



Environmental Technical Advisory
Committee Regular Meeting Thursday
April 18, 2024, 3:00 PM
Chamber Conference Room, City Hall
280 Madison Ave N
Bainbridge Island, WA

The Environmental Technical Advisory Committee will hold this meeting in person, in the City Hall Chamber Conference Room, 280 Madison Ave N, Bainbridge Island, WA
It is recommended that attendance be in person, but it is also accessible via the Zoom meeting platform.

<https://bainbridgewa.zoom.us/j/82237251377>

Webinar ID: 822 3725 1377
Or iPhone one-tap: US: +12532158782 Or Telephone: +1 253 215
8782 or +1 669 900 9128 or +1 346 248 7799

Agenda for April 18, 2024, ETAC Meeting

Call to Order / Roll Call / Conflict of Interest Disclosure - 3:00 PM

Members: Melanie Keenan, Malcolm Gander, Dylan Frazer, Ben Harrison, and Brian Harmon

Council Liaison: Clarence Moriwaki

COBI Staff: Patricia Charnas – Director of Planning & Community Development
Renee Argetsinger - PCD Administrative Specialist

Approval of Agenda – April 18, 2024 - (5 min)

Approval of Minutes – March 21, 2024 - (10 min)

Council Liaison Report – Clarence Moriwaki - (5 min)

COBI Staff Comments - (5 min)

Chair Report – Melanie Keenan - (5 min)

1. **Finalized Work Plan** will be submitted to City Council (CC) by Melanie (ETAC Lead) at 4/16/24 CC Study Session (5 min)
2. **Groundwater Management Plan (GWMP), Subcommittee Update** regarding ongoing analysis of the BI Groundwater Modeling updates by COBI's consultant EA, and highlights from the last GWMP Subcommittee meeting on April 8 (25 min):
 - 3 100-year modeling population estimate scenarios are planned: Low (46K people), Medium (57K) and High (~70+K) Growth Rates
 - Further review of historic data for population growth and resulting pumping increases is required to adequately account for pumping estimates more than modeling exercises are currently addressing, e.g.,
20,400 people in 2000 used about 300 million gallons of water from KPUD+COBI
~ 24,000 people in 2022 used about 570 million gallons from KPUD+COBI
A ~20% increase in population caused a 90% increase in consumption, i.e., an almost doubling of consumption-the increase is not linear.
 - Differing opinions by both GWMP Subcommittee and GWMP TAC members on amount of recharge changes going forward. Problems with EA/COBI data inputs for rainfall, and accounting for CGI predictions. Aspect 2023 Model Update decreasing recharge 20% due to population growth, increases in impervious surfaces, and climate change to account for longer warmer dryer summers, with less rain events with more intense precipitation, leading to more runoff and less recharge. EA suggested minimum scenario increases recharge by 65%, not accepted by various members. Rational for

Aspect 20% decrease in recharge should be available to provide additional understanding. Kitsap County varies in annual rainfall amounts. South Kitsap 80", North Kitsap 20", Bainbridge Island 38". Average Kitsap County rainfall is not a good estimation for BI.

- Problems with EA using and interpreting data from 2011 USGS GW Model BI recharge estimates vs. 2016 USGS Kitsap Peninsula GW Model which decreased estimated recharge.
 - Model should acknowledge existing significant streamflow decreases in Springbrook, Issei, Shel-Chelb, & Cooper Creeks (among others), and complement Aspect's 2016 & 2023 model updates that predicted 15-58% streamflow reductions in the future.
 - Importance of an island-wide & stakeholder-inclusive public process:
 - COBI deliver monthly updates to City Council:
 - COBI Technical Advisory Committee (TAC) meeting, only TAC meeting in May 2022
 - COBI should record the GWMP Technical Advisory Committee (TAC) meeting on March 21, 2024
- Appendix A. GWMP Subcommittee Agenda April 8, 2024. (attach pdf)

3. Wyckoff Superfund Site construction plans (15 min). Update for GWMP contaminated sites.

- Site cleanup activities including concrete wall construction outside failed steel wall, in-situ concrete stabilization of highly contaminated process area, and installation of new groundwater monitoring wells after the concrete stabilization are projected to take ten years to complete.
- Due to complexity of project and anticipated funding delays, the project is expected to take more than ten years to complete.
- The project budget for implementation of the remedial activities is ~ \$100M.
- Due to inflation and rising costs caused by the Pandemic and global unrest, the remedial activities costs are expected to exceed \$100M approximately \$300+M.
- US EPA will fund implementation of remedial activities.
- WA Dept. of Ecology will fund operation and maintenance of remedial systems, e.g., fund periodic replenishment of soil cover over beach areas with residual creosote, and over areas offshore of the process area where substantial creosote remains over a thin veneer of engineered sediment.
- COBI will have no financial responsibility for ROD Amendment cleanup costs, other than funding of (for example) mowing of grass or maintenance of trails. Potential liability.
- Understanding of Institutional controls, misinformation in the BI Review about potential future use of the site.
- Problems with proposed remedy, concrete stabilization
- NOAA Sea level rise mapping of 4' indicates the Superfund site will be underwater

4. PFAS Maximum Contaminants Levels (MCLs) for drinking water set by EPA

EPA rule limits PFAS chemicals in drinking water. GWMP related to sewage treatment and waste water recharge recommendations. (10 min)

Appendix B (attach pdf)

<https://www.npr.org/sections/health-shots/2024/04/10/1243775736/epa-pfas-forever-chemicals-drinking-water-limits>

5. Next Meeting Planning (5 min)

6. For the Good of the Order (5 min)

7. Public Comment (5 -10 min)

8. Adjournment



Environmental Technical Advisory
Committee Regular Meeting
Thursday March 21, 2024, 3:00 PM
Chamber Conference Room, City
Hall
280 Madison Ave N
Bainbridge Island, WA

March 21, 2024, ETAC Meeting Minutes

Call to Order / Roll Call / Conflict of Interest Disclosure - 3:05 PM

Members Present: Melanie Keenan, Malcolm Gander, and Ben Harrison,
Members Absent: Brian Harmon and Dylan

Council Liaison: Clarence Moriwaki - not present

COBI Staff: HB Harper – Planning Manager
Renee Argetsinger - PCD Administrative Specialist

Approval of Agenda – March 21, 2024 – No comments Ben/Malcolm – unanimously approved

Approval of Minutes – November 16, 2024, January 18, 2024, and February 15, 2024 -
Malcolm/Ben – unanimously approved

Council Liaison Report – Clarence Moriwaki – No report

Chair Report – Melanie Keenan - No report

COBI Staff Comments – Planning Manager – HB Harper shared info about the formatting and approval of Work Plans.
Renee to forward the Ordinance to ETAC members.

- 1. Finalize Work Plan - will be submitted to City Council by Melanie**
Chair Keenan received communication from Deputy City Manager – Ellen Schoer, regarding the new formatting of work plans and stated she will make the necessary changes that the ETAC work plan just needs some minor adjustments.
- 2. Groundwater Management Plan (GWMP), Subcommittee Update**
Chair Keenan provided a brief outline of the groundwater model and reported that she had put together comments on the scenarios on the water resources. Discussion by members followed with reviews of the various modeling scenarios.
- 3. Importance of complying with requirements for an island-wide & stakeholder-inclusive public process & COBI should videotape upcoming Technical Advisory Committee (TAC) meeting.**
Review by committee members of what has happened in the past, including groundwater and surface water reports, base-line modeling, and future conditions, surface flow and modeling of the streams. Discussion of what will be important to focus on moving forward including recharge, population, and pumping.
- 4. Growth Requirements, new laws, and Growth Management Act Preamble**
Chair Keenan talked about the 3 House and Senate bills, reviewed population growth projections and its effects on BI. Planning Manager Harper offered information on the applicable RCWs & WAC's, including HB 1220, 1337, 1110. Plan to discuss at the next meeting after reviewing the relevant bills.

5. **Next Meeting Planning** – Discussion – Plan to continue in the same vein, with what was reviewed. Would like an update on the Comprehensive Plan and the Winslow Subarea Plan with the EIS statement.
6. **For the Good of the Order** – Nothing offered.
7. **Public Comment** - No public comment

Adjournment: 4:10 PM

DRAFT



CITY OF
BAINBRIDGE ISLAND

GROUNDWATER MANAGEMENT PLAN
SUB-COMMITTEE MEETING
MONDAY, APRIL 8, 2024

11:30 AM

VIRTUAL – ZOOM
JOIN ZOOM MEETING

<https://bainbridgewa.zoom.us/j/87231451243>

AGENDA

1. CALL TO ORDER / ROLL CALL / ACCEPT OR MODIFY AGENDA
2. RE-CAP OF 3/21 TECHNICAL ADVISORY COMMITTEE MEETING
3. DISCUSSION OF FINAL MODELING SCENARIO ALTERNATIVES WITH FOCUS ON:
 - A. UPDATED POPULATION/PUMPING CALCULATION
 - B. UPDATED RECHARGE CALCULATION
4. GOOD OF THE ORDER QUESTIONS
5. NEXT STEPS
6. ADJOURNMENT

MATERIALS ATTACHED:

- 3/21 TAC MEETING SUMMARY
- SUQUAMISH TRIBE COMMENTS
- MODELING SCENARIO SLIDES

GWMP – Tech Advisory Committee

2024-03-21

Notes by Ted Jones, UAC co-chair

Present:

Christian Berg Water, Dave Nazy – EA, John Kies KPHD, Charlie K – Suquamish tribe now, Elise Wright and Wendy Welch UISGS, Doug Wood, WRIA Ecology, Chris W. Ted J., Andy Long USGS, Joel Purdy with ?

- Chris W. gave us background
- Dave N. gave slide show (came by email yesterday)
 - Main purpose is to update these stakeholders and take recommendations
 - Most work so far has been revising and calibrating
 - MODFLOW was original USGS work. They reported last in 2016
 - Aspect Consulting, then till now.
 - Main fixes
 - Wells in right layers
 - Layer thickness adjustments
 - 500' x 500' cells. ~5.75 + acres
 - Time step is one month. So, intensity of storms is hard to capture. Andy Long said that is a fine interval.
 - Cut error in predicted vs observed well levels about 50% (10% vs 5%)
 - Scenarios.
 - Baseline
 - Sea-level rise stress
 - Recharge Stress
 - Is it going up or down? Up in Winter and down in Summer. Net increase is up.
 - Growing season is longer so may be more crop watering in future.
 - ETAC had argued for 20% decreased recharge because the more intense rain will flow off faster. Also, urbanization increase runoff v. infiltration. Joel Purdy thought that was too severe. Its informative but not realistic. Also does not track with improvements in SW infrastructure.
 - USGS does a method I did not understand. USGS water soil balance model.
 - Andy Long offered some other means to accurately model recharge changes.
 - Pumping Stress

Commented [CK1]: Christian Berg, COBI Water Resources Program; John Kleiss; Elise Wright, Wendy Welch, Andy Long, USGS; Doug Wood, Dept of Ecology, Joel Purdy, KPUD

Commented [CK2]: Some historical background to development of GWMP

Commented [CK3]: Inform the TAC and respond to comments

Commented [CK4]: The latest GW model used for BI

Commented [CK5]: Is a publicly-available USGS groundwater model

Commented [CK6]: Ted – I think this was more your comment than from the TAC. Things like rainfall, infiltration, etc are pre-processed outside of the model and input as monthly values

Commented [CK7]: This sounds a little high – take a look at the ppt slides again

Commented [CK8]: This refers to projected changes in rainfall from CIG. I provided a comment and reference to the 2015 CIG document wrt the intensity of storms and how more intense storms means higher proportion as runoff. This comment is not captured by this wording.

Commented [CK9]: Crop and landscape irrigation

Commented [CK10]: Sounds a little combative. I would say that ETAC proposed a 20% decrease based on best available science.

Commented [CK11]: Create relatively more runoff and less infiltration

Commented [CK12]: OK, Joel did say this. However, I pushed back with reference to the CIG projections and population growth projections. Things like water conservation, stormwater reuse, and WW reclamation will be concerned after the modeling results and management strategies.

Commented [CK13]: It is called the SWB – soil water balance model. Here's a link: <https://www.usgs.gov/centers/upper-midwest-water-science-center/science/soil-water-balance-swb-a-modified-thornthwaite>

Commented [CK14]: I thought that Andy's recommendation of using the SWB was his recommendation. He also gave an idea to EA on how time-consuming this might be.

- Looked at the big systems and private wells and several growth scenarios. Low medium and high growth was recommended by our subcommittee. 84-178% growth over 100 yrs. Growth rates used some pretty aggressive numbers (err High). Water rights are not being used in this as a limiting factor.
- Not really considered are the other limits of the water infrastructure.
 - Prediction Scenarios that combine the above.
- Schedule
 - April check in with Council
 - Late April begin final scenarios
 - May-June review with committees
 - June – July present to council and people
- Comments. This team should send them in by 4/5.
- May get called back together as group when stress models have been run.

Commented [CK15]: I don't recall the growth numbers being considered extremely high. In fact, they were about 30% or so less than what was presented to the Council days before this meeting. Sounds like some editorializing here. This is why it would make sense to record these TAC meetings like all other committee meetings.

Commented [CK16]: This should not be "may". The TAC is scheduled to meet again after the modeling.



Phone (360) 598-3311

Fax (360) 598-6295

<http://www.suquamish.nsn.us>

THE SUQUAMISH INDIAN TRIBE

PO Box 498 Suquamish, WA 98392-0498

April 5, 2024

Chris Wierzbicki
Director of Public Works
City of Bainbridge Island
280 Madison Avenue North
Bainbridge Island, WA 98110

RE: City of Bainbridge Island's Groundwater Management Plan - March 21, 2024 Technical Advisory Committee

Dear Mr. Wierzbicki:

Thank you for inviting the Suquamish Indian Tribe of the Port Madison Reservation ("Suquamish Tribe" or "Tribe") to be a part of the Technical Advisory Committee (TAC) for the City of Bainbridge Island (COBI) development of a Groundwater Management Plan (GWMP).

The Tribe is a federally recognized Indian Tribe and pursuant to the 1855 Treaty of Point Elliott, the Tribe reserved the right to fish and gather shellfish at its "usual and accustomed" (U&A) fishing grounds and stations in Puget Sound. The Tribe's U&A extends well beyond the Port Madison Reservation boundaries and includes the marine waters of Puget Sound from the northern tip of Vashon Island to the Fraser River in Canada, including Haro and Rosario Straits, the streams draining into the western side of Puget Sound and Hood Canal. The Tribe's aboriginal homeland includes the entire area of the Kitsap Peninsula including Bainbridge Island.

Since time immemorial the Suquamish people have lived, gathered plants, collected ceremonial and spiritual items, hunted, and fished these lands and waters. Suquamish Tribal members have exercised their treaty right to harvest shellfish from time immemorial. The Tribe harvested shellfish prior to the Rafeedie Decision (*United States v. Washington*, 898 F. Supp. 1453 (W.D. Wash. 1995) (recognizing the Tribe's treaty right to harvest shellfish)) and up to the present.

The quality and quantity of surface and groundwater inputs to marine waters of the Kitsap Peninsula affects the health of fish and shellfish, and the ability to consume and harvest these food resources. Climate change is exacerbating the impact of existing problems by increasing precipitation in winter and extended drought events in summer.

The Tribe has the following comments on the information presented by COBI's consultant, EA Engineering, at the March 21st TAC meeting for the development of a GWMP for COBI.

(1) Climate change impacts on recharge

The impact of climate change on future recharge is more complicated than simply looking at possible changes in annual precipitation. Other important factors that cannot be overlooked include, but are not limited to, changes in land use and impervious surfaces, intensity/duration/timing of rainfall events, increased temperatures and length of growing season. In general, most research has shown that an increase in the growing season combined with more intense storms and more impervious areas will lead to less recharge.

Since directly measuring infiltration/recharge is difficult, an insight to changes in infiltration can be gathered from changes in the portion of rainfall that doesn't infiltrate (runoff). For this, the 2021 King County Surface Water Manual (<https://kingcounty.gov/en/dept/dnrp/nature-recreation/environment-ecology-conservation/stormwater-surface-water-management/surface-water-design-manual/surface-water-design-manual-2021>) provides guidance on estimating runoff using the Rational Method where runoff is directly proportional to changes in rainfall intensity and runoff coefficients. As forested land is cleared for residential development the runoff coefficient increases, from a value of 0.10 for dense forest to 0.25 for lawns to 0.90 for pavement and roofs.

In addition to a larger percentage of rainfall running off due to land use changes, the 2015 University of Washington Climate Impacts Group report (<https://cig.uw.edu/projects/climate-change-in-puget-sound-state-of-knowledge/>) projects the number of high intensity storms to increase from 2 days per year to 7 days per year. The definition of high intensity storms is the frequency of exceeding the historical 99th percentile of 24-hour precipitation (see page 2-16).

Given the projected 100-year population increase on Bainbridge Island of 178% along with the concomitant change in runoff coefficient and the projected increase in frequency of intense storms, it seems that considering a scenario with a significant reduction in recharge is warranted. Thus, the Tribe suggests that the scenario of a 20% decrease in recharge in 100 years should still be considered.

(2) Groundwater interactions with streamflows

While the groundwater model does not directly account for streamflows in specific creeks, the water balance results do show the overall amount of groundwater discharging to streams in the 12 surface water basins of Bainbridge Island. The current initial model results show there to be potentially substantial decreases in these groundwater discharges in the future. The Tribe is concerned over this potential result, especially on some of the more significant salmon-bearing streams such as Springbrook Creek, Manzanita Creek, and Murden Creek.

The Tribe appreciates the ability to work cooperatively with the City of Bainbridge Island and to submit these comments on the direction of the GWMP. If you have questions or comments regarding the comments provided please do not hesitate to contact me.

Sincerely,

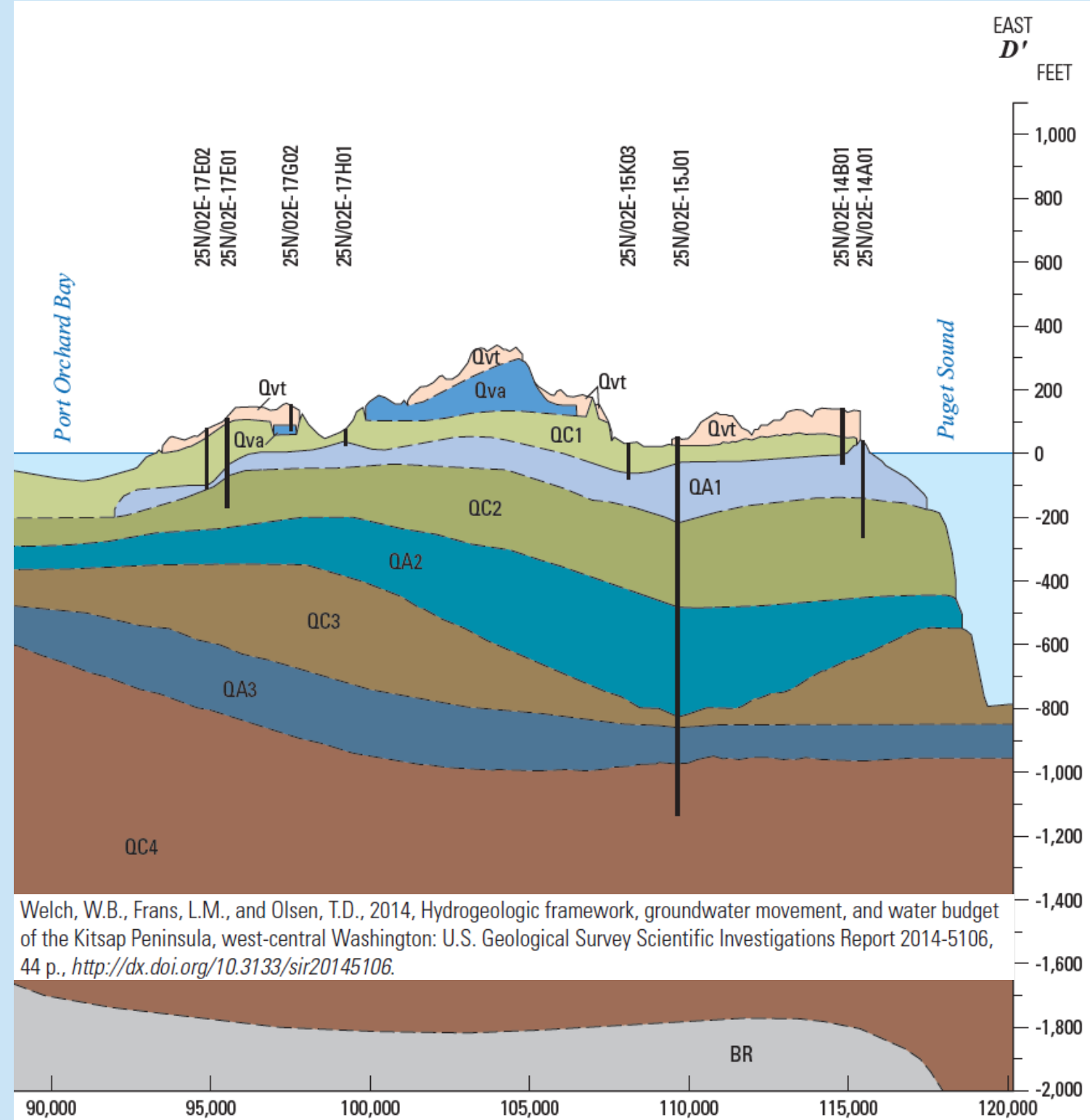
Charlie Kratzer, Hydrologist/Water Resources Coordinator
Ecosystem Recovery Program, Natural Resources Department

Cc: Alison O'Sullivan, Ecosystem Recovery Program Manager



Bainbridge Island Groundwater Management Plan

Sub-Committee Meeting
April 8, 2024



Welch, W.B., Frans, L.M., and Olsen, T.D., 2014, Hydrogeologic framework, groundwater movement, and water budget of the Kitsap Peninsula, west-central Washington: U.S. Geological Survey Scientific Investigations Report 2014-5106, 44 p., <http://dx.doi.org/10.3133/sir20145106>.



100-Year Groundwater Modeling Scenarios

Comparison scenario – Compare 2024 calibrated model with 2023 model

Baseline scenario – Current conditions projected into the future

Sea-Level Rise Stress Sensitivity Scenarios – Baseline + mod./max. sea-level rise

Recharge Stress Sensitivity Scenarios – Baseline + mod./max. recharge

Pumping Stress Sensitivity Scenarios – Baseline + increases in pumping

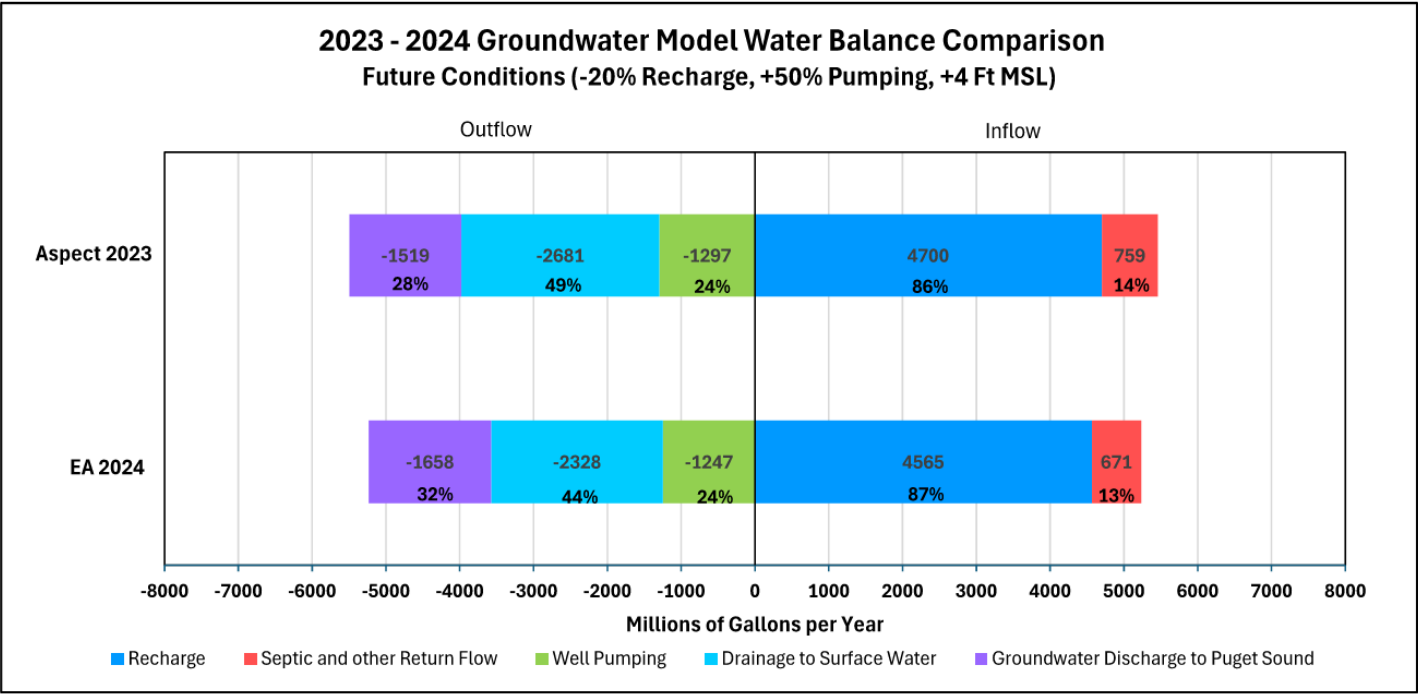
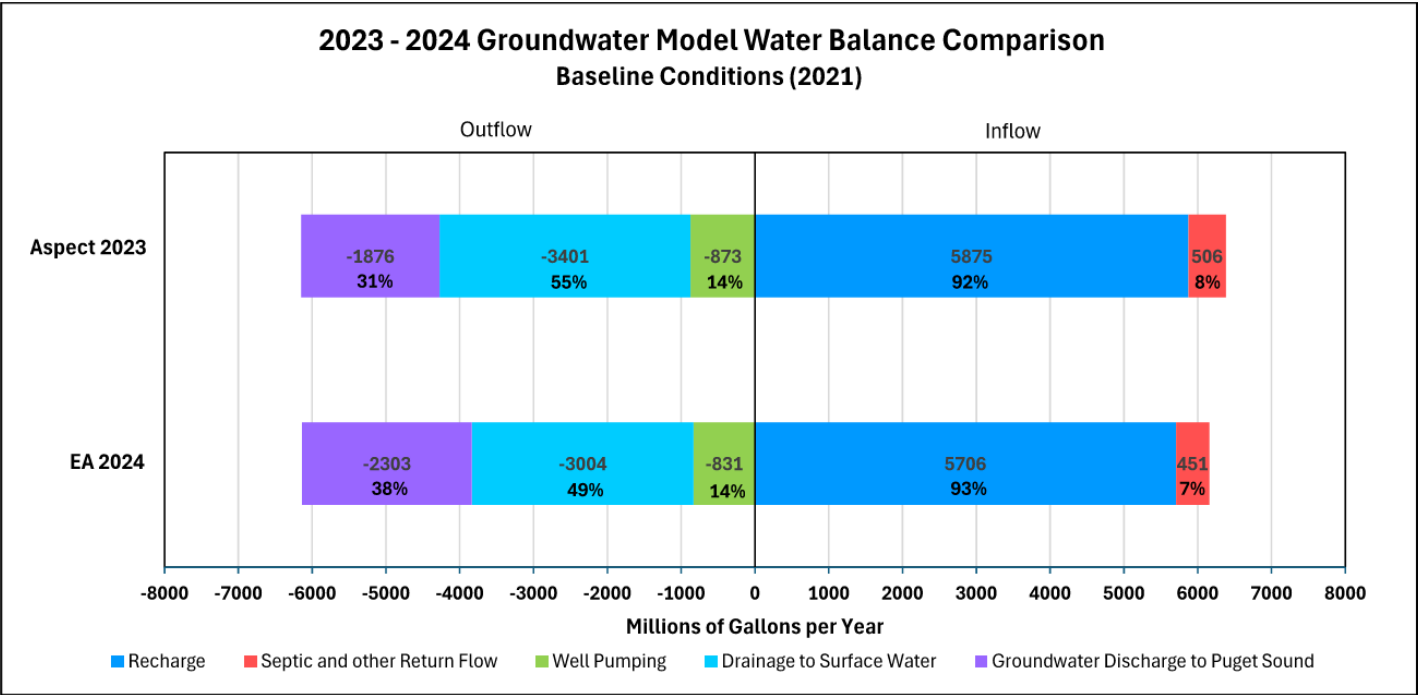
Prediction Scenarios – Combination of Baseline + stresses (basis for planning)

100-Year Groundwater Modeling Scenarios

Baseline scenario – current conditions projected into the future.

Comparison scenario – Compare 2024 calibrated model with 2022 model.

- Stresses:
- -20 % Recharge
 - +50 % Pumping
 - 4 Ft Sea Level Rise

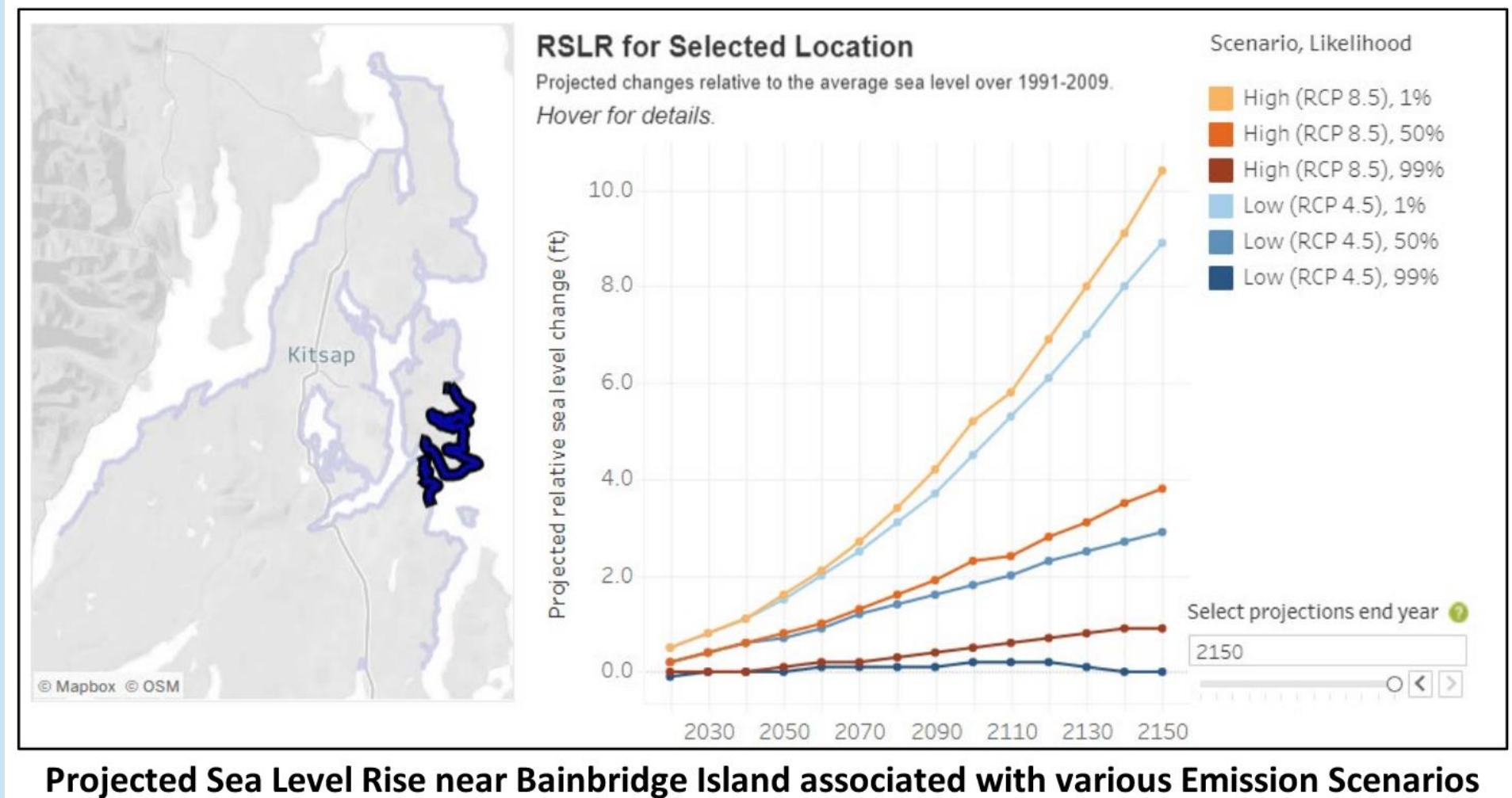




100-Year Groundwater Modeling Scenarios (continued)

Sea-Level Rise Stress Sensitivity Scenarios – Baseline + mod./max. sea-level rise (sub-committee agreement)

- Baseline + Median sea level rise (2.8 ft in 100 yrs)
- Baseline + Max. sea level rise (6.9 ft in 100 yrs)



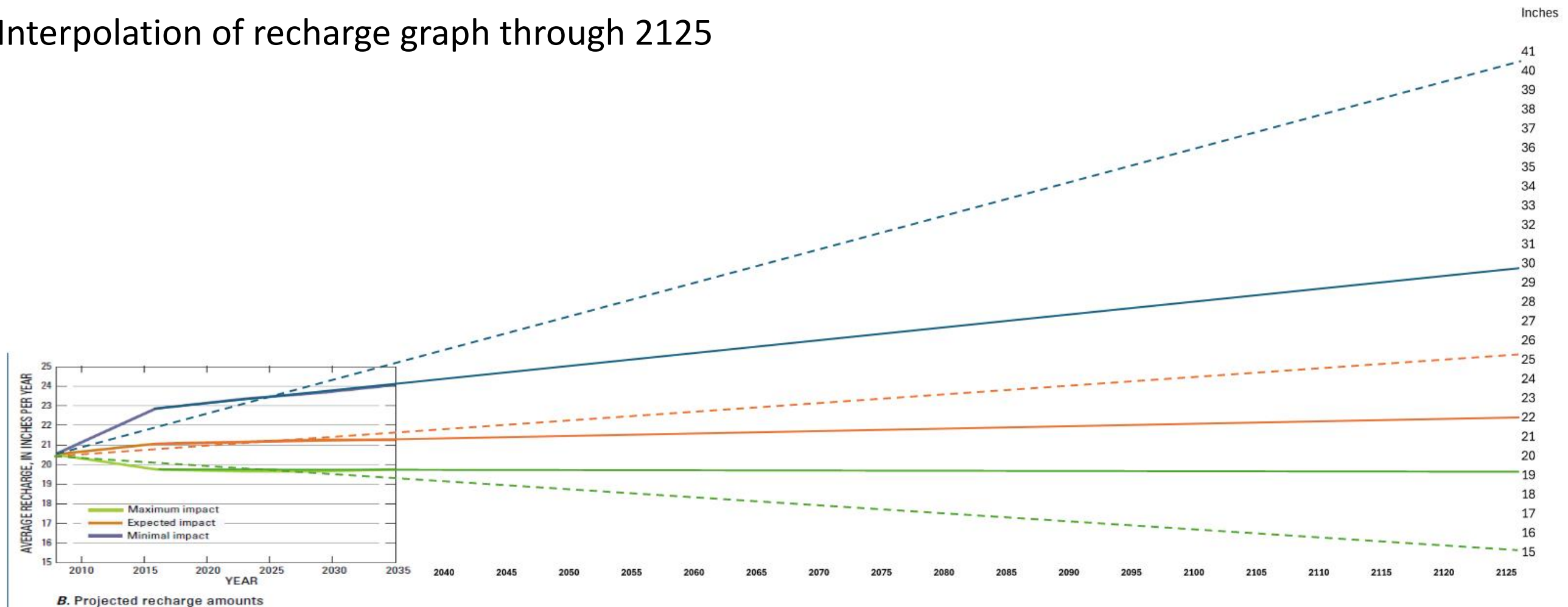


100-Year Groundwater Modeling Scenarios (continued)

Recharge Stress Sensitivity Scenarios – Based on interpolation of recharge predictions

- Baseline + 15% increase in precipitation/recharge
- Baseline – 15% decrease in precipitation/recharge

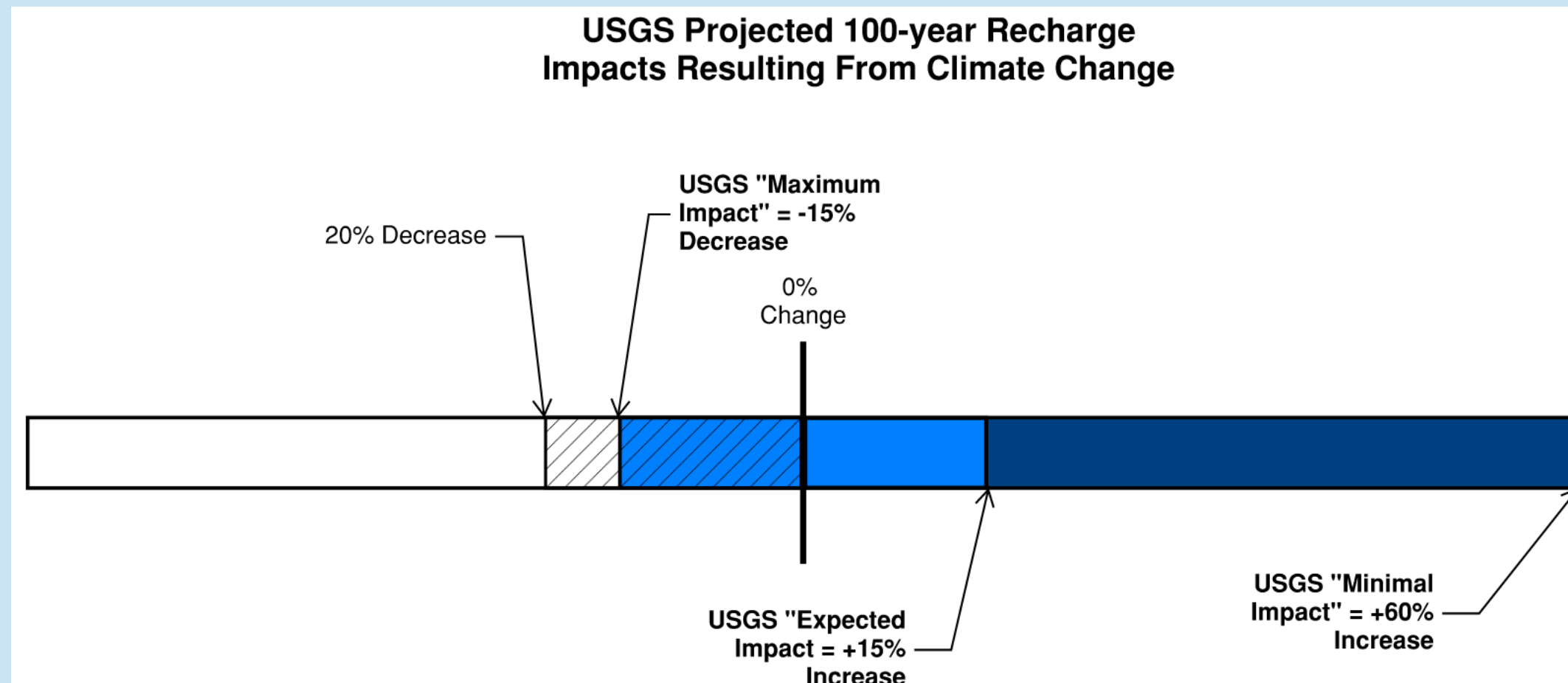
Interpolation of recharge graph through 2125



100-Year Groundwater Modeling Scenarios (continued)

Recharge Stress Sensitivity Scenarios – Based on interpolation of recharge predictions

- Baseline + 15% increase in precipitation/recharge
- Baseline – 15% decrease in precipitation/recharge





100-Year Groundwater Modeling Scenarios (continued)

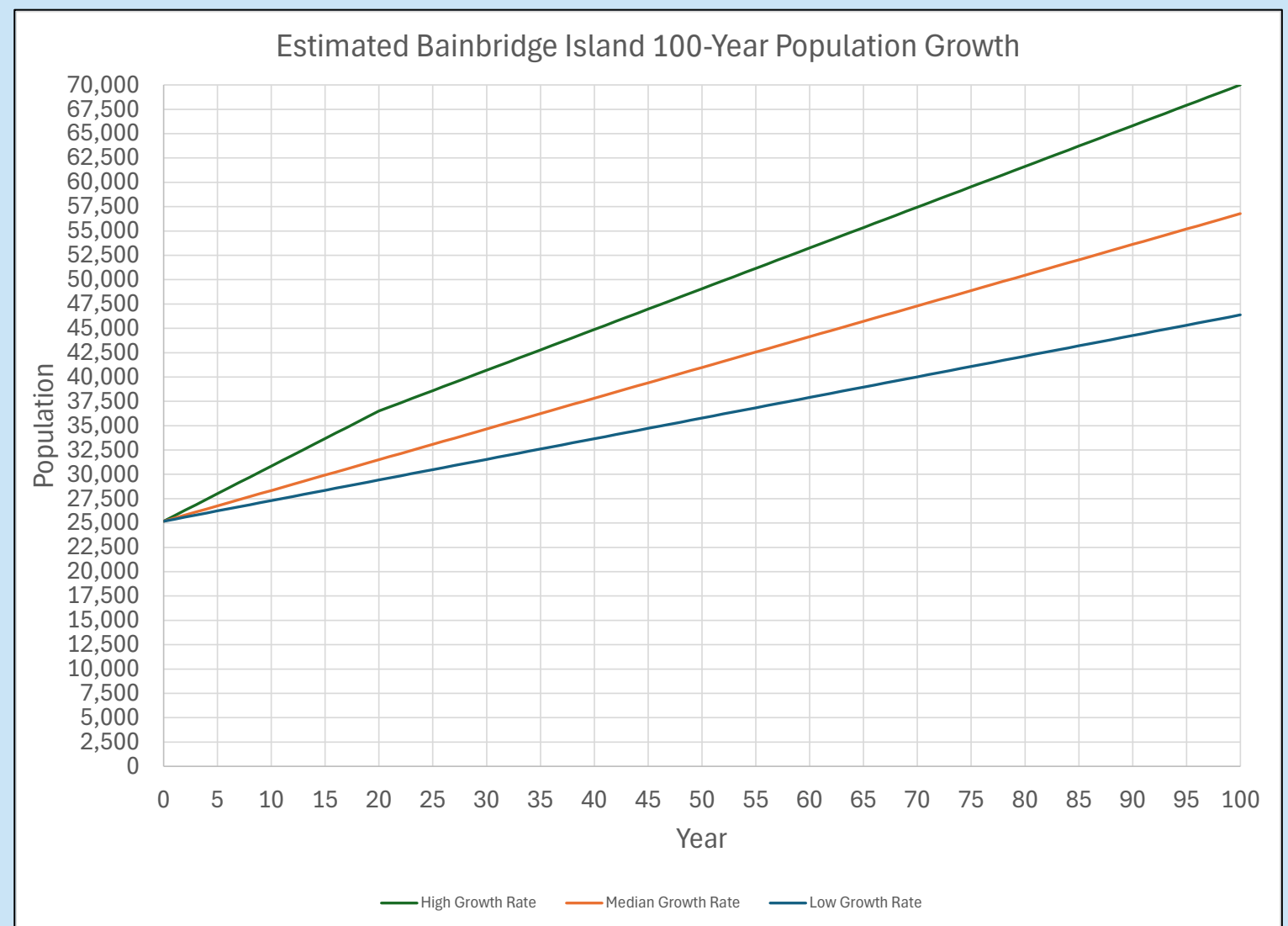
Pumping Stress Sensitivity Scenarios – Baseline + increases in pumping/population (conceptual subcommittee agreement)

- Projections are unique to Winslow (City water system), North end systems, South end systems, and private wells.
- Low – historic growth projected into the future.
- Middle – historic growth + highest Winslow Sub-Area Plan growth alternative.
- High – middle option + 1% growth increases in all areas in years 20-100.

100-Year Groundwater Modeling Scenarios (continued)

Pumping Stress/Population Growth – unique to Winslow (City water system), North end systems, South end systems, and private wells.

- Using the estimated 2023 Bainbridge Island population of 25,108 for year 0.
- High Growth Rate
 - Includes an increased growth rate for Winslow during the first 20 years to account for Winslow high-growth planning rate.
 - 100-year population = 70,010
 - 178% increase
- Median Growth Rate
 - 100-year population = 56,780
 - 125% increase
- Low Growth Rate
 - 100-year population = 46,380
 - 84% increase





100-Year Groundwater Modeling Scenarios (continued)

Prediction Scenarios – Combination of Baseline + stresses (basis for planning)

- Combination of lowest stress outcomes
- Combination of highest stress outcomes
- Combination of stresses with highest sensitivity analysis



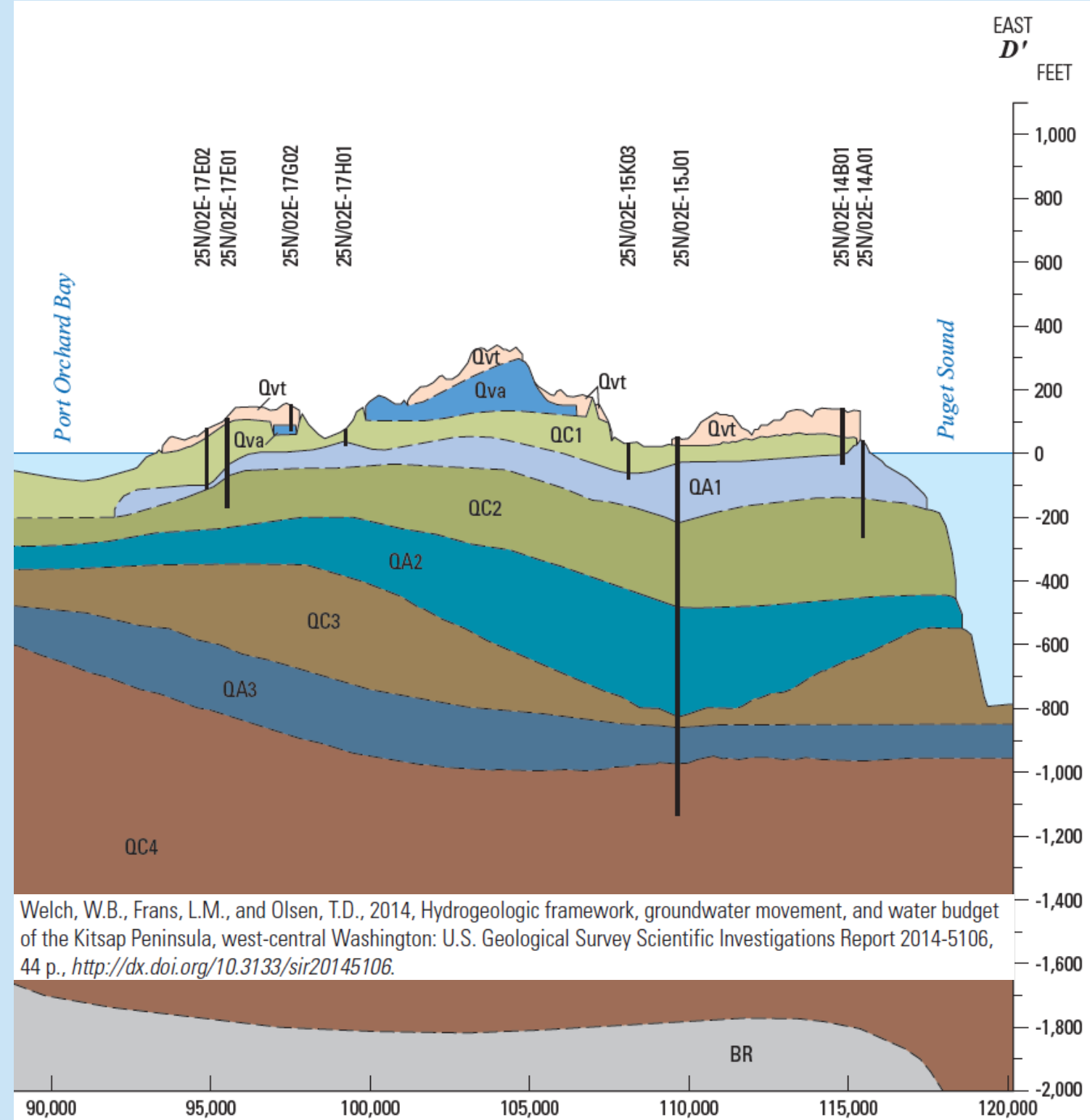
Schedule / Next Steps

- Mid-April - City Council check-in/approval of scenarios /virtual engagement for general public
- Late April - begin running scenarios
- May-June - Review scenario findings with sub-committee, TAC and City Council
- June-July - Complete remaining sections of Draft GWMP



Bainbridge Island Groundwater Management Plan

Discussion/Recommendations



EPA puts limits on 'forever chemicals' in drinking water

[Pien Huang](#) April 10, 2024 5:01 AM ET

EPA is limiting PFAS chemicals in drinking water in the U.S.

Rogelio V. Solis/AP

The Environmental Protection Agency announced new drinking water standards Wednesday to limit exposure to a class of chemicals called PFAS.

"There's no doubt that these chemicals have been important for certain industries and consumer uses, but there's also no doubt that many of these chemicals can be harmful to our health and our environment," said EPA administrator Michael Regan in a call with reporters.

This is the first time the agency has set enforceable limits on PFAS in drinking water.

PFAS stands for [perfluoroalkyl and polyfluoroalkyl substances](#) – a large group of man-made chemicals that have been used since the 1940s to waterproof and stainproof products from clothing, makeup and furniture to firefighting foam and semiconductors.

Manufactured by several large companies including Dupont and 3M, PFAS have strong molecular bonds that don't break down for a long time, which is why they're known as "forever chemicals."

PFAS from the 1940s "are still in our environment today," says [Anna Reade](#), lead scientist on PFAS for the Natural Resources Defense Council. "The levels of these chemicals keep building up in our water and our food and our air."

Evidence for their harmful effects on human health have also accumulated.

"Long term exposure to certain types of PFAS have been linked to serious illnesses, including cancer, liver damage and high cholesterol," the EPA's Regan said.

The EPA also noted PFAS exposure has been linked to immune and developmental damage to infants and children.

That's why the EPA has finalized a rule restricting six PFAS chemicals in the water – individually, or in combination with each other or both – meaning water systems are required to monitor for these chemicals and remove them if they're found above allowable levels. While some states have instituted their own PFAS limits, this is the first time it's happening on the federal level.

Public water systems will have five years to address their PFAS problems – three years to sample their systems and establish the existing levels of PFAS, and an additional two years to install water treatment technologies if their levels are too high, senior government officials told reporters.

The EPA expects that excess PFAS levels will be found in around 6-10% of water systems, affecting some 100 million people in the U.S.

"This is historic and monumental," says [Emily Donovan](#), co-founder of Clean Cape Fear, an advocacy group working to protect communities from PFAS contamination. "I didn't think [the EPA] would ever do it." Donovan lives in an area of North Carolina which has been contaminated with PFAS from the Chemours chemical manufacturing plant.

She says seeing the EPA set limits is "validating." Six years ago when her group first raised the issue of PFAS, she says they were told that the water met or exceeded state and federal guidelines. "And that's because there weren't any," she says. "It really broke public trust for so many people in our community."

"The final rule is a breakthrough for public health," says [Erik Olson](#), a senior

director with NRDC. "We believe it's going to save thousands of lives as a result of reduced exposure of tens of millions of people to these toxic chemicals in the tap water."

There are more than 12,000 known PFAS chemicals. The six that the EPA is restricting "have had many animal and, in many cases, human studies, so [the EPA] feels confident that they have estimated the safe levels of these chemicals," says Elizabeth Southerland, a former EPA official in the Office of Water, who left the agency in 2017.

Southerland says the new limits are a bold first step towards addressing the PFAS problem. And while the EPA has focused on only six chemicals, the treatments that water utilities use to remove these chemicals will also remove other chemicals of concern from drinking water.

In addition to other PFAS, "they will also be taking out all kinds of pesticides, pharmaceuticals and personal care products that are unregulated now under the Safe Drinking Water Act, but [which] we know have serious health effects," Southerland says.

The agency estimates that it will cost \$1.5 billion a year for water companies to comply with the regulation – for as long as PFAS continues to show up in the drinking water. "The costs are not just for a one time sampling and then putting in the treatment," Southerland says. They include ongoing monitoring and maintaining equipment, for instance replacing carbon filters on a regular schedule.

The EPA says the benefits will equal, if not exceed the cost, in terms of less cancer, and fewer heart attacks, strokes and birth complications in the affected population.

The announcement comes with \$1 billion in grants to help water systems and private well owners conduct initial testing and treatment. It's part of a \$9 billion funding package for PFAS removal in the [Bipartisan Infrastructure](#)

[Law](#). Companies that made these chemicals are also on the hook for [more than \\$10 billion](#) from a class action lawsuit – money which will go to public water systems to remove PFAS.

If water systems can't access those funds, or if the funds run out, some of those costs may eventually get passed on to consumers, says the NRDC's Olson.