

INTRODUCTION

Through a combination of natural topography and human influences over time, the Las Vegas Wash (Wash) has become one of the most important environmental issues in southern Nevada. In simple terms, the Wash is the drainage system for the Las Vegas Valley Hydrographic Basin. Originating from a series of ephemeral creeks, desert washes, and runoff channels in the far northern and western parts of the hydrographic basin, the Wash takes shape in the eastern and southeastern metropolitan Las Vegas Valley, tracing a 12-mile-long curve that ends at Las Vegas Bay, an arm of Lake Mead. Figure I.1 shows a satellite image of the central and southeast part of the Valley indicating the urban area (green highlights) and the Wash as it discharges into the Las Vegas Bay.

The Wash is a natural system resulting from the topography and geology of the Las Vegas Valley (Valley), an alluvial basin surrounded by mountain ranges. Elevations in the Valley trend downward from the perimeter of the basin to the basin's lowest point in the southeast, creating a natural, single point of exit for any



Figure I.1 – Satellite image of the central and southeast part of the Las Vegas Valley Hydrographic Basin.



surface water flows or intercepted shallow ground water that occur in the Valley. This point of exit is the Wash.

The Wash is also a system reflecting human influence, in that many of its past and present characteristics can be traced to influences such as transporting treated wastewater flows and urban run-off from the nearby urbanized Las Vegas area. These flows have steadily increased over the years in conjunction with local population growth, and have transformed the ephemeral Wash to a perennial stream. The perennial flows have supported wetland development along a track of desert that, under natural conditions, would have remained relatively arid. Over time, the flows have produced acres of wetlands and riparian habitat. Figure I.2 shows the significant area of wetlands that existed in the Wash in 1975. However, the increasing flows resulting from the increasing urban population, have helped contribute to the erosion of soils along the banks of the Wash. Erosion has resulted in a less predictable course for the Wash and, in recent years, a decline in wetland vegetation and habitat. In addition, stormwater flows have produced significant erosion and channelization in the area, helping destroy existing habitat and potentially threatening infrastructure.



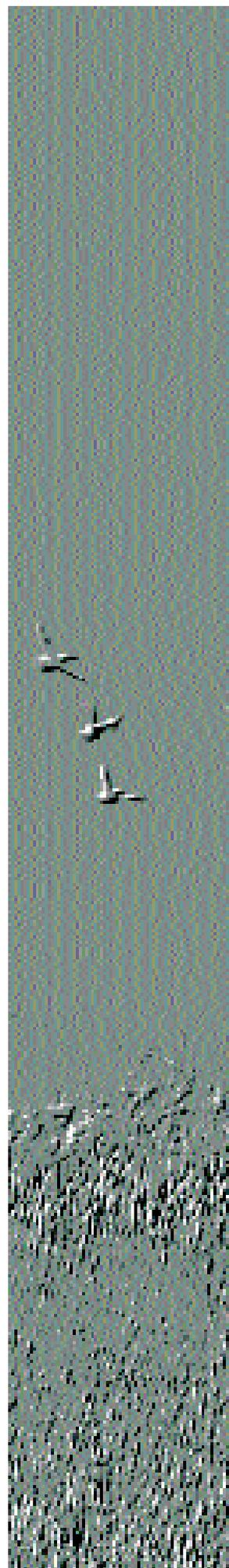
Figure I.2 - Upstream view of Las Vegas Wash at Northshore Road, May 1975 (Pat A. Glancy, USGS).

Another concern associated with the Wash is water quality.

Influences from past industrial activities near the Wash have been shown to impact water quality, and human activities have had an impact on urban runoff. To address these issues and any that may arise, a long-term, coordinated, and comprehensive approach to management of the Wash is essential.

The Need for Comprehensive Management

Many water quality problems are the result of diverse issues within a watershed. The solutions to these problems often rely on a type of land and water resource management that is beyond the responsibility of any one entity. The problems are difficult to address effectively without public input and the involvement of multiple stakeholders. In the case of the Wash, there are more than two dozen local, state, and federal agencies with



their own responsibilities, authorities, and scope of activities in or around the Wash. Local environmental professionals and the public also have a vested interest in protecting the Wash's future.

Lake Mead Water Quality Forum

In response to growing concerns over water quality issues in Lake Mead and the Las Vegas Wash, the Nevada Division of Environmental Protection initiated the Lake Mead Water Quality Forum (Forum) in February 1997. The Forum meets monthly and is comprised of local, state, and federal agencies with an interest in Lake Mead environmental issues, water quality, coordinating research, and identifying future research needs.

Water Quality Citizens Advisory Committee

To provide the Forum with public input and citizen recommendations in the area of water quality, the Southern Nevada Water Authority (SNWA) established a 21-member Water Quality Citizens Advisory Committee (WQCAC) in July 1997. The WQCAC is comprised of local citizens with an interest in water quality issues. The specific mission of the WQCAC was to develop specific recommendations to address and protect water quality in the Las Vegas Wash, Las Vegas Bay, and Lake Mead.

Over the next year, the Forum and the WQCAC met separately to discuss issues in their respective areas. The WQCAC alone met 18 times in a 10-month period. To provide a better understanding of conditions in the field, the group was given tours of the Las Vegas Wash, Las Vegas Bay, and local water and wastewater treatment facilities. To provide a better understanding of technical subjects, they were given in-depth presentations by staff and recognized experts. The group then engaged in lively discussions of the issues, assisted by a neutral facilitator. The end result of this work was the development of nine recommendations that were presented to the SNWA Board of Directors and the Lake Mead Water Quality Forum in June and July 1998, respectively, for approval and implementation.

These recommendations recognized that the water quality issues related to the Wash are complex and not the responsibility of any one public entity. The committee suggested that an interagency and community-wide effort be developed and implemented in order to address the many issues surrounding the Wash. The WQCAC recommended that the effort be coordinated and facilitated by the SNWA. The Lake Mead Water Quality Forum agreed, and this was the origin of the Las Vegas Wash Coordination Committee (LVWCC).

The Las Vegas Wash Coordination Committee

Following support of the citizen recommendations by the Forum, the SNWA developed and implemented an action plan outlining membership



- *City of Henderson*
- *City of Las Vegas*
- *City of North Las Vegas*
- *Clark County Sanitation District*
- *Clark County Departments of Comprehensive Planning and Parks and Recreation*
- *Clark County Health District*
- *Clark County Regional Flood Control District*
- *Southern Nevada Water Authority*
- *Basic Management, Inc.*
- *Lake Las Vegas Resort*
- *Las Vegas Bay Marina Owner*
- *Water Quality Citizens Advisory Committee (2 members)*
- *Friends of the Desert Wetlands Park*
- *University of Nevada, Las Vegas*
- *Nevada Division of Wildlife*
- *Nevada Division of Environmental Protection*
- *Nevada State Health Division*
- *Conservation District of Southern Nevada*
- *Colorado River Commission*
- *National Park Service*
- *U.S. Bureau of Reclamation*
- *U.S. Corps of Engineers*
- *U.S. Environmental Protection Agency*
- *U.S. Fish & Wildlife Service*
- *U.S. Geological Survey*
- *U.S. Natural Resources Conservation Service*

of the LVWCC. The action plan also provided a framework for the LVWCC process and established a timeline for specific goals. In September 1998, the SNWA established a project coordination team to provide administrative and technical support to the coordination committee. The following month, the Las Vegas Wash Coordination Committee convened for the first time.

Because the issues surrounding the Wash have local and regional implications, the 28-member committee combines local, state, and federal agencies with members of the public, business people, and representatives of environmental groups. Table I.1 presents the entities represented on the Las Vegas Wash Coordination Committee.

The committee is charged with researching and analyzing issues related to the Wash, developing and recommending solutions, coordinating the implementation of actions in a timely manner, and developing the Las Vegas Wash Comprehensive Adaptive Management Plan (LVWCAMP).

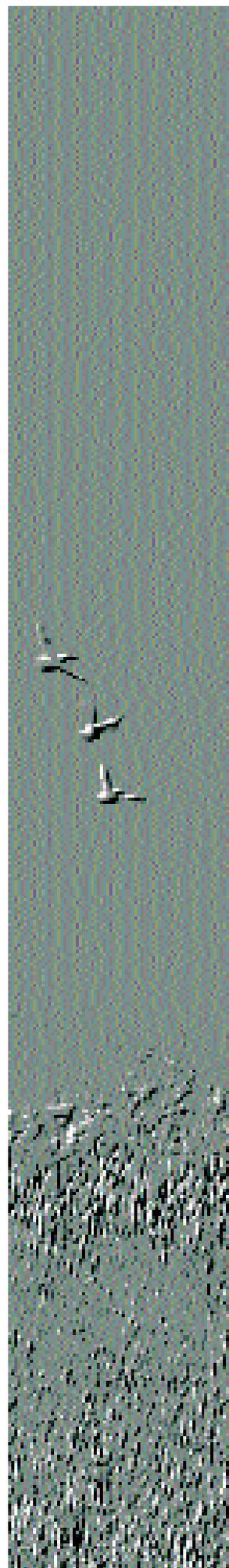
Following the intent of the recommendations made by the WQCAC, the LVWCC has spent the past year aggressively establishing specific areas of focus, each of which will function as an integral part of an overall management plan for the Wash.

Table I.1 – Represented entities on the Las Vegas Wash Coordination Committee.

Nine Study Teams Established

In order to reach the goal of the Las Vegas Wash Comprehensive Adaptive Management Plan, the LVWCC realized early on in the process the importance of addressing each topic in depth and developed nine study teams. Study teams were established in several areas to identify and analyze key issues and concerns, and to develop more specific recommendations and actions. Participants in these teams have included individual members of the LVWCC as well as additional technical staff from the entities represented on the LVWCC. Altogether, there are nine study teams, each one addressing a primary technical, administrative, or policy-oriented issue identified by the LVWCC:

- Shallow Ground Water
- Erosion & Stormwater
- Wetlands Park
- Alternate Discharge
- Environmental Resources
- Land Use
- Jurisdictional & Regulatory
- Public Outreach
- Funding



The Comprehensive Adaptive Management Plan

To facilitate long-term planning and implementation of solutions for the Wash, a comprehensive adaptive management plan was recommended by the WQCAC. One of the primary goals of the LVWCC was to develop such a plan, which is the present document.

The LVWCAMP reflects a comprehensive approach to land and water resource management in the Wash. By simultaneously addressing the many intricate questions posed by the Wash, the LVWCC is better equipped to plan and implement solutions for the long-term management of the area. Planning documents such as the Clark County 208 Water Quality Management Plan and Clark County Wetlands Park Master Plan, and groups such as the Lake Mead Water Quality Forum and the Water Quality Citizens Advisory Committee, have been instrumental in setting the foundation for the Las Vegas Wash Coordination Committee and its development of the LVWCAMP. The support and input of the multiple agencies and their expertise will help ensure the success of the LVWCC and the Las Vegas Wash Comprehensive Adaptive Management Plan.

In developing the plan, the LVWCC wanted to ensure the content was flexible and dynamic. This means a plan that is subject to revision in concert with the changing conditions expected for the Wash in the future, yet is structured enough to provide sound guidance to policymakers and entities with responsibilities affecting the Wash.

The LVWCAMP was developed following an extensive deliberative process. After gathering information from regional experts, using data surveys, and identifying existing programs and responsibilities, each study team formulated a set of objectives, goals, and recommended actions needed to create a management plan for the management of the Wash.

The Las Vegas Wash Comprehensive Adaptive Management Plan is a tool intended to help those agencies with responsibility and authority over aspects of the Wash. The document is a product of the multi-agency effort and is intended to guide and inform decisions for the stabilization and long-term management of the Wash. As a living document, the LVWCAMP will be updated periodically to reflect progress and changing conditions in the Wash. The plan will function as a focal point for organizing, prioritizing, and tracking the many initiatives related to the Wash.

How the Document is Organized

The LVWCAMP is organized into four sections. Section I is the Introduction. Section II is an overview of the Wash and includes a history



of the Wash, its flows, erosion, and water quality. Section III focuses on the LVWCC, its nine study teams, and the issues surrounding each study team's focus and resulting recommended actions. Section IV provides a summary of all the recommendations. The appendices for all chapters are available in a supplemental document.

<i>Section I</i>	<i>Introduction</i>
<i>Section II</i>	<i>Overview of Las Vegas Wash</i>
<i>Section III</i>	<i>Las Vegas Wash Coordination Committee</i>
<i>Section IV</i>	<i>Summary of Recommendations</i>

Because the nature of the Wash is ever-changing, the LVWCAMP is presented in a way that is easily “adaptable” to such conditions.

Conclusion

The Wash has proven to be a complex, valuable system that requires a combination of solutions to preserve its value into the future. Although the Las Vegas Wash Coordination Committee has no regulatory authority in and of itself, all committee participants understand and acknowledge that the Las Vegas Wash Comprehensive Adaptive Management Plan must facilitate action.

As a collaborative management process, the Las Vegas Wash Coordination Committee has succeeded in bringing together a diverse group of technical experts and decision-makers, and uniting them in a common cause: the stabilization and enhancement of Las Vegas Wash. Because of this broad-based involvement, the Las Vegas Wash Comprehensive Adaptive Management Plan has already gained the support of the community.

