management strategies.

The Preferred Alternative would contribute minor increments to the overall impacts that past, present, and future projects have on the region, mainly through the implementation of the Land Classifications and Resource Objectives outlined in the proposed Master Plan.

4.7. Compliance With Environmental Quality Statutes. See table EA-9.

Table EA-9. Compliance with Environmental Protection Statutes and Other Environmental Requirements

Federal Policies	Compliance[1]
Archaeological and Historic Preservation Act, 16 U.S.C. 469, et seq.	Partial 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
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.	Not applicable
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full compliance
National Historic Preservation Act, 16 U.S.C. 470a, et seq.	Partial 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
Farmland Protection Act	Full compliance
Corps of Engineers Planning Guidance Handbook (ER 1105-2-100)	Full compliance
EO13112 Invasive Species	Full compliance

[1]Full compliance - Having met all requirements of the statute for the current stage of planning.
Partial compliance – requirements will be met before actions are taken.
Not applicable - No requirements for the statute required.

Implementation and adoption of the Master Plan does not authorize or carry out any actions that are likely to promote invasive species proliferation. Any subsequent occurrence of any invasive species at Lake Red Rock will not solely be the result of the implementation and adoption of the Master Plan, which is in full compliance.

5.0. COORDINATION AND PUBLIC INVOLVEMENT

Agency and public involvement was initiated in May 2011, when the Corps published notices and announced plans to revise the Master Plan. This notice was followed by public comment periods, agency meetings, focus groups and additional public open houses. These public involvement activities and comments are described in detail in Chapter 7 of the Master Plan and Appendix B, *Agency and Public Coordination.*

The Lake Red Rock Master Plan and Environmental Assessment public review period (March 27, 2015 to April 27, 2015) resulted in fifteen letters or emails. The comments can be viewed in their entirety in Appendix B, Agency and Public Coordination. The following is a summarization of comments received and the Corps response to those comments.

1. Mr. Troy VandeKamp provided comments in an e-mail dated March 30, 2015. Mr. VandeKamp suggested that more recreation development take place on the other side of the lake with concern that the currently developed side has begun to get crowded.
Corps Response: We appreciate your interest. The primary development planned for the north side of Lake Red Rock is: completion of the paved Volksweg Trail to Cordova, development of remaining components of the Cordova Project and development of the marina concession area further within the existing marina cove. A significant quantity of input received during the Master Plan process emphasized development or expansion of soft adventure opportunities such as: horseback trails; mountain bike or soft trails; canoe/kayak water trails; natural playscapes, interpretive activities; and amenities associated with these opportunities. Significant development and expansion of these opportunities is planned for the south side of Lake Red Rock.

2. Mr. David Oliver provided comments in an e-mail dated March 30, 2015. Mr. Oliver provided his strong support in success for implementing the revised Lake Red Rock Master Plan.
Corps Response: We appreciate your interest and support.

3. Mrs. Lynn Slykhuis requested a copy of the Lake Red Rock Master Plan in an e-mail dated March 30, 2015.
Corps Response: A printed copy of the Lake Red Rock Master Plan was sent.

4. Mr. Rod Braun provided comments in an e-mail dated April 1, 2015. Mr. Braun expressed concern that high bacteria levels have been increasing each year at Lake Red Rock. Mr. Braun commented that he would have liked to have seen recommendations for keeping gulls off the beaches and adding more on how to improve water quality at the lake in the Master Plan.
Corps Response: We appreciate your interest. The Corps shares concern with beach closures due to high bacteria levels. We will continue to investigate cause(s) and take steps as possible to reduce impact to recreation. Likewise the Corps shares concern with Des Moines River water quality. While not directly addressed within the scope of the Master Plan, the Corps will continue to collaborate with other agencies to improve water quality.

5. Mr. Dan Higginbottom, Archaeologist with the State Historic Preservation Office, provided several comments concerning issues in meeting obligations of the National Historic Preservation Act and conflicting language between the Red Rock Master Plan and NEPA compliance.
Corps Response: Full response located in the Red Rock Master Plan Appendix B Agency and Public Coordination, page 62. The Rock Island District would like to thank the State Historical Preservation Office for their timely response and review. The Master Plan identifies conceptual types and levels of activities, many of the comments addressed the need for an enhanced cultural resources component to the Master Plan including an updated Historic Properties Management Plan (HPMP). An update to the HPMP is a separate matter that is critical to the Operations and Management of the Red Rock project and will be pursued under the cultural resources funding element. The District will consult on an individual basis for each undertaking as it becomes funded and in accordance with its obligations under 36 CFR 800.2-.6. Therefore, wording in the Environmental Assessment Table EA-9 has been changed

from full compliance to partial compliance. The Rock Island District will seek information from all tribes in order to update the archeological site and survey database which serves as one of the foundations for management decisions.

6. Mrs. Marcia Hibbard provided comment in support of the Lake Red Rock Master Plan in an e-mail dated April 8, 2015.
Corps Response: We appreciate your interest and support.

7. Mr. Matthew McCulla provided comments in an e-mail dated April 20, 2015. Mr. McCulla expressed gratitude for what the Corps does, excitement for continued focus and support of bike trail expansions in the area.
Corps Response: We appreciate your interest and support.

8. Mr. John Doershuk, State Archaeologist with the University of Iowa in an e-mail dated April 21, 2015 reiterated Mr. Dan Higginbottom's comments and also provided several other comments. These comments stated concern on impacts of erosion on archaeological deposits, use of a dated citation, potential archeological impacts on future recommendation of expanding the Volksweg trail, and in general how the Corps intends on managing archaeological and cultural resources at Lake Red Rock.
Corps Response: Full response located in the Red Rock Master Plan Appendix B Agency and Public Coordination on page 62; also see response to the State Historic Preservation Office, number 5 above. The Master Plan identifies conceptual types and levels of activities, the District will consult on an individual basis for each undertaking as it becomes funded and in accordance with its obligations under 36 CFR 800.2-.6. The Rock Island District will seek information from all tribes in order to update the archeological site and survey database. It is the District's intent to treat all traditional cultural properties as Environmentally Sensitive Areas.

9. Mr. and Mrs. Wyma provided comments in an e-mail dated April 22, 2015. Mr. and Mrs. Wyma would like to request that addition of a children's playground at Ivan's Campground. They feel this addition would not only benefit campers but also bike trail users.
Corps Response: We appreciate your interest. Development of specific amenities within developed recreation areas are identified in more detailed management plans rather than the Master Plan which is a long range visioning plan. Under current management plans the Ivan's playground will not be replaced. New playgrounds have or will soon be installed in South Tailwater Day Use Area and Howell Station Campground which directly connect to Ivan's Campground via a paved trail.

10. Mr. Kraig McPeek, field supervisor for the U.S. Fish and Wildlife Service Rock Island Field Office, provided support via letter dated April 27, 2015 of the Corps efforts to balance the needs of public recreation with fish and wildlife resources, which includes the addition of Environmentally Sensitive Areas and invasive species control. The U.S. Fish and Wildlife Service concurs that the Master Plan is not likely to adversely affect any listed species that may occur on Corps managed lands at Lake Red Rock.
Corps Response: We appreciate your interest and thank you for your support, the Corps will continue to work closely with the USFWS.

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11. Mr. Todd Gosselink with the Iowa Department of Natural Resources Red Rock Unit provided comments in a letter dated April 27, 2015. Mr. Gosselink supports the Corps revision of the Red Rock Master Plan. Specifically the proposed management of Environmentally Sensitive Areas, invasive species control, and maintaining public hunting acreage.
Corps Response: We agree that a larger overview map identifying managing agencies on lands extending out from Lake Red Rock would be useful for future partnering in regards to landscape level goals. Thank you for the support, the Corps will continue to work closely with the IA DNR not only for maintaining hunting opportunities but also other environmental stewardship endeavors.

12. Mr. David DeGeus with the Nature Conservancy provided several comments in an e-mail dated April 27, 2015. Mr. DeGeus expressed concerns included: use of the term "woodland" in describing management of areas rather than "savanna"; need for more detailed approach to managing areas for grassland birds, Monarch butterflies, and pollinators; more emphasis on returning historical ecological processes (fire, mowing, grazing) to the landscape; need for more detail regarding the ongoing sedimentation issues, and multiple use opportunities for soft trails.
Corps Response: We appreciate and have noted your interest and input into the Master Plan. The Corps is mindful of the mischaracterization of woodland vs. savanna by original land surveyors and plans call for restoration of savanna that would have been historically present by means supported by Corps policy. Environmental stewardship plans address vegetative management for habitats used by grassland birds and invertebrates. We agree with your comments regarding invasives and the need to returning historical ecological processes to the landscape. The master plan included the section on sedimentation and water quality to help raise awareness of the problems, however, contribution of much of the sediment and water quality issues originate off of Corps land. The Corps will continue to coordinate and work with The Nature Conservancy.

13. Mr. James Breckenridge, President of the Red Rock Lake Association provided support of the Lake Red Rock Master Plan via letter dated April 30, 2015. Comments included maintaining continued partnership opportunities and supporting conservation and resource management efforts.
Corps Response: We appreciate your interest and thank you for your support, the Corps will continue to value our partnership and work closely with the Red Rock Lake Association.

14. Mr. Steven Edwards, Executive Director for the Marion County Conservation Board provided support of the Lake Red Rock Master Plan via letter dated April 30, 2015. Mr. Edwards thanked the Corps for considerable time and effort invested in coordination with managing agency during the master planning efforts which provides a framework for future improvements at the lake.
Corps Response: We appreciate your interest and thank you for your continued support, the Corps values our partnership and will continue to work closely with the Marion County Conservation Board.

15. Mr. Larry Shepard, NEPA Analyst with the U.S. Environmental Protection Agency agreed with the Corps Finding of No Significant Impact and provided several comments which provide suggestions for future master planning efforts via letter dated April 30, 2015. The EPA supports the Corps efforts to identify and include Environmentally Sensitive areas as a land classification within the project. The majority of concerns expressed by the EPA were in regards to including more quantitative and specific objectives with measures and metrics in future master plans in order to gage success of future management recommendations. Adaptive management through a monitoring program would help measure progress towards the goals identified in the Master Plan.
Corps Response: We appreciate your thorough review of the draft Lake Red Rock Master Plan. We concur that metrics associated with Master Plan goals are critical to guide prioritization of project resources and provide accountability. Following completion of the Master Plan visioning document, the Corps will prepare recreation and environmental Operational Management Plan's (OMP's) that include quantitative objectives, measures and metrics against which to establish progress toward goals. The Corps concurs with the need for a comprehensive monitoring program. We have discussed various methods of monitoring that are within our resource capabilities and plan to describe and implement monitoring through our OMP.

6.0. LIST OF PREPARERS

Corps Personnel	Area of Expertise
Brett Call	Operations Project Manager
Sherri Richardson-Duey	Former Operations Project Manager
Junifer Kruse	Natural Resource Specialist (NRS)
Wendy Frohlich	Master Planning, NEPA Compliance
Jim Ross	Cultural Resources
Perry Thostenson	NRS, Project Environmental Manager
Josh Conrad	NRS, Project Recreation Manager
John Holt	Former Asst. Operations Project Manager
Joe Jordan	NEPA/Endangered Species Coordinator
Jamie Gyolai	Former Community Planner
Dave DeGeus	Former Natural Resource Specialist
Sue Clevenstine	Former Outdoor Recreation Planner
Dave Reynolds	Outdoor Recreation Planner

7.0. REFERENCES

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LAKE RED ROCK MASTER PLAN

MARION, WARREN, POLK, AND JASPER COUNTIES, IOWA

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FINDING OF NO SIGNIFICANT IMPACT

The U.S Army Corps of Engineers, Rock Island District, proposes to adopt and implement the *Lake Red Rock Master Plan*. The Master Plan applies changes to the land classifications, most notably the addition of environmentally sensitive areas The Master Plan also makes future recommendations for management actions for both recreation and natural resources.

The Master Plan is a vital tool for the responsible stewardship of resources at Lake Red Rock to benefit present and future generations. The Master Plan provides guidance and includes direction for appropriate management, use, development, enhancement, protection, and conservation of the natural, cultural, and man-made resources at Lake Red Rock. The Master Plan seeks to replace the 1976 Master Plan and provide a balanced, up-to-date management plan that complies with current Federal laws and regulations while sustaining Lake Red Rock's natural resources and providing outdoor recreational experiences. The Rock Island District's decision is to implement the Preferred Alternative, which is the adoption and implementation of the Lake Red Rock Master Plan.

I have reviewed the information provided in this Environmental Assessment, along with comments from cooperating Federal, state, and local agencies, and the interested public. Based on this review, I find adopting and implementing the Lake Red Rock Master Plan will not significantly affect the quality of the human environment. Therefore, it is my determination that an Environmental Impact Statement is not required. The Rock Island District will reevaluate this determination if warranted by later developments.

Only one other Alternative was analyzed along with the Preferred Alternative:

- No Federal Action – The Rock Island District would not approve the adoption or implementation of the Lake Red Rock Master Plan and the 1976 Master Plan would remain as the management guidance document.

Factors considered in determining an Environmental Impact Statement is not required are:

- The Rock Island District does not anticipate any significant impacts to fish and wildlife habitat as a result of implementing the Master Plan.
- The Rock Island District does not anticipate any significant social, economic, environmental, or cultural impacts as a result of this action.

15 May 2015
Date

Mark J. Deschenes
Colonel, US Army
Commander & District Engineer

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