The Water Report

Water Rights, Water Quality & Water Solutions in the West

In This Issue

Consolidations	1
Pathways for Localized Water Infrastructure	8
National Fish Habitat Partnership - Part 2	22
Water Briefs	28
Calendar	31

Upcoming Stories

Municipal Water Use

Water Markets

Edwards Aquifer Conjunctive Management

& More!

PUBLIC WATER SYSTEM CONSOLIDATIONS

A GOOD IDEA?
OR A STRATEGY FOR UNMITIGATED INSTREAM FLOW IMPACTS
AND EXCEEDING WATER RIGHTS?

by Sharon Haensly, Attorney, Squaxin Island Legal Department (Shelton, WA) & Jeff Dickison, Assistant Director, Squaxin Island Natural Resources Department (Shelton, WA)

Introduction

The Washington State Departments of Health (DOH) and Ecology (Ecology) encourage utilities and developers to use their "inchoate" municipal water rights — also referred to as "surplus" or "unperfected" rights — through a process of consolidating and interconnecting smaller public water systems and expanding into new and larger service areas. DOH offers municipal suppliers grants to encourage these "consolidations," which are occurring statewide. There is no statute or regulation that defines "consolidation." Yet, despite their potential impact on senior water rights — including minimum instream flows set by rule — the public receives virtually no public notice of them.

There are certainly benefits from merging smaller systems into larger systems. Benefits may include:

- Reducing the number of unregulated permit-exempt wells and smaller water systems
- Metering requirement
- Improved cost-sharing for infrastructure investment
- · Conservation requirements and other efficiencies
- Supporting responsible land use planning objectives

On the other hand, consolidations pose harms when they are used to evade state laws that prohibit two outcomes: (1) unmitigated interference with instream flows; and (2) interruptible municipal water supplies.

This article examines the water system consolidation and expansion strategy, and whether DOH and Ecology are properly implementing their governing statutes in their approach to consolidations. It is a legally complex topic that intertwines Washington's Water Code, which is implemented by Ecology, along with DOH statutes and local land use laws.

Importance of Instream Flows

The 1854 Treaty of Medicine Creek reserved to the Squaxin Island Tribe (Tribe) fishing rights throughout a usual and accustomed fishing area ("U&A") that includes the saltwaters extending south and west of the Tacoma Narrows and the freshwaters that flow into them. Today these fishing rights afford the Tribe one-half of the harvestable fish running through its U&A. The Tribe actively co-manages the fisheries along with the state and federal governments, and also possesses federally-reserved water rights to streamflows in amounts that support healthy salmon populations. Salmon are at the heart of the Tribe's culture and economy.

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Paper Water

Lack of Scrutiny

Tentative Determination

System Priority

The Washington Department of Ecology (Ecology) has established, through rules, minimum instream flows in many streams and rivers within the Tribe's U&A. By law, these flows are protected water rights that in many circumstances cannot be impaired. In 2015, the Washington Supreme Court in *Foster v. Washington State Dep't of Ecology*, (184 Wash. 2d 465, 472, 362 P.3d 959, 961 (2015)) reaffirmed the rule that "[a] minimum flow is an appropriation subject to the same protection from subsequent appropriators as other water rights." Many instream flows in Squaxin's U&A are increasingly unmet during the drier months of August and September, which is a critical time period for spawning in the salmon life cycle. Less water means less fish.

Municipal Water Rights

Historically, Ecology often granted water rights based on system capacity (i.e. "pumps and pipes") rather than actual beneficial use of the water. In 1998, the Washington State Supreme Court in *Ecology v. Theodoratus* (135 Wash. 2d 582, 957 P.2d 1241 (1998)) questioned the validity of these rights because they were not based on actual beneficial use like most other water rights. After the decision, the Legislature passed the 2003 Municipal Water Law that more clearly defined municipal water suppliers and the status of their rights. The municipal water law, however, did not change existing law to grant municipal water rights holders larger quantities of water than the original water rights afforded.

On the other hand, the municipal law did change existing law by allowing municipal suppliers to retain water rights that they are not currently using. While the "use it or lose it" principle applies to most private water rights under state law — meaning that a water right holder can lose a water right by not beneficially using it for an extended period — municipal water rights are different. The rationale is that this approach provides a municipal supplier certainty about maintaining water rights while allowing flexibility to plan for future growth.

In recent years — with the encouragement of DOH, Ecology, and water utility associations — municipal suppliers began a strategy of purchasing and consolidating smaller water systems that hold older pumps and pipes certificates with often substantial quantities of inchoate water (on paper). The consolidated systems are then interconnected and expanded into larger service areas.

Actual Amount of the Water Right

The amount of water that appears on the face of the pumps and pipes rights, however, may be less than the actual right. Ecology frequently issued these older pumps and pipes certificates for specific and defined projects. In many cases, Ecology allocated the certificates significantly more water than the defined project actually needed — i.e., to fill the system's capacity rather than define the actual amount of water that the completed project would use. Importantly, Ecology's later changing of the original water right's purpose of use to municipal use did not grant the municipal water right holder more water than was needed to serve the original defined project. Accordingly, there is a ceiling on the amount of the pumps and pipes water right that may be substantially lower than the amount appearing on the face of the right.

Typically, Ecology does not carefully scrutinize the water rights claimed by the municipal supplier during the water system consolidation approval process. This lack of scrutiny is problematic because if Ecology did "look under the hood" of the water right, it could conclude that the right to some portion of the inchoate water does not exist. Ecology staff, however, have voiced concern that these suppliers seek to take water that was never perfected under the original pumps and pipes right and use it outside the scope of the project specified in the original application. Ecology has explained this process through correspondence and public presentations (for more information contact the authors).

When Ecology looks under the hood of the water right, it is performing a "tentative determination of extent and validity," referred to in this article as a "tentative determination." A tentative determination will provide accurate information about the water right's scope and limitations that are not evident from the face of the right.

Ecology staff has voiced concern that the inchoate water being put into use through these water system consolidations could be junior to instream flow rules in basins closed by regulation to further appropriation. This violates Washington's Water Code, which prohibits junior users from impairing senior users. Senior users include instream flows with older priority dates relative to the junior users. It should be noted that Tribal water reserved rights are senior to all state issued water rights though the Tribal Rights may be yet-unquantified. The proper way for a municipal supplier to use water in excess of the amount actually needed for the original project is to either apply for a new water right or change its existing water right.

Municipal suppliers, though, are incentivized to avoid applying for a new water right or a water right change application for three main reasons:

Incentives

Long-Term Risk

Consolidation Grant

Negative Impacts

- 1) New rights are difficult to obtain as many basins are now over-appropriated, particularly those with instream flows that are not being met
- 2) For water right change applications, Ecology will conduct a tentative determination of the water rights at issue and may determine that the rights are less than appears on the paper right
- 3) The Washington Water Code prohibits any water right change that will harm existing water rights. Existing rights include established instream flows, even if junior in priority to the municipal water right, and may also include unadjudicated tribal reserved water rights.

Instead of converting to a new right or changing existing rights, the municipal suppliers are using the DOH's water system "consolidation" process. They are taking advantage of a municipal water law provision (quoted below) whereby DOH's approval of a water system plan automatically expands the water right's service area. The supplier need not ask Ecology to change its water right's geographic area, and therefore Ecology does not conduct a tentative determination.

Additional Benefit of a Tentative Determination

Besides providing accurate information about a water right's scope and limitations, a tentative determination will lead to greater certainty for water rights holders. When Ecology does not perform a tentative determination, the supplier's water right exceedance will likely not be discovered until years after residences have been connected and the harm to instream flows has increased. While "consolidation" allows municipal users in the short term to expand their water rights to meet increased demand, and to avoid bad news from a tentative determination, municipal users run the risk that they will someday need to change an aspect of their water right that would require a tentative determination. At that point, the suppliers could run into trouble if the consolidated system is using more water than the underlying water rights allow and water use must be curtailed. Like senior water users, municipalities benefit from certainty in their water rights because the customers they serve depend on uninterruptible water service. Despite some risk and expense, going through the tentative determination process is good policy in the long run because it provides all water right holders in the relevant watershed some certainty around key aspects of their water rights (priority date, extent, points of diversion, etc.). Tentative determinations are also good policy from a practical perspective because, if it is later determined that the municipal purveyor is not entitled to all the water that it provided to newly developed areas, those customers will be cut off and economic gains for the municipality lost.

The Union Consolidation Plan

An illustrative example of the "consolidation" process is Public Utility District No. 1 of Mason County's ("PUD") proposed consolidation of six water systems that the PUD owned and operated near Washington's Hood Canal. Around 2015, DOH invited the PUD to apply for a grant to evaluate the feasibility of consolidation. DOH awarded the grant, and the PUD proposed consolidating the six systems, greatly expanding their service areas into a larger geographic area, and including more connections.

To effectuate the consolidation, DOH had to approve the water system plan for the proposed expanded Union system ("Union"). Ecology would also play an important role during plan review to, among other things, evaluate water rights. Several interagency MOUs define the agencies' respective roles. (See: https://appswr.ecology.wa.gov/docs/WaterRights/wrwebpdf/SignedDOHMOU5107.pdf and https://doh.wa.gov/sites/default/files/legacy/Documents/4200/mou_proc.pdf)

The problem with the proposed Union consolidated water system plan was that, when implemented, it would further deplete Schumacher Creek's instream flows. Schumacher Creek is a salmon-bearing creek within the Squaxin Island Tribe's usual and accustomed fishing area. The creek has both numerical instream flows and a seasonal closure, both set by Ecology rule (Chapter 173-514 WAC). Schumacher Creek's instream flows are unmet during the drier summer and early fall months that are critical for salmon spawning.

The Union consolidation would cause further harm to the Creek's instream flows because all six water systems use groundwater, and at least one of the water system's wells (the Alderbrook system), and likely others, is hydraulically connected to Schumacher Creek. The consolidation proposed connecting the Alderbook water system to the other five systems, and all six systems to each other. The Alderbrook wells would then pump more water to help serve the other five systems, as well as residents in the newly expanded service area. This would further decrease Schumacher Creek's instream flows.

Place of Use Provision

Caveats

Evaluating Rights

Automatic Expansion

Municipal Water Law Provision Regarding DOH Water System Plan Approval

The PUD, like many municipal suppliers, sought to take advantage of a provision in Washington's 2003 municipal water law. This provision allows municipal suppliers to expand their water rights' places of use without having to apply to Ecology to change their water rights. The municipal water law provision states:

The effect of [DOH's]...approval of a planning or engineering document that describes a municipal water supplier's service area under chapter 43.20 RCW...is that the place of use of [the supplier's] surface or groundwater right includes any portion of the approved service area that was not previously within the place of use for the water right if [1] the supplier is in compliance with the terms of the water system plan or small water system management program, including those regarding water conservation, and [2] the alteration of the place of use is not inconsistent, regarding an area added to the place of use, with: Any comprehensive plans or development regulations adopted under chapter 36.70A RCW; any other applicable comprehensive plan, land use plan, or development regulation adopted by a city, town, or county; or any watershed plan approved under chapter 90.82 RCW, or a comprehensive watershed plan adopted under RCW 90.54.040(1) after September 9, 2003, if such a watershed plan has been approved for the area. (RCW 90.03.386(2))

To summarize, DOH's approval of a water system plan that includes service area *beyond* the current places of use described in one or more water rights automatically expands the geographic area of the water right(s). The supplier need not apply to Ecology to change its water rights. There are several caveats, however, to the automatic water right expansion provision.

Caveats to the automatic water right expansion include:

- The supplier must be in compliance with its water system plan
- The larger place of use must be consistent with local comprehensive plans and development regulations
- The larger place of use must be consistent with certain approved watershed plans

If the situation does not meet any one of these requirements, then the municipal supplier cannot take advantage of the auto-expansion provision and must apply to Ecology for a water right change to expand the place of use. DOH and Ecology interpret this law to apply to the consolidation and expansion of multiple water systems and their service areas.

Requirements That Accompany Water Right Change Applications

As mentioned earlier, municipal suppliers prefer to avoid submitting water right change applications to Ecology. The first step Ecology takes for a change application review is performing a tentative determination. It asks whether the inchoate (unused) portion of the water right is in "good standing" and thus eligible for the change. The supplier risks the possibility that Ecology might find that the water right affords less water than appears on the face of the paper right and/or has other constraints. Ecology may also decide to go further and revoke or diminish the water right accordingly.

Second, Ecology cannot approve a water right change that will harm existing water rights (RCW 90.03.380). Existing rights include instream flows established under state law — even if the instream flow has a priority date that is subsequent to the date of the municipal water right (i.e., is junior to the pumps and pipes water right). Existing rights may also include a tribe's unadjudicated federally reserved water rights. Thus, if the proposed water right change would harm existing water rights, Ecology must either require mitigation or deny the change application.

In contrast, DOH's water system plan approval process described in RCW 90.03.386 requires no water right change application in order to expand the supplier's geographic area. DOH's approval of the consolidated water system plan automatically expands the geographic area of the water right. Ecology does not conduct a tentative determination to examine the water right in this situation. Neither Ecology nor DOH carefully scrutinize the consolidation's impacts on instream flows, or require sideboards to ensure that the municipal supply is not later found to be interruptible and unreliable because it is exceeding its water rights. Curtailing water use only *after* homes are built and residents connected is bad policy and is contrary to state law.

Union Consolidation Plan's Inchoate Water Rights

Every water system plan must contain a "water rights self-assessment." For the Union plan, the water rights self-assessment listed the water quantities that appeared on the face of the PUD's water rights. Both DOH and Ecology, however, were aware that some of these amounts were incorrect and inflated.

Mock Determination

Capacity vs.
Beneficial Use

Flawed Conclusion

Lack of Safeguards

Interties

That is because Ecology, in a situation that is likely rare, had earlier performed a "mock" tentative determination on some of the PUD's water rights. While there is no official letter or document associated with this mock determination, it is recorded in email correspondence with Ecology staff that explained it was PUD's intent to have these change applications processed through Cost Reimbursement — but PUD did not want to commit to a contract without first knowing how much water Ecology would find to be in good standing and eligible for transfer. Consequently, Ecology agreed to conduct a mock tentative determination to give PUD a preview of the likely outcome of processing the requested changes.

Ecology found through the mock determination that the water rights for the Alderbrook wells and three other of the six systems' water rights afforded far less water than the amounts that appeared on the face of the water rights. For the Alderbrook system, which was served by one soon-expiring water rights permit and two water rights certificates, Ecology found that the PUD was entitled to less than half of the water on the face of those rights.

Why were the PUD's rights less than they appeared? For the Alderbrook system, Ecology had issued the two original pumps and pipes water right certificates back in the 1960's to a private developer for a resort, golf course, and a specified number of residences. As described earlier, the quantities on the face of the rights were based on system capacity rather than actual beneficial use. These certificates thus stated far greater quantities of water than could ever be needed to complete the Alderbrook project.

Thus, the PUD was not entitled to the excess water beyond the amount that the completed Alderbrook project would need. Just because the Alderbrook developer had transferred these rights to the PUD, and Ecology had later changed their purposes to municipal use, did not give the PUD a valid claim to water in amounts beyond the original Alderbook project's actual needs. The PUD, however, drafted its Union consolidation plan and its water rights self-assessment based on the flawed conclusion that the PUD had these valid inchoate rights and could use them to serve the expanded Union service area. DOH approved the Union consolidation plan and Ecology concurred.

While DOH and Ecology acknowledged the issue — DOH in a Union plan footnote and a letter approving the plan, and Ecology in an addendum to the plan — neither agency placed any effective safeguards to ensure that the PUD would not exceed its water rights or harm instream flows. The Union plan footnote acknowledged that Ecology had indicated that certain water rights, "due to the 'pumps and pipes' nature of these rights, may not be available for use outside their originally intended service areas." DOH's letter approving the Union plan stated its approval did not confer or guarantee any right to a specific quantity of water, and that the approved number of service connections was based on the PUD's representation of available water quantity. DOH's approval letter concluded, "[I]f the Department of Ecology (Ecology), a local planning agency, or other authority responsible for determining water rights and water system adequacy determines that you have use of less water than you represented, the number of approved connections may be reduced commensurate with the actual amount of water and your legal right to use it."

Ecology's addendum also did not contain safeguards. Ecology specifically allowed the PUD to forgo applying for a change of place of use (and accompanying tentative determination) until the point in time when the PUD desired to use the Alderbrook permit to provide water to the area located east of the Alderbrook golf course. This, however, failed to prevent the Alderbrook wells and other hydraulically connected systems from exceeding their water rights or from pumping that would further dewater Schumacher Creek. Among other things, the PUD could pump Alderbrook water to serve new areas besides those east of the golf course. And, increased pumping could begin under the same Alderbrook certificates that Ecology had indicated contained inaccurate, inflated amounts.

Ecology avoided yet another opportunity to place effective sideboards on the consolidation when PUD had to apply to Ecology to extend the Alderbrook permit's development schedule. Ecology could have used that process to conduct a tentative determination. In the addendum, however, Ecology committed to *not* conduct a tentative determination on the permit, and to *not* review the water quantity that the permit authorized when the PUD sought to extend the development schedule.

Other Problematic Aspects of the Consolidation Strategy

IS ALL OR PART OF THE WATER SYSTEM MERGER AND EXPANSION ACTUALLY AN "INTERTIE"?

Under RCW 90.03.383, suppliers who propose interties must apply to Ecology to change the water right's place of use. An "intertie" is defined by statute as an interconnection of water systems that:

- Is not done for emergency supply purposes
- Will result in better management of those systems
- Does not include developing new sources to meet future demand

Additionally, this law prohibits interties from adversely affecting existing water rights. As noted

Legal Definitions

Consistency Review

DNS Issues

Permits vs. Certificates

earlier, existing water rights include instream flows, even those with later priority dates than the supplier's water right. Many of these instream flows are currently unmet, and by ever-increasing amounts. Existing rights may also include tribes' unadjudicated federal reserved water rights.

Was all or part of the Union proposal actually an intertie? Earlier versions of the Union plan described system interties. Lower-level Ecology staff said that the merger was an intertie. They drafted a white paper opining that RCW 90.03.386 only applied to a single growing water system, and not to consolidating multiple water systems. The final Union plan that DOH approved, however, was changed to delete any descriptions of interties.

Unlike the term "intertie," the term water system "consolidation" is not defined in state law, regulation, or guidance. During discussions on the Union Plan, Ecology distinguished consolidations from interties. It said that consolidations occur when one water system controls or takes over another. Interties, by contrast, only occur when separate and independent water systems interconnect to provide backup water supply to enhance the resilience of separate independent systems. The intertie statute, however, does not say this and is not limited to merging separate and independent water systems.

In April 2022, Ecology issued a "Discussion Draft" of its updated Municipal Water Law Interpretive and Policy Statement that defines "consolidations." Ecology publicly stated that a water system consolidation occurs when a municipal water system's expansion includes taking over another municipal water system, and merging infrastructure. If the second municipal system's wells will continue to operate (while interconnected with the other system wells), then Ecology has no intention of evaluating the second system's water rights through a change application process. Ecology's view is that the interconnection and expansion can occur solely through DOH's water system plan approval process.

IS THERE CONSISTENCY WITH LOCAL COMPREHENSIVE PLANS AND DEVELOPMENT REGULATIONS?

As described earlier, municipal suppliers can automatically expand their water rights places of use when DOH approves a water system plan — without having to go through Ecology's change application process — as long as the new place of use is "not inconsistent with" local comprehensive plans or development regulations adopted under Washington's Growth Management Act. If the plan is inconsistent, however, then the supplier must apply to Ecology to change its water right.

A municipal supplier must therefore submit a consistency review form to DOH during plan review. Even if the local government finds consistency, however, it is ultimately DOH's responsibility to make the right call. In the Union water system review, the Tribe pointed out many inconsistencies, including that the growth envisioned in the Union plan vastly exceeded local zoning regulations. DOH did not respond.

IS THE STATE ENVIRONMENTAL POLICY ACT (SEPA) BEING CORRECTLY IMPLEMENTED?

DOH's regulations require compliance with SEPA when it reviews a water supply plan servicing 1,000 or more units. The Union plan met this threshold.

Despite the likelihood of impacts to Schumacher Creek, the PUD issued a Determination of Nonsignificance ("DNS"). Ecology's SEPA staff objected. Their letter stated that "[t]he DNS was procured by misrepresentation or lack of material disclosure," and asked the PUD to withdraw it and revise its SEPA checklist to accurately reflect the proposed action and its impacts to Schumacher Creek. That did not happen, and neither DOH nor Ecology ever required otherwise. That decision closed off yet another avenue for analyzing the consolidation's environmental impacts and possible mitigation.

EXPIRING WATER RIGHT PERMITS OFFER ADDITIONAL OPPORTUNITIES

Ecology issues water rights permits and certificates. A water right permit is not a final water right, but instead allows the applicant to proceed with construction of the water system and to start putting the water to beneficial use in accordance with the permit's terms. Ecology issues a certificate after confirming that all the permit conditions are met.

If a water right permit is involved in the consolidation (as opposed to a certificate), another path exists for achieving streamflow protections. When the supplier asks Ecology to extend the permit, Ecology can either cancel it for good cause, or extend the permit with conditions. The conditions can include a tentative determination of water rights and streamflow mitigation requirements.

With the Union plan, the Alderwood permit was up for renewal. Ecology's lower-level staff sought conditions that included conducting a tentative determination and streamflow monitoring. As discussed earlier, however, Ecology's Union plan addendum closed off that possibility.

DOH Mandates

Protecting Flows

Avoiding Laws

Recommendations

Tracking Conservation

DOH's Independent Statutory Obligations

While Ecology has clear statutory duties — related to water rights, stewardship, and protecting and restoring instream flows — DOH is not without its own mandates. Some DOH mandates overlap with Ecology's duties. State law (RCW 43.20.250, WAC 246-290-100) requires that DOH approve water system plans only if they:

- Ensure that public water systems will provide reliable water supplies i.e., are not later interruptible and subject to curtailment because they lack sufficient water rights to serve the predicted number of connections.
- Analyze impacts on the source from which the water is diverted or withdrawn using existing data and studies for both current and future water use.
- Include a water rights self-assessment that properly evaluates the system's legal ability to use water for existing or proposed uses in conformance with state water rights.
- Document factors related to a water system's source of water supply that may affect its availability and suitability to provide for both short and long-term needs. Factors include, but are not limited to: (a) other legal demands on the source such as water rights for other uses; (b) conditions established to protect species listed under the Endangered Species Act; and (c) instream flow restrictions established by Ecology rule.
- Go through a proper SEPA analysis. SEPA requires, among other things, that DOH administer its governing laws, regulations, and policies in accordance with environmentally protective policies, and condition or deny an approval in order to avoid or mitigate adverse environmental impacts.

Finally, under the 1971 Water Resources Act, DOH must, whenever possible, carry out vested powers in a manner consistent with the Act. The Act outlines "fundamentals" that include retaining base flows needed to preserve fish.

Conclusion

From the tribes' perspective, the importance of healthy instream flows for fisheries cannot be overstated. Tribes depend upon fish and fishing for physical, cultural, and spiritual sustenance. As sovereign nations, tribes signed treaties with the United States in which they gave up most of the land that is now western Washington, in exchange for reserved rights to harvest salmon and sufficient water to sustain healthy salmon populations. For those rights to have meaning, there must be salmon to harvest. If salmon are to survive, and if treaty rights are to be honored, state agencies must assume a true stewardship approach to water, and conform to their environmentally protective mandates.

Seeking ways to skirt or ignore existing water laws undermines the protection and restoration of instream flows. Water system consolidations are occurring around Washington and are being encouraged as a way to avoid asking hard but critical questions about streamflow impacts and reliability of water supplies. The consolidations are largely occurring out of the public eye. Closer scrutiny is warranted to ensure that DOH and Ecology are following state laws. Additionally, careful attention should be paid to Ecology's upcoming changes to its municipal water rights policy, POL 2030.

Legislative changes are likely warranted to protect ever-diminishing streamflows and fisheries, and to ensure future reliable water supplies.

Warranted legislation includes:

- Instituting public notice of water system expansions
- Increasing the scrutiny of municipal water rights before DOH approves system expansions
- Narrowing the focus of RCW 90.03.386 (the automatic water rights expansion provision)
- Disallowing consolidations or parts of consolidations that are actually interties
- · Making mandatory and enforceable what are now suggestions for conservation and efficiency

As to the last point, implementation of conservation standards appears to be falling into a void between Ecology and DOH. Water system conservation standards were one of the selling points for passage of the Municipal Water Law. Yet implementation leaves much to be desired. The law requires a review of water conservation measures before a municipal water supplier may use further amounts of its inchoate water right. In practical terms, however, it is unclear how this happens or if it happens at all. The MOUs between the DOH and Ecology do not address conservation requirements and thus appear to leave oversight of conservation requirements to DOH through its water system plan reviews. Even though Ecology is responsible for managing the water right side of the equation, it appears to have no role in reviewing compliance with conservation standards as it applies to the use of inchoate water. Perhaps this is another area where legislation could improve accountability for managing an increasingly limited resource.

Pathways

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PATHWAYS FOR LOCALIZED WATER INFRASTRUCTURE

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&

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Introduction

The urgent need to radically increase investment in local water infrastructure across the United States is well documented. Drinking water, stormwater, and wastewater systems are in crisis in communities nationwide. Addressing drought, urban flooding, and water quality impairments — all of which are intensified by climate change — are critical priorities. Notwithstanding the recent historic expansion in federal and state support for these priorities, the size and scale of the need dwarfs the available loan and grant programs. The often-unacknowledged reality is that the overwhelming majority of water infrastructure spending, approximately 96%, occurs at the local level. The challenge for water resource managers and their political leadership is how to address these water needs sustainably, create resilience to climate change, and protect water quality, all while securing local water supplies and services for everyone equitably.

This article focuses on the considerable and largely overlooked opportunities presented by localized water infrastructure (LWI) — i.e., onsite decentralized installations and technologies widely distributed across communities. These are often described as distributed systems that extend beyond centralized water infrastructure and are located at or near the point of use. These installations and technologies, some time-honored and others trailblazing, could be the most impactful water infrastructure of the future. At scale, LWI performs the same functions as conventional water infrastructure. LWI provides reliable drinking water supply, effectively treats wastewater, and captures and manages stormwater. Indeed, onsite decentralized strategies often perform these functions more equitably and affordably. LWI also provides multiple co-benefits for communities such as permanent, green jobs, improved public health, and more green space. Getting to scale is already feasible technically, financially, and legally. Yet, realizing LWI's full potential remains untapped for a variety of reasons.

This article makes nine recommendations and identifies roughly two dozen achievable, practical action items to overcome the financing, institutional, legal, and policy barriers to largescale adoption of LWI. These recommendations and action items set a foundation for expanding access to and understanding of LWI in an effort to catalyze and accelerate the shift towards sustainable, climate resilient, affordable, and equitable water solutions. LWI solutions for drinking water utilities, pathways to scale, and real-world case studies are explored below. These themes are also discussed in greater detail in the *Tap into Resilience: Pathways for Localized Water Infrastructure* report published by the University of California, Irvine School of Law Center for Land, Environment, and Natural Resources (CLEANR) and WaterNow Alliance in September 2021 (www.law.uci.edu/centers/cleanr/news-pdfs/tap-into-resilience-report.pdf).

LWI Defined

Multiple Benefits

Solutions & Scaling