

# Using an Ecological Recovery Approach to Stormwater Permit Regulations

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# Presentation Overview

- ▶ The Dilemma
- ▶ The Solution
- ▶ Tools to Achieve the Solution
  - ▶ Regional Growth Centers
  - ▶ Stream Prioritization Guidance
  - ▶ Stormwater Control Transfer Program
  - ▶ Effectiveness Monitoring



# The Dilemma



2 more Seattles + 2 more  
Tacomas by 2040!

## Central Puget Sound Region



# The Dilemma

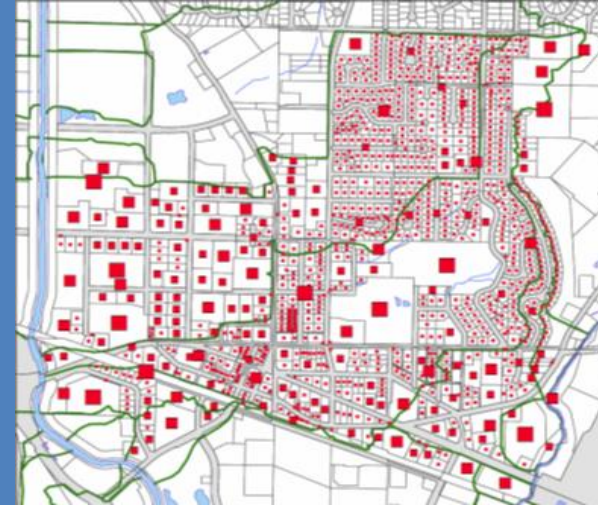
- ▶ Not preserving natural functions and habitat within the growth management area.
- ▶ Healthy aquatic habitat where people live and work is almost gone.
- ▶ The loss of healthy habitat will have economic, social, and legal ramifications.



# The Dilemma

- ▶ GMA is the driver for City and County comprehensive planning (housing + jobs + transportation)
- ▶ Utilities, including stormwater, are typically an afterthought
- ▶ Redmond's experience planning stormwater to support regional growth centers (default NPDES requirements)

## Regional Stormwater Facilities for a Regional Growth Center



# The Solution

- ▶ “Watershed Planning”
  - ▶ Plan for the existence of healthy aquatic habitat.
  - ▶ Long range planning for stormwater infrastructure.
  - ▶ Explore options to meet NPDES development regulations while restoring habitat in urbanized areas.
  - ▶ Integrate GMA, CWA (NPDES), flood management, water supply, and ESA planning.

2013  
CITY OF REDMOND, WASHINGTON  
CITYWIDE WATERSHED MANAGEMENT PLAN



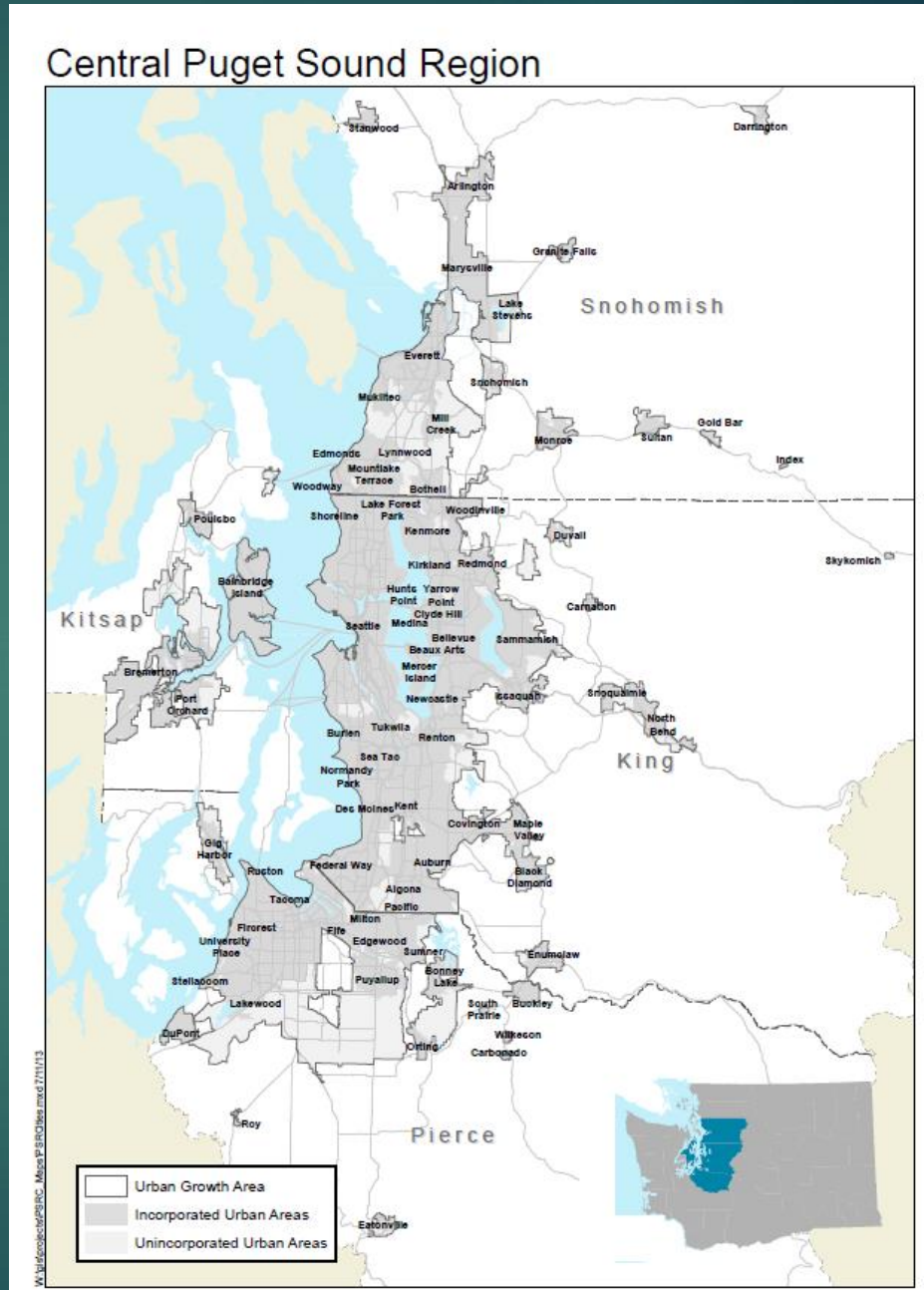
Prepared for  
City of Redmond  
Public Works Natural Resources Division

Prepared by  
Herrera Environmental Consultants, Inc.



# The Solution

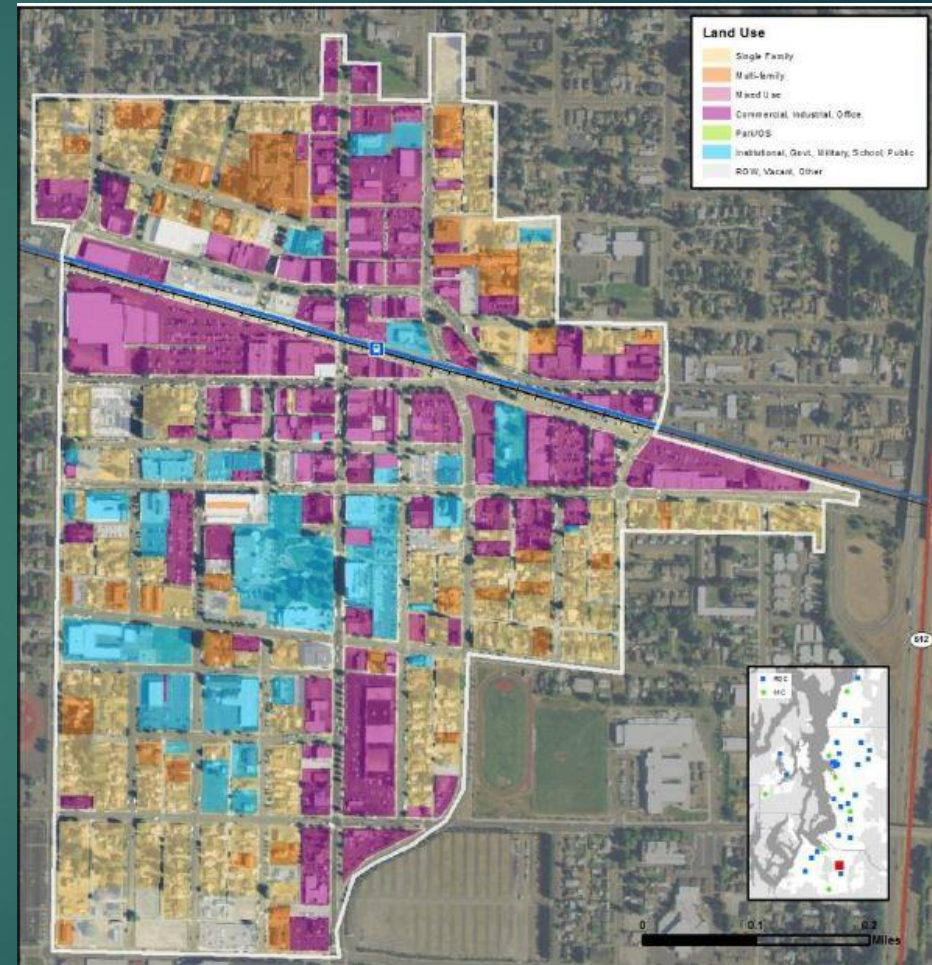
- ▶ Growth Management Planning
  - ▶ Minimize urban sprawl and pollution with designated regional growth centers connected by transit.
  - ▶ Integrate stormwater and environment planning into the GMA and regional framework.



# Tools to Achieve the Solution

## VISION 2040

- ▶ Regional Growth Centers
  - ▶ **27 Regional Growth Centers**
    - ▶ 2.5% of total UGA (≈25 sq mi)
    - ▶ Currently 29% of region's jobs
  - ▶ **8 Manufacturing/Industrial Centers**
    - ▶ 3.7% of total UGA
  - ▶ Inside the urban growth area, mostly in cities

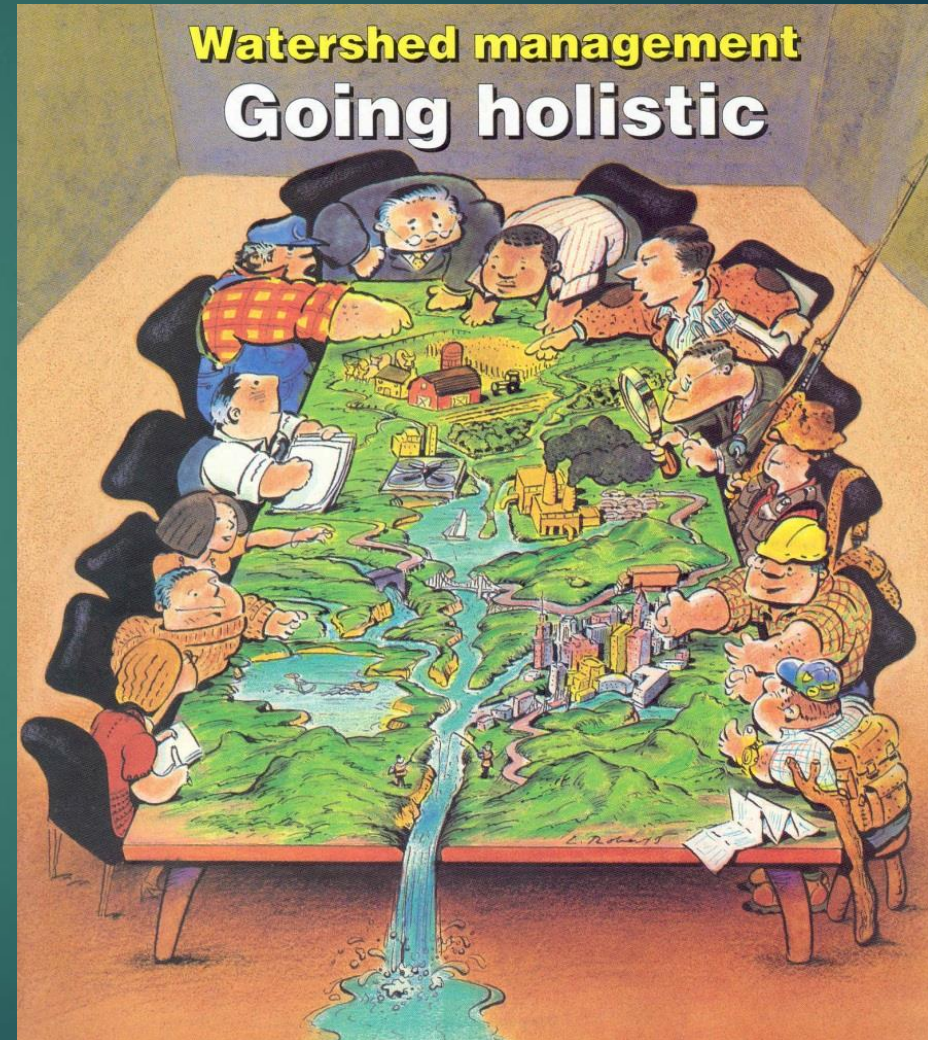


Puyallup Downtown Regional Growth Center



# Tools to Achieve the Solution

- ▶ Building Cities in the Rain - Stream Prioritization Guidance
  - ▶ Guidance for assessing and prioritizing streams/watersheds for protection and restoration.
  - ▶ Multidisciplinary effort including federal, state, local governments and stakeholders.



# Tools to Achieve the Solution

- ▶ Stormwater Control Transfer Program Guidance
  - ▶ Focus rehabilitation in “priority watersheds” to maximize environmental benefit
  - ▶ Separate from Structural Retrofit Program – S5.C.6 of Phase I Permit
  - ▶ Seek Ecology approval (Basin/Watershed Planning Provision)



# Tools to Achieve the Solution

## Stormwater Control Transfer Program Guidance

- ▶ How to Use Transfer Program Guidance
  - ▶ General Program Principles
  - ▶ Key Program Elements
  - ▶ Guidelines for MRs #5, 6, 7
  - ▶ Establishing Watershed Priorities
  - ▶ Transfer Currency
  - ▶ Monitoring Plan



# Tools to Achieve the Solution

## Stormwater Control Transfer Program Guidance

- ▶ General Program Principles
  - ▶ Full attainment of water quality standards in all waters
  - ▶ No increased impacts to any receiving water
  - ▶ Prioritize watersheds to direct transfer of controls
  - ▶ Prioritization primarily based on environmental considerations
  - ▶ No shield from TMDLs, S4.F.3 adaptive plans, future stormwater requirements



# Tools to Achieve the Solution

## Stormwater Control Transfer Program Guidance

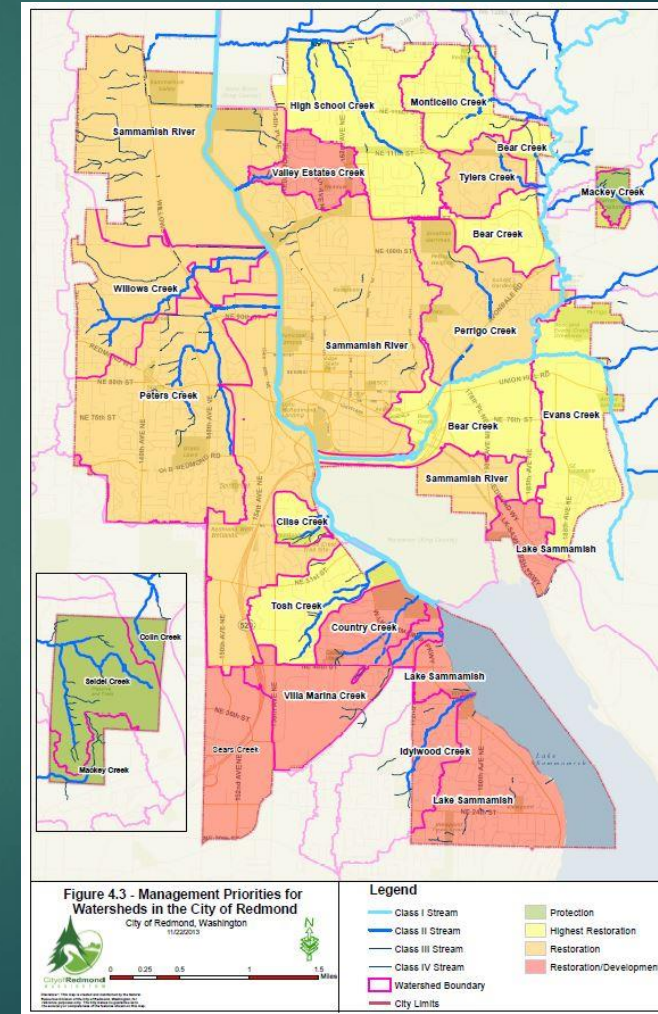
### ▶ Key Program Elements

- ▶ Not Changing the Standards; Changing where they are met
- ▶ Improvement portion of Flow Control, Treatment, LID requirements may be transferred to a “priority watershed”
- ▶ Focus primarily on replaced surfaces
- ▶ Treatment transfers more complicated
- ▶ Timing of the off-project-site improvements critical
- ▶ Responsibility for long-term O&M of facilities in priority watersheds
- ▶ Off-site improvement projects may be case-by-case or through regional facilities
- ▶ A regional facility establishes credits which can be purchased using fee-in-lieu

# Tools to Achieve the Solution

## Stormwater Control Transfer Program Guidance

- ▶ Establishing Watershed Priorities
  - ▶ Existing Watershed Characterization studies can inform
  - ▶ Need watershed-specific information
  - ▶ Consult with federal, state, tribal natural resource agencies
  - ▶ Needs Ecology concurrence



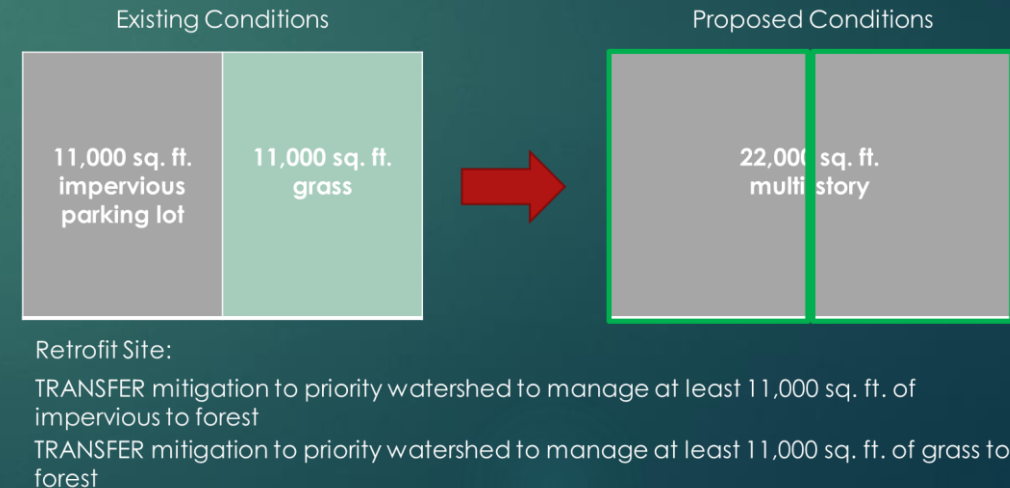
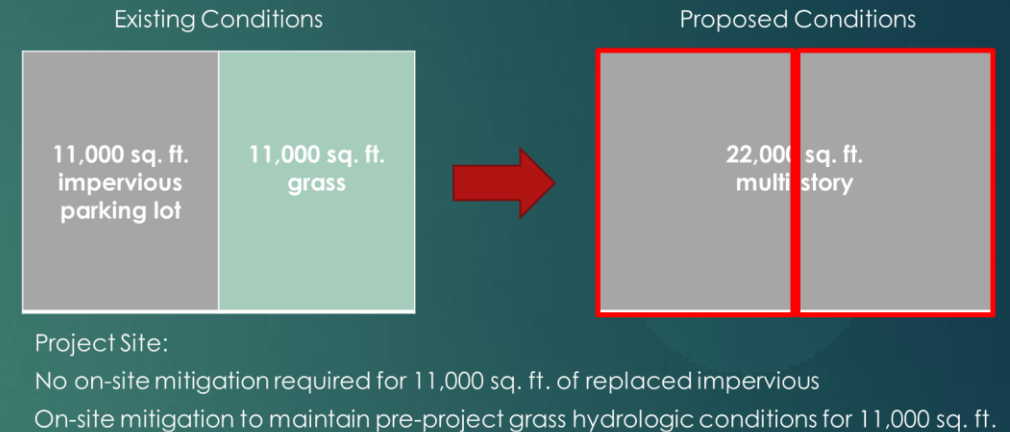
# Tools to Achieve the Solution

## Stormwater Control Transfer Program Guidance

### ▶ Transfer Currency

- ▶ How to calculate at sending site and receiving site
- ▶ Impervious, PGIS, lawn/landscape acreage
- ▶ How to track it
- ▶ How to report it: Annual Reporting
- ▶ Separate Dedicated fund accounts

### Flow Control Example



# Tools to Achieve the Solution

## Stormwater Control Transfer Program Guidance

- ▶ Monitoring Plan
  - ▶ Measure effectiveness of improvements in priority watersheds





# Tools to Achieve the Solution

- ▶ NPDES Pooled Resource Effectiveness Monitoring
  - ▶ Paired Basin Study
  - ▶ Potential for Collaboration
  - ▶ Results based instead of regulatory based
  - ▶ The ultimate test of our ability to create healthy habitat in developed watersheds.



# Tools to Achieve the Solution

## Effectiveness Monitoring

- ▶ Three “Application” watersheds
  - ▶ Moderately impacted by urbanization
  - ▶ Prioritized for rehabilitation efforts
- ▶ Two “Reference” watersheds
  - ▶ Relatively pristine
  - ▶ Not subject to rehabilitation efforts
- ▶ Two “Control” watersheds
  - ▶ Heavily impacted by urbanization
  - ▶ Not subject to rehabilitation efforts



# Questions?

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