

Accounting for Water Utility Natural Assets

Rowan Schmidt

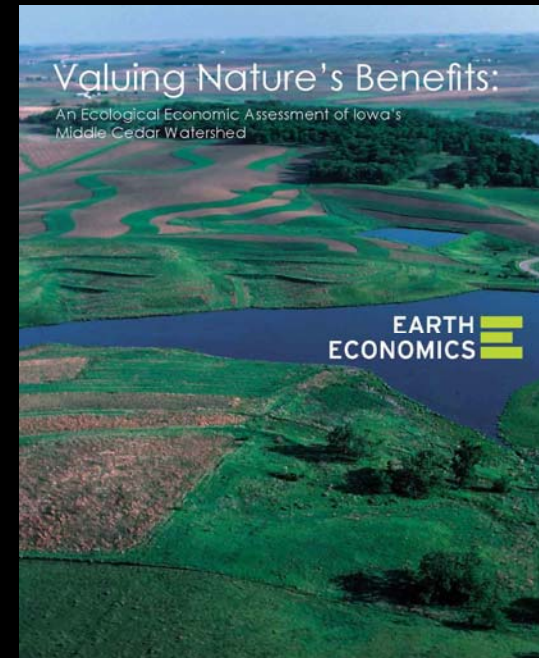
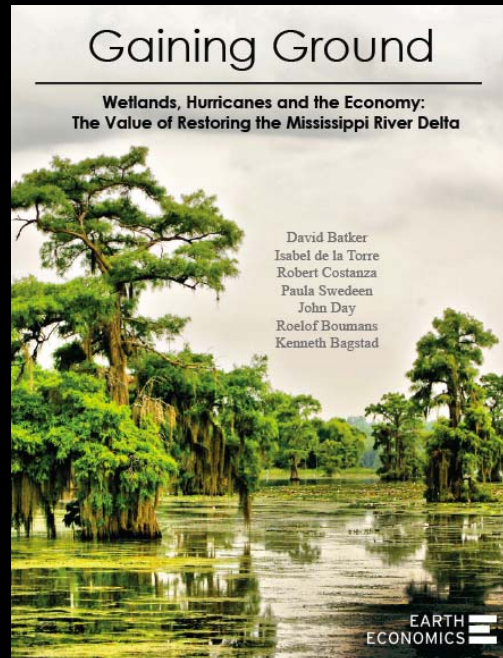
Project Leader

May 1, 2015

About Us



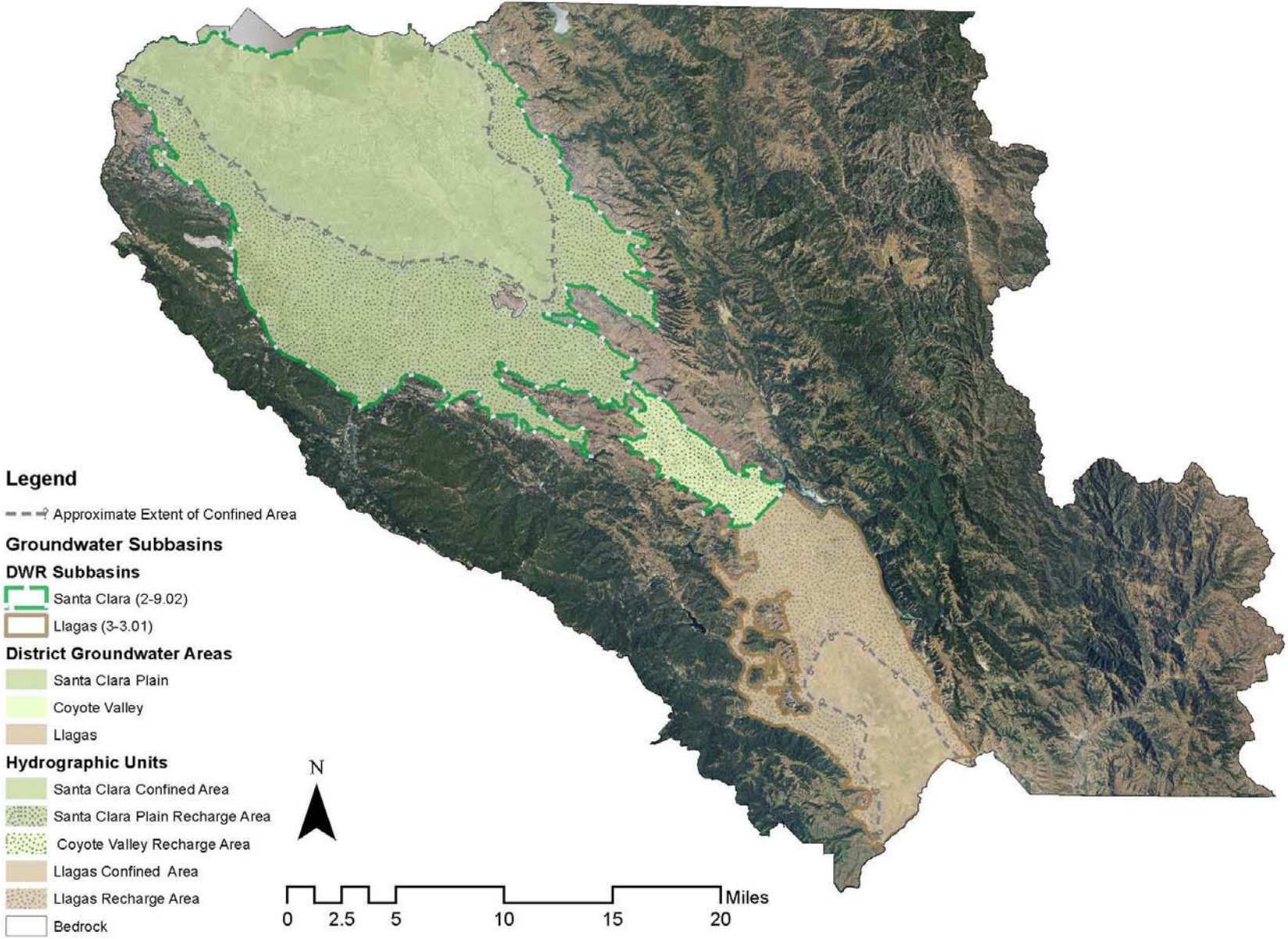
501(c)3 founded in 1998



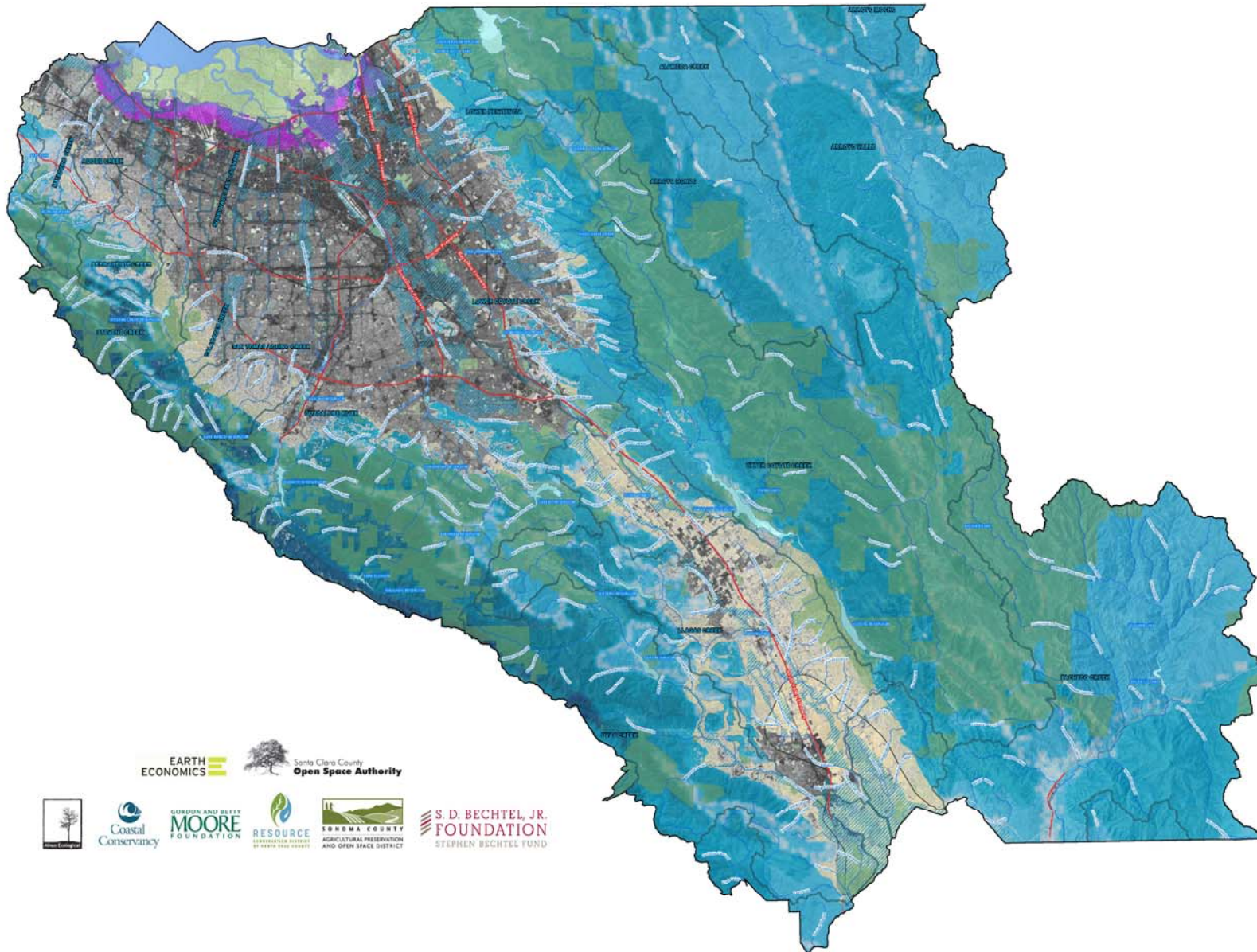




Santa Clara County Groundwater Basins



Healthy Lands & Healthy Communities - DRAFT



Legend

- Stream
- Highway
- Watershed Boundary
- Protected Lands (Fee/Easement)
- 100-yr Floodzone
- Confined Groundwater Basin
- Unconfined Groundwater Basin Recharge Area
- Diked Bayland
- 5' Sea Level Rise Storm Surge Inundation Zone
- Urban**
- 100
0 Impervious Surface (%)
- Groundwater Recharge**
- 16
0 Average Annual Recharge
Below Root zone (in)



EARTH ECONOMICS Santa Clara County **Open Space Authority**



S. D. BECHTEL, JR. FOUNDATION
STEPHEN BECHTEL FUND

Data Sources: NAIP 2012 Aerial Orthoimagery, USGS (Flint Et. Al. 2010) Cal-BCM groundwater recharge, USGS (Knowles 2010) Potential Sea-level Rise, SFEI Baylands, Open Street Map 2010, SCVWD 1% Floodzones, SCVWD groundwater sub-basins, NLCD 2006, SCVWD & NHD watershed boundary and stream layers, SCC Parks Protected Lands.

Natural Assets



Freshwater Storage



Recreation



Medicinal Resources



Four Types of Capital



Built Capital



Social Capital



Human Capital



Natural Capital

The 21st Century Natural Capital Utility

- Accounting
- Benefit-Cost Analysis
- Rates
- Bonding
- Asset Management
- Master Planning
- Policy Maker & Public Education
- Damage Assessment

Financial Impacts: Revenues & Expenses

Revenue Opportunities

	← Revenue Impacting										Expense Savings Impacting →					
	Cap & Trade				Renewables Portfolio Standard				Low Carbon Products		Cost Savings					
	Carbon Allowance Allocations	Grant Opportunities	Approved Carbon Offset Protocols				ERC: Emissions Reductions Credits	REC: Renewable Energy Credits	LCFS: Low Carbon Fuel Standards	RIN: Renewable Index Number	Biomethane	Biodiesel Feedstock	Energy Efficiency Standards	Peak/Power Cost Avoidance	Riparian, Nutrient, and Other Credit Stacking	Water Storage Capacity
US Forestry			Urban Forestry	Ozone Depleting Substances	Livestock Methane											
Water Enterprise																
Hetch Hetchy Watershed																
Micro-Hydro Power Generation:																
University Mound																
Calaveras																
O'Shaughnessy Dam (heightening)																
Calaveras Dam (heightening)																
Power Enterprise																
AB32 2013-2020 Allocations	\$1-2M/year ⁽¹⁾															
Wind Turbines @ 525 Golden Gate																
Solar on:																
Moscone																
Airport - SFO																
Sunset Reservoir																
City Hall																
Davies Symphony Hall																
Southeast																
Pier 96																
Maxine Hall																
Chinatown																
CDD																
North Point																
Muni Woods Motor Coach																
Chinatown Public Health																
SFPUC Headquarters																
Tesla Water Treatment Plant																
Alvarado School																
Combustion Turbine																
Cogen - Southeast																
+ Peak Power Avoidance																
With High Strength Waste Addition																
Sewer Enterprise																
Cogen - Oceanside																
+ Peak Power Avoidance																
With High Strength Waste Addition																
BioFuels																
Biomethane - Oceanside																
Biomethane - Southeast																
F.O.G. - Fats, Oils & Grease Program																
SFPUC-Wide																
Fleet refueling																
City-Wide																
Power Cost Savings (low-cost Hetchy vs. PG&E rates)																
City Trees																
Environmental Justice Communities																

Sources: (1) Per ARB regulations. (2) Estimated project value based on annual average maintenance. (3) Verified with financial reporting.



Existing Levee



Proposed Levee





FEMA

MITIGATION POLICY – FP-108-024-01

I. TITLE:

Consideration of Environmental Benefits in the Evaluation of Acquisition Projects under the Hazard Mitigation Assistance (HMA) Programs

II. DATE OF ISSUANCE:

JUN 18 2013

III. POLICY STATEMENT:

FEMA will allow the inclusion of environmental benefits in benefit-cost analyses (BCA) to determine cost effectiveness of acquisition projects.

IV. PURPOSE:

The purpose of this policy is to identify and quantify the types of environmental benefits that FEMA will consider in the BCA for acquisition projects.



FEMA

MITIGATION POLICY – FP-108-024-01

Table I shows the types and values of environmental benefits included in the BCA for acquisition-demolition or acquisition-relocation projects:

Table I: Annual Estimated Monetary Benefits per Acre per Year

Environmental Benefit	Green Open Space	Riparian
Aesthetic Value	\$1,623	\$582
Air Quality	\$204	\$215
Biological Control	--	\$164
Climate Regulation	\$13	\$204
Erosion Control	\$65	\$11,447
Flood Hazard Reduction	--	\$4,007
Food Provisioning	--	\$609
Habitat	--	\$835
Pollination	\$290	--
Recreation/Tourism	\$5,365	\$15,178
Storm Water Retention	\$293	--
Water Filtration	--	\$4,252
Total Estimated Benefits	\$7,853	\$37,493

Case Studies:
2013 Rim Fire



Fresh

SEATTLE PUBLIC UTILITIES - WATER FUND
 (An Enterprise Fund of the City of Seattle)
BALANCE SHEETS
DECEMBER 31, 2009 AND 2008

million

ASSETS	2009	2008
CURRENT ASSETS		
Cash and equity in pooled investments	\$ 8,354,548	\$ 7,339,673
Accounts receivable, net of allowance for doubtful accounts of \$468,450 and \$141,192	11,461,848	10,062,715
Unbilled revenues	9,108,669	8,936,009
Due from other City funds	1,486,725	656,123
Due from other governments	1,712,543	1,253,219
Hydrant settlement receivable	-	10,088,286
Current portion of notes and contracts receivable	21,239	22,400
Materials and supplies inventory	4,171,450	4,995,657
Prepayments and other	37,748	103,314
BPA account - cash and equity in pooled investments	510,823	275,350
Redemption account, restricted		
Cash and equity in pooled investments	-	31,795,164
Dedicated investments	-	60,274,366
Interest receivable	-	1,107,817
Total current assets	<u>36,865,593</u>	<u>136,910,093</u>
RESTRICTED ASSETS		
Bond parity account - cash and equity in pooled investments	-	68,062
Bond reserve account - cash and equity in pooled investments	9,068,015	8,989,241
Construction fund		
Cash and equity in pooled investments	15,708,119	8,483,751
Dedicated investments	-	72,292,809
Interest receivable	-	848,977
Vendor deposits - cash and equity in pooled investments	89,952	167,390
Revenue stabilization fund - cash and equity in pooled investments	13,333,321	13,136,077
BPA account - cash and equity in pooled investments	252,422	1,615,878
Total restricted assets	<u>38,451,829</u>	<u>105,602,185</u>
DEFERRED CHARGES AND OTHER		
Unamortized bond issue costs	4,490,104	5,122,923
Notes and contracts receivable	22,136	41,430
Deferred conservation costs	34,221,752	36,382,434
Other deferred charges	13,562,840	12,936,061
Total deferred charges and other	<u>52,296,832</u>	<u>54,482,848</u>
CAPITAL ASSETS, at cost		
Capital assets - excluding land	1,531,299,505	1,435,137,303
Less accumulated depreciation	(483,482,403)	(443,118,860)
Capital assets, net of accumulated depreciation	<u>1,047,817,102</u>	<u>992,018,443</u>
Construction in progress	87,082,670	105,278,733
Land and land rights	<u>39,127,903</u>	<u>33,784,214</u>
Other property	865,497	810,926
Total capital assets	<u>1,174,893,172</u>	<u>1,131,892,316</u>
TOTAL	<u>\$ 1,302,507,426</u>	<u>\$ 1,428,887,442</u>

See accompanying notes.




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San Francisco Public Utilities Commission

Notes to Financial Statements - Capital Assets

June 30, 2013 and 2012

(Dollars in thousands)

	<u>Balance</u> <u>June 30, 2012</u>	<u>Increases</u>	<u>Decreases</u>	<u>Balance</u> <u>June 30, 2013</u>
Capital assets not being depreciated:				
 Land and rights-of-way	\$ 50,641	14,623	(500)	64,764
Intangible assets	5,162	—	—	5,162
Construction work in progress	1,586,702	903,494	(700,216)	1,789,980
Total capital assets not being depreciated	<u>1,642,505</u>	<u>918,117</u>	<u>(700,716)</u>	<u>1,859,906</u>
Capital assets being depreciated:				
Facilities and improvements	5,162,377	655,916	—	5,818,293
 Intangible assets	61,480	524	—	62,004
Machinery and equipment	392,907	28,493	(991)	420,409
Total capital assets being depreciated	<u>5,616,764</u>	<u>684,933</u>	<u>(991)</u>	<u>6,300,706</u>
Less accumulated depreciation for:				
Facilities and improvements	(1,933,979)	(111,682)	—	(2,045,661)
 Intangible assets	(22,046)	(3,595)	—	(25,641)
Machinery and equipment	(199,546)	(21,973)	890	(220,629)
Total accumulated depreciation	<u>(2,155,571)</u>	<u>(137,250)</u>	<u>890</u>	<u>(2,291,931)</u>
Total capital assets being depreciated, net	<u>3,461,193</u>	<u>547,683</u>	<u>(101)</u>	<u>4,008,775</u>
Total capital assets, net	<u>\$ 5,103,698</u>	<u>1,465,800</u>	<u>(700,817)</u>	<u>5,868,681</u>

Practical Ramifications



Finance and Asset Management

- Maintenance of natural assets
- Bonding flexibility



Rate Payers

- Share investment in natural assets
- Increased awareness



Financial Report Users

- Transparency in asset and liability reporting
- Better-informed policy decisions



WORLD
RESOURCES
INSTITUTE

NATURAL INFRASTRUCTURE

*Investing in Forested Landscapes for
Source Water Protection in the United States*

EDITED BY TODD GARTNER, JAMES MULLIGAN, ROWAN SCHMIDT, AND JOHN GUNN

EARTH
ECONOMICS 



Thank You

rschmidt@eartheconomics.org

