Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

719 2ND AVENUE, SUITE 200 | SEATTLE, WA 98104 | P 206.394.3700

# TECHNICAL MEMORANDUM

| | |
|---|---|
| DATE: | June 29, 2022 |
| TO: | Kristina Lowthian, City of Renton |
| FROM: | Julie Brandt PE, Parametrix |
| SUBJECT: | Receiving Water Prioritization |
| CC: | Arianna Frender, Parametrix<br>Alex Van Kirk, Parametrix |
| PROJECT NUMBER: | 553-1779-051 |
| PROJECT NAME: | Stormwater Management Action Plan (SMAP) |

## INTRODUCTION

### Purpose

This document summarizes the Stormwater Management Action Plan (SMAP) prioritization for the City of Renton (City). The SMAP prioritization is required by S5.C.1.d.ii of the Washington State Department of Ecology's (Ecology's) National Pollutant Discharge Elimination System (NPDES) Western Washington Phase II Municipal Stormwater Permit (Permit, Ecology 2019a). Additional considerations in the prioritization process were taken from the Stormwater Management Action Planning Guidance (SMAP Guide) (Ecology 2019b) and the Building Cities in the Rain (Commerce 2016) prioritization planning process. The prioritization builds off of the recently completed Receiving Water Assessment (City of Renton 2022). The prioritization, which is the second phase of the overall SMAP process, ranks the City's receiving waters and catchments in priority basins most likely to benefit from stormwater management planning. In the third and final phase of the SMAP process, the City will identify potential stormwater management actions for one of the selected high priority catchment areas, which may consist of facility retrofits, land management and development strategies to benefit water quality, and targeted and enhanced implementation of practices already part of the City's Permit compliance program.

### Approach

The City's prioritization method considered current receiving water and land use conditions, fish use and aquatic habitat, flow control/low impact development and treatment opportunities, and environmental justice and social equity.

The prioritization methodology for the City was split into two phases:

- The preliminary prioritization involved a mathematical scoring and ranking of the catchments based on estimated existing and forecasted water quality and flow impacts to the receiving waters. In the preliminary prioritization, the number of catchments was screened down to approximately 25 percent of the City's total tributary area.

- The final prioritization was a further review and screening of the higher-priority catchments by the City's Interdisciplinary Team (cross-departmental City staff working on the SMAP development) accounting for public input from the community and partner stakeholders. The final prioritization considered additional qualitative factors identified in the receiving water assessment to screen the top-ranked 25 percent of the City down to 3 of the highest priority catchments in which to begin identification of candidate stormwater management actions. From those 3, the single catchment for which the most feasible actions are identified will then be selected to develop stormwater management actions for.

The City's receiving water assessment data is presented at the SMAP website, available online here:

*GIS.Parametrix.com/RentonSMAP.html*

The preliminary and final prioritizations are described in detail below.

## PRELIMINARY PRIORITIZATION

The first phase of the prioritization method involved the preliminary scoring and ranking of the City's catchment areas. City catchment areas are shown in Figure 1. The Geographic Information System (GIS)/spreadsheet prioritization tool known as FutureShed was used for the first phase of the prioritization method. An overview of the FutureShed process is shown in Figure 2.

### Input Data

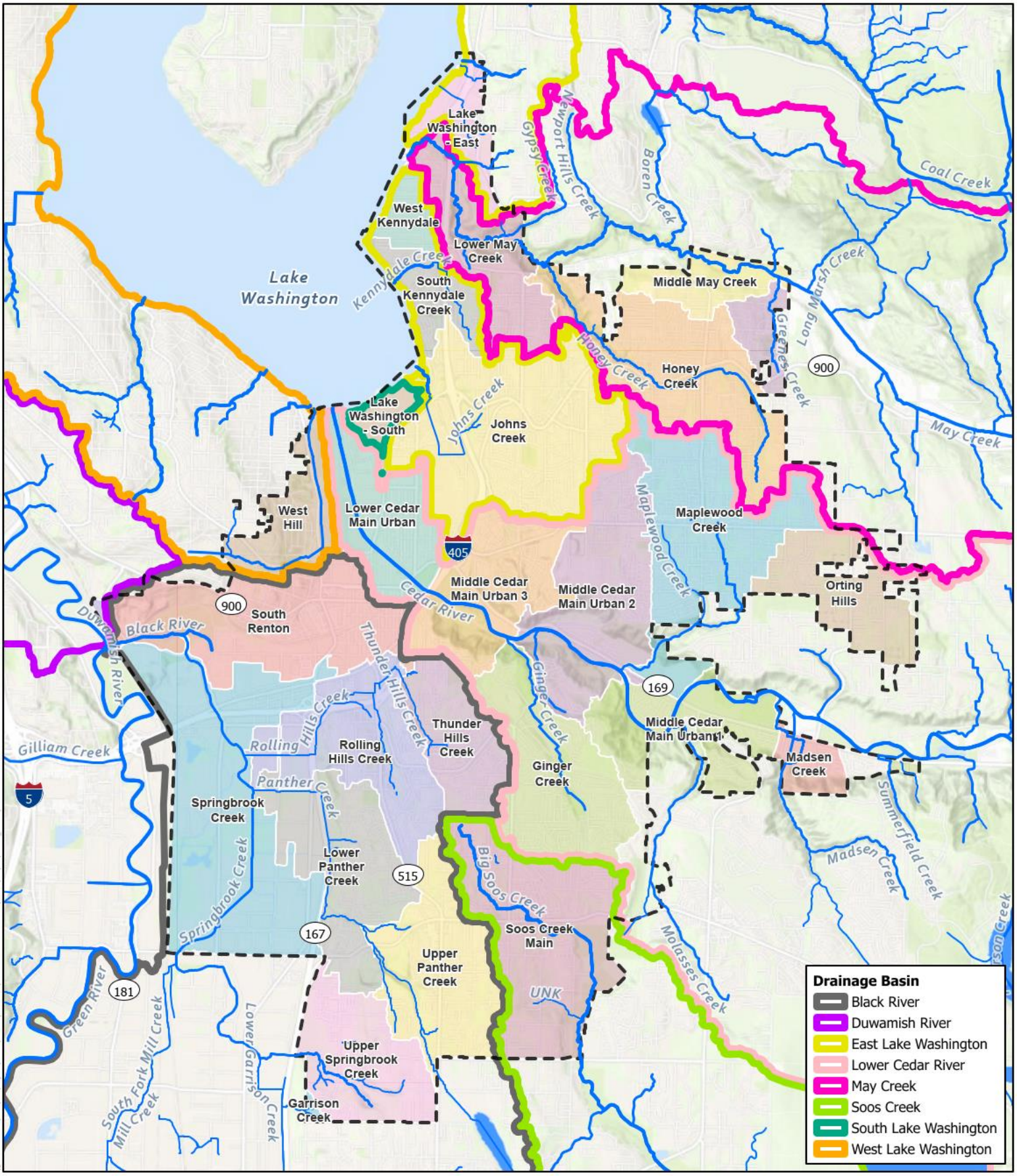
FutureShed uses the following inputs from the City's receiving water assessment:

- Drainage Catchment Areas: The receiving water assessment basins were sub-delineated into smaller catchment areas based on topography and the City drainage network. The catchment areas vary, but on average are approximately 1 square mile (640 acres).
- Buildable and Vacant Lands: This data is used to forecast areas of projected or targeted growth and estimate the stormwater management upgrades that would be triggered by future property development assuming stormwater control design standards would be implemented where applicable. The City's buildable lands and vacant lands GIS data is input as either vacant, under-developed, or built.
- Existing Stormwater Management: The stormwater management coverage for the City is based first on the installation dates of mapped facilities (see web map Detention Facility and Water Quality Facility layers). Additional existing stormwater management coverage is based on parcel development dates. The development dates corresponding to the mapped facilities and parcel permit dates are compared with historical dates of stormwater management thresholds adopted by the City to classify facilities as vintage or current. The SMAP prioritization is intended to serve as high-level planning; and for these purposes the historical stormwater management milestones are based on the following:
  - Water Quality[1]
    - No Treatment: Before the vintage threshold (1991 if there are no stormwater facilities listed)
    - Vintage Threshold: Year in which basic treatment started to be required for most projects (1991)
    - Current Threshold: Year in which enhanced treatment was required for a broader range of projects (2011)

- Flow Control[1]
  - No Treatment: Before the vintage threshold (1991 if there are no stormwater facilities listed)
  - Vintage Threshold: Year in which facilities were sized to target existing conditions with a peak flow control standard (1991)
  - Current Threshold: Year in which facilities were sized to target pre-settlement (typically forested) conditions with a flow duration standard (2011)

- Land Cover: As discussed in the City's receiving water assessment, land cover type is a strong influence on stormwater runoff and downstream impacts to wildlife habitat and water quality. For FutureShed analysis, the City's land cover layers are classified into one of 6 different categories:
  1. Forest (contiguous stands of trees larger than 1 acre)
  2. Trees (all other mapped trees)
  3. Grass or Landscape
  4. Non-Pollutant Generating Impervious Surface (NPGIS)
  5. Parking
  6. Roads

[1] Threshold milestone years are assumed to be one year after city adoption of stormwater management threshold requirement to account for permit vesting.




Date: 6/17/2022
Sources: City of Renton, King County, WA Ecology, WA DNR, USGS, ESRI
Disclaimer: The data on this map reflects planning-level accuracy and may not represent exact conditions in all locations. The City assumes no liability to third parties for the data or lack thereof, or any decisions made or action not taken in reliance upon any of the data.

Stream
Renton City Limits

Figure 1 - Drainage Catchments
Renton SMAP
Receiving Water Prioritization

0 1,500 3,000 6,000
Feet

Renton, WA

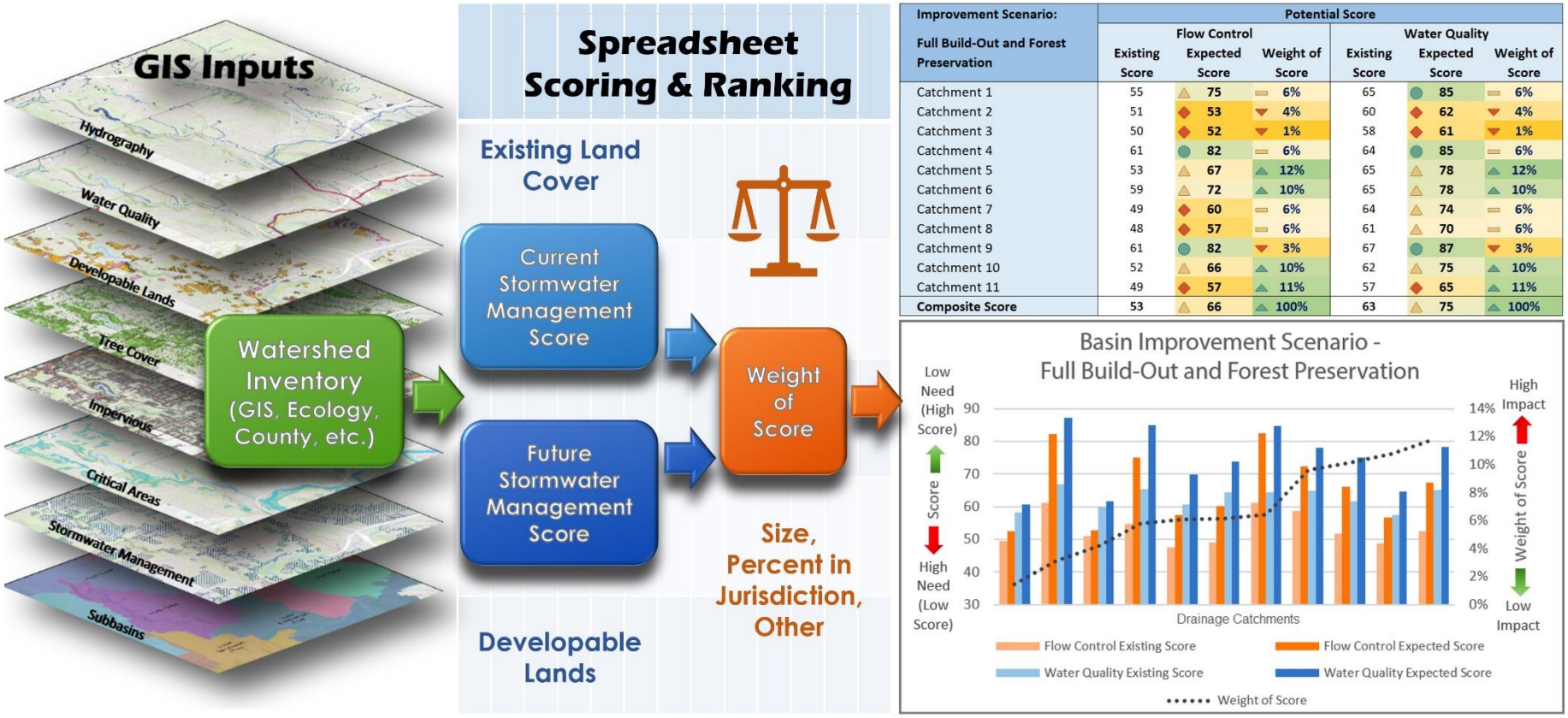



Figure 2. FutureShed Process

## Analysis

The preliminary prioritization was conducted using the GIS/spreadsheet based FutureShed basin forecasting tool. FutureShed calculates, weights, and compares existing and future composite scores for flow and water quality pressures on receiving waters from each catchment. The baseline scoring process and future forecasting are described below.

### Baseline Catchment Scoring

Using GIS data inputs into a spreadsheet, FutureShed quantifies and rates individual land cover types and their associated runoff characteristics into subscores, then calculates a comparative score to represent the effect of water quality treatment and flow control on that runoff. The composite score of managed runoff from each land cover type within a catchment area is then calculated to characterize the influence of that catchment's runoff on its respective receiving water. Through these comparative estimates, FutureShed allows the City to approximate hydrologic and pollutant loading impacts for current and future land use on a scale that is applicable to long-range watershed and land use planning.

Subscores range from 0 (detrimental influence to receiving water) to 100 (beneficial influence to receiving water) and were developed using professional judgement and industry-based knowledge of runoff characteristics (such as land cover runoff curve numbers and relative performance of historical flow control and water quality treatment approaches). The subscores are not intended to reflect a definitive stormwater benefit, but instead are intended to show a comparative magnitude between different control types for runoff from different land covers. After existing condition FutureShed results are run, each basin score is examined against known basin characteristics to check and validate the subscores before running future forecast scenarios.

The stormwater management subscores are assigned for no management, vintage, and current standards based on land cover type as shown in Tables 1 and 2.

**Table 1. FutureShed Water Quality Treatment Subscores**

| Land Cover | Water Quality Treatment | | |
|---|---|---|---|
| | Untreated | Vintage | Current |
| 1.1 Forest | 100 | 100 | 100 |
| 1.2 Trees | 100 | 100 | 100 |
| 1.3 Grass or Landscape | 50 | 70 | 80 |
| 2.1 NPGIS[a] | 40 | 60 | 70 |
| 2.2 Parking | 10 | 60 | 70 |
| 2.3 Roads | 0 | 30 | 70 |

Source: Scores are based on professional judgement and are not intended to reflect a definitive stormwater benefit; they are intended to show the magnitude between different control types for runoff from different land covers.

[a] NPGIS= Non-Pollutant Generating Impervious Surface

**Table 2. FutureShed Flow Control Subscores**

| Land Cover | Flow Control | | |
|---|---|---|---|
| | Uncontrolled | Vintage | Current |
| 1.1 Forest | 100 | 100 | 100 |
| 1.2 Trees | 90 | 90 | 90 |
| 1.3 Grass or Landscape | 60 | 80 | 90 |
| 2.1 NPGIS[a] | 0 | 70 | 80 |
| 2.2 Parking | 0 | 70 | 80 |
| 2.3 Roads | 0 | 70 | 80 |

Source: Scores are based on professional judgement and are not intended to reflect a definitive stormwater benefit; they are intended to show the magnitude between different control types for runoff from different land covers.

[a] NPGIS = Non-Pollutant Generating Impervious Surface

## Weight of Scores

For flow control, a high score reflects little to no runoff leaving the parcel, while a low score would be indicative of little to no infiltration and a large volume of runoff from the parcel. For water quality treatment, a high score corresponds to better water quality, while a low score would indicate a catchment that may be a source of pollutants contributing to water quality impairments downstream. The weight of the score is based on the percentage of the City area occupied by a catchment. This weighting helps to prioritize stormwater management action locations where the City has greater geographic control.

The City's FutureShed existing condition and weighting results are shown in Figure 3.

## Future Forecast

FutureShed was then used to forecast expected stormwater management coverage based on future development and redevelopment scenarios with the assumption that stormwater control design standards would be implemented by developers as required by City codes. The amount of future development is predicted based on the City's buildable lands data. For preliminary prioritization and comparison purposes, parcels identified as buildable are assigned a water quality score of 70 in the future and a flow control score of 80. Again, these scores are not definitive classifications of future runoff, but are used to compare the magnitudes of impact from different scenarios.

The City considered the following future scenarios for comparison:

1. "Vacant Build" – Assumes all allowable vacant parcels would be developed in the future, while underutilized parcels would not. This scenario updates parcels, but not adjacent roads.
2. "Underdev Build" – Assumes all allowable underdeveloped parcels would be developed in the future, while vacant parcels would not. This scenario updates parcels, but not adjacent roads.
3. "All Buildable" – Assumes all vacant and underutilized parcels would be developed in the future. This scenario updates parcels, but not adjacent roads.
4. "Road Retro" – Assumes all roads would be updated and retrofit to meet current flow control and water quality standards. This scenario does not update parcels.
5. "Forest Preserve" – Assumes forested parcels identified as vacant or underutilized would be preserved for conservation rather than developed. This scenario does not change roads or other parcels.

The City's FutureShed future forecast output is shown in Figure 4.

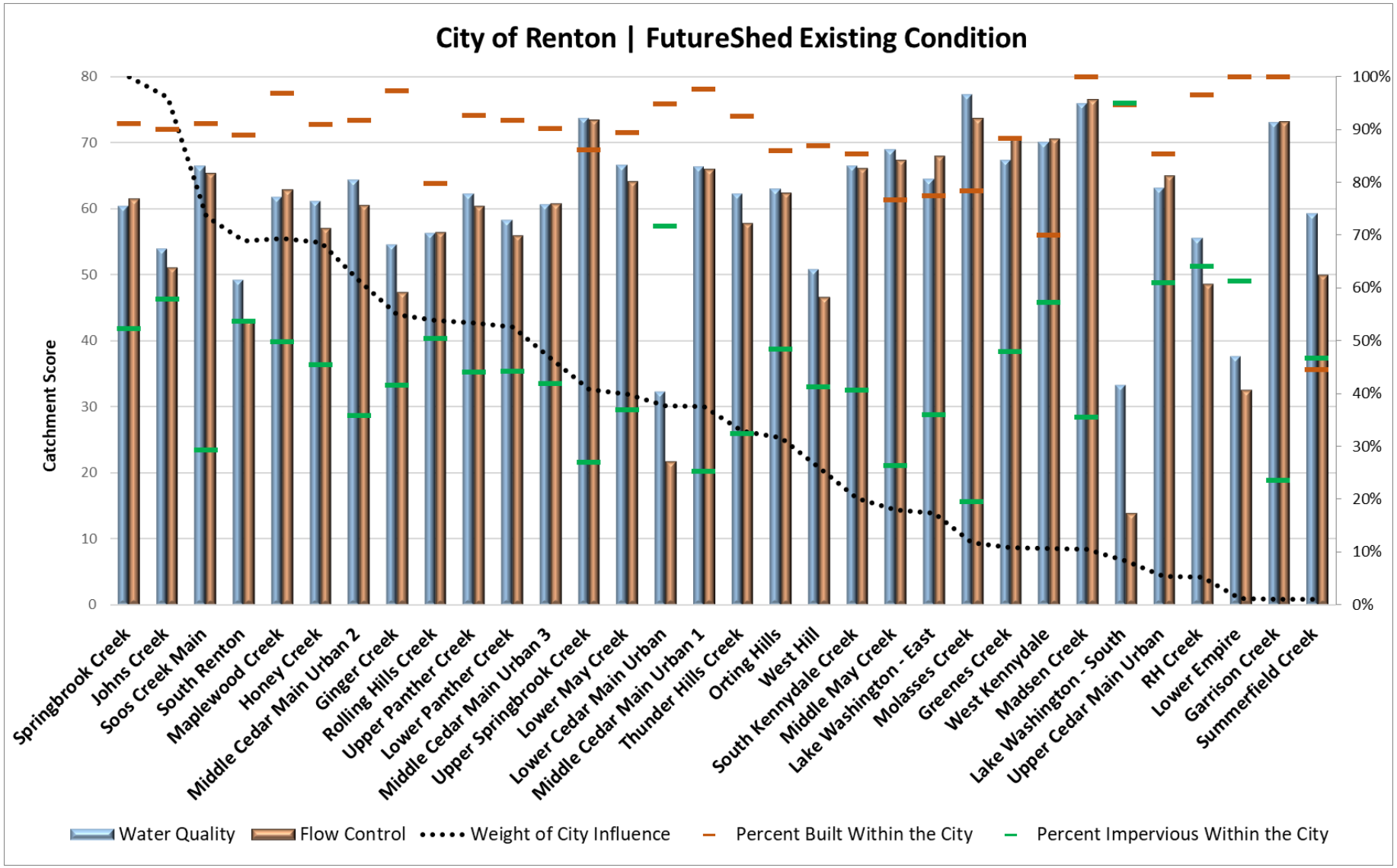



Figure 3. Renton FutureShed Existing Condition

FutureShed

**SCORING KEY**

| Expected Score | Need |
|---|---|
| 100 | High |
| 65 | ↕ |
| 30 | Low |

| Weight of Score | Impact |
|---|---|
| 100% | High |
| 50% | ↕ |
| 0% | Low |

| Percent Built | Density |
|---|---|
| 100% | High |
| 50% | ↕ |
| 0% | Low |

| Composite Score Change | Potential Influence to Receiving Water |
|---|---|
| 10 | Beneficial |
| 0 | ↕ |
| -10 | Detrimental |

| Catchment | Catchment Summary | | | | Existing Score | | | Future Scenarios - Change from Existing* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Percent of City* | Percent Impervious | Percent Built | Weight of City Influence | Water Quality | Flow Control | Composite | Vacant Build | Underdev Build | All Buildable | Road Retro | Forest Preserve |
| Springbrook Creek | 8.6% | 52% | 91% | 100% | 60 | 62 | 61 | 0 | 2 | 2 | 4 | 2 |
| Johns Creek | 8.2% | 58% | 90% | 96% | 54 | 51 | 52 | 1 | 1 | 2 | 8 | 0 |
| Soos Creek Main | 6.3% | 29% | 91% | 74% | 66 | 65 | 66 | 0 | 1 | 0 | 5 | 3 |
| South Renton | 5.9% | 54% | 89% | 69% | 49 | 43 | 46 | 2 | 3 | 4 | 7 | 2 |
| Maplewood Creek | 5.9% | 50% | 97% | 69% | 62 | 63 | 62 | 0 | 1 | 1 | 10 | 1 |
| Honey Creek | 5.9% | 45% | 91% | 69% | 61 | 57 | 59 | 0 | 1 | 0 | 8 | 4 |
| Middle Cedar Main Urban 2 | 5.3% | 36% | 92% | 61% | 64 | 60 | 62 | 0 | 1 | 1 | 4 | 4 |
| Ginger Creek | 4.7% | 42% | 97% | 55% | 54 | 47 | 51 | 0 | 0 | 0 | 9 | 0 |
| Rolling Hills Creek | 4.6% | 50% | 80% | 54% | 56 | 56 | 56 | 0 | 3 | 3 | 6 | 3 |
| Upper Panther Creek | 4.6% | 44% | 93% | 53% | 62 | 60 | 61 | 0 | 0 | 0 | 6 | 2 |
| Lower Panther Creek | 4.5% | 44% | 92% | 53% | 58 | 56 | 57 | 0 | 1 | 0 | 7 | 3 |
| Middle Cedar Main Urban 3 | 4.0% | 42% | 90% | 47% | 61 | 61 | 61 | 2 | 3 | 4 | 7 | 1 |
| Upper Springbrook Creek | 3.5% | 27% | 86% | 41% | 74 | 73 | 74 | 0 | 0 | 0 | 3 | 7 |
| Lower May Creek | 3.4% | 37% | 89% | 40% | 67 | 64 | 65 | 0 | 1 | 0 | 6 | 2 |
| Lower Cedar Main Urban | 3.2% | 72% | 95% | 38% | 32 | 22 | 27 | 2 | 2 | 3 | 12 | 1 |
| Middle Cedar Main Urban 1 | 3.2% | 25% | 98% | 37% | 66 | 66 | 66 | 2 | 2 | 2 | 7 | 2 |
| Thunder Hills Creek | 2.8% | 32% | 92% | 33% | 62 | 58 | 60 | 0 | -1 | -1 | 6 | 5 |

*Forecasted future changes represent score changes within each catchment. Therefore, for catchments occupying a the smallest areas of the city (i.e. less than 1%), the forecasted future changes within that small area may appear more extreme compared to other catchments.

Figure 4a. Renton FutureShed Future Forecast

FutureShed

**SCORING KEY**

| Expected Score | Need |
|---|---|
| 100 | High |
| 65 | ↕ |
| 30 | Low |

| Weight of Score | Impact |
|---|---|
| 100% | High |
| 50% | ↕ |
| 0% | Low |

| Percent Built | Density |
|---|---|
| 100% | High |
| 50% | ↕ |
| 0% | Low |

| Future Scenarios | |
|---|---|
| Composite Score Change | Potential Influence to Receiving Water |
| 10 | Beneficial |
| 0 | ↕ |
| -10 | Detrimental |

| Catchment | Catchment Summary | | | | Existing Score | | | Future Scenarios - Change from Existing* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Percent of City* | Percent Impervious | Percent Built | Weight of City Influence | Water Quality | Flow Control | Composite | Vacant Build | Underdev Build | All Buildable | Road Retro | Forest Preserve |
| Orting Hills | 2.7% | 48% | 86% | 32% | 63 | 62 | 63 | 1 | 2 | 2 | 8 | 3 |
| West Hill | 2.2% | 41% | 87% | 26% | 51 | 47 | 49 | 0 | 0 | 0 | 7 | 4 |
| South Kennydale Creek | 1.7% | 41% | 85% | 20% | 66 | 66 | 66 | 0 | 0 | 0 | 5 | 3 |
| Middle May Creek | 1.5% | 26% | 77% | 18% | 69 | 67 | 68 | 0 | -1 | -1 | 6 | 14 |
| Lake Washington - East | 1.5% | 36% | 77% | 17% | 64 | 68 | 66 | 0 | 1 | 0 | 4 | 11 |
| Molasses Creek | 1.0% | 20% | 78% | 12% | 77 | 74 | 75 | -5 | 0 | -5 | 4 | 22 |
| Greenes Creek | 0.9% | 48% | 88% | 11% | 67 | 71 | 69 | 3 | 0 | 2 | 7 | 4 |
| West Kennydale | 0.9% | 57% | 70% | 11% | 70 | 71 | 70 | 0 | 0 | -1 | 4 | 0 |
| Madsen Creek | 0.9% | 36% | 100% | 11% | 76 | 77 | 76 | 0 | 0 | 0 | 1 | 0 |
| Lake Washington - South | 0.7% | 95% | 95% | 8% | 33 | 14 | 24 | 0 | 0 | 0 | 0 | 0 |
| Upper Cedar Main Urban | 0.5% | 61% | 85% | 5% | 63 | 65 | 64 | 0 | 3 | 4 | 4 | 0 |
| RH Creek | 0.4% | 64% | 96% | 5% | 55 | 49 | 52 | 1 | 2 | 2 | 10 | 1 |
| Lower Empire | 0.1% | 61% | 100% | 1% | 38 | 32 | 35 | 0 | 0 | 0 | 2 | 0 |
| Garrison Creek | 0.1% | 24% | 100% | 1% | 73 | 73 | 73 | 0 | 0 | 0 | 4 | 0 |
| Summerfield Creek | 0.1% | 47% | 45% | 1% | 59 | 50 | 55 | 0 | 11 | 11 | 5 | 10 |
| **Total** | **100%** | **45%** | **90%** | **100%** | **60** | **58** | **59** | **0** | **1** | **1** | **7** | **3** |

*Forecasted future changes represent score changes within each catchment. Therefore, for catchments occupying a the smallest areas of the city (i.e. less than 1%), the forecasted future changes within that small area may appear more extreme compared to other catchments.

Figure 4b. Renton FutureShed Future Forecast

## FINAL PRIORITIZATION

The final prioritization analysis is based on professional judgement and considers factors that the City wishes to review separately from or in addition to the FutureShed scoring; along with Permit requirements and considerations outline in the SMAP Guide. Through review of the results of the preliminary prioritization combined with the factors described below, the Interdisciplinary Team evaluated City protection and restoration goals for each candidate catchment. Consideration of these factors will also continue through selection of stormwater management actions in the next phase of the SMAP process, as applicable.

### Ranking Factors

- Receiving Water Quality: Water quality information gathered as part of the receiving water assessment was reviewed to consider the quality of water downstream from a catchment area. Information considered previously includes physiochemical and biological data, as well as whether a receiving water has been listed on the 303(d) list for an impairment. Catchment areas with receiving waters showing low to moderate levels of impairment were considered for higher priority. These receiving waters are expected to benefit more quickly as a result of stormwater management actions. In addition, receiving waters with Benthic Index of Biotic Integrity (B-IBI) impairments due to hydrologic conditions were considered for higher priority. Catchment areas with an impaired receiving water with current or future TMDL requirements would be given lower priority, or (as stated in the SMAP Guide) scientific justification and modeling documentation would need to be provided showing how additional investments would go above and beyond the current/expected TMDL requirements.
- Identified Improvement Projects: Catchment areas where regional rehabilitation efforts (such as salmon recovery plans, Superfund cleanups, or Endangered Species Act listings) are focused or receiving waters have been identified as important were considered for higher priority.
- Other Department Planning: City-wide and project specific plans from other departments were considered. For example, development pressures are often related to the effects of transportation planning and can impact the watershed's condition. Average daily traffic data and traffic counts were used to qualitatively compare and identify catchments that could benefit from targeted retrofit actions. Another example of interdepartmental planning may include coordination with parks and open space planning.
- Public Health and the Environment: Environmental and socioeconomic stressors may act cumulatively to affect health and the environment and contribute to persistent environmental health disparities (leading to overburdened communities), as discussed previously in the City's receiving water assessment. The environmental justice and opportunity scoring was considered as part of the priority basin selection. Catchment areas with overburdened communities where water quality issues and human health impacts and intermingled and have potential for some improvement through stormwater management may be given higher priority.
- Critical Areas: These areas include wetlands, ecological buffers, and floodplains relative to delineated catchment areas. These natural features are beneficial for stormwater management and are identified for conservation purposes. Wetlands and floodplains can provide storage areas for stormwater thereby slowing runoff and reducing flooding downstream. Ecological buffers are designated zones around sensitive areas that aim to lessen the impacts of disturbances downstream by slowing runoff and intercepting pollutants. The amount and type of critical areas downstream or within a catchment area were considered in prioritization, especially with regard for opportunities to improve riparian vegetation and protect or improve wetlands.

- Public Input: Public comments recorded through the online survey were considered during the prioritization, as applicable. Further discussion regarding public input is summarized in the Public Input and Outreach Section Below.
- Other Qualitative Factors: Additional factors to be considered could include political support and public perception of stormwater management in a particular catchment area, long-range comprehensive plans, and other project or action opportunities and constraints.

Additional screening factors considered at a planning level during the review of action feasibility are listed below; but these factors will also be considered in more detail during the final development of the Stormwater Management Action Plan:

- Physical Geography: Physical geography provides information on how water travels throughout a catchment area before reaching a receiving water. Soils play an important role in determining how much water can be infiltrated before runoff occurs. Runoff can amplify the effects of erosion and pick up sediment and pollutants. Untreated runoff will deposit any sediment or pollutants into receiving waters downstream. Physical geography within a catchment area can be restrictive regarding the types of stormwater management practices that can be implemented and may be important for consideration.
- Cultural Resources: The five step Cultural Resources Review process defined by the Department of Ecology (Ecology 2021) may be considered. To do so, the City could complete a cultural resource review form and also submit an inadvertent discovery plan (IDP) to Ecology for projects that would involve or could result in ground disturbance. Projects that involve ground disturbance, such as stormwater facility retrofits, are likely to be included in the SMAP. The City would coordinate with Ecology, tribes, Department of Archaeology and Historic Preservation and other stakeholders to prioritize ground disturbing projects.

## Public Input and Outreach

The public outreach process is intended to engage as many interested parties as possible. Key stakeholders include community non-profit organizations, cultural centers, and environmental stewardship groups. The City is providing a story map as an online education and outreach interface for the stakeholders to learn about the SMAP process and to provide feedback. The story map aims to present high-level summaries of the SMAP process, and information presented will be updated as the SMAP process continues.

A public survey has been presented in the story map. For this survey two variables were identified: water quality and equity. The results of the survey indicated that survey participants are more interested in water quality. The survey results and comments received through the story map are likely not representative of all stakeholders and City residents' opinions, and act only as a snapshot into the priorities of the people that participated. Survey results are included as Attachment A.

Public comments recorded through the online survey are also considered during the prioritization, as applicable. Applicable comments that are received after the publication date on this memo will be addressed by the City and incorporated into the final prioritization. Comments that pertain to future potential actions by the City will be recorded for future reference.

Public comments received thus far included the following topics:

- Concerns over new development and land use changes
- Support to increase stormwater-related maintenance
- Support to address pollutant sources, like vehicles
- Concerns over runoff pollution into streams and rivers

- Concern over community safety in areas of significant vegetation growth
- Desire for more wetland and native growth area protection
- Desire for more public education

## SELECTED PRIORITY CATCHMENTS

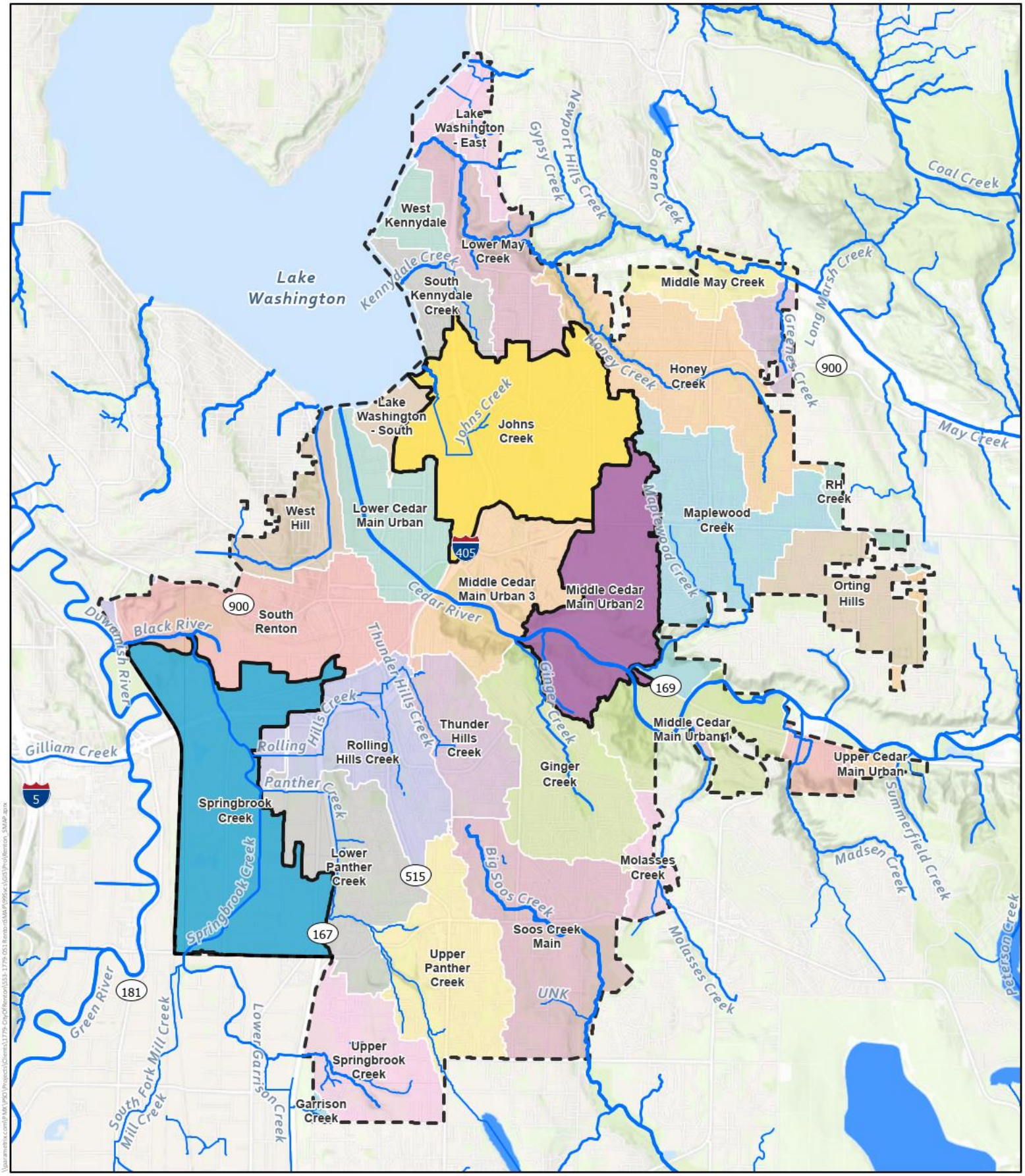
During the final prioritization, the Interdisciplinary Team evaluated the catchments based on the factors listed above in combinations decided upon by the team. The summarized results of the preliminary screening are summarized in Figure 4.

For catchment areas highly ranked through the prioritization process, the City began to evaluate the relative level of investment needed to meet water quality goals using the three strategic SMAP elements: stormwater facility retrofits, customized SWMP actions, and land or development management actions. Based on these considerations, the City selected 3 catchments in which to begin identification of candidate stormwater management actions. The final selection of a high priority catchment for SMAP development will be based on and completed in the final phase of the SMAP process, as described below.

The following basins were selected as priority catchment areas and will move on to the final prioritization:

- Springbrook Creek
- Johns Creek
- Middle Cedar Main Urban 2

The priority catchments are shown in Figure 5 and relevant details regarding these catchments are presented in Table 4.




Date: 6/17/2022
Sources: City of Renton, King County, WA Ecology, WA DNR, USGS, ESRI
Disclaimer: The data on this map reflects planning-level accuracy and may not represent exact conditions in all locations. The City assumes no liability to third parties for the data or lack thereof, or any decisions made or action not taken in reliance upon any of the data.

Stream
Renton City Limits

Priority Catchments
Johns Creek
Middle Cedar Main Urban 2
Springbrook Creek

0 1,500 3,000 6,000
Feet

Figure 5 - Priority Catchments
Renton SMAP
Receiving Water Prioritization

Renton, WA

**Table 4. Selected Priority Catchments**

| Catch-ment | FutureShed Results [1] | | Water Quality | Environmental Justice (Top 10 City block groups) [2,3,4] | Public Feedback | Additional Considerations |
|---|---|---|---|---|---|---|
| | Score | Weight | | | | |
| Springbrook Creek | 59 | 100% | **303(d)Listings**<br>• Bacteria<br>• Bioassessment<br>• Dissolved Oxygen<br>**Water Quality Index:**<br>• High Concern<br>**B-IBI Score:**<br>• 2 Very Poor | **Demographics**<br>• Low Income Population<br>**Environmental Hazards**<br>• Lead Paint Indicator<br>• Traffic Volume<br>• Proximity to TSDFs<br>• Direct Discharges | • Ongoing and frequent interest/attention from special interest groups to purchase land for preservation and restoration.<br>• Environmental groups actively engage with the City on issues in this basin.<br>• Public comments specifically naming Springbrook Creek Trail | • A current TMDL exists for the receiving water<br>• Potential critical areas opportunities, especially to increase riparian vegetation and improve wetlands<br>• Fish Passage projects going on in the basin provide an opportunity to build on existing momentum<br>• Upper Springbrook is an ideal spawning area, but Lower Springbrook is badly silted because of flat topography, low velocity, and culvert contractions. An exception is the Oakesdale Ave SW 4-culvert system that maintains higher flows, but this system may also pose flood risk due to debris accumulation after high-flow events.<br>• Potential IDDE to storm system from mobile encampments<br>• Project S19 identified in Surface Water Utility System Plan: Green River Ecosystem Restoration Projects<br>• Priority 1 Flooding Project: SW 43rd St/Lind Ave SW Storm System Improvements<br>• Former Boeing Facility (Long acres) is being redeveloped by the Sounders<br>• Ongoing projects around 405<br>• Proposed Amazon Flex facility is expected to increase traffic volumes, City is expecting increased negative impacts due to increased pollutant generation<br>• City has currently open drainage complaint(s) in this area. |

**Table 4. Selected Priority Catchments (continued)**

| Catch-ment | FutureShed Results [1] Score | FutureShed Results [1] Weight | Water Quality | Environmental Justice (Top 10 City block groups) [2,3,4] | Public Feedback | Additional Considerations |
|---|---|---|---|---|---|---|
| Johns Creek | 55 | 95% | **303(d)Listings**<br>• Bacteria<br>• Dissolved Oxygen<br>• Temperature | **Demographics**<br>• Low Income Population<br>**Environmental Hazards**<br>• Lead Paint Indicator<br>• Traffic Volume<br>• Proximity to NPL Sites | • Public comments received concerning water quality near Boat Launch area at Gene Coulon Park | • Surface Water Utility System Plan habitat projects:<br>- W803 Jefferson Ave NE Green Connection Project<br>- C264 WRIA 8 ID 264 Enhance Mouth and Lower Johns Creek (LW-S1-1)<br>- C270 WRIA 8 ID C270 Explore opportunities to restore small creek mouths<br>• Former Frye's building being converted into mixed-use project<br>• WWII era housing being redeveloped into townhomes<br>• TOD (transit-oriented design) projects planned<br>• Tax Increment Financing (TIF) Area<br>• Closures of Gene Coulon Swimming Area impact the public (elevated fecal)<br>• Previous collaborations through Harrington and the new Sunset Park LID Incorporations have been very beneficial for City and residents. |
| Middle Cedar Main Urban 2 | 62 | 61% | **303(d)Listings**<br>• Bioassessment<br>• Dissolved Oxygen<br>• pH<br>• Temperature<br>**B-IBI Score:**<br>• 1 Good | **Demographics**<br>• Minority Population<br>• Low Income Population<br>**Environmental Hazards**<br>• Lead Paint Indicator<br>• Proximity to NPL Sites | • The public takes a lot of pride in the Salmon spawning up the Cedar River<br>• Citizen groups historically have expressed concern with drainage coming off the plateau into the wetland and lake | • Potential critical areas opportunities, especially to increase riparian vegetation and improve wetlands.<br>• Priority 1 Flooding Project: Monroe Ave NE and NE 2nd St – water quality treatment and infiltration<br>• Cedar River Salmon Journey viewing site<br>• The Cedar River has an existing salmon run and King County has been performing multiple projects upstream of the City limits to reduce flood risk and enhance spawning channels. |

1. The scores are in a range of 0 (low, restoration candidate) to 100 (high, preservation candidate). Score in table above is a composite average of the FutureShed model water quality treatment and flow control scores for existing conditions. The weights of the scores reflect the City area occupied by the given catchment divided by the largest City area occupied by any of the catchments.
2. Environmental Hazards were summarized in this table for selected indicators by identifying the presence of top block groups with the greatest risk of exposure. Environmental Hazards considered as part of the prioritization include lead paint; diesel particulate matter; air toxics; traffic volume; direct discharges; proximity to treatment, storage, and disposal facilities (TSDFs); proximity to National Priorities List (NPL) sites; proximity to Risk Management Plan (RMP) facilities; ozone level; and PM2.5 level. TSDFs are sites that manage hazardous waste. NPL identifies the nation's highest priorities for hazardous waste cleanup.
3. Demographics were summarized in this table for selected indicators by identifying the presence of the top block groups with the highest levels of socioeconomic burden. Demographics considered as part of the prioritization include minority population, low-income population, level of education, linguistic isolation, and age population.
4. The summary of selected demographic and environmental indicators was based on an analysis of the top 10 block groups out of the 74 total block groups within or partially within the City of Renton boundary.

## NEXT STEPS

In the third and final phase of the SMAP process, the Stormwater Management Action Plan, the City will identify stormwater management actions for the high priority catchment areas. The stormwater management actions may consist of facility retrofits, land management and development strategies to benefit water quality, and targeted and enhanced implementation of practices already part of the City's Permit compliance program. In identifying stormwater management actions, the City will consider the following questions (see SMAP Guide for additional background):

- What combination of additional stormwater management actions will most effectively reduce current and future loadings?
- Are substantial non-stormwater management actions needed to address the impairment?

The City will then select from the 3 catchments to identify where the most feasible actions could be implemented to identify the City's SMAP high-priority catchment.

## REFERENCES

City of Renton 2022. Stormwater Management Action Plan (SMAP) Receiving Water Assessment. Prepared for the City of Renton by Parametrix. March 2022.

Commerce (Washington State Department of Commerce). 2016. Building Cities in the Rain – Watershed Prioritization for Stormwater Retrofits. Publication Number 006. September 2016.

Ecology. 2019a. National Pollutant Discharge Elimination System Western Washington Phase II Municipal Stormwater Permit. https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Municipal-stormwater-general-permits/Western-Washington-Phase-II-Municipal-Stormwater.

Ecology. 2019b. Stormwater Management Action Planning Guidance. Publication. 19-10-010. Available at: https://apps.ecology.wa.gov/publications/documents/1910010.pdf.

# Attachment A

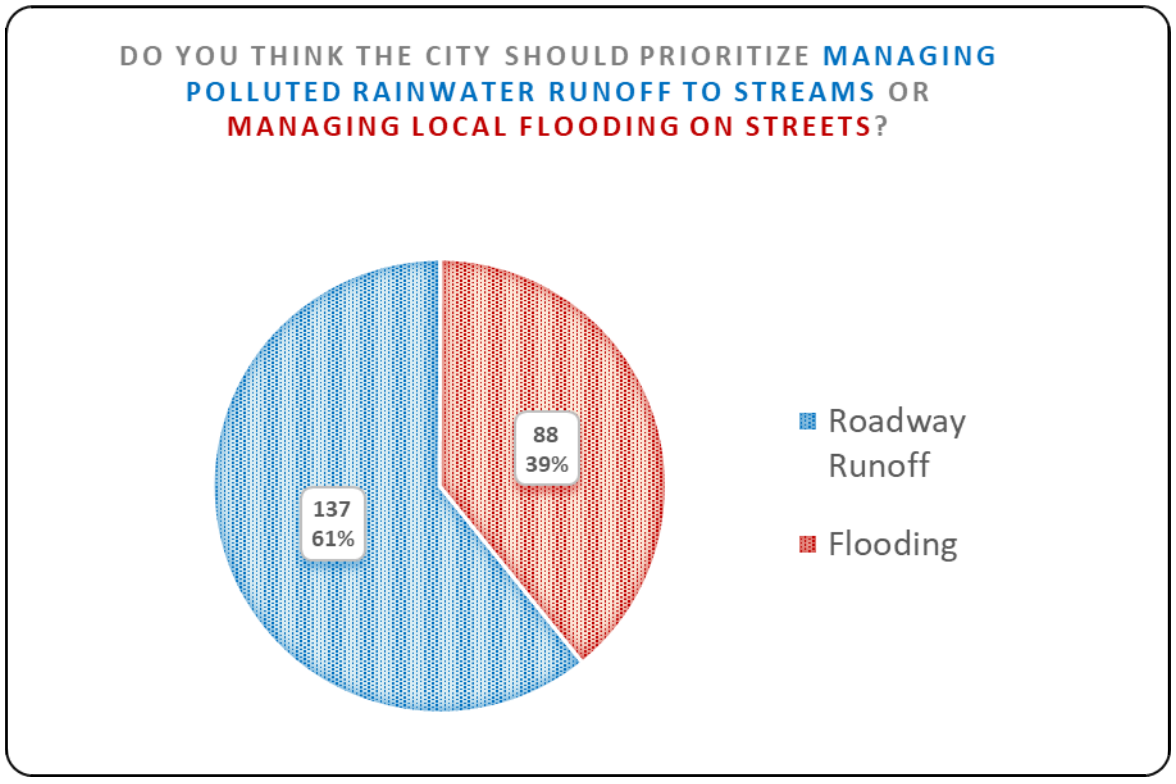
## Public Input Survey Results

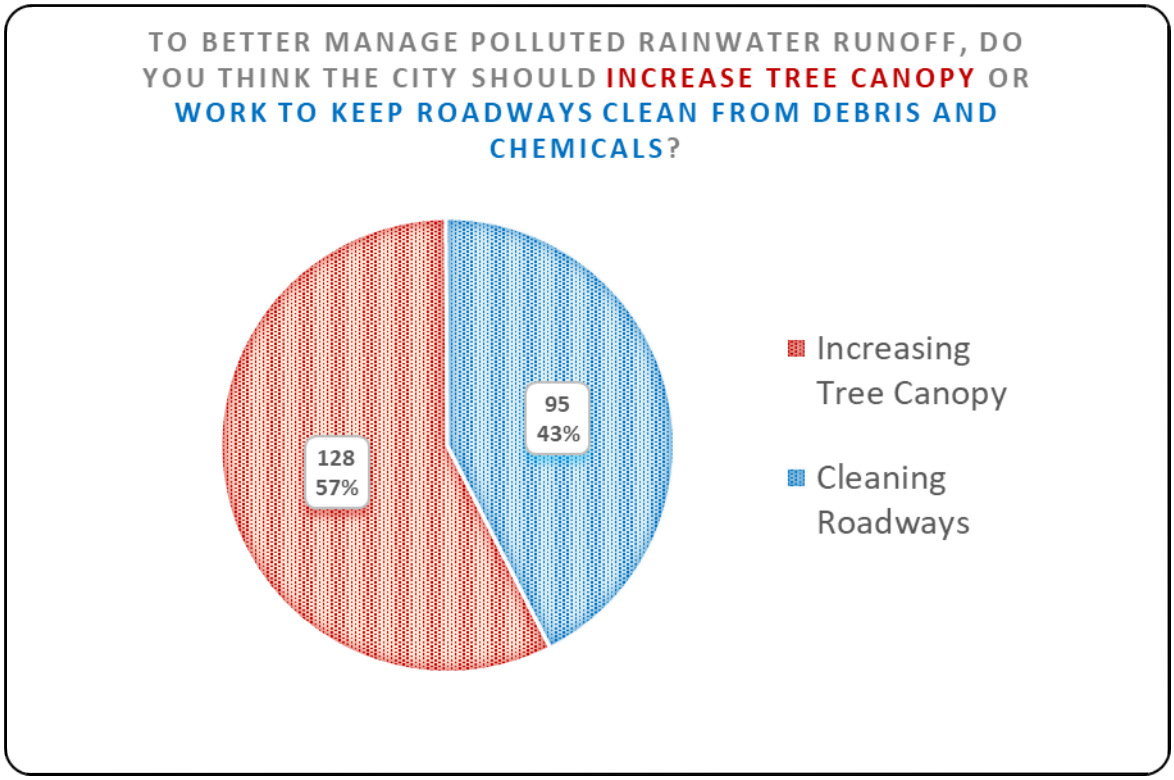
# ATTACHMENT A - PUBLIC INPUT SURVEY RESULTS

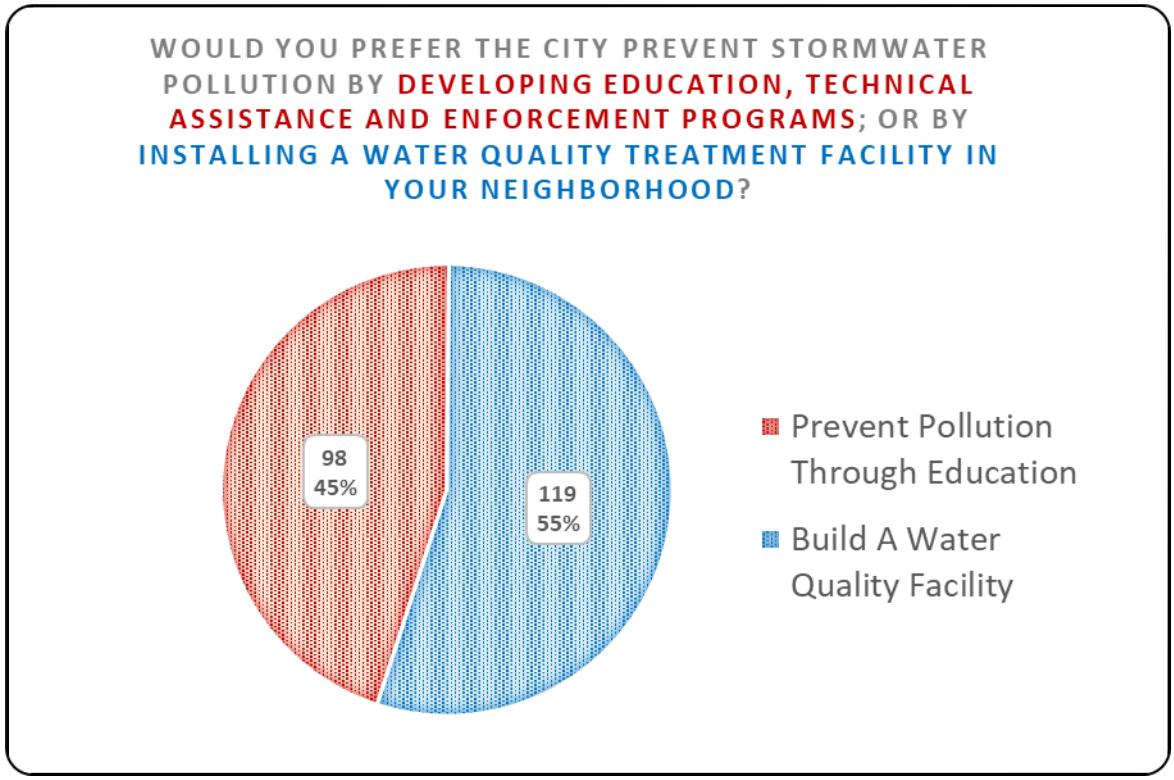
The goal of the survey is to solicit feedback on the public opinion of the priorities identified in SMAP guidance. Three questions were presented in the survey that asked the public to compare the priorities of two options. The technique is known as a pairwise comparison and is effective to understand an individual's weighting of any given variable and potentially identify what tradeoffs may be acceptable (Caritat and Condorcet 1785). The City developed a fourth question to directly gauge whether the public would prefer to prioritize restoration or protection goals. For this survey two pairwise variables were identified:

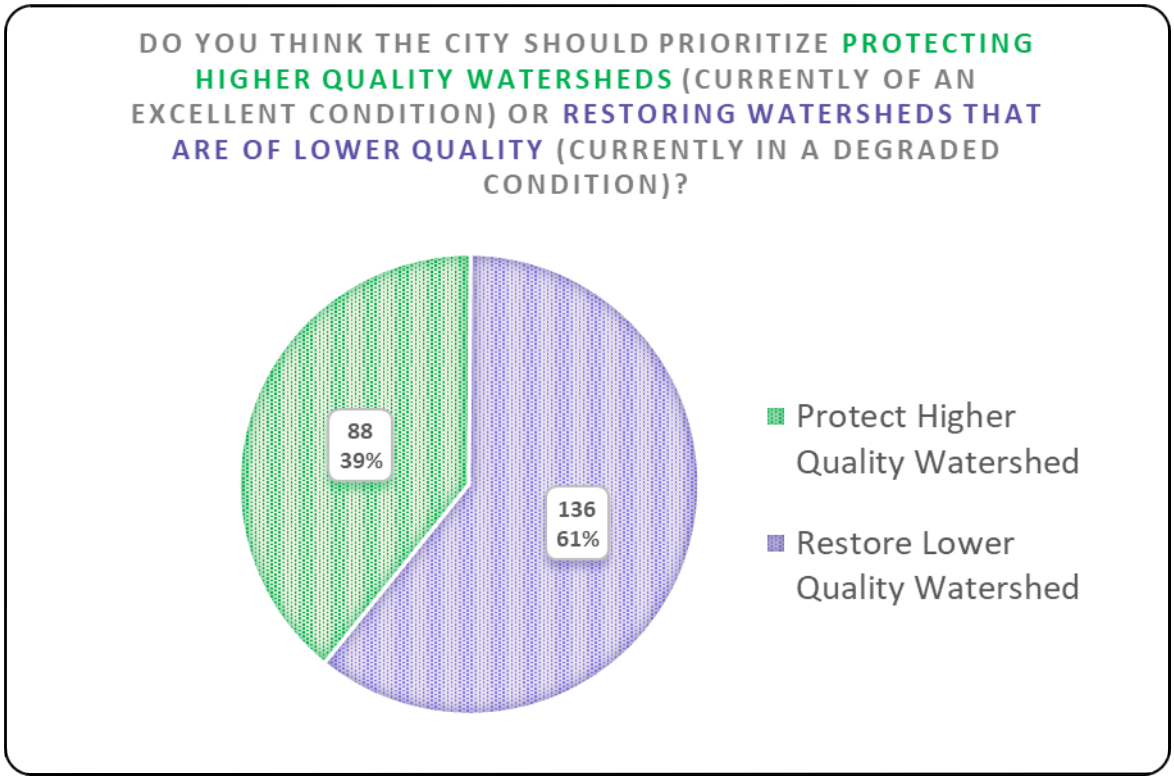
1. Water quality (polluted runoff, clean roadways, treatment facility)
2. Equity (flooding, tree canopy, education)

The results of the survey questions, with the number and percentage of participants that selected each answer, are included below. The survey results are likely not representative of all stakeholders and City residents' opinions, and acts only as a snapshot into the priorities of the people that participated.




TO BETTER MANAGE POLLUTED RAINWATER RUNOFF, DO YOU THINK THE CITY SHOULD INCREASE TREE CANOPY OR WORK TO KEEP ROADWAYS CLEAN FROM DEBRIS AND CHEMICALS?
128
57%
95
43%
Increasing Tree Canopy
Cleaning Roadways


WOULD YOU PREFER THE CITY PREVENT STORMWATER POLLUTION BY DEVELOPING EDUCATION, TECHNICAL ASSISTANCE AND ENFORCEMENT PROGRAMS; OR BY INSTALLING A WATER QUALITY TREATMENT FACILITY IN YOUR NEIGHBORHOOD?
98
45%
119
55%
Prevent Pollution Through Education
Build A Water Quality Facility




## REFERENCE

Marie Jean Antoine Nicolas Caritat, Marquis de Condorcet 1785. Essay on the Application of Analysis to the Probability of Majority Decisions