Leveraging a One Water Approach for Recycled Water Planning in the Pacific Northwest

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Today’s Outline

- Blueprint for One Water
  - Project background
  - What we mean by One Water?
  - Blueprint phases and steps
- PNW example
  - Kitsap County
Blueprint reflects input from Utilities and Water Professionals Worldwide

- International survey completed by more than 800 water professionals
- More than 10 one-on-one interviews
- 2-day workshop with more than 35 water professionals
One Water defined

One Water is an integrated planning and implementation approach to managing finite water resources for long-term resilience and reliability, meeting both community and ecosystem needs.
The One Water Cycle

1. Water Treatment
2. Wastewater Treatment
3. Advanced Treatment
4. Stormwater Management
Definition of One Water is Site-specific

Matching the right resource to the right use
- San Francisco Public Utilities Commission

Integrating source water protection and watershed protection
- Greater Cincinnati Water Works

Becoming energy-neutral
- New York City

Integrated approach to urban water management
- Denver Water

Holistic approach to pollutant reduction
- Philadelphia Water

Stormwater as a resource
- City of Tucson

Gain resiliency looking 100 years into the future
- Austin Water
To Meet Current Challenges - One Water Shifts
How We Manage Our Water Resources
The Blueprint Provides Step-by-step Guidance

- Setting the Foundation
  - Define your One Water scope
  - Identify and convene partners
  - Assess needs and opportunities

- Establishing Direction
  - Craft vision and objectives

- Developing the Framework
  - Establish lasting leadership and institutional structure
  - Create framework or plan
  - Conduct adaptive planning
  - Develop financing strategies

- Implementation
  - Implement the Framework

Engaging Stakeholders
- Public & Special Interest Groups
- Regulators
- Elected Officials
First, Getting Started on the Path to One Water

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Each Blueprint Step Highlights Tangible Actions, Outcomes, Challenges

Define Your One Water Scope

One Water can look very different from one place to the next depending on your climate and geography, water resources, and environmental stressors. Developing a One Water framework begins with defining what One Water is or could be for your entity.

- **IMPORTANT ACTIONS**
  - Determine the challenges that your entity, community, and region are facing that may impact long-term water supply reliability, water resource resilience, or water quality needs.
  - Reach out to other cities and utilities of similar size and with similar attributes that have implemented a One Water approach for insights to seed internal dialogue.
  - Consider using a “re-imagining” exercise to explore how you might do things differently if you were creating your system from scratch.
  - Consider what your organization is already doing or planning for to enhance sustainability and determine how best to leverage these existing activities.
  - Decide what issues you want to address with an integrated One Water approach and what form it will take. Will this be a simple framework or a comprehensive plan?
  - Begin to identify internal and external partners to include in the development of your One Water approach.

**KEY OUTCOMES**
- A rough definition of One Water for your entity including what will and won’t be included

**POTENTIAL CHALLENGES**
- Identifying innovative approaches to water management
- Thinking big
- Defining a workable scale and scope
Bay Area Regional Reliability Partnership
Established Early Foundation for Success

“"I can’t tell you how proud we were to get eight agencies on one (fact) sheet."

– Marguerite Patil
Contra Costa Water District
Keys to BARR Success – Memorandum of Understanding

balanced transparent share information
regional inclusive work cooperatively
transient equitable commit staff time

For more information:
Bay Area Integrated Regional Water Plan
http://tinyurl.com/BayAreaWaterPlan
Craft Vision and Objectives

• Establishes an overarching vision and develops objectives

KEY OUTCOME: High-level document summarizing the vision and objectives for your framework
NYC DEP - One Water As a Unifying Framework for Multi-faceted Initiatives

Establishing Direction
Guiding Principles:

• Integrate management of water resources and policies
• Cultivate climate resilience
• Contribute to a livable city
• Improve the health of local watersheds
• Provide flood protection
• Provide reliable, secure, and clean water supply
• Implement, monitor, and maintain a reliable and resilient wastewater system
Engage Stakeholders

• Engagement needs to occur externally with elected officials, regulating bodies, special interest groups, technical advisors, and the community

KEY OUTCOMES

• Establishment of trust and working relationships
• Active interest and support for One Water approach
LA’s One Water Plan

Water Cabinet - Internal

• Mayor initiated
• Consisting of key department heads, and outside advisors
• Intent to benefit or supplement ongoing projects

• Extensive Stakeholder and Public Engagement
• LADWP and LA Sanitation considered diversity in the process and aimed for a diverse group of stakeholders—an approach they feel was key from the very beginning
• Special Topic Groups were formed
• Public participants became ambassadors of message
Next, Developing the Framework, Plan, or Program

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### Implementation
- Implement the Framework

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**Engaging Stakeholders**
- Public & Special Interest Groups
- Regulators
- Elected Officials
One Water Efforts Can Range From Simple Unifying Frameworks to Comprehensive Detailed Plans

Resource Guidance

1–5 years
3–7 staff
$500k–$10M using consulting services
Finally, Implementation – Iterative Process
Take Early Action, Start Small, Build on Successes

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Feedback Loop
Kitsap County Example
Kitsap Peninsula...an “island” with unique water quantity challenges

- Kitsap Peninsula surrounded by salt water
- 80% of local water supply comes from aquifer
- Predominantly rain water recharge of aquifer
- Rainfall $> \sim 0.5$ inches/day “wasted” as runoff to Puget Sound
- “Closing the loop” a necessity for long-term water management
Kitsap Peninsula and Puget Sound water *quality* concerns

- Nutrient discharges to Puget Sound
  - Acidification
  - Dissolved oxygen (nitrogen)
- Stream flows and temp.
- Shellfish habitat
Closing the water loop – Water as a Resource
Projects that demonstrate the essence of the program

Central Kitsap Wastewater Treatment Plant (CKTP) Resource Recovery Project

Clear Creek Floodplain Restoration

Kingston Recycled Water Project

Manchester Stormwater Park
75% of CKTP discharge available for beneficial use

- Silverdale Water District partnership
  - Irrigation
  - Industrial
  - Hospital
    https://www.youtube.com/watch?v=vQ9sVG8B-gk

- County considering aquifer recharge opportunities
Kingston area
Kingston Stakeholder Engagement
The journey ahead...

- Continued stakeholder outreach
- On-going benefit/cost analysis to guide investment/operational choices
- Incorporate results of on-going studies (e.g., USGS)
- Regulatory collaboration
- USBR funding
Download a copy of the Blueprint

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http://www.waterrf.org/Pages/Projects.aspx?PID=4660
Please give your input on this survey!

Anticipating Trade-Offs of Using Alternative Water Supplies

https://www.surveymonkey.com/r/4715AltSupplies

Survey closes June 17th