Questions (from notecards) that were not answered during the Groundwater Management Plan Open House on May 27, 2026

Answers from panelists are unedited and this document is intended to be a continuation of the panel discussion format utilized at the open house.

How would forcing private wells onto COBI's system create more water?

Response by City staff:

There is no proposal to force users of existing private wells to connect to the City's water system.

Response by Charlie Kratzer, Suquamish Tribe:

It wouldn't create more water by itself. This possible policy in App. A refers to "limiting NEW wells in the shallow aquifers". This is one idea for relieving the impact of shallow wells on nearby streams. The idea specifically targets NEW wells and not existing permit-exempt wells. The other management strategy this question might be referring to is "Consolidate smaller water systems with larger systems". This would be consolidating Group B systems into Group A systems, i.e., COBI or KPUD. The goal of this strategy is to provide better information and control over water usage.

Response by Tom Colby, Kitsap Public Utility District:

I don't believe anyone is "forcing" private wells onto either COBI or KPUD. One of the recommendations of the GWMP is consolidating smaller systems (including private wells) into larger systems. Consolidation has many benefits. Cost sharing is between more customers, so the individual pays less for operations, maintenance, and upgrades. Additionally, from an emergency management point of view, consolidation creates larger, more resilient systems with redundant infrastructure and more options in the event of problems (e.g., using different wells). From a water resource perspective, consolidation permits better management of the aquifers, allowing resting of wells, spreading out of production, etc. In short, it doesn't "create" water but provides more resilient water systems that can be more effectively managed.

I've heard your data shows that in 2012 drawdown paused, why? If pausing allowed recharge, where did the recharge come from, given surface rain takes 500+ years to reach deep aquifers?

Response by City staff:

The question is unclear, but to answer the second part of the question: recharge is constantly moving down from the surface affecting the pressure of the water below. For example; a single particle of water may take hundreds of years to reach a deep aquifer, but the water level/pressure in the aquifers respond more quickly to changes in precipitation at the surface.

Responses by Charlie Kratzer, Suquamish Tribe:

I assume this is referring to a pause in pumping from the deep FBA? If you look at figures 30 and 31 in the GWMP you will see that just because there are confining layers in the system, the 5 aquifers on BI are still interconnected and there is vertical recharge to the deep aquifer from the ground surface as well as laterally from the Kitsap Peninsula.

Response by Tom Colby, Kitsap Public Utility District:

Need more details to adequately answer this one. I'm not sure what the 2012 drawdown pause is referring to. Less production overall, or a specific well? Less drawdown in a specific well? Less drawdown could have been a rehabilitation; it could have been a shift in production or change in how the well is ran.

How do you plan to monitor individual private wells?

Response by City staff:

The plan proposes strategically adding private wells to the City's monitoring network on a voluntary basis. The intent is to provide better spatial coverage of the island groundwater resource through additional water level and water quality monitoring.

Response by Charlie Kratzer, Suquamish Tribe:

At this time, the only proposal is to add some private wells to the COBI water-level monitoring network to provide better coverage of the island groundwater resource.

Response by Tom Colby, Kitsap Public Utility District:

At KPUD, we have private wells throughout the county that we monitor for water levels. It involves a simple, non-invasive wire installed into the well. We then visit the well each month for about 5-10 minutes. Monitoring production would require installing a meter and either having the customer read it or a KPUD/COBI employee read it. KPUD currently does not monitor production at private wells.

4. **Why are you measuring "sustainability" by recharge and not including aquifer levels? Why doesn't the GWMP acknowledge drawdown since at least 2005?**

Response by City staff:

Percent of recharge is just one simplified method to conceptualize a sustainability quantity and helps place a number on potential available water for use. It is not the only metric we will be using to measure sustainability going forward.

In Appendix E "Early Warning Level Assessment 2021" there is discussion of existing conditions and results of the City's groundwater monitoring program. The assessment acknowledges decline in water levels in certain wells.

Response by Charlie Kratzer, Suquamish Tribe:

Sustainability is defined in the GWMP as the amount of water that can be pumped from the aquifers indefinitely without causing undesirable environmental, economic, or societal consequences. Thus, it includes measuring groundwater pumping, water levels, precipitation, and streamflows.

The analysis of existing rights includes many that would/should be relinquished. Has any analysis been done? (Though the amount is so great that this is not so encouraging?

Response by City staff:

No analysis of water rights that qualify for relinquishment was completed for the GWMP. City may work with the WA State Department of Ecology in the future to review these water rights.

How would manmade reservoirs impact management?

Response by City staff:

Water volume storage is typically accomplished with above-ground reservoirs made of metal or concrete. These tanks can reduce acute stress on wells by spreading out withdrawals over longer time periods, allowing wells to be pumped at lower rates.

Response by Charlie Kratzer, Suquamish Tribe:

In general, it is more practical to store water in the ground than in surface reservoirs. The use of surface reservoirs involves channeling surface runoff to the constructed reservoirs. In addition to the land and infrastructure required, reservoirs also lose a substantial amount of water to evaporation.

What is meant by "steady growth" in the Exec. Summary? How is that quantified? How is it Monitored? And what is the consumptive use as it relates to capacity + growth?

Response by City staff:

The term "steady growth" generally refers to the continuation of the historic growth rate that Bainbridge Island has experienced over the past 30 years; an average population increase of about 1.5% per year.

Has any modeling been done on rainwater catchment effectiveness?

Response by City staff:

The groundwater modelling efforts did not include rainwater harvesting or catchment as a variable. We acknowledge that this action is just one of many to help reduce future strain on the aquifer system and that rainwater harvesting alone will not be enough to reach our goals.

Response by Charlie Kratzer, Suquamish Tribe:

As a resident of BI with a 4,000-gal rainwater harvesting tank collecting roof runoff for use on outside irrigation, I can attest to the fact that this is not a feasible solution for most people. It requires a substantial investment of time and effort for an overall benefit that is

not as great as some people would imagine. It requires a substantial amount of space for the tank(s) and is not usable for drinking purposes without substantially more investment to filter and treat the water to DOH standards. My tank is 8' in diameter and 7' high. The Heron House in Schel Chelb on BI (Jason McLennan's house) has about 25-30,000 gallons in underground cisterns which is used for all water needs. The biggest problem with the use of a rainwater harvesting tank is the timing of precipitation distribution versus irrigation needs. My tank fills up in November but I can't use the collected water until May/June. In the meantime, I let the tank overflow from November until May/June. I could probably fill 3-4 tanks in a normal precipitation year.

Who wrote the executive summary?

Response by City staff:

The executive summary was mainly written by City Staff and reviewed by Keta Waters.

Response by Charlie Kratzer, Suquamish Tribe:

My understanding is that portions of the Executive Summary were written by EA Engineering and other portions by Keta Waters, as well as COBI staff. Over time, the GWMP was written by Maureen Whalen, EA, Keta Waters, and COBI staff.

Is there specific water usage data for Winslow? Can we collect this? How does gallons per person average obfuscate variations in water usage?

Response by City staff:

Yes, the City collects water usage data for each metered connection on a bimonthly basis in the Winslow Water System operated by the City, for billing purposes. Average water use per capita does not show variations in water use per person. The average water use per equivalent residential unit is 150-160 gallons per day. At an average of 2.5 people per residence, that equals 60-64 gallons per person per day. But we know that some residences average over 1,000 gallons per day or 400 gallons per person per day.

Response by Charlie Kratzer, Suquamish Tribe:

I have also had a hard time verifying the 77 gpd and 185 gpd values in the GWMP for MFR and SFR, respectively. First off, it is unclear if this is meant to be gpcd [gallons per capita per day] or gpd/eru [gallons per day per equivalent residential unit] or some other measure. COBI has told me it is from 2023 data that is not available to the public apparently. I am still waiting for this data and find it hard to believe that the difference between MFR and SFR could be so great on an island-wide basis. The data in the 2017 water system plan done by Carollo Engineers for COBI is also hard to believe as they used 152 gpd/eru for both MFR and SFR. Due to outdoors usage, SFR has to be greater than MFR. However, I do not understand how the unit of gpcd obfuscates the variation is water usage between MFR and SFR.

Should the status of the aquifer and critical recharge be included in the comprehensive plan?

Response by City staff:

The status of the aquifer and critical recharge are already included in the comprehensive plan in a few ways. The GWMP, monitoring and data collection, aquifer recharge, and water conservation measures are specifically mentioned many times in the existing and proposed Water Resources Element goals and policies. They are also included in the Water Resources Element Implementation Actions #1, 2, 5, 6, and 7 and indirectly in Actions #3 and 4.

Response by Charlie Kratzer, Suquamish Tribe:

I think the major points of the GWMP should definitely be incorporated into the COBI Comprehensive Plan.

Response by Tom Colby, Kitsap Public Utility District:

Simply put, yes. The findings/recommendations from the GWMP should be factored into/included in the plan.

What is the issue with "forever chemicals" and how do we keep them out of the aquifers?

Response by City staff:

The family of chemicals, including PFAS, known as "forever chemicals" can create health issues at very low levels and are becoming more common in the environment. Results of required testing in production wells can be viewed on a WA State Department of Health dashboard: (https://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn/pfas/dashboard). No wells on Bainbridge have exceeded the state's water quality standard for the chemicals.

Implementing pollution prevention programs such as the City's Source Control Program and the State's Wellhead Protection requirement can reduce the chance of releasing "forever chemicals" into the aquifers. Homeowners that rely on septic systems can limit the input of "forever chemicals" into their systems.

Response by Charlie Kratzer, Suquamish Tribe:

PFAS, otherwise known as "forever chemicals" are a health issue and are difficult to remove from water systems. As suggested by their nickname, they last a long time and are pervasive.

Response by Tom Colby, Kitsap Public Utility District:

"Forever chemicals" is the catchall term for a class of chemicals known as per- and polyfluoroalkyl substances, or PFAS. As the name implies, they are not easily broken down and tend to persist in the environment for long periods of time. Research has found a variety of health concerns associated with these chemicals. In Kitsap County, PFAS contamination has been relatively limited to known areas of surface contamination (e.g., near military properties, fire training areas, and areas with a high concentration of septic drainfields). Here's a link to a map produced by the state. https://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn/pfas/dashboard. It shows the results of water system sampling throughout the state.