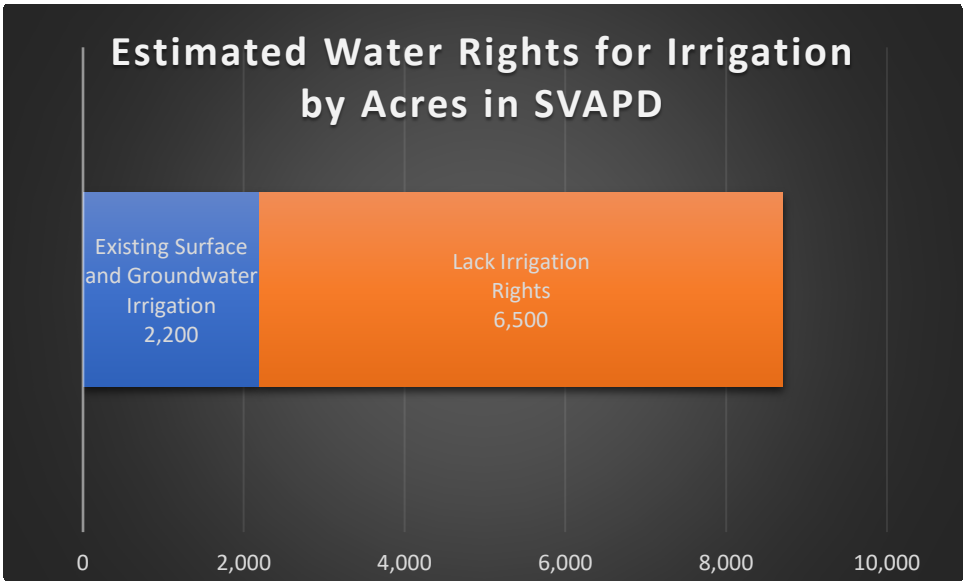
1.3.9: Water Rights and Irrigation

Current Condition

Figure 24. Estimated Water Rights for Irrigation by Acres in SVAPD[1]



In a study commissioned by the Snoqualmie Valley Watershed Improvement District (SVWID), of roughly 8,780 farmed acres in the SVAPD, "existing surface and groundwater irrigation…[rights] might total 2,200 acres. Approximately 6,500 acres may then lack irrigation rights."[2] While these are rough estimates, they are the best estimates to date. [3] This would mean about 74% of *farmable* acreage has no water rights.

With the SVWID's water bank capacity at roughly 157-acre feet (AF), approximately 313 acres of additional farmable land adjoining the Snoqualmie River can be irrigated. Without an approved hydrological analysis, farmable land that does not adjoin the Snoqualmie River, is not eligible for water bank transfers at this time.

Therefore, the SVWID is also looking at water storage options in uplands that would serve additional farmable lands in the SVAPD and SVWID special service district, such as those along eastern valley tributaries. The SVWID's upland multi-benefit water storage performance goal is a minimum of 104 AF projected at a cost of $3.5 million and a maximum of 3,311 AF (6,622 acres) projected at a cost of $112 million.[4] Because upland water storage is multi-benefit, reducing seasonal flooding while benefitting both in-stream flows and farms, the allocation of water storage for irrigation will vary, but if half of the storage were to be approved for each beneficial use equally, that would irrigate approximately 104 acres and 3,311 acres of additional farmland, respectively.

While water needs vary widely based on crops grown, "if, on average, each acre needed 0.5 AF (6 inches), then the maximum need would be approximately 3,250 AF"[5]. In 2013, Washington Water Trust (WWT) "assessed ground and surface water irrigation water rights within the Snoqualmie APD" using GIS and aerial photos.[6] They cite Department of Ecology records indicating "105 irrigation water rights/claims in the APD, accounting for 3,144 ac-ft/yr and 3,403 acres of authorized and asserted acreage."[7] While their 2009 aerials showed about 1,645 acres of irrigation occurring, 2011 showed about 2,081.[8] Because water rights must be used to maintain them, or held in trust, about half of the water rights showed weak evidence of beneficial use.[9]

Desired Condition by 2048

Every commercial farm has ample access to legal water for irrigation and is supported to maximize efficiency of water usage.

Timeline

2023

- Support collaboration between SVWID and King County WLRD regarding water and irrigation goals and solutions
- Initiate and gain partner support needed for water storage pilot

2024

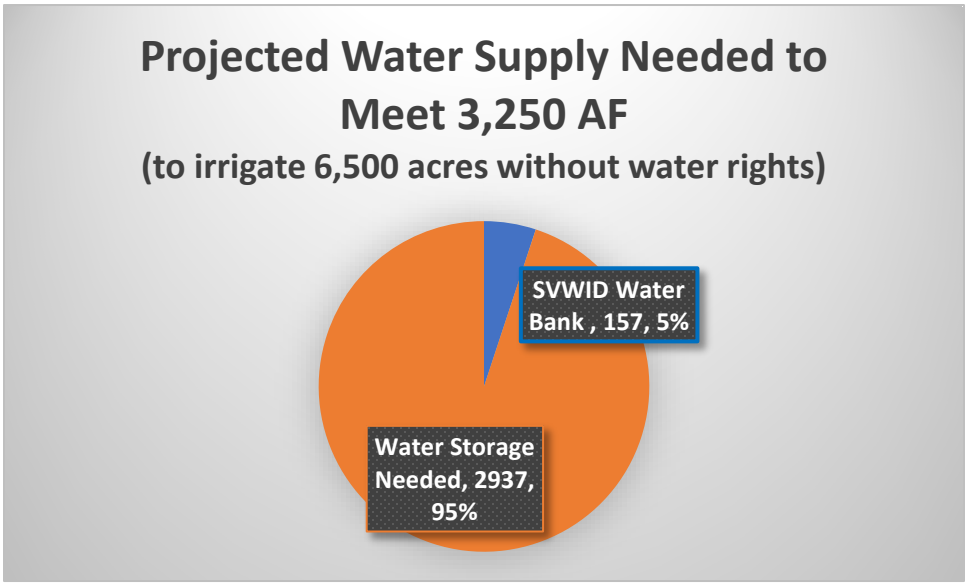
- Continue water transfers and serve additional farms, including beginning and historically underserved farmers
- Expand water bank and add interruptible water rights and water storage
- Education and Technical Assistance: Round 1
- Explore multi-benefit partnerships and funding opportunities to continue and expand SVWID irrigation program capacity
- King County records water rights in APDs on title
- King County sends notification to new owners and the SVWID upon land sales with water rights in SVAPD

2025

- Secure funding for water storage pilot project
- Ensure SVAPD landowners' (public and private) water rights are maintained
- First manure lagoon conversion for irrigation storage

2026

- Education and Technical Assistance: Round 2
- Pilot alternative, large-scale

The SVAPD needs water even for crops that have not traditionally required irrigation. Crops such as feed corn, hay, and silage, where dairy waste is used to fertilize and irrigate the crop, are now requiring additional irrigation to weather unusual early spring drought or longer summer drought periods in order to maintain yields or not lose entire harvests. Most high-value specialty crops (berries, vegetables, and flowers) need irrigation currently to grow well and will need more irrigation as temperatures increase through extreme weather events and climate change. While some agricultural practices can improve crop resiliency in the face of extreme weather or drought they do not eliminate the need for irrigation. With irrigation needs growing with climate change, the SVWID is also looking at water transfers to support non-traditional crop irrigation and is conveying this growing need to the WA State Department of Ecology (ECY) and others. Without water storage, it will be impossible to meet even 95% of the irrigation needs of the SVAPD. The SVWID is also actively pursuing water storage[10] as flooding mitigation and to meet irrigation needs during seasonal low flow. To meet the total 3,250 AF estimated need, the SVWID is proposing utilizing 157 AF of their water bank and pursuing upland water storage to meet the remaining 2,937 AF of need (see Figure 25). The SVWID is working with partners and regulatory agencies to pursue water storage in a range of projects from a minimum goal of 104 AF potential to a maximum goal (project size) of 3,311 AF for irrigation potential. See Map 13 for potential upland water storage locations. **Figure 25. Projected Water Supply Needed to Meet 3,250 AF**  Finally, irrigation under FDA's Food Safety Modernization Act (FSMA)[11] may limit some of the kinds of water that may be used or how they are utilized and applied for crops eaten raw.	water storage, technology and innovation Develop and utilize an agreement outlining a mitigation program such as the Dungeness Water Exchange 2030 • Complete water storage pilot, share with stakeholders, Ecology, and gain political support needed • Education and Technical Assistance: Round 3 2035 • Education and Technical Assistance: Round 4

Background	Service Providers	Priority
Water rights in the Snoqualmie Valley APD are limited, and western water law is complex. Many farmers do not have access to water in the APD which limits their ability to cultivate annual vegetable crops, reduces yields of hay, vegetables, and berries and is exacerbated by periods of drought during the summer and shoulder seasons which may destroy entire plantings of annual vegetable or flower seedlings. New wells are not allowed in the floodway. Outside of the floodway, exempt wells allow for livestock watering and/or 5,000 gallons of irrigation water per day for industrial use (which includes agriculture).	Lead: • Snoqualmie Valley Watershed Improvement District (SVWID) Partners: • King County WLRD	HIGH

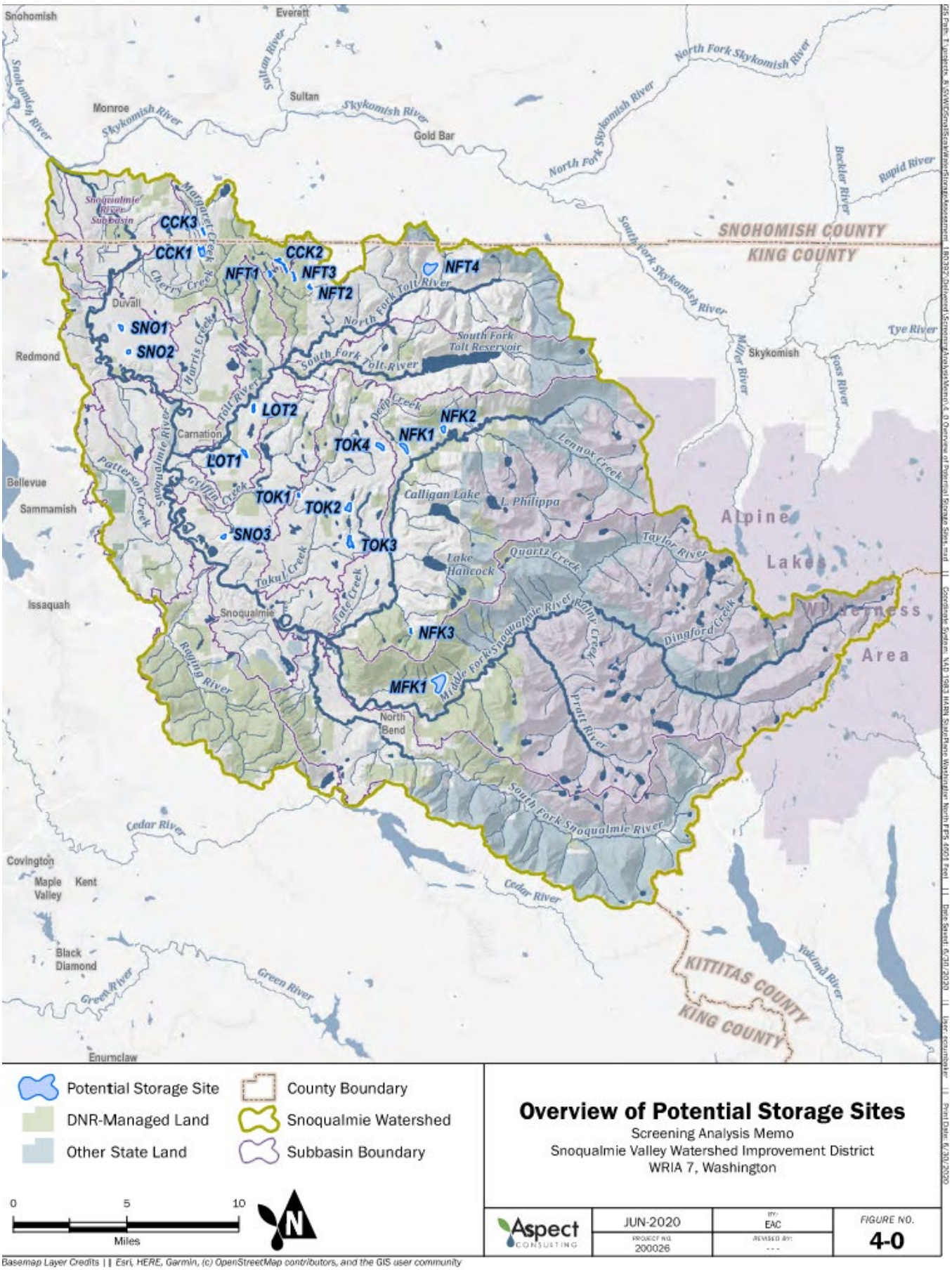
The Metropolitan King County Council voted unanimously to approve the formation of the Snoqualmie Valley Watershed Improvement District (SVWID) on December 7, 2015. The SVWID is a special purpose district created to focus on drainage and irrigation with the aim to increase access to irrigation water by acquiring new, mitigated water rights and voluntary, market-based transfer of existing water rights.[12] SVWID purchased a Tokul Creek water right, created a water bank, and now leases water to farmers downstream for 1–5-year terms.[13] In addition, SVWID does private consultations with landowners who have or need water rights. While 56.71 AF is held via the SVWID's Tokul Creek surface water right,[14] the SVWID is working with other landowners with privately owned water rights to add additional capacity to their water bank in the form of water transfers. Two such transfers add about another 100 AF primarily March through November.[15] By banking water through purchase and transfers, annually offering that irrigation water at market rate bids, and working with landowners to maintain their water rights, the SVWID is building capacity to meet commercial farms' needs. The Washington State Department of Ecology (ECY) manages all water resources in the state and is responsible for allocation of water. SVWID works closely with ECY to approve temporary transfers of water rights for their water bank each year through their water leasing program.	• SVPA • SnoValley Tilth • WA Water Trust • WA Dept of Ecology • King Conservation District • USDA NRCS EQIP • WA State Dept of Agriculture (WSDA) • King County Flood Control District and/or KC RFMS	

Strategies

- Advocate and gain political support with FEMA, Tribes, WA Dept of Ecology, WA Fish and Wildlife, WSDA, KC WLRD, KC Council Members, King Conservation District, WA Conservation Commission, and others to accomplish multi-benefit water storage as related to climate change and irrigation needs.
    - Fund water storage partnership.
    - Identify key decision-makers and policies in agencies and Tribes and existing limitations for those partnerships.
    - Start the due diligence to fund water storage studies, analyses, and test strategies that gain ground.
    - Advocate for water storage in King County plans.
- Support collaboration between SVWID and King County WLRD regarding water and irrigation goals and solutions.
- Support SVWID to
    - Ensure SVAPD landowners' (public and private) water rights are maintained.
    - Continue water transfers and serve additional farms, including beginning and historically underserved farmers.
    - Expand water bank and add interruptible water rights and water storage.
- Streamline permitting through Ecology for water rights and water storage.
- Secure multi-benefit project partnerships to achieve irrigation goals and long-term funding.
- King County records water rights in APDs on title to preserve and protect water rights as critical agriculture infrastructure.
- For land sales with water rights, King County sends notification to new owners and the SVWID upon sale, so that water rights are maintained through the land transition.
- Education, Technical and Financial Assistance
    - Trainings on Water Rights 101 for Ag Sector and SVAPD landowners (KCD, WSU, SVT, etc.)
    - Trainings regarding leasing, and land costs, uses, allowable uses and services, i.e., fish screens and metered water rights.
    - Technical and financial assistance for continued funding for irrigation efficiencies (such as infrastructure, wells, fish screens) from King County Ag Water Quality Cost-Share Program, King Conservation District, etc.
    - Workshops on water conservation and re-use on farms, capturing water run-off for recycling and filtering to increase multi-benefits through water quality improvements.
    - Conduct outreach to farms about USDA NRCS EQIP and other grants or cost-share funding for irrigation systems.
    - Conduct education regarding irrigation sources under FDA's Food Safety Modernization Act which may dictate requirements such as testing for some kinds of water that may be used or how they are utilized and applied for crops eaten raw.
    - Incentivize landowners to prove and preserve water rights in trust to preserve and for potential transfer.
    - Water Meter/Fish screen cost-share campaign.
    - Create water usage reporting and info storage at SVPA annually to preserve water rights.

- Pilot manure lagoon conversion[16] to water storage for irrigation.
- Pilot alternative, large-scale water storage, technology, and innovation.
- Pilot testing water rights for temporary permits such as on FPP property, closed stream, etc.
- Pilot water storage, share with stakeholders, Ecology, and gain political support needed.
- Pilot storing flood waters to offset surface water diversion.[17]
- Develop and utilize an agreement outlining a mitigation program such as the Dungeness Water Exchange, a partnership between the Dungeness River Agricultural Water Users Association, Washington Water Trust, and Washington State Department of Ecology.[18]

Map 13. SVWID's Proposed Upland Water Storage Locations[19]



[1] Pilz, David et. al, "Initial Conditions and Needs Assessment for Design of a Snoqualmie Valley Water Bank" AMP Insights, Final Draft, December 2016. Prepared for the Snoqualmie Valley Watershed Improvement District. Page 20.
[2] Ibid.
[3] Ibid.
[4] Anchor QEA, "Comprehensive Storage Study," January 2022. [LINK]. Accessed 3/1/23. Prepared for the Snoqualmie Valley Watershed Improvement District. Appendix E: Opinions of Probable Cost.
[5] Pilz, David et. al, "Initial Conditions and Needs Assessment for Design of a Snoqualmie Valley Water Bank" AMP Insights, Final Draft, December 2016. Prepared for the Snoqualmie Valley Watershed Improvement District. Page 20.
[6] Ibid, Page 15.
[7] Ibid.
[8] Ibid.
[9] Ibid.
[10] See Snoqualmie Valley Watershed Improvement District's Water Storage page for more information [LINK]. Accessed 2/13/23
[11] U.S. FDA FSMA "Requirements for Harvest and Post-Harvest Agricultural Water in Subpart E for Covered Produce Other than Sprouts," January 13, 2023. [LINK].Accessed 3/14/23.
[12] Snoqualmie Valley Watershed Improvement District, "About Us" [LINK]. Accessed 12/16/21.
[13] Snoqualmie Valley Watershed Improvement District, "Irrigation: Water Right Leasing Program" [LINK]. Accessed 12/16/21
[14] Associated Earth Sciences Incorporated, "Water Right Evaluation King County, Washington," Final Draft Report, February 19, 2018. Prepared for the Snoqualmie Valley Watershed Improvement District. Page 2.
[15] Ibid.
[16] Anchor QEA, "Small-Scale Storage Study Summary Report," January 2020. Prepared for the Snoqualmie Valley Watershed Improvement District.
[17] See Snoqualmie Valley Watershed Improvement District's Water Storage page for more information [LINK]. Accessed 2/13/23
[18] Dungeness Water Exchange, "Who We Are" [LINK]. Accessed 10/21/22.
[19] Anchor QEA, "Comprehensive Storage Study," January 2022. [LINK]. Accessed 3/1/23. Prepared for the Snoqualmie Valley Watershed Improvement District. Page 38 [58].