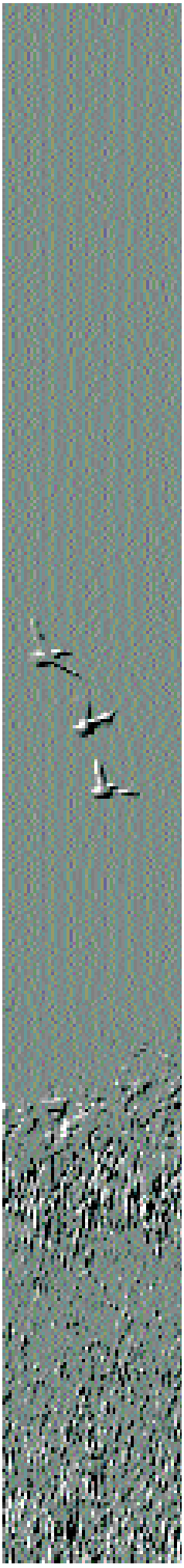


Chapter 9
Wetlands Park Study Team

Objective

"How can we help Clark County facilitate implementation of the Clark County Wetlands Park Master Plan, and provide for the management of various ecosystems within the Wetlands Park boundary?"

Introduction

In December 1993, Clark County Parks & Recreation began work on a master plan for the Clark County Wetlands Park (Park). During the master planning process, the county examined current conditions in the Wash, solicited comments from the public, worked with various affected agencies, and created a vision to guide future decisions in development of the Park.

The master plan, completed in July 1995, was designed to protect and enhance wetlands for wildlife habitat, environmental education, and recreation. To support this goal, Clark County proposed the development of about 15 erosion control structures along the Las Vegas Wash (Wash), in order to mitigate erosion and sediment transport.

Due to the various agencies who have jurisdictional interests and related public responsibilities within the Wash, implementation of the Clark County Wetlands Park Master Plan will continue to be coordinated with all affected agencies and interests. Issues under consideration regarding the Park include water quality issues, minimum in-stream flow requirements, regulatory issues, and operations and maintenance.

The Process

Many of the Park's resource issues are being addressed through the Wetlands Park Study Team (Team), comprised of 18 agency professionals specializing in areas ranging from planning to water resources to biology. The Team serves to provide the expertise necessary to ensure the various resource issues in the master plan are adequately addressed and/or incorporated into the Park.

Team members agreed early on in the process, that their purpose was not to implement the master plan, but rather to provide technical support and advice to Clark County Parks & Recreation. The Team began to work with the understanding that although the master plan is a finalized document, flexibility exists within individual phases and projects associated with the Park's development.

The Team started with an analysis of resource issues, concluding that several resources would be more appropriately addressed by experts serving on other study teams. For example, the issue of biological resources including threatened and endangered species was recommended for analysis by the Environmental Resources Study Team. Likewise, environmental permitting issues were recommended for analysis by the Jurisdictional & Regulatory Study Team. The Team recognized that these resource issues not only applied to the Park, but to the Las Vegas Wash as a whole. In this respect, the Team initially served as a "clearinghouse" by identifying issues that applied to the entire Wash, and issues that would be more appropriately addressed by other study teams.

The Team then focused on several resource issues relating specifically to the Park that would need further technical support and expertise prior to development and implementation under the master plan. These include: erosion control structures, water resources, long-term monitoring, and long-term operations and maintenance.

The Team identified and worked to accomplish three main goals throughout the process:

Goal One - Provide support to Clark County Parks & Recreation for implementation of the master plan.

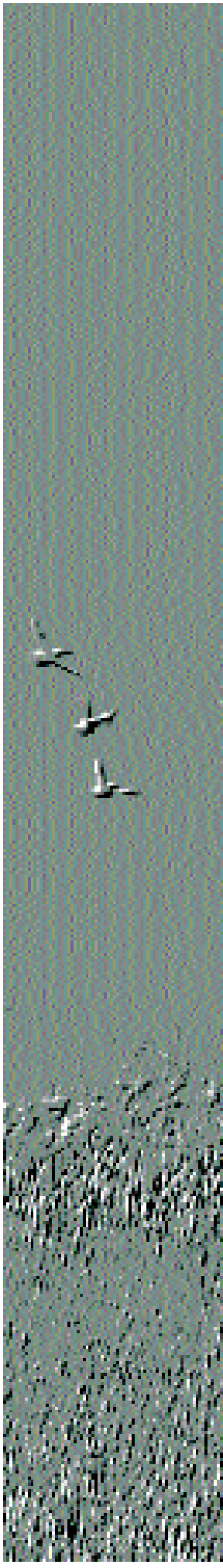
Goal Two - Integrate and balance the issues and recommendations associated with the Las Vegas Wash that may also affect the Clark County Wetlands Park.

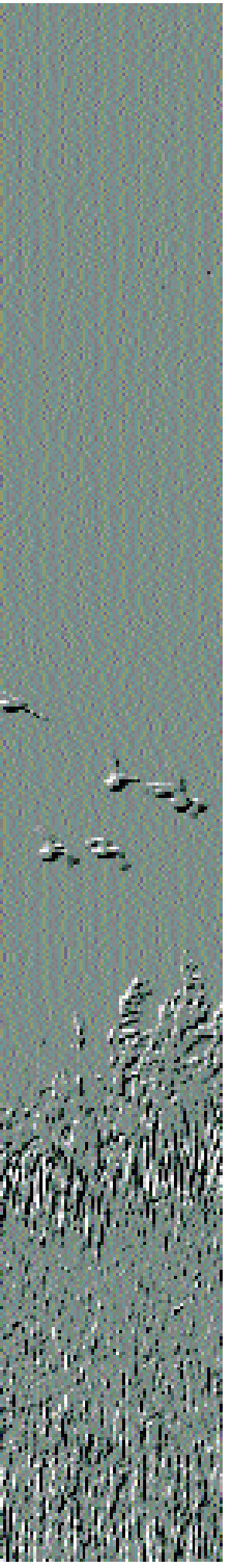
Goal Three - Maintain the long-term integrity of the Clark County Wetlands Park.

The Master Plan

Overview

The Clark County Wetlands Park Master Plan (Southwest, 1995) was created as a result of substantial public input by the Southwest Wetlands Consortium, an association of Design Workshop, Montgomery Watson, and





SWCA Environmental Consultants. Through the planning process for the Master Plan five goals were established for the Wetlands Park:

1) Develop recreational and tourism opportunities, based on public needs, that are compatible with the conservation/restoration of the Wash.

2) Create social benefits for the Valley by providing opportunities for area residents to gain a sense of community pride and ownership of this park.

3) Create educational opportunities to convey the importance and significance of the Wash through various media.

4) Conserve and restore natural resources by protecting and enhancing the ecological resources of the Wash.

5) Complete a master plan that will guide the design and development of the Park's recreational facilities and support infrastructure.

The master plan defines strategies for creating a system of trails, interpretive exhibits, picnic areas along the Wash, as well as about 15 erosion control structures. It also includes a visitor center (i.e., Nature Center) with educational information as well as specific site improvements such as landscape design, building concepts, and roadway and parking concepts. Along with defining these project components, the master plan also discusses how the plan should be implemented and managed. Implementation of the master plan is recommended by using a three-phased approach to development, as discussed below.

Phases I, II, and III

The master plan describes implementation as requiring a "phased approach." There are three phases outlined in the plan, each of which was established using a set of criteria based on stabilizing environmental conditions and adding public value to the Park.

The master plan outlines what the major focus of each phase should be, along with estimated costs of development. For example, Phase I was estimated to take three years to complete. It includes the construction of the first four erosion control structures, the visitor center, a D-14 Interpretive Area, several trails, and a Duck Creek Picnic Area, and was expected to cost approximately $16 million. This is an estimate, and is likely to change as components of the master plan are implemented. Construction of Phase I is expected to begin changing the current erosion characteristics of the Wash, thus allowing wetland development and riparian enhancements to occur.

Each of the three phases are designed to respond to facilities, activities, budget constraints, and the scheduling needs of each erosion control structure or park improvement over the next 10-15 years. The Clark County Wetlands Park is estimated to be complete by 2015.

Erosion Control Structures

To reduce headcutting, control erosion, and stabilize the Wash, the master plan recommends phased development of about 15 erosion control structures along 6 miles of the Wash channel. Preliminary locations for each structure were briefly outlined in the Program EIS. However, it is expected that actual locations may be different from what was originally envisioned, and will be dependent on future site-specific analysis.

The master plan estimates that 160 acres of wetlands will be restored, enhanced, or created in the Park through development of the erosion control structures. The structures are expected to promote the establishment of native wetland and riparian vegetation species upstream of each structure, by pooling water and thus reducing the loss of wetlands to continued channel erosion. Riparian communities and increased diversity within the Park are the desired results (Southwest, 1995). In addition to the 160 acres, the Final Program Environmental Impact Statement for the Park estimates that 130 acres of riparian habitat (i.e., wetlands) will be enhanced (Southwest, 1998).

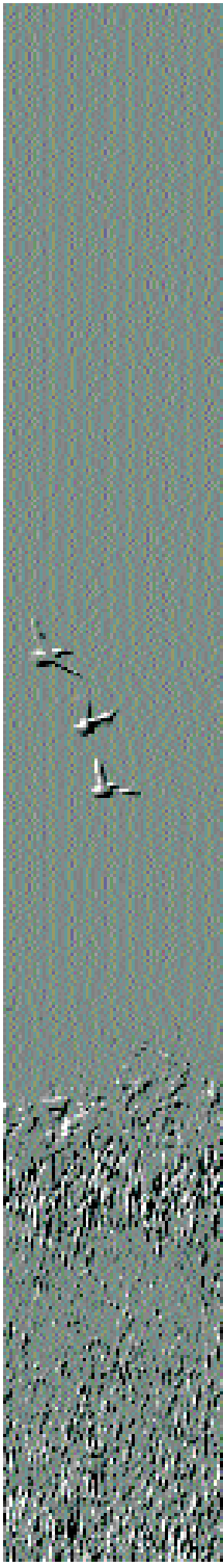
Two structures are currently being designed, the Pabco Road Erosion Control Structure (ECS), and the Grade Control Structure (GCS), located near the abandoned lateral. Designs for both structures were completed by Summer 1999. Construction was anticipated to begin in fall 1999. However, due to a July 8, 1999, storm event, which altered channel characteristics at each location, the structures are currently being re-designed to accommodate the new channel width. Both structures are expected to be complete in the year 2000.

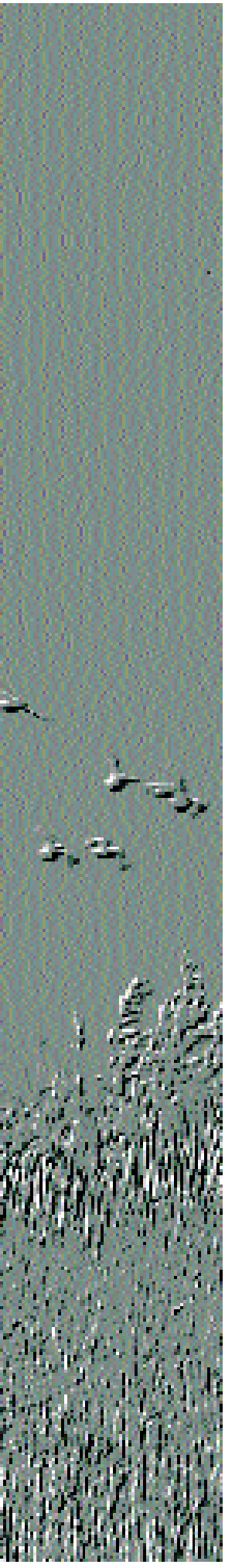
A detailed discussion on erosion, erosion control structures, and engineering options for the Wash can be found in Chapter 7, Erosion & Stormwater.

Water Resources for the Park

The source of water for the Park must be determined. The Wash receives water from four sources; 1) urban runoff, 2) stormwater, 3) treated wastewater, and 4) shallow ground water. Some combination of these water resources will be required to sustain vegetation within the Park.

It will also be necessary to determine how much water is necessary to meet the needs of the Park. Wetland restoration or creation without hydrologic





design normally fails. For this reason, hydrology must be carefully considered when developing the Park. The planning process may determine that a minimum daily flow would be beneficial to meet and sustain the needs of the wetlands park. Other hydrologic factors that will need to be taken into account include water depths, velocity, hydroperiod, salinity, nutrient levels, sedimentation rates, levels of toxins and other chemicals, etc (Kusler, 1990). Once the Park is fully established and completed, the master plan estimates that water flowing into the Wash that will be used by wetlands vegetation is estimated to be a maximum of 10,600 acre-feet per year (afy). This estimate is subject to change as various components of the Park are implemented.

Management of the Park

The master plan recommends management of the Park address three distinct, yet interrelated areas: recreational and visitor operations, erosion control management, and resource policies. Recreational and visitor operations refers to the operational management of the Park and interpretive facilities, including the Park property itself with respect to staffing and equipment operational procedures. Erosion control management refers to the upkeep of the erosion control structures, placement of additional structures, and other measures aimed at reducing headcutting and further deterioration of the Wash. Resource policies should be managed by addressing the overall conservation of natural and cultural resources in the Park, from the standpoint of policies, interagency cooperation, and working with land owners in and adjacent to the Park (Southwest, 1995).

Compliance with the National Environmental Policy Act

Although Clark County is the proponent of the Park, the U.S. Bureau of Reclamation (Reclamation) manages federal lands that will be used for the Park, and thus, National Environmental Policy Act (NEPA) compliance was required for the project. In December 1998, Reclamation issued a Final Program Environmental Impact Statement (EIS), which addresses impacts from phased construction and operation of the Park. Four alternatives, each emphasizing different levels of development and types of amenities within the Park, as well as a "no action" alternative were evaluated in the EIS. The approved and final alternative combines vegetation enhancement, erosion control, and recreation into one plan.

Agencies involved with development of the Park are expected to use the EIS in future decision making. A "program" EIS is designed to address a majority of the environmental issues required by the NEPA process, prior to construction of the project. The document also serves to facilitate and expedite the preparation of subsequent project-specific NEPA documents, such as Environmental Assessments (EA), which will be required for all future projects within the Park. Although subsequent NEPA documents are

Creating a wetland also creates the potential for attracting a federally-listed species to the site.

required to concentrate only on project-specific issues, they may also incorporate by reference or summarize issues discussed in the EIS.

For example, in August 1999 Clark County issued a draft EA for construction of the Nature Center (i.e., visitor center), which details only those environmental issues that are specific to the Nature Center and were not specifically addressed during the program EIS process (Harry Reid, 1999). This project-specific document is currently undergoing public comment, and is anticipated to be complete by the year 2000.

Compliance with Section 7 of the Endangered Species Act

Desert tortoise *(Gopherus agassizii)*. Photo credit: Southern Nevada Water Authority.

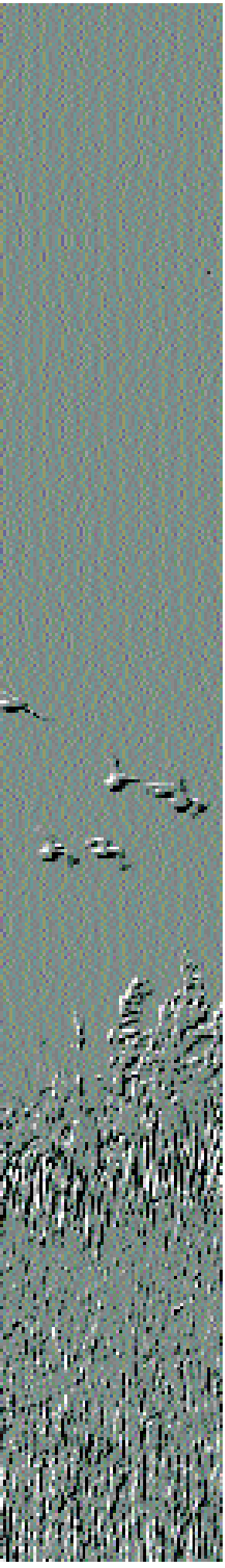
There are currently three species federally-listed as threatened or endangered under the Endangered Species Act (ESA), that have the potential to occur within the Wash, and may be impacted by development of the Park. These are the desert tortoise (*Gopherus agassizii*), the Southwestern willow flycatcher (*Empidonax traillii extimus*), and the Yuma clapper rail (*Rallus longirostris yumanensis*). For these reasons, Reclamation initiated a Formal Programmatic Section 7 Consultation with the U.S. Fish & Wildlife Service (Service), to ensure that the project is not likely to jeopardize the continued existence of these species. Another federally-listed species, the razorback sucker (*Xyrauchen texanus*), is addressed in Chapter 10, Environmental Resources.

Southwestern willow flycatcher *(Empidonax traillii extimus)*. Photo credit: Great Basin Naturalist Memoirs 1, Birds of Utah.

Due to the phased nature of the Park's development, the Service and Reclamation decided to conduct a "program" consultation, much like the program EIS. The program consultation will address potential impacts of the Park on the three federally-listed species, in addition a state-listed critically endangered species, the Las Vegas bearpoppy (*Arctomecon californica*), which is also being evaluated due to its potential presence within the Park. To begin the consultation, a Draft Program Biological Assessment for the Park is currently being developed by Clark County and its contractor, SWCA Environmental Consultants (SWCA, 1997). The service is expected to conclude the consultation sometime in the year 2000, by issuing a Formal Program Biological Opinion.

Yuma clapper rail *(Rallus longirostris yumanensis)*. Photo credit: U.S. Bureau of Reclamation.

Site-specific consultations may be required of future Park projects that



are authorized, funded, or carried out by a federal agency. To date, three site-specific Section 7 consultations have been conducted for projects within the Park. These include construction of the Pabco Road Erosion Control Structure and the Las Vegas Wash Grade Control Structure, as well as a consultation currently under way for the Nature Center.

Las Vegas bearpoppy (*Arctomecon californica)*. Photo credit: Southern Nevada Water Authority.

Compliance with Section 10 of the Endangered Species Act

Those projects and actions that occur on privately-owned land within the Park, and are not authorized, funded, or carried out by a federal agency, will be subject to the Clark County Multiple Species Habitat Conservation Plan (CCMSHCP). The CCMSHCP is being developed by Clark County, five cities within the county, and the Nevada Department of Transportation, in cooperation with various federal and state agencies. One of the goals of the CCMSHCP is to develop a county-wide conservation strategy for ecosystem conservation and management that will benefit approximately 80 listed and unlisted species in the initial phases, and up to 200 species over the 30-year-term of the program. The service is currently reviewing the permit application, and a permit may be issued by spring or summer, 2000. Issuance of the permit would allow for take of federally listed species on non-Federal property during otherwise lawful activities.

In addition to NEPA and ESA, the master plan describes several additional permitting and environmental compliance requirements that will be necessary prior to and during future development of the Park.

Recommended Actions

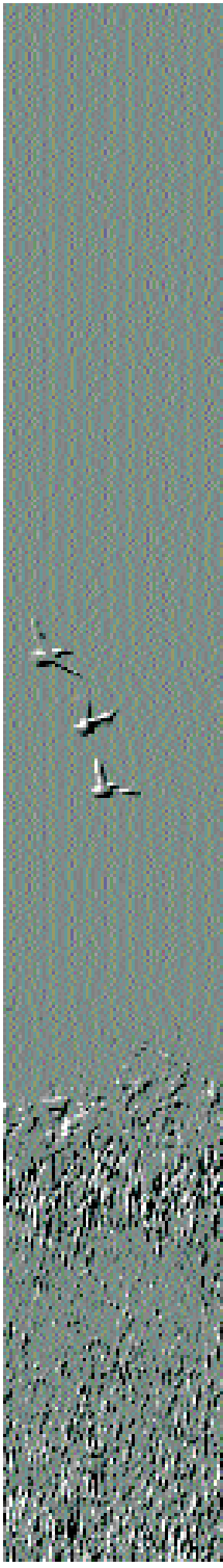
The objective of the Wetlands Park Study Team is to support and advise Clark County Parks & Recreation in development and implementation of the master plan, using the LVWCAMP as the vehicle. In order to accomplish this objective, the Team developed six recommended actions. After each recommended action was developed, the Team identified an entity or entities recommended for designation as the entities responsible for implementing the action. The entities identified were chosen based on jurisdictional interests and related public responsibilities.

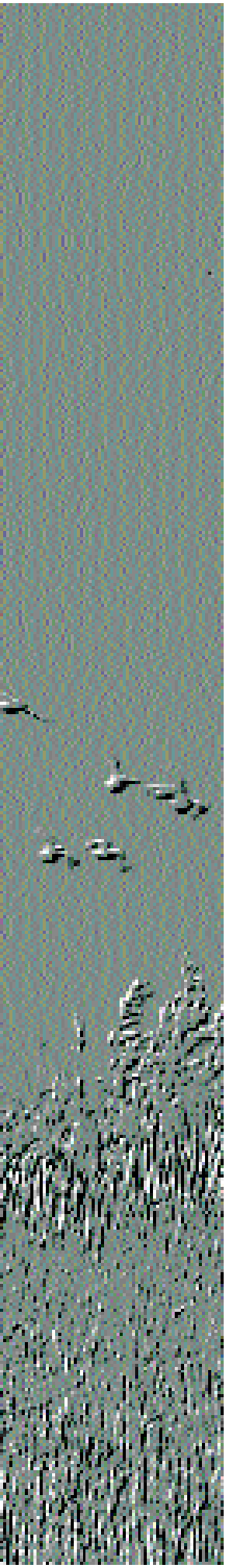
These recommendations were not developed with the intent to conflict with or displace the goals of the master plan. Rather, they were generated with the assumption that flexibility exists within each phase and project of the Park, and also with the knowledge that several resources issues will require further technical support and expertise of several entities prior to development and implementation under the master plan.

Action 1: Identify Water Resources Needed to Maintain the Park
Entities: Clark County Parks & Recreation, Environmental Resources Study Team

Hydrology must be carefully considered when developing the Park. Although not yet determined, there will be a minimum daily flow and set standards for water quality that will be required to meet and sustain the needs of vegetation and wildlife. Several hydrologic factors must be taken into account before extensive development occurs: water depths, velocity, hydroperiod, salinity, nutrient levels, sedimentation rates, levels of toxins and other chemicals, etc. In order to answer these questions and guide water resource issues for the Park, the following actions are recommended:

- Determine minimum daily in-stream flow requirements to maintain vegetation boundaries within the Park.
- Identify average daily water quantity available from each source of water in the Wash.
- Determine the feasibility of securing a minimum daily in-stream flow to the Park.
- Examine characteristics of wetlands within the Park, such as soils, vegetation, water depth, flow over time, and other related processes, in order to predict the impacts of wastewater and stormwater, as well as the potential for water quality enhancement.
- Develop and initiate a study to monitor the impacts of wastewater and stormwater on vegetation within the Park. Use the results to adaptively manage wastewater and stormwater impacts over time.
- Identify water quality constituents and their values, in each source of water in the Wash.
- Determine the range of water quality constituent values necessary to ensure and maintain the continued health and viability of vegetation within the Park.
- Finalize and implement the Draft Sediment Transport and Sediment Quality Monitoring Program (Southwest, 1998).
- Develop and implement a Water Quality Monitoring Plan to monitor water quality within the Wash. Use the results to adaptively manage water quality impacts over time.
- Work with the Alternative Discharge Study Team regarding flows in the Park.





Action 2: Develop Long-Term Monitoring Plans
Entities: Clark County Parks & Recreation, Las Vegas Wash Management Entity

In order to coordinate the various monitoring efforts within the Wash, and ensure Clark County mitigation requirements for monitoring within the Park are met, the following actions are recommended:

- Identify all current and proposed monitoring plans for the Wash, including monitoring as required by mitigation commitments for the Park. For example, the "Wetlands Mitigation and Riparian Enhancement Plan" (SWCA, 1995), the "Sediment Transport and Sediment Quality Monitoring Program" (Southwest, 1998), and a Water Quality Monitoring Plan.

- Identify agencies responsible for development and/or implementation of each monitoring plan.

- Coordinate with other study teams, to ensure full compliance and all research needs are met.

- Determine the feasibility of developing a long-term adaptive document to encompass all monitoring plans in the Wash, monitoring objectives, study parameters, responsible agencies, data sharing guidelines, correlations between monitoring plans, etc.

Action 3: Develop a Long-Term Operations & Maintenance Plan
Entity: Clark County Parks & Recreation

In order to facilitate management of the Park, and ensure that the three distinct, yet interrelated management goals outlined in the master plan (recreational and visitor operations, erosion control management, and resource policies) are addressed throughout long-term operations and maintenance of the Park, the following actions are recommended:

- Outline staffing and equipment operational procedures.

- Work with the Erosion & Stormwater Study Team and other affected entities to outline potential locations for placement of additional erosion control structures, as well as other measures aimed at reducing head-cutting and further deterioration of the Wash.

- Identify guidelines that address the overall conservation of natural and cultural resources in the Park.

- Address resource policies, interagency cooperation, and working with land owners in and adjacent to the Park.

- Develop an adaptive Long-Term Operations & Maintenance Plan for the Park.

Mitigation is meant to replace, on at least a one-to-one bases, the lost functions and values of natural wetlands affected by development activities.

Action 4: Ensure Implementation of Mitigation Measures
Entities: Clark County Comprehensive Planning, Clark County Parks & Recreation, Las Vegas Wash Management Entity, Jurisdictional & Regulatory Study Team

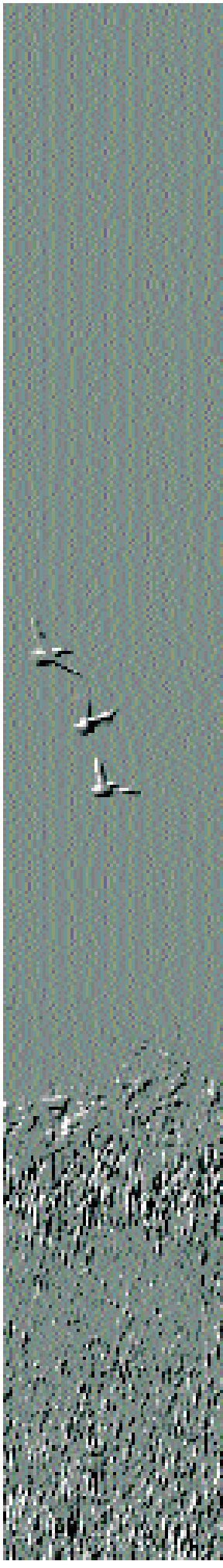
Mitigation measures are required of project proponents to compensate for any unavoidable impacts on a wetland, that may result from the proponents' activities. Proponents are often required to mitigate these impacts by enhancing, restoring, or creating wetlands on or near the development site, by the "permitting" agency(s).

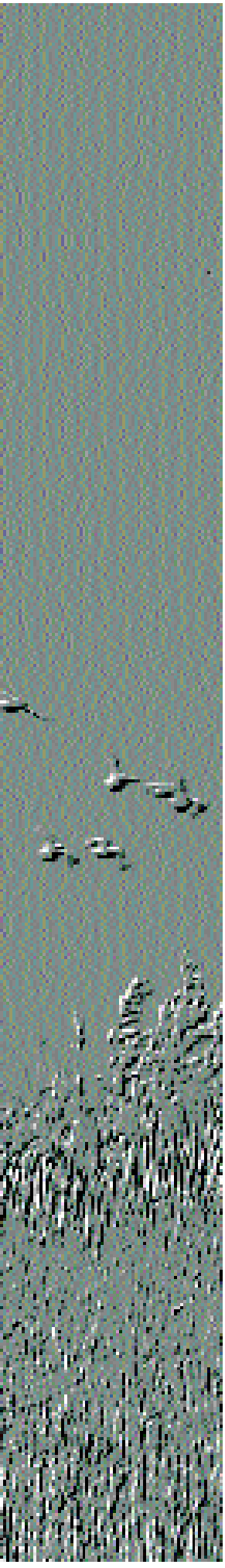
Several mitigation measures that serve to offset short-term environmental impacts of Park construction and development, are outlined in existing Park documents:

- Mitigation measures proposed in the master plan are outlined in the Wetlands Mitigation and Riparian Enhancement Plan. The plan includes measures such as restricting vehicle access, removing trash, creating open water habitat, modifying plant communities, and wetlands monitoring and management. It also outlines objectives of the mitigation, guidelines for riparian enhancement, ecological management principles, and planting design guidelines (SWCA, 1995).

- There are approximately 50 mitigation measures proposed in the Program EIS. They include mitigation for construction and operation, as well as various measures for effects to geologic resources, hydrology, water quality, biological resources, land use and socioeconomic factors, transportation and access, public services and utilities, recreational patterns and resources, noise, cultural and historic resources, health and safety, and visual resources (Southwest, 1998).

- The service required the implementation of four reasonable and prudent measures, 11 terms and conditions, and made three conservation recommendations in the biological opinion issued for the Pabco Road Erosion Control Structure. The Army Corps of Engineers, supplemented these measures by adding five minimization measures, all required of Clark County/Reclamation.





- Mitigation measures proposed in the Draft EA for the Nature Center, include water quality monitoring, mosquito control, a survey for two federally-listed bird species prior to construction, and implementation of the Wetlands Mitigation and Riparian Enhancement Plan (Harry Reid Center, 1999).

Similar mitigation will be required for future Park development, and will be included in future documents such as the Program Biological Opinion and the EA for the Scenic Drive.

Although mitigation ideally provides a mechanism for accommodating both development and the protection of wetland functions and values, the low rate of success of wetland mitigation projects remains a subject of concern (North Carolina, 1999). For this reason, the Team recognizes that success of the Park will be dependent on implementation and completion of all required mitigation measures. In an effort to recognize the importance and ensure effectiveness of required mitigation for the Park, a coordinated effort between Clark County Parks & Recreation, the Las Vegas Wash Management Entity, and the Jurisdictional & Regulatory Study Team is recommended to accomplish implementation and completion of each measure.

Action 5: Identify Funding Needs
Entities: *Clark County Parks & Recreation, Funding Study Team, Las Vegas Wash Management Entity*

In order to anticipate funding needs that must be supported to sustain development of the Park, the following three actions are recommended:

- Develop a comprehensive list of funding needs specific to the Park. For example,
  - Development and implementation of each monitoring plan.
  - Design, construction, and maintenance of park facilities.
  - Design, construction, and maintenance of erosion control structures.
  - Implementation of restoration and revegetation activities.
  - Land acquisition for the Park.
  - Development of the Long-Term Operations & Maintenance Plan.
  - On-going operations and management of the Park.
  - Long-term operations and maintenance of the Park.
- Assign cost estimates to each funding need identified.
- Determine project priorities and address scheduling needs.

Action 6: Ensure Interagency Coordination
Entities: Clark County Comprehensive Planning, Clark County Parks & Recreation, Las Vegas Wash Management Entity

In order to establish a partnership between the various agencies involved with the Wash, and foster an effective coordination effort for all projects within the Park, the following actions are recommended:

- Recognize and maintain Clark County Parks & Recreation (CCP&R) as the central "clearinghouse" for coordinating all work within Park boundaries.

- Identify the role of each agency involved in the Wash, and then establish a method of communication between those agencies for all projects occurring within Park boundaries.

- Identify specific opportunities to coordinate efforts and activities among the various entities involved in the Wash.

- Encourage CCP&R to formally solicit technical support, review, and input on individual components of the master plan, from all relevant and affected agencies involved in the Wash.

- Determine benefits of the Clark County Multiple Species Habitat Conservation Plan and the Lower Colorado River Multi-Species Conservation Plan to CCP&R's objectives within the Park.

- Develop incentives to encourage developer participation in the Park. Likewise, foster joint-projects between CCP&R and developers, from development occurring adjacent to the Park.

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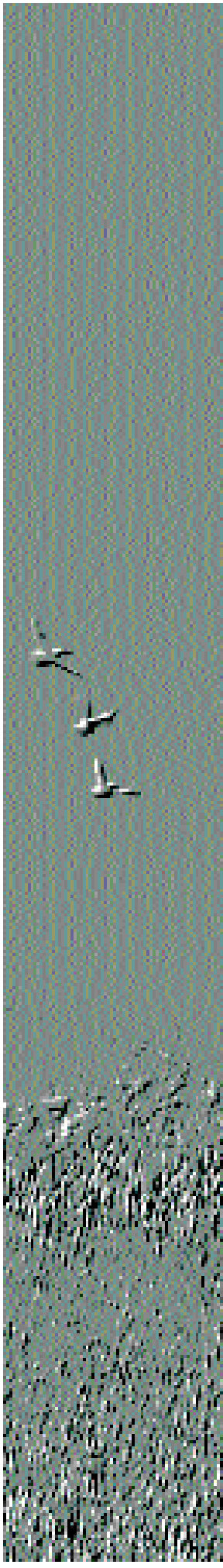

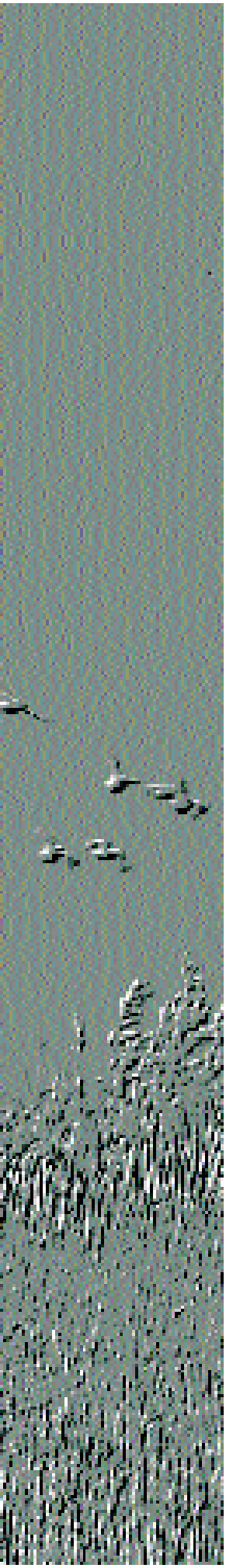

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