



A REVIEW AND ASSESSMENT OF POTENTIAL FUNDING SOURCES

for the North Coast Resource Partnership

ECONorthwest
ECONOMICS • FINANCE • PLANNING

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Presented for:
North Coast Resource Partnership

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1 INTRODUCTION

1.1 BACKGROUND

The North Coast Resource Partnership (NCRP) has secured over \$90 million in the last 10 years to invest in a variety of projects that enhance and restore the region's built and natural infrastructure. Building on that success and looking to the future, the NCRP would like to expand the scope and scale of funding for the region. Specifically, the NCRP would like to assemble a diverse portfolio of funding sources that together would accomplish three goals:

1. Provide a base level of funding to support the staffing and administrative functions of the NCRP.
2. Attract and leverage planning funding to support the ongoing development of NCRP's adaptive planning framework.
3. Attract and leverage funding to implement specific projects to enhance the region's built infrastructure, natural capital, and community vitality.

The NCRP prepared a draft funding strategy in 2016 that outlines the organization's goals, objectives, and criteria for identifying and pursuing new funding sources.¹ Among several strategies and next steps, the draft funding strategy outlined a list of innovative funding sources to evaluate further. NCRP staff asked ECONorthwest to review these and other possible funding sources for their potential in meeting the funding goals of the organization. This report presents our findings and recommendations.

1.2 METHODS

ECONorthwest reviewed background material provided by the NCRP to understand the organization's goals and objectives and past and current funding sources. These internal documents include:

- *Annotated Finance Plan Outline* (NCRP July 2016)
- *Technical Report for the North Coast of California Ecosystem Service Valuation* (Earth Economics, March 2016)
- *Draft Funding Strategy* (NCRP January 2016)
- *North Coast Integrated Region Water Management Plan Phase III* (NCRP August 2014)
- *The North Coast Ecosystem Services Funding Mechanisms Presentation* (Barker July 2013)

- *A Review of Economic and Financial Issues for the North Coast Integrated Regional Water Management Plan* (ECONorthwest January 2009)

After developing a working understanding of the NCRP's funding goals and objectives, including demands for future funding and current and past funding sources, ECONorthwest identified a list of potential funding sources to research further. The list initially focused on emerging and innovative funding sources. Excluded from the evaluation are federal and state grant opportunities that NCRP and its members have pursued.² After initial review, the list was expanded to include more traditional funding sources, such as different forms of tax revenues, to provide a more complete assessment of funding sources the NCRP has not historically tapped into.

Using publicly available information and key-informant interviews, ECONorthwest researched each potential funding source and assembled information to evaluate against the goals and objectives of NCRP. The information about each source was then distilled into a set of metrics used to compare their relative strengths, weaknesses, benefits, and costs. That step yielded a comparison matrix that provides an overview and summary of the funding sources.

1.3 ORGANIZATION OF THIS REPORT

Section 2 provides a summary of our background research relevant to NCRP's funding goals and objectives:

- It briefly summarizes available information about the importance of the North Coast region, to frame why certain funding sources might be more appropriate than others.
- It then outlines the demands for future funding, drawn from the Funding Strategy and the objectives and project priorities outlined in the North Coast Integrated Regional Watershed Management Plan (NCIRWMP).
- Finally, it identifies the funding sources that NCRP staff have selected for further assessment, and describes strategies used to identify other funding sources worthy of a closer look.

Section 3 describes each funding source identified in Section 2. They are grouped into three categories:

1. Taxes and Fees;

² These are summarized in Appendix K of the North Coast Integrated Watershed Management Plan, available here: http://www.northcoastresourcepartnership.org/files/managed/Document/8216/NCIRWMP_PhaseIII_Appendices_v2_low.pdf; Additional resources are listed on the NCRP website here: http://www.northcoastresourcepartnership.org/app_pages/view/7980

¹ North Coast Resource Partnership. 2016. *Funding Strategy: Draft*. January.

2. Legislative Programs;
3. Opportunities to leverage ecosystem service values.

Section 4 describes the assessment of relative pros and cons of pursuing each funding source.

Section 5 summarizes the conclusions from the analysis and proposes next steps and how the NCRP may use this information.

2 CURRENT POSITION AND BACKGROUND

This section lays the foundation for an assessment of funding opportunities, by describing broadly the current funding position of the NCRP, why the NCRP is seeking additional funding sources, and the work it has done to date to develop a funding strategy.

1.4 IMPORTANCE OF THE NORTH COAST REGION

The North Coast region of California provides an array of economic resources that Californians, both within the region and across the state depend on. The region is comprised of diverse ecosystems and human communities, which hold a wealth of assets that produce an ongoing stream of goods and services that people desire and value. Understanding who values these goods and services and how much is a first step towards identifying beneficiaries and alignment with funding programs in order to identify potential funding sources. Economists often group these assets into four categories of capital: built infrastructure, natural resources, social structures, and human resources (see Figure 1). The region's stock of capital, interacting in different ways, produces goods and services that people want and have come to depend on. These goods and services may be consumed locally, exported and consumed in other parts of California or the world, or, in the case of carbon sequestration, for example, can contribute to global system regulation *in situ*.

Figure 1. Examples of the Four Categories of Capital and Associated Goods and Services

Built Infrastructure	Natural Resources	Social Structures	Human Resources
Dams for Water Supply and Flood Regulation	Wetlands for Flood Regulation and Water Purification	Laws and regulations	Knowledge and experience
Pipes for Conveyance of Water Supply	Trees for Air Purification, Timber, and Carbon Sequestration	Cultural values and beliefs	Labor
Roads	Rivers for Water Supply, Transportation, and Fish Habitat	Relationships and trust	Creativity and problem solving

Valuing the entire stock of capital in the North Coast region as a snapshot at any given time is theoretically possible, but technically difficult given the tremendous quantity of information such a task would require. The value of natural and built infrastructure changes over time in response to rapid human-caused and natural shocks (e.g., wildfire, demolition, or construction) and slower and more predictable growth and decay. With enough time and data, standard appraisal methods and ecosystem services valuation techniques may be used to quantify these assets in monetary terms. Measuring some elements of human and social capital in monetary terms is possible, but much of their value is not possible to equate in dollars.

Despite the challenges, NCRP has attempted to measure the value of the region's assets, focusing on its natural capital. In 2016, Earth Economics completed a study of the value of the North Coast region's natural capital,³ based on the stream of ecosystem goods and services it supports. Examples of the goods and services they include in the analysis are stormwater management and treatment, air quality regulation, carbon sequestration, and amenity value. More detail on the study methodology is presented in the report itself, but based on mapping exercises, an extensive literature review, and economic analysis, the authors determined the annual value of the services provided by natural capital in the region is between \$27 billion and \$45 billion per year. Accounting for a 100-year stream of benefits at a 3 percent discount rate, the present value of the natural capital is between \$473 billion and \$1.4 trillion. The results show that 75 percent of the North Coast is forested and accounts for about 90 percent of the total annual value. However, beaches, wetlands and open water provide the highest values on a per-acre basis. The most valuable ecosystem services were recreation and tourism, soil

3 Earth Economics. 2016. *Technical Report for the North Coast of California Ecosystem Service Valuation*. March 14.

production, and water quality. The authors note that in some cases values may be low due to a lack of locally-specific information. That said, the underlying values are based on published values reflecting contexts of generally high scarcity. Consequently, an assessment of local and regional demand corresponding to the services and values indicated is necessary before identifying potential beneficiaries and funding sources.

The value of human resources and social structures is even more difficult to quantify in monetary terms. Like built infrastructure and natural capital, the value of these resources change over time as people enter and leave the region, demographic patterns shift, elections change collectively agreed-upon laws and leaders, and cultural values evolve over time. One important component of human and social capital in the North Coast region is the NCRP itself. It serves multiple functions that produce value and attract investment to the region:

- Collecting, organizing, and distributing data and knowledge
- Facilitating interaction and cooperation among diverse partners with a range of cultural and political perspectives
- Aligning and synchronizing federal and state resources and actions with local priorities
- Cost-effectively assessing, managing, and distributing financial resources
- Promoting the development and transmission of technical skills and knowledge
- Providing common ground and mutual ownership of problems and solutions
- Serving as a regional platform through which to pool financial and political resources to gain credibility and recognition at state and federal levels

Though these services are difficult to value in monetary terms, the NCRP has made it possible for North Coast communities to compete and successfully secure funding to invest in regional priorities (the value of that funding is described in the next section). Its value goes beyond these specific investments, however: its activities likely reduce the transaction costs of implementing projects and other regional priorities and increase the technical expertise, quality of life, and income-earning potential of individuals directly and peripherally involved with its activities.

Although a complete accounting of the asset value of the north coast region is not feasible at this time, the magnitude of value—based on the economic analysis of natural capital alone—is tremendous. This accounting is relevant to the question of funding because the four types of capital together produce goods and services

that benefit economies beyond the region, in California and throughout the world. Without on-going investment, the quantity and quality—and thus economic value—of these goods and services will decline. With steady or increasing investment, however, the region is capable of producing even greater quantities of goods and services that would satisfy growing demand for things like clean water, fresh wild salmon, and carbon sequestration. Moreover, the lessons offered through the NCRP's experimentation in collaborative and innovative problem solving and community building could transfer (and has transferred) to other communities faced with intractable resource management challenges. This potential sets the stage for identifying—and later making the case for—funding opportunities that would provide a stable stream of revenue to ensure these valuable goods and services continue to flow from the region.

1.5 DEMANDS FOR FUTURE PLANNING & PROJECT FUNDING

The NCRP has successfully acquired millions of dollars of funding to plan for and implement projects that have increased the value of the region's capital assets. These projects are selected based on strategic priorities that the NCRP established first in 2005 and reevaluated and affirmed in 2007 and most recently in 2014, in the *North Coast Integrated Regional Water Management Plan, Phase III* (NCIRWMP).⁴ As articulated in the Plan, "The overarching themes that have guided development, implementation, and evaluation of the NCIRWMP are beneficial uses of water, salmonid enhancement, energy independence, climate adaptation/ mitigation, economic vitality, local autonomy, intraregional cooperation, and adaptive management."⁵ Appendix A, Table 2, which is reproduced in Figure 2, shows the NCIRWMP 12 objectives and 8 local project priorities for future funding.

⁴ North Coast Resource Partnership. 2014. *North Coast Integrated Regional Watershed Management Plan: Phase III*. August. Retrieved June 8, 2017, from http://www.northcoastresourcepartnership.org/files/managed/Document/8215/NCIRWMP_PhaseIII_Aug14_final.pdf

⁵ North Coast Resource Partnership 2014, Page 25

Figure 2. Matrix of NCIRWMP Objectives and Local Project Priorities

TABLE 2 MATRIX OF NCIRWMP OBJECTIVES & LOCAL PROJECT PRIORITIES

Categories for Local Project Priorities in Table 2 are the same as those in Table 6 ("Matrix of NCIRWMP Objectives & RMS). By design, the "local project priorities" are equivalent to "project performance measures" categories used in developing the Plan and project evaluation framework (Section 11 "NCIRWMP Evaluation and Monitoring").

NCIRWMP GOALS & OBJECTIVES	LOCAL PROJECT PRIORITIES							
	Salmonid Habitat Improvement	Watershed and Habitat Improvement	Water Quality Improvement	Water Supply Reliability	Groundwater Protection	Energy Independence	Public Safety	Economic Benefits
Goal 1: Intra-regional Cooperation & Adaptive Management								
Obj. 1: Respect local autonomy and local knowledge in Plan and project development and implementation						*	*	*
Obj. 2: Provide an ongoing framework for inclusive, efficient intra-regional cooperation and effective, accountable NCIRWMP project implementation						*	*	*
Goal 2: Economic Vitality								
Obj. 3: Ensure that economically disadvantaged communities are supported and that project implementation enhances the economic vitality of disadvantaged communities.								*
Obj. 4: Conserve and improve the economic benefits of North Coast Region working landscapes and natural areas			*	*	*			*
Goal 3: Ecosystem Conservation and Enhancement								
Obj. 5: Conserve, enhance, and restore watersheds and aquatic ecosystems, including functions, habitats, and elements that support biological diversity	*	*	*				*	*
Obj. 6: Enhance salmonid populations by conserving, enhancing, and restoring required habitats and watershed processes	*	*	*				*	*
Goal 4: Beneficial Uses of Water								
Obj. 7: Ensure water supply reliability and quality for municipal, domestic, agricultural, and recreational uses while minimizing impacts to sensitive resources		*		*				*
Obj. 8: Improve drinking water quality and water related infrastructure to protect public health, with a focus on economically disadvantaged communities			*					*
Obj. 9: Protect groundwater resources from over-drafting and contamination			*	*	*			
Goal 5: Climate Adaptation and Energy Independence								
Obj. 10: Assess climate change effects, impacts, vulnerabilities, and strategies for local and regional sectors						*	*	
Obj. 11: Promote local energy independence, water/energy use efficiency, GHG emission reduction, and jobs creation						*	*	*
Goal 6: Public Safety								
Objective 12: Improve flood protection and reduce flood risk in support of public health.			*				*	*

Source: North Coast Resource Partnership 2014. Appendix A, Table 2

The 2014 NCIRWMP document indicates that, based on its open funding application process, the NCRP is aware of \$750 million in funding needs in the region. Of this, \$515 million would be for infrastructure improvement projects, and \$220 million would be for ecosystem support and restoration projects, especially for those that support healthy salmonid habitat.⁶ These dollars represent projects that are developed sufficiently to submit for funding: undoubtedly, the demand for project funding is much greater.

The complete demand for project funding in the region is impossible to quantify, but as the region addresses the "low-hanging fruit" and critical infrastructure repairs, other projects that have not yet entered development are likely to emerge. Moreover, as the capacity of the region's Disadvantaged Communities (DACs) increases through technical assistance training and project development experience, they may initiate more projects. Over time, as the critical maintenance backlog is addressed, the focus of new projects may gradually shift.

1.6 CURRENT AND PAST FUNDING SOURCES

As of 2016, the North Coast has successfully secured funding through grants awarded by three California agencies, including the Department of Water Resources (DWR), the California Energy Commission (CEC), and the Strategic Growth Council. Table 1 shows the

funding awards, including the amount pending from the most recent award by DWR through Proposition 1, which has yet to be disbursed. The total funding earmarked through the state grant programs is over \$93 million, which includes \$26.5 M in allocated (but not yet fully distributed) Proposition 1 funding. Local funding matches were made for at least some of these grant programs, and the available data show these matches generated in excess of \$50 million in additional funding, for a total investment in the region of over \$129 million to date. The funding sources of local matches (including O&M funds) are listed in detail in Appendix K of the 2014 NCIRWMP. They include money dedicated through federal grants, private funds, tribal funds, utility rates, and general operating funds.

Funding through these programs has supported both planning and project implementation activities. The NCRP's administrative functions are supported through planning grants directly secured from the state (through the Strategic Growth Council and the Department of Water Resources Integrated Water Management Program) and from the Sonoma County Water Agency (SCWA), which provides base funding of between \$100,000 and \$150,000 per year. Humboldt County administers the grant programs, and receives 5 percent of the grant proceeds to support this function.

The funding sources shown in Table 1 represent successful grant awards. In 2009 the NCRP was selected for funding through another CEC grant program, which would have yielded an additional \$5 million. However, the funding was frozen and ultimately rescinded after legal issues hampered the program (not related to the NCRP's application in particular). This is the only funding opportunity the NCRP has pursued that was not successfully funded.

⁶ North Coast Resource Partnership 2014, Page 167

Table 1. Past Grant Funding and Local Matches

Funding Program	Year	Funding (Millions) ¹	Match (Millions) ¹
DWR Proposition 50 NCIRWM Planning Grant	2005	\$0.5	\$0.53
NCIRWM Implementation Grant, Round 1	2006	\$25.0	\$26.1
NCIRWM Implementation Grant, Round 2	2007	\$2.1	\$1.0
NCIRWM Implementation Supplemental	2010	\$2.2	
Water & Wastewater Service			
Provider Outreach & Support Program	2011	\$0.5	
CEC Energy Efficiency and Conservation Block Grant	2010	\$1.0	
DWR Proposition 84 NCIRWMP Planning Grant	2011	\$1.0	\$0.53
NCIRWM Implementation Grant, Round 1	2011	\$8.2	\$3.7
NCIRWM Implementation Grant, Round 2	2013	\$5.4	\$5.8
Strategic Growth Council, Sustainable Communities Grant	2014	\$1.0	\$0.53
DWR NCRP IRWM Drought Project Grant	2014	\$8.7	\$5.4
Project Grant	2015	\$11.0	\$6.0
DWR Proposition 1, NCIRWM Grant	2016	\$26.52	\$0.53
	Total	\$93.1	\$50

Notes:

1 All amounts rounded.

2 Allocated amount between 2016-2020; \$2.6 Million currently awarded.

3 Estimated amounts.

1.7 POTENTIAL EMERGING FUNDING OPPORTUNITIES

As Table 1 shows, the NCRP has historically relied almost entirely on state grant funding sources, leveraged by additional local and federal matching funds, some of which originate through federal grant programs. The NCRP would like to identify new funding sources that will diversify its financing and provide stability should state grant opportunities change in the future. While new grant opportunities may be available to explore, the NCRP is adept at pursuing these and therefore the focus of this document is primarily on non-grant funding sources.⁷

The NCRP plans to maintain existing funding channels through DWR, the Strategic Growth Council, other State agencies and SCWA. There is an effort at the state level

to secure ongoing financial support from the state for the Regional Watershed Management Groups (RWMGs). This would provide predictable base funding from year to year, creating stability and maintaining capacity, thereby allowing the RWMGs to focus more of their resources toward planning and project development. It would also level the playing field between RWMGs in the state's more populated areas, which often have more capacity, and RWMGs in rural areas where resources are scarcer. While DWR has indicated support for such funding, it has not yet materialized and the RWMGs continue to lobby the legislature to act.

The NCRP's *Draft Funding Strategy*⁸ identifies a preliminary list of "innovative financing mechanisms," which are explored in more detail in Sections 3 and 4 of this report. Following is the list (with some minor organizational modifications).⁹

- Local Funding Measures (e.g., sales tax, property tax, fees/assessments)
- AB 32 (California Global Warming Solutions Act) Auction Revenues
- Enhanced Infrastructure Finance Districts
- Community Choice Aggregation
- Regional Advance Mitigation
- Public Goods Charge
- Regional Energy Networks
- SB 375 (Sustainable Communities Act) Integration
- Climate Adaptation Funding
- Payments for Ecosystem Services
- Foundation Partnerships
- Research Partnerships
- Public-Private Partnerships
 - » Cannabis Industry Investments
 - » Regional Tourism Marketing
 - » Energy-Efficiency Improvements

To provide further definition to these measures, particularly for foundation partnerships and research partnerships, the NCRP has identified potential funding partners whose management or program goals and objectives may align with the NCRP's own goals and objectives. These funding partners include state agencies, federal agencies, foundations, research organizations, and high-capacity non-governmental

⁷ Many federal and state grant programs may continue to be excellent options for local partners to pursue to augment local funding matches when required as part of the state grant program awards. Some of the emerging funding opportunities may also require local matches, or provide resources to leverage additional financial resources through other means. The NCRP is not interested in increasing the competition for these state and federal grant project funding opportunities by pursuing them directly, and instead would prefer supporting local partners in their applications for these funds.

⁸ North Coast Resource Partnership. 2016. *Funding Strategy: Draft*. January.

⁹ For the original list, see North Coast Resource Partnership. 2016. *Funding Strategy: Draft*. January. Pages 6-7.

Puget Sound Partnership Funding Strategy

The Puget Sound Partnership is a Washington State Agency that receives base funding through the federal Puget Sound National Estuary Program. The U.S. Environmental Protection Agency funded over half of the \$18.8 million budget in the 2015-2017 biennium, with the remainder covered by the State of Washington and the National Oceanic and Atmospheric Administration. While program funding is covered by these appropriations, the PSP has identified an Action Agenda estimated at \$875 million to implement.

The PSP recognizes that securing funding at this level requires many different strategies and funding sources. It identified these potential sources in its Funding Strategy. The table below illustrates how different strategies are targeted to different program priorities.

Source	Habitat		Stormwater			Shellfish		
	3-Yr Habitat Plans	Floodplains	Retrofits	O & M	NPDES Compliance	Septic Repair/Replacement	PIC Funding	Agricultural BMPs
Federal Appropriations	P	P				P	P	
Federal Grants	T							P
Tribal	S							
State Appropriations	P				P		P	
State Grants		P	P	P	S	P		S
Local Appropriations	S						S	
Local Utility	S		P	P	P	S	S	S
Other Special Purpose District	T (CDs)	P (FCZDs)				S (LHDs)	P (LHDs)	P (CDs)
Private Redevelopment			P			P		
Private Permitting	T		S			P		
Private Philanthropic	T	T						T
Private Markets and Trading	T	T						T

Source: Evergreen Funding Consultants 2014

P = Principal funding source for program (provides majority of total program funding)

S = Secondary funding source for program (provides substantial additional funding for program)

T = Tertiary funding source for program (provides additional funding for program)

CDs= Conservation Districts

FCZDs= Flood Control Zone Districts

LHDs= Local Health Districts

organizations (NGOs) including local and state Resource Conservation Districts (RCDs). These are listed in Table 2. Some of the organizations identified here are directly involved in administering the funding sources identified above; others may prove valuable partners or allies in pursuing and securing new funding sources.

Table 2. Partner Organizations for Funding

State Agencies	Federal Agencies	Foundations	Research Organizations	High-Capacity NGOs
Conservation	USDA/NRCS	Gordon and Betty Moore	NSF	National F&W Foundation
Fish and Wildlife	NOAA	Packard	Universities	The Nature Conservancy
Wildlife Conservation Board	BIA	Hewlett		Pacific Forest Trust
Air Resources Board	USFS	SJ Bechtel Junior		Redwood Forest Foundation
Food and Agriculture	USEPA	Resources Legacy Fund		New Island Capital
State Coastal Conservancy	DOE	Humboldt Area Foundation		Conservation Fund
Energy Commission	USFWS	Community Foundation:		Resources Legacy Fund
State Water Board	BOR	Sonoma County		Resource Conservation Dists.
Strategic Growth Council	USACE	Pepperwood Foundation		
CEMA	FEMA	Redwood Forest Foundation		

To ensure this list is not missing any potential funding sources, the analysis looked to financing strategies for similarly-positioned landscape-based partnerships and leadership organizations with a mandate to improve natural capital in a region that transcends jurisdictional boundaries, including:

- Puget Sound Partnership
- Salton Sea Authority
- The Comprehensive Everglades Restoration Plan
- Chesapeake Bay Program
- Great Lakes Commission
- Lower Columbia River Estuary Partnership

Many of these regional partnerships face similar challenges in securing optimal funding and diversifying funding sources for long-term viability. Unlike the NCRP, several of these organizations (Puget Sound Partnership, Chesapeake Bay Program, Great Lakes Commission, and the Lower Columbia River Estuary Partnership) are funded in part through federal appropriations that support program operations. The Salton Sea Authority is a California Joint Powers Authority that receives some dedicated funding from the state, and enjoys certain other benefits from the federal government (e.g., the authority to sell or lease federal land to optimize and fund restoration strategies). Much like the NCRP, each

of these programs leverages its base funding to develop partnerships with other funding partners and secure grants and private contributions to support on-the-ground project development and implementation. The text box on the following page describes the funding strategies for the Puget Sound Partnership.

Reviewing these organizations' funding strategies did not reveal any potential funding sources that the NCRP has not already identified for further investigation. It also reinforces the NCRP's broader strategy: that a diverse base of funding sources is needed to accomplish its goals, but a stable and predictable funding source is required to maintain organizational capacity.

3 ASSESSMENT OF FUNDING SOURCES

This section presents an assessment of each funding source identified in Section 2. It first presents the methodology used to assess each funding source, then presents the results of the assessments.

3.1 ASSESSMENT METHODOLOGY

This analysis focuses on a selection of potential funding opportunities identified in the NCRP's *Draft Funding Strategy* document.¹⁰ The list focuses on emerging and innovative strategies, which would complement and diversify the existing grant-funded revenue stream. Instead of identifying additional grant programs, the opportunities selected for further analysis focus primarily on tapping new sources of revenue and reallocating existing revenue streams that better align with the NCRP's goals and objectives. The list presented in Section 2 (Task 1 Memo) is divided into three categories:

- Taxes and Fees;
- Legislative Programs
- Opportunities to Leverage Ecosystem Service Values.

The first category, conventional financing strategies, addresses local jurisdictions' authority to assess taxes and fees from consumers and ratepayers through sales and use taxes, property taxes, transient lodging taxes, and utility rates. The second category addresses specific state and federal legislative programs and proposals designed to fund public infrastructure (built and natural) through a variety of mechanisms. Some of these have already passed and are available to local jurisdictions, while others remain legislative

10 North Coast Resource Partnership. 2016. *Funding Strategy: Draft*. January.

proposals that could become opportunities for future funding.¹¹ The third category addresses opportunities to leverage payments for ecosystem services from beneficiaries, outside of traditional rate structures and existing state and federal programs.

The analysis of each funding source relied on publicly available information accessed through local, state, and federal websites, and personal communications with program managers if further clarification was required. ECONorthwest's knowledge of and experience with public finance opportunities in other contexts contributed to the analysis and interpretation of each opportunity, as relevant to the NCRP.

For the funding sources in the second category, existing and emerging legislative programs, the analysis considers five dimensions:

- An overview that includes brief legislative history and challenges the program is designed to address;
- The program structure and funding mechanism;
- The nexus between the opportunity and the NCRP's goals and objectives;
- The opportunities and challenges for NCRP to access funds; and
- The funding potential, based on currently available information.

The funding sources in the first and third categories (conventional finance strategies and opportunities linked to payments for ecosystem services) do not lend themselves to the same structured discussion used for legislative programs. The funding potential of these sources are discussed more generally, providing background information, local information as relevant, and examples of the strategies in operation elsewhere in California where examples exist.

3.2 TAXES AND FEES

In the Public Policy Institute of California's resource, *Paying for Water in California*, the authors categorize revenue generation for water-related service provision into three categories: taxes, fees for service, and fines.¹² The first two are addressed below for their applicability and potential as a funding source for NCRP activities. Proposition 218 (passed in the mid-1990s) limits the ability of local jurisdictions to levy new taxes and fees

by requiring two-thirds majority approval for special taxes, property-related fees, and special assessments. Courts have also interpreted the proposition to require a close connection between new fees and the services they fund, which further limits local jurisdiction's flexibility to use these tools to fund water-related projects. These limitations may reduce the feasibility of developing and implementing these funding mechanisms to support NCRP goals: pursuing them would require careful design and widespread public support.

Taxes

California assesses taxes on sales, income, and property. Local jurisdictions have the authority to levy taxes on transient lodging as well. This section focuses on sales and property taxes, since local jurisdictions have some authority over these and could potentially explore them as options for raising revenue to fund NCRP activities. It also discusses opportunities related to the transient occupancy tax.

Sales Tax

California assesses sales and use tax on the sale of tangible personal property. Statewide, there is a 7.25 percent sales and use tax base rate. This is divided between the state and local jurisdictions: 6 percent goes to the state general fund and state program funds for local distribution, 1 percent goes to operations at the relevant local level, and 0.25 percent goes to the relevant county transportation fund.¹³ In addition special taxing districts can assess additional sales tax at the local level. Local assessments are typically capped at a combined 2.0 percent, but in some instances the Legislature has circumvented this cap through special legislation. Individual district taxes in California range from 0.1 percent to 1 percent. Multiple districts often overlap, so total district sales taxes may be higher.¹⁴ About one-third of California's counties covering 85 percent of California's population have enacted district taxes. Within the NCRP region, the total sales and use tax collected ranges from the base 7.25 percent (no additional district taxes collected) to 9.125 percent in parts of Sonoma County (see Table 3).

District taxes can supplement local general fund revenue, or be dedicated to a specific purpose. In Siskiyou County, for example, the cities of Dunsmuir, Yreka, and Weed assess between 0.25 and 0.5 percent "transactions and use tax" which goes into the general

11 This assessment focused primarily on state and local programs, in part because those opportunities were the focus of NCRP's opportunity list, and also because the status of existing and proposed funding opportunities through the federal government are highly uncertain under the current administration.

12 Hanak, E. et al. 2014. *Paying for Water in California*. Public Policy Institute of California. March.

13 California State Board of Equalization. 2017. *Detailed Description of the Sales and Use Tax Rate*. Retrieved June 8, 2017, from <http://www.boe.ca.gov/news/sp111500att.htm>

14 California State Board of Equalization. 2017. *Districts Taxes, Rates, and Effective Dates*. BOE-105 Rev. 9 (7-17).

fund. The City of Mt. Shasta assesses 0.25 percent to support its libraries.¹⁵ Sonoma County is unique in the region in its assessment of a 0.25 percent district tax to support the Sonoma County Agricultural Preservation and Open Space District. Voters created this district in 1990 and renewed it with overwhelming support in 2006, when they authorized the sales tax through 2031. The Sonoma County Ag and Open Space District expects the tax to generate over \$20 million in revenue in FY 2017-2018.¹⁶ Revenues are spent on conservation planning, stewardship and land acquisition activities.

Few other examples of sales taxes designed to fund local conservation efforts exist in California. Several jurisdictions have established district taxes to fund transportation priorities, which recently has come to include advance mitigation (see Regional Advance Mitigation Planning below). While the overall percent of revenues dedicated to this is small, in large urban areas the revenue yield can be considerable. For example, Orange County included advance mitigation in a tax designed to fund freeway improvements, where 5 percent of the revenues (estimated at about \$240 million) would go to advance mitigation projects.¹⁷ At least one district, in Placerville (El Dorado County), has been established to raise revenue for water and sewer facilities, with a 0.5 percent district tax.

Table 3. Effective Sales Taxes, Including Local District Taxes in Counties and Cities within the NCRP Boundaries

County	Effective Tax Rate	County	Effective Tax Rate
Del Norte	7.5	Modoc	7.25
Glenn	7.25	Siskiyou	7.25
Humboldt	7.75	City of Dunsmuir	7.75
City of Arcata	8.5	City of Mount Shasta	7.5
City of Eureka	8.5	City of Weed	7.5
City of Fortuna	8.5	City of Yreka	7.75
City of Rio Dell	8.75	Sonoma	8.125
City of Trinidad	8.5	City of Cotati	9.125
Lake	7.25	City of Healdsburg	8.625
Mendocino	7.375	City of Rohnert Park	8.625
City of Fort Bragg	8.375	City of Santa Rosa	8.625
City of Point Arena	7.875	City of Sebastopol	8.875
City of Ukiah	8.375	City of Sonoma	8.625
City of Willits	7.875	Trinity	7.25

Source: California State Board of Equalization. 2017. *California Sales and Use Tax Rates by County and City*. BOE-95 Rev. 11 (7-17).

¹⁵ California State Board of Equalization. 2017. *Detailed Description of the Sales and Use Tax Rate*. Retrieved June 8, 2017, from <http://www.boe.ca.gov/news/sp111500att.htm>

¹⁶ Sonoma Agricultural Preservation and Open Space District. *FY 2015-2017 Recommended Budget*. http://www.sonomaopenspace.org/wp-content/uploads/2015-2017_SCAPOSD-Recommended-Budget.pdf

¹⁷ Lederman, J., M. Wachs, M. Schlotterbeck, and G-C Sciara. 2015. *Task 4 Report: Funding and Financial Mechanisms to Support Advance Mitigation*. U.C. Davis Institute of Transportation Studies. January.

Property Taxes

California property tax law is a complicated subject, and a full treatment is outside the scope of this assessment. All revenue generated from California's property tax goes to local jurisdictions. There are three categories of property tax assessments:

1. The "1 percent rate," levied on all property at 1 percent of assessed value, which goes to local governments, including counties, cities, school districts, and special districts (which may include water districts, recreation and park districts, and irrigation districts, among many others).
2. Voters may also approve general obligation bonds to fund local infrastructure projects, which are paid for by a property tax surcharge. General obligation bonds must be issued for specific purposes, and typically require a two-thirds majority to pass.

According to the PPIC, using local general obligation bonds to pay for water-related projects is rare.¹⁸ They noted only two exceptions:

- City of Los Angeles \$500 million bond to pay for stormwater projects
- City of Oakland \$200 million bond to pay for watershed health and parks

Repayment of these bonds occurs through the property tax surcharge.¹⁹

Transient Occupancy Tax (TOT)

Local jurisdictions can levy transient occupancy taxes on the rental of temporary (30 days or less) accommodations. The TOT is intended to compensate localities for providing public services to non-resident visitors. Both cities and counties may levy this tax, and it applies to temporary lodging establishments within the city limits or in unincorporated areas of the county (therefore multiple TOTs may not overlap). Most TOT revenues augment the local general fund, and are a relatively stable source of income. Under current law, a local jurisdiction can set the TOT at any level. Establishing a new TOT or increasing an existing TOT requires a vote. If the TOT is created for a special purpose, it requires a two-thirds majority vote to pass; if it is intended to supplement general fund revenue, passage requires

¹⁸ State-issued general obligation bonds, however, serve as one of the main funding streams for water-related investments in California, authorized through Propositions 50, 84, and 1, for example. The state-wide vote does not require a supermajority to pass: if proposed at the local level, none of these measures would have passed.

¹⁹ Hanak, E. et al. 2014. *Paying for Water in California*. Public Policy Institute of California. March.

a majority vote.²⁰ TOTs in California range from 3.5 percent to 15 percent of the hotel room rate.²¹ Table 4 shows the range of TOT rates and revenues collected in 2016 in the jurisdictions within the NCRP region.

While TOT revenues often contribute to the local jurisdiction's general fund and may be used for any purpose at the discretion of decision makers, they may be dedicated to specific purposes. Using TOT revenues for water infrastructure or environmental improvement is not without precedent. Until voters approved an increase in 2016, Sonoma County collected a 9 percent TOT that contributed to the county's general fund. The Board of Supervisors split the revenue between road repairs (25 percent) and promotional, community, and cultural activities to encourage tourism, agriculture, and economic development in the county (75 percent). In 2016, voters approved a 3 percent increase in the tax, which would generate an additional \$4 million. Part of this increased revenue may now be used to protect water quality.²² In the City of Santa Barbara, the TOT rate is 12 percent. Of the revenue generated, 10 percent goes to the general fund and 2 percent is dedicated to creek restoration and water quality improvement.²³

Table 4. Transient Occupancy Tax Rates and Revenue in 2016 for Jurisdictions in the NCRP Region

Jurisdiction	TOT Rate (Percent)	2016 Revenue (\$ Thousands)
<i>Del Norte County</i>		
Unincorporated	8.0	479.3
Crescent City	10.0	1254.8
<i>Humboldt County</i>		
Unincorporated	10.0	1725.0
Arcata	10.0	1,364.6
Eureka	10.0	2,871.4
Ferndale	10.0	168.5
Fortuna	10.0	613.4
Rio Dell	8.0	11.4
Trinidad	12.0	175.6
<i>Mendocino County</i>		
Unincorporated	0.0	
Fort Bragg	10.0	2091.0
Point Arena	10.0	78.7

20 Houston, J. and Cohen, B. 2004. *Transient Occupancy Tax*. City Attorneys, League of California Cities. May 5. Retrieved June 8, 2017, from <https://www.cacities.org/UploadedFiles/LeagueInternet/ad/ad280d88-11a8-48ee-a498-1570058e5162.pdf>

21 League of California Cities. 2015. "Two Assembly Legislative Committees to Discuss TOT and the Home-Sharing Economy at Wednesday Hearing." March 17. Retrieved June 8, 2017, from <https://www.cacities.org/Top/News/News-Articles/2015/March/Two-Assembly-Legislative-Committees-to-Discuss-TOT>

22 Sonoma County. 2017. *What Do You Know About Transient Occupancy Tax (TOT) and Measure L?* Retrieved June 8, 2017, from http://www.sonoma-county.org/tax/tot/pdf/TOT_fact-sheet_Final.pdf

23 City of Santa Barbara. No Date. *Transient Occupancy Tax (TOT) Information Sheet*. Retrieved June 8, 2017, from <https://www.santabarbaraca.gov/civicax/filebank/blobdload.aspx?BlobID=17425>

Jurisdiction	TOT Rate (Percent)	2016 Revenue (\$ Thousands)
Ukiah	10.0	1,213.0
Willits	9.0	341.0
<i>Siskiyou County</i>		
Unincorporated	8.0	574.6
Dunsmuir	10.0	117.4
Etna	6.0	10.8
Mt. Shasta	10.0	716.0
Weed	10.0	344.5
Yreka	10.0	741.6
<i>Sonoma County</i>		
Unincorporated	9.0	13,894.2
Cloverdale	10.0	217.0
Healdsburg	12.0	3058.3
Petaluma	10.0	2,494.6
Rohnert Park	12.0	3,256.0
Santa Rosa	9.0	5,467.4
Sebastopol	10.0	483.7
Sonoma	10.0	3,650.9
Windsor	12.0	1,883.8
<i>Trinity County</i>		
Unincorporated	5.0	193.8

Source: Dean Runyan Associates. 2017. *California Travel Impacts by County, 1992-2016p*. May. Retrieved June 8, 2017, from http://www.deanrunyan.com/doc_library/CALimp.pdf

California legislators have also explored ways to generate revenues from tourism spending for environmental investments. In 2005, SB 956 was introduced in California's legislature to levy a \$1 surcharge on transient room rentals in 20 coastal and Bay Area counties, which would have been deposited in the Coast and Ocean Account Stewardship Tax fund. This fund would have supported a predictable and permanent revenue stream available to agencies and non-profit organizations within the Bay Area region to support environmental restoration activities. Arguments in support came from a diverse group of interests that recognized state funding for supporting ongoing restoration planning is far below local needs:

*[Supporters] universally emphasize the necessity of improving management and protection of California's coastal and ocean resources, and equally strongly point out that funding for the agencies charged with those missions has decreased substantially in recent years. They note that this lack of funding has resulted in making the state's ocean and coastal protection and management programs less efficient and much less effective and has fundamentally compromised these state efforts. Equally universally, they note that a secure and stable funding source for the state's coastal and ocean management and protection efforts is paramount.*²⁴

24 Senate Committee on Natural Resources and Water. 2005. *Coast and Ocean Stewardship Act*. Retrieved June 8, 2017, from ftp://www.leginfo.ca.gov/pub/05-06/bill/sen/sb_0951-1000/sb_956_cfa_20050429_112647_sen_comm.html

However, the California Hotel and Lodging Association lobbied hard against the proposition, pointing out that while environmental restoration is an underfunded and critical priority, it should not fall to businesses in a narrow sector to support:

[T]he Association notes that the residents of the state, in particular those within close proximity the coast and other resources, are also responsible for stewardship of these resources. The Association goes on to assert that the bill would set a poor precedent in requiring governmental programs to be funded by businesses in a geographic area, citing potential examples such as taxing hotel rooms in the Sierra to fund forest management. Their letter maintains that government should shoulder the responsibility of paying for programs it mandates.²⁵

The bill ultimately failed. But it demonstrates a precedent for exploring the potential to use revenue generated from tourism spending to fund local environmental improvements on a broad regional scale.

Fees

Fees can take a few different forms, but are always levied in exchange for providing a specific service.²⁶

- Bills paid by customers (ratepayers) of utilities in exchange for delivery of a good or service. Bonds may be issued against the expected revenue streams associated with utility revenue collections to finance infrastructure improvements.
- Surcharges on property in exchange for a service provided to that property (e.g., flood control).

Levying fees for services has become more challenging in recent years, after the passage of several laws (including Proposition 218) intended to increase accountability among local jurisdictions for the fees and taxes they collect and the services they provide. Revenue generation must now be tied very closely to the cost of delivering or provisioning a service to a particular parcel, and jurisdictions can't stray from the original purpose of the fee in using the revenue. Services paid for by fees must not be available for the enjoyment of the public at large. These restrictions make it much more difficult to design legally-resilient special district or utility fees to fund conservation programs, water infrastructure improvements, and other innovative multi-

objective ecosystem enhancement programs.²⁷ Further complications arise because certain surcharges and fees must be approved by two-thirds of the electorate, or must be approved by a majority of property owners who would be affected. This reduces the likelihood that proposed fees or surcharges can actually be enacted.

Despite these challenges, the Sonoma County Water Agency (SCWA) has successfully maintained surcharges in its water delivery contracts with retail agencies. For example, SCWA adds a per-acre-foot surcharge to water transactions with retail water providers to fund ecosystem enhancement costs associated with ecosystem conservation in the Russian River.²⁸ It also charges water contractors for watershed management planning and watershed planning/restoration at approximately \$80 per acre foot.²⁹ The PPIC has prepared a detailed explanation of why Sonoma County's surcharges are likely resilient to the legal requirements imposed by California's voters, which may be useful if other districts in the region decide to enact fees or surcharges to pay for conservation-related activities.³⁰

Fees and surcharges that utilities or special districts have successfully passed since voters limited their scope and raised the thresholds required for approval often do not provide sufficient revenue to accomplish their purpose. For example, flood control districts may assess a surcharge for property protection to properties that receive protection services from projects. By limiting the charge only to properties within the floodplain (that have the potential to directly benefit from the project), the per-household cost may exceed the per-household benefit, making the case for increasing fees to fund projects much more difficult. Based on an analysis performed by the Public Policy Institute of California this is especially likely to occur in less-populated areas, such as the North Coast, as Figure 3 shows.

25 Senate Committee on Natural Resources and Water. 2005. *Coast and Ocean Stewardship Act*. Retrieved June 8, 2017, from [ftp://www.leginfo.ca.gov/pub/05-06/bill/sen/sb_0951-1000/sb_956_cfa_20050429_112647_sen_comm.html](http://www.leginfo.ca.gov/pub/05-06/bill/sen/sb_0951-1000/sb_956_cfa_20050429_112647_sen_comm.html)

26 Not included in this list are permit fees and developer or "connection" fees. These are typically one-time charges or applicable to a narrow range of entities, and so are less relevant as funding options for NCRP.

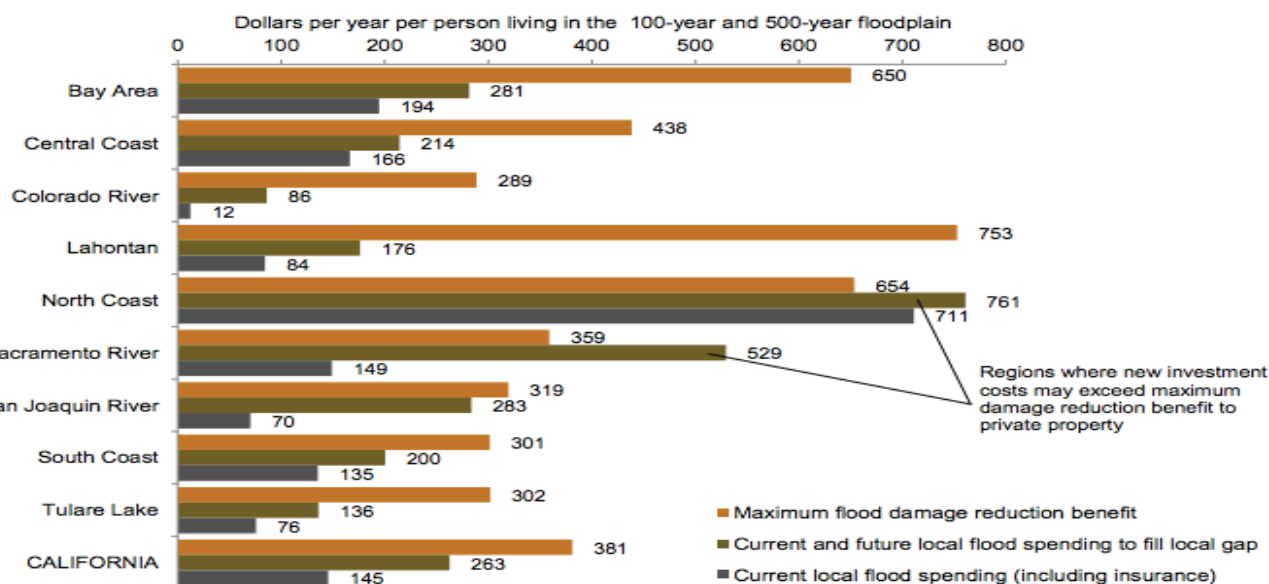
27 Hanak, E., et al. 2014. *Paying for Water in California*. Public Policy Institute of California. March. Retrieved June 8, 2017, from http://www.ppic.org/content/pubs/report/R_314EHR.pdf

28 Hanak, E. et al 2014, Pg. 56

29 Sonoma County Water Agency. 2015. *Sonoma County Water Agency Rates for Water Deliveries in FY 15-16*. April 21. Retrieved June 8, 2017, from http://www.scwa.ca.gov/files/docs/finance/1516/water/Water_Rates_ADA.pdf

30 Chappelle, C., et al. 2014. *Paying for Water in California: Technical Appendices*. Public Policy Institute of California. March. Retrieved June 8, 2017, from http://www.ppic.org/content/pubs/other/314EHR_appendix.pdf

Figure 3. Flood Damage Reduction Benefits Compared to Costs, by Region



SOURCE: Authors' calculations using SCO local government data files, California Department of Water Resources and U.S. Army Corps of Engineers (2013), California Department of Water Resources (2012), and Delta Protection Commission (2012). See Appendix B.

NOTES: Current local spending includes flood management (\$1.1 billion) and premiums paid for flood insurance (\$212 million). Current and future local spending also includes 1/25 of the total estimated investment need. Values are calculated per person living in the floodplain (25% of statewide population, share varies by region). Benefit of investments is estimated in terms of the reduced probability of loss of buildings and contents, assuming that current annual risk of serious flooding is 1 in 70 in the 100-year floodplain and 1 in 200 in the 101-year to 500-year floodplain. The calculations may overstate the value of investments because they assume that flooding would cause a total loss of the assets and that the investments eliminate all flood risk. Local projects within each region could be more or less worthwhile than the regional average. Appendix B provides county-level results.

Source: Hanak, E., et al. 2014. *Paying for Water in California*. Public Policy Institute of California. March. Retrieved June 8, 2017, from http://www.ppic.org/content/pubs/report/R_314EHR.pdf

Notes: Current local spending includes flood management (\$1.1 billion) and premiums paid for flood insurance (\$212 million). Current and future local spending also includes 1/25 of the total estimated investment need. Values are calculated per person living in the floodplain (25% of statewide population, share varies by region). Benefit of investments is estimated in terms of the reduced probability of loss of buildings and contents, assuming that current annual risk of serious flooding is 1 in 70 in the 100-year floodplain and 1 in 200 in the 101-year to 500-year floodplain. The calculations may overstate the value of investments because they assume that flooding would cause a total loss of the assets and that the investments eliminate all flood risk. Local projects within each region could be more or less worthwhile than the regional average.

Because flood control projects also provide a wide range of public benefits, levying broader parcel surcharge or local tax is justified, but such a measure would require the two-thirds approval by the electorate. This has proved to be a tough sell in many districts, especially those with high proportions of low-income residents.

Levying a fee or surcharge on water bills or water transactions is the premise behind a regional or statewide "public goods charge," which the California legislature has explored several times in recent years. This is discussed in more detail in the next section.

The PPIC analyzed the regional surcharge required, by region, to generate the same level of revenue provided through Proposition 84. This analysis provides some insight into how a regional surcharge might be structured, and how it would impact households and businesses in the NCRP region. Assuming the surcharge would raise the same amount of revenue over a 5-year period as the region received through Proposition 84, the charge would need to generate per-year revenue of \$7.8 million. Figure 4 shows the per-connection surcharges required to generate this revenue. The top row applies to the North Coast region. The bottom row shows the rates required if the funds were collected uniformly statewide and distributed in the same way to the regions.

Figure 4. Monthly Surcharge on Municipal and Industrial Water Connections to Achieve Revenue Stream Equivalent to Proposition 84 Funding by Region and Statewide

Region	IRWM annual revenue goal (\$millions)	Monthly connection surcharge by class of service (\$/month)			
		Single-family residential	Multifamily residential	Commercial	Industrial
North Coast	7.8	1.51	4.53	9.07	18.13
San Francisco Bay	31.0	0.85	2.56	5.11	10.22
Central Coast	11.2	1.19	3.57	7.15	14.29
South Coast	94.7	0.92	2.77	5.53	11.07
Sacramento River	16.2	0.91	2.72	5.45	10.89
San Joaquin River	12.5	1.25	3.76	7.52	15.04
Tulare Lake	13.1	1.35	4.05	8.09	16.19
North/South Lahontan	5.9	0.82	2.47	4.94	9.87
Colorado River	7.6	2.06	6.17	12.34	24.68
Statewide	200.0	0.98	2.93	5.86	11.71

Source: Chappelle, C., et al. 2014. *Paying for Water in California: Technical Appendices*. Public Policy Institute of California. March. Retrieved June 8, 2017, from http://www.ppic.org/content/pubs/other/314EHR_appendix.pdf (Table D3).

PPIC also modeled a volumetric surcharge and found that for the north coast region to generate the same funding (\$7.8 million per year over 5 years), it would require a surcharge amount of \$0.117 per thousand cubic feet.

3.3 LEGISLATIVE PROGRAMS

The funding opportunities in this category are available through existing and proposed state legislative programs.

AB 32 Auction Revenues

Overview

Assembly Bill 32 (AB 32), The California Global Warming Solutions Act, establishes a program for monitoring and reducing greenhouse gas (GHG) emissions in California. The goal of the program is to reduce the state's GHG emissions to 1990 levels by the year 2020. To accomplish this goal, AB 32 established a cap-and-trade program, which mandates an upper limit on the amount of carbon that can be released into the atmosphere in each year.

Program Structure and Funding Mechanism

AB 32 provides two potential revenue streams through the carbon permitting process: the first is an investment program, which uses revenue generated through carbon credit auctions to fund projects that reduce GHG emissions. The other revenue stream arises because regulated entities can meet up to 8 percent of their compliance obligations through offsets around the United States.³¹ The NCRP could generate revenue to fund projects that involve carbon sequestration, low-carbon energy generation, and energy efficiency, by attracting investments from regulated entities in search

of offsets to meet their legal obligations. This revenue stream is discussed further under Opportunities that Leverage Ecosystem Service Values. The investment program is described in more detail here.

The state allocates permits to carbon-generating industries, including transportation, manufacturing, utilities, and refineries on a yearly basis, gradually reducing the number of permits available. Some of these permits are provided to industries free of charge, and some are made available for purchase to emitters through an annual auction. The annual auctioning process generates revenues for the state. The state is required to spend these revenues on programs that reduce GHG emissions.

Under the current auction structure permit sales occur quarterly. In 2016, approximately 51 percent of permits were sold and generated revenue for the state to invest in GHG reduction projects.³² Since the program went into effect in 2012, the AB 32 auctions have generated \$3.5 billion in state revenue. The Legislative Analyst's Office predicts that revenues for the next few years will decline somewhat, and suggests that there is great uncertainty about future revenues.³³ The program operates under the assumption that the program can collect and distribute these revenues, with limitations on how the revenues may be spent. Part of these assumptions are being challenged in court. Currently, the proceeds from the auction program are placed in the Greenhouse Gas Reduction Fund, which is then appropriated to state agencies.

Under current state law, the revenue that is collected from AB 32 auction revenue is required to be used to reduce GHG emissions. Under statutory requirements, 60 percent of AB 32 auction revenues are required to be appropriated for identified public programs (See Table 5), while the remaining 40 percent is available for the Legislature. In accordance with statutory requirements, the administration is required to update an investment plan every three years to ensure that the revenues are being used to meet the GHG reduction mandate.

Table 5. Cap and Trade Program Expenditures

Program	2013–14	2014–15	2015–16 (Millions of \$)	2016–17	Total
Highspeed rail	—	\$250	\$458	\$250	\$958
Affordable housing/sustainable communities	—	\$130	\$366	\$200	\$696
Low carbon vehicles	\$30	\$200	\$95	\$363	\$688
Transit and intercity rail capital	—	\$25	\$183	\$235	\$443

³² Taylor, Mac. 2016. *Cap-and-Trade Revenues: Strategies to Promote Legislative Priorities*. Legislative Analyst's Office. January 21.

³³ Taylor, Mac. 2016. *Cap-and-Trade Revenues: Strategies to Promote Legislative Priorities*. Legislative Analyst's Office. January 21.

³¹ Overview of California's Climate Cap and Trade Program: Program Design and Economic and Environmental Benefits. Climate Action Reserve. 2015.

Program	2013–14	2014–15	2015–16 (Millions of \$)	2016–17	Total
Low-income weatherization and solar	—	\$75	\$79	\$20	\$174
Transit operations	—	\$25	\$92	\$50	\$167
Transformational Climate Communities	—	—	—	\$140	\$140
Agricultural energy and efficiency	\$10	\$25	\$40	\$65	\$140
Sustainable forests and urban forestry	—	\$42	—	\$40	\$82
Green infrastructure	—	—	—	\$80	\$80
Waste diversion	—	\$25	\$6	\$40	\$71
Water efficiency	\$30	\$20	\$20	—	\$70
Wetlands and watershed restoration	—	\$25	\$2	—	\$27
Active transportation	—	—	—	\$10	\$10
Black carbon woodsmoke	—	—	—	\$5	\$5
Other technical assistance and administration	\$2	\$10	\$14	\$24	\$50
Totals	\$70	\$852	\$1,354	\$1,522	\$3,800

Source: Legislative Analyst's Office. 2017. *The 2017-18 Budget-Cap and Trade*. February 13. Retrieved July 1, from <http://www.lao.ca.gov/Publications/Report/3553>

Note: Red highlight indicates programs with potential overlap with NCRP goals and objectives.

Applicability to NCRP Goals and Objectives

Many of the programs that are, or have previously been funded using AB 32 auction revenues align with NCRP's goals and objectives and local project priorities. These are highlighted in Table 5. As the columns of Table 5 show, the funding priorities shift from year to year and some programs may not be available every year, while new programs may be added to the list in future years.

Opportunities

The implementation of AB 32 is guided by a Scoping Plan, which outlines how California will achieve the near-

term and long-term emissions targets. The Scoping Plan calls for a set of integrated actions that not only reduce emissions but move the state towards greater economic prosperity and environmental sustainability. Actions to achieve this, as identified in the Scoping Plan, include Cleaner and More Efficient Energy, Cleaner Transportation, and Cap and Trade.³⁴ The Scoping Plan's recommendations include developing new carbon reduction strategies in six areas of California's economy, including Natural and Working Lands. For the Natural and Working Lands Section, the Scoping Plan calls for the development of the Forest Carbon Plan, which would set planning and management actions on California's forest lands to ensure they provide net carbon storage in the face of threats from conversion and climate change itself (e.g., wildfire, pests, etc.). The future development of this plan may provide reason to increase AB 32-related funding for forest management, which the NCRP could access.

The current investment plan for AB 32 funds through fiscal year 2018-19 describes three primary concepts for investment: Transportation/Sustainable Communities, Clean Energy/Energy Efficiency, and Natural Resources/Waste Diversion. Each of these concepts potentially align with the NCRP goals and objectives and are a potential avenue for obtaining grant funding through agencies that receive auction proceeds.

The NCRP may also attempt to directly influence the program priorities: the investment board holds workshops and accepts comments of support or dissent for components of the investment plan. An intermediate-term opportunity for NCRP may be to engage with this working group to advocate for projects that place a regional focus on the North Coast.

34 California Air Resources Board. 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework*. May. Retrieved July 16, 2017, from https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf

Los Angeles River Revitalization through EIFD

The City of Los Angeles is exploring creating an EIFD focused on funding projects intended to restore 31 miles of the Los Angeles River. This is the latest development in a long-running effort to secure funding to implement extensive planning efforts addressing the river's health. At least three plans call for capital projects along the river, including ecological restoration, new parks and open spaces, bridges, streetscape improvements, and trails. Revenue estimates suggest an EIFD established the City and LA County within one mile of the river could generate \$50 to \$60 million per year by its fifth year, though actual funding levels would depend on the ultimate size of the district and how property values change over time. However, many steps remain before an EIFD could actually yield funding for projects. First, the City of Los Angeles must have a working strategy for creating the EIFD, including cooperation with the County and general public buy-in. Assuming that occurs, the City Council and Board of Supervisors would resolve to form the EIFD. After EIFD creation, the Council must develop and approve a Financing Plan and establish a Public Financing Authority. Only at this point could the Council seek voter approval for issuing bonds.

The Board is implementing the second investment plan for 2016 through 2019, but is likely to begin developing concept papers over the next year. This could be an ideal time for NCRP to coordinate with their stakeholders to engage the Board to increase the potential for future revenue opportunities.

Constraints

NCRP cannot apply directly for AB 32 auction revenues, but instead must apply for grants through agencies that receive appropriations from the program. Each of these grant programs is competitive and there is no guarantee of funding success. Additionally, the programs eligible to be funded are driven by the California Climate Investments strategy, which is reevaluated every three years. This may present some long-run challenges with funding opportunities as investment strategies evolve over time to emphasize key initiatives. Finally, the specific amount of funding available for different priorities varies over time, and total program funding in the future is somewhat uncertain, though it is unlikely to disappear in the foreseeable future.

Funding Potential

The programs funded by AB 32/SB 32 auction revenues distribute revenues to specific projects through grants that vary dramatically in scale and scope. Larger scale funding grants were typically in the hundreds of thousands, while smaller projects (typically rebates or efficiency incentives) were as small as a few hundred dollars. Table 6 shows the characteristics of grants offered through the funding programs that likely would be relevant to the NCRP.

Table 6. Characteristics of Program Grants Funded Through AB 32

Program	Minimum Grant (\$)	Max Grant (\$)	Average Grant (\$)	No. of Grants
California Department of Food and Agriculture				
Dairy Digester Research and Development	225,909	3,000,000	1,616,776	7
Statewide Water Efficiency Enhancement Program	3,246	200,000	94,085	361
CalRecycle				
Organics and Recycling Project Loans	833,000	890,000	857,667	3
Organics Composting/Digestion Grants	2,595,080	3,000,000	2,904,200	5
Recycling Manufacturing	1,000,000	3,000,000	1,666,667	3
Department of Fish and Wildlife				
Mountain Meadow Ecosystems	493,543	1,495,551	734,969	8
Sacramento-San Joaquin Delta and Coastal Wetlands	999,989	10,386,139	3,859,681	4
Department of Water Resources				
Water Energy — Turbines	5,900,000	5,900,000	5,900,000	2
Water-Energy Grant Program	107	340,367	32,325	207
Forestry and Fire Protection				
Forest Health Program	8,763	2,850,000	397,790	37
Urban and Community Forestry	150,000	1,481,999	538,236	29
Strategic Growth Council				
Affordable Housing and Sustainable Communities	1,000,000	9,240,888	3,736,163	19

Sustainable Agricultural Lands Conservation	93,400	1,163,000	379,355	10
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Source: Legislative Analyst's Office. 2017. *The 2017-18 Budget-Cap and Trade*. February 13. Retrieved July 1, from <http://www.lao.ca.gov/Publications/Report/3553>

Enhanced Infrastructure Finance Districts (EIFD)

Overview

Signed in the fall of 2014, SB 628 authorizes jurisdictions to form EIFDs that use tax increment financing (TIF) revenue to pay for infrastructure improvements. California pioneered TIF as a strategy to boost economic growth, community development, and urban renewal in the 1950s. TIF works by issuing bonds against future property tax revenue growth to fund public investments that have the potential to increase overall property values. The theory is that public investments will spur private investment and fuel property sales, both of which have the potential to increase the property tax base, generating property taxes in excess of the base level and paying for the improvements over time.

California dissolved its redevelopment agencies, which had the authority to issue TIF bonds, in 2012. With few tools available to generate revenue to fund local infrastructure investments, especially in disadvantaged and rural communities, the California legislature crafted the EIFD legislation. It allows communities to use TIF revenue for traditional public works projects, but emphasizes projects that enhance community sustainability, energy efficiency, and reduced carbon emissions.

Program Structure and Funding Mechanism

EIFDs are “a legally constituted governmental entity separate and distinct from the city or county that established it pursuant to this chapter for the sole purpose of financing public facilities or other projects.”

Funding for projects comes primarily from tax increment revenue from consenting taxing districts in the EIFD boundary (with the exception of schools), and can be supplemented with other funding sources (e.g., assessments and special taxes). The overlapping taxing districts can commit zero to one hundred percent of their tax increment revenue to the EIFD. Figure 5 illustrates how TIF works. All of the property within an EIFD generates a certain level of property tax collections each year. The value when an EIFD is established generates a base level of revenue, divided among existing property tax districts to pay for dedicated services (e.g., fire districts). This “revenue from base” continues to flow to these districts at the same level in the future. As property value increases, through annual inflation (in California, property value is allowed to increase up to 2 percent per year), redevelopment, and sales (when a property is

Selected Projects that have Qualified for Offset Credits in the NCRP Region

These descriptions come from the listing of projects for which ARB Offset Credits have been issued (see complete list here: https://www.arb.ca.gov/cc/capandtrade/offsets/issuance/arb_offset_credit_issuance_table.pdf)

Willits Woods Improved Forest Management (Mendocino County)

The Willits Woods Project is comprised of 18,008 acres of timberland on the larger 19,008 acre Willits Woods, which is located in the North Coast Range of California in central Mendocino County, generally west of the town of Willits, mostly south of Highway 20, between Willits and Fort Bragg.

Note: This was the first California forest carbon credit issued under the offset protocols (see <https://www.arb.ca.gov/newsrel/newsrelease.php?id=522>)

Yurok Tribe/Forest Carbon Partners CKGG Improved Forest Management Project (Humboldt County)

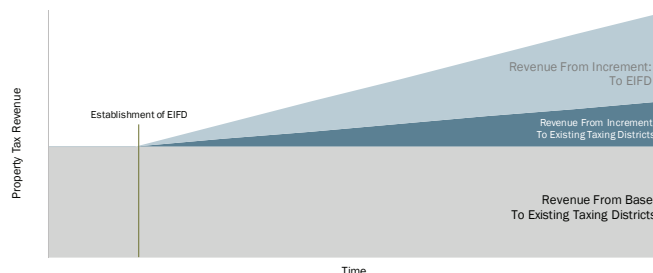
The Yurok Tribe CKGG Forest Carbon Project is an Improved Forest Management project developed under the California Air Resources Board Compliance Offset Protocol – U.S. Forest Projects. The project site is on private land owned in fee by the Yurok Tribe of California in northeast Humboldt County, California. The project is located on recently acquired land within and adjacent to the nearly 56,000 acre Yurok Reservation. The Yurok Reservation was created by the Hoopa-Yurok Settlement Act of 1988 and is composed of the former Klamath River Reservation and Hoopa Extension. The Project Area is located entirely within the Lower Klamath River watershed and Yurok Ancestral Territory. Very little harvesting has taken place since acquisition. Management of the property is designed to improve cultural and ecological values while at the same time generating income from carbon offset sales and logging, with the aim of developing higher value and larger trees.

Buckeye Forest Project (Sonoma County)

The Buckeye Forest Project is located in northwestern Sonoma County, CA. This project occurs on 19,525 acres of forest made up primarily of Douglas-fir, redwood, and tanoak trees with some scattered areas of mixed oak woodlands. The BFP is an Improved Forest Management Project and will generate offsets by sequestering more CO₂ than would have been sequestered under the baseline management regime. The BFP is owned by the Sustainable Conservation Inc and the project is operated by the Conservation Fund. The BFP was acquired on May 31st, 2013 and the project start date will be June 1st, 2013.

sold, the assessed value is recalibrated to market value, which may be higher than the assessed value, especially if the property has been held for some time), a portion of the revenue increase goes to the EIFD. In some cases, part of the annual increase in revenue may continue to flow to existing taxing districts rather than the EIFD.

Figure 5. Tax-Increment Financing Mechanism



Source: ECONorthwest

To establish an EIFD, the legislative body or bodies (cities, counties, or both) must first establish a public financing authority, that is composed of members of the legislative body participating taxing districts and members of the public. The financing authority must

prepare supporting materials prior to EIFD creation, including a resolution of intent that states the boundary, district needs and goals, types of infrastructure projects that will be funded, and TIF revenues that will be contributed. Additionally, the public finance authority must complete a detailed infrastructure financing plan. The Legislative body must adopt the resolution and infrastructure financing plan after a public hearing. Once the EIFD is established, the voters living within the boundary can approve bond measures to fund infrastructure projects consistent with the EIFD plans: bond measures must receive 55 percent of voter approval to pass. For a more complete treatment of EIFDs, the California Association for Local Economic Development has prepared a primer which offers a concise step-by-step description of how an EIFD is created and funded.

Applicability to NCRP Goals and Objectives

EIFDs may be formed to fund a variety of infrastructure improvements that are consistent with NCRP's priorities. The bill specifically calls out the following uses for an EIFD, but notes that the list is not comprehensive:

- Projects that incentivize adapting to the impacts of climate change including, but not limited to, extreme weather events, sea level rise, flooding, heat waves, wildfires, and drought.
- Facilities for the collection and treatment of water for urban trees
- Flood control levees and dams, retention basins, drainage channels

A resource guide to EIFDs produced by the California Community Economic Development Association describes that EIFDs may be used to finance traditional public works infrastructure development, such as sewage and water facilities, as well as “brownfield restoration, environmental mitigation...and projects carrying out sustainable community strategies.”

Opportunities

The NCRP could theoretically be involved in establishing an EIFD to provide a stream of revenue to support specific long-term and large-scale investments that align with its goals and objectives. The revenue generated through an EIFD could be used to fund projects that are beyond the funding resources typically available through individual grant opportunities available to individual jurisdictions. EIFDs are particularly successful when there is widespread agreement on funding project or priority, the project or funding priority is large in scale (e.g., a storm water treatment facility), and there is community support and involvement in resolving funding deficiencies.

An EIFD also works well when these conditions are present:

- Multiple overlapping taxing entities
- Planning work is needed or underway
- Small discrete area with few property owners

In this context, the NCRP could provide the regional framework to support local jurisdictions in establishing EIFDs in the region to address specific project financing needs. EIFDs also offer a planning platform through which to combine multiple funding sources to realize an infrastructure investment plan. EIFDs were designed to leverage multiple funding sources in addition to the tax increment raised. These may be public revenues from property tax, other district assessments, grants. The Infrastructure Finance Plan that outlines the funding plan for infrastructure investments may also incorporate private contributions.

Constraints

Successful examples of EIFDs have so far emerged in suburban and large urban inner-city areas. Although EIFDs can span several jurisdictions, a large EIFD

within the NCRP boundary would likely be politically challenging to implement because of the number of jurisdictions and taxing authorities that need to consent. EIFDs typically result in foregone property tax revenue for overlapping taxing districts participating in the EIFD. Therefore, to achieve a 55 percent voter approval to issue bonds, an EIFD must be in an area where the voters in overlapping taxing districts support and promote the EIFD. Additionally, the administration of EIFDs can be cumbersome and costly, requiring administrative funds, as well as project oversight and demonstrated outcomes achievement. Finally, there is uncertainty about the level of oversight local jurisdictions must cede to the state when an EIFD is created. This may create additional local friction or hesitation about using this funding mechanism among some jurisdictions in the region.

Funding Potential

The amount of funding an EIFD could generate depends on both how the EIFD is created, and future growth within the EIFD boundary. These factors influence the revenue generated through an EIFD:

- EIFD Boundaries
- Participating Districts
- Share of Tax Contributed
- Annual Assessed Value Growth
- New Assessed Value

Other Revenues Dedicated to EIFD

The California Association for Local Economic Development presents an example EIFD financing model using a hypothetical city with existing assessed value of \$500 million. Based on a set of assumptions, including that a substantial amount of new development occurs within the EIFD generating new assessed value of \$1.5 billion over 30 years, an EIFD would generate a tax increment of about \$106 million over 30 years. This example highlights several issues that may limit the financing potential in the North Coast region:

- The larger the assessed value base, the larger potential stream of revenue from an EIFD. In rural regions, larger districts are likely required to generate the same revenue as smaller districts in urban areas.
- Higher incremental revenues arise from new assessed value added to the property tax rolls. Projects that aren't likely to result in new development or increased property values may not be good candidates for EIFD financing.

Developing a financing scenario that would predict EIFD revenues within the NCRP region is beyond the scope of this analysis, so specific funding potential is unknown at this time.

Community Choice Aggregation

Overview

Community Choice Aggregation (CCA) programs allow local governments (cities, counties, and special districts) to aggregate electricity demand within their designated jurisdictions. These CCA programs allow local government entities to procure alternative sources of electricity, while maintaining distribution of electricity through an existing Investor Owned Utility (IOU). In California, districts with Municipal Owned Utilities (MOU) are not eligible to participate in CCA programs. The current program in California derives from Assembly Bill 117 titled the "Community Choice Aggregation Law," which was passed in 2002. The program mirrors similar programs around the country by allowing local control over the purchase and mix of energy sources.

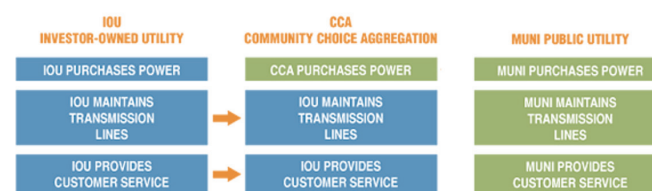
Two of California's approved CCAs operate within the NCRP boundary:

- Sonoma Clean Power serves customers in Sonoma and Mendocino Counties and has operated since 2014.
- Redwood Coast Energy Authority began operating in May of 2017, serving Humboldt County.

Program Structure and Funding Mechanism

Local governments can form a CCA in order to have more control over the type of electricity, which will be consumed in their community. This can range from requiring a greater mix of energy from renewable resources, to requiring a greater emphasis on energy efficiency. Although CCA programs are responsible for purchasing the energy, they are not owners of utilities and therefore not responsible for the distribution of energy; those responsibilities continue to reside with the IOU. Figure 6 shows the relationship between IOUs, MOUs, and CCAs.

Figure 6. Comparison of IOU, CCA, and MOU programs



There are three options for administering a CCA program in California:

- A local government can establish a CCA in their jurisdiction, then delegate operation of the program to a private firm.
- The program can be established and managed through a local government's enterprise fund.
- A CCA can be operated through a non-profit agency using inter-jurisdictional joint powers agreement

CCA programs are funded through ratepayers and are not eligible for other tax subsidies. Revenues generated through ratepayers are then managed and reinvested by the CCA program. A key administrative requirement for operating a CCA program, however, is that both assets and liabilities of the program must remain separate from the local governments general fund.

Applicability to NCRP's Goals and Objectives

The NCRP's goals related to energy independence and climate adaptation, as well as ecosystem conservation and enhancement may overlap with the function of CCAs. Projects that involve the production and generation of biomass available for electricity production, as well as efforts to enhance existing or develop new renewable power sources, such as small hydro and geothermal, could satisfy the demands for clean power coming from CCAs in the region.

Opportunities

Sonoma Clean Power is the public agency that administers the CCA program in Sonoma County. Sonoma Clean Power recently announced that they would also become the default provider for electricity in Mendocino County. The Redwood Coast Energy Authority serves customers in Humboldt County. The presence of these CCAs in the region itself presents opportunities for investment in appropriate and applicable projects with the region.

Both IOUs and CCAs are mandated to expand their renewable energy portfolios and are empowered to choose where to purchase their power. CCAs also place an emphasis on local economic development as a benefit for their service region, which creates an

opportunity for local partnerships between Sonoma Clean Power and NCRP. CCAs outside the region may also purchase renewable power generated from projects in the NC region, however CCAs tend to be heavily locally-focused, so it is unclear if demand would materialize from CCAs outside the region.

A February 2017 study described the strategy for biomass utilization in the North Coast Region, which included partnering with customers and electricity providers to include a greater mix of biomass as an energy source. Both PG&E and Sonoma Clean Power include a small mix of biomass in their energy portfolios. Depending on the cost-competitiveness of biomass, NCRP could partner with these firms to develop strategies for supplying renewable energy as a funding source.

Finally, under current California statute, CCAs can finance public benefits programs for renewables and energy efficiency, through its revenue bonding capacity. The CCAs can repay local bondholders through monthly bills.

Sonoma Clean Power states that it collected \$12 million from residents, which it may reinvest locally for incentive programs and other needs.

So, it could be possible for the CCAs to invest directly in projects that generate clean power or otherwise align with the goals of the CCAs, in addition to purchasing power generated through these projects.

Constraints

CCAs are not able to directly administer public goods funding for energy efficiency programs. It is not clear if NCRP would be able to work directly with Sonoma Clean Power as a funding organization. Additionally, establishing a firm to develop a reliable supply of biomass requires resources to develop a scalable business plan and seek external funding, such as New Market Tax Credits, to help provide an initial round of investment. Building a feasible business plan may also require additional R&D expenditures to develop a viable supply of biomass or geothermal energy.

Funding Potential

CCAs support local renewable energy projects by contracting for long-term power purchases, which allows project developers to secure financing to build projects. The contract value is tied to the generating capacity of the projects, and has the potential to vary considerably. Since its launch, Sonoma Clean Power has increased investment in electricity in the County compared to PG&E.

As it matures as an organization, its capacity to invest in local projects likely will increase. Sonoma Clean Power has grappled with how to direct net revenue in the future, but recently reaffirmed that creating local jobs by

investing in projects within the county and the region is a priority.

Sonoma Clean Power's long-term power purchase agreements have so far supported solar, geothermal, and biomass energy projects. In 2015 it agreed to a long-term power purchase contract with a San Francisco-based energy provider for project that will install floating solar panels capable of generating 70 MW on water holding ponds operated by the Sonoma County Water Agency (SCWA). The energy provider will pay SCWA \$30,000 per year to lease the surface of the ponds, thus creating a stable stream of funding for SCWA to invest in other activities.

Local investments in renewable energy projects by Sonoma Clean Power, the Redwood Coast Energy Authority, and CCAs in other parts of California, will undoubtedly expand. Exactly how these investments translate into dollars available to meet the NCRP's goals remains uncertain. Power purchase agreements that support biomass energy projects have the potential to stabilize markets for biomass and increase incentives for sustainable forest management. CCA investment strategies have been identified as a key focus for expanding biomass energy development in Northern California.

CCA investments in solar and geothermal energy may indirectly generate revenue available for meeting NCRP objectives through lease payments or other mechanisms, as SCWA has demonstrated. The funding potential associated with any single project may not be large (though \$30,000 per year is not trivial), but as project investments increase over time, the aggregate funds across multiple projects could be sizeable.

SB 375 (Sustainable Communities Act) Integration

Overview

The California Legislature enacted Senate Bill 375 (SB 375) to reduce greenhouse gas emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning. The program sets regional greenhouse gas targets and seeks to focus regional achievement of the objectives by emphasizing regional planning, providing California Environmental Quality Act incentives for projects consistent with the legislative goals, and coordinating regional housing needs allocation with transportation planning.

Program Structure and Funding Mechanism

The regional GHG targets are set for each of California's 18 Municipal Planning Organizations. The MPOs create Regional Transportation Plans (RTPs),

which define how transportation funds are spent in the region. Under the law, these plans must include Sustainable Communities Strategies (SCS), and demonstrate how they will meet the GHG targets. Thus, existing transportation funding resources are, in theory, allocated to transportation, housing, and development projects that are consistent with the SCS and ultimately encourage GHG emission reductions.

Applicability to NCRP's Goals and Objectives

The general principles of SB 375 align with multiple goals and objectives of the NCRP, including economic vitality and climate adaptation and energy independence.

Opportunities

Sonoma County lies within the Metropolitan Transportation Commission (MTC), one of the 18 MPOs charged with implementing SB 375. The MTC covers the entire Bay Area region. It may be possible to align certain NCRP projects with the MTC's stated goals under its SCS, and tap into the reallocation of transportation funds to secure additional revenue that may not have been available absent SB 375. This coordination effort is currently underway, funded in part through the Strategic Growth Council's (SGC) Sustainable Communities Planning Grants. Through this grant, Sonoma County has undertaken the development of its Greenhouse Gas Reduction and Implementation Program (GRIP) to implement the region's SB 375 SCS. Strategies to meet the goals of the program include protection of open spaces and agricultural lands, increased water and energy conservation and efficiency, the promotion of a prosperous economy and safe, healthy and walkable communities.

Sonoma County's efforts to date to develop GRIP, focusing on inter-regional collaboration and urban/rural synergies to help the MTC meet its obligations under SB 375, and to help the entire region meet emissions reduction goals under AB32, provide a strong argument and framework for directing investments to the NCRP region.

Constraints

Since the regional GHG goals apply only to a small part of the NCRP region, and the program's emphasis is primarily on housing and transportation investments, the extent to which the NCRP may tap the redirected transportation revenue streams may be limited. Because the MTC is such a large, urban region, projects in the NCRP may be unlikely to generate the magnitude of GHG savings that would be required to satisfy the GHG reduction targets.

Funding Potential

This effort is in early stages of development, and a specific funding mechanism that NCRP could access is as yet undefined. By extension, it is difficult to predict the scale and scope of future funding. Moreover, there are no models of this funding relationship elsewhere in California that could provide insight into the local funding potential.

Regional Advance Mitigation Planning

Overview

The California Environmental Quality Act (CEQA) requires state and local agencies to identify environmental impacts from their projects and, if those impacts are unavoidable, to mitigate them, which may include "compensating for the impact by replacing or providing substitute resources or environments."

A coalition of California agencies, federal agencies, and NGOs, initiated Regional Advance Mitigation Planning (RAMP) in 2008 to fulfill this requirement more efficiently. Typically, mitigation projects are designed and implemented as needed, often in isolation, and somewhat opportunistic in their location and focus. The RAMP approach, in contrast, promotes planning and coordination at a regional scale to produce mitigation projects that are less costly and have the potential to produce a greater range of higher-quality ecological and community benefits.

RAMP also has the potential to reduce infrastructure planning costs, because pre-approved mitigation projects allow proposed projects to proceed on a faster timeline, with fewer delays.

Fundamentally, RAMP achieves environmental mitigation requirements mandated by existing laws, while providing the following additional advantages:

- Landscape scale or ecosystem approach builds on existing conservation planning efforts
- Contributes to meeting the state's long term stewardship goals
- Integrates with other legal planning requirements (e.g., Habitat Conservation Plans)
- Furthers state mandates on climate change

Though authorized in 2008, it has taken the state some time to develop new policies to effectively implement the ideals embodied in RAMP. Several pilot projects have produced RAMP mitigation credits. DWR, CalTrans, and the state and federal resource management agencies have cooperated to implement RAMP for the Central Valley Flood Management Planning Program. The draft RAMP Statewide Framework issued in 2012 recommended legislative changes to further define and

support RAMP throughout the state. In response to that directive, the California legislature authorized AB 2087, Regional Conservation Investment Strategies (RCIS), which serves the dual purpose of providing a framework for regional conservation planning and opportunities for advance mitigation. The remainder of this section focuses specifically on the opportunities emerging through RCIS.

Program Structure and Funding Mechanism

RCIS is a conservation planning document that identifies conservation and habitat enhancement opportunities within a particular region. Any local jurisdiction (e.g., City, County, Open Space District, Public Lands Conservancy) or state agency can initiate a RCIS, with a state agency sponsor. California Department of Fish and Wildlife currently has the authority to approve the RCIS. The goal of the RCIS is to

- Identify high-value conservation and habitat enhancement opportunities to aid species recovery, adapt to climate change, and improve ecological and community resilience.
- Identify, using the best available science, potential mitigation opportunities.

Once DFW approves the RCIS, it provides DFW the authority to enter into Mitigation Credit Agreements (MCAs) with public and private entities. This provides financial incentive to implement the conservation and habitat enhancement actions outlined in the RCIS. Any entity can enter into an MCA with DFW, and once the credit is generated, can sell the credit to a public or private entity that requires it under CEQA or other state or federal law that requires compensatory mitigation.

The revenue generated from the sale of the credit can be used to fund additional restoration actions. MCAs must meet a number of required elements, including measurable outcomes, guarantee of perpetual protection, long term management funding, and adaptive management provisions.

DFW issued official program guidelines in June of 2017, and additional guidance is forthcoming for MCAs.

Applicability to NCRP Goals and Objectives

RAMP in general and the RCIS program in particular appears to complement NCRP's planning process well. The landscape-scale, cooperative planning approach to identifying targets for conservation and habitat enhancement mirrors the process NCRP has implemented for over a decade. With much of the social capital and knowledge base already in place, it may be straightforward for NCRP to create an RCIS and use it to further its goals and objectives.

Opportunities

As RAMP gains traction in California, it provides an additional framework for NCRP to leverage demand for outcomes complementary to its goals and objectives. As this demand arises from regulatory mandates, it is likely to be reasonably stable over time, potentially increasing as demand for new development grows with population and aging infrastructure requires replacement. If NCRP participated in directly creating an RCIS, it would be able to shape the geography, project priorities, and program details in a way that would synergize with the work already underway. The RCIS program in particular, through its proposed Mitigation Credit Agreements, may provide a revenue source to support expanded project implementation. While RCIS may be the most promising opportunity for NCRP to pursue, NCRP should monitor the development of other RAMP programs in the state (such as the Central Valley Flood Management Planning Program) for potential opportunities to collaborate or contribute eligible projects.

Constraints

One of the primary challenges of the RAMP approach is project financing. Part of this challenge is a function of timing: by definition, conservation and habitat enhancement projects are implemented well in advance of actual need. Large infrastructure projects that require mitigation include budget required to either purchase mitigation credits or implement mitigation projects. But these funds for mitigation are typically not available until a project is well along in planning and design. Thus, upfront funding is required to finance specific RAMP projects. The state has wrestled with this financing problem, and released a report addressing potential solutions.

Its four key findings are:

- There is no single available external funding source...to fund a state-initiated advanced mitigation program.
- Partnerships...provide important opportunities...to leverage potential funding sources and make advanced mitigation a reality.
- New revenue sources will be needed to support advanced mitigation in California.
- Financing tools will be equally important to pursuing advanced mitigation.

In many ways, the funding question for RAMP is a specific case of the same funding question NCRP is presently wrestling with.

Other challenges NCRP may encounter if it pursues RAMP arise from taking on a new layer of regulatory

responsibility, especially because RAMP is still in its infancy in California. Programs, such as RCIS, are not yet fully developed, much less tested over time with a variety of public and private interests. Uncertainty regarding legal liability, long-term management responsibilities, and funding all complicate the adoption of what is otherwise a very promising opportunity to tap into regulatory-mandated demand for conservation and habitat enhancement.

Funding Potential

The RAMP approach, and specifically the RCIS program, are in the early stages of development across California. As described above, funding of RAMP projects is one of the largest challenges associated with RAMP.

One of the potential identified funding strategies is a local-option sales tax that would generate revenue to fund mitigation projects in advance of demand. Voters in Orange County and San Diego County have approved such tax measures: the measure approved in San Diego County in 2014 generated \$850 million for advance mitigation required for 11 proposed transportation projects in the county. Both sales tax measures were approved to fund advance mitigation projects called for under existing Habitat Conservation Plans associated with planned transportation projects.

These examples provide little insight into the scale or scope of potential implementation of a RAMP strategy in the North Coast region, though it is likely that demand for advance mitigation projects would be comparatively smaller, and available funding would scale commensurately.

Public Goods Charge

Overview

A public goods charge (PGC) is a usage fee applied by utilities to ratepayers to generate revenues for projects in the public interest. California previously had a PGC on electricity until 2011, when the program sunset. A PGC for water could be applied using a similar method in California, by creating a fee on water consumption that could be used to fund water conservation, ecosystem restoration, and infrastructure improvement projects.

Program Structure and Funding Mechanism

One of the primary goals of applying a PGC to water is to use prices as a signal for water scarcity. Many PGC programs create a volumetric fee on water consumption (or other commodities, like electricity) to encourage conservation and adoption of technologies that improve efficiency. In 2015, the California Legislature signaled through SB 20 a possible intent to enact a public goods charge on water bills via the California Water Resiliency

Investment Fund. The effort was dropped after significant opposition from the state's water utilities and districts, including the Association of California Water Agencies. It was not the first time such a plan had been floated, however. In 2006, the Schwarzenegger administration proposed a charge levied on all retail water suppliers in the state, based on the number of connections in its service area, to support statewide water programs, including the IRWM program (the California Water Resources Investment Act of 2006).

In 2010, Senator Simitian introduced the California Water Resources Investment Act of 2011 (SB-34), which would impose a volumetric charge on every retail water supplier in the state. The funds would be divided between the state and regional funds to invest in water-related projects and programs that generate public benefits.

Applicability to NCRP

The revenues from a public goods charge almost certainly would be available in some form to further the goals and objectives of the NCRP. Some of the proposals would have funneled money directly through the IRWM program. The specific applicability to the NCRP would depend on the provisions of a particular proposal.

Opportunities

A PGC on water would generate a stable source of funding that could help support several areas of NCRP efforts. Moving forward, NCRP could collaborate with the legislature on defining restricted revenues which could be used for water investments. As discussed in the previous section, a statewide PGC is just one way of leveraging funding from ratepayers to fund water investments: local charges may also provide opportunities to fund smaller-scale planning efforts and projects. A statewide PGC, if allocated preferentially to watershed source regions, could provide a larger stream of revenue to the north coast than local charges alone.

Constraints

There is currently no statewide PGC in place in California. After the failure of the last effort in 2015, with zero support from the state's water utilities and significant opposition to the idea from other sectors, a statewide PGC does not appear to be a politically feasible option in the near future. As discussed in the previous section, local PGC-type fees imposed by water utilities could be levied for regional purposes. However, enacting these fees come with their own legal and logistical challenges (see previous section).

Funding Potential

A statewide PGC could generate a substantial amount of revenue. The specific mechanism for distribution would determine the amount available at the regional level for specific investments. It is likely that much of a potential statewide PGC would be diverted to projects benefiting politically connected and entrenched powers and population centers, which may leave a disproportionately small amount available for the north coast region.

Regional Energy Networks

Overview

Regional energy networks (RENs) are administrative programs authorized by the State of California to operate independent of investor owned utilities (IOU) to provide flexibility in managing energy efficiency programs. The CPUC approved the creation of two pilot programs in 2012, which can operate energy efficiency programs independently of IOUs. Currently, there are two RENs in California, the SoCalREN and BayREN, which operate with a two-year budget of approximately \$75 million and use ratepayer funds to support the program goals.

The program allows local governments to form partnerships to scale investments for these energy saving programs that are not currently or planned to be undertaken by the IOUs. Additionally, the California Public Utility Commission (CPUC) requires that a REN looks for opportunities to address energy saving investments in disadvantaged and low-income communities. As independent programs, the RENs are required to deliver monthly and annual updates on their progress toward meeting their energy efficiency goals.

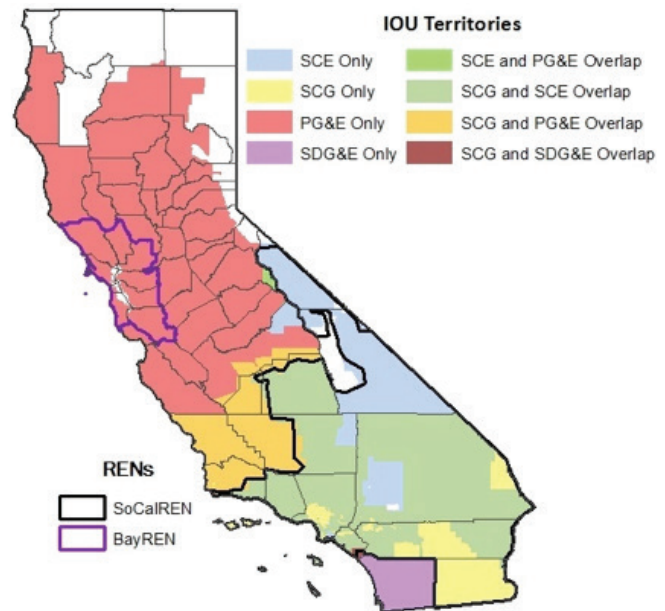


Figure 7. Map of RENs in California

Source: Regional Energy Networks Value and Effectiveness Report Draft, 2015

Preliminary studies have found that the programs could be successful in reducing future load and reaching isolated populations to support energy efficiency initiatives.

Program Structure and Funding Mechanism

The RENs grew out of a round of initial funding from the federal American Recovery and Reinvestment Act of 2009 (ARRA). The programs ongoing operations are funded by ratepayers in their respective service areas.

Applicability to NCRP Goals and Objectives

Sonoma County is a part of BayREN, which also falls into the NCRP boundaries. BayREN is currently working with local agencies on the Bay Area Regional Drought Relief Conservation Program, which is funded from Proposition 84, which suggests some alignment with BayREN and the mission of NCRP. Additionally, BayREN is working to develop local pilot programs to improve water efficiency.

Opportunities

NCRP and BayREN overlap jurisdictionally in Sonoma County. There may be opportunities to work with BayREN on developing and implementing local pilot programs across shared goals.

Constraints

Program goals and funding is geared toward codes and standards, single family homes, and multifamily home investments, which is a narrower scope than NCRP goals. Many of the programs supported by BayREN are

supported directly from the utility to the contractor, which does not leave much room for NCRP to engage with BayREN for funding opportunities. Additionally, the bulk of the population supported by BayREN is in the Bay area, which could make it difficult to divert funding to a less population-dense area of the North Coast.

Funding Potential

Specific funding opportunities through BayREN have not yet been developed. However, water conservation projects and opportunities supported through member agencies, such as the Sonoma County Water Agency, are directly linked to the Bay Area Regional Drought Relief Conservation Program, which is funded through Proposition 84. The scale and scope of future funding opportunities is unclear at this time.

3.4 OPPORTUNITIES TO LEVERAGE ECOSYSTEM SERVICE VALUE

Payments for ecosystem services (PES) are payments to individuals or institutions for land conservation or improvements that yield environmental benefits. The most common direct payments for ecosystem services in the United States have been implemented through the USDA via payments to landowners on agricultural land. Wetland mitigation banking is common throughout California as well. Individual transactions to protect specific services in specific locations, such as forests for source water protection, occur occasionally as well. More recently, efforts have focused on developing established markets for ecosystem services where prices are reflective of the demand including avoided costs associated with supply of natural resources both in extractive and conservation contexts. Regulatory compliance drivers and pursuit of cost-savings efficiencies are common forces driving market activity.

Multiple examples of ecosystem service markets currently exist in California: water supply, water quality trading, and carbon cap-and-trade with offsets. Although the ability to participate in these markets is limited due to situational and regulatory constraints, NCRP may have opportunities to create local revenue streams through the carbon offset market in particular. Participation in water supply transactions may be an option for water rights holders within the NCRP, but is not likely a useful strategy for the NCRP to pursue collectively. Water quality markets also tend to be driven by regulation and limited in geographic scope and scale, so are also less likely to be a promising avenue to pursue without new regulatory drivers. The carbon offset market is addressed in more detail below.

Leveraging the value of ecosystem services provided by the natural capital in the North Coast doesn't

have to happen through a formal market: by officially recognizing and quantifying the goods and services it supplies, and identifying the beneficiaries of those services, the NCRP is taking the first step toward forging partnerships that may evolve into future revenue streams designed to secure and enhance the supply of ecosystem services. Beneficiaries have traditionally not had to pay directly for these services, so translating supply and demand into payments may take time and additional political assistance or regulatory incentives.

As PES schemes have evolved over the years, the federal government remains one of the largest payers, through conservation programs administered by NRCS and USDA. Conservation organizations are another leading payer, through transactions that secure conservation easements and land trusts. More recently, utilities have become common payers, motivated to reduce their costs for drinking water treatment, stormwater treatment, or wildfire mitigation.

In the sections below, several avenues are described through which organizations have found success leveraging funding through ecosystem services: securing funding normally reserved for large-scale infrastructure for ecosystem improvement; tapping the emerging markets for carbon, through the AB 32 offset program; and accessing disaster-preparation funding for ecosystem (and thus community) resilience. Also identified are potential avenues through which partnerships could lead to payments for ecosystem services, absent formal government funding programs or markets.

Natural Capital as Large-Scale Infrastructure

Several organizations and agencies, with notable efforts by the Nature Conservancy, have made efforts to gain entry for natural resource conservation and restoration investments to general funds earmarked for basic infrastructure functions. State and federal agencies provide grants, loans, and direct funding for projects that provide water supply, water quality treatment, flood protection, and similar objectives that might be achieved via well-functioning watersheds and ecosystem services. Oftentimes an ecosystem-based approach to achieving basic infrastructure functions can provide multiple co-benefits, and possibly cost-savings. The challenge is often perceived risk or uncertainty in performance, given the context-specific nature of ecosystem functions (hydrology, soils, climate, etc.)

Some programs that have found success lead with a collaborative approach whereby win-win opportunities are identified and multiple organizations representing diverse interests join forces. This increases expected success from funding organizations and improves access to state and federal funding programs. There also is high political

popularity to projects that provide multiple benefits even when the total value of those benefits might not be the greatest of all options. For example, some politicians and executives look more favorably on certain projects that satisfy a wide range of objectives and constituencies than projects that have the highest benefit-cost ratio.

Two example programs are the Washington State Floodplains by Design program for floodplain infrastructure projects, and the Nature Conservancy's Rio Grande Water Fund. Both use public funds to accomplish landscape-scale objectives via ecosystem functions traditionally provided by conventional (gray) infrastructure.

Floodplains by design

The Nature Conservancy collaborated with the Washington State Department of Ecology to develop the Floodplains by Design program.

Its purpose is to provide funds for multi-benefit projects in floodplains that collectively address flood protection, habitat function, water quality, agriculture, and recreation. The program arose from a recognition of the important role floodplains play for several critical ecological, economic, and cultural objectives in Washington State. Collectively these objectives elicit a variety of funding and investments, often originating from state and federal sources. The program seeks to coordinate these investments, and identify win-win opportunities across multiple objectives to channel state funds. The program has seen roughly \$25 million annually invested by the Washington State Legislature for projects.

A key factor for success of the program has been the focus on identifying solutions that improve the range of potential benefits, which often see competition and zero-sum tradeoffs in solutions rather than positive net benefits. Challenges arise in that no one objective might get everything it wants, but the state is eager to identify and support situations where the various groups do come together and agree to cooperate. This often also means some pooling of other funds, including federal and private dollars, to work collectively. Collectively the program can already identify hundreds of homes protected from flood risk, miles of salmon habitat restored, and hundreds of acres of floodplain returned to ecological function.

Rio Grande Water Fund

The Rio Grande Water Fund uses funding contributions from downstream beneficiaries to finance forest restoration and wildfire fuel treatments for the purposes of improving the quality and reliability of water supply through source water protection

. The Rio Grande River watershed has experienced major wildfires in recent years, and the headwaters in

Colorado and New Mexico are particularly fire prone areas. Downstream communities, tribes, and government agencies rely upon water supply and infrastructure including water diversion, conveyance, storage, and treatment facilities that are vulnerable to the water quality degradation, hydrology modification, sediment deposition, debris and erosion that wildfire can generate. The cities of Santa Fe and Albuquerque, local irrigation districts, the U.S. Forest Service, and other state and federal agencies have played important roles in supporting, funding, and implementing projects as part of the Fund. To-date the Fund has dozens of public and private contributors

. Downstream beneficiaries recognize their vulnerability to degradation of their watershed, particularly given the scarcity of water in arid New Mexico.

An important characteristic of the Rio Grande Water Fund context is the community recognition of its reliance on its watershed, and the scarcity of important natural water supply systems therein. Albuquerque water utility managers report that they conducted surveys of their ratepayers that highlight ratepayer recognition of the importance of protecting and investing in their source watershed

. Agriculture-supporting irrigation districts in the valley report similar constituent support and willingness to fund protective efforts. The Taos Pueblo (native American) community reports similar reliance and extends this importance to cultural and religious significance as well.

A related important characteristic of the Rio Grande Water Fund context is a recognition of the collective reliance and interdependency of various communities and users on each other. There is a widespread understanding that everyone must work together to successfully protect their watershed. This is in contrast to positions supporting efforts to develop a watershed-wide funding process for wildfire fuel treatment and forest restoration in the Mokelumne River Watershed of the Sierra Nevada. In the Mokelumne context, utilities, particularly Pacific Gas and Electric, were unwilling to contribute to a program to manage wildfire risk and water resources at the basin scale, instead choosing to pursue private, on-site protection and adaptation options. Unfortunately, the Butte Fire which occurred in 2015 was found to be caused by poorly maintained energy transmission corridors of PG&E, and PG&E has faced multiple lawsuits for liability regarding damages of the fire.

Pre-Disaster Mitigation for Climate Adaptation

Broadly, climate adaptation involves developing local resilience to climate impacts, including sea level rise, stronger variation in precipitation, and more frequent weather extremes. While funding typically has focused on hardening built infrastructure, a strong case has been

made for investing in ecosystems to reduce the risks posed by human and man-made disasters.

The Federal Emergency Management Agency (FEMA) recently became the first agency to incorporate ecosystem services valuation into their benefit-cost analysis framework for evaluating flood mitigation investments. FEMA then expanded this policy change to all mitigation projects for climate change. This means that FEMA will now provide funding for ecosystem restoration projects that mitigate the effects of disasters. Following FEMA's lead, the Housing and Urban Development (HUD) National Disaster Resilience grants also recognize ecosystem services in their benefit-cost evaluation. This means projects that incorporate ecosystem restoration approaches may be competitive alongside traditional disaster risk mitigation projects.

There is also state support for this approach. California's 2009 Climate Adaptation Strategy recommends leveraging existing funding sources and redesigning projects or reallocating resources to satisfy adaptation goals, rather than seeking new funding sources for projects. The 2014 update to the Strategy is more forceful that investments in ecosystems should be among the top priorities for climate mitigation spending: one of the seven strategies outlined directs that investments and actions should "Maximize returns on investments by prioritizing projects that produce multiple benefits and promote sustainable stewardship of California's resources."

CEMA and FEMA Funding

One area recommended by the strategy guide is to look for opportunities for funding through the California Emergency Management Agency, which teams with FEMA and DHS for hazard mitigation grants. The Pre-Disaster Mitigation program specifically supports regional planning efforts among local communities, Tribal governments, and State agencies to reduce overall risks from future hazard events. This program does not require a disaster to have occurred in the region for entities to be eligible to apply for funds, however local jurisdictions must have in place a current hazard mitigation plan. Funds distributed under the FY 2016 program totaled \$90 million, with ten percent of funds set aside for Tribal governments. "Small, impoverished" communities are further eligible for 90 percent cost-sharing, so must only come up with 10 percent local matching funds. The 2016 program priorities emphasized Climate Resilience Mitigation Activities, Floodplain and Stream Restoration, and pre- or post- wildfire mitigation, and any mitigation action that utilizes green infrastructure approaches. These project priorities dovetail well with the NCRP goals and objectives, and the program emphasis on regional planning

and prioritizing funds to disadvantaged communities makes it particularly well-suited to the NCRP.

Carbon Markets

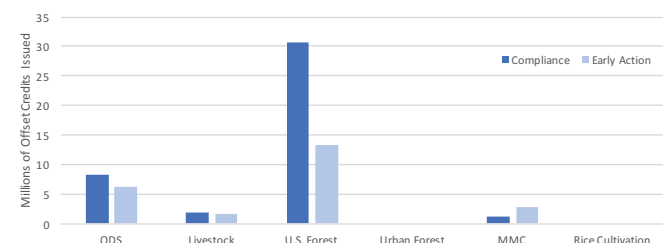
NCRP is unlikely to be able to participate directly in the purchase and trading of credits in any regulatory carbon markets, though future opportunities may emerge as global efforts to curb greenhouse gas emissions evolve. The near-future opportunities in the United States appear limited, given the current federal policy changes related to climate change. Additionally, North America's only existing voluntary carbon market, the Chicago Climate Exchange, ceased trading operations in 2010.

The most accessible opportunity to leverage the region's resources in the context of carbon management is to participate in the AB 32 compliance offset program. Authorized projects can be used by regulated industries to offset up to 8 percent of their compliance with California's cap-and-trade program. There are six types of projects eligible for the offset program, though only four have actually earned offset credits (in bold):

- **Forestry (Reforestation, Improved Forest Management, Avoided Conversion)**
- Urban Forestry
- **Livestock Methane Capture & Destruction**
- **Destruction of Ozone Depleting Substances**
- **Mine Methane Capture (coal and trona mines)**
- Rice Cultivation

As of the end of June 2017, California's Air Resource Board (ARB) has issued over 66 million offset credits across the four currently active offset programs (Urban Forest and Rice Cultivation have not yet been approved). The majority of those credits have been for forestry projects, with projects that reduce ozone depleting substances (ODS) a distant second (Figure 8).

Figure 8. ARB Offset Credits issued (as of June 2017)



Source: California Air Resources Board. 2017. *ARB Offsets Issued*. June 28. Retrieved June 8, 2017 from https://www.arb.ca.gov/cc/capandtrade/offsets/issuance/arb_offset_credit_issuance_table.pdf

Note: Early Action refers to offsets approved under the ARB's Early Action Offset Program, which allowed qualified projects to register and receive credits assuming they had not already been used to meet other obligations.

The purpose of these credits was to create a ready supply of offset credits early in the AB 32 implementation period. Beginning in 2015, all projects generating offset credits must be approved through ABR's Compliance Offset Protocols to maintain eligibility for the offset program.

Individual NCRP projects involving forest management and urban forestry could be tailored to qualify for the offset program. The regulations are rigorous and the bar is set high to ensure the projects are actually reducing atmospheric carbon dioxide (an overview of the offset rules and certification process is detailed in the following textbox). However, if they successfully complete the extensive state review and certification process, projects in the region could be promoted for investment by California's carbon emitters.

In fact, projects located in the NCRP region have already qualified for offset status. The text box below describes just a sample of the projects that have generated offset credits. These projects earn revenue by attracting investors interested in securing carbon offsets. Certifying the credits through the ARB Offset Program allows California companies to use them for compliance under AB 32, but recently in at least one example, they have attracted international investors as well. The Conservation Fund operates several forest management projects in Northern California that have qualified under both the Early Action and Compliance Offset programs.³⁵ In 2015, a Norwegian government-run power company agreed to purchase offset credits generated through one of the Conservation Fund's projects in Mendocino County (The Big River and Salmon Creek forests). This represents the first time a foreign company participated in California's offset program. The Conservation Fund will use the revenue generated from the offset sale to continue investing in forest recovery, including sediment reduction projects, restoration of creeks, and habitat improvements for threatened and endangered fish and wildlife.³⁶ This example lends credibility to the notion that developing projects specifically for California's offset program is a viable revenue generation model for funding ecosystem restoration more broadly (as long as the program survives ongoing legal challenges and regulatory uncertainty).³⁷

³⁵ The Conservation Fund. "Big River and Salmon Creek Forests." Retrieved June 8 2017, from <http://www.conservation-fund.org/projects/big-river-and-salmon-creek-forests>

³⁶ "California Carbon Cap and Trade Program Attracts Foreign Investors." As posted in GovTech, reprinted from the San Francisco Chronicle. December 21, 2015. Retrieved June 8, 2017, from <http://www.govtech.com/ts/California-Carbon-Cap-and-Trade-Program-Attracts-Foreign-Investors.html>

³⁷ Baker, D.R. 2016. "California's Cap and Trade System Faces Cloudy Future." *San Francisco Chronicle*. August 7. Retrieved June 8, 2017, from <http://www.sfchronicle.com/business/article/California-s-cap-and-trade-system-faces-cloudy-9127054.php>

Foundation Partnerships

Private foundations could be potential financial partners in achieving the NCRP's goals and objectives insofar as there is overlap in geographic focus, expressed area of interest, and philosophical approach to regional-oriented solutions. Leveraging a dependable stream of revenue through a foundation typically involves extensive relationship building with the right organization. Foundations may be particularly interested in opportunities to catalyze new streams of revenue, such as allowing the NCRP to explore innovative PES opportunities with other partners in California, or public/private financing. Foundations active in Northern California and interested in environmental and water issues include:

- Gordon and Betty Moore Foundation: Environmental Conservation program focused on several areas relevant to NCRP, including the Wild Salmon Ecosystems Initiative. However, as of June 2017, this initiative is no longer awarding new grants. Future activity is uncertain.
- Resources Legacy Fund: Focuses on Rivers and Watersheds, with active funding programs in "Open Rivers," which supports local efforts to remove obsolete dams and modernize infrastructure and restore rivers in the Western U.S; and "Land-Sea Connection" which supports projects that advance the ecological resilience of California's coastal and marine ecosystems.
- David and Lucile Packard Foundation: Two focus areas potentially overlap with NCRP activities. The Conservation and Science Program invests in conservation and ecosystem restoration, with the Land program focused on iconic and important landscapes in the Western U.S. The Agricultural, Livelihoods, and Conservation Program aims to promote sustainable agriculture in areas with high biodiversity, while improving social and economic development. This program seems to focus more on developing economies, and is not currently accepting unsolicited proposals, but the underlying ideals may align with NCRP goals and objectives
- Caldera Foundation: Focus on innovative solutions to environmental issues, and has historically funded forest initiatives through the Pacific Forest Trust. The organization does not solicit grant applications or funding requests)
- Sara & Evan Williams Foundation: Bay-area based foundation focused on issues including environmental reform, sustainable energy, and climate change. Its geographic focus is northern California and the west coast.

Giving is expected to increase, with grants in recent years approaching \$2 million.

- S.D. Bechtel, Jr. Foundation: Focused on California programs in the environment, including water and land management. Its emphasis has been funding proposals that improve management by supporting scalable best practices. Water projects emphasize partnerships among stakeholders. However, funding may be limited in future years as the foundation winds down its activities.

National foundations, such as the Rockefeller Foundation, have demonstrated interest in advancing strategies involving payments for ecosystem services elsewhere. However, absent a targeted call for proposals, developing relationships with national foundations may require specific connections and considerable development resources.

Many foundations focus their funding resources towards non-profit organizations, so the NCRP may facilitate the relationship building process with foundations, but strategically highlight specific non-profit organizations as part of its partnership network to receive funds to support the regional goals and objectives.

Research Partnerships

Partnerships with research organizations and NGOs provides opportunities to pursue funding that local organizations may not have the capacity or expertise to access otherwise. These include some federal and academic funding sources. Even for funding sources that NCRP could access alone, Universities and NGOs can provide matching contributions through the value of time by university researchers, who are typically paid to offer their time to these kinds of research opportunities anyway. NGOs may be able to pool smaller pots of money with other funding sources to accomplish goals that are otherwise unattainable. These partnerships are typically mutually-beneficial: University researchers may use on-the-ground projects as laboratories for collecting data and testing methods. NGOs can further their own goals and objectives through on-the-ground partnerships. The NCRP already makes good use of these kinds of relationships in many of the projects it implements. Expanding these relationships can only deepen the pool of resources it can draw from when opportunities arise.

EPA Environmental Finance Centers

Although not likely to be a direct source of revenue for NCRP, Environmental Finance Centers (EFCs) partner with government agencies and private firms to manage costs associated with program management and environmental financing. These centers primarily provide technical assistance to help local agencies

and firms identify cost-effective ways to pay for environmental programs. This could be a pathway for NCRP to develop local revenue-raising options with local government entities. The EFC for California (part of Region 9) is run out of California State University in Sacramento and focuses on providing tools and technical assistance for financing programs for drinking water, stormwater, and groundwater, among other programs.

Public-Private Partnerships

This section describes three examples of public-private partnerships that, because of their prominence in the region, orientation towards customer image, and direct interaction with ecosystems, may have built-in incentives to voluntarily initiate or participate in payments for ecosystem service programs within the NCRP.

Cannabis Industry

The 2017 legislative priorities for the California Cannabis Industry Association (CCIA) are focused around developing equitable taxations policies and increasing access to banking services. However, the CCIA does list land use and sustainability as a primary guiding principal of the organization: "Support policies and new technologies that improve environmental sustainability within the cannabis industry, including efforts to promote water and energy efficiency."

Additionally, new regulations in California SB 837 will require cannabis growers in California to obtain permits for irrigation water they consume for producing the crop. The California State Water Resources Board, Department of Fish and Wildlife, along with the Department of Food and Agriculture are developing interim guidance on water use. According to industry journals and the CCIA, the industry is broadly supportive of these regulatory efforts, which could provide an avenue for NCRP to work with utilities and industry associations on conservation efforts.

Wine Industry

Partnerships with wineries on water conservation projects that align with NCRP priorities are already occurring in Northern California. For example, Trout Unlimited, an organization working to protect and restore coldwater fisheries in North America, created the *Water and Wine* project. Through *Water and Wine*, TU works with North Coast wineries and vineyards to improve dry-season streamflow for fish while providing more reliable water for vineyards. Specific "tactics" for Water and Wine include developing water-saving projects and management solutions, stream restoration, and public awareness.

The North Coast Coho Project (NCP) is a PPP working to restore coho salmon runs in Northern California.

The project is run by TU and partners include state and federal agencies, private landowners, and gravel, timber, and wine industry leaders. The NCPP “assesses watershed conditions, develops and implements projects to reduce sediment input to streams, installs large woody debris and rocks to diversify instream habitat, and improves fish passage.”³⁸ The project has raised over \$9 million over the last 20 years.

Regional Recreation and Tourism

The North Coast region holds nationally-significant recreational and tourism resources, drawing visitors from across the U.S. and the world. These tourists spend money in the region, which bolsters local and state tax revenues. In some cases, they may pay entrance fees to parks and use fees for hunting and fishing permits, which generates revenues for the state and for specific attractions. The NCRP and its partner jurisdictions may evaluate whether current fees and appropriate and whether new fees may be warranted in certain locations. There may be opportunities to leverage federal resources earmarked for recreational development on public lands to better align with and support other NCRP goals and objectives. Finally, recreation is often a useful driver for demonstrating demand for a broad suite of ecosystem services in the region, especially when demand is statewide and national. This may provide compelling data and justification for garnering investments from other programs and sources identified throughout this section.

Timber Industry

There are a variety of partnerships among conservation-oriented organizations and private timber owners and managers in Northern California that have yielded constructive ecological outcomes. The Conservation Fund, mentioned above, directly manages timber land for production of timber and a variety of ecosystem services, including carbon sequestration. Through its North Coast Forest Conservation Initiative, it is demonstrating that working forests can produce a wide range of benefits while being financially self-sustaining.³⁹ Other private timberland owners across the region may strive to produce similar outcomes through management, but lack the capacity, resources, or experience to maximize these opportunities. Certain regulatory drivers, such as Habitat Conservation Planning (under the federal ESA) and Natural Community Conservation Planning (under California’s ESA) may facilitate relationship-building and provide opportunities for achieving cost savings and economies of scale by pooling resources to achieve

broader regional objectives. The North Coast Region has at least one Natural Community Conservation Plan, covering lands owned by the Mendocino Redwood Company. Humboldt Redwood Company is also in the process of revising its Habitat Conservation Plan.⁴⁰ While these efforts are the responsibility of the private entities, given the right alignment of circumstances, interests, and relationships, coordination on the development and implementation of these plans could generate benefits.

4 COMPARISON OF FUNDING SOURCES

The assessment in Section 3 provides information about each funding source, to help NCRP consider which funding sources may be worth pursuing in more detail. This section presents a comparison of the funding sources across several dimensions based on currently available information. Considerable uncertainty surrounds many of the funding sources, because they are still in development at the state level, or specific programs would need to be established at the local level before they generate revenue. The methodology presented below focuses on common points of comparison across all funding sources.

1.7 COMPARISON METHODOLOGY

The comparison uses six indicators to assess the strengths and weaknesses of the funding sources. Table 7 presents the indicators and scoring for each.

Table 7. Indicators for Comparison

Indicator	Description	Points
Funding Capacity	Funding amount is known or could be calculated once program is developed.	3
	Some clues about funding amount are available based on experience elsewhere, but there is not enough information to estimate at local level.	2
	Funding amount is unknown.	1
Administrative Requirements	New program requires new staffing and organizational resources	1
	Significant oversight and reporting required; New program requires some setup but existing staff can manage.	2
	Any new requirements are easily fulfilled by existing program resources.	3
Long-Term Stability	Duration and amount of funding known with some certainty for longer than 5 years.	3

³⁸ <https://www.californiatu.org/restore/north-coast-coho-project>

³⁹ The Conservation Fund. 2017. *North Coast Conservation Initiative*. Retrieved June 8, 2017, from <http://www.conservation-fund.org/projects/north-coast-forest-conservation-initiative>

⁴⁰ Mendocino Redwood Company and Humboldt Redwood Company. No Date. *Habitat Conservation Plan (HCP) Annual Reports*. Retrieved June 8, 2017, from <http://www.hrcllc.com/plans-reports/habitat-conservation-plan-hcp-annual-reports/>

Indicator	Description	Points
	Either duration or amount of funding uncertain over a 5-year period	2
	Neither duration nor amount of funding known for any period.	1
Flexibility	Funding may be used for a variety of purposes including planning and implementation	3
	Funding may be subject to some restrictions in time, place, or application.	2
	Funding is restricted to a specific, narrowly-defined project	1
Organizational and Cultural Acceptability	Is the funding source likely to enjoy widespread support?	(Additive)1
	Is there precedent in the region for the funding source?	1
	Is the funding source equitable?	1
Ancillary Benefits	Does the funding source produce jobs or generate income in the region?	1
	Does the funding source facilitate relationship building and collaboration?	1
	Does the funding source benefit rural or disadvantaged communities by lower costs or increasing capacity?	1

These indicators were selected after reviewing several similar types of comparisons.⁴¹ None of the other sources reviewed attempted to compare such a diverse set of funding sources, with so much uncertainty. Thus, this comparison should serve as a starting point—not a final set of decision criteria—for reviewing and considering which funding sources may be worthy of further investigation.

1.8 COMPARISON SUMMARY

Table 8 shows the results of the scoring exercise, applying the indicators and points shown in Table 7. The color-coding helps highlight the points. Dark green shows more favorable scoring, while light green indicates less favorable scoring. The final column provides the sum total across all indicators.

Table 8. Comparison of Funding Sources

Funding Source	Funding Capacity	Administrative Requirements	Long-Term Stability	Flexibility	Acceptability	Ancillary Benefits	Total Points
Sales Tax	3	3	3	2	2	1	14
Property Tax	3	3	3	1	2	1	13
Transient Occupancy Tax	3	3	3	2	2	1	14
Fees	3	3	3	1	2	1	13
AB 32 Auction revenues	2	1	1	2	3	2	11
EIFDs	2	1	3	1	2	3	12
Community Choice Aggregation	2	2	3	1	3	3	14
SB 375 Integration	1	1	2	2	2	2	10
Regional Advance Mitigation Planning	1	1	3	3	3	3	14
Public Goods Charge	1	3	3	3	1	1	12
Regional Energy Networks	1	1	2	1	1	2	8
Natural Capital as Infrastructure	1	1	2	3	3	3	13
Pre-Disaster Mitigation	2	2	2	3	3	2	14
Carbon Markets	2	2	3	2	3	2	14
Foundation Partnerships	1	1	2	3	3	1	11
Research Partnerships	1	1	2	3	3	1	11
Public-Private Partnerships	1	1	2	3	3	3	13

⁴¹ See, e.g., Hanak, E. et al. 2014.

1.9 COMPARISON DETAIL

Funding Capacity

Rather than addressing the amount of funding available from each funding source directly, this metric compares the uncertainty surrounding how much revenue each funding source would yield. As discussed in Section 3 for each funding source, most sources are not developed enough to estimate their revenue generation potential. In some cases, enough detail is available to develop a scenario that would facilitate funding estimates. If NCRP determines the funding source is worthy of further exploration, scenario analysis may be a good next step to assessing their viability for achieving specific funding goals. But in many cases, not enough is known about how the funding source would be structured at the local level to establish reasonable assumptions for modeling revenue generation potential. The scoring in this metric indicates where along this spectrum each funding source falls.

The funding sources that can most easily be estimated are the taxes and fees, which all received a “3” indicating that a funding amount could be calculated based on information available now (e.g., number of retail connections, amount of water consumed, value of sales, value of transient room occupancy, etc.). Because the EIFD funding source is based on tax revenue collections, it also may be modeled with reasonable certainty: it received a lower score because further assumptions would need to be made about future changes in the property tax base that are more uncertain and speculative. AB 32 auction revenues provide a different analysis challenge: plenty of examples are available to illustrate the magnitude of a potential grant value. The primary challenge with this funding strategy is predicting what project opportunities may be available in future years, at what levels of funding. CCAs and carbon offsets are similar: the value of current project investments is a reasonable guide to estimating the magnitude of revenues from future project investments. The rest of the strategies provide little tangible information to serve as a basis for modeling scenarios to estimate potential revenues.

Administrative Requirements

This metric addresses the logistics of implementing necessary legal and administrative requirements to collect and distribute revenues. Funding sources that utilize existing legal and regulatory mechanisms for generating revenue score the highest, because the administrative functions are already in place. This is the case with all of the sources derived from taxes and fees. The process for collecting and distributing a sales tax increase of 0.25 percent, for example, is

straightforward. Also relatively straight-forward is the administrative requirements for accepting a new grant award, such as through the pre-disaster mitigation program. Decisions would need to be made about the right jurisdiction to administer grant proceeds, but the region is familiar with negotiating this process based on past grant administration requirements.

The rest of the funding sources would be more complicated from an administrative perspective, to varying degrees. Developing and maintaining new public-private partnerships could expand the same types of relationship-building that NCRP already oversees, but at a scale that may require additional staff capacity. Other funding sources may require entirely new organizational infrastructure, such as RAMP.

Long-Term Stability

One of NCRP’s objectives in evaluating new funding sources is to provide a revenue stream that is more predictable and stable over the long term. Funding sources that last at least 5 years are ideal for supporting planning efforts that span at least that long, and often much longer. Taxes and fees tend to provide predictable long-term revenue streams. Even when sunset or renewal clauses are often built into tax measures, these provide known mileposts for organizational planning. As economic conditions fluctuate, some tax-based streams of revenue (such as sales taxes and transient occupancy taxes) may rise and fall as well, but the overall magnitude of these fluctuations tend to be small and jurisdictions are familiar with addressing this uncertainty. EIFDs also fall into this category once established. CCA-related funding sources are typically based on long-term power purchase contracts that provide legal protections for revenue streams over a longer period, often 10 to 30 years. Revenues from carbon markets are similarly predictable: legal contracts protect revenues if they are structured as an annual stream of payments. Other funding sources could provide predictable revenue streams, depending on how agreements are structured. One-off grants that result from partnerships or other programs could provide revenue over a longer period of time, but they also could be shorter-term arrangements providing less long-term stability. Perhaps the least predictable of the funding sources is the AB32 auction revenues. This is because the legislature has the opportunity to revisit program funding priorities every three years. Planning around a funding program that could fundamentally shift this frequently is inherently risky.

Flexibility

This metric addresses the ways a funding source may be used. Restrictions are not inherently undesirable,

as long as they are known and planned for. But some restrictions, especially those arising from recent legal developments applying to taxes and fees, could make it more difficult to use funds in broad ecosystem-based collaborative efforts that NCRP often pursues. Other funding sources, such as EIFDs, are designed with limited flexibility at the outset. The advanced planning that goes into developing a funding source associated with an EIFD means that the lack of flexibility is likely accounted for and shouldn't be a problem. But relying heavily on dedicated funding sources has important implications for NCRP's future planning activities, and the organization must take these restrictions into account as its goals and objectives evolve. Funding sources that arise more organically out of public-private partnerships may be more flexible and adaptable to shifting priorities over time. Structured in the right way, a PGC and other broad-based tax program could also be fungible over time.

Acceptability

To assess acceptability, three specific questions are posed:

- Is the funding source likely to enjoy widespread support?
- Is there precedent in the region for the funding source?
- Is the funding source equitable?

The responses to at least two of these questions are somewhat objective and subject to change over time. However, evaluating the funding sources in this context provides a start to predicting how well they may fare in development and implementation. For example, a PGC, while favorable by several other measures, has not fared well in past incarnations. It is often identified as regressive and harmful to low-income populations. While there is precedent for rate surcharges in general, based on SCWA's rate structure, the recent history and political power that derailed it at the state level may mean it is unlikely to enjoy widespread support.

Funding sources that emphasize collaborative partnerships are more likely to earn widespread acceptability: there is precedent in the region for these types of funding arrangements, points of conflict and potentially unequitable outcomes are more likely to be addressed through negotiation processes. The extensive regional planning framework that supports RAMP suggests that it could fall into this category. Currently CCAs are enjoying widespread local support, partly because of the dollars being invested in the local economy, which bolsters public support and addresses some of the region's economic equity issues.

Ancillary Benefits

Finally, some funding sources are more capable of producing benefits ancillary to the primary funding goals. This metric is at least partly linked to the previous metric, in that funding sources that produce ancillary benefits are more likely to enjoy cultural and organizational acceptability. Taxes and fees are somewhat neutral in this respect: they may produce ancillary benefits, if the revenue is invested in projects that require collaborative planning or yield jobs. However, producing these benefits is not guaranteed or a requirement of spending the revenue. Funding sources that require regional collaboration to establish, such as an EIFD or RAMP may require new relationships and lines of communication to be successful, which builds the region's social capital in new ways. Funding sources that arise from direct investments in the region, such as carbon credits, RAMP, and CCAs, are drivers of regional economic activity and likely would generate employment opportunities for the region's residents. The focus of this metric is on the funding source itself, not the result of the projects it funds. It could be argued that all of the funding sources have the potential to produce the benefits identified above. Here, the metric focuses on those funding sources that generate these benefits as a function of their direct establishment or operation.

5 CONCLUSIONS AND RECOMMENDATIONS

The NCRP is exploring potential funding sources to expand and stabilize its organizational capacity and to build on the investments already being made in the North Coast region. The assessment of potential funding sources in the previous sections provides information that the NCRP can use to evaluate specific opportunities and compile a comprehensive financing strategy.

Through this assessment, several conclusions and recommendations emerge:

- The NCRP is not alone in searching for funding solutions. Resources for investing in water-related goods and services are lacking throughout California. This is a statewide problem, and efforts at the state level may yet yield a statewide solution that could, at least in part, become part of NCRP's overall funding strategy.
- No single funding source will provide NCRP with the stability and level of investment required to accomplish its goals and objectives.
- A strategy that focuses on integrating multiple funding sources holds the best

potential for supplying the NCRP with a stable and long-term revenue stream.

- Many potential funding sources, particularly those emerging from recent legislation, hold huge potential but are still in development. This presents NCRP with two opportunities: to nudge the policy development in ways that align with the goals of the region; and to lead in implementation, which may afford more opportunities for experimentation and innovation. This leadership may come with additional costs as well, in the form of uncertainty and social capital development. These costs should be factored into a decision to pursue less-well-developed funding sources.
- The NCRP should consider new regional assessments, in the form of taxes or fees, to pay for environmental investments. This type of funding source provides long-term stability and comes with relatively low administrative overhead. The logistics of implementing and collecting the revenue across the region may prove more challenging, but worth exploring.

We recommend the NCRP initiate the development of a formal funding strategy as a next steps. This would involve a detailed assessment of all or a subset of the funding sources identified in this report, with the goal of assembling an integrated portfolio of funding sources that would yield a quantifiable amount of revenue over a set period of time. The strategy document would outline a timeline and specific set of steps for developing this integrated portfolio over time (e.g., a five year development period).