



Effective Utility Management At Clean Water Services

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Stewardship

HARMONY

Future

Sustainable

Effective Utility Management (EUM)

water eum
Effective Utility Management

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WATER SECTOR COLLABORATION WORKING TO IMPROVE UTILITY MANAGEMENT

Interactive Primer Resources About WaterEUM

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APWA NACWA NAWC Water Environment Federations

<http://www.watereum.org/>

Effective Utility Management Primer

Three key components:

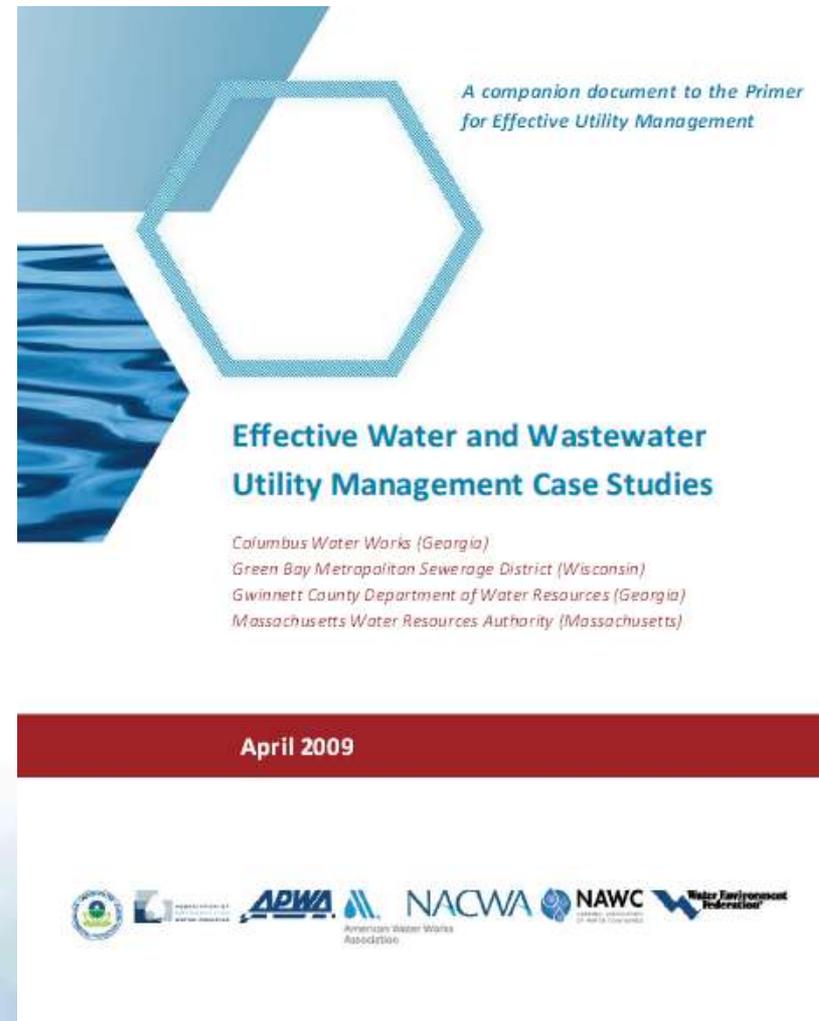
- 10 attributes of effectively managed utilities
- 5 keys to management success
- EUM Self-Assessment Tool





Effective Utility Management Case Studies

- Columbus Water Works (Georgia)
- Green Bay Metropolitan Sewerage District (Wisconsin)
- Gwinnett County Department of Water Resources (Georgia)
- Massachusetts Water Resources Authority (Massachusetts)





EUM Core Management Areas

Utility Business Planning

Product Quality and Operational Optimization

Customer Satisfaction and Stakeholder Understanding & Support

Employee Leadership & Development

Financial Viability

Infrastructure Stability

Operational Resiliency

Community Sustainability

Water Resource Adequacy

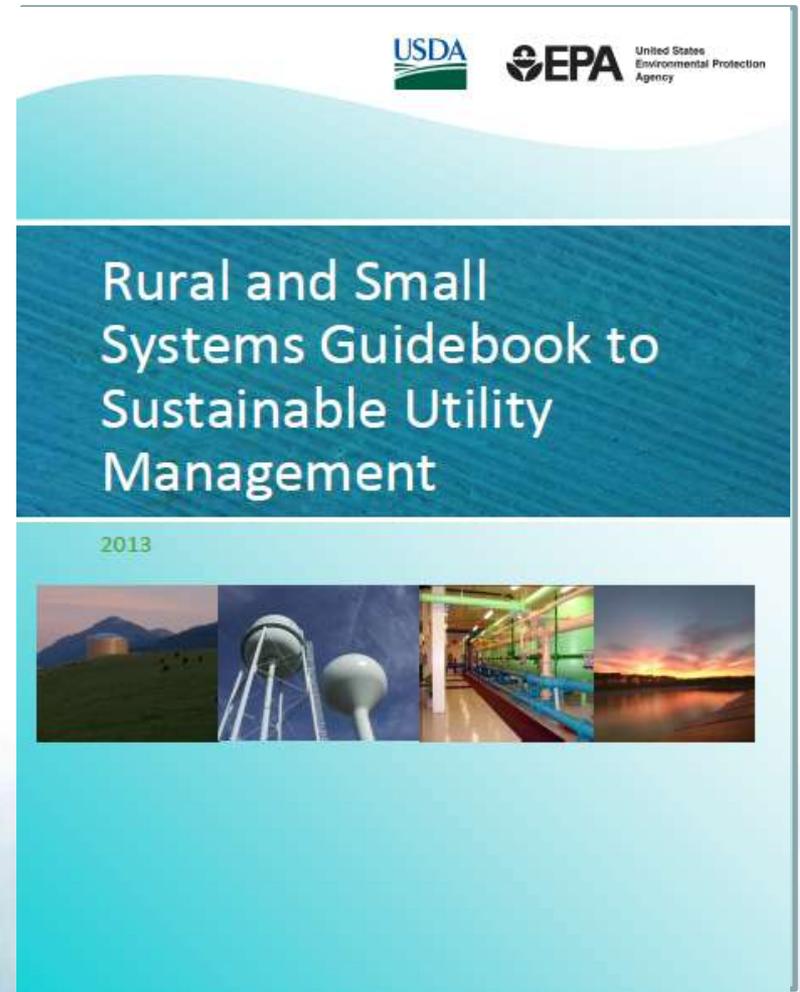
Performance Measurement and
Continual Improvement

Key Management Area	Management Area Description	Step 1: Rate Achievement (Low – High)	Step 2: Rank Priority (Low – High)
1. Water Resource Adequacy (e.g., water quantity)	<ul style="list-style-type: none"> My system is able to meet the water or sanitation needs of its customers now and for the reasonable future. My utility or community has performed a long-term water supply and demand analysis. (Applies to drinking water systems only) My system understands its relationship to local water availability. (Drinking water utilities should focus on utilization rates relative to any local water stress conditions, wastewater utilities should focus on return flows) 	Low	High
2. Product Quality (e.g., clean & safe water)	<ul style="list-style-type: none"> My system is in compliance with permit requirements and other regulatory or reliability requirements. My utility meets local community expectations for the potable water and/or treated effluent and process residual that it produces. 	Medium	High
3. Customer Satisfaction	<ul style="list-style-type: none"> Customers are satisfied with the services my system provides. My system has procedures in place to receive and respond to customer feedback in a timely fashion. 	High	Medium

Rating (Achievement)	High		CS	
	Medium			PQ
	Low			WA
		Low	Medium	High
Ranking (Priority)				

Rural and Small Systems Guidebook Sustainable Utility Management

- A guide for taking actions for short- and long-term improvement to system management and performance
- Provide a resource for system improvement workshops, like sponsored by USDA and EPA
- As a resource for guiding conversations about sustainability with utility board members
- As a resource for communicating and educating utility board members on the importance of effective management.

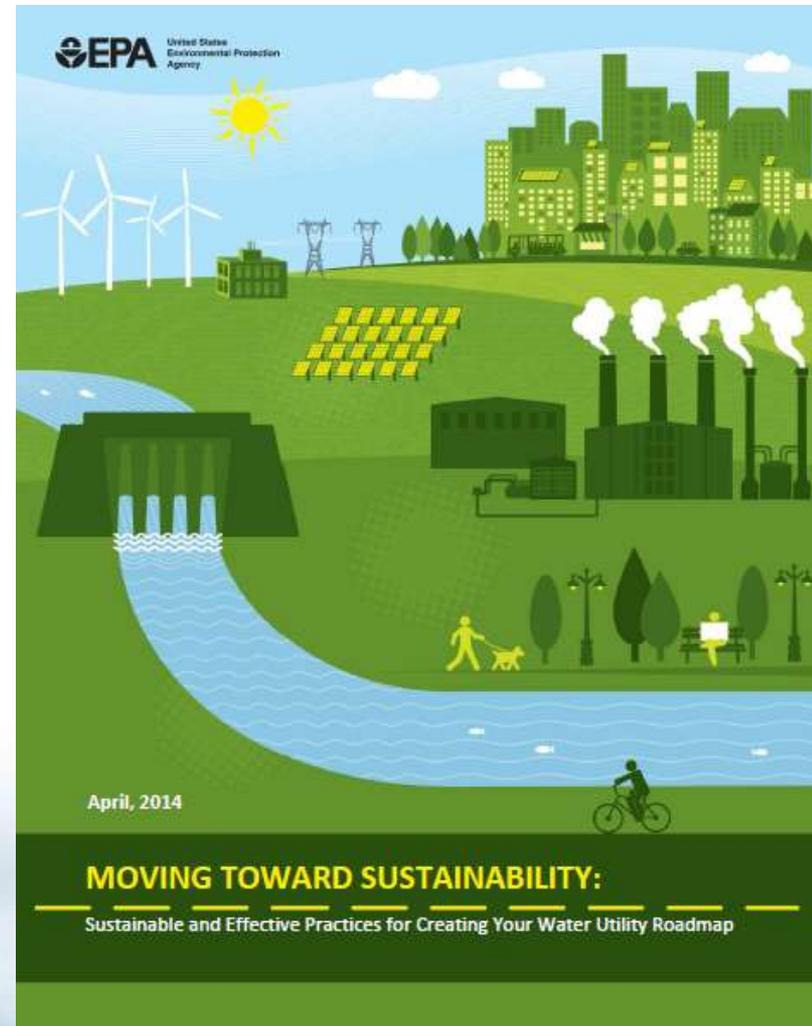


Source: <http://www.watereum.org/resources/>

Moving Toward Sustainability

Practices to:

- Optimize planning and services delivery
- Ensure a reliable source of water consistent with customer needs
- Use energy and water efficient practices and technologies that foster water reuse, resource recovery, and green infrastructure
- Create systems that are resilient to short-term disasters and longer-term climate related challenges
- Build greater citizen and stakeholder understanding and support.





EUM Business Levels

- **Level 1 Utility: Providing Adequate, Fundamental Services**



Self Assessment Questions

- Where is your utility strong?
- Where is there the most room for improvement?
- What are your areas of focus?
 - Why are they a priority?
 - Why is performance low?
 - Technical capacity?
 - Financial capacity?
 - Managerial capacity?



EUM Business Levels

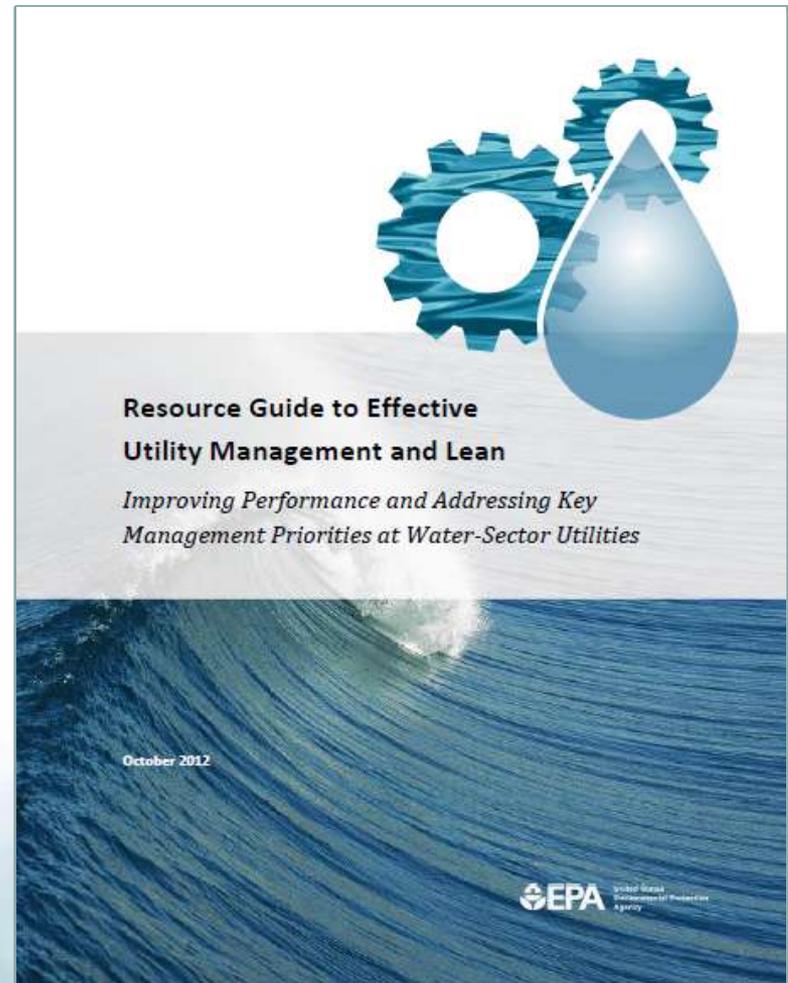
- Level 1 Utility: Providing Adequate, Fundamental Services
- **Level 2 Utility: Optimizing Operations and Services**



Effective Utility Management & Lean Resource Guide

Three Key Reasons for using EUM and Lean Together:

- Address key management priorities
- Delivery financial and operational results, improve customer service and reduce risk.
- Enhance continual improvement efforts

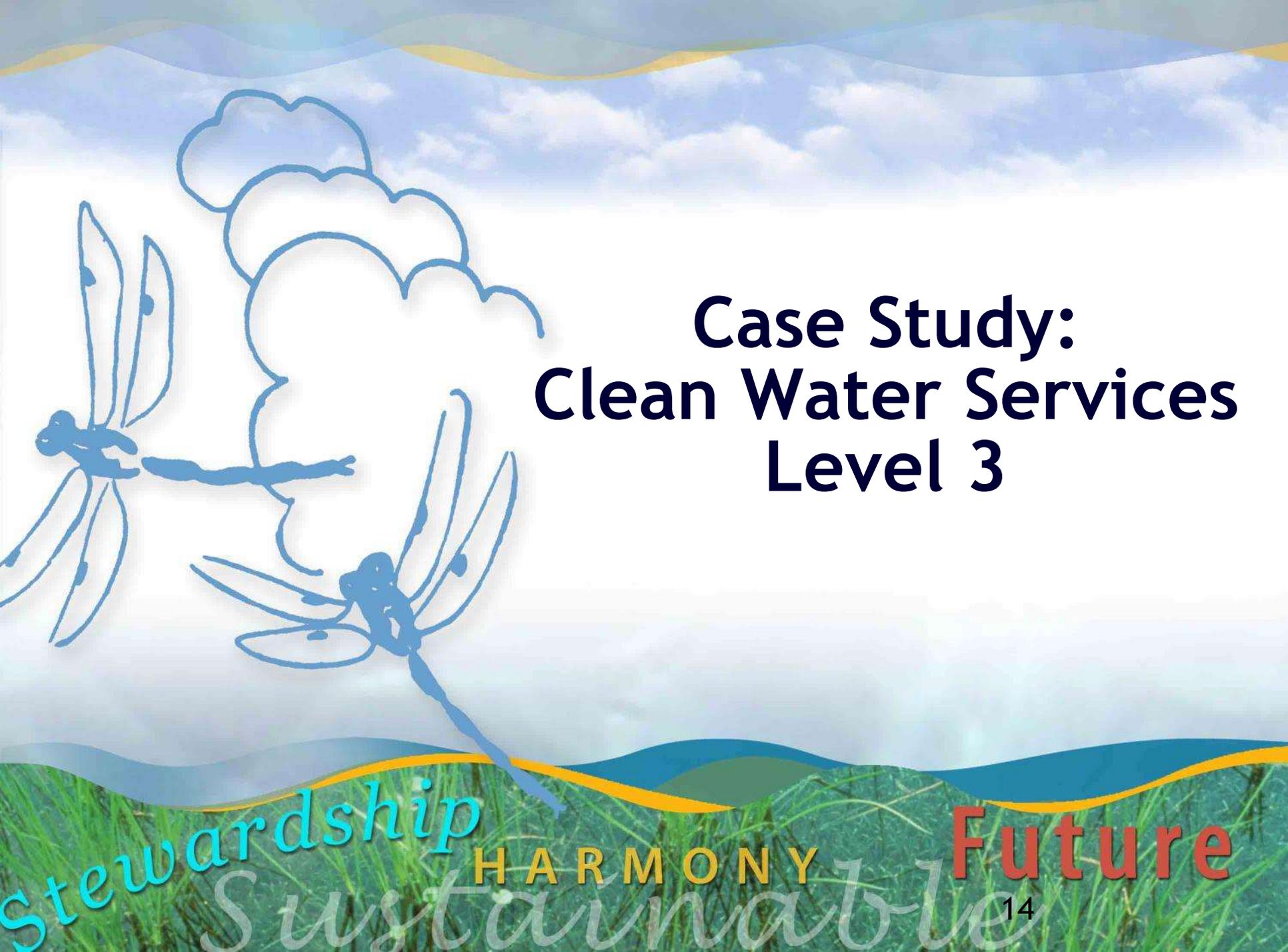


Source: <http://www.watereum.org/resources/>



EUM Business Levels

- Level 1 Utility: Providing Adequate, Fundamental Services
- Level 2 Utility: Optimizing Operations and Services
- **Level 3 Utility: Transforming Operations and Services for the Future**



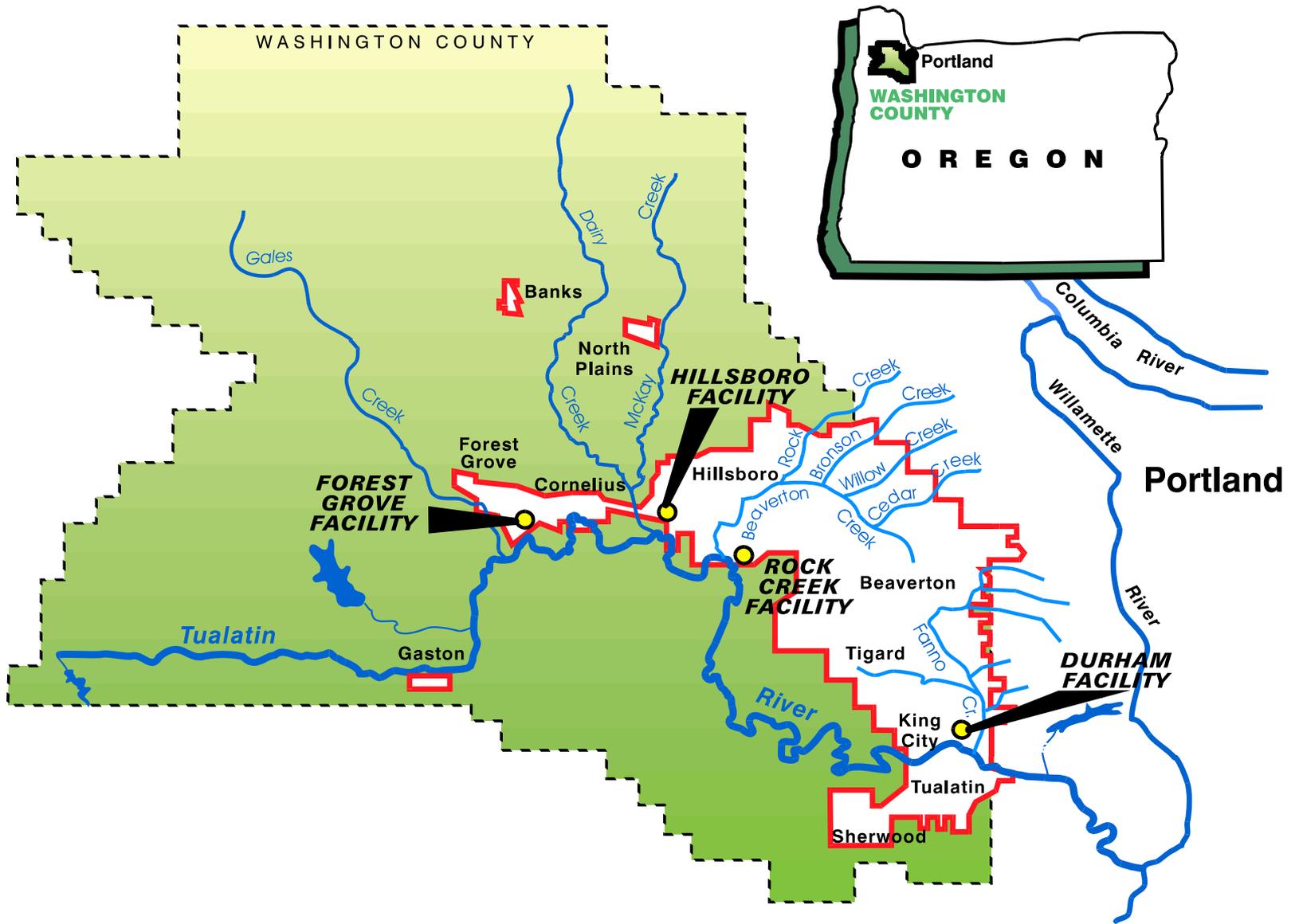
Case Study: Clean Water Services Level 3

Stewardship

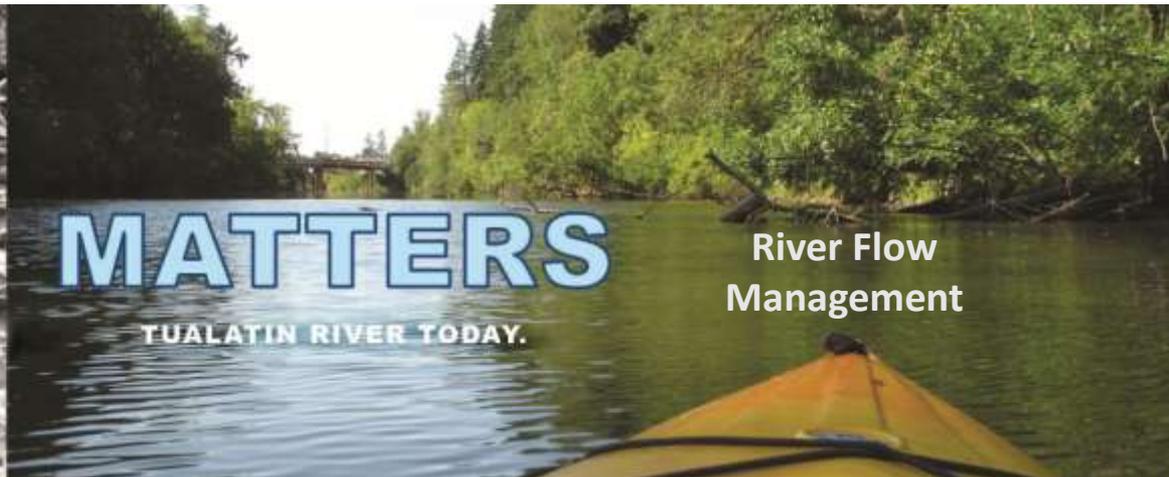
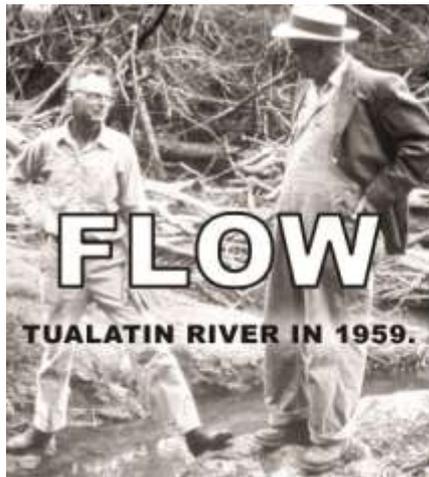
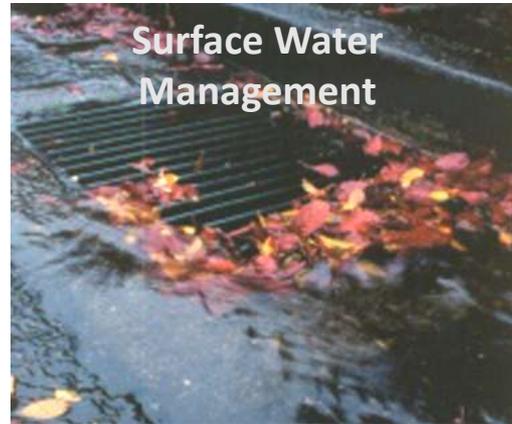
HARMONY

Future

Sustainable



Clean Water Services At-a-Glance



Business Model



Challenges and Opportunities

- **Regulatory Complexity and Lack of Alignment**
- **Response to Growth**
- **Climate Change**
- **Financial Capacity**
 - **Sustainable SWM Funding**
 - **Capital Investment Management**
 - **Operational Cost Management**





Watershed Ecological Actions
What would Mother Nature have us do?



Entrepreneurial Innovation
What new value propositions can we create?

***Regulatory Flexibility & Partnerships
Provides Capacity to Execute***

***Creates the Elbow
Room to Invest in
Mother Nature***

***Creates Opportunity
for Alternative
Revenue Streams***



Products and Services

Transformative Business Model



Rating

Higher Achievement Lower Achievement

5										
4										
3		FV				ED		IS	OR	WA
2	PQ		CS	SS	OO					
1							SU			
	1	2	3	4	5	6	7	8	9	10

More Important

Less Important

Ranking

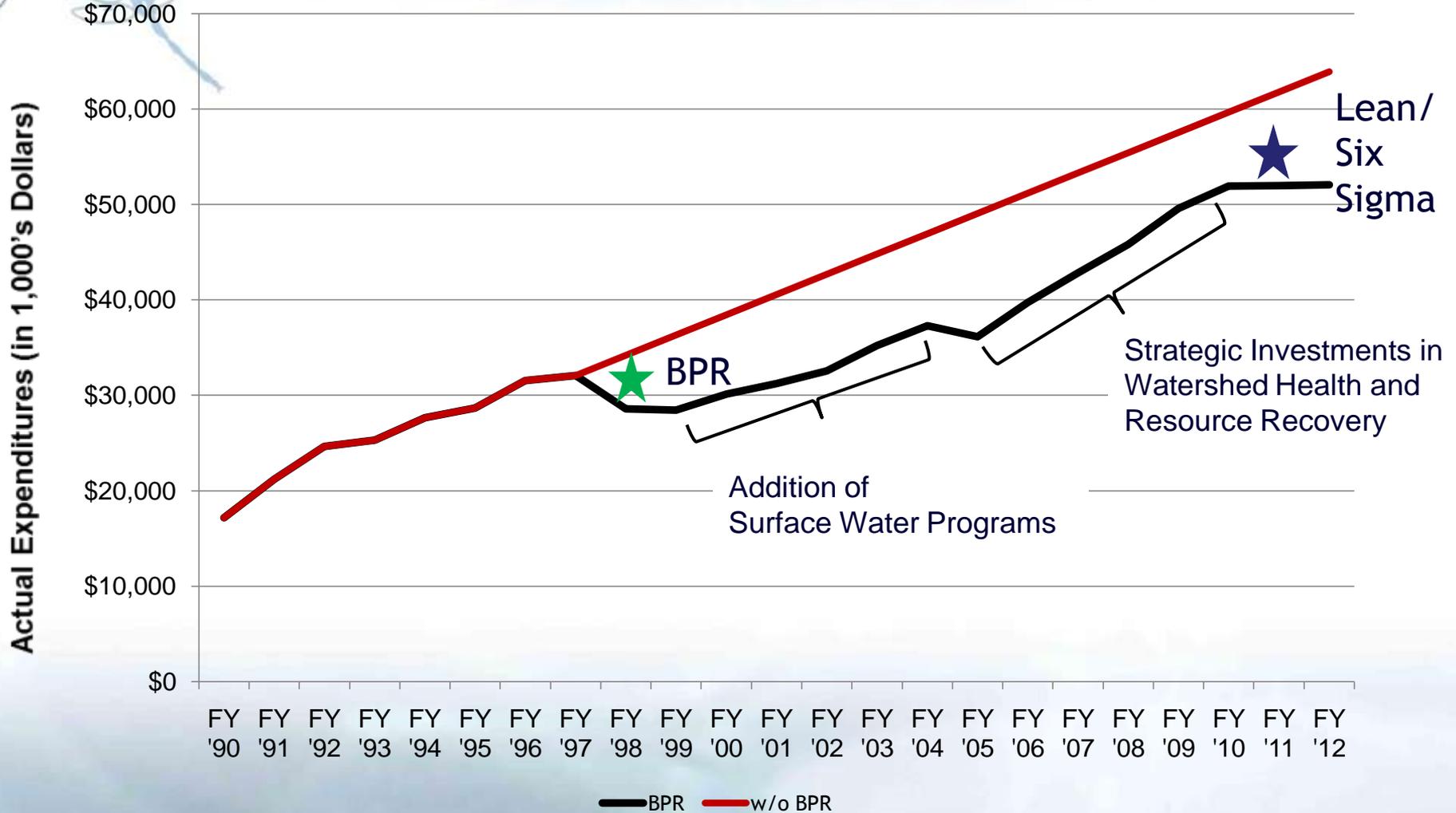
- | | | | |
|----|-----------------------------------|----|-------------------------------------|
| CS | Customer Satisfaction | OR | Operational Resiliency |
| ED | Employee & Leadership Development | PQ | Product Quality |
| FV | Financial Viability | SS | Stakeholder Understanding & Support |
| IS | Infrastructure Stability | SU | Community Sustainability |
| OO | Operational Optimization | WA | Water Resource Adequacy |

Financial Strategies

- **Keep Rate Increases Reasonable and Predictable**
- **Ensure Capacity to Issue Debt On Favorable Terms**
- **Establish and Maintain Healthy Financial Reserves**
- **Follow Sound Financial Policies**



Financial Viability



Rating

Higher Achievement Lower Achievement

5										
4										
3		FV				ED		IS	OR	WA
2	PQ		CS	SS	OO					
1							SU			
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More Important

Less Important

Ranking

CS Customer Satisfaction
 ED Employee & Leadership Development
 FV Financial Viability
 IS Infrastructure Stability
 OO Operational Optimization

OR Operational Resiliency
 PQ Product Quality
 SS Stakeholder Understanding & Support
 SU Community Sustainability
 WA Water Resource Adequacy



Employee & Leadership Development

- Expanded Mission and Vision
 - Pipes, Pumps and Plants
 - Watershed
 - Resource Recovery
- Focus Shift
 - From Quality to Value
 - BPR to Continuous improvement Orientation
 - Goal Orientation
 - Entrepreneurial and Watershed Focused
 - Controlling our Destiny
- College of Clean Water



Rating

Higher Achievement Lower Achievement

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More Important

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Investing in the Tualatin Basin

- **Infrastructure Repair and Replacement**
- **Protecting and Restoring the Watershed**
- **Optimizing Assets**
- **Planning for Growth**
- **Resource Recovery**



Regulatory Performance Matters



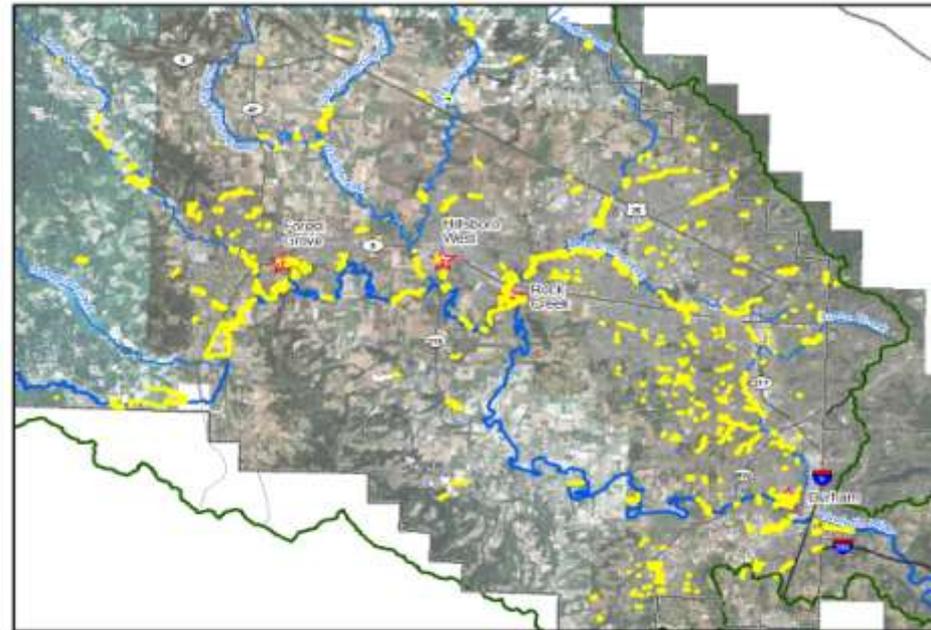
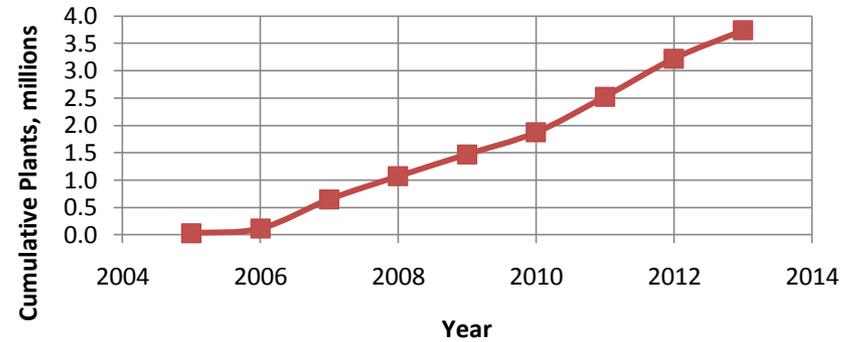
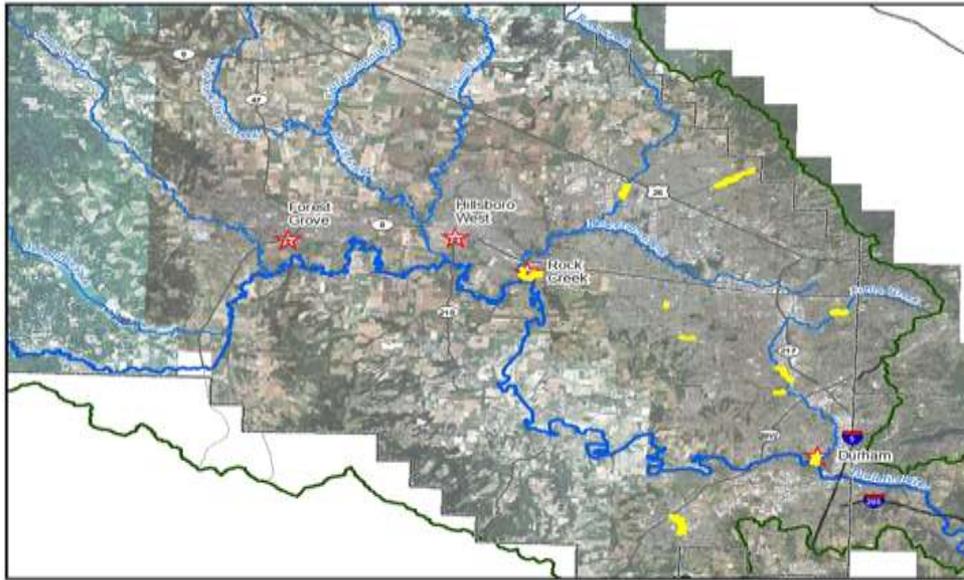
Clean Water Works

Resource Recovery Facilities

Carbon-Nutrient-Water-Energy Nexus



Ecological Uplift & Collective Impact On A Watershed Scale



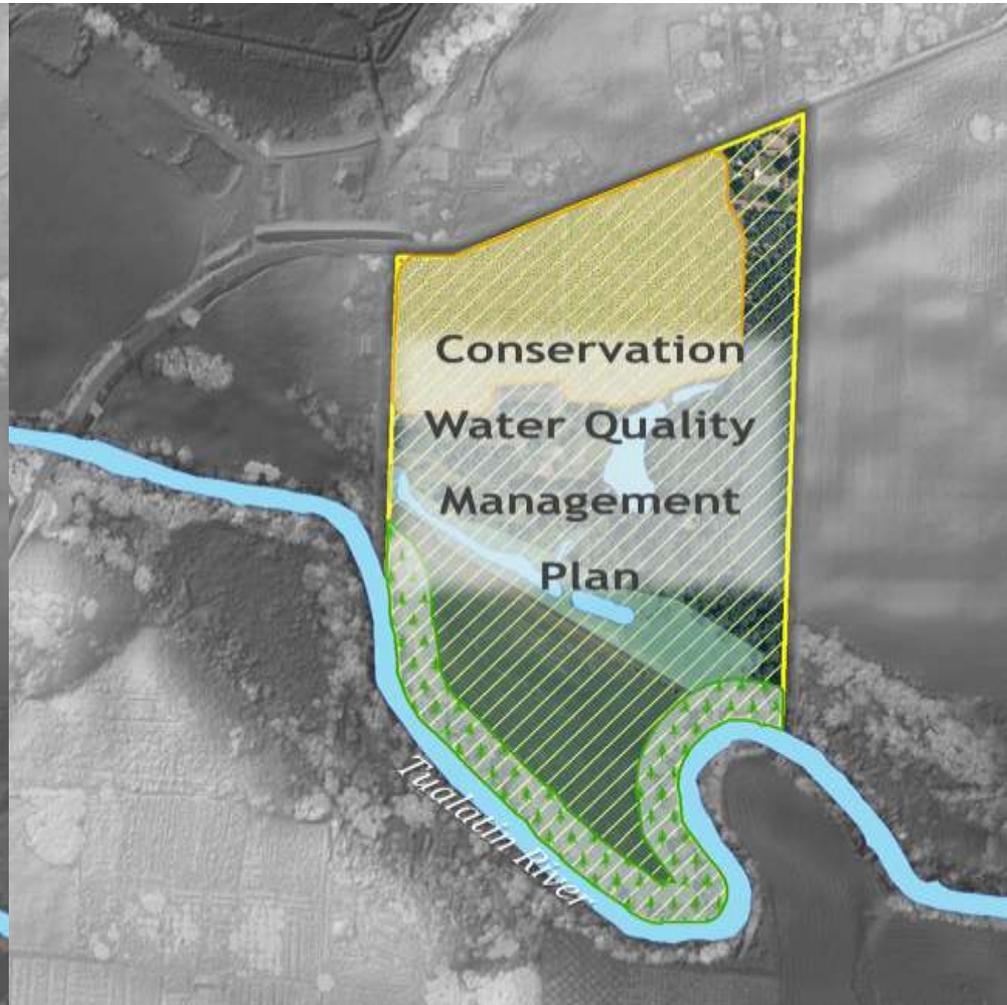
Partners



Agricultural Ecological Uplift



Multiple Benefits & Collective Impact



Million Tree Challenge

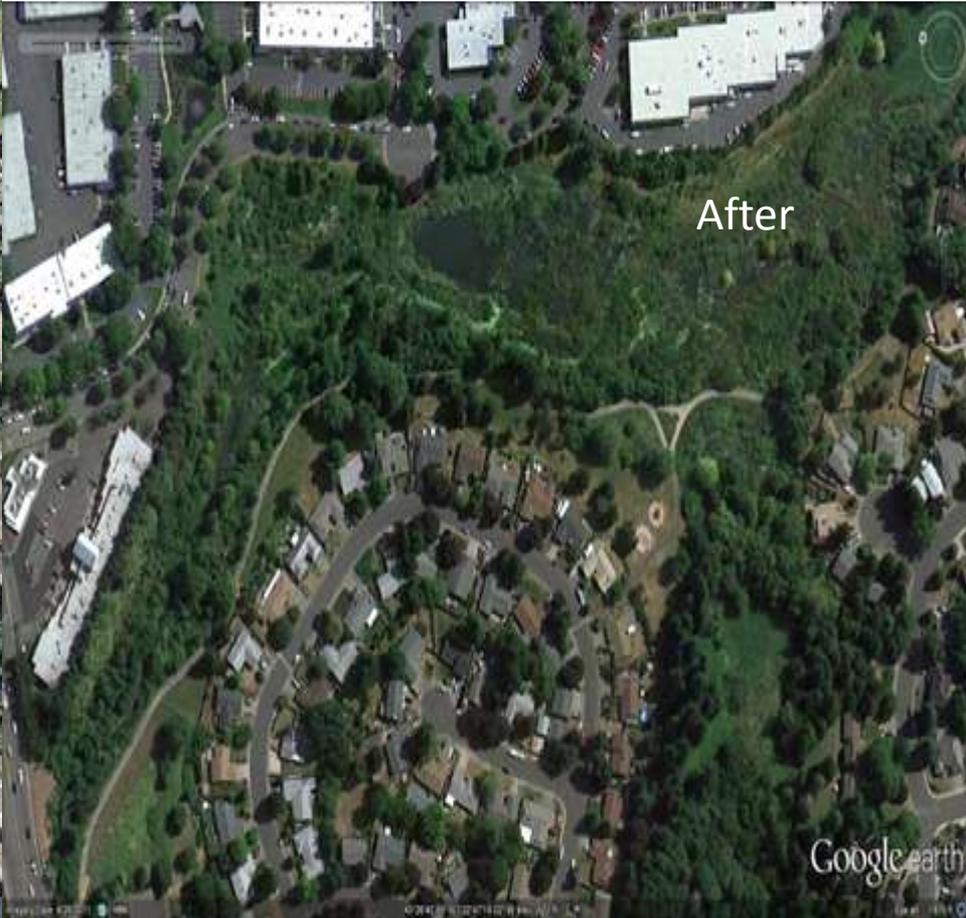
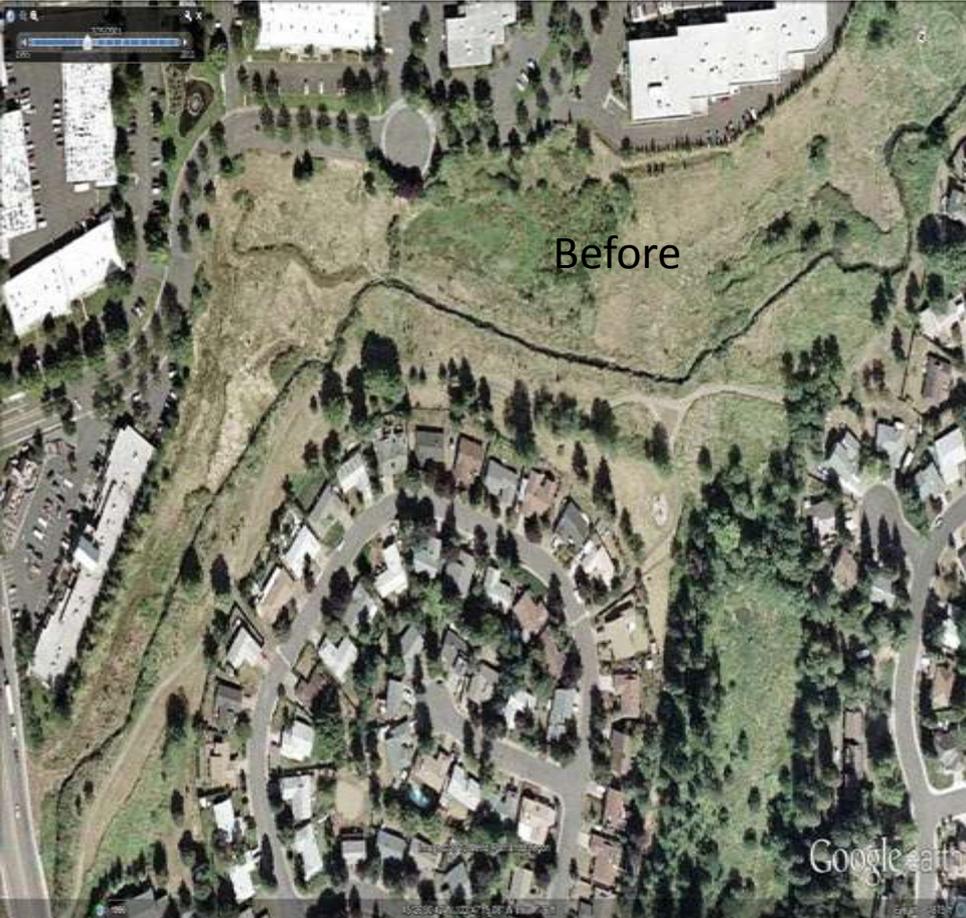
Carbon-Nutrient-Water-Energy Nexus
Connecting People to Water & Nature



Urban Ecological Uplift

Carbon-Nutrient-Water-Energy Nexus

Connecting People to Water & Nature



Conveyance & Field Operations

Natural System Restoration Materials Recovery

Carbon-Nutrient-Water-Materials Nexus



Fernhill NTS

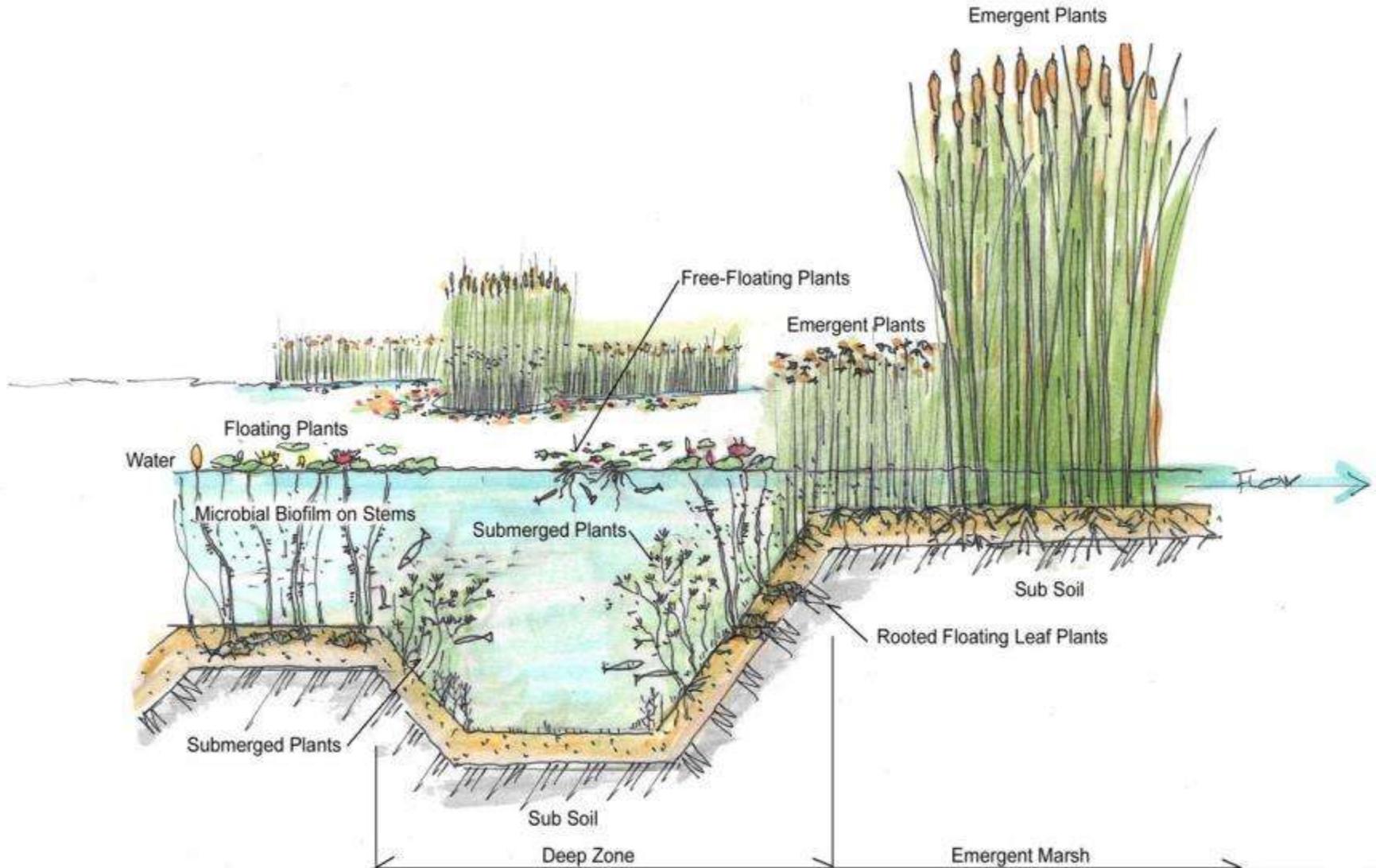
**Carbon-Nutrient-Water-Energy Nexus
Connecting People to Water & Nature**



Investment in Ecological Bridges



Ecological Function



Detailed Section

Aesthetics



Transformation



"We're protecting Fernhill Wetlands for the community and future generations, and the environmental approach of the natural treatment wetlands are a win-win for everybody."

Victoria Lowe, Forest Grove City Councilor



Questions?

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Stewardship

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