Capital Outlay Plan

Plan Year: 2014-18 *(revised)*
Department: Resources Agency, San Diego River Conservancy

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Capital Outlay Concept Paper: Introduction

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This Capital Outlay Plan estimates capital costs associated with each of the San Diego River Conservancy's (SDRC's) Program Areas over a five-year time horizon. The Program Areas are described in detail in the *San Diego River Conservancy Strategic Plan Update, 2012-2017*. Due to the lapse of one year, the costs estimated here start with 2014 and include estimates through 2018. Although the current plan does not technically extend to 2018, the programs, priorities and projects identified in the plan are consistent with the SDRC's ongoing work (the first five-year strategic plan, its addendum, and the most recent strategic plan update) and are anticipated to be consistent with future plans.

The Capital Outlay Plan is intended to:
(a) Supplement the Strategic Plan Update by outlining the capital costs associated with the activities described therein; and
(b) Meet state guidelines for providing a five-year estimate of capital costs. As such, this plan follows the recommended state format for providing estimates and supporting narratives. They are detailed, by program, in the pages that follow.

Sum of Estimated Capital Costs of All San Diego River Conservancy Programs (in millions):

Strategic Plan Element	**2014**	**2015**	**2016**	**2017**	**2018**
Program 1: Conserve Land Along San Diego River					
Secure Key River Properties	$36.67	$36.67	$36.67	$36.67	$36.67
Develop and Implement Land Management Protocols					
Program 2: Emphasize Recreation and Education					
Complete the Trail	$8.76	$8.76	$8.76	$8.76	$8.76
Develop Recreation and Education Programs					
Program 3A: Preserve and Restore Natural Resources					
Remove Invasive Non-Native Plants and Restore the Land	$0.70	$0.70	$0.55	$0.55	$0
Program 3B: Protect and Preserve Cultural and Historic Resources					
Establish a Programmatic Emphasis….					
Expand Partnerships…					
Program 4: Enhance Water Quality and Natural Flood Conveyance					
Continue Collaboration with RWQCB…					
Help Establish the San Diego River Research Center	$0.10	$0.40	$0.10	$0	$0
Program 5: Expand the Organization's Capacity and Reach					
Develop and Implement a Funding Strategy					
Develop and Implement a Partnering Strategy					
TOTAL	$46.23	$47.13	$46.68	$45.98	$46.03

As noted in the chart above with gray shading, several programs do not have anticipated capital costs. For example, for Program 5, planners created a list of resources that may be available to the San Diego River Conservancy and its partners. This list is intended to be a "toolbox" of sorts to expand the capacity and reach of SDRC and to assist SDRC and its partners in leveraging funding above and beyond traditional state sources. That document is available, by request, from the SDRC Executive Director.

A number of partners assisted in preparing elements or providing information for this Capital Outlay Concept Paper: Rob Caringella of Jones, Roach, & Caringella (Program 1), Ann van Leer of Land Conservation Brokerage (Program 1), Robin Shifflet of the City of San Diego (Program 1), Rob Hutsel of the San Diego River Park Foundation (Program 1), Robin Rierdan of Lakeside's River Park Conservancy (Program 1), Mary Niez of the County of San Diego (Program 1), Jason Giessow (Program 3), Matt Rahn of San Diego State University (Program 4), and Kelley Hart, Virginia Lorne, Mary Bruce Alford, Wendy Muzzy, Daniel Stevens, and Bianca Shulaker of The Trust for Public Land (various programs).

Program 1: Conserve Land along the San Diego River

Secure Key River Properties

Program Category: Environmental Acquisitions and Restoration
Program Category Subtype: *San Diego River Conservancy Strategic Plan Update, 2012-2017*, Program 1: Conserve Land along the San Diego River
Project Title: Secure Key River Properties
Funding Source: Various

	2014	2015	2016	2017	2018
Estimated Costs for Program 1:	**$36.67m**	**$36.67m**	**$36.67m**	**$36.67m**	**$36.67m**
Total Estimated Program Cost					**$183,363,410**

1. Summary of Proposal

This proposal estimates the funding necessary to acquire fee title ownership of key properties along the San Diego River. Acquisition of these properties fulfills the mission of SDRC to acquire and conserve land, protect natural resources, and provide recreational opportunities within the San Diego River Watershed. Specifically, this activity supports Program 1 (Conserve Land Along the San Diego River) of SDRC's *Strategic Plan Update, 2012-2017*.

SDRC has estimated acquisition costs to better understand current market trends, assist with budget development, and promote strategic future acquisition activities with its board, governmental agencies, project partners, and potential funders.

SDRC's Strategic Plan Update calls for the acquisition of 739 acres to meet the goal of 1,450 acres originally set in the *Five Year Strategic and Infrastructure Plan 2006-2011*. The projected cost of acquiring key lands totaling about 1,537 acres that was more recently identified by SDRC and its partners is about $183 million or $36.67 million per year between 2014 and 2018.

2. Problem Identification

Certain lands in the San Diego River Watershed possess high biological, scenic, cultural, and recreational resource values. SDRC's legislative mandate recognizes the significance of these resources and the important role of SDRC in helping to protect these resources. For SDRC, as with other California state conservancies, acquisition of property is one of the primary methods to accomplish this.

The failure to acquire and protect key lands may lead to adverse impacts to resources of statewide and national significance, including state and federally-listed threatened and endangered species. Whereas entities such as local and federal government agencies and nonprofit organizations may acquire sensitive lands to protect them or

enhance public access, SDRC is a state agency created to specifically address resource protection in the San Diego River area. As such, it affords some responsibility to undertake and/or participate in a fair share of these acquisitions.

3. Alternative Solutions Considered

The following alternatives have been considered:

a) Rely on other state entities to acquire key properties.

The State of California houses agencies with various conservation and public access and recreation missions capable of undertaking acquisition activities. The Wildlife Conservation Board, Department of Parks and Recreation, State Coastal Conservancy, and State Lands Commission could provide funding, staff, or both to secure lands in the San Diego River Watershed. However, these agencies are much broader in scope than SDRC, with projects covering the entire state. SDRC acquisitions would compete with other worthy acquisitions in other areas of the state, to the potential detriment of San Diego River's resources. Due to its mandate to focus on the San Diego River area, SDRC has the ability to take a system-wide approach to conservation and public access, allowing for continuity and decision-making free from the limitations of jurisdiction or other constraints that other agencies often have.

The location of the SDRC office in San Diego enables its staff to be readily accessible, identify acquisition opportunities and shifting priorities, work effectively with landowners, and coordinate the overall acquisition program with local and federal entities and nonprofit partners.

Reliance on other state agencies to acquire key properties would not reduce the state's need for capital outlay funds for acquisition, but would shift the need and the responsibility for acquisition from SDRC to other state agencies. As fellow state agencies, they too face the same budget issues as SDRC.

Given its mandate and the advantages to undertaking projects over shifting responsibility to other state agencies, SDRC should continue to take the lead role in coordinating state efforts within the San Diego River area. While the area certainly benefits from involvement by other state agencies through their conservation planning and their grant programs, SDRC should continue to receive capital outlay funds for acquisitions it undertakes itself or grants in support of its partners.

b) Rely on non-state entities to acquire key properties.

SDRC's *Five Year Strategic and Infrastructure Plan 2006-2011* states:

> SDRC seeks to work cooperatively in partnership, where possible, with private, non-profit, and public entities and property owners interested in supporting conservation of the River and development of the River Park.

Using this approach, SDRC has successfully adopted a strategy in which some of the responsibility for acquisitions rests with these entities rather than with the state. For example, the San Diego River Park Foundation, Lakeside's River Park Conservancy, City of Santee, and The Trust for Public Land have conserved key properties in the San Diego River watershed; however, some of the acquisitions would not have occurred without grants from SDRC.

SDRC's capital outlay funds provide important leverage for additional acquisition funds from other state, federal, and local sources. This is particularly significant for those sources, often federal agencies, that require state participation in acquisition projects. Under such a scenario, without SDRC funding, it may take longer to secure funding from other state sources to qualify for federal funds. As a result, acquisitions may take longer to complete, increase in value, or become unavailable because of timing or other constraints.

c) Rely on local governments to use land use regulation to conserve land.

This alternative would depend on the jurisdictions within the San Diego River watershed (the City of San Diego, City of Santee, and the County of San Diego) to require conservation exactions over developable key properties as conditions to their development. While this approach would not conserve parcels in their entirety, it would enable the conservation of the most environmentally-sensitive portions of the land while allowing private landowners who are not willing sellers to realize their economic investment through appropriately-planned development.

Because properties in the urbanized areas of the San Diego River Watershed fetch the highest values for their land use type compared to their suburban or rural counterparts, SDRC may view land use regulation as a viable method for its local partners to conserve key properties. Specifically, land use regulation would provide the most cost-effective approach to conserving lands within the Mission Valley corridor of the City of San Diego, where current values, particularly for the commercial or multi-family uses popular in the area, are highest.

The recent adoption of the San Diego River Park Master Plan contains this type of regulatory mechanism to protect the river when future development or redevelopment occurs. While not a regulatory requirement, the City of Santee's General Plan also envisions protections for the river and provisions that development or redevelopment provide for the river park corridor. In the unincorporated county areas, the Multiple Species Conservation Program may play some role in preventing river encroachment or development.
To SDRC's benefit, land use regulation should reduce the amount of capital outlay funds necessary for conservation acquisitions. However, SDRC would still need capital outlay funds to acquire key properties from willing sellers in certain instances, such as where conservation exactions do not apply. In sum, this alternative is a complementary strategy that should be pursued in specific circumstances and locations.

d) Consider acquisition of easements to conserve land.

The focus of SDRC's acquisition program has largely been on fee title acquisition of properties using capital outlay funds. However, in addition to fee title acquisition, SDRC and its partners may acquire other forms of ownership interests such as easements. Depending on several factors, conservation easements can vary in value from 10 to 95 percent of fee simple value. Thus, compared with fee title acquisitions, easement acquisitions can provide a cost-effective method to conserve lands where existing owners are inclined to protect their properties but are not willing to sell fee title interest. The cost savings would allow SDRC to acquire interests in more properties and work toward meeting the acquisition goals set in its strategic plans. In sum, this is a desirable alternative for particular circumstances and may be pursued where appropriate. SDRC capital outlay funds will be critical to the success of these acquisitions. This plan does not include estimates for conservation easement acquisitions because many variables affect their values; easement values must therefore be determined on a case-by-case basis.

e) <u>Spread acquisition timetable over a longer timeframe</u>.

SDRC projects the fee title acquisition of key lands to total about $183 million or $36.67 million per year between 2014 and 2018. To reduce annual costs, SDRC may extend the timeframe of acquisitions beyond 2018 and undertake fewer acquisitions each year. While SDRC may make a decision to deliberately spread acquisitions over time, acquisition timeframes are generally beyond the control of SDRC due to the unpredictability of when property becomes available for acquisition and other outside factors, such as the schedules for non-SDRC grant applications. However, property values are subject to inflation, potentially resulting in higher future acquisition costs. (The current estimates assume a seven percent appreciation rate over the next five years.) SDRC may instead consider accelerating its acquisition program as much as possible to ensure that the agency meets its program goals.

4. Detailed Project Description and Recommended Solution

The project consists of the acquisition and protection of key properties in the San Diego River Area to support SDRC's conservation, recreation, natural resource restoration, culture and history, and water quality programs.

Representatives from SDRC, the City of San Diego, the City of Santee, the County of San Diego, Lakeside's River Park Conservancy, and the San Diego River Park Foundation identified acquisition priorities based on knowledge of biological, scenic, cultural, and recreation resource values and the potential availability of parcels for acquisition within the timeframe of the *Strategic Plan Update, 2012-2017*. The priorities are consistent with the river reach prioritization discussion in SDRC's *Addendum to the Five-Year Strategic and Infrastructure Plan* dated November 2011, in which the five reaches from the estuary to Lakeside are considered the highest priority areas due to the threat of development. The El Capitan Reservoir to State Route 67 Freeway reach received a medium priority designation, and the Headwaters reach received a low priority designation.

So that SDRC may accomplish its legislated mission and, in particular, its priority acquisition goals, it needs the capital funds to be appropriated in the amount requested. This solution is not mutually exclusive from the alternatives considered above; indeed, the solution should proceed in conjunction with the alternatives to fee title acquisition and with non-state acquisitions to maximize the opportunities to conserve key properties. SDRC supports this approach and states in its *Five Year Strategic and Infrastructure Plan 2006-2011:*

> The Conservancy's statutory objectives include "acquire and manage public land within the San Diego River Area." The Conservancy will implement these objectives through acquisition and other means, including donations, along the 52-mile length of the River. No one method of land conservation is favored; rather, each property is evaluated individually to determine the most cost and conservation-effective means to secure, preserve and manage the property in perpetuity. The Conservancy can secure and manage land directly or with partners but, in all cases, sellers must be willing. Land donations and voluntary dedications, including easements, are encouraged wherever possible.

The *Five Year Strategic Plan and Infrastructure Plan 2006-2011* set a goal to acquire 1,450 acres estimated at $73,274,000. The current goal is to acquire approximately 1,537 acres at an estimated about $183 million. These estimates assume all fee title acquisitions. Since SDRC and its partners could seek additional funds to match capital outlay funds, the estimated total acquisition cost should not be borne entirely by SDRC. Also, as discussed above, SDRC and its partners may conserve key properties via less-than-fee interest acquisitions and other methods that would reduce the total acquisition cost. The impact of additional outside funding and less-than-fee acquisitions on the total estimated program costs is unknown.

5. Summary of Cost Methodology and Assumptions

The Trust for Public Land (TPL) assisted SDRC by providing supporting documentation, including this land valuation work, for its *Five Year Capital Outlay* and *Infrastructure Plan* to supplement the *Strategic Plan Update, 2012-2017*.

The estimated acquisition cost is based on information from a restricted use report prepared by the appraisal firm Jones, Roach, & Caringella in May 2013. Using current market data (see Appendix A, Market Data Summary by Highest and Best Use Category), the report estimated average per-acre values for six land use types that an appraiser may determine as highest and best uses for properties. These uses are: Agricultural/Residential, Commercial, Floodplain, Industrial, Multifamily, Residential Suburban Density, and Upland Mitigation.

TPL estimated the acquisition cost of the key priority acquisition properties by first determining their zoning designations and best and highest uses as described by the restricted use report. TPL then multiplied the per-acre values to the lands' approximate acreage. Rough adjustments were made according to size and location of properties. The estimated cost does not include the cost of environmental studies, appraisals, escrow fees, staff time, or other charges associated with property acquisition.

It should be emphasized that the estimated acquisition cost of key properties is an estimation provided for general planning and budgeting purposes only. Any and all actual land acquisition values will be based on property-specific appraisals using Uniform Standards of Professional Appraisal Practice prepared by the Appraisal Standards Board (USPAP) and/or Uniform Standards for Federal Land Acquisition (USFLA or yellow book) standards, completed by a qualified appraiser, and reviewed and approved by state and/or federal agencies depending on funding source. All land acquisition undertaken by SDRC is subject to a willing seller and willing buyer relationship.

Attachments:
Appendix A, Market Data Summary by Highest and Best Use Category

Program 2: Emphasize Recreation and Education

Complete the Trail

Program Category: Environmental Acquisitions and Restoration
Program Category Subtype: *San Diego River Conservancy Strategic Plan Update, 2012-2017,* Program 2: Emphasize Recreation and Education
Project Title: Complete the Trail
Funding Source: Various

	2014	2015	2016	2017	2018
Estimated Costs for Program 2:	**$8.76m**	**$8.76m**	**$8.76m**	**$8.76m**	**$8.76m**
Total Estimated Program Cost					**$43,800,000**

1. Summary of Proposal

This activity supports Program 2 of *SDRC's Strategic Plan Update, 2012-2017*. Through leadership and collaborative efforts with various partners, SDRC has made great strides towards the development of the San Diego River Trail. Accomplishments include:

- Construction of the Ocean Beach Bike Path extension;
- The planning, permitting, and construction of the San Diego River Gorge Trail;
- Santee's construction of a 2,500-foot extension of the San Diego River Trail which terminates at the Carlton Oaks Golf Course. SDRC provided $472,963 of its Proposition 40 set aside to the city to complete the project.
- The San Diego Regional Bicycle Plan included the San Diego River Trail, recommended its integration with Regional Comprehensive Plan and Regional Transportation Plan, and budgeted $250,000 of TransNet funding for planning.
- The county has begun to invest its resources in the acquisition and design of the Historic Flume and proposes to complete approximately 2.5 miles of the 36 mile Historic Flume Corridor. SDRC renewed its partnership with the county and agreed to pursue construction funding once compliance with CEQA had been accomplished.

Knowing that a completed San Diego River Trail will provide invaluable community connections along the entire 52-mile length of the San Diego River for the residents and visitors of San Diego, Santee, and Lakeside, SDRC also retained KTU+A to complete a gaps analysis that identifies every single gap in the trail system by reach and estimates the costs associated with building or improving each segment identified in the gap analysis.

Besides commissioning a gap analysis, SDRC formed an intergovernmental working group that reports progress on the planning and implementation of the San Diego River Trail. The working group is an ongoing venue for the sharing of ideas and setting of funding priorities, and therefore this group assures collaborative planning and implementation of the trail.

Given SDRC's statutory charge and demonstrated leadership with respect to developing the San Diego River Trail, this proposal requests the capital funds needed to address the remaining gaps in the trail system as identified in the comprehensive *San Diego River Trail Gaps Analysis (2010),* with one exception. This request does not include funding for the pedestrian bridge needs identified in the plan, as that substantially increases the costs of this work and can be viewed as a second tier priority at this time.

2. Problem Identification

The underlying problem is that the San Diego River holds tremendous untapped potential as a much-needed recreational/health resource for residents and visitors to the area. Many residents living near stretches of the river suffer from inadequate access to nature and to diverse recreational options. While significant progress has been made in building trail segments, the San Diego River Trail is not yet a connected, safe corridor for biking, walking, skating, running, or other low-impact linear park uses. Meanwhile, healthy lifestyles are increasingly difficult to maintain and rates of obesity and diabetes continue to rise. The river holds tremendous potential to provide much needed outlets to help residents and visitors maintain or increase healthy lifestyles, and in some cases provide alternative non-motorized transportation corridors for healthy, climate change-neutral commuting.

SDRC maintains a commitment to complete projects approved by the SDRC Governing Board, the San Diego River Trail Intergovernmental Working Group (IWG), and the San Diego River Coalition, particularly those that are located in the riparian corridor that connects Mission Trails, Santee, and Lakeside reaches of the river. The comprehensive gaps analysis is ready for implementation, which will make the San Diego River Trail a functioning recreational system with adequate access points for residents and visitors. However, there are presently insufficient funds to complete prioritized projects.

SDRC will endeavor to maintain its commitment to SDRC approved projects, as well as the new priority projects identified for the next five years. Dwindling general obligation bond funds means that SDRC must place an even greater emphasis on obtaining existing or future general obligation bond funding, as well as securing alternative funding sources to accomplish SDRC's legislative mandate.

3. Alternative Solutions Considered

Rely Upon Others to Develop the Trail.

Recognizing that completion of the San Diego River Trail was one the SDRC's top priorities, the SDRC Governing Board took formal action to establish the San Diego River Trail as a civic imperative and a regional collaboration. It created an Intergovernmental Working Group comprising key staff for each jurisdiction to address technical issues, funding and construction priorities, and construction and management coordination for the trail. A Gaps Analysis was completed which identified functional and physical barriers to completing the trail. All jurisdictions ranked and recommended priorities the based on the Gaps Analysis. These priorities were subsequently endorsed by the Governing Board following presentations by members of the IWG. SDRC encouraged that these priorities be included in each jurisdictions' Community Plans and Capital Improvement Programs (C.I.P.). Today, every

jurisdiction has begun to fund and complete priority projects to close the most critical gaps. Thus, SDRC is already relying upon others to help in developing the trail, making it truly a joint effort. That said, SDRC has a critical role leading this effort. Capital dollars will enable SDRC to strengthen its on-going leadership and capitalize on momentum, leveraging its funds against funds raised locally.

Do Nothing.

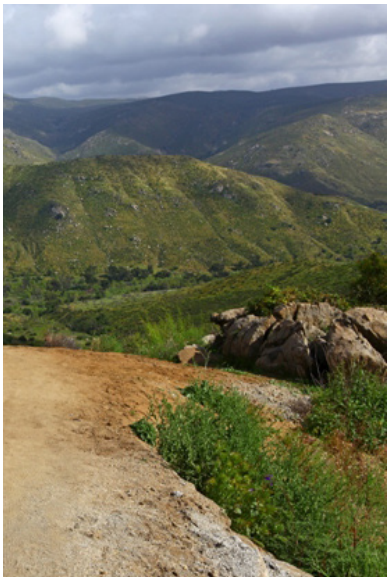
Considering the tremendous amount of planning and coordination that has led SDRC to be so well equipped at this moment in time to thoughtfully begin plan implementation, it would lay the planning investment to waste not to fund the top priorities that have been strategically identified as high need and high value for the San Diego River Trail. This is the most critical time for SDRC to receive funding for trail investments because all of the players are aligned and the most important projects identified. The good momentum will be lost without an ongoing demonstration of leadership and commitment of dollars to continue to spur local investment and progress. Note: this alternative is included for purposes of reflecting a scenario in which no funding is available to take action.

4. Detailed Project Description/Recommended Solution

The *San Diego River Trail Gaps Analysis (2010)* details the precise gaps, proposes projects, and contains the basis for the estimates in this capital outlay concept. *San Diego River Trail Gaps Analysis (2010)* is herein incorporated by reference to serve as the detailed project description and recommended solution.

5. Summary of Cost Methodology/Assumptions

The *San Diego River Trail Gaps Analysis (2010)* details the precise gaps, proposes projects, and contains the basis for the estimates in this capital outlay concept. *San Diego River Trail Gaps Analysis (2010)* is herein incorporated by reference to provide the summary of cost methodologies and assumptions. Note that the $43.8 million estimated for capital costs does not include costs for pedestrian bridge design and construction estimated as part of the gaps analysis.



Program 3A: Preserve and Restore Natural Resources

Remove Invasive Non-Native Plants and Restore the Land

Program Category: Environmental Acquisitions and Restoration
Program Category Subtype: *San Diego River Conservancy Strategic Plan Update, 2012-2017,* Program 3A: Preserve and Restore Natural Resources
Project Title: Remove Invasive Non-Native Plants and Restore the Land
Funding Source: Various

	2014	2015	2016	2017	2018
Estimated Costs for Program 3A:	**$700,000**	**$700,000**	**$550,000**	**$550,000**	**$0**
Total Estimated Program Cost					**$2,500,000**

1. Summary of Proposal

SDRC has initiated a watershed based invasive, non-native plant control program in the San Diego River Watershed. Specifically, this activity supports Program 3, Project 1 of *SDRC's Strategic Plan Update, 2012-2017*, which is "Remove Invasive Non-Native Plants and Restore Biological and Hydrological Process to the River."

SDRC has done initial baseline mapping, completed a mitigated negative declaration, and received an Army Corps regional permit, CADFW 1600 permit, CALTRANS right of entry, and authorization from USFWS for the program. Invasive species removal has begun at multiple sites.

While some invasive species are located in just some portions of the watershed, *Arundo* needs to be eradicated from the entire watershed. SDRC has successfully completed three *Arundo* eradication projects so far, restoring 58 acres of the 354 acres of invasive plants that were initially mapped (Note: these acres were treated before the State Coastal Conservancy authorized $1.5 million toward *Arundo* eradication at its June 2013 meeting; the $1.5 million is part of SDRC's Proposition 84 set-aside administered by the State Coastal Conservancy). SDRC is using proven methods of treatment, retreatment, and revegetation. Invasive species control costs vary greatly from site to site depending on public/private ownership and parcel size, topography, species composition, and other limiting factors. The costs are approximately $20,000 per acre.

2. Problem Identification

Three hundred fifty-four acres of high priority invasive plant species have been mapped in riparian areas that need to be controlled and replanted. *Arundo*, tamarisk, Mexican fan palm, and pampas grass are the bulk of the acreage, but non-native trees (e.g. Brazilian pepper tree) are also in abundance. All of these species degrade habitat quality and pose a significant fire and flood risk. Invasive species removal has begun, but significant work remains.

Arundo is the primary focus of the program, as this species is causing particularly severe impacts to both abiotic and biotic riverine processes and riparian habitat. As recently documented in the *Arundo* Impact Study (www.cal-ipc.org), *Arundo* has pronounced effects on multiple factors that shape riverine processes. These modifications include changes to sediment transport, hydromodification, and an increase in the incidence of fire in riparian ecosystems. These impacts have severe ecological consequences on the river, degrading the habitat for native flora and fauna, several of which are state- and/or federally-listed species. In addition, *Arundo* physically displaces native vegetation and converts naturally open spaces to densely vegetated areas. In addition to all of these ecological considerations, *Arundo* poses a significant threat to infrastructure and water resources, exacerbating flooding by contributing to overbank flows and depleting belowground aquifers through unusually high water usage. Several years of study have shown that the sites that have been successfully treated have an increased presence of sensitive and endangered bird species and self-sustaining healthy native riparian plant community.

3. Alternative Solutions Considered

Do Nothing.

This alternative does not achieve statutory mission of SDRC. Note: this alternative is included for purposes of reflecting a scenario in which no funding is available to take action.

Rely Upon Others to Undertake Restoration.

Jurisdictional gaps and mandates create significant areas throughout the watershed that would not be treated. The persistence of the invasive species in the upper watershed would then perpetually re-colonize treated areas downstream. SDRC's watershed-wide jurisdiction and specific statutory mandate uniquely position it to achieve the goal of invasive species removal along the San Diego River.

4. Detailed Project Description/Recommended Solution

SDRC has created a watershed-wide program for invasive species management. This program is a Tier 1 project in the Southern California Wetlands Recovery project's Work Plan, reflecting both the need for the project and the SDRC's capacity to implement the project. Several projects that are encompassed in the San Diego River watershed-based invasives eradication program were listed as priorities in the 2012 Annual Work Plans for SDRC and the San Diego River Coalition, an organization comprising more than 70 community based conservation groups and stakeholders.

The San Diego Association of Government's recently completed plan 'Management Priorities for Invasive Non-Native Plants' specifically highlights continued support for watershed-based *Arundo* eradication programs. This plan states that *Arundo* is the most detrimental invasive non-native plant in the county, indicating its severe abiotic and biotic impacts. Also, landscape-level coordinated management of *Arundo* is occurring, and the San Diego River watershed is specifically identified as meaningful, coordinated work occurring under the leadership of SDRC. The partners are aligned to implement this program, and SDRC needs additional funding so the program does not lose momentum.

5. Summary of Cost Methodology/Assumptions

Original estimates indicated that it would cost $5 million to restore these 354 acres. This was based on a rough estimate that it costs about $20,000 to treat one acre of invasive species. Restoration is already well underway, and about $1 million has already been spent. In June 2013 the State Coastal Conservancy authorized another $1.5 million for *Arundo* eradication. These dollars are from SDRC's set aside for Proposition 84 funding administered by the State Coastal Conservancy. The current estimate is for funding needs of $2.5 million to complete this work. The following is the list of funding sources initially identified that, if all procured, would amount to $5 million, with updates provided here as well since restoration work has already been partially funded:

- $575,000 Proposition 40 River Parkways Program (Resources Agency) (This is mostly completed, and about $350,000 is already encumbered. SDRC needs remaining $225,000 of its set aside.)
- $175,000 Department of Defense (still needed)
- $400,000 Regional Water Quality Control Board (mostly done/in progress)
- $233,000 Department of Fish and Game (already spent)
- $3,617,000 Wetlands Recovery Project (requested). In June of 2013 the State Coastal Conservancy authorized $1.5 million for Arundo eradication (from SDRC's set aside for Proposition 84 funding that is administered by the State Coastal Conservancy), so the amount still needed from the Wetlands Recovery Project is $2,117,000.

Since SDRC estimates about $1 million have already been spent and about $1.5 million were recently made available, this request is for $2.5 million.

Program 4: Enhance Water Quality & Natural Flood Conveyance

Help Establish the San Diego River Research Center at SDSU

Program Category: Environmental Acquisitions and Restoration
Program Category Subtype: *San Diego River Conservancy Strategic Plan Update, 2012-2017,* Program 4: Enhance Water Quality & Natural Flood Conveyance
Project Title: Help Establish the San Diego River Research Center at SDSU: RiverNet Watershed Monitoring Infrastructure

Funding Source: The total cost for the project is estimated at $905,000. The partnership consisting of SDRC, San Diego State University (SDSU), and San Diego River Park Foundation has already received $300,000 in initial startup funding for concept development, planning, and design. This included $75,000 from the State Coastal Conservancy for preliminary planning and design, $200,000 from SDRC for the design and installation of four monitoring stations, and $25,000 in matching funds from SDSU. To build out a comprehensive real-time monitoring network for the watershed, an additional eight stations and a nutrient monitoring platform with autosampler are needed. **The remaining costs are estimated at $605,000.**

	2014	2015	2016	2017	2018
Estimated Costs for Program 4:	**$105,000**	**$400,000**	**$100,000**	**$0**	**$0**
Total Estimated Program Cost					**$605,000**

1. Summary of Proposal

This activity supports Program 4 of *SDRC's Strategic Plan Update, 2012-2017*. In partnership with SDSU and the San Diego River Park Foundation, SDRC has initiated a long-term watershed monitoring program called RiverNet that collects, shares, and understands environmental information. RiverNet creates a unique interdisciplinary outdoor laboratory and classroom that can serve as a major contributor to watershed management, restoration, and conservation decision-making. The monitoring stations collect basic water quality parameters (temperature, pH, flow/depth, photosynthetic active radiation, cyanobacteria, chlorophyll, dissolved oxygen, conductivity, and turbidity) and meteorological data. The RiverNet monitoring station platform has been collecting data in the San Diego River since 2009, but to complete existing system, the installation of eight stations and a nutrient monitoring platform with autosampler are needed.

The concept has been vetted with partners and stakeholders throughout the watershed, including the San Diego Regional Water Quality Control Board, City of El Cajon, Padre Dam Municipal Water District, San Diego River Park Foundation, County of San Diego, City of San Diego, City of La Mesa, San Diego River Conservancy, City of Santee, San Diego CoastKeeper, U.S. Forest Service, and Helix Water District.

2. Problem Identification

The San Diego River Watershed is the second largest watershed within San Diego County (440 square miles), and has the largest population. The watershed contains important natural resources such as a large groundwater aquifer, vast riparian habitat, and coastal wetlands. Nearly sixty percent of the watershed is currently undeveloped; a majority of the viable ecosystem occurs in the upper reaches, with the lower portions being heavily urbanized. Much of the habitat contains many endangered and threatened species, including the Southwestern Willow Flycatcher, Arroyo Toad, Least Bell's Vireo, and Southwest Pond Turtle.

As one of the fastest growing regions in the United States, San Diego has drastically increased its use and impact on the San Diego River Watershed. Demands on this limited resource have dramatically changed over the years, risking the river's long-term sustainability, ecosystem health, and water quality. Today, the San Diego River winds its way through a complicated matrix of natural, non-native, urban, and agricultural lands. This gauntlet poses a serious threat as the population increases, resulting in increased sediment transport, changes in water volume, and the input of a myriad of water pollutants. Currently, the EPA has listed nine areas in the watershed that are impaired under Clean Water Act section 303(d) (do not meet water quality standards under the Clean Water Act). Listings are for eutrophication, fecal coliform, pH, total dissolved solids, bacteria, low dissolved oxygen, and phosphorous.

Nonpoint source runoff during storm events is a major contributor to current impairments. Storm water sampling is logistically difficult and time-intensive. Concentrations of contaminants can change rapidly throughout a storm event, so sampling several times during a storm event is desirable. Basic water quality indicators (pH, dissolved oxygen, temperature, and conductivity) can be recorded continuously (15-minute intervals) at the various locations (described below) in the watershed, using instruments left in the stream. However, the determination of most contaminants of concern, including nutrients, requires that water samples be taken in the field during the storm. Ideally, intensive sampling of a few storms using a nutrient monitoring platform with an autosampler station can be used to develop a relationship between continuously-recorded indicators and nutrient concentrations in order to interpolate the nutrient water sampling results in time.

3. Alternative Solutions Considered

Do Nothing.

This alternative does not achieve statutory mission of SDRC. This also continues a legacy of having insufficient information on which to base management and decision-making within the watershed. The lack of a more thorough dataset for the river also has costly regulatory implications. Note: this alternative is included for purposes of reflecting a scenario in which no funding is available to take action.

Enhance Grab Samples.

Samples can be collected manually, which requires a dedicated team of people. While enhancing grab samples may increase data collected within the watershed, this solution does not provide the temporal or spatial resolution needed. This method is also extremely time and labor intensive and does not aid in a more rapid identification of problems within the watershed.

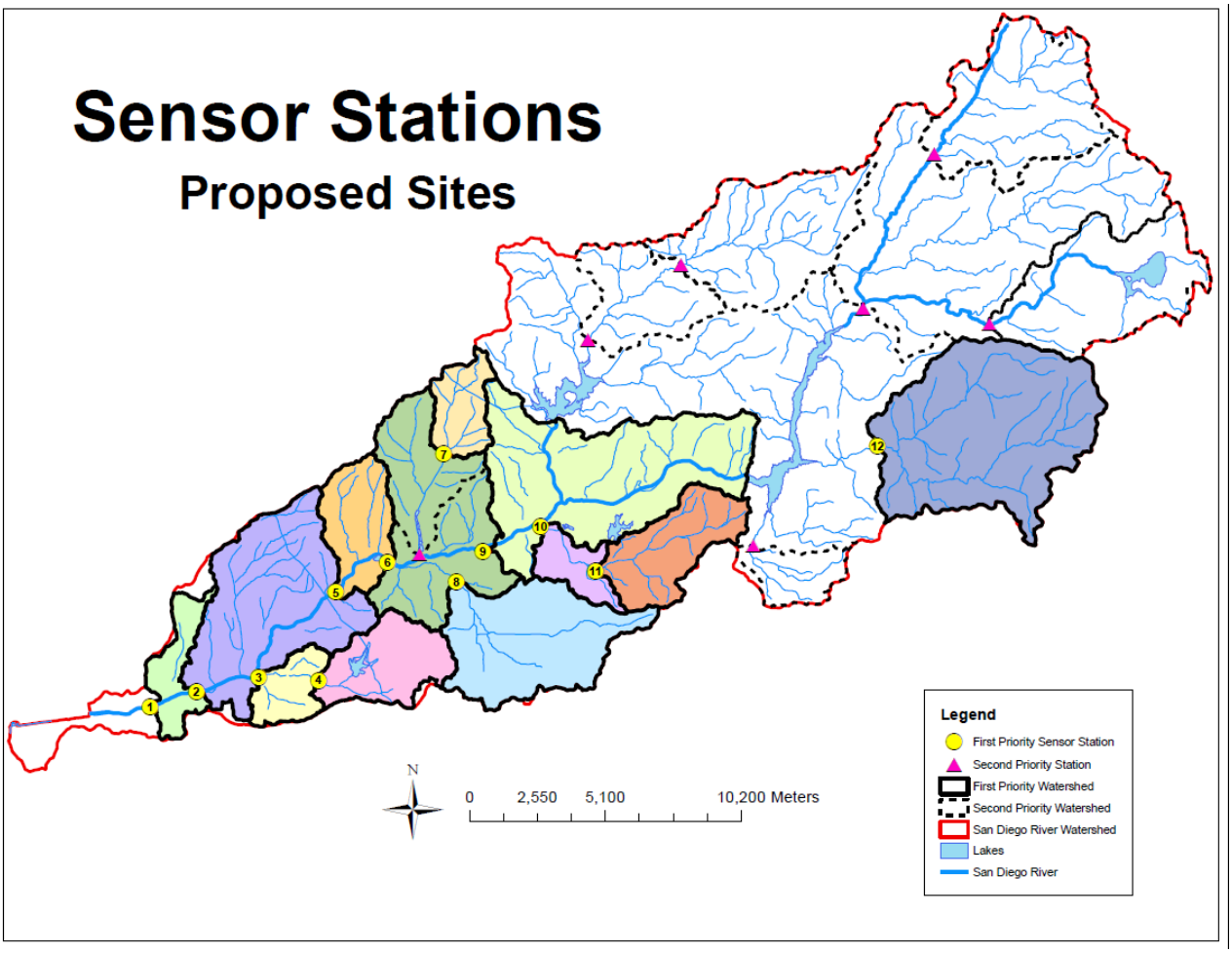
The environmental sensors used by RiverNet provide several distinct advantages to conventional methods of monitoring the environment. The sensors are autonomous and require only periodic maintenance and calibration. Autosamplers are activated automatically during a storm event and collect samples at specified intervals during the

storm. They are particularly suited to sampling in San Diego conditions, where storm events are typically of short duration, making it difficult to capture peak discharge using manual sampling. Also, this system provides real-time information, making possible early detections of critical events, such as environmental contaminations or floods. All information will be integrated into a web-based application, distributing real-time data and storing long-term monitoring information for academic, public, and agency access.

4. Detailed Project Description/Recommended Solution

SDRC, SDSU, and the San Diego River Park Foundation created a partnership to develop the RiverNet program to support watershed partners, municipal governments, and agencies. Identifying the critical need for this type of information, the partners worked with other stakeholders to identify key priority areas for monitoring station infrastructure development.

The goal of this project is to implement a program for informing management, restoration, and conservation decision-making within the San Diego River Watershed. The proposed locations of the RiverNet infrastructure were developed based on information about the ecology, hydrology, land use, and existing monitoring efforts to provide a comprehensive and complementary assessment network.



5. Summary of Cost Methodology/Assumptions:

Total costs for the project are based on the current costs associated with the purchase and installation of the sensor stations, an autosampler, and communications needed to provide real-time data collection for the RiverNet project. The partnership has already installed four sensor stations (located at priority sensor stations 2-5 on the attached map) and needs eight more. Each new sensor station will cost approximately $45,000 ($360,000 total). An additional $45,000 is needed for a nutrient monitoring platform and autosampler (separate from the eight new sensor stations). The permitting, installation, and calibration of the stations will be completed in approximately two years, at a cost of $125,000. Indirect and administrative rates include an additional $75,000 for a total cost of $605,000.

Appendix A: Market Data Summary by Highest and Best Use Category

Summary of Flood Plain/Upland Mitigation and Preservation Transactions						
No.	Location/APN	Date	Price	Size (Ac)	Price/Ac	Comments
1	San Diego River at Magnolia Santee 381-160-19, 35, 42, 69, et sec	12/12	$2,140,000	107.00	$20,000	Floodplain Limited mitigation Preservation
2	San Diego River at SR 52 Santee 383-060-26; por -071-07	10/12	$104,400	2.61	$40,000	Floodplain sold to San Diego Preservation
3	San Diego River at Cedar Falls (Helix) 288-120-03, 04, 06, et sec	11/11	2,580,000	258.00	10,000	Floodplain and coastal sage mitigation, remote to SDG&E
4	Lilac Road near Old Castle (Valley Center) 128,230,47, 47, etc	10/11	16,500,000	903.00	18,272	Good residential and upland mitigation Caltrans/SanDAG
5	Route 56 at Carmel Valley Rd Carmel Valley Por 305-031-32, -040-39	06/11	1,256,400	31.41	40,000	Floodplain and upland mitigation for Caltrans
6	Mission Rd., west of Gird Rd. SD County (Fallbrook); 124-140-22 thru -24 & 124-150-26	05/11	3,154,000	83.00	38,000	Mitigation for the San Luis Rey River Flood Control Project & SR-76
7	Kimball Vly. Rd., east of Mussey Grade Rd. (Ramona) 327-150-14 (formerly -03)	01/11	1,035,000	94.53	10,949	San Vicente Creek crosses; riparian & uplands
8	Muth Valley Road near Moreno (Lakeside) 329-121-02, etc	12/10	8,180,000	461.00	17,744	Good residential and upland mitigation to SDG&E
8	El Monte Road, north of Lk Jennings; Lakeside; 392-150-01, 10, 11, 12, 14, 15, 16	08/10	5,000,000	145.59	34,343	Residential, Endangered Habitats Conservancy & SD County
10	Rangeland Road, north of Highland Vly. Rd. (Ramona) 277-050-32	12/08	1,350,000	63.07	21,405	Some wetlands and res.; airport impact zone
11	El Camino del Norte at Val Sereno; Encinitas; 264-180-21 & -22 (formerly -18)	09/08	1,360,000	55.18	24,647	Open Space & Passive Recreation Wetland/Uplands
12	East Elliot, East of Landfill San Diego 366-040-15	07/08	600,000	16.46	36,452	Upland mitigation for cemetery at MCAS Miramar

Note: Most sales involve a blend of flood plain (riparian) and upland habitats, so they have not been separated into two tables. Some sales also have some residential influence. In the comment section, the land uses are noted.

Appendix A

Summary of Agricultural/Residential Land Sales						
No.	Location/APN	Date	Price	Size (Ac)	Price/Ac	Comments
Agricultural/Residential						
1	Lake Jennings Park Rd. Lakeside 395-220-11	11/12	$500,000	5.19	$96,339	Zoned VR-4.3 Raw land
2	12157 San Vicente Ave. Lakeside 377-262-31	12/12	170,000	10.98	15,483	Single home site; raw land
3	15373 El Monte Road Lakeside 393-010-34	04/12	175,000	11.17	15,667	Single home site; raw land
4	El Monte Rd. north of Lake Jennings, Lakeside 392-150-01,10,11,12 etc.	08/10	5,000,000	145.59	34,343	Residential, Endangered Habitats Conservancy

Summary of Commercial/Industrial Land Sales						
No.	Location/APN	Date	Price	Size (Ac)	Price/Ac	Comments
Commercial/Industrial						
1	N. side Mission Gorge Road, Santee 381-040-44 (portion)	08/12	1,025,000	0.64	1,601,563	Pad for fast food outlet
2	12307 Mapleview St. Lakeside 394-011-10	11/11	175,000	0.20	875,000	S-88 zoned for commercial/ industrial use
3	Mission Gorge Road & Fanita Drive, Santee 383-121-44	09/11	2,000,000	3.98	502,513	Commercial zone; purchased for redevelopment
4	4325 Twain Avenue San Diego 461-160-06	12/10	628,000	0.58	1,082,759	Light industrial zone; purchased for redevelopment
5	N. side of Wheatlands Avenue, Santee 381-540-09	08/10	400,000	1.04	384,615	Purchased by adjacent owner at auction; IL zone
6	6424 Mission Gorge Road, San Diego 458-342-10	07/10	1,350,000	0.89	1,516,854	Commercial zone; sold for land value only

Note: Commercial and industrial land were included in the same table as many of the light industrial zoned properties may have some commercial potential. In general, commercial/retail sites exhibit higher prices compared to light industrial.

Appendix A

Summary of Multifamily Residential Land Sales						
No.	Location/APN	Date	Price	Size (Ac)	Price/Ac	Comments
Multifamily Residential						
1	N. of Town Center Pkwy. Santee 381-050-65 (portion)	04/13	$5,647,976	6.78	$833,035	Proposed 172-unit apt. project
2	9554-60 Via Zapador Santee 384-020-50, 54 & 55	12/11	1,400,000	1.41	992,908	Proposed 44-unit affordable apt. project
3	8736 Bushy Hill Drive Santee 383-021-05	02/10	1,320,000	1.19	1,109,244	Duplex home site - 12 units
4	Mission Center Rd. & Friars Road, San Diego 677-220, 07 et al	11/10	23,000,000	9.50	2,421,053	Purchased to construct condo's

Summary of Residential Suburban Density Land Sales						
No.	Location/APN	Date	Price	Size (Ac)	Price/Ac	Comments
Residential Suburban Density						
1	Los Ranchitos Road Lakeside/Santee 379-022-23 & 24	03/13	6,000,000	16.50	363,636	67-lot final map; 6,000 SF min.
2	9455 Single Oak Drive Lakeside 394-350-26,31,32 & 33	08/12	1,036,000*	4.33	239,261	14-lot final map; 10,000 SF min.
3	Susie Place & Casa Ct. Santee 381-750-01 thru 10	01/10	600,000	3.44	174,419	10-lot final map; 6,000 SF min.
* Price includes brokerage commission paid outside of escrow.						