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Vision Plan for the Lower Ventura River Parkway

Reconnecting People with the Ventura River

Prepared for The Trust for Public Land and the California State Coastal Conservancy



FIGURE i *View of the Lower Ventura River valley.*

Executive Summary

This Vision Plan was created by the 606 Studio, a consortium of faculty and graduate students in the Department of Landscape Architecture at California State Polytechnic University, Pomona. The Plan was completed in June 2010 and represents the partial fulfillment of the requirements for the degree of Master of Landscape Architecture for the planning team.

This project was sponsored by The Trust for Public Land, the Ventura Hillside Conservancy, and the California Coastal Conservancy. Funding for this project originated with a resource enhancement grant from the California Coastal Conservancy.

PURPOSE

The California River Parkways Act of 2004 and related legislation provides for the establishment of river parkways on lands along rivers or streams. The purposes of river parkways include the protection, improvement and restoration of riverine and riparian open space and wildlife habitat, the provision of opportunities to the public for recreation as well as awareness regarding the conservation and restoration of rivers and streams, and the conversion of existing developed riverfront land uses into uses consistent with river parkways. This document envisions a plan for a river parkway along the Lower Ventura River, located in Ventura County, California. The proposed Lower Ventura River Parkway is approximately six miles in length beginning at the Pacific Ocean and ending upstream at Foster Park.

This document is intended as an analysis, planning, and design tool for government and non-governmental agencies and the surrounding community who are interested in creating a river parkway that is compatible with recreational use, stewardship, river function, and regional ecosystems.

GOAL

The project goal for this Vision Plan is to reconnect people with the Lower Ventura River by providing opportunities for recreation, education, and stewardship while protecting and enhancing hydrological and ecosystem resources.

METHODS

Following guidelines suggested by The Trust for Public Land, the California State Coastal Conservancy, and the faculty of the 606 Studio, this document illustrates a vision plan for the Lower Ventura River Parkway plan using stakeholder input, research, maps, text, sketches, and pictures. Although this document focuses on a six mile segment of the Ventura River, planning and design proposals for the project site were developed within

the larger context of the Ventura River Watershed.

The planning team began by conducting an inventory of existing conditions and resources – hydrological, ecosystemic, and cultural – at the regional, watershed, and project area scale. The team then facilitated several public workshops to identify residents' preferences for the future of the Lower Ventura River and its environs. Experts in the fields of stream restoration, biodiversity preservation, and urban planning were consulted in order to identify guiding principles. The team conducted research, including site visits, regarding projects elsewhere that could provide precedents for planning solutions. The team used all of this information to identify the principal issues regarding hydrology, ecosystems, and culture and to formulate objectives for addressing those issues.

The team prepared a parkway vision plan including elements addressing hydrology, ecosystems, circulation and culture. The team also recommended policies and broad approaches that would address the plan objectives throughout the proposed six mile parkway project area, as well as selected regional and watershed-level policies that would directly impact the success of the parkway itself. The team identified clusters of significant opportunities and constraints for addressing their plan objectives. Based upon this analysis, four smaller sites within the project area were selected for a more detailed illustration of plan concepts. Finally, the team evaluated the effectiveness of the plan by the degree to which specific design concepts would meet single or multiple project objectives.

MAJOR FINDINGS AND THEIR IMPLICATIONS

Introduction

As long as people have lived on the coast of what is now Ventura County, they have had a relationship with the Ventura River. However, each successive era of human coexistence with the river, from Chumash to Spanish settlers, to oil developers and industrial workers, to present-day suburban residential developments in the floodplain, has increased demands upon the resources of the lower river, while decreasing the ability of people to experience the river – to walk along the riverside, dangle their feet in the water, fish, or observe wildlife.

Although the mouth of the Ventura River lies just a short walk from downtown Ventura, some residents and visitors are scarcely aware that the river exists. Mid-twentieth century flood control projects and urban development resulted in a two-mile long levee and a parallel four-lane highway forming a physical and visual barrier between the river and the city. “No Trespassing” signs discourage public approaches to the river, while the nature

of the river itself – narrow, braided, shifting channels partially hidden by dense vegetation (both native and invasive) within a broader alluvial floodplain – deters recreational visitors while attracting homeless encampments. These physical and visual barriers, as well as the dramatic floods that periodically scour the river and floodplain, have resulted in a complex and often times estranged relationship between people and the Ventura River. The lack of public awareness and appreciation for the river further threatens the health of this vulnerable resource and limits prospects for future stewardship. Today, the task of fostering new connections between people and the river while balancing public access with protection and enhancement of sensitive ecosystems has become a priority and provides the context for this Vision Plan.

Existing federal, state, and local policies that include limits on urban growth, the preservation of agricultural and open space resources, and the preservation and enhancement of water as a resource, provide the policy framework for the proposed parkway. Both the County of Ventura and the City of Ventura have established a goal of preserving and protecting significant natural resources from incompatible land uses and development in their General Plans. However, existing legislation does not adequately protect the river resource, neither from hydrological impacts that result from the removal of flow from the river and from its groundwater supplies, nor from social and ecological impacts resulting from fragmented development along the river.

Inventory and analysis: the landscape, its hydrological, ecological, and cultural resources

The Ventura River is one of the last remaining wild coastal rivers in Southern California. From headwaters high in the Santa Ynez Mountains, the river flows approximately 32 miles through national forest, farms, rural communities, and industrial and urban developments before meeting the Pacific Ocean in the City of Ventura, California. This project focuses on the lower watershed, where the land transitions from rural to agricultural and industrial, then to urban and residential as the river approaches the sea. The project site is notable for its close juxtaposition of both natural and manmade infrastructure, with undeveloped areas, heavy industrial facilities, farms and residential tracts existing adjacent to each other.

Human activities have impaired the hydrological function of the Ventura River. Both urban developments and flood control measures – including the Army Corps levee in Ventura – have encroached upon the floodplain of the lower river, reducing the space and resources available for natural river channel formation, habitat, groundwater recharge and the conveyance of flood waters. Some structures in the floodplain are at risk for severe damage from foreseeable floods. The impervious concrete surfaces of urban developments

exacerbate this risk by increasing surface runoff, allowing storm waters to accumulate more quickly during major storm events. Dams have disturbed the sediment balance in the river, contributing to the erosion of the river-bed, river banks and coastal beaches, while also acting as barriers to wildlife movement in the river. Groundwater pumping and the diversion of surface water for agricultural and domestic consumption have reduced instream flow in a river that even under natural circumstances would tend to run dry on a seasonal basis. In addition, the introduction of urban stormwater runoff and agricultural by-products can bring about a deterioration in the quality of surface and groundwater and the release of untreated contaminants into the marine environment.

The area of the proposed parkway includes at least eight habitat ecosystems: estuary, dune, riparian, scrub, chaparral, marine, river, and wetlands. The river provides important ecosystem services that directly benefit humans and wildlife. Biodiversity is one crucial ecosystem service, impacting both the stability and magnitude of ecosystem processes. The Ventura River Watershed encompasses large areas of intact, quality habitat which supports some of the highest biodiversity of plant and animal species in the Southern California region. However, current agricultural, industrial and urban development practices can threaten biodiversity in the proposed parkway area by reducing the space available for quality habitat, introducing pollutants and invasive species, and fragmenting the wildlife corridors that connect habitat patches. These connecting corridors allow for animal movement and gene flow – the exchange of genetic material between animal populations that encourages biodiversity and survival. This Vision Plan advocates a comprehensive approach to ecosystem-based management, one that is based on the recognition that habitat connectivity is a critical component of ecological processes.

Headwaters and tributaries play a crucial role in river health. Anything that impacts these water bodies affects both hydrological function and ecosystems because the river receives much of its water, nutrients, and sediment from these sources and because tributaries connect the river, the entire floodplain, and the surrounding hillsides. This essential network promotes wildlife movement and the dispersal of genetic material throughout the region.

The Ventura River's value as a cultural resource is based upon a foundation of continuous human contact with the river stretching back thousands of years. The history of that relationship is revealed in historical sites, landmarks, museums, and libraries, in or near the proposed parkway zone. The cultural experience of visitors is also enriched by religious facilities, schools, parks, shopping, restaurants and open space nearby. The parkway planning area has rich sensory resources, including spectacular viewsheds, microclimates, sounds and smells that vary markedly from the rural surroundings of Foster Park to the

vibrant activity of the Estuary, Surfers' Point and Historical Downtown.

At the same time, neighborhoods near the river have been affected by industrial development that has resulted in brownfields and industrial pollutants. The same neighborhoods currently lack adequate recreational open space, exacerbated by the fact that physical and visual access to the Lower Ventura River is generally impeded by the Army Corps levee, Highway 33 and 'No Trespassing' signs.

At community meetings conducted by the project team, older residents expressed a deep sense of connection and fond memories of fishing, swimming, and strolling along the Ventura River, while young families expressed a desire to see such recreational opportunities restored for the benefit of themselves and their children. Stakeholders revealed concerns about ecological values, river access, and river contamination. They also revealed negative perceptions regarding personal safety along some stretches of the river due to the existence of both homeless encampments and dense swaths of invasive plant species which inhibit the ability to clearly see and appraise one's surroundings.

Issues

The design team identified the following issues of concern:

- floodplain development has diminished the space available for natural river function
- hydrological infrastructure has impaired river function
- water consumption diminishes instream flow
- structures and activities adjacent to the Lower Ventura River are at risk of flood damage
- surface water and groundwater quality is impaired
- diminishment and degradation of ecosystems within the project area has resulted in the reduction of the quantity and quality of ecosystem services
- unsustainable practices negatively impact biodiversity
- habitat areas lack connection with each other
- invasive plant species limit native species
- insufficient opportunities for access and recreation along the Lower Ventura River
- many existing land uses degrade the river and reduce its value for visitors
- awareness of the river and its functions is lacking
- increased public stewardship of the river is needed

Objectives

Consideration of the issues listed above led to the identification of the following objectives:

- preserve and expand space for natural river function
- mitigate the impact of hydrological structures on river function
- ensure adequate instream flow
- protect parkway structures and activities from flood damage
- improve the quality of surface water and groundwater
- restore and enhance ecosystems
- enhance biodiversity by reducing harmful impacts
- increase habitat connectivity
- manage invasive species
- improve access to and recreation at the river
- minimize incompatible land uses near the river
- increase cultural awareness of the river through formal and informal education opportunities
- encourage stewardship of the river

PARKWAY VISION PLAN: BROAD STRATEGIES

This Vision Plan proposes many solutions for the achievement of the goals and objectives identified for the river parkway. Some of these solutions consist of general policies and practices for improved land use and stewardship in and around the proposed parkway area (e.g. low impact development methods or ideas for involving the public in creating the parkway), while others are actual designs (e.g. the proposed locations and configuration of trails, mixed-use developments or visitor facilities). Following is a summary of planning and design strategies that the planning team recommends for consideration throughout the proposed parkway area. The success of some recommendations for the parkway will depend on the implementation of improved policies and practices beyond the limits of the proposed parkway area, throughout the entire Ventura River Watershed. Where appropriate, these larger-scale recommendations are also discussed in this Vision Plan.

Hydrology: observing the importance of water

Many features of this plan aim to ensure a supply of abundant, clean water for the ecosystems of the river, for Ventura residents, and for the marine environment including:

- protecting the river floodway from development, and expanding the floodway in

some areas in order to reduce the risk of flood damage and improve river ecosystems

- ensuring adequate instream water through urban and agricultural water conservation, enhancing groundwater recharge, groundwater management, and conjunctive use at the scale of the entire watershed
- minimizing flood risk by designing parkway structures and visitor activities compatible with the occasional movement of flood waters
- mitigating the impacts of the Ventura Levee, the wastewater treatment plant, and other hydrological infrastructure on river function
- envisioning river-friendly neighborhoods that minimize stormwater runoff and enhance groundwater recharge through preserving vegetated open space and using permeable surfaces in built areas
- encouraging river-friendly farming practices including improved monitoring of soil moisture and fertilizer, organic farming, and the biological treatment of contaminants in runoff at the farm
- treating both agricultural and urban runoff first of all at its source, and secondarily near the river's edge, before contaminants are introduced into the river and then the ocean

Ecosystems: following natural form

Key objectives for the ecosystems element of this Vision Plan are to restore and enhance ecosystems, enhance biodiversity, increase the size, frequency and connectivity of high or moderate quality habitat patches and corridors, and manage invasive species.

Recommendations for achieving these objectives include:

- letting the alignment of the river and its tributaries guide the design of the proposed parkway; the main stem and its tributaries would form habitat corridors which transition into agricultural patches, and eventually into residential or mixed use developments; tributaries would also connect the ecosystems along the river with the hillsides above
- restoring the ecosystem services provided by tributaries by widening, dechannelizing or daylighting the river where appropriate
- preserving and restoring open space in the floodplain, to include a combination of undeveloped areas, passive and active recreational parks, mixed-uses, and a vegetated greenbelt along the eastern edge of Highway 33
- enhancing the habitat quality of farms through the use of vegetated swales and buffer zones of native vegetation around their edges
- expanding estuary, coastal wetland and coastal dune areas, which are all threatened

habitat types in the parkway area and their valuable ecosystem services are constrained

- using California native plants in and around visitor facilities and developed areas along with the continuation and expansion of native plant restoration activities in undeveloped areas; incorporating the collection and propagation of local, native seeds and plants as part of these efforts would also strengthen local ecosystems and increase survival rates
- maintaining the undeveloped characteristic of the western bank of the Lower Ventura River by limiting visitor activities primarily to hiking and low-impact activities
- promoting the preservation of open space in the adjacent hillsides to the east and west of the parkway, in accordance with the efforts of the Ventura Hillsides Conservancy

Culture: reinforcing stewardship

Given the adjacency of the Lower Ventura River to a densely populated urban area, increased public appreciation and stewardship for the river are prerequisites for the long-term sustainability of the river and its associated ecosystems. Opportunities for intimate contact with the river corridor in a safe context can increase understanding of the natural processes of this unique landscape, foster stewardship and volunteer opportunities, and build a charismatic connection between humans and land. Features that will address these objectives include:

- creating an appropriate circulation pattern
- providing interpretive and educational features to focus visitors' attention on natural processes, current and future efforts to restore the environment, and the historical richness of the area
- employing the north and south entry points to the parkway as gateways – places that announce the parkway to travelers on Highways 101 and 33 – and demarcating them with appropriate signage and interpretive strategies
- using appropriate wayfinding features such as path alignments, signs and trail markers
- siting visitor facilities and trails to take advantage of attractive viewsheds

Increased access must be balanced with the protection of sensitive ecosystems in a manner that respects the carrying capacity of the land. Recommendations for achieving this balance include:

- designating the west side of the lower river valley as primarily undeveloped in character, with limited visitor facilities that reinforce that designation
- creating walking trails with characteristics that are appropriate for the degree of sensitivity of the landscape that they cross. Trails would be aligned in a manner that

avoids overcrowding of especially sensitive areas, and trails that approach especially sensitive areas such as the riverbed would be few in number, with a higher degree of difficulty and a softer footprint.

- limiting of vehicle access and parking facilities in sensitive areas
- using signage and interpretive materials that emphasize the sensitivity of river ecosystems and encourage appropriate behavior

This Plan recommends five strategies for reinforcing stewardship for the Ventura River and its environs:

- bringing people closer to the river through improved access and circulation
- finding opportunities for people to participate in the construction and maintenance of the parkway; for example, local seed collection and propagation would provide a safe, supervised context for the presence of volunteers in and around the river floodway and would result in a supply of native plant material for parkway restoration – plants that are best adapted to climate conditions and the needs of local ecosystems
- educating people about the natural and cultural features of the river and its environs
- involving people in a continuing relationship with the environment through volunteer activities that focus on monitoring environmental conditions, or through environmentally-sound community farming activities near the river that preserve floodplain compatible open space while involving volunteers in an exploration of river-friendly agricultural practices
- at the governmental level, fostering stewardship means minimizing land uses such as heavy industry that are incompatible with river and ecosystem restoration, valuing open space in the floodplain, preserving agriculture, siting residential developments carefully and employing low impact development practices in their construction, and mitigating the sometimes harmful impacts of homeless individuals in or near the river floodway.

Circulation

Circulation patterns that bring people closer to the river and its associated habitat without unduly disturbing sensitive ecosystems and nearby landowners will help achieve all of the objectives identified for the Lower Ventura River Parkway. The planning team recommends a hierarchy of roads, trails and bridges with levels of infrastructure that are appropriate for their context:

- opening the west bank of the river and adjacent hillsides to recreational use through

a variety of pedestrian trails that emphasize a experience in an undeveloped natural environment

- creating opportunities on both banks of the river for walkers, and in some cases cyclists, to view the river more closely
- combining trails with both existing and proposed bridges to create loops that would provide flexibility in both distance and the quality of experience for parkway visitors
- developing multi-use trails, including the existing Ventura River Trail, would accommodate cyclists and many types of walkers, and would be sited primarily along the east bank of the river
- creating nature trails on the west side of the river with permanent alignments, appropriate signage, and occasional interpretive displays for educational purposes
- creating one or two short ephemeral trails – marked trails with temporary alignments, periodically changed by parkway staff in order to minimize the impact of hikers. The purpose of an ephemeral trail would be to allow a limited number of visitors to enter the river floodway and observe riverine ecosystems and flowing river channels that are usually obscured by dense vegetation, in a safe and sensitive manner. Such trails would be strictly limited in number and approximately 200 yards or less in length.
- preserving existing vehicular and pedestrian bridges at Main Street, Shell Road and Casitas Vista, while exploring a means of improving the value of those bridges to pedestrians.
- constructing new pedestrian bridges across the river floodway would help to form loops for a flexible walking experience along both banks of the river. Elevated pedestrian crossings would also complement ephemeral trails or serve as an alternative for those trails in some areas in that they would provide a relatively low-impact opportunity for close observation of flowing river channels and sensitive riverine ecosystems that are usually obscured by the broad floodway with its dense riverside vegetation.
- elevated pedestrian crossings across Highway 33 would provide pedestrian access from Westside Ventura to the river.
- trails that approach or enter the river floodway or adjacent riparian areas would exclude equestrian activity in accordance with ongoing efforts to control cowbird nest-parasitism that threatens native bird species.

SITE DESIGNS

The design team analyzed the entire parkway planning site by mapping the location of opportunities and constraints that exist for the achievement of plan objectives. Identifying clusters or concentrations of these opportunities and constraints within the proposed parkway area resulted in the selection of four smaller sites for site-specific designs and recommendations that implement the broad strategies described above.

Foster Park

Located at the northern tip of the proposed parkway, this century-old park provides an opportunity to create a visible gateway to the river and the proposed parkway while enhancing existing riverside day-use facilities and attracting more visitors. The team recommends:

- improving an existing informal swimming hole at this site that dates back to the early twentieth century, with complementary recreational facilities that would make the pool an important attraction for parkway visitors. Although Foster Park would be an ideal location for the pool from the standpoint of visitor access and historical meaning, the pool would need to be sited in a manner that does not negatively impact wildlife, a pending bank restoration project, or the quality of drinking water which the city extracts at Foster Park. In the event that implementation is not consistent with these constraints, locating the swimming hole at another site downstream from Foster Park, or the construction of an off-stream pool adjacent to the riverside at Foster Park should be considered.
- improving the connection between the day-use area and the existing Ventura River Trail for cyclists and pedestrians
- making the parkway visible at this northern gateway with signage on Highway 33 and an informational kiosk in the day-use area to orient visitors to the lower river and its recreational features
- increasing activity generators, visibility, and entry and exit points in order to attract more visitors and improve the perception of safety

Cañada Confluence

Approximately one mile downstream from Foster Park, the confluence of the Cañada Larga with the Ventura River features rich riparian habitat and a relatively easy approach to the riverside. The existing campus of the Brooks Institute and a remnant of the 18th century Spanish mission aqueduct add architectural and cultural interest, and the growth of suburban housing developments nearby makes this site significant as a potential proving ground for river-friendly, low impact urban development. However, the area also

presents a combination of hydrological impairments, dilapidated or abandoned industrial facilities, and “No Trespassing” signs that make it uninviting, and the brownfield area in the southern portion of the site contains chemical pollutants and asbestos that may render portions of it unsafe for public use in the near term. Proposals for this site include:

- relocating some existing structures outside of the 100-year floodplain in order to relieve the constriction of the river floodway and reduce the risk of flood damage
- augmenting the existing wastewater treatment plant with biological treatment ponds and forming a public arboretum around the ponds
- increasing flood protection using environmentally sensitive vegetated bioengineering techniques along the lowest reach of the Cañada Larga in order to reduce the risk to the historical Spanish aqueduct remnant that lies within its floodplain, while enhancing that historical landmark with improved facilities for public viewing and providing improved flood protection for the Brooks campus and other structures in the area
- widening and daylighting portions of the lower Cañada Larga in order to enhance the wildlife corridor and other ecosystems services provided by the tributary
- developing a public park near the confluence of the Cañada Larga with the Ventura River. The park could include a promenade along the lowest reach of the Cañada, an improved access stairway and observation platform where the Cañada meets the river, a community farm, and a night market – a program in which local vendors set up kiosks at dusk, providing the community with a unique opportunity to get outside and socialize after dark. These features would provide improved public access to both waterways and recreational open space, particularly for residents who live nearby in the North Avenue area.
- creating a remediation plan for the old refinery site (a brownfield) that would maximize public education and support for phytoremediation and other regenerative technologies, while preserving the visual forms of some refinery structures as an homage to the industrial heritage of the lower river

Cottonwood Junction

Located along the western bank of the river upstream from the estuary, this relatively undeveloped site would be the focal point for themes of agricultural and undeveloped nature experiences that would define the west side of the proposed parkway corridor. In this area, the team recommends:

- the preservation and restoration of wildlife habitat, including the expansion of native plant restoration activities currently underway

- preservation of existing agriculture and a trail to give members of the public a safe, non-intrusive opportunity to view farming areas
- a network of new nature trails that would connect the Ventura River Estuary with Foster Park along the western bank of the river
- Cottonwood Junction, an informal rest stop and gathering space located at the junction of several nature trails
- educational experiences that emphasize observation of nature and respectful interactions between humans and natural communities. These could include signage and other interpretative materials and, when feasible, walks or talks with volunteer docents.

Downtown Delta

The broadest portion of the Ventura River Valley is an area with considerable urbanization and relatively flat terrain that is quartered by Highway 101 and Highway 33. It encompasses existing portions of the Westside community, the downtown historical corridor, the Ventura River Estuary, the western beach area, and the Ventura County Fairgrounds. Objectives for this area of the proposed parkway include improved access to open space for Westside residents, a strong pedestrian connection between the vibrant downtown historical corridor and the river, economic revitalization, and the enhancement of estuary, wetland, and dune ecosystems. Proposals for the attainment of these objectives include:

- an elevated freeway crossing providing pedestrian access from the Westpark Community Center to a public trail atop the Army Corps of Engineers levee, along with the addition of plant material to the levee; in this manner, a visual and physical barrier to river access could instead become an opportunity for viewing the river
- strengthening the pedestrian connection between Ventura's historical downtown area and the river mouth by creating a mixed-use development and improved streetscape between Ventura Avenue and the Main Street Bridge. These features would spur economic growth while also attracting the attention of visitors west toward the river and its undeveloped features
- returning part of the oceanfront fairgrounds site to its historical wetland/estuary character – a feature that would form an exciting, active new edge for Ventura's downtown while also expanding natural water treatment and quality habitat; this would include the removal of an approximately 500 foot portion at the southern end of the levee, and the realignment of part of the Omer Rains Trail
- investigating the feasibility of an elevated pedestrian crossing over the estuary as

an alternative to crossing via the existing railroad trestle. Use of the trestle by many members of the public is both illegal and dangerous

- implementation of the Surfers' Point Managed Shoreline Retreat project in order to restore dune habitat and prevent shoreline erosion
- employing low impact development techniques in a redesign of the fairground parking lot to both reduce and treat polluted surface runoff, reduce thermal pollution from asphalt surfaces, and improve the aesthetic experience of the area
- improvements to the Emma Woods Group Camp and restoration of a fresh/brackish water seasonal lagoon habitat at the second mouth of the river, consistent with the Wetlands Research Associates 1994 plan
- replacement of the high-flood-risk RV Resort with restored wetlands and a Ventura River Interpretive Center to welcome visitors to the southern gateway to the proposed parkway

CONCLUSION

This Vision Plan includes features that would simultaneously enhance the hydrological function of the river, the health of ecosystems throughout the proposed parkway (including the marine environment offshore), economic development, and a vital community connection to the river. Each element of the proposed designs reinforces the others.

The inventory of resources in the proposed parkway project area revealed that many existing features of floodplain and urban development have negative impacts on the river and its associated ecosystems or hinder human enjoyment and appreciation of the river. However, some of these infrastructure features also perform functions such as flood protection or wastewater treatment that the community values. This Vision Plan seeks solutions that find synergies between natural processes and human infrastructure, so that structures and activities designed to meet human needs will simultaneously preserve and restore ecosystems. Additionally, this plan explores many opportunities for increasing human contact with the river in a manner that respects sensitive ecosystems and builds stewardship, and - where appropriate - to employ improved connections between the city and the river as a keystone for economic development.

A successful river parkway project on the Lower Ventura River can serve as the backbone of environmental infrastructure for the lower watershed for the next century, inspiring the community to value river restoration, protection of ecosystems, access, stewardship, and economic development.



FIGURE ii *The Lower Ventura River, looking south from its confluence with the Canada Larga.*

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PART 1: INTRODUCTION