CITY OF
BAINBRIDGE ISLAND

CLIMATE CHANGE
ADVISORY COMMITTEE
REGULAR MEETING
WEDNESDAY, SEPTEMBER 15, 2021
5:30 – 7:30 PM
ZOOM MEETING

THE CLIMATE CHANGE ADVISORY COMMITTEE WILL HOLD THIS MEETING USING A VIRTUAL, ZOOM WEBINAR, PER GOVERNOR INSLEE'S "STAY HOME, STAY HEALTHY" ORDERS

MEMBERS OF THE PUBLIC WILL BE ABLE TO CALL IN TO THE ZOOM MEETING.

PLEASE CLICK THE LINK BELOW TO JOIN THE WEBINAR:
HTTPS://BAINBRIDGEWA.ZOOM.US/J/91390380790
OR TELEPHONE: 1 253 215 8782
WEBINAR ID: 913 9038 0790

AGENDA

5:30 CALL MEETING TO ORDER/ROLL CALL/ACCEPT OF MODIFY AGENDA/CONFLICT OF INTEREST DISCLOSURE

5:35 APPROVE JULY 28TH MINUTES

5:40 PUBLIC COMMENT

5:45 REVIEW AND RECOMMENDATIONS TO COUNCIL ON POSSIBLE COBI AMERICAN RESCUE PLAN PROJECTS (ELLEN SCHROER - ATTACHMENT)

6:30 PRESENTATION AND DISCUSSION OF GROUNDWATER MANAGEMENT PLAN (MAUREEN WHALEN - ATTACHMENT)

7:00 PRESENTATION AND DISCUSSION ON PROPOSED UW CAPSTONE PROJECT (JACKIE SHAFF - ATTACHMENTS)

7:20 UPDATES ON CLIMATE ACTION PLAN
- CLIMATE CHANGE OFFICER (ELLEN SCHROER)
- ROAD MAPS FOR EV INFRASTRUCTURE AND PROHIBITION ON COMBUSTIBLE FUELS (STEVE RICHARD)
- REAC/CCAC SUBGROUP (LARA HANSON/JULIE MATTHEWS/JOHN KYDD)
- SUSTAINABLE TRANSPORTATION TASK FORCE – GHG METRICS (DERIK BROEKHOFF)

7:30 ADJOURN

MATERIALS
1. JULY MINUTES
2. COBI AMERICAN RESCUE PLAN FUNDING PROJECTS
3. GROUND WATER MANAGEMENT PLAN PRESENTATION
4. CRITERIA FOR PRIORITIZING CAP ACTION
5. UW CAPSTONE PROPOSAL
6. UW CAPSTONE PRESENTATION
7. UW CAPSTONE FLYER

Climate Change Advisory Committee Minutes
July 28, 2021

Present: Committee members Michael Cox, Steve Richard, Deborah Rudnick, David McCaughey, Jens Boemer, Derik Broekhoff, John Kydd

Council Liaison: Joe Deets

City staff: Ellen Schroer (welcome back as staff liaison), Mark Epstein, Peter Best

Additional attendees:

Call meeting to Order: 5:31 pm

Conflict of Interest: none

Approve June 16 minutes – correct location of Steve's previous residence to Lafayette CA

Public Comment: none

- Update on STFF and Senior Center, Mark Epstein-
    - Senior Center update: interior renovation selected as pilot project to run through the CC Adaptation Checklist. Will be removing some walls, adding insulation, lighting upgrades and more natural lighting, and new flooring throughout much of building. Ellen to send around Checklist to members. Preliminary discussions on efficiencies with LEDs, light quality, appliance efficiency. Could be additions to the solar capacity in future work. David suggested the portfolio manager tool for energy assessment to help with assessing conservation gains. David will share that link to committee and Mark.
    - Sustainable Transportation Plan: Mark shared slides of timeline and noted they are currently scoring projects under evaluation. Walking, biking, and transit are the major approaches to reducing VMT in SOVs. Scoring options using a number of evaluation criteria including climate action, natural systems, safety and comfort, equity, and accessibility, connected and convenient. Group discussed that we currently have inventory data for VMT that is downscaled from county, and City may need to do an add-on service for their consultant to develop performance measures and/or additional possible solutions such as opt-in community carbon footprint tracking. Derik and John agreed to speak with Mark further.

- SMP/SLR Grant – Peter Best presented possible grant opportunity from Ecology that includes opportunity to work on issues including vulnerability assessments from SLR. The grant could be a great opportunity to bring resources in to help with the ongoing SLR and SMP planning that City is currently working on and the priorities of the CAP.

Possible focus on adaptation policies and risk tolerance, and jurisdictional options, to start pilot projects such as a neighborhood-based planning process and community workshops. A key question would be what the best data sets are to use for a refined SLR analysis. Peter shared some of the graphics around the SLR work they have done so far based on climate impacts group data and models and discussed the context of this work in terms of moving explicit integration of SLR into the SMP. Deb, David, Mike volunteered, Mike volunteered Lara ☺ to review the draft proposal.

- Election of Officers: Deb approved as secretary for coming year, David moved, and Jens seconded, all approved. Steve nominated David, Derik Seconded all approved. Deb nominated Mike as vice chair, David nominates Jens declined and David withdrew, Derik seconded and all approved Mike as Vice Chair.

CAP Updates:

- Updates on climate action plan leads: Discussed the leads for the different actions and people were to get back to Mike with any corrections.
- Climate Officer: Ellen Schroer indicated they have narrowed down the candidates to 10 people and will start interviewing the week of August 10th with the goal of hiring someone by early September.
- PSE Franchise: Ellen Schroer indicated the City Manager is currently reviewing the draft PSE Franchise Agreement.
- GHG Inventory: Will discuss at the next CCAC meeting in September.
- Climate Equity with REAC: Mike indicated he had talked with a REAC member, and they will get back to us when they are prepared to talk with moving forward with the discussion. John Kydd indicated he is reaching out to the REAC and will report back at the next meeting.
- City Council Liaisons: Joe Deets discussed the Council deliberations on not having Council liaisons for citizen committees. He indicated they will discuss further at a future City Council meeting.
- Biodigester: Decided to set up subcommittee to develop plan for moving ahead Subcommittee would be comprised of David, Deb, Steve, and either Mike or Julie.
- Outreach: Discussed working with COBI Communication Director and others on Community engagement. Formed a subgroup consisting of Steve, John, and Mike to provide ideas on specific tasks. Will share at next CCAC meeting.

Adjourned at 7:35 pm.

Co-Chair Date

CITY OF BAINBRIDGE ISLAND

MEMORANDUM

Date: September 1, 2021

To: Climate Change Advisory Committee, Environmental Technical Advisory Committee, Race Equity Advisory Committee, Sustainable Transportation Task Force, Utility Advisory Committee

From: Blair King, City Manager

Subject: Request for review and comment – ARPA Project List

Summary and Request for Feedback:
At the City Council meeting on August 24, Council and staff discussed priorities for use of funding the City will receive through the federal American Rescue Plan Act (ARPA). As you may know, the City will receive roughly $7.0 million over the next two years, with a wide but not unlimited range of eligible uses. The Council reviewed a list of projects and has identified 12 projects and purposes for additional consideration.

At your next meeting, we'd appreciate your committee's review of the attached project list. Please provide feedback on the use of the funding for the projects or purposes shown. For example, it would be helpful for you to indicate which of the projects you feel should receive the most ARPA funding, or if there are any that you would recommend not receive further consideration, and why.

Timing:
The Council is planning further deliberation and a decision of which projects to fund on September 28. Staff will include committee feedback received by September 22 in the Council agenda materials for the September 28 discussion.

Background:
On June 15, 2021, the City Council received news that the City of Bainbridge Island would receive $7.061 million from the $1.9 trillion American Rescue Plan Act (ARPA). The Council was informed that these funds would be restricted to certain types of programs or expenditures and be subject to time limits. Specifically, funds need to be obligated by December 31, 2024 and expended by December 31, 2026.

As a result of the presentation the City Council in June, the Council adopted principles to guide the expenditure of ARPA funds and directed the City Manager to present specific project, programs, or opportunities consistent with the principles adopted by the City Council. The principles approved in June include A – E below, with F added in accordance with additional Council guidance.

A. Acknowledge that ARPA funds are one-time monies and should be spent in such a way to avoid reoccurring cost
B. To the extent practicable, funds should be spent to achieve long-lasting benefits and results - (e.g., 50-year time horizon)
C. Activities or projects that promote fiscal and environmental sustainability will receive priority consideration
D. Activities or projects must be completed within the expenditure deadline requirements of ARPA (funds must be committed by the end of 2024; expended by the end of 2026)
E. Activities or projects that would not be able to be accomplished "except for" one-time impact sums will receive priority consideration
F. Leverage other funds

These guiding principles are in addition to the federal eligibility regulations, available HERE and summarized below:

1. Support public health response/economic support
2. Premium pay for essential workers
3. Revenue replacement (capped at roughly $2 million)
4. Investments in water, sewer and stormwater infrastructure

A list of potential projects generated by the community and staff was presented to the City Council. The City Council reviewed the information and selected a short list of projects and purposes for further review.

Staff is ready to support the City Council, advisory groups and the community through this important review.

Attachment: ARPA Project Identification memorandum to City advisory groups

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ARPA Funding Discussion – Project Guidance and Options

City-Identified Parameters from June 15 Council Presentation

A. Acknowledge that ARPA funds are one-time monies and should be spent in such a way to avoid reoccurring cost
B. To the extent practicable, funds should be spent to achieve long-lasting benefits and results - (e.g., 50-year time horizon)
C. Activities or projects that promote fiscal and environmental sustainability will receive priority consideration
D. Activities or projects must be completed within the expenditure deadline requirements of ARPA (committed by the end of 2024; expended by the end of 2026)
E. Activities or projects that would not be able to be accomplished "except for" one-time impact sums will receive priority consideration

Additional Considerations

F. Leverage other funds

ARPA Category

1. Support public health response/economic support
2. Premium pay for essential workers
3. Revenue replacement (capped at roughly $2 million)
4. Investments in water, sewer and stormwater infrastructure

Project Table

List developed by Council on initial review August 24. Staff has provided additional comments and is seeking input from City Advisory Groups ahead of the next Council discussion on September 28.

Shading:

- Green shading means that projects meet 5 or 6 of the criteria identified in June and are ARPA-eligible
- Yellow shading means that projects meet 3 or 4 of the criteria identified in June and are ARPA-eligible

Projects Identified for Additional Consideration

Project Name	ARPA Information	Parameters/Notes	Additional information
Water			
Water System Climate Resiliency Upgrades	Infrastructure $1 M	• A, B, C, D, E, F • Design 2022-24; Build 2024-25 • No funding sources are currently identified for these projects, however, leveraged funding from the Water Utility is anticipated.	These projects were developed to ensure that the City's water system can function during greater changes in temperature. The project proposals include redundancy (having more than one piece of equipment or facility in case one of them goes down) and other upgrades to protect equipment during extreme heat. This project proposal includes: • Well site building ventilation upgrades; • Purchase spare, mobile, well pump(s); • Drill new back-up well and install new booster pumps at two well-site locations.
Winslow Water Tank Replacement	Infrastructure $1.5 - $ 2.5 M	• A, B, C, D, F • Design 2022-24; Build 2024-26 • Part of funding for large project. PWTF loan secured. • Replacement of critical infrastructure, including seismic protection	This project meets the Council-articulated priority of climate resilience. It also supports equity in its service to the island-wide public schools, public library, diverse socio-economic neighborhoods and the downtown business district.

Project Name	ARPA Information	Parameters/Notes	Additional information
Sewer			
Wastewater Beneficial Re-use	Infrastructure $TBD	• B, C, E • Undetermined schedule • No funding sources are currently identified for these projects.	The scope of this project is currently undetermined, but could include: • Tertiary treatment; • Groundwater recharge for aquifer or streamflow restoration; • Re-use as irrigation. Preliminary evaluation and design are likely feasible within the required timeframe for the use of funds. Total project costs could exceed $20M, and would require temporary project management staff, and additional operations and maintenance staff positions.
Wastewater Treatment Plant Near-term Capacity Upgrades	Infrastructure $700k	• A, B, C, D, E, F • Design 2022-23; Build 2024 • Regulatory requirement • No funding sources are currently identified for these projects, however, leveraged funding from the Sewer Utility is anticipated.	Project includes mandatory, short-term capacity upgrades. Longer term upgrades will also be required but are outside the required timeframe for the use of funds.

Project Name	ARPA Information	Parameters/Notes	Additional information
SSWM/ Groundwater			
McDonald Creek Culvert/ Springbrook Creek mitigation at High School Road and Fletcher Bay Road	Infrastructure $1.5 M	• A, B, C, D, E, F • Design 2022-23; Build 2024-25 • No funding sources are currently identified for the mitigation efforts, however, leveraged funding from the Storm and Surface Water Utility is identified in the City's Capital Improvement Plan.	The McDonald Creek project is the replacement of a deep culvert under Eagle Harbor Drive near McDonald Ave. The project is at 90% design. The funds identified for this project would support environmental enhancements/mitigation required for permitting that would allow the McDonald Creek project to move forward. The enhancement/mitigation would physically be located near the intersection of High School Road and Fletcher Bay Road, where a separate City project, the replacement of failing culverts, would also benefit from the investment. See attached project page from the Adopted 2021-2026 CIP.
Springbrook Fish Passage on Fletcher Bay Road west of New Brooklyn Road	Infrastructure $1.5 M	• A, B, C, D, E, F • Design 2022-23; Build 2023-24 • Funding is secured for design. No currently secured funding for construction.	This project would replace an existing culvert under Fletcher Bay Road (west of the New Brooklyn intersection) with a bridge structure. The structure would provide fish passage upgrades for the highest priority salmonid environment on Bainbridge Island. https://www.bainbridgewa.gov/868/Springbrook-Creek-Watershed-Study The project has historically been supported by the Suquamish Tribe.

Project Name	ARPA Information	Parameters/Notes	Additional information
Stormwater/Non-motorized demonstration project	Infrastructure or Revenue Replacement, $ TBD	• A, B, C, D, E, F • Undetermined schedule • Design and construction TBD • No funding sources are currently identified for these projects, however, leveraged funding from the General Fund and Stormwater Utility is anticipated.	Added by Council on Aug. 24 The project scope is undetermined. See Madison Avenue Sidewalk Project for additional information.
Transportation			
Sustainable Transportation Plan (STP) Implementation Set-aside	Revenue Replacement, $ TBD	• A, B, C, D, E, F • Design 2022-24, Build 2024-26 • Eligible for ARPA-related "replacement" funding for 23-24 biennium • No funding sources currently identified for these projects, however, leveraged funding from the General Fund is anticipated.	The project scope is undetermined. The STP project is anticipated to be reviewed with City Council November 2021.
Madison Avenue Sidewalk/Bike Lanes Project	Revenue Replacement, $1.0 M	• A, B, C, D, E, F • Design 2021-22; Build 2023 • Eligible for ARPA-related "replacement" funding for 23-24 biennium • Leveraged funding from multiple sources identified in the City's Capital Improvement Plan, including General Funds, Sewer Funds, and federal grant funds.	The project scope includes multiple necessary and desired improvements along the Madison Avenue corridor between Winslow Way and SR305, including sidewalk replacement, pavement replacement, separated bicycle lanes, sidewalk infill and sewer replacements. **This project has a hard 9/28 deadline for scoping decision due to federal grant requirements.** https://www.bainbridgewa.gov/1310/Madison-Avenue-Sidewalk-Improvements

Project Name	ARPA Information	Parameters/Notes	Additional information
Other Funds			
Affordable housing projects	Response to negative economic impact, $ TBD	• E • Schedule TBD • Eligible projects serve those earning less than 60% of area median income, or with 25% of beneficiaries below federal poverty line. • Projects in a HUD Qualified Census Tract are eligible. Bainbridge Island does not have any Qualified Census Tracts.	The project scope is undetermined. Median family income for 2021 is $94,100; 60% of that is $56,460. Federal poverty level for a family of four is $26,500. Regulations continue to evolve and additional clarification may come from federal Treasury Department. Administration of a housing program would require City staffing and program development consideration.
Biodigester	Revenue Replacement, $ TBD	• B, C, E • Schedule TBD • Eligible under infrastructure category if used to finance the generation and delivery of clean power to a wastewater system or water treatment plant	The project scope is undetermined. The Climate Change Advisory Committee has begun research on a potential project. Initial information indicates a project cost range of $8.6M - $10.9M. Presentation from March 17, 2021 is available for review.
Premium pay for childcare workers	Premium pay, $ TBD	• D • Schedule TBD • Eligible, but does not meet any of the parameters	Premium pay could be provided to eligible workers in accordance with the terms of the ARPA program.
Solar panels on emergency hubs/shelters	Revenue Replacement, $ TBD	• A, B, C • Schedule TBD	The project scope and location(s) are undetermined at this time.
Buy or lease space to medical group for former Swedish clinic to improve health care access	Not eligible	• E • Schedule TBD • This would subsidize private enterprise and would not be an eligible use of ARPA funds unless a grant was provided to an impacted business.	Additional work would be needed to determine if a grant could be provided in accordance with the terms of the ARPA program. Administration of a grant program would require consideration of additional City staffing.

Project: Winslow Water Tank Replacement **Number:** 00988

Location: New Brooklyn

Project Description

Description: Construct a new 2 million-gallon reservoir to replace both of the existing tanks that are located on an easement near the High School.

Benefit: A new tank built at a sufficient elevation, and to the most recent design standards, will correct several deficiencies associated with existing tanks including: significant dead storage, pressure zone deficiencies, water quality issues, and seismic deficiencies.

Schedule: 2021: Design; 2023: Construction

Capital Funding (1000's)

	Prior Yrs.	2021	2022	2023	2024	2025	2026	2027-2040	Total
FUNDING SOURCES (1000's)									
General Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Fund	$1,005	$535	$39	$10,040	$0	$0	$0	$0	$11,619
Sewer Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0
SSWM Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0
Federal Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0
State Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sub-total	**$1,005**	**$535**	**$39**	**$10,040**	**$0**	**$0**	**$0**	**$0**	**$11,619**
FUNDING USES (1000's)									
Project Management	$5	$35	$39	$40					$119
Design/permitting	$1,000	$500							$1,500
Construction				$10,000					$10,000
Sub-total	**$1,005**	**$535**	**$39**	**$10,040**	**$0**	**$0**	**$0**	**$0**	**$11,619**

Estimated Impact on Future Operating Budget (1000's)

	Prior Yrs.	2021	2022	2023	2024	2025	2026	2027-2040	Total
Operating									
Debt Service									TBD
Sub-total	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project: Eagle Harbor Drive at McDonald Creek **Number:** 00823

Location: 5530 Eagle Harbor Drive

Project Description

Description: Replacement of an existing deep concrete culvert that shows signs of failure.

Benefit: Preservation of roadway and drainage system.

Schedule: 2020: Design and permitting; Construction deferred until permits are in place.

Capital Funding (1000's)

	Prior Yrs.	2021	2022	2023	2024	2025	2026	2027-2040	Total
FUNDING SOURCES (1000's)									
General Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sewer Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0
SSWM Fund	$210	$56	$9	$0	$0	$0	$0	$0	$276
Federal Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0
State Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sub-total	**$210**	**$56**	**$9**	**$0**	**$0**	**$0**	**$0**	**$0**	**$276**
FUNDING USES (1000's)									
Project Management	$10	$6	$9						$26
Design/permitting	$200	$50							$250
Construction									$0
Sub-total	**$210**	**$56**	**$9**	**$0**	**$0**	**$0**	**$0**	**$0**	**$276**

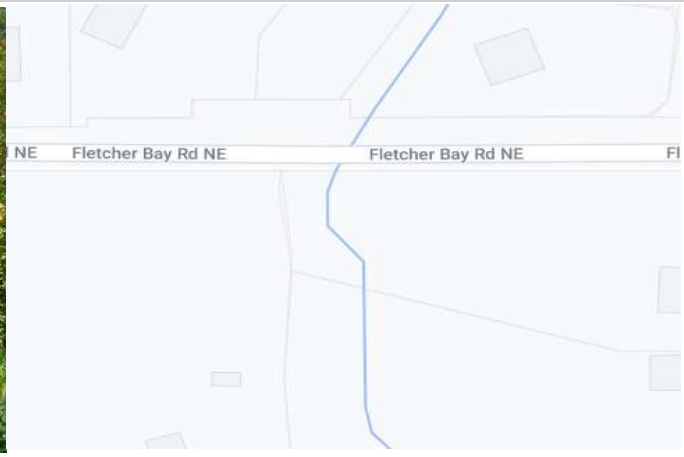
Estimated Impact on Future Operating Budget (1000's)

	Prior Yrs.	2021	2022	2023	2024	2025	2026	2027-2040	Total
Operating									
Debt Service									
Sub-total	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project: Springbrook Fish Passage **Number:**

Location: Fletcher Bay Road west of New Brooklyn

Project Description



Description: The Springbrook Fish Weir/Passage project proposes to replace the existing culvert at Springbrook Creek with an open box/bridge structure and streambed restoration.

Benefit:

Schedule: YR 1: Design

Capital Funding (1000's)

	Prior Yrs.	2021	2022	2023	2024	2025	2026	2027-2040	Total
FUNDING SOURCES (1000's)									
General Fund	$0	$50	$0	$50	$0	$0	$0	$0	$100
Water Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sewer Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0
SSWM Fund	$0	$50	$0	$50	$0	$0	$0	$0	$100
Federal Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0
State Grant	$0	$85	$0	$1,000	$0	$0	$0	$0	$1,085
Sub-total	**0**	**185**	**0**	**1100**	**0**	**0**	**0**	**0**	**1285**
FUNDING USES (1000's)									
Project Management		$4		$50					$54
Design/permitting		$181		$50					$231
Construction				$1,000					$1,000
Sub-total	**0**	**185**	**0**	**1100**	**0**	**0**	**0**	**0**	**1285**

Estimated Impact on Future Operating Budget

	Prior Yrs.	2021	2022	2023	2024	2025	2026	2027-2040	Total
Operating									
Debt Service									
Sub-total	$0	$0	$0	$0	$0	$0	$0	$0	$0

CITY OF
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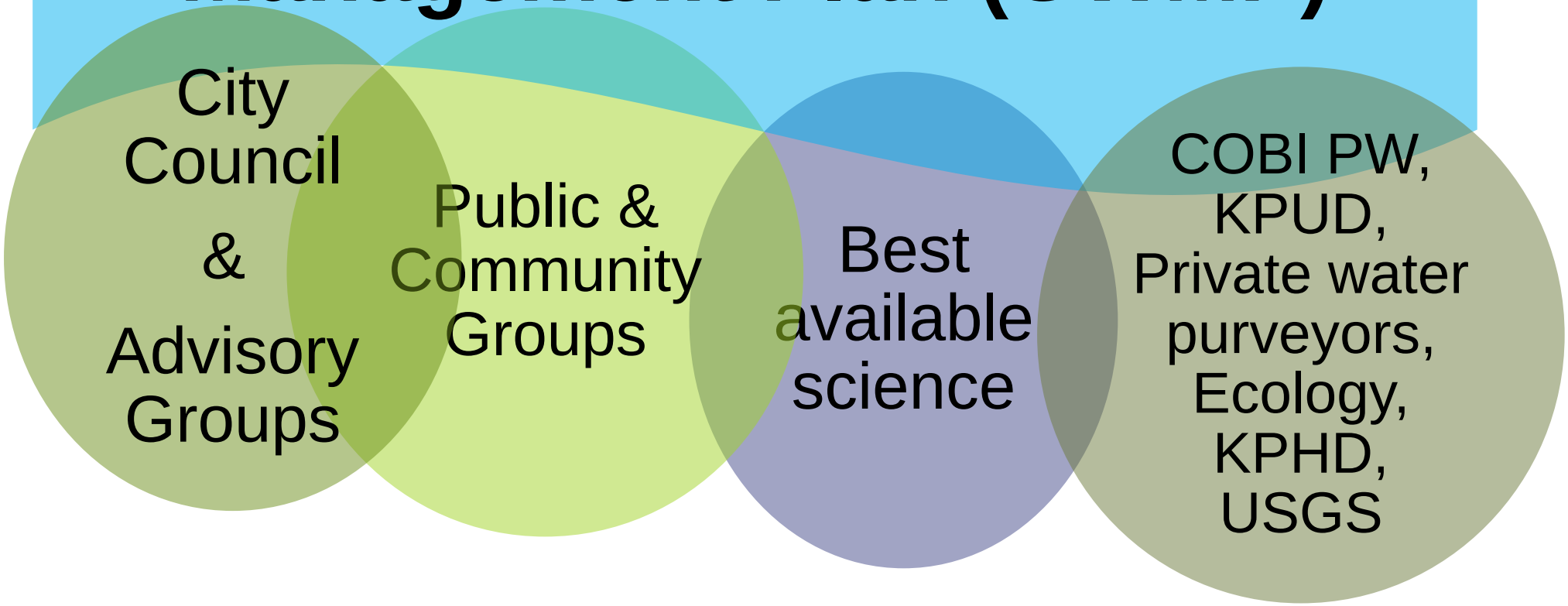
Groundwater Management Plan Kickoff
COBI Climate Change Advisory Committee

15 September 2021

COBI Groundwater Management Plan (GWMP)



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GWMP Today

Next step

Asking for your input

City Council

21 September 2021

CITY OF
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What do you think?

GWMP Goals & Objectives

COBI GWMP so far

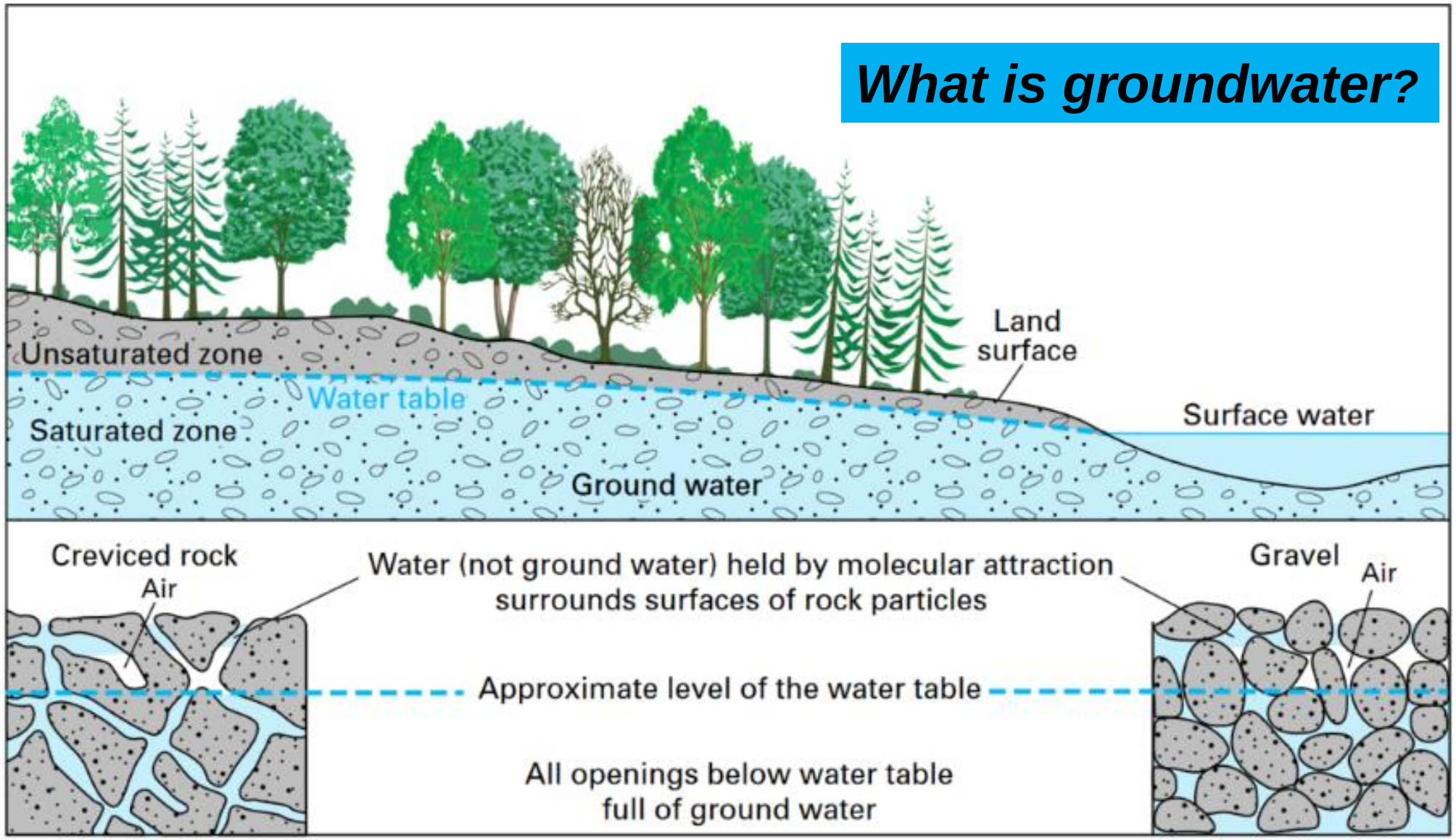
Groundwater resources on Bainbridge Island

Relevant plans & policies

GWMP Roadmap

CITY OF BAINBRIDGE ISLAND

What is groundwater?



https://www.usgs.gov/media/images/groundwater-saturated-zone-soilrock-below-land-surface

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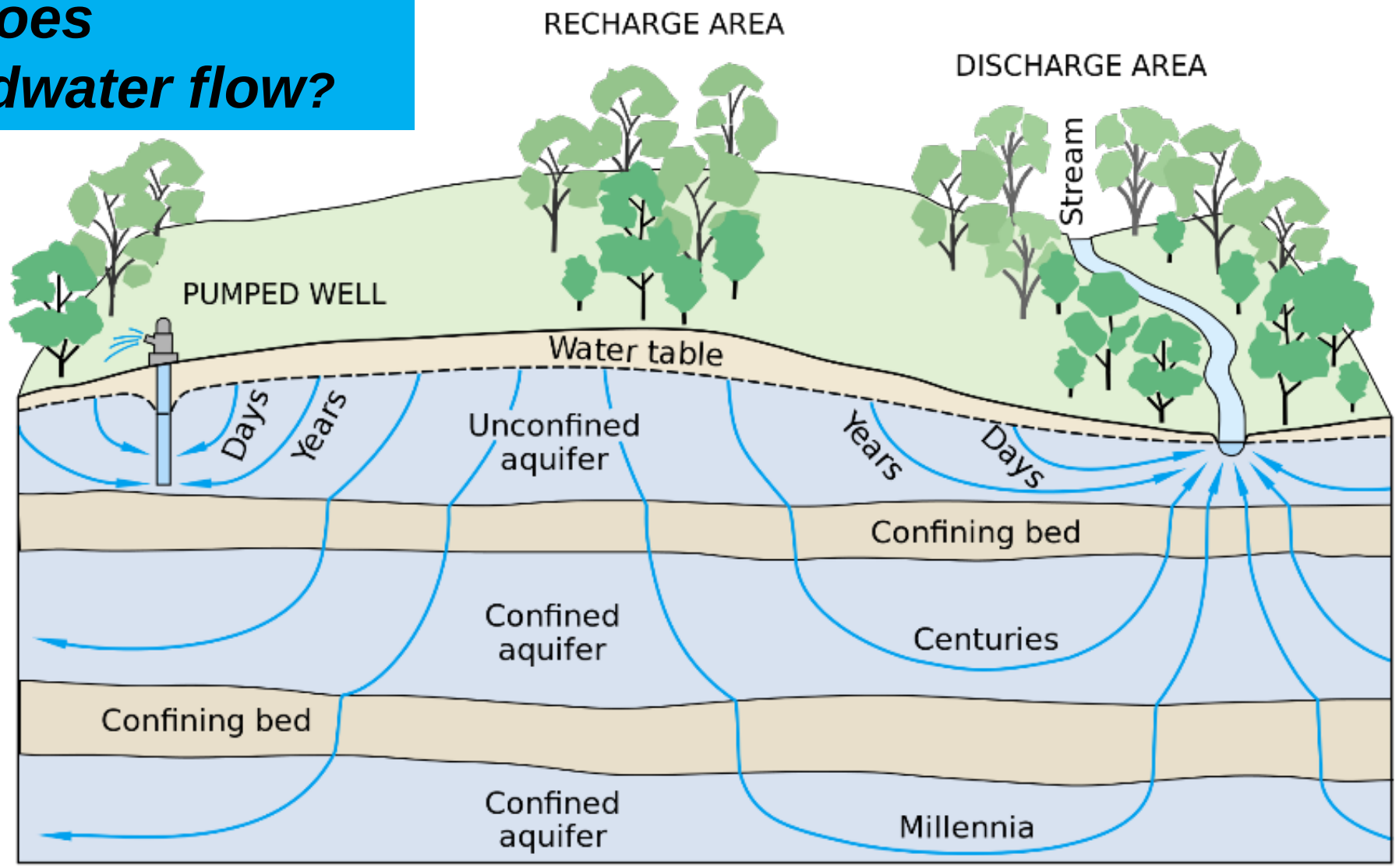
How does groundwater flow?



From: Ground Water And Surface Water A Single Resource
By T.C. Winter, J.W. Harvey, O.L. Franke, and W.M. Alley. USGS Circular 1139

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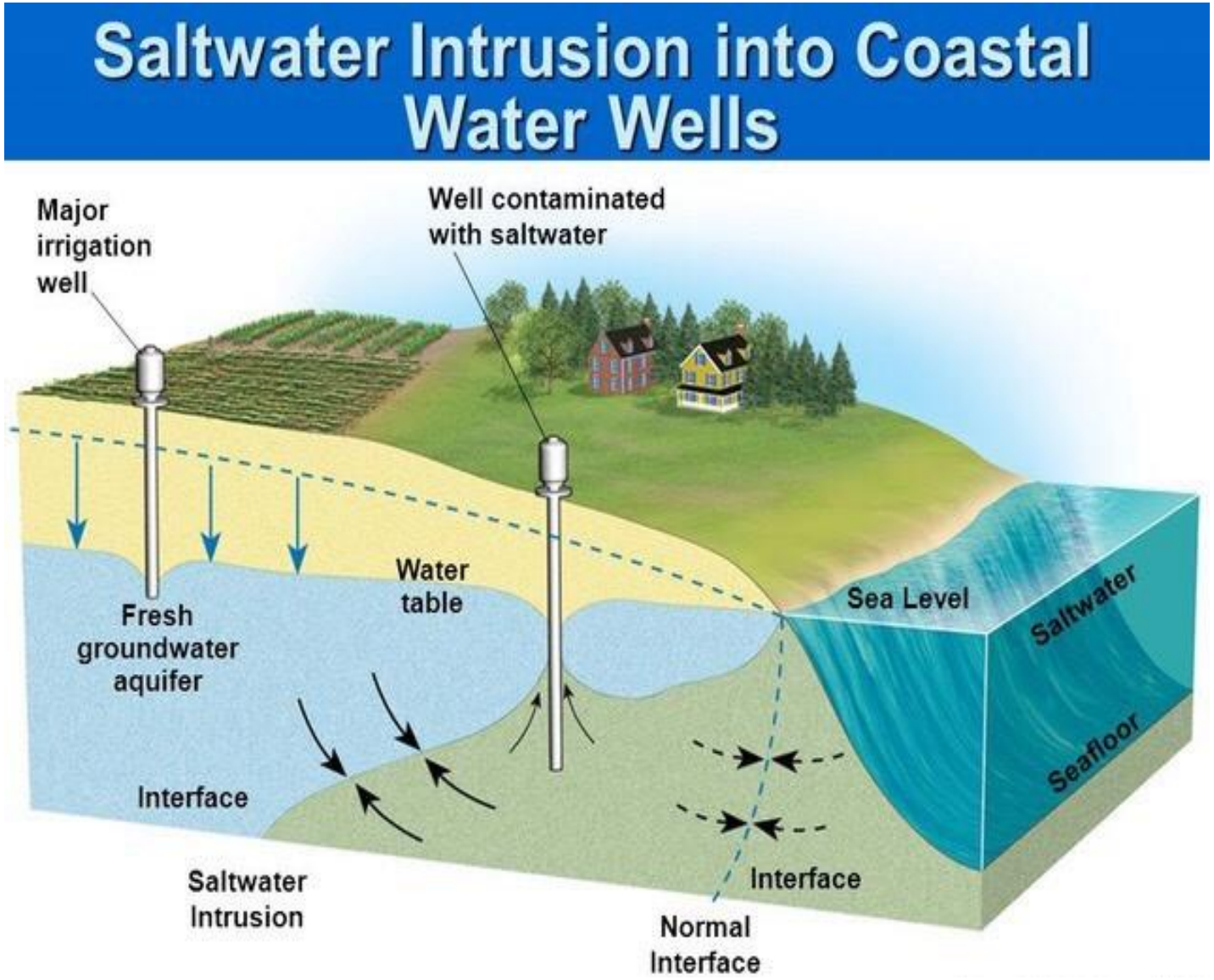
What is saltwater intrusion?



www.whoi.edu/oceanus/feature/charette

CITY OF BAINBRIDGE ISLAND

Port Orchard

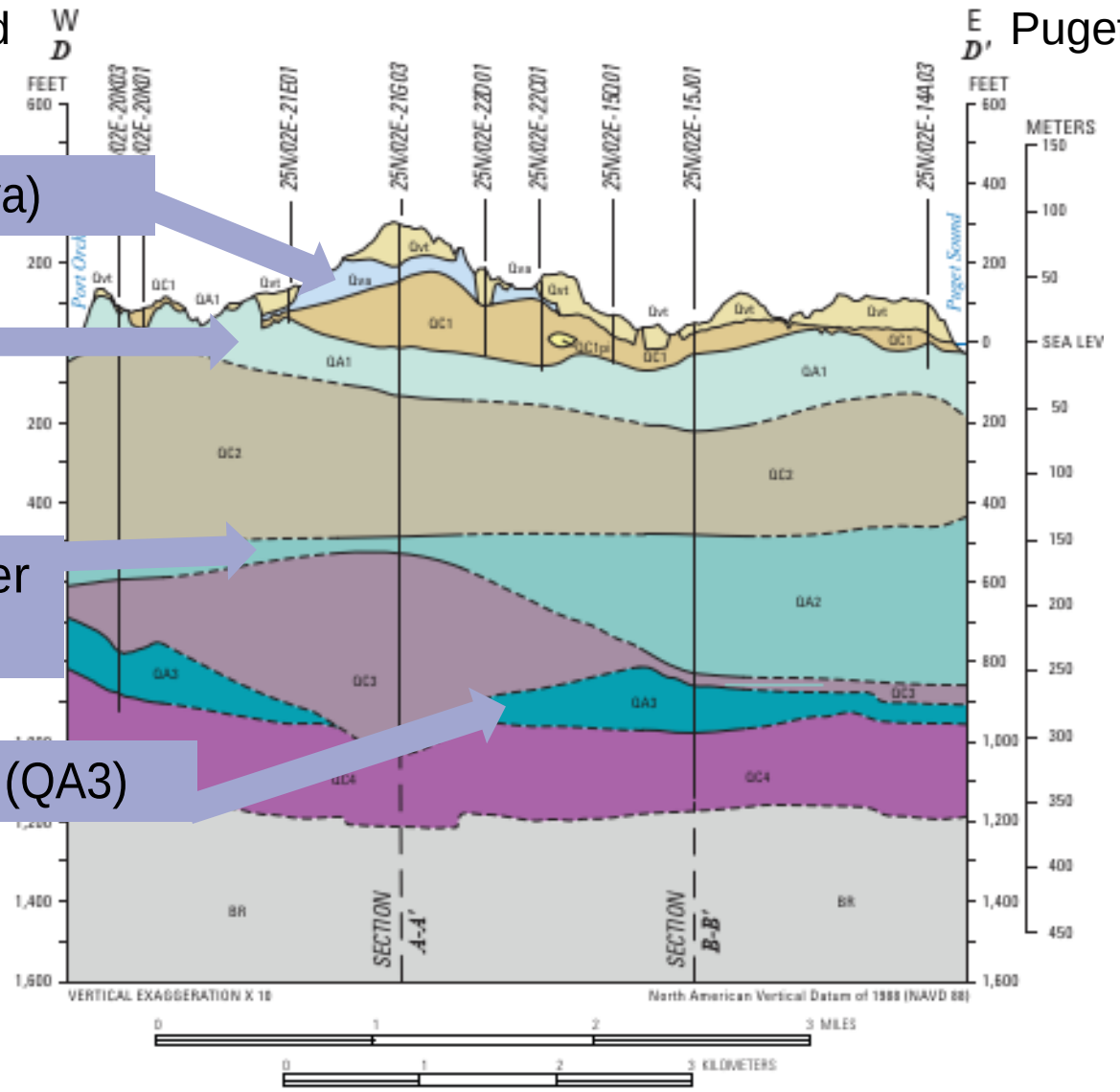
Puget Sound

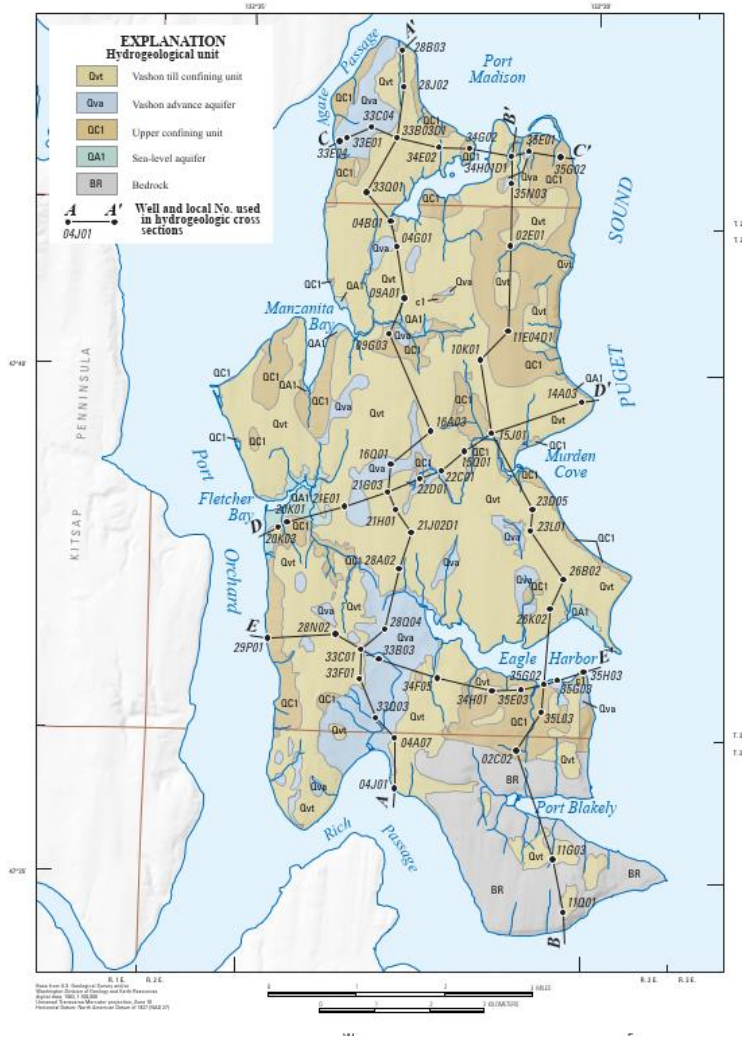
Perched Aquifer (Qva)

Sea Level Aquifer (QA1)

Glaciomarine Aquifer (QA2)

Fletcher Bay Aquifer (QA3)



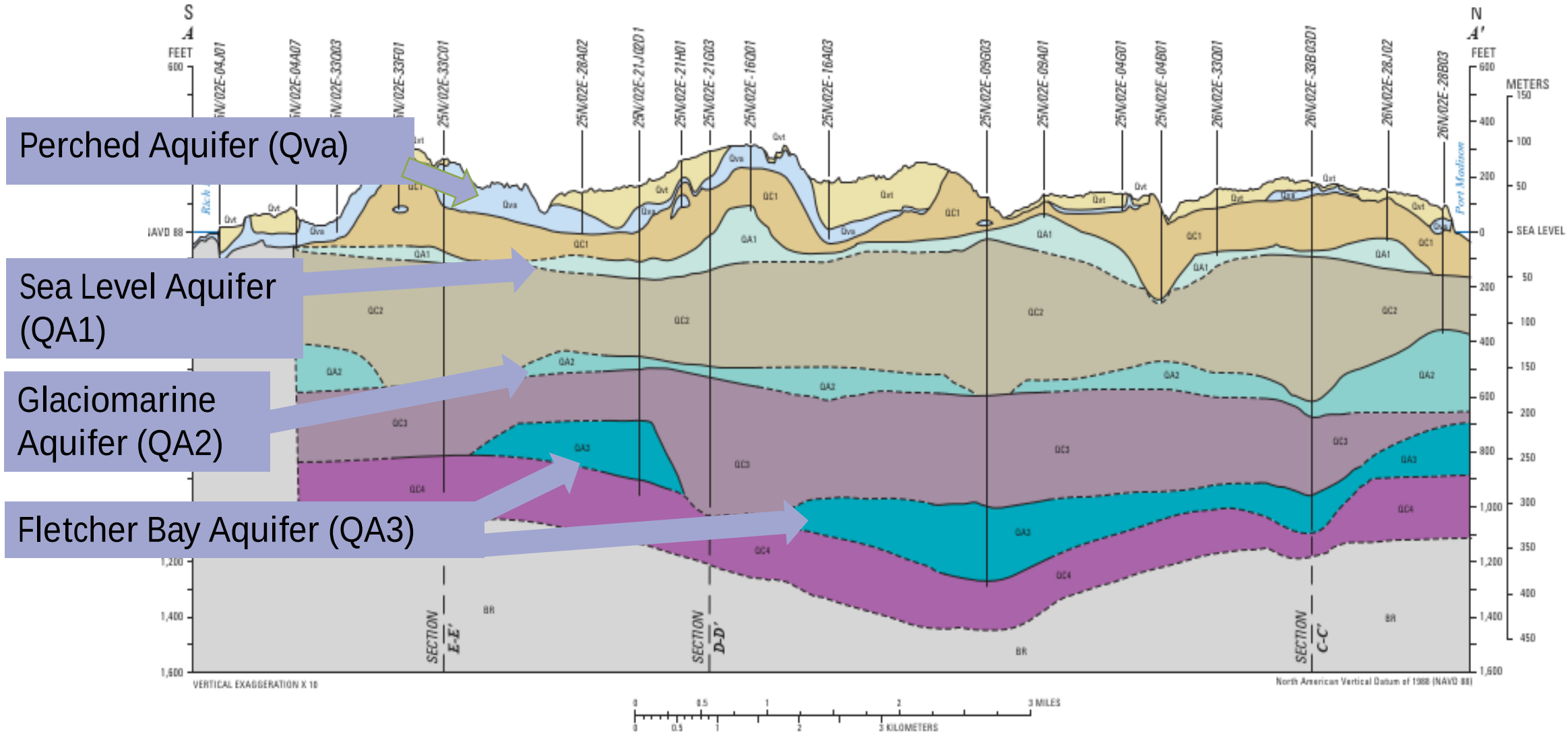


Modified from: Frans and others, 2011

CITY OF BAINBRIDGE ISLAND

Rich Passage

Port Madison



Modified from: Frans and others, 2011

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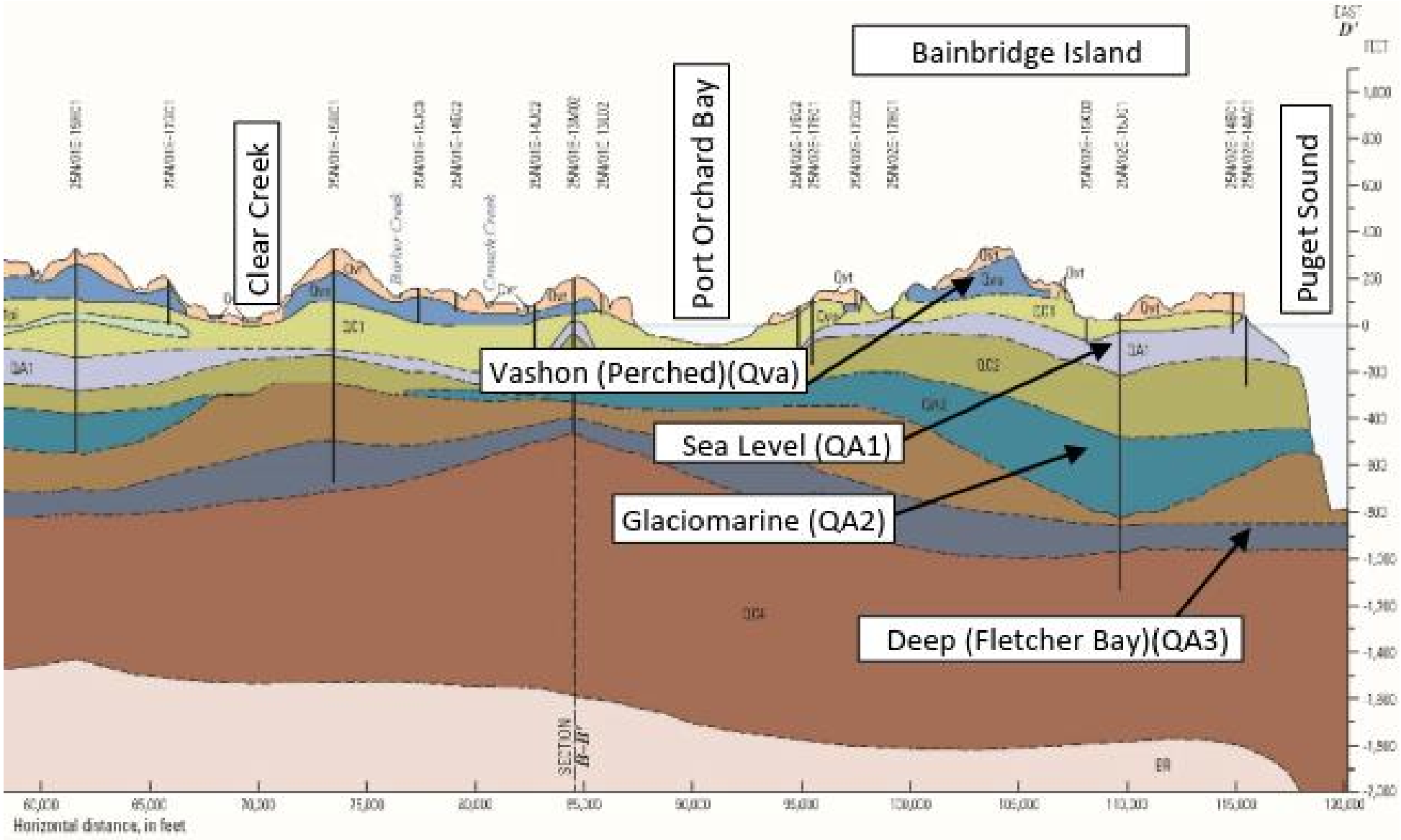

Modified from: Welch and others, 2014

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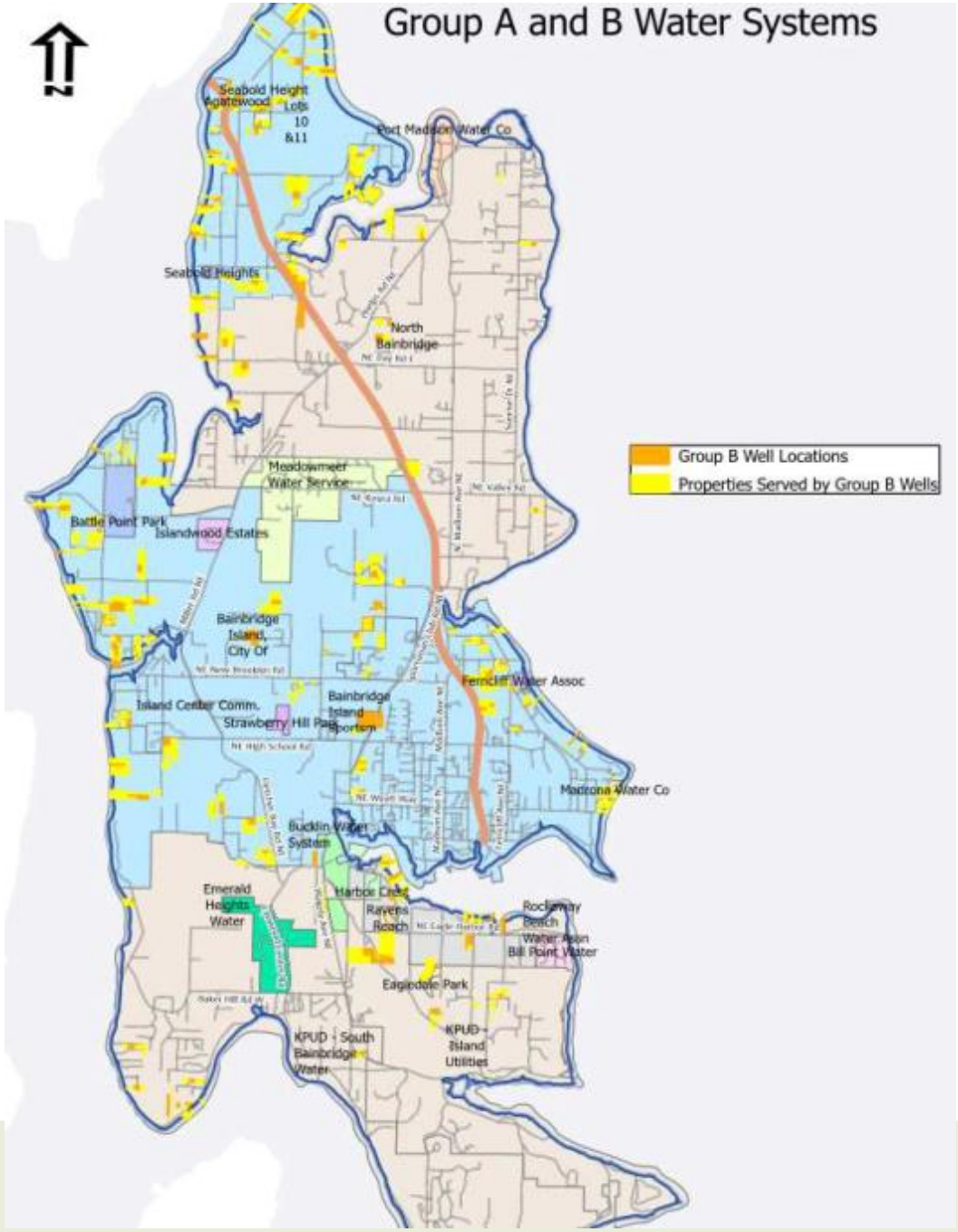


Groundwater use

- **35 Group A** water systems estimated to serve ~ 71% of residents
- **135 Group B** water systems estimated to serve ~5% of residents
- **Private Wells** estimated to serve ~24% of residents

Based on UAC Water System memo 9 September 2020 and WA DOH/COBI/KPUD data

CITY OF BAINBRIDGE ISLAND

COBI Plans

All consider groundwater

- Comprehensive Plan (Water Resources, Utilities & Environment Elements)
- Municipal Code
- Climate Action Plan
- Water System Plan (2017)
- Wellhead Protection Plan

External Agencies

All consider groundwater

- Kitsap Co. Groundwater Management Plan
- Growth Management Act
- Kitsap Co. Climate Assessment
- WRIA 15 Watershed Plan
- EPA Sole Source Aquifer
- WA Dept of Ecology
- USGS

GWMP Roadmap

1. Area characterization

2. Problem definition

3. Identify water quantity / quality goals and objectives

4. Identify land and water use management strategies

5. Recommend management strategies

6. Implementation / monitoring / review

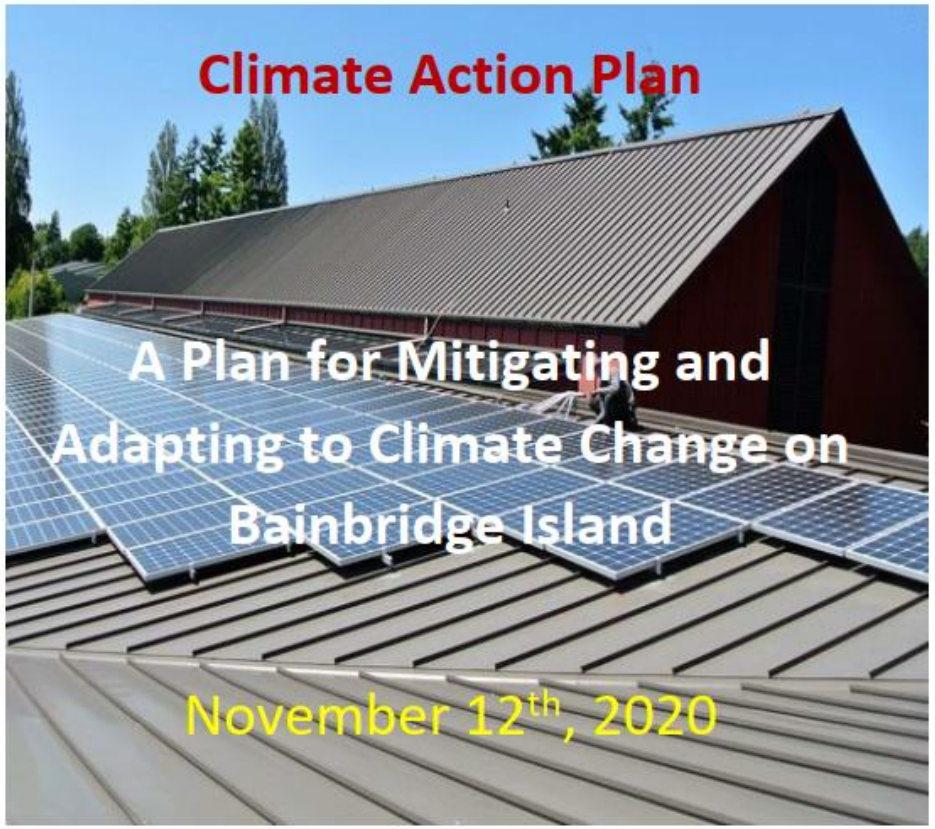
CITY OF BAINBRIDGE ISLAND

UAC Feedback 11 August 2021

1. **Goals**
    a. Climate change impacts explicitly considered
    b. Ensure reliable future water source and maintain current sources
    c. Holistic approach from taking groundwater to water distribution to recharge

2. **Objectives**
    a. Sewer utility - no pollution of groundwater / failing septic systems
    b. Consider impacts to streamflow
    c. Consider need for fire / emergency response
    d. Consider stormwater recharge impacts

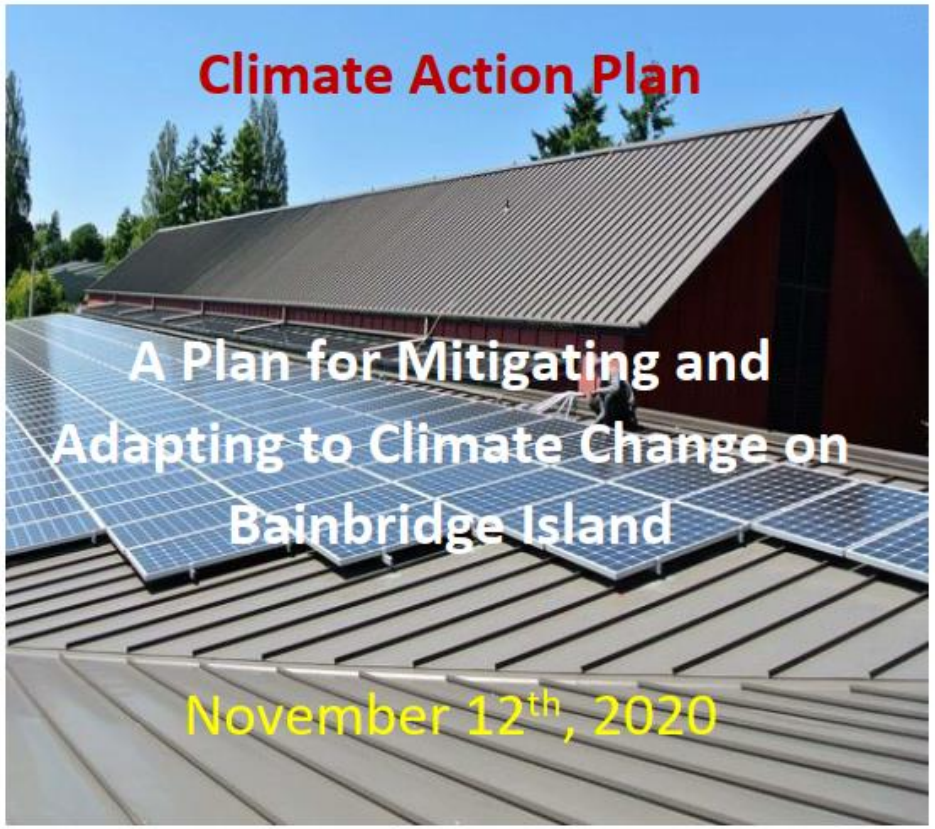
3. **Other comments**
    a. Focus on clear, easily understood information
    b. Basic understanding there is enough groundwater overall, quantity/quality may vary locally



Section 6: The Natural Environment

Goal: Protect and maintain the integrity of our island's surface and groundwater resources in the face of climate change

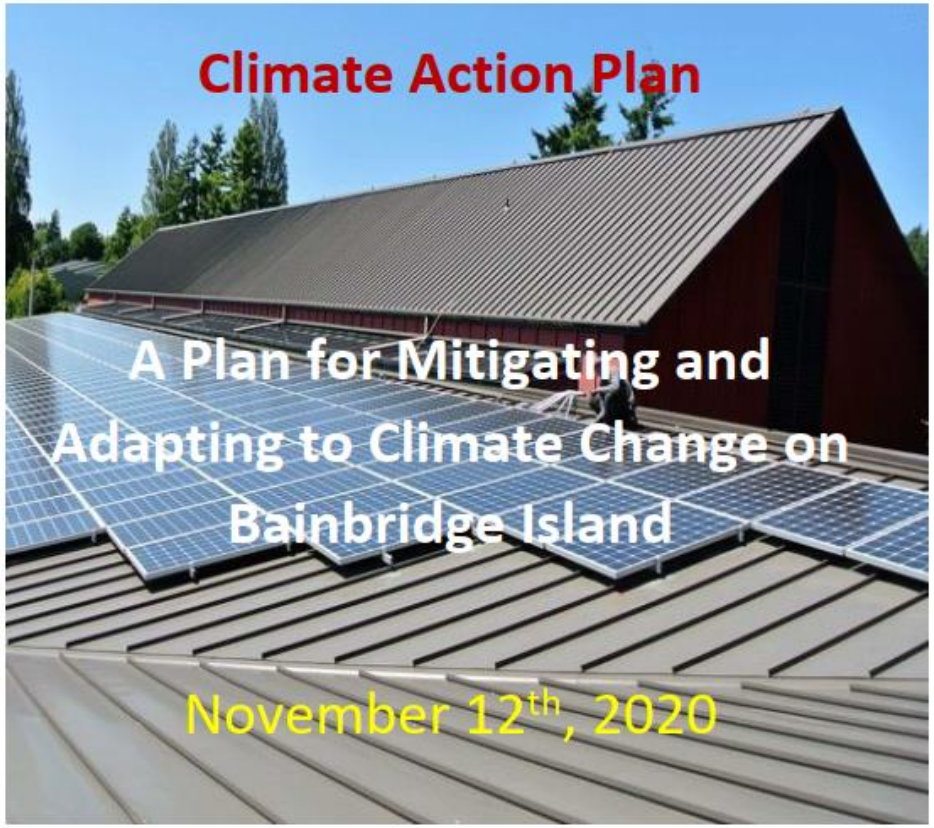
Target: By 2023, COBI will adopt a Groundwater Management Plan that accounts for climate change in its projections, policies, and guidance



Section 6: Natural Environment

Goal: Support an agricultural system that prioritizes climate change resilience, local food production, and ecosystem services including soil carbon storage and water management

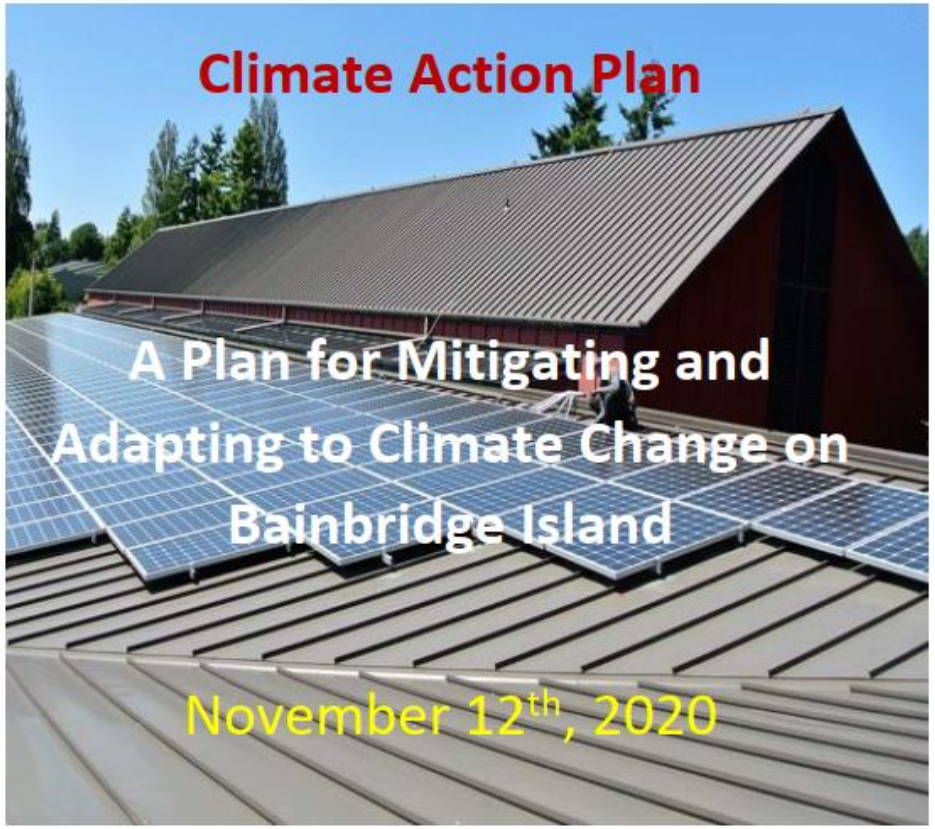
Target: By 2023, agricultural uses will be incorporated into groundwater planning via the Groundwater Management Plan



Section 6: The Natural Environment

Challenges

- Expected lower groundwater recharge from more intense precipitation events (more runoff)
- Expected increase in demand with increasing temperature
- Potential saltwater intrusion



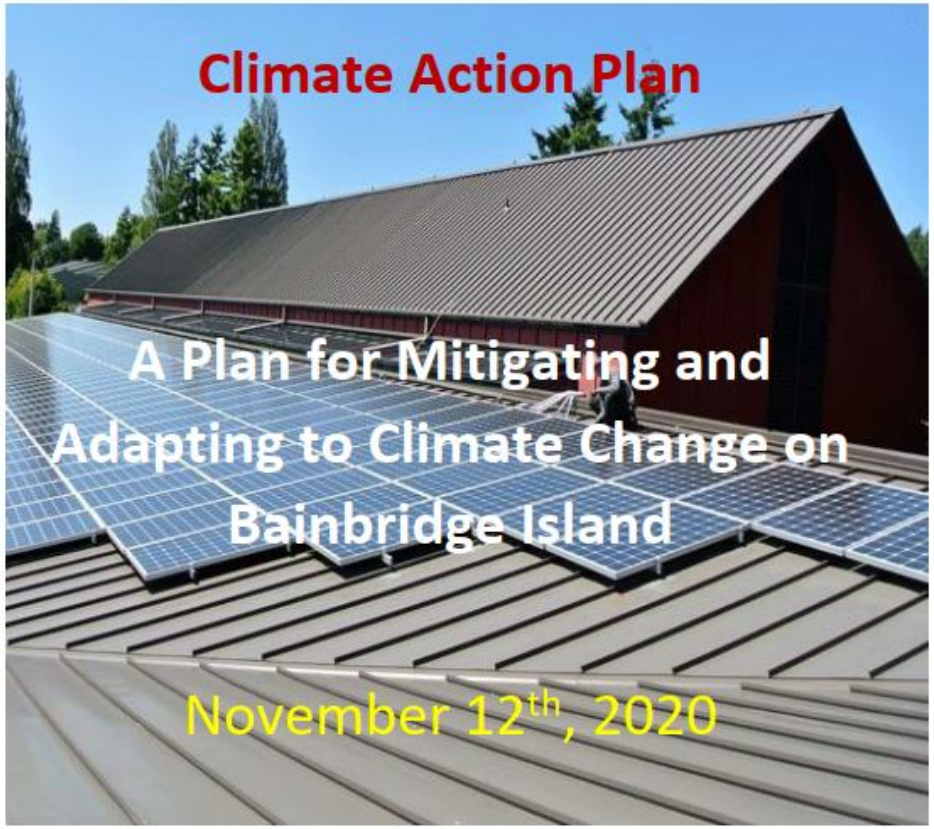
Section 6.4 Strategies / Actions

Strategy B.1

- Maximize protections for intact hydrologic processes (e.g., aquifer recharge, groundwater/surface water interaction, stormwater runoff)

Priority Actions

- Incentivize water conservation
- Continue robust monitoring program



Section 6.4 Strategies / Actions

Strategy B.2

- Identify and implement targets that will balance aquifer discharge and recharge, incorporating climate change projections

Priority Action

- Complete and implement COBI Groundwater Management Plan include incorporation of expected changes to groundwater inputs and outputs

Questions?

Climate Action Plan: Criteria for Ranking Action February 5th, 2020

After ranking actions we will discuss how we want to put actions into bins (high, medium, or low)

The first scoring criteria is evaluating the potential for reducing GHG emissions and/or reducing vulnerability.

***Populations of concern** (from US Global Change Research Center: Climate change is already causing and is expected to continue to cause a range of health impacts that vary across different population groups in the United States. The vulnerability of any given group is a function of its sensitivity to climate change related health risks, its exposure to those risks, and its capacity for responding to or coping with climate variability and change. Vulnerable groups of people, described here as populations of concern, include those with low income, some communities of color, immigrant groups (including those with limited English proficiency), Indigenous peoples, children and pregnant women, older adults, vulnerable occupational groups, persons with disabilities, and persons with preexisting or chronic medical conditions.

Scoring Criteria	Criteria Description	Rating Description		
		High (5 points)	Medium (3 points)	Low (0 point)
GHG emissions reduction (mitigation) and/or reduces vulnerability to climate change (adaptation)	Potential for action to reduce GHG emissions (mitigation) and/or potential for action to reduce vulnerability to effects of climate change (adaptation)	Will result in a direct, quantifiable, and significant/meaningful reduction in GHG emissions and/or will result in a direct, measurable reduction in vulnerability	Resulting GHG emissions expected to be moderate, but it cannot be quantified and/or will result in a possible reduction in vulnerability	GHG emissions reduction cannot be assured, is unlikely to occur, will be minimal, or unknown and/or adaptation cannot be assured, unlikely to occur, will be a small change, or unknown
Implementable	Action is both technically and logistically feasible and has been implemented in other jurisdictions	Successful examples of implementation of this action exist or a clearly defined implementation plan is in place	There is potential to implement this action (it is possible) and a plan can be created to do it, but no one has done it yet	Vague or non-existent understanding of how action can be implemented.
Duration of benefits	The length of time over which the benefits of the action will persist	Will have direct benefits that persist for greater than ten years.	Will have direct benefits that are likely to last less than 10 years.	The direct benefits of this action can only be sustained with continued funding or may detrimental over the long term.
Equity	The action will contribute to or support social justice, equity, diversity and inclusion within our community	Will directly support populations of concern* (e.g., low income, children and pregnant women, older adults, some communities of color) in our community to reduce GHG emissions, improve their ability to adapt to climate change impacts, and will not have an inequitable burden.	Will not increase the burden or erect barriers for populations of concern in our community to reduce GHG emissions or adapt to climate change	Will cause inequitable burdens to populations of concern in our community and will not directly support populations of concern.
Multi-solving	Action is also a solution to another issue (e.g., air pollution reduction; economic opportunities; improved transit; preserve natural resources).	Will result in actions with significant benefits to meeting another community goal in addition to climate change.	Minor benefits to meeting another community goals in addition to climate change.	Benefit to meeting other community goals unlikely or unknown

Section 2: GHG Inventory

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
									I'm not sure there should be rankings for many of these in Column D.
Goal A	**Implement a greenhouse gas emission (GGE) tracking plan**								
Strategy A.1	**Evaluate and select software tools that engage community data input to measure and monitor GGE community wide.**								
2. A.1.a	Generate a plan with COBI to track GGEI using at least two different protocols.	5	5	3	5	5	5	28	
2. A.1.b	Test *Taming Bigfoot*	3	5	5	3	5	5	26	
2. A.1.c	Customize tool as needed Customize tool as needed	5	5	5	5	5	3	21	
2. A.1.d	2021: Implement communitywide use; Assess 2021 annual emissions results and compare with 2018 Cascadia GGEI	5	5	5	5	5	3	28	
Strategy A.2	**Compile annual GGEI reports for public release**	**5**	**3**	**5**	**5**	**4**	**4**	**26**	
Goal B	**Develop a validation and verification (V&V) strategy to track reduction targets**								
Strategy B.1	**Focus on Community GGE categories that currently are based on regional models in the 2018 GGEI.**								
2. B.1.a	Using results of Actions 2.A.1.x above, conduct a systematic comparison of results using different GGEI models.	5	3	4	5	3	5	25	

Section 2: GHG Inventory

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
2. B.1.b	2020: Assess motorized transportation and air travel, prepare a brief summary report.	5	3	4	3	3	5	23	
2. B.1.c	2021: Develop a protocol for measurement uncertainty	4	3	4	5	3	3	22	
2. B.1.d	2022-2040: Do V&V assessments of any future updates to regional consumption-based models	4	3	4	3	3	4	21	
Goal C	**Re-evaluate the forest sequestration analysis (V&V) Explore more rigorous analysis methods, including some localized on-the-ground research and tree inventory.**								
Strategy C.1									
2. C.1.a	Approach academia for consultation to plan more rigorous analysis methods, including some localized on-the-ground research and tree inventory. Collaborations may include student apprenticeships, student thesis research opportunities, or collaborative research grant proposals.	4	5	4	4	3	5	25	
2. C.1.b	2021: Field studies and data analysis	5	4	5	4	3	5	26	
2. C.1.c	2022-2025: Broaden sequestration to include agriculture lands, shorelines and open meadows/parks, with ongoing academic collaboration, Friends of the Farms, and other Island environmental groups.	5	4	4	5	4	4	26	

Section 3: Energy

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Goal A	**Increase energy conservation and efficiency across all energy sectors**								
Strategy A.1	**Promote energy efficiency through existing and potentially newly funded City programs.**								
3.A.1.a	Use high-performance retrofit technologies in City projects	5	3	5	5	0	0	18	
3.A.1.b	Create a matrix of incentives for building owners to increase energy efficiency	5	3	3	5	5	3	24	
3.A.1.c	Work with PSE and partnering to increase access to energy conservation and efficiency programs	5	3	5	5	5	3	26	Also in Buildings 5.A.3.b
Strategy A.2	**Establish a Bainbridge Island Green Energy and Building Fund**								Also in Buildings A.4
3.A.2.a	Create a new Green Energy and Building Fund that can provide incentives to building owners, residents and drivers to increase electrification conversions.	3	3	5	5	5	5	26	This is what the strategy is
Goal B	**Eliminate carbon-based energy sources from all energy sectors** **Partner with energy providers and local businesses on programs that will reduce carbon-based energy sources.**								
Strategy B.1	Work collaboratively with PSE to move towards a 100% carbon-free electrical supply, preferably sooner than the WA State mandated goals.	3	3	3	5	0	0	14	

Section 3: Energy

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
3.B.1.a	Explore opportunities to work with PSE and local banks/credit unions to create local renewable energy projects	3	3	3	5	5	3	22	
3.B.1.b	Develop local policies that incentivize renewable energy adoption and passive PV solar or other technologies.	5	5	5	5	3	0	23	Seems similar to 3.C.1.a
3.B.1.c	Establish a policy that prohibits propane and heating oil as an energy source for new development, and develop incentives to replace propane	5	3	5	5	0	3	21	
3.B.1.d	**Partner with neighboring municipal and tribal communities on programs that will reduce emissions.**								Also in Buildings 5.A.1.c, 5.A.2.b, and 5.A.3.a
Strategy B.2	Develop and hold trainings to help contractors implement the fuel-switches from carbon-based to electrification of building stock.	5	5	5	5	3	0	23	
3.B.2.a	Collaborate with neighboring and tribal communities to learn about more sufficient-living practices over efficient living styles.	3	3	3	0	0	0	9	
3.B.2.b									
Goal C	**Create energy self-sufficiency for emergency preparedness and increase energy infrastructure reliability and resilience in light of changing climate. Create microgrid for critical infrastructure within community energy resources**								

Section 3: Energy

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Strategy C.1	Work with PSE to develop a local program to encourage homeowners to acquire customer-owned generation.	5	5	3	5	0	0	18	
3.C.1.a	Research and develop microgrids for community emergency preparedness centers	3	3	5	5	5	5	26	Also in 8.C2.d
3.C.1.b	Research the community's willingness to underground Transmission and/or Distribution while also providing walking biking corridors for safety and mobility	0	0	5	5	3	0	13	
3.C.1.c	Work with WSF to install charging infrastructure at the ferry	0	0	5	0	5	3	13	Also in Transportation 4C.3.a
3.C.1.d	Investigate partnerships with adjacent communities to COBI to coordinate and utilize similar technologies and information sharing	0	0	3	0	3	0	6	
3.C.1.e	**Large scale neighborhood microgrids with distributed energy resources**								
Strategy C.2	Research and develop large scale neighborhoods microgrids with customer-based and or utility scale storage and co-locating combined CHP near pool	3	5	5	5	5	5	28	Combined 3.C.2.a, b, and c
3.C.2.a	Research and develop large scale neighborhoods microgrids with customer-based and or utility scale storage and co-locating combined CHP near pool	3	5	5	5	5	5	28	Combined 3.C.2.a, b, and c

Section 4: Transportation

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Goal A	**Reduce motorized vehicle miles traveled per capita**								
Strategy A.1	**Develop interconnected network of infrastructure**								
4.1.A.a	Implement the Island-wide transportation plan's non-motorized components	5	3	5	5	5	5	28	
Strategy A.2	**Promote mixed-use development**								
4.2.A.a	Incorporate non-motorized transportation options into all new development	3	3	5	5	3	3	22	
Goal B	**Increase use of public Transportation**								
Strategy B.1	**Work with Kitsap Transit to increase current transit and expand service**								
4.B.1.a	Work with Kitsap Transit to develop a marketing/outreach/educational program	1	1	5	1	5	5	18	
Strategy B.2	**Encourage greater use of school buses and carpooling for student transportation.**								
4.B.2.a	Work with school district to discourage drop-offs/pick-ups, encourage car-pooling, and promote use of school buses.	1	1	5	3	3	5	18	
Strategy B.3	**Prioritize transit-oriented new development.**								
4.B.3.a	Require all new development to accommodate non-motorized and public transit transportation options	3	3	5	5	3	3	22	

Section 4: Transportation

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Goal C	**Increase access to and use of electric mobility options and support the development of electric ferries.**								
Strategy C.1	**Convert municipal vehicle fleet.**								
4.C.1.a	Transition City fleet to electric vehicles	5	1	3	5	0	3	17	
Strategy C.2	**Develop infrastructure to support electric vehicles.**								
4.C.2.a	All new development be EV charge-ready.	3	1	5	5	3	3	20	
4.C.2.b	Install charging stations in commercial centers	3	1	5	5	3	3	20	
Strategy C.3	**Support, as needed, efforts to electrify ferry vessels.**								
4.C.3.a	Coordinate with WSF, PSE, and other entities as necessary to establishing charging infrastructure	1	1	5	5	3	3	18	
Strategy C.4	**Encourage reduced vehicle emissions and improved fuel economy**								
4.C.4.a	Adopt a city-wide anti-idling ordinance								

Section 5: Buildings

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Goal A	**Reduce GHG from all municipal, commercial, industrial and residential buildings**								
Strategy A.1	**Require green building for municipal buildings**								
5.A.1.a	Adopt Green Building Task Force Recommendations	5		5	5	0	5	20	
5.A.1.b	Prohibit propane and fuel oil	5		5	5	0	5	20	
5.A.1.c	Apply Climate Change Adaptation Certificate tool	5		5	5	3	5	23	
Strategy A.2	**Require green building for commerical, industrial and residential**								
5.A.2.e	Adopt Green Building Task Force recommendations	5		5	5	0	5	20	
5.A.2.b	Prohibit propane and fuel oil	5		5	5	0	5	20	
Strategy A.3	**Programs to assist building owners**								
5.A.3.a	Incentives for existing owners to replace propane	5		5	3	3	3	19	
5.A.3.b	Raise awareness of PSE energy conservation programs and expand programs	5		3	5	3	3	19	
Strategy A.4	**Establish a Green Energy and Building Fund**								
5.A.3.a	Fund to assist in residental audits, energy conservation, and transition to all electric	5		5	5	3	3	21	
Goal B	**Establish procedures to ensure buildings and infrastructure are resilient to climate change impacts**								

Section 5: Buildings

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Strategy B.1	**Identify and mitigate city assets at risk from sea level rise**								
5.B.1.a	Conduct analysis of city assets, pioritize vulnerable assets, and integrate in City Planning		5	5	5	0	3	18	
Strategy B.2	**Assist homeowners identify risks from sea level rise**								
5.B.2.a	Integrate sea level analysis in permitting and hold workshops		5	5	5	0	3	18	

Section 6: Natural Environment

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Goal A	**Steward Bainbridge Island's natural resources to function as healthy, resilient ecosystems that can continue to serve multiple ecological functions**								
Strategy A.1	**Steward Bainbridge Island's natural areas using the best scientific knowledge available.**								
6A1a	Best data to inform natural area management		3	3	5	0	5	16	moved to other- action c
6A1b	Invasive species plan		5	3	5	0	5	18	
6A1c	Use CCAC for land acquisition and development		5	5	5	5	5	**25**	Checklist
Goal B	**ecosystems that are resilient to climate**								
Strategy B.1	**Proactively manage Bainbridge forests for anticipated vegetational composition shifts expected under climate change.**								
6B1a	Preferred plant species list		5	5	5	0	5	**20**	
Strategy B.2	**Mitigate wildfire and forest disease risk through proactive forest management**								
6B2a	Stocking densities and evaluation		5	3	5	0	5	18	
6B2b	Wildfire risk reduction		5	5	5	3	5	**23**	
Goal C	**Protect and maintain the integrity of our Island's surface and groundwater resources in the face of climate change**								

Section 6: Natural Environment

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Strategy C.1	**Maximize protections for intact hydrologic processes including aquifer recharge and stormwater runoff.**								
6C1a	Increase water conservation/efficiency in codes		3	5	5	3	5	**21**	
6C1b	CAO enforcement		3	5	5	0	5	18	moved to other- action c
6C1c	Support surface water monitoring and integrate climate parameters		3	5	5	3	5	**21**	
Strategy C.2	**Identify and implement targets that will balance aquifer discharge and recharge, incorporating climate change projections.**								
6C2a	Groundwater management plan development and implementation		5	3	5	3	5	**21**	
Goal D	**Steward our Island's shorelines to allow for resilience in the face of climate impacts including sea level rise.**								
Strategy D.1	**Incorporate sea level rise and other ocean climate impacts into the shoreline master program and other shoreline management planning decisions**								
6D1a	Sea level rise integration into SMP		5	5	5	3	3	**21**	
6D1b	Ecosystem values in SLR planning and community conversations		3	3	5	0	5	16	moved to other -action b

Section 6: Natural Environment

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Goal E	**Support an agricultural system that prioritizes climate change resilience, local food production, and ecosystem services**								
Strategy E.1	**Identify community goals for local food production and consumption**								
6E1a	Targets for local food production on public farmland	3		3	5	3	5	19	
6E1b	Community targets for local food production	3		3	5	3	5	19	moved to other- although equivalent score, more of this is outside of direct City control
Strategy E.2	**Maximize opportunities for agricultural practices that mitigate climate change.**								
6E2a	Support local agriculture with city code	3		5	5	3	5	**21**	
6E2b	Water budgeting for agricultural land use	3		3	5	3	5	19	
6E2c	Support carbon storage and hydrologic integrity of agricultural soils	3	3	3	3	0	5	17	moved to other- action c
Strategy E.3	**Improve manure management to reduce emissions associated with livestock waste and fertilizer delivery.**								
6E3a	Require manure management for all permitted agricultural activities.	3		5	5	0	5	18	

Section 7: Waste Reduction

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Goal A	**Reduce Island residential, commercial, and industrial waste generation**								
Strategy A.1	**Promote sustainable consumption within City operations**								
7A1b	Centralize purchasing within city to increase adherence to sustainable procurement	3		5	5	0	3	16	
Strategy A.2	**Promote sustainable consumption in the community**								
7A2a	Ordinance to reduce single-use plastics	3		5	5	0	5	18	
7A2b	Support hydration station installation in community		3	3	5	5	5	**21**	co-benefits include reduced plastic waste and improving access to water, including to vulnerable communities because offers a free resource
Strategy A.3	**Reduce food waste by both commercial entities and residents**								
7A3a	Educate and support food waste reduction	3		3	5	5	3	**19**	
7A3b	Increase collection and distribution of excess food	1		3	5	5	3	17	moved to other actions
Goal B	**Increase diversion of waste from the landfill**								
Strategy B.1	**Increase composting within City facilities.**								
7B1a	Pair and provide clear signage for compost and recycling at City facilities	1		5	5	0	0	11	collapsed B1 and B2 into 1 strategy as they are closely related

Section 7: Waste Reduction

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Strategy B.2	**Expand residential and commercial recycling and composting participation.**								
7B2a	Offer curbside compost pickup for all commercial facilities as a weekly service and require participation	5		3	5	0	5	**18**	co-benefits should include decreased costs associated with diversion to green waste
Goal C	**Optimize collection and disposal systems to minimize greenhouse gas emissions**								
Strategy C.1	**Reduce GHG emissions associated with disposal of WWTP biosolids**								
7C1a	Reduce GHGs associated with WWTP biosolids	5		1	5	0	5	16	co-benefits could include electricity or nutrient generation
Strategy C.2	**Reduce GHG emissions associated with off-island transportation of green waste.**								
7C2a	Increase local processing of green waste	5		3	5	0	5	**18**	
Goal D	**Ensure that any new waste-related infrastructure is not sited in current or future hazard areas.**								
Strategy D.1	**Consider projected climate change impacts and factor into site selection for waste-related infrastructure.**								
7D1a	Use Climate Certification to evaluate any new waste related infrastructure		5	5	5	3	3	**21**	Checklist

Section 8: Community Engagement

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
Goal A	**Increase community awareness and knowledge about climate change**								
Strategy A.1.	**Provide accessible information throughout the community**								
8.A.1.a.	Climate webpage and widespread CAP avaiability	3		5	5	5	5	23	
Strategy A.2.	**Increase community knowledge of how to reduce individual impact.**								
8.A.2.a.	CC tip of the month	3		5	5	5	5	23	
Goal B	**Inspire action across community and partner locally and regionally**								
Strategy B.1.	**COBI partners with local and regional organizations on mitigation and adaptation actions.**								
8.B.1a	Declare climate emergency	0		5	5	5	5	20	
8.B.1.b.	Partner with other regional jurisdictions	3		5	5	5	3	23	
Strategy B.2.	**COBI inspires Bainbridge community members to take meaningful individual action.**								
8.B.2.a.	Host hands-on demonstrations and community projects	3		5	5	5	5	23	
Goal C	**Empower and prepare COBI and community for impacts and emergencies**								
Strategy C.1.	**Ensure the City is empowered and has the necessary authority and capability/capacity.**								

Section 8: Community Engagement

Action Number	Brief Description	GHG emissions reduction	Reduces vulnerability to climate change	Implementable	Duration of benefits	Equity	Multi-solving	Total Points	Comments
8.C.1.a.	Review/revise legal authorities	5		3	5	5	5	23	necessary for rest of CAP to work
8.C.1.b.	Include CC actions in budget	5		5	0	5	5	20	needs continued funding, necessary for rest of CAP to work
8.C.1.c.	Hire City Climate Mitigation/Adaption Officer	5		5	0	5	5	20	needs continued funding
Strategy C.2.	**Establish programs or networks to ensure the City and community are prepared to effectively adapt to climate change impacts and emergencies.**								
8.C.2.a.	Establish community recharging centers	5		3	5	5	5	23	

University of Washington Program on Climate Change, College of the Environment
Graduate Certificate in Climate Science Capstone Proposal

Identifying patterns of participation and reluctance in the Bainbridge Island Climate Action Plan

Focus group with Bainbridge Island business owners on the BI Climate Action Plan

Jacquelyn Shaff, School of Marine and Environmental Affairs
Faculty advisor: Miriam Bertram, PCC
Community partner: Michael Cox, Bainbridge Island Climate Change Advisory Committee

UW Program on Climate Change Introduction

The University of Washington's Program on Climate Change (PCC) was founded in 2001 within the College of the Environment to foster interdisciplinary collaboration that promotes research and education in climate science. The PCC offers a Graduate Certificate in Climate Science that graduate students can work towards in addition to their disciplinary degree. The purpose of the certificate is to provide interdisciplinary training in climate science that will increase the scientific breadth and professional employability of UW graduate students. The certificate requires students to complete several PCC courses and complete a capstone on Climate Science Communication grounded in climate science and communication targeted at non-experts. Previous well-received capstones have included curriculum development for education settings, communication materials that explain climate science to the general public, and digital tools for visualizing and mapping the latest climate science. The PCC keeps an updated blog of projects for further detail.

Capstone Project Background and Objectives

Following the Bainbridge Island City Council's approval for a climate action plan (CAP), a volunteer group called the Climate Change Advisory Committee developed the plan that outlined three goals for the Island: mitigation through reducing greenhouse gas emissions, adapting the climate change impacts, and promoting community engagement to take mitigation and adaptation actions. The CAP highlights 172 total actions divided into six areas: energy, buildings, transportation, natural environment, waste, and community engagement. The next step will be identifying which solutions will be most successful among residents, and areas of reluctance or resistance within the plan to determine the most efficient implementation strategies.

The capstone project will be to design, implement, and evaluate a single focus group with community members on the CAP to determine which solutions residents would be willing to partake in using the Community Climate Solution tool, a platform where users can identify specific actions they can take to lower their CO2 use and reliance. The in-person focus group (can be turned to virtual for COVID-19 safety precautions if needed) will include between 8-12 local Bainbridge Island business owners. The commercial sector is responsible for part of the city's emissions, making their participation in the CAP essential to reaching the plan's goals. Additionally, these business owners are also Bainbridge Island community members, meaning they have a significant stake in the community's wellbeing. Many of the actions listed in the plan are business-specific and can offer businesses innovation and cost-saving opportunities.

The main objectives of this project:

1. Discuss climate science in a way that is understandable to a wide audience
2. Articulate climate change and its impact to BI by introducing the CAP and its main goals
3. Highlight specific solutions local businesses can adopt to reach the CAP goals, while emphasizing some of the short and long-term benefits of becoming a part of the solution.
4. Determine preferred solutions by local businesses.
5. Determine areas of reluctance or resistance by local businesses.
6. Evaluate whether the climate science was communicated effectively through surveys from focus group participants.

The event will start with a summary of the CAP and the Community Climate Solution platform. The participants will then fill out a survey structured using the Likert scale to determine their willingness to participate in the Community Climate Solution platform and to understand the responsibility they feel they have for addressing the CAP emission reduction goals. Assuming this event will be held in person, participants will be asked to fill the survey out on paper (if the event moves online for COVID-19 safety precautions, the survey can be sent out virtually using tools such as Poll Everywhere or Survey Monkey).

A semi-structured discussion will follow based on the survey results to better understand the concerns, values, and norms business owners have that influence their willingness to adopt specific CAP solutions and identify areas where there may be reluctance. There will be opportunities for participants to ask questions, and those questions can potentially be used to better understand what those in the focus group do and do not know about climate change. Any personal identifiers will be removed from the survey and data gathered during the focus group to keep participants anonymous. With participant consent, the focus group can be recorded to analyze the content later on.

After 60 days, I will conduct a post inquiry with the individual participants and see if their participation preferences changed, asking if they signed up for the Community Climate Solution platform and adopted certain solutions from the CAP. The purpose is not to ask participants to adopt certain solutions, but instead better understand their responsibility to different solutions.

Focus group participants will be asked a short series of questions to understand their knowledge of climate science before and after the event. I will analyze those results, along with the survey results, after the event to evaluate the effectiveness of the climate science communication. The results will be used in a final report that will be submitted to PCC. If the focus group format is successful at eliciting responses, the BI Climate Change Advisory Committee hopes to replicate the process with other groups on the island, such as the city's senior center, churches, or social clubs.

Partners

I am working with Michael Cox and John Kydd, members of the Climate Change Advisory Committee on Bainbridge Island that were responsible for creating the Climate Action Plan. Together, we are working with other committee members and the Bainbridge Island Climate Officer to create this focus group event. Michael Cox and the Advisory Committee will assist with reaching out to businesses to begin advertising for volunteers for the focus group.

I will host the event, introducing general climate science and the CAP, facilitating the discussion on the survey, and providing further guidance for follow-up surveys.

Target Audience

The target audience are community members within the group on the island we are conducting the focus group with. For this capstone, it will be business owners (ideas include Chamber of Commerce, grocery stores, restaurants, landscaping/gardening services, property management/ real estate, construction/contractors, and gift/clothing shops), but potential future focus groups will be targeted at the respective group they are a part of. The overarching goal is to understand the general Bainbridge Island community's willingness to participate in the CAP and use the results from the focus group to guide implementation strategies.

Deliverable

There will be a brief presentation containing visuals to summarize general climate science in the region, the CAP, and the Community Climate Solutions program. The surveys from the focus group on their willingness to participate in the CAP and the pre- and post- event surveys on general climate science knowledge and opinions will be compiled and analyzed to provide data to be used for implementation by the Climate Action Advisory Committee. If the focus group is successful, the presentation and survey questions can be used for additional focus groups within the community, and potentially other cities, by creating an outline of the focus group effort.

Timeline

Date	**Goal**
5/13/2021	Meeting with Michael Cox on initial project brainstorm
6/3/2021	Meeting with Miriam Bertram to discuss how project aligns with capstone requirements
8/9/2021	Meeting with Michael Cox and John Kydd to narrow down project details
8/30/2021	Meeting with Michael Cox and John Kydd to edit the proposal
9/2/2021	Submit capstone project proposal
9/15/2021	Attend Bainbridge Island climate change advisory committee meeting and give brief presentation on this capstone proposal. Create an advertisement to be shared with local businesses to find volunteers for the focus group.
10/1/2021	Begin reaching out to local businesses. Members of the climate change advisory committee can use the advertisement created to share with contacts they may have.
11/1/2021	Confirm focus group participants and secure their emails for follow-up purposes
11/1/2021	Finalize survey and visuals for presentation on the Climate Action Plan.
November/December/ January	Meet with Bainbridge Island Climate Change Advisory Committee to practice format
January 2022	Host focus group with several local businesses
March 2-22	Follow-up with focus group participants after 60 days for check-in

4/31/2022	Submit draft of capstone project for review
6/1/2022	Submit final report

Draft Survey

*Note: Although these questions are meant to be targeted towards the individuals representing their business, it can be difficult to divorce one's personal beliefs from the business. We invite participants to answer these questions as both an individual community member and business owner.

Preliminary questions to take place prior to the start of the focus group

1. When you hear the phrase 'climate change', what images, words or phrases pop into your head?

2. On a scale of 1-10, how would you rate your knowledge on climate change (1 being you have never heard of climate change and 10 being you consider yourself an expert in climate change)?

3. State your level of agreement with the following statement: Human activities are a main driver of climate change
   - o Strongly Disagree
   - o Disagree
   - o Neutral
   - o Agree
   - o Strongly Agree

4. What responsibility do you feel as a resident and a business owner to act to reduce your carbon footprint?
   - o No responsibility
   - o Minor responsibility
   - o Moderate responsibility
   - o Profound responsibility

5. Which possible effects of global climate change concern you most (mark all that apply)?
   - o Water scarcity (and/or subsequent supply shortages due to water scarcity) from droughts
   - o Operational impacts from extreme heat or wildfires
   - o Spike in food costs
   - o Human health implications from increasing temperatures
   - o Damage to roads or property from rising sea levels
   - o Flooding from sea level rise or extreme weather events
   - o Erosion from sea level rise or extreme weather events
   - o Power outages form extreme weather events
   - o Damage to marine organisms (e.g., oysters) and related economic impacts from ocean acidification
   - o Stagnation in tourism
   - o Climate related inflation
   - o Increased cost of insurance or lack of insurance availability
   - o Other:_____

6. What are the top things you hope to get out of today's event?

Focus group survey
**After introduction of the Community Climate Solutions platform*
7. How likely are you to participate in the Community Climate Solution Program for yourself in the next 60 days?

- Very Unlikely
- Unlikely
- Neutral
- Likely
- Very Likely

8. How likely are you to participate in the Community Climate Solution Program for your business in the next 60 days?

- Very Unlikely
- Unlikely
- Neutral
- Likely
- Very Likely

9. How likely are you to participate in solutions to meet the Climate Action Plan goals in each of the six areas below?
**After introduction to the CAP with specific actions identified for each section*

	Very Unlikely	Unlikely	Neutral	Likely	Very Likely
Green our **energy** supply					
Reduce **building** energy use					
Reduce fossil fuel-based **transportation**					
Protect Bainbridge Island's **natural environment**					
Reduce our collective **waste**					
Increase **community** understanding					

of the importance of climate action					
Other:					

10. Given that our city is committing to reducing greenhouse gas emissions by 25% by 2025 and 90% by 2045 compared to 2014 levels, what % reduction are you willing to try for

a. For one year from now
b. For two years from now
c. For three years from now
d. What outside help would you like to have to get this done?

Exit survey

11. On a scale of 1-10, how much has your knowledge on climate change changed today (1 being you did not learn anything and 10 being you have learned a lot today)?

12. What information, if any, did you find most useful?

13. Are there areas of the Climate Action Plan you would like more information on?

14. After today, how likely are you to talk about climate change and the CAP with friends or family?

- Very Unlikely
- Unlikely
- Neutral
- Likely
- Very Likely

15. Can we contact you in 60 days for a brief follow-up survey?

Follow-up survey after 60 days

16. Did you sign up for the Community Climate Solutions Program?

17. If yes, have you adopted any solutions from the Climate Action Plans? If yes, which ones?

If no, is there other information or assistance that could be provided for you to sign up for the Community Climate Solutions Program?

18. How likely are you to commit to the solutions you adopted above in question 17?

- Very Unlikely
- Unlikely
- Neutral
- Likely
- Very Likely

19. Would you find it valuable if all businesses that commit to addressing climate change per the CAP be provided a window sticker that honors their participation? How else might we recognize Bainbridge Island businesses showing exemplary climate leadership?

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Bainbridge Island Climate Action Plan

Focus Group with Business Owners

Jackie Shaff

Graduate Certificate in Climate Science Capstone

September 15, 2021

Today's Outline

UW Climate Science Certificate & Capstone

Focus Group Design

Timeline

Next Steps

UW Program on Climate Change

- PCC founded in 2001 within the UW College of the Environment
- Promotes collaborative research and education in climate science across the university
- **Graduate Certificate** in Climate Science
  - Requires a **capstone project on Climate Science Communication**
  - Visit https://pcc.uw.edu/news/category/gcecs-capstone/ for previous capstone projects

Capstone Proposal - Focus Group

- Next step for CAP: Identifying implementation strategies
- Host focus group with local Bainbridge Island **business owners**
- **Goals:**
    - Better understand the concerns, values, and norms business owners have that influence their willingness to adopt specific CAP solutions and identify areas where there may be reluctance
    - Use results to create additional focus groups

Focus Group Structure

Step 1) Preliminary survey on general climate science knowledge

Example questions:

1) When you hear the phrase ‘climate change’, what images, words or phrases pop into your head?
2) On a scale of 1-10, how would you rate your knowledge on climate change (1 being you have never heard of climate change and 10 being you consider yourself an expert in climate change)?
3) State your level of agreement with the following statement: Human activities are a main driver of climate change

   Strongly Disagree Disagree Neutral Agree Strongly Agree

Focus Group Structure

Step 2) Presentation on the CAP and the Community Climate Solution platform

- Presentation on **general climate science** and **specific impacts of climate change to Bainbridge Island**
- Summary of the **CAP**
  - Goals
  - Six areas of proposed actions: energy, buildings, transportation, natural environment, waste, and community engagement
- Tutorial on the **Community Climate Solution Platform**

Focus Group Structure

Step 3) Survey on business owner responsibility for addressing CAP goals

How likely are you to participate in solutions to meet the Climate Action Plan goals in each of the six areas below?

	Very Unlikely	Unlikely	Neutral	Likely	Very Likely
Green our **energy** supply					
Reduce **building** energy use					
Reduce fossil fuel-based **transportation**					
Protect Bainbridge Island's **natural environment**					
Reduce our collective **waste**					
Increase **community** understanding of the importance of climate action					

Focus Group Structure

Step 4) Semi-structured discussion on survey results

- Go over survey results as a group
- Better understand climate change knowledge
- Better understand willingness to adopt solutions and areas of reluctance
- Opportunities for participants to ask questions

Focus Group Structure

Step 5) Exit survey on climate science knowledge gained and next steps

Example questions:

1) On a scale of 1-10, how much has your knowledge on climate change changed today (1 being you did not learn anything and 10 being you have learned a lot today)?
2) What information, if any, did you find most useful?
3) Are there areas of the Climate Action Plan you would like more information on?
4) After today, how likely are you to talk about climate change and the CAP with friends or family?

   Very Unlikely Unlikely Neutral Likely Very Likely

Focus Group Structure

Step 6) Follow-up survey after 60 days

Example questions:

1) Did you sign up for the Community Climate Solutions Program?
2) If yes, have you adopted any solutions from the Climate Action Plans? If yes, which ones?

   If no, is there other information or assistance that could be provided for you to sign up for the Community Climate Solutions Program?
3) How likely are you to commit to the solutions you adopted above in question?

   Very Unlikely Unlikely Neutral Likely Very Likely

Timeline

October 2021	Reach out to local business owners
November/ December 2021	Confirm participants
November/ December 2021	Finalize survey and visuals for presentation
December/ January 2022	Meet with Bainbridge Island Climate Change Advisory Committee to practice format
January 2022	Host focus group with several local businesses
March 2022	Follow-up with participants after 60 days for check-in
April 2022	Send out draft of results for review
June 2022	Submit final capstone project to UW

Next steps

- Reach out to business owners
  - Will provide this flyer describing the CAP and focus group
- Confirm 8-12 participants
- Set date in January

Bainbridge Island Climate Action Plan

FOCUS GROUP WITH BUSINESS OWNERS

Background

In November 2020, the Bainbridge Island City Council approved the island's first climate action plan (CAP) developed by the Climate Change Advisory Committee (CCAC). The plan outlines three goals for the City.

Mitigation: Reduce greenhouse gas emissions by 90% by 2045 compared to 2014 levels with interim milestones of 25% reduction by 2025 and 60% by 2035 compared to 2014 levels.

Adaptation: Bainbridge Island is climate savvy, and can withstand the impacts of climate change.

Community Engagement: Bainbridge Island inspires community action and partners with local and regional organizations to take meaningful and equitable climate change mitigation and adaptation actions.

Focus Group

A graduate student from the University of Washington's Program on Climate Change will be working with the CCAC to host a focus group with Bainbridge Island business owners. As important members of our community, we want to better understand the responsibility business owners feel they have for addressing the CAP emission reduction goals.

Results from this focus group will be used to guide efficient implementation strategies of the CAP.

Tentative date:
January 2022
Location and time TBD

We want to hear from you!

CONTACT JACKIE SHAFF WITH QUESTIONS AT JFSHAFF@UW.EDU

CLICK HERE FOR MORE INFORMATION ON THE BAINBRIDGE ISLAND CLIMATE ACTION PLAN