

Clean Water Plan

Making the Right Investments at the Right Time

MWPAAC Monthly Briefing

December 9, 2020



Clean Water Plan

Making the right investments at the right time



King County

Department of Natural Resources and Parks
Wastewater Treatment Division

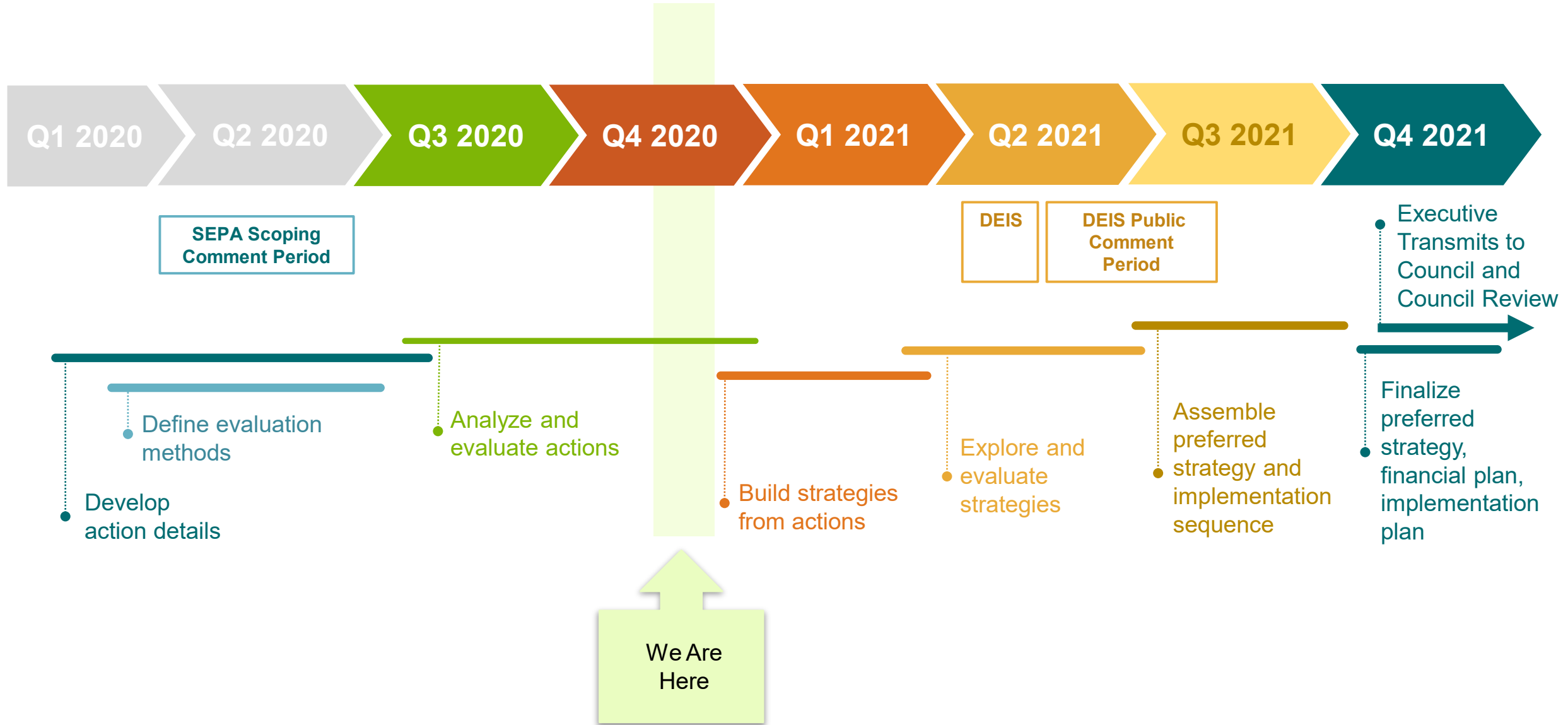
December Briefing Topics

- Status of Actions Development
- Initiation of Strategies Development
- 2021 Look Ahead

Core Planning Question

What is the most appropriate path to ensure we direct the right public investments to the right actions at the right time for the best water quality outcomes?

Planning Process – Timeline and Steps



Key Steps – Actions

- **Definition:** Specific program, including projects or activities, with policy considerations in a single Decision Area.
- **Purpose:** Define a spectrum of possible investments within each Decision Area that are available to select and shape as inputs or building blocks for Strategies.

Legacy
Pollution

Resource
Recovery

Wastewater
Treatment

Asset Management,
Resiliency,
Redundancy

Wet Weather
Management

Wastewater
Conveyance

Pollution Source
Control/Product
Stewardship

Key Steps – Actions – Investments Explored

Wastewater Treatment

Range of Actions Explored

Decentralized Micro Facilities

- Large Buildings
- Neighborhood Package Facility

Decentralized Satellite Facilities

- City or sewer basin service areas

Regional Facilities

- Secondary Treatment
- Nutrient Removal Treatment Upgrades
- Advanced Treatment Upgrades

Partnerships

- Water quality trading

Asset Management, Resiliency, Redundancy

Range of Actions Explored

Run to Failure

- Minimal annual maintenance spending
- Minimal seismic preparedness
- Least resiliency

Low Investment Level

Medium Investment Level

High Investment Level

- High annual maintenance spending
- Proactive seismic preparedness
- Most resiliency

Key Steps – Actions – Investments Explored

Wet Weather Management

Range of Actions Explored

Distributed Stormwater

- Regional Stormwater Facilities
- Stormwater retrofit program (e.g., GSI on small lots)

Wet Weather Treatment Plants

- Treatment Stations (e.g., Georgetown)

Regional Wastewater Treatment System

- Utilize excess capacity for stormwater treatment

Wastewater Conveyance

Range of Actions Explored

Current Level of Service

- 5% chance overflow any given year

Demand Management and Optimization

- I/I control
- Smart Utility

Reduced Level of Service

- 20% chance overflow any given year

Key Steps – Actions – Investments Explored

Resource Recovery

Range of Actions Explored

Current Program

- Class B Biosolids
- Maintain biogas and cogeneration systems

Enhanced Program

- Class A Biosolids, codigestion, nutrient recovery,
- Enhanced biogas utilization, heat recovery

Legacy Pollution

Range of Actions Explored

Current Program

- Contaminated sediment remediation

Enhanced Program

- Contaminated sediment remediation
- Creosote structure removal, pipe cleaning, contamination cleanup, ecological restoration

Pollution Source Control/Product Stewardship

Current Program

- Industrial waste permitting
- Current source control programs

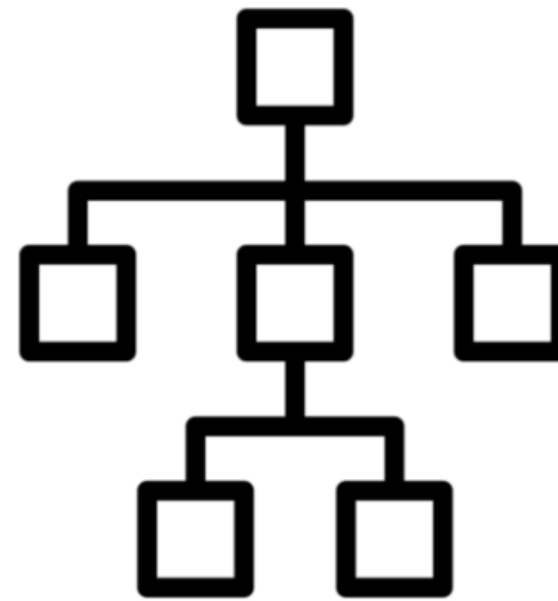
Enhanced Program

- BMPs, education, outreach
- Expanded monitoring
- Product substitutes and/or bans

Clean Water Plan – Strategies

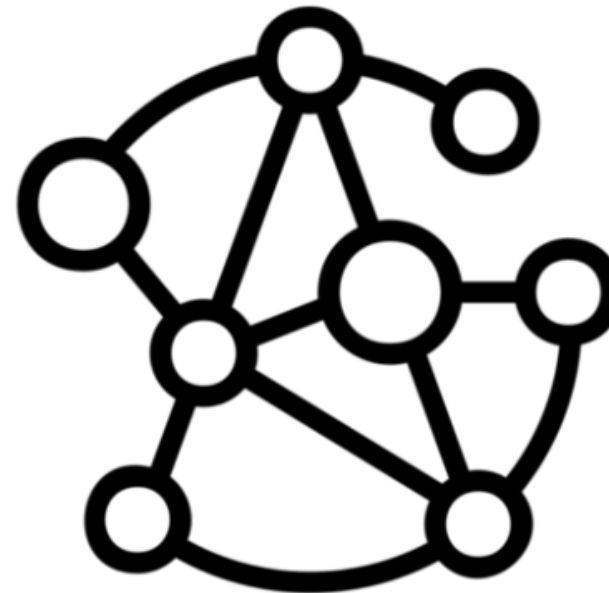
- **Definition:** A grouping of multiple actions across decision areas that incorporates timing, sequencing, inter-relationships, and policy considerations reflecting a complete water quality investment approach.
- **Purpose:** Provide data-based depictions of future water quality investment approaches and expected outcomes for a regional discussion and consideration by decision makers.

Core Planning Question: *What is the most appropriate path to ensure we direct the right public investments to the right actions at the right time for the best water quality outcomes?*



Actions:

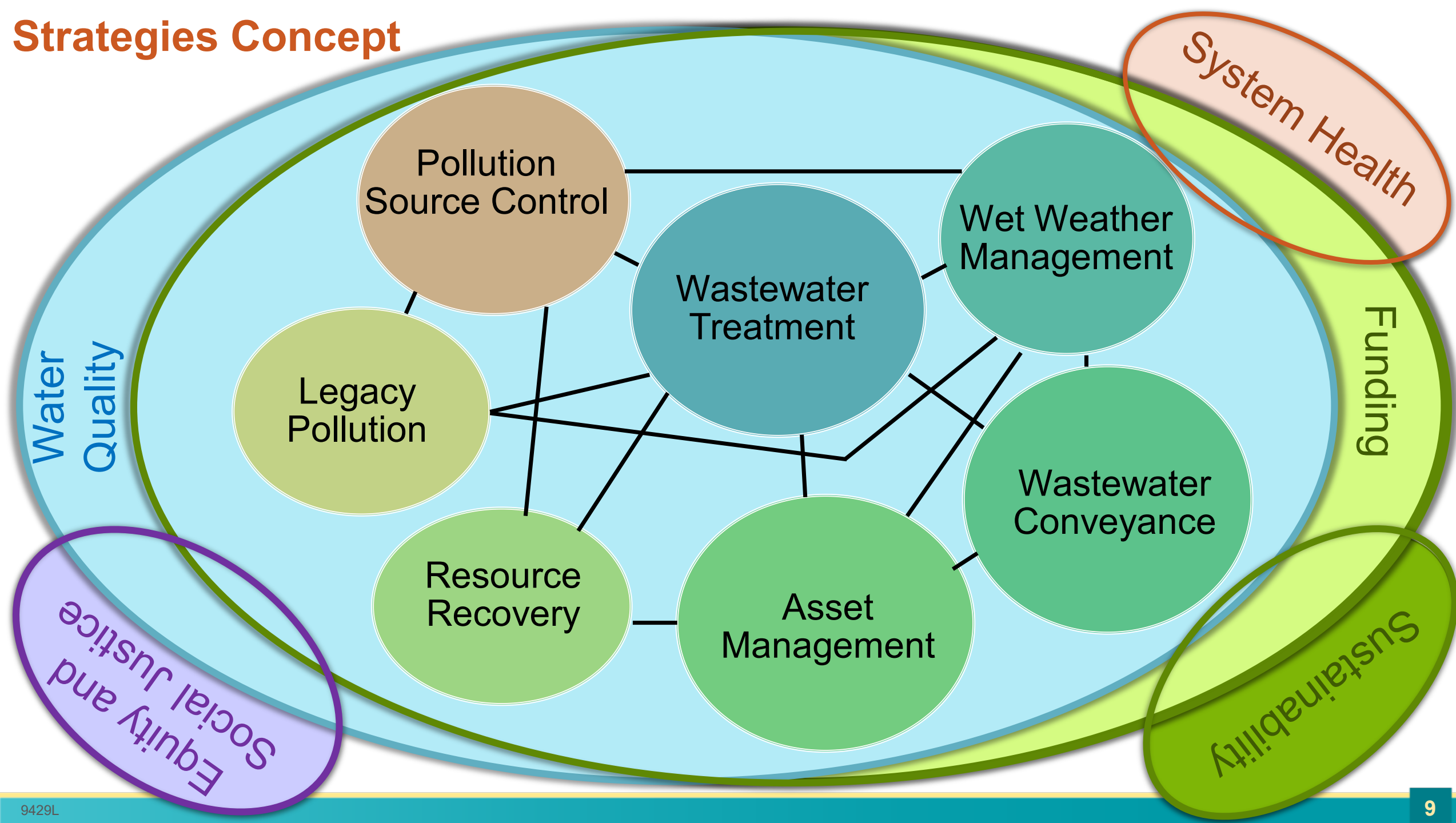
- One structure – one function



Strategies:

- System context with multiple functions

Strategies Concept



Evaluation of Actions and Strategies – Full Range of Considerations



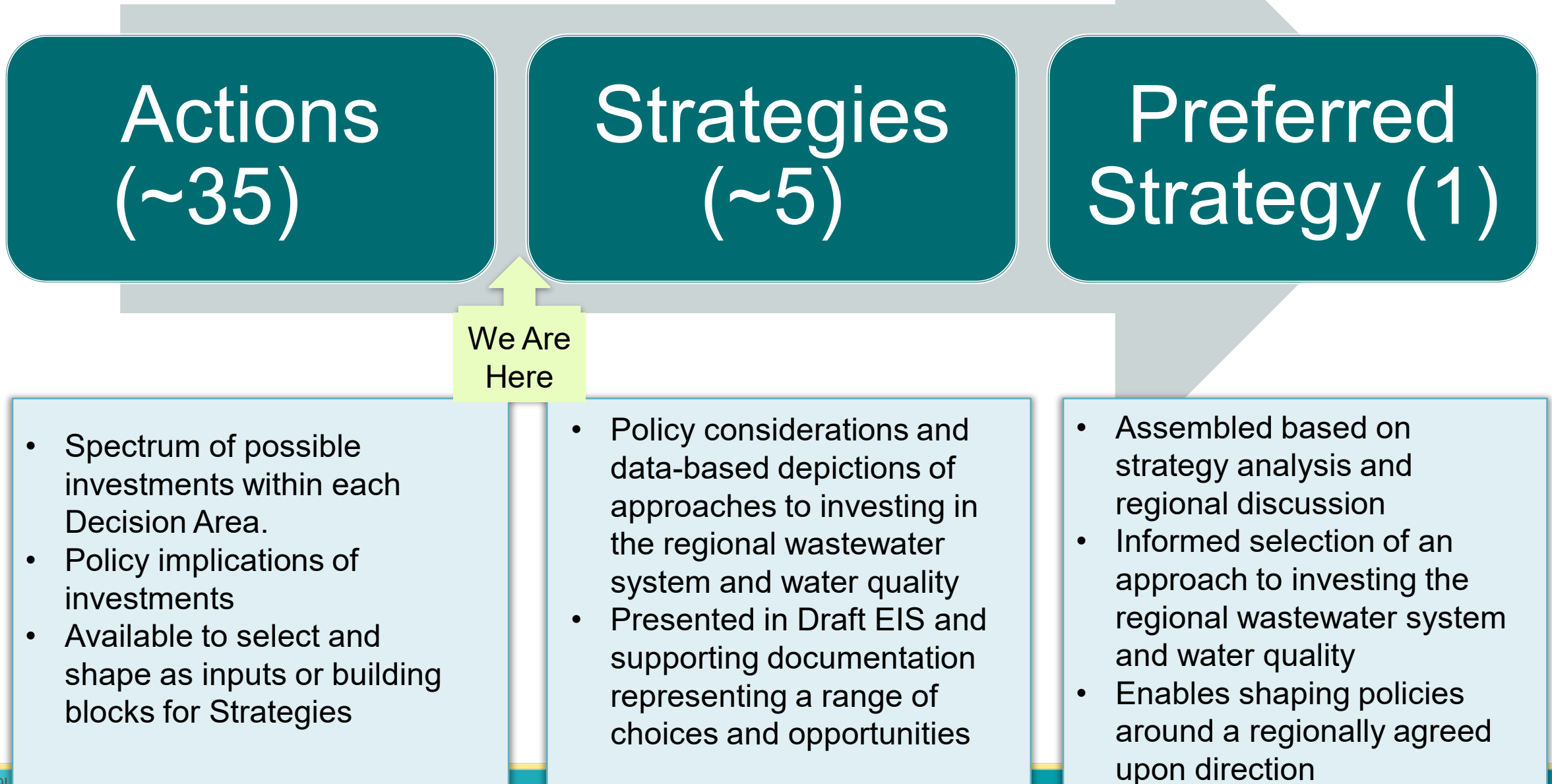
Evaluation of Actions and Strategies – Water Quality Analysis

Plan Development Steps	Actions	Strategies	Preferred Strategy
Activities	<u>For each program:</u> <ul style="list-style-type: none"> Pollutant load reductions (nitrogen, phosphorus, TSS, Copper, Zinc, PCBs, PAHs, PBDEs, Fecal coliform) Relative impact to receiving waters and impairments Linkages to endpoints 	<u>For each strategy:</u> <ul style="list-style-type: none"> Pollutant load reductions Relative impact to receiving waters and impairments Impacts (positive and negative) on endpoints (swimming, edible fish, shellfish harvesting, chinook salmon, Orca, aquatic health) 	<u>For preferred strategy:</u> <ul style="list-style-type: none"> Pollutant load Receiving water impacts Endpoint impacts
Tools	<ul style="list-style-type: none"> Pollutant loading models Pollutant removal worksheets 	<ul style="list-style-type: none"> Water Quality Benefits Evaluation (WQBE) Causal Models 	<ul style="list-style-type: none"> Sensitivity analysis

Evaluation of Actions and Strategies – Financial Evaluation

Plan Development Steps	Actions	Strategies	Preferred Strategy
Activities	<u>For each program:</u> <ul style="list-style-type: none"> Capital cost estimates O/M cost estimates 	<u>For each strategy:</u> <ul style="list-style-type: none"> Financial capability assessment <ul style="list-style-type: none"> Rate projections Capacity charge projections Bond funding requirements Household affordability assessment <ul style="list-style-type: none"> Household burden Number hours worked at minimum wage Community affordability assessment <ul style="list-style-type: none"> Burden on other public services 	<ul style="list-style-type: none"> <u>Financial Plan:</u> <ul style="list-style-type: none"> Define funding needs and sources for implementation <ul style="list-style-type: none"> Rate Capacity charge Debt management Measures to address household affordability
Tools	<ul style="list-style-type: none"> Historic cost information Cost estimating worksheets 	<ul style="list-style-type: none"> Financial capability assessment tool 	<ul style="list-style-type: none"> Financial capability assessment tool Sensitivity analysis

Linking Actions to Strategies to Preferred Strategy



2021 Activities Include

- Continue MWPAAC Task Force
- Continue External Advisory Group
- Technical Workshops on Actions (water quality investment choices and opportunities)
- Elected Official Workshops
- Development, evaluation, and region discussion of Strategies (policy considerations and program direction alternatives)
 - Engagement opportunities through workshop and other methods
 - SEPA Review – Environmental Impact Statement

Questions?

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Happy Holidays! Cheers to 2021!