IACC

INFRASTRUCTURE ASSISTANCE COORDINATING COUNCIL

Washington State Department of HEALTH

PROTECTING YOUR DRINKING WATER & HOW WE CAN HELP

October 23, 2024

Washington State Department of Health

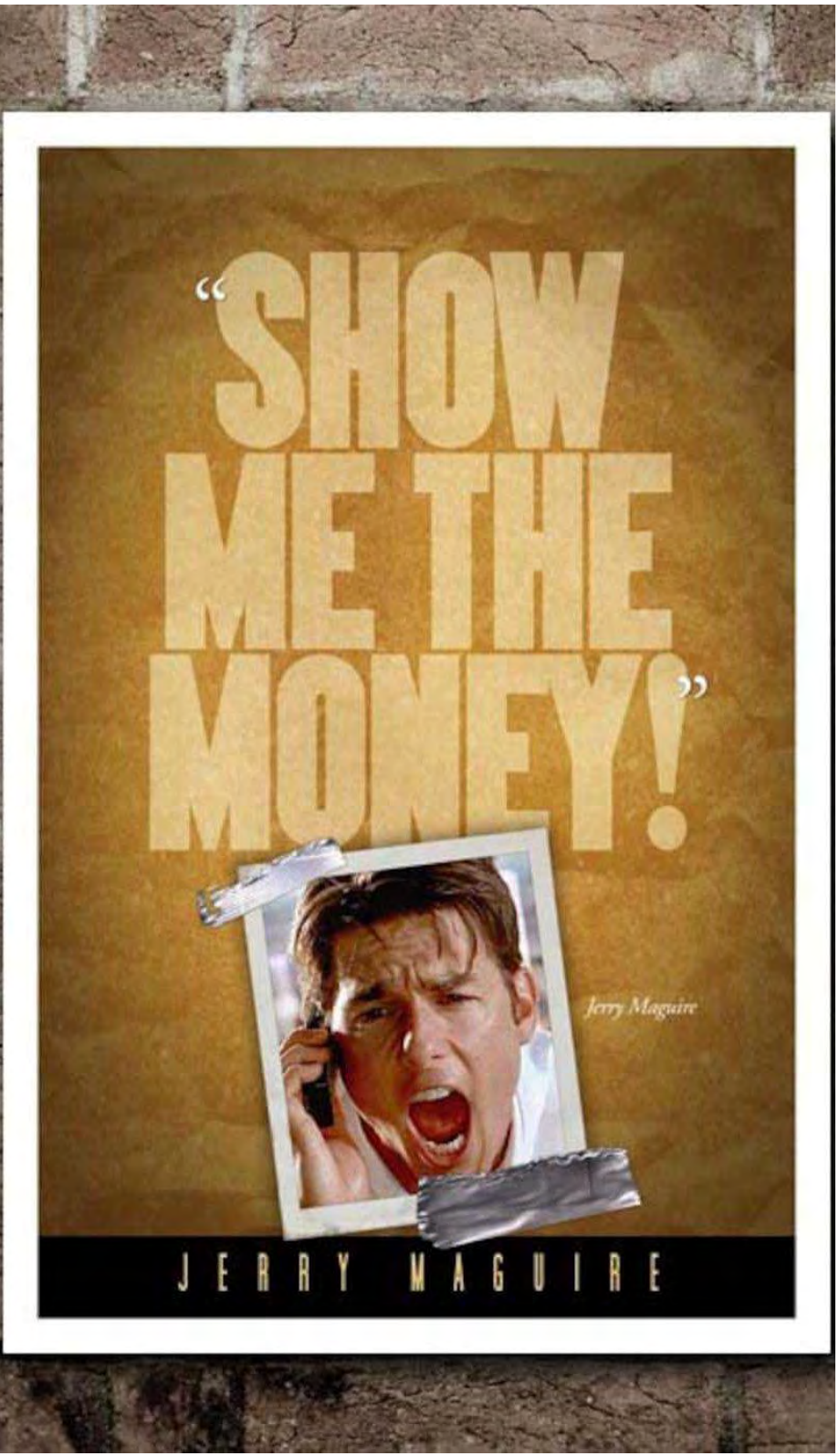
Office of Drinking Water
Source Water Protection Program

Deborah Johnson

Wellhead Protection Program Coordinator

Stan Hoffman

Surface Water Protection Program Coordinator



Today's Topics

fundamentals

teamwork

alignment

technology

… then money

fundamentals

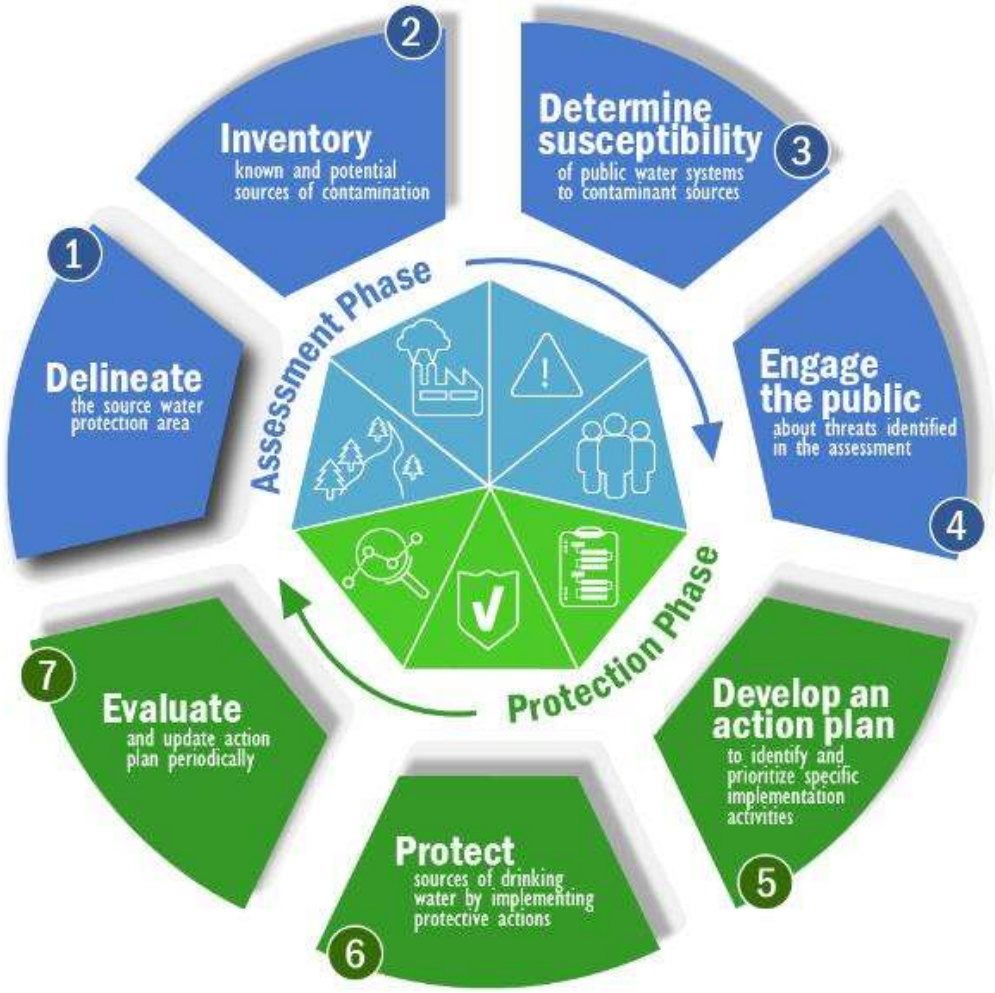
Source water protection & how it works

Source Water Protection 101

- 1996 amendments to federal Safe Drinking Water Act
- Water systems must include source water protection programs in their water system plans
- Part of Group A water system plan or small water system management program (WAC 246-290-100 or -105)
- For Group B – in WAC 246-291-125

What is Source Water Protection?

- Action oriented
- Big picture ideas
- Tailored to system
- Iterative
- Bottom line:
  Maintain or improve the quality & quantity of available water



Source: US EPA

Required by Washington Administrative Code

WAC 246-290-135

- Additional monitoring & controls, if needed
- Sanitary control area
- Wellhead protection
- Watershed control program

Watershed Control Programs

WAC 246-290-135(4)

- Required part of water system plan
- Location
- Land ownership
- Hydrology
- Activities that impact water quality
- All potential surface water contamination sources

Why Source Water Protection?

- EPA study: On average $1 spent on protection saves $27 in treatment costs
- Treatment plants have limits
- Shutdowns, excursions, & upgrades cost money
- Multiple barriers to protect public health

More Examples of Why

- AWWA & Trust for Public Land
  27 water suppliers studied
  For every 10% increase in forest cover, chemical costs were reduced 20%
- Texas A&M
  12 suppliers with 3 years of data
  Suppliers in areas with source issues paid $25 more per MGD (2002)
- Auburn, Maine
  $570K land acquisition cost saves $30M in capital costs & $750K/yr. in operating costs

Source Water Protection in Practice

- Riparian zone restoration & management
- Stream bank stabilization
- Land protection or easements
- Agricultural, forestry, or stormwater BMPs
- Planning for long-term climate impacts
- Local ordinances to limit or manage harmful activities
- Modeled groundwater sources
- Emergency response plans
- Education

Cascade Forest Conservancy

Cascade Forest Conservancy: Salmon Creek

Working with:
Lewis County Public Works
Lichen Land & Water

Benefitting:
Drinking water customers in Vader & Castle Rock
Salmon, amphibians & other species

By:
Reconnecting floodplains to limit sediment

Lower Elwha Klallam Tribe

Accessed October 21, 2024: Restoration of the Elwha River

Lower Elwha Klallam Tribe: Elwha River

Also funded by:
Drinking Water Providers Partnership
Washington State Dept. of Natural Resources

Benefitting:
Lower Elwha Klallam Tribe
Drinking water customers in Port Angeles
Salmon & other fish species

By:
Restoring riparian zone to improve water quality

Sustainable Northwest

Pacific Northwest forests provide many community benefits, including timber, drinking water, recreation, fish and wildlife habitat, and more. Yet, often, local communities have no say in how forests are managed because companies that own large areas of private forests make decisions that don't match community needs or priorities.

Regardless of their interests, Sustainable Northwest partners with communities to acquire private forest land and create a community-owned or managed forest, commonly known as a community forest.

Sustainable Northwest: City of South Bend

Also funded by:
Environmental Protection Agency
Rural Community Assistance Corporation

Benefitting:
City of South Bend

By:
Supporting implementation of local ideas & control
Managing forest land for water quality

teamwork

Forming mutually beneficial working relationships with your local government

GMA Updates Underway & Coming Up

December 31, 2024
King, Kitsap, Pierce, Snohomish

December 31, 2025
Clallam, Clark, Island, Jefferson, Lewis, Mason, San Juan, Skagit, Thurston, Whatcom

June 30, 2026
Benton, Chelan, Cowlitz, Douglas, Franklin, Kittitas, Skamania, Spokane, Walla Walla, Yakima

June 30, 2027
Adams, Asotin, Columbia, Ferry, Garfield, Grant, Grays Harbor, Klickitat, Lincoln, Okanogan, Pacific, Pend Oreille, Stevens, Wahkiakum, Whitman

Drinking Water is Fundamental

Fully planning: RCW 36.70A.020(10)

"Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water." (1990)

Partially planning: "quality and quantity"

Cities/towns RCW 35.63.090 added 1984; "facilitate adequate provision of water" 1935-1984

Code cities RCW 35A.63.061(1) added 1984

Counties RCW 36.70.330(1) required 1984; optional 1959-1984

Drinking Water in Local Comp Plans

- Service area land use & zoning (source water protection, ID pressure/lift issues, main sizing)
- Practicality—system growth & capital investments vs. where new growth is planned to occur
- Zoning dictates land use in wellhead or watershed protection areas

Critical Areas Protections

Designate & protect (via development regulations) critical areas, including critical aquifer recharge areas ("areas with a critical recharging effect on aquifers used for potable water" - CARAs), using best available science

(RCW 36.70A.030(5), .060, 170, & .172)

Local Critical Areas Regulations

WAC 365-190-100 (4)(b)

"Areas with a critical recharging effect on aquifers used for potable water"

Examples:

- Sole source aquifers (EPA designation)
- Special protection areas> groundwater management program (Ch. **90.44**, 90.48, & **90.54** RCW; & Ch. **173-100** & **173-200** WAC)
- Wellhead protection areas (*definition in WAC 365-190-030)
- Areas near marine waters subject to saltwater intrusion
- Other areas meeting the definition of "areas with a critical recharging effect on aquifers used for potable water" (What's in case law & local BAS?)

Help Your Local Government to Help You

Participate in their comprehensive planning process!

- What kind of developments are coming?
- Where will development occur?
  - Provide data
  - Identify issues

alignment

Correlating water system & comp plan/critical areas regulations

Local Government Consistency

- Water system plans (WSPs) must be consistent with locally adopted plans & regulations
- Comp plan & zoning maps in the WSP are consistent with the local jurisdiction
- Water system's growth population is consistent with local growth population
- Service area policies are consistent with local plans & regulations
- For cities/towns only: WSP is consistent with city/town utility service extension code
- All other relevant plans & regulations are addressed

Group A Water System Plan Content - 1

- Identify "related plans…such as local land use plans…" (20-year horizon) – must be consistent
- Service area land use & zoning (use in wellhead protection or watershed control program)
- Service area population & growth projections (use in demand forecasting)
- Signed local gvmt. consistency review form

Local Government Consistency Review

- Request consistency review – the "who" is important
- Sometimes: $$$
- Give them 60 days to get back to you (can extend to 90 days total)
- If they don't respond, do it yourself
- If consistent: document
- If inconsistent: discuss, fix, & document

Group A Water System Plan Content - 2

Watershed control program (surface water/GWI sources) includes inventory of land ownership & specific location of potential contaminant sources & activities

-OR-

Wellhead protection program (groundwater/ spring sources) includes susceptibility assessment

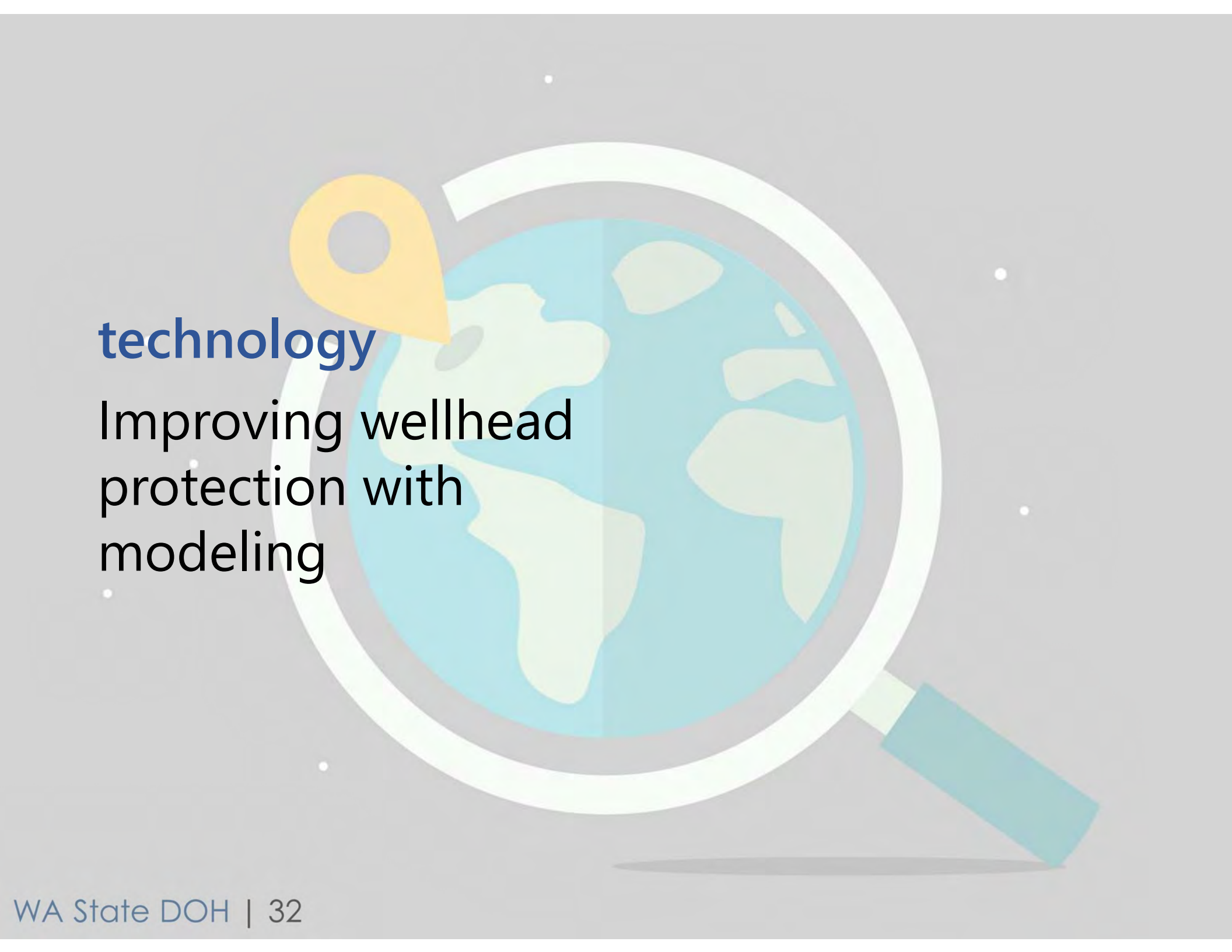
(WAC 246-290-135)

Wellhead Protection Requirements

- Establish sanitary control area
- Susceptibility assessment
- Define & map wellhead protection area
- Potential contaminant inventory & notification (repeat every 2 years)
- Contingency plan
- Coordination with local emergency responders
- Update as needed (at least with WSP update)

Make Your Source Protection Meaningful

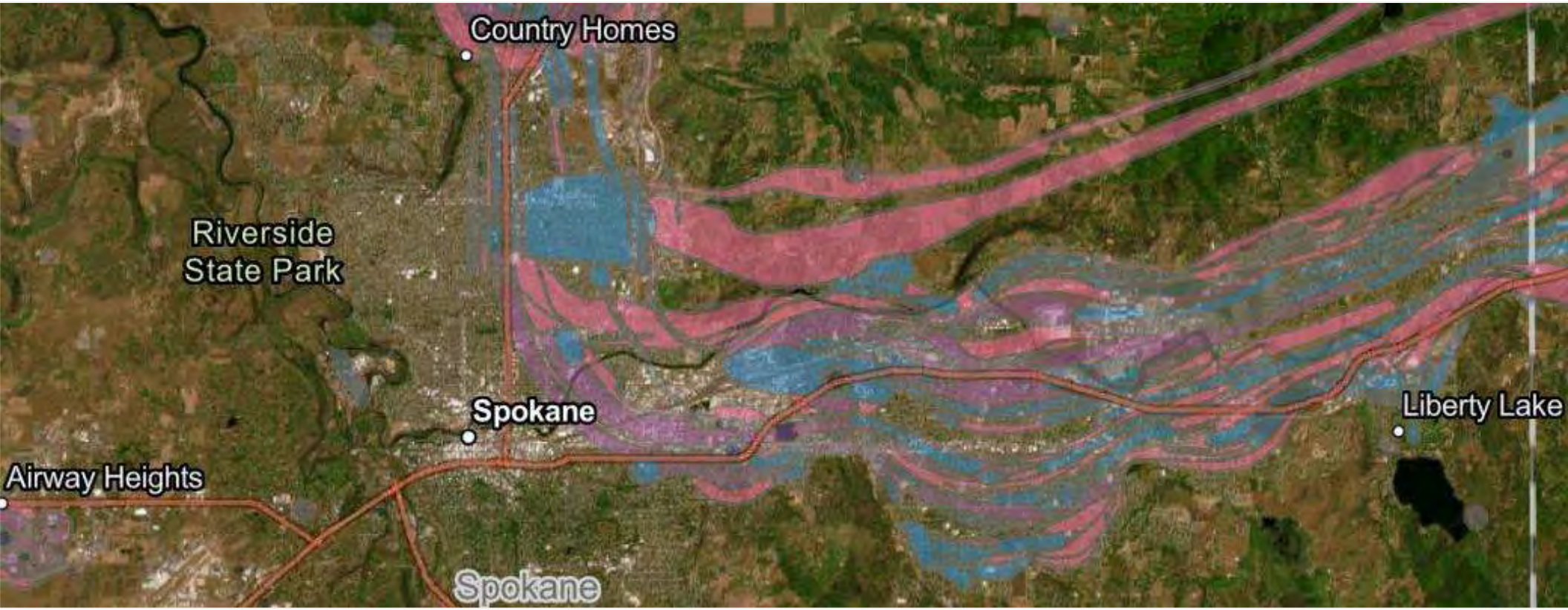
- Keep contaminant inventory up to date
- Watershed scale planning
  Identify activities & land uses detrimental to WQ
  Watershed management & control measures
  Document WQ trends
- Consider a regional approach
  Work with other utilities
  Engage the public
  Communicate with local gvmt. & emergency responders



technology

Improving wellhead protection with modeling

Mapping wellhead protection areas



Source Water Assessment Program (SWAP) Map
https://experience.arcgis.com/experience/9dc3fd45206d450f828ebd7ed9cdf7be

Assigned

Group A (green)
1,000′ radius
“Better than nothing”
Often emergency/seasonal
Doesn’t meet minimum standard

Gray—Group B (gray)
600′ radius
“Preliminary short-term groundwater contribution area”

Calculated Fixed Radius (CFR)

Most common

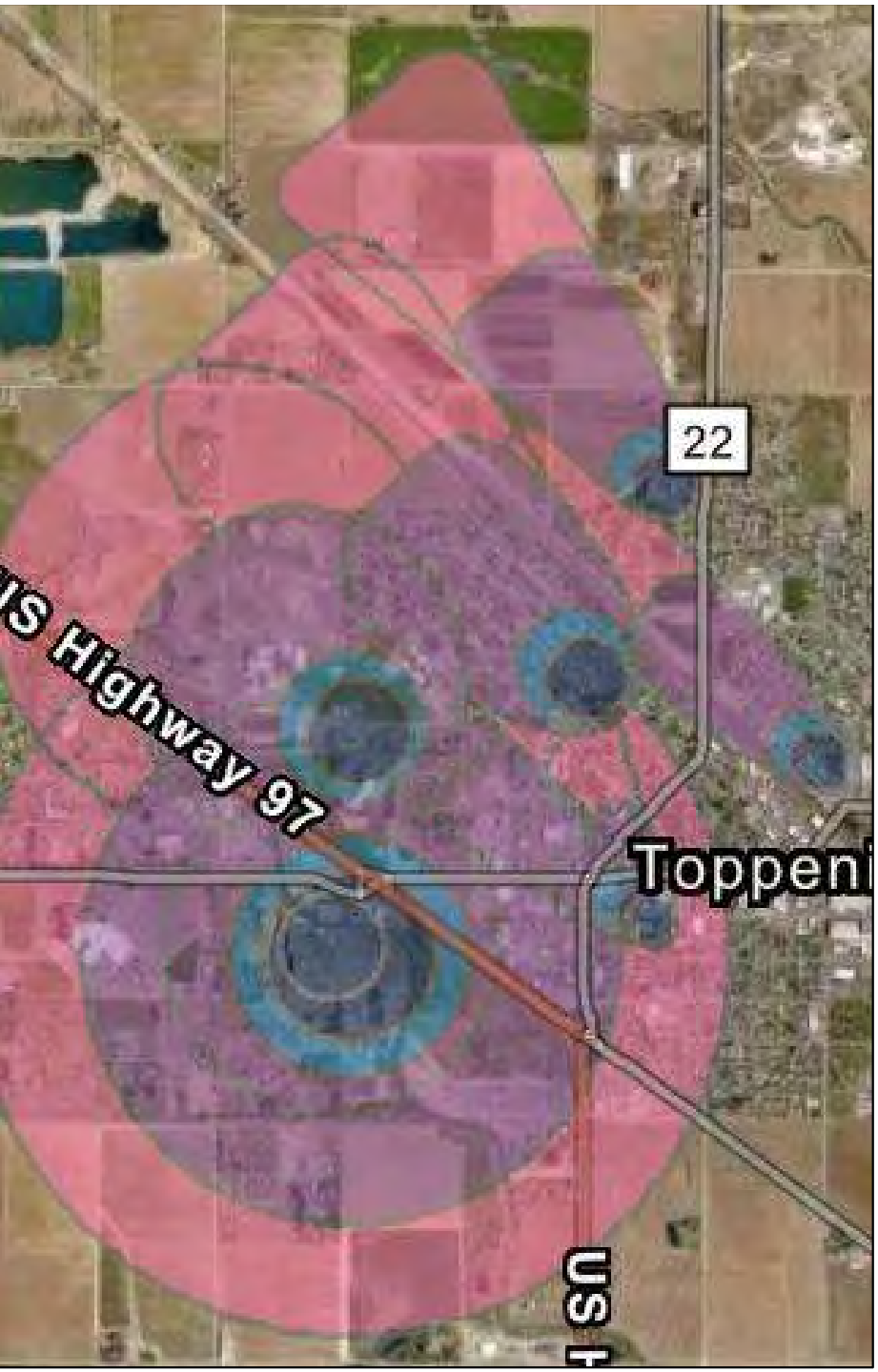
Dark blue—6-month TOT
Light blue—1-year TOT
Lavender—5-year TOT
Pepto—10-year TOT

Always a bullseye

Math formula using operational characteristics

Theoretical model; doesn't consider topography, soils, groundwater flow, etc.

*Intervening water body!



Modeled

Irregularly shaped

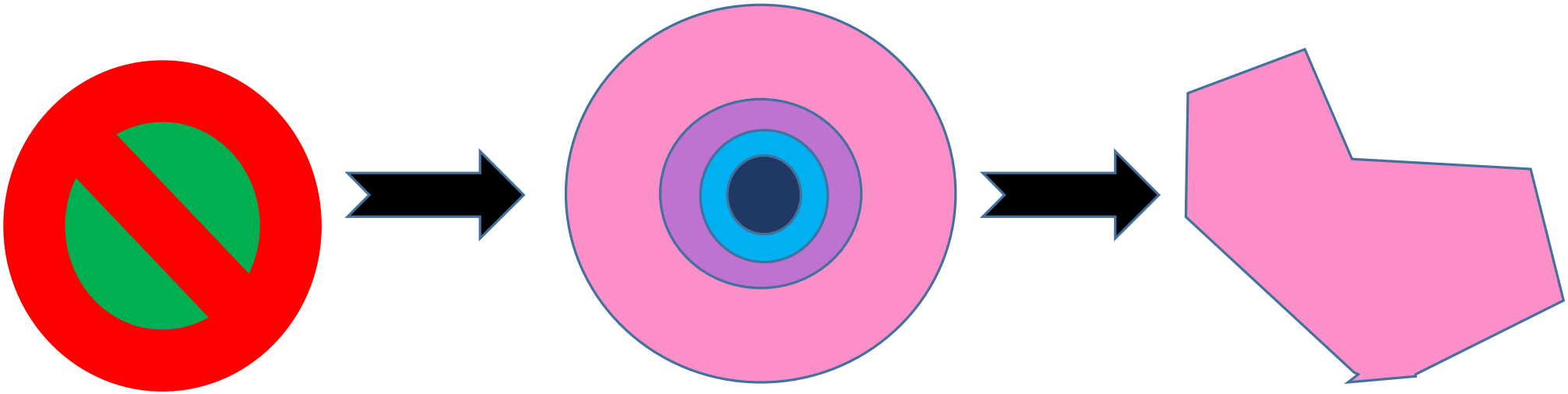
Considers physical land & water features

Best available info to protect source water in practice

New Ecology project: modeling guidelines

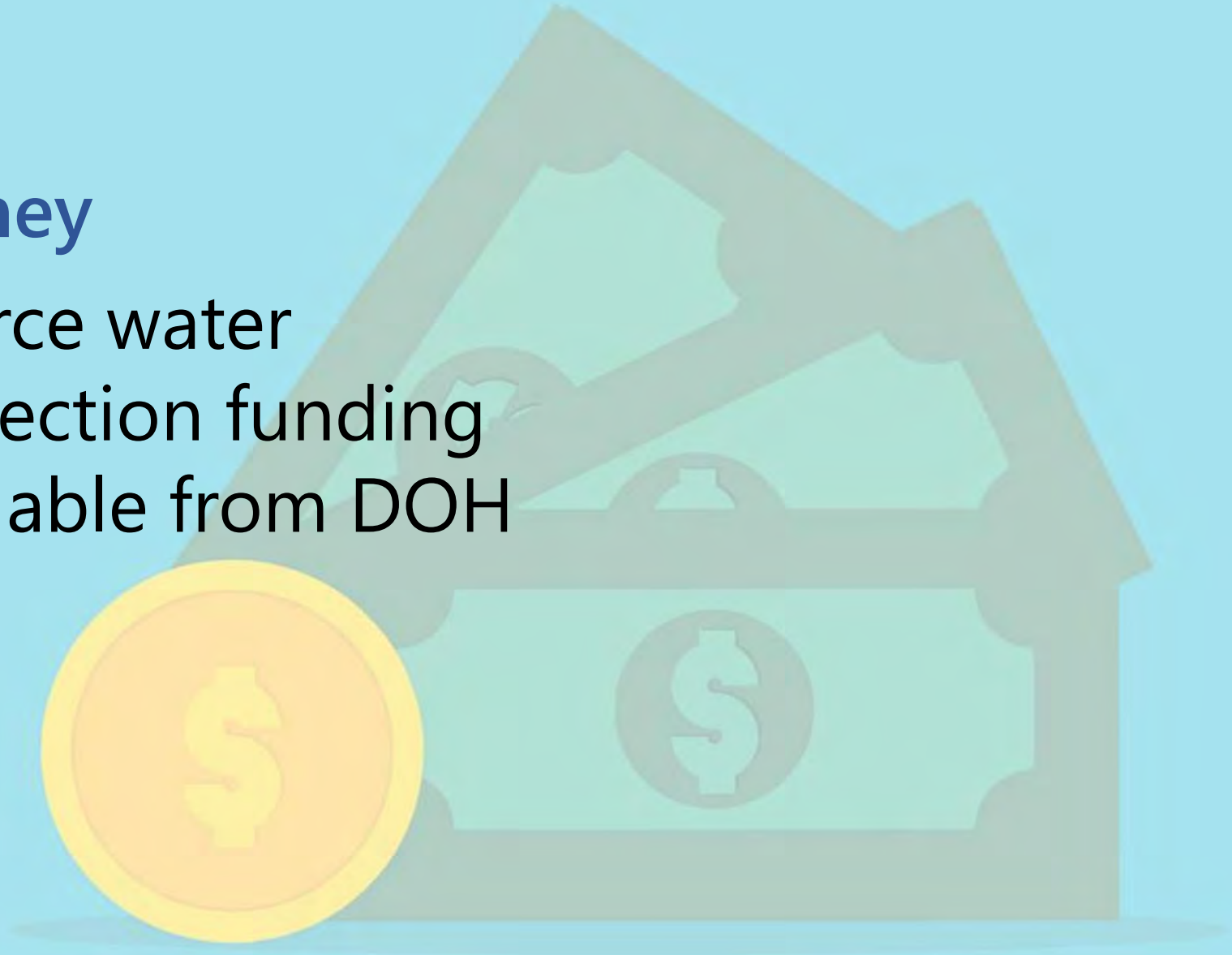
Raising the Bar

- Move from CFR to modeling
  - Improved reliability & predictability
  - Better able to identify contaminants
  - Better able to correspond to zoning
- No more assigned!



money

Source water protection funding available from DOH



Funding Basics

Project parameters: “reasonably expected to provide long-term benefit to drinking water quality or quantity”

Eligible applicants: nonprofit Group As, other nonprofits, local governments, conservation districts, nonprofits, educational institutions, tribes (& otherwise eligible to receive federal grants)

No yearly application period! Grants are first come, first served till available funding is exhausted

$30,000 per project (unless regional)

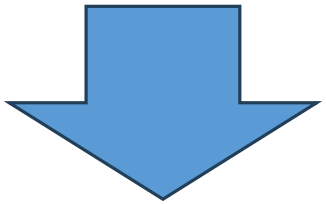
Examples of Eligible Projects

- Improved WHPA delineation - moving from CFR to modeling
- Developing CARAs protections as part of GMA critical areas regs
- Plans, studies, research, monitoring
- Security measures, except construction costs
- Decommissioning potential contaminants (wells, septic, etc.)
- Outreach

This funding cannot be used for groundbreaking or DWSRF-eligible projects

Application Information

Project description
Performance measures
Tasks & deliverables
Numbers! Applicant tax ID#, UBI#, statewide vendor#, federal unique entity ID# (formerly EIN)



Translates to contract

- At least 60 days to contract execution
- Quality assurance project plan (QAPP) may be required https://tinyurl.com/4jmwe33w
- Cost reimbursement *only*; not retroactive

Drinking Water Providers Partnership

- Restore & protect the health of watersheds that communities depend on for drinking water while also benefiting aquatic & riparian ecosystems, including native fish
- Support local partnerships between drinking water providers, landowners & restoration practitioners
- $10,000 – $50,000 per project; 18-mo. turnaround
- Application period opens in Dec. & due by first week of Jan.
- Application link www.workingwatersgeos.org

Related Grants & Loans

- Commerce (Small Communities Initiative) https://www.commerce.wa.gov/serving-communities/serving-rural-communities/small-communities-initiative-sci/
- USDA Rural Development https://www.rd.usda.gov/programs-services/water-environmental-programs
- RCAC Environmental Infrastructure loans https://www.rcac.org/lending-2/environmental-loans/

SWP Grant Guidelines & Application

https://doh.wa.gov/community-and-environment/drinking-water/source-water/local-assistance-grant-program

Technical Assistance

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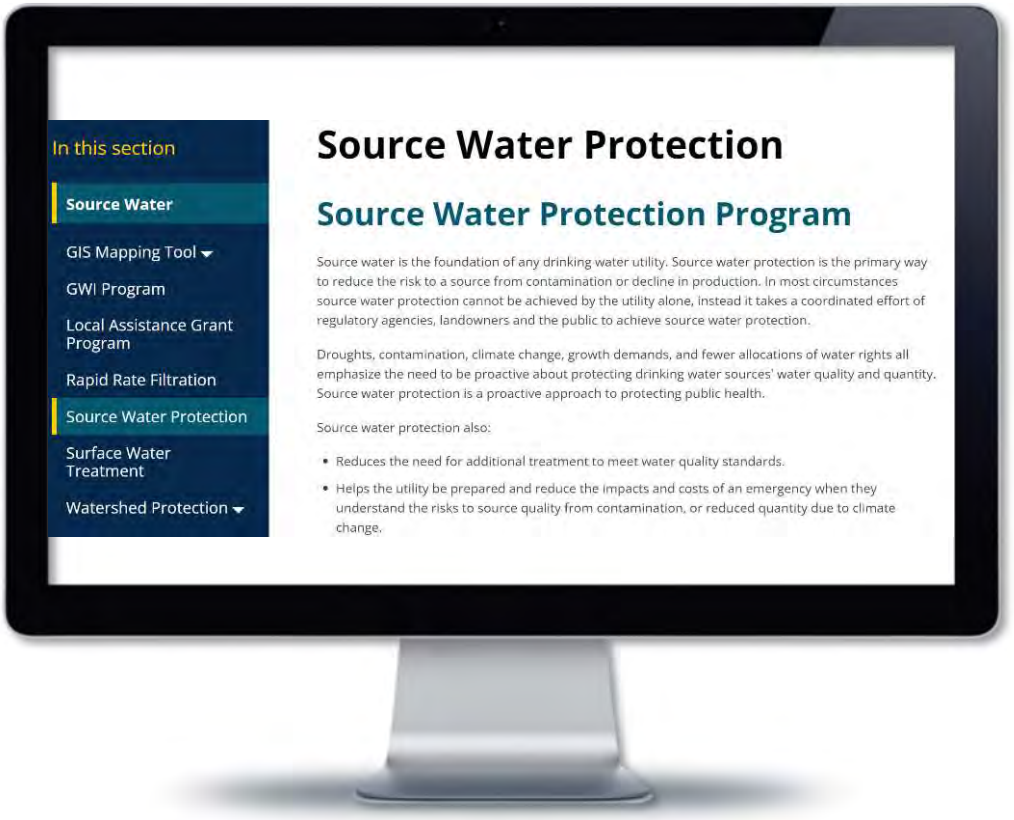
https://doh.wa.gov/community-and-environment/drinking-water/source-water/source-water-protection



November 1 Update

Chelsea Cannard starts today as the new Source Water Protection Program manager. She previously worked for the Drinking Water State Revolving Fund & came to DOH after 7 years with Whitman County Public Health.

Chelsea Cannard
SWP grants
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