Polnell Landing Water Association (PLWA) Annual Members' Meeting

14 June 2025

Outline

- Opening
- System Description
- Treasurer's Report
- Asset Management
- Future Rates
- Saltwater Intrusion
- Water Chemistry
- Cross Connection / Backflow
- PFAS
- Water Conservation
- Communications
- Election of Board Members
- Meeting Close

PLWA

Annual Meeting

PLWA Board Members

- Bill Burnett (President)
- Karl Nielsen (Vice-President)
- Craig Abdelnoor (Secretary)
- John Romanski (Treasurer)

- As per bylaws:
  - All terms are one year
  - Three or four members

Board Goals

- Provide the Best Quality Water at a Fair Price
- Maintain Facilities and Well
- Efficiently Manage the System's Finances
- Plan for Future System Improvements

PLWA is a Public Water System

- Group A system: 15 or more service connections

- Community system: regularly serves 15 or more connections year-round, or 25 or more year-round residents (for 180 or more days/year)

Some Program Requirements

- Water Quality Monitoring Schedule
- Certified Operators
- Sanitary Surveys
- Operating Permit
- Water Facilities Inventory Form
- Cross Connection Control
- Consumer Confidence Reports
- Accredited Drinking Water Laboratory
- Planning Requirements
- Engineering Requirements

Some Internal Documents

- PLWA Bylaws (updated 2022)
- PLWA Rules, Regulations and Procedures (updated 2024)
- Available at out website for review / download: https://polnellwater.org/

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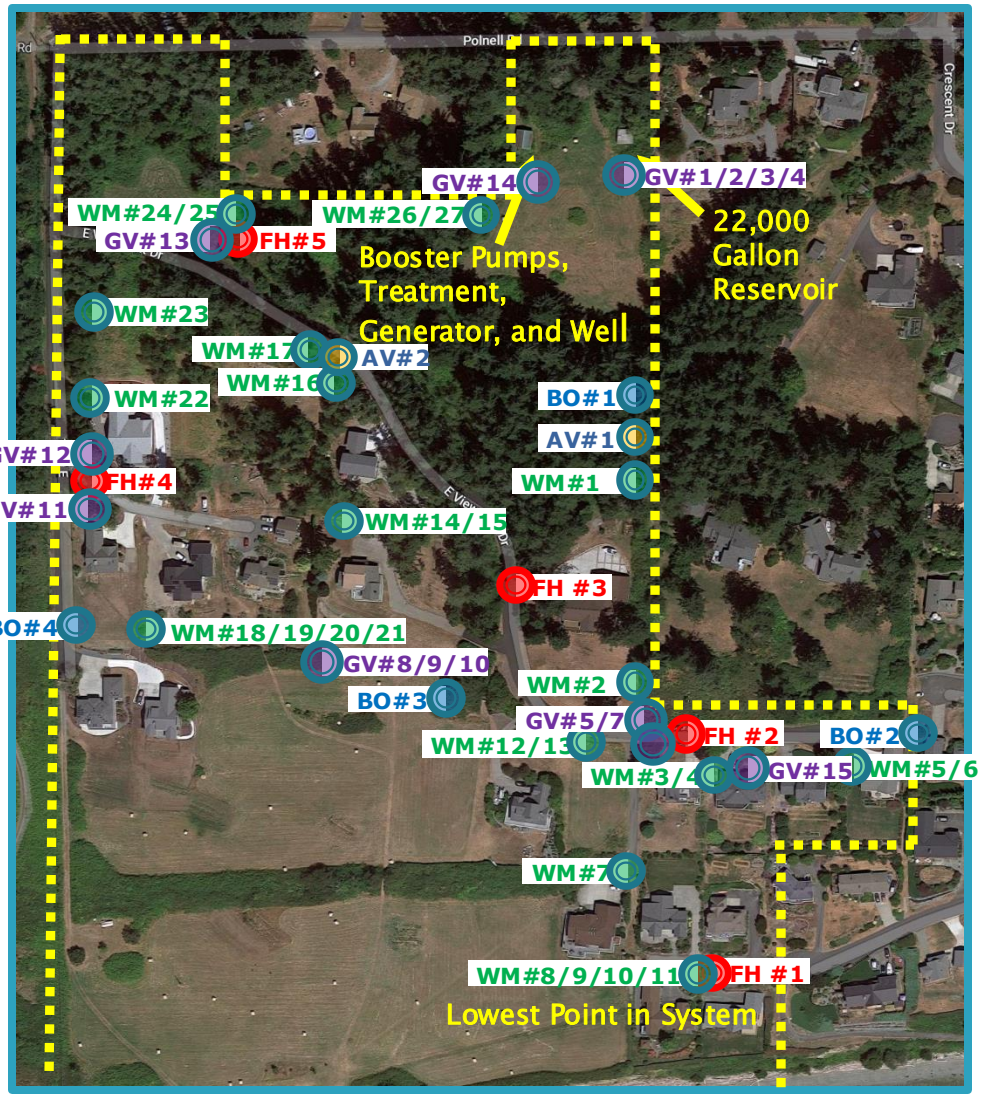
PLWA Membership

- System rated for 27 residential connections
  - 24 parcel certificates
  - 22 parcels connected / metered
  - 20 members currently drawing water (soon to be 22)

- Only members drawing water can be assessed dues: *Bylaws Article VIII "Assessment of Dues and Liens"*

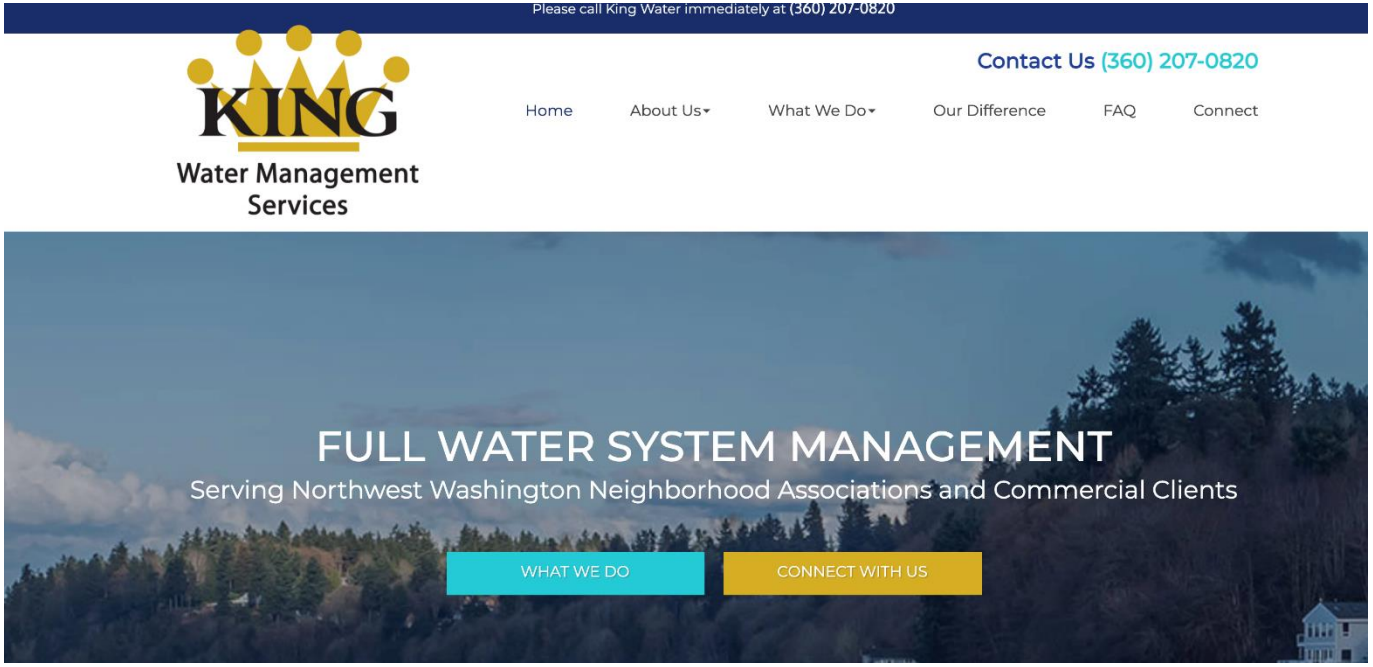
PLWA System Diagram

- About a mile's worth of 6" PVC pipe tying it all together



KING Water (owned by NW Natural Water)

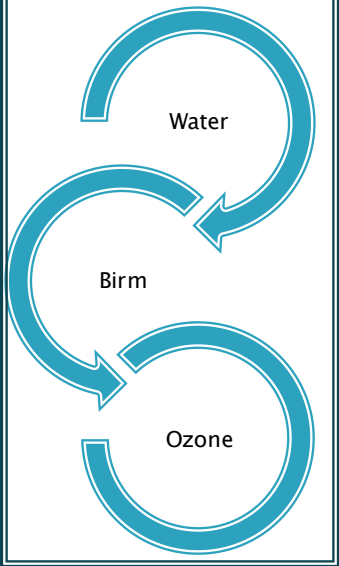
- **PLWA contracts with KING Water Company for repairs and maintenance**



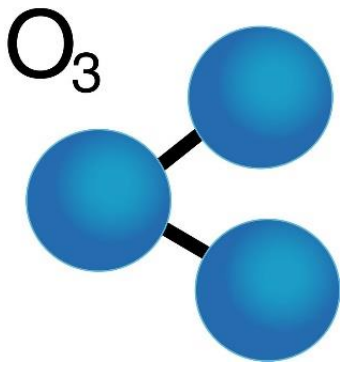
Water Flow Process – *Current*

Well Water → Ozone (Oxidant / Disinfectant) → Manganese Filtration System → Reservoir → Distribution Lines / Water Meters / Home

Birm
Filtration Media



Ozone
Oxidant



Chlorination System

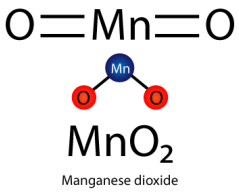
- Being added in 2025 due to multiple recent confirmed bacteriological contamination events (Total Coliform – NOT E. Coli – *last E. Coli was in 2005*)
- DOH letter of August 20, 2024 → directed us to install permanent continuous disinfectant treatment *throughout the distribution system*
  - 0.2 ppm is DOH min requirement
  - 0.5 ppm is engineering target (to ensure min is met)
  - Initial required project completion date was February 2025 – *now expect DOH approval / bids / construction in 2025*

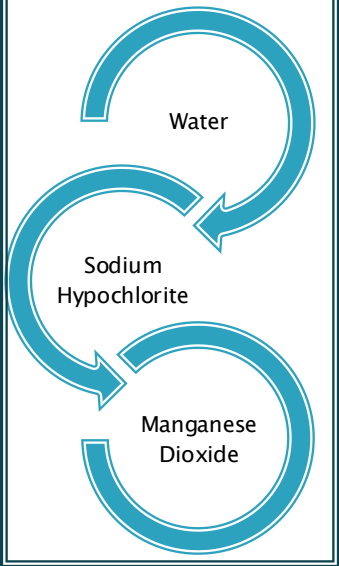
Water Flow Process – *Future*

Well Water → Chlorine (Oxidant & Disinfectant) → **Manganese Filtration System** → Reservoir → Distribution Lines / Water Meters / Home

Filtration Media

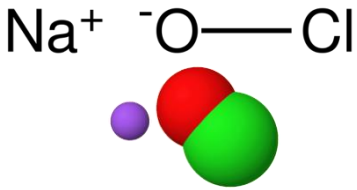
Pyrolusite / Manganese Dioxide





Oxidant

Sodium Hypochlorite



Manganese Filtration Plant Project Status (June 2025)

- FACET has worked design / report, including pilot testing of ATEC filters
- Expect submittal to WA DOH after Chlorination Plant installation
- DOH review to follow
- Project bid process delayed until adequate capital funds collected from members (2026 – 2027 timeframe

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Treasurer's Report

- John Romanski- Treasurer

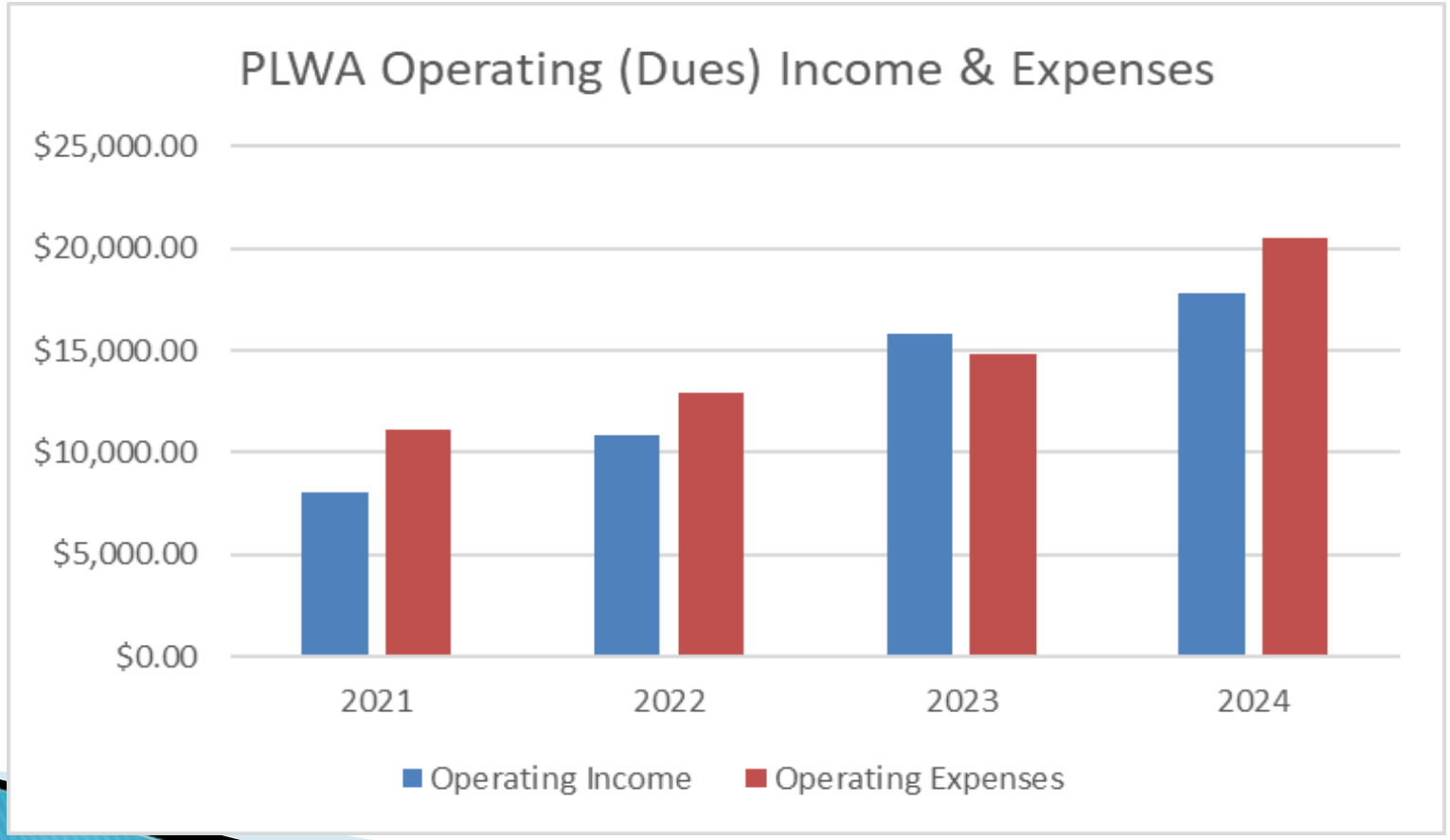
FY 2024 Top Level Financial

- 12/01/2023 – 11/30/2024

FY 2024 Top Level Financial Report	
Available Funds (Start)	$70,666.71
Operating Income	$17,666.71
Operating Expense	$20,548.02
Operating Surplus / Deficit	-$2,746.51
Capital Income	$10,543.65
Capital Expenses	$51,837.79
Change in Cash Accounts (All income minus all expenses)	-$44,040.65
Available Funds (End)	$26,626.06
Capital Available for Projects	$1,626.06

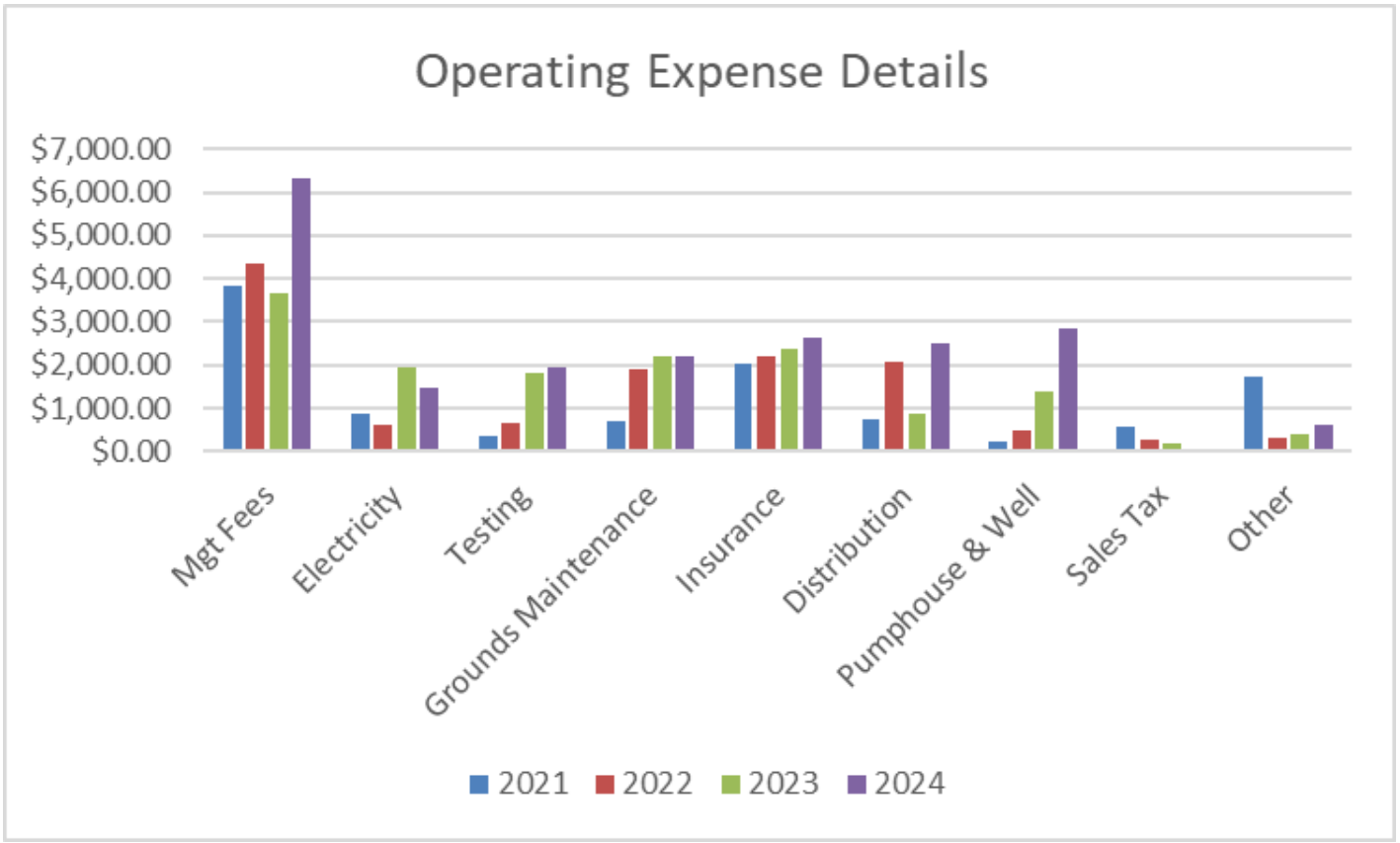
Operational Multi-Year View

- Operating *expenses* have increased dramatically
- *Revenue* increases when new users are added or when dues are increased – two lots remain unconnected



Operational Expense Breakdown

- Increases caused by management fees, required Group A water testing, and maintenance needed for aging equipment



1st Half FY 2025 Account Status

- 12/01/2024 – 05/31/2025

1st Half FY 2025 Account Status	
Total Available Funds at End of FY2024	$48,782.95
Special Assessment / Total Capital Income	$31,250.00
Total Capital / Engineering Expenses	$11,329.75
Total Available Funds	$22,156.89
Capital Available for Projects	$21,546.31
Total Operating Income	$10,104.81
Total Operating Expenses	$7,868.17

1st Half FY 2025 Discussion

- One member has not paid dues nor the capital assessment for the 1st Half
- Two members have paid their entire 3-year capital assessments in advance, $7500 each. One booked in FY2025
- Two members have paid their 2nd half dues in advance
- Expected income for 2nd half, FY 2025, assuming all monies due are received:
  - Operating Income: $9450
  - Capital Income: $26,250
- This is expected to be sufficient to begin work on the chlorinator installation

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Asset Management Process

- Identify/assess/document all PLWA assets
- Assign lifecycle management principals
- Identify projected gaps in operational infrastructure
- Plan for future financial and facilities' needs
- Provide membership transparency for managed resources:
  - Finance
  - Facilities
  - Maintenance
  - Compliance

Water System Average Expected Useful Life (Years)

Component	*Average* Life Expectancy (Years)
Water Storage Tank (Generic)	45
Concrete Water Storage Tank	
Steel Water Storage Tank	
Asbestos Cement	50
PVC Pipe	*C-900: 80 / CL-200: 70*
HDPE Pipe	80
Steel Pipe	35
Ductile Iron Pipe	80
Wells	40
Well Pump	15
Water Meters	15
Hydrants	40
Pumphouse Building	40
Water Pump (Generic)	15
Standby Generator	20
Site and Building Electrical	25
Valves	40
Water Treatment	15
Chain Link Fence	40

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Current & Future Rates

Maintenance and Operations Fund		
	2023 / 2024	2025 Forward*
Member Annual Maintenance and Operations Rate	$800 / $900	$900

Capital Fund		
	2025 – 2027	2027 Forward*
Member Annual Capital Assessment	$2,500	$2,330

* Will / May Require Inflation Adjustments, etc. in Future

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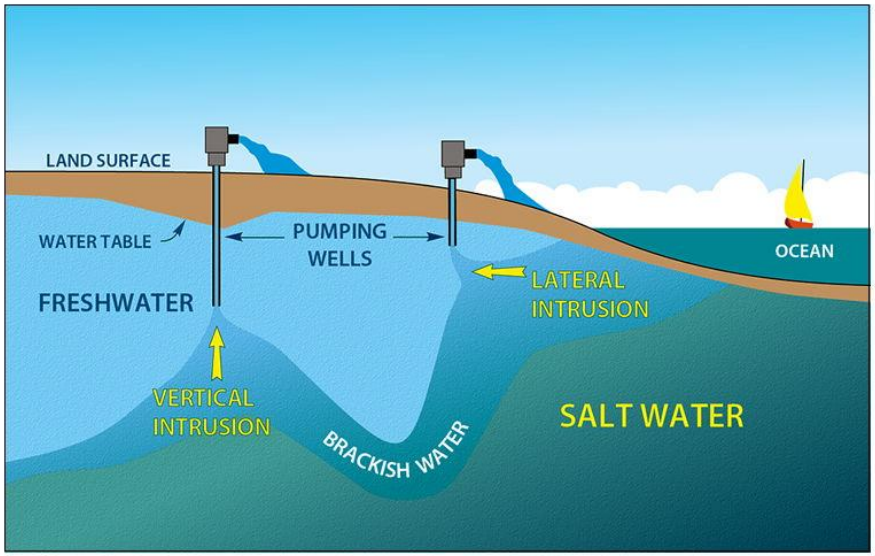
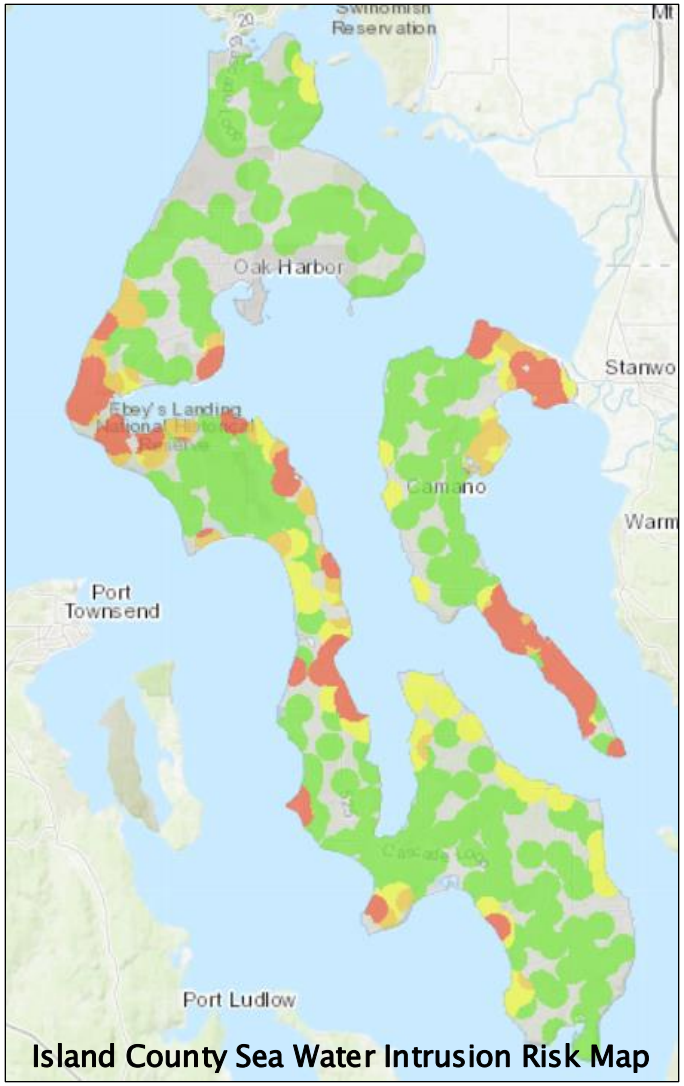
Well / Saltwater Intrusion Risk

- ALT194 (GM3) – Low Risk
- 1160 Old Polnell Rd
- Effective Date 01/01/1970
- LS Elevation 203'
- Well Depth 158'
- TD Elevation 45' MSL
- Maximum capacity 35 gpm





Island County Sea Water Intrusion Risk Map

Saltwater Intrusion Data

- Conductivity measures total dissolved solids
- Chloride is the primary indicator

Year	ALT 194 (GM3) Well	
	Conductivity MCL=700 Umhos/cm	Chloride MCL=250 mg/L
1991	310 / 320 / 310	13 / 14 / 14
1997	318	20
2015	260 / 330	20 / 20
2017	323	13.9
2018	326	13.4
2019	329	13.1
2024		19.2
2025	314	15.5

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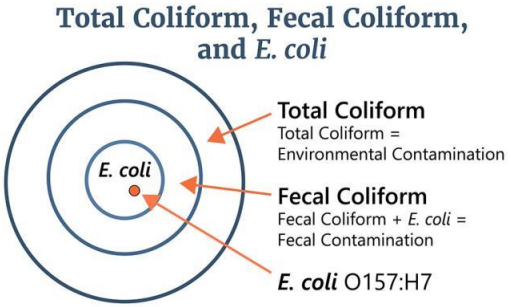
Water Quality Monitoring Schedule (WQMS)

Monthly	One Year	Three Year	Six Year	Nine Year
Total Coliform	Bromate*	Complete Inorganic (IOC)	Gross Alpha	Asbestos
E.Coli	Nitrate	Volatile Organics (VOC)	Radium 228	
	Lead	Herbicides		
	Copper	Pesticides		
		PFAS		
		Soil Fumigants		
		Total Trihalomethane (THM/TTHM)*		
		Halo-Acetic Acids (HAA5)*		

* Disinfectant Byproducts from Water Treatment

Total Coliform

- Well Tested Positive May 2023
- Distribution System Tested Positive May and November 2023; April, June, July 2024
- 20 August 2024: WA DOH directed: “permanent, continuous disinfection treatment to maintain a detectable disinfectant throughout the distribution system”, (i.e. chlorine disinfection)
- All recent E. Coli tests have been negative



Inorganic Concentrations

Contaminant	Results	MCL /State Reporting Limit
Iron (2024 / 2025)	0.300 / 0.3300 /0.286 /0.10 / 0.10 / 0.10 / 0.10 / 0.10	0.3 mg/L
Manganese (2024 /2025)	0.05 / 0.1420 / 0.860 / 0.3270 /0.3650 / 0.0338 /0.0510 / 0.1980	0.05 mg/L
Hardness*	127.9 / 150 / 140 / 110	10.0 mg/L
Lead (2023)**	0.387/ 0.41/0.214 /0.027/0.001	0.0010 mg/L
Copper (2023)**	0.001/ 0.001/ 0.001/ 0.38 /0.035	0.02 mg/L
Radionuclides:		
Gross Alpha (2023)	1.1	3.0 pCi/L
Radium 228 (2023)	0.2	1.0 pCi/L
Gross Beta (1993)	6	50.0 pCi/L
Nitrates	Multiple tests <MCL 2002 – 2025	10.0 mg/L

- Data from 1997 / 1989 / 1991 / 2015 / 2020
- ** Should have occurred also in 2024 – tested at indoor kitchen / bath faucets (next is June 2025)

Water Test Exceedances (1 of 2)

Individual System View - polnell landing water assoc. - Water System Id - 55476w

Compliance Actions | Operating Permits | Operators | Reports | Water Use Efficiency

General Information | Source Information | Samples | Exceedances | Water Quality Monitoring Schedule

Type	Source	DOE Source	Collect Date	Analyte	Result Quantity	Units	Test Panel	Analyte Group	Sample Number	Lab Number
MCL2	01	ALT194	4/3/2025	MANGANESE	0.832	mg/L	IOC_SHORT	IOC	20448	046
MCL2	01	ALT194	3/6/2025	MANGANESE	0.051	mg/L	IOC_SHORT	IOC	13999	046
MCL2	01	ALT194	1/9/2025	MANGANESE	0.099	mg/L	IOC_SHORT	IOC	01733	046
MCL2	01	ALT194	12/5/2024	MANGANESE	0.442	mg/L	IOC_SHORT	IOC	69728	046
MCL2	01	ALT194	11/7/2024	MANGANESE	0.327	mg/L	IOC_SHORT	IOC	65614	046
MCL2	01	ALT194	10/3/2024	MANGANESE	0.105	mg/L	IOC_SHORT	IOC	57744	046
MCL2	01	ALT194	9/19/2024	MANGANESE	0.365	mg/L	IOC_SHORT	IOC	55176	046
MCL2	01	ALT194	7/9/2024	IRON	0.860	mg/L	IOC_SHORT	IOC	39047	046
MCL2	01	ALT194	7/9/2024	MANGANESE	0.286	mg/L	IOC_SHORT	IOC	39047	046
MCL2	01	ALT194	6/20/2024	IRON	0.330	mg/L	IOC_SHORT	IOC	35195	046
MCL2	01	ALT194	6/20/2024	MANGANESE	0.142	mg/L	IOC_SHORT	IOC	35195	046
MCL2	01	ALT194	1/20/2020	MANGANESE	0.876	mg/L	IOC_SHORT	IOC	04461	046
MCL2	01	ALT194	4/3/1997	MANGANESE	0.490	mg/L	IOC	IOC	01439	046
MCL2	01	ALT194	3/11/1991	MANGANESE	0.640	mg/L	ICHEM	IOC	03188	081
MCL2	01	ALT194	5/22/1989	MANGANESE	0.350	mg/L	ICHEM	IOC	16625	081
P	Distribution		7/9/2024	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	39206	164
P	Distribution		6/20/2024	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	35399	164
P	Distribution		4/22/2024	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	21556	164
P	Distribution		4/22/2024	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	21568	164
P	Distribution		4/18/2024	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	20787	164
P	Distribution		11/9/2023	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	75838	174
P	Distribution		11/9/2023	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	75835	174
P	Distribution		11/7/2023	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	75208	174
P	Distribution		5/17/2023	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	32214	174
P	Distribution		5/17/2023	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	32215	174

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Water Test Exceedances (2 of 2)

Individual System View - polnell landing water assoc. - Water System Id - 55476w

Compliance Actions | Operating Permits | Operators | Reports | Water Use Efficiency

General Information | Source Information | Samples | Exceedances | Water Quality Monitoring Schedule

Type	Source	DOE Source	Collect Date	Analyte	Result Quantity	Units	Test Panel	Analyte Group	Sample Number	Lab Number
P	Distribution		5/17/2023	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	32212	174
P	Distribution		5/17/2023	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	32213	174
P	Distribution		5/15/2023	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	31476	174
P	Distribution		4/19/2018	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	28269	164
P	Distribution		4/19/2018	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	28267	164
P	Distribution		4/19/2018	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	28268	164
P	Distribution		4/16/2018	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	27443	164
P	Distribution		10/23/2017	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	65813	164
P	Distribution		4/17/2017	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	72597	057
P	Distribution		4/21/2015	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	50170	057
P	Distribution		4/21/2015	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	50172	057
P	Distribution		4/21/2015	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	50171	057
P	Distribution		4/21/2015	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	50114	057
P	Distribution		4/7/2015	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	49697	057
P	Distribution		11/10/2009	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	83736	057
P	Distribution		10/13/2009	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	82876	057
P	Distribution		9/14/2005	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	32705	057
P	Distribution		8/11/2005	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	31413	057
P	Distribution		8/11/2005	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	31410	057
P	Distribution		8/11/2005	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	31412	057
P	Distribution		8/10/2005	E. COLI	Present	/100ml	COLI_AP	MICRO	31338	057
P	Distribution		8/10/2005	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	31338	057
P	Distribution		8/10/2000	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	62067	058
P	Distribution		5/4/2000	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	58760	058
P	Distribution		5/20/1999	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	47587	058

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General Information | Source Information | Samples | Exceedances | Water Quality Monitoring Schedule

Type	Source	DOE Source	Collect Date	Analyte	Result Quantity	Units	Test Panel	Analyte Group	Sample Number	Lab Number
P	Distribution		7/16/1998	TOTAL COLIFORM	Present	/100ml	COLI_AP	MICRO	37835	058

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Cross Connection

- A cross connection is any physical connection between a public or consumer's water system and any source of non-potable liquid, solid or gas that could contaminate the water supply by backflow.

What Am I Responsible For?

- WAC# 246-290-490 delineates that property owners are required to install and maintain backflow prevention assemblies where they are needed and also speaks to water purveyors' (i.e. PLWA's) responsibilities.

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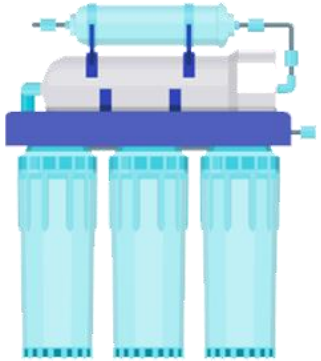
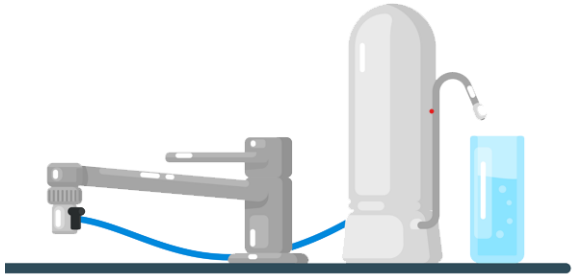
PFAS (per- and polyfluoroalkyl substances)

- Expect initial PFAS water tests in 2025
- PFAS-reducing point-of-use (POU) filters are usually granular activated carbon filters or reverse osmosis filters
- State could require PFAS system-wide reduction measures if PFAS are present



"Under the Sink" Style Filter



"Countertop" Style Filter

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PLWA Water Rights

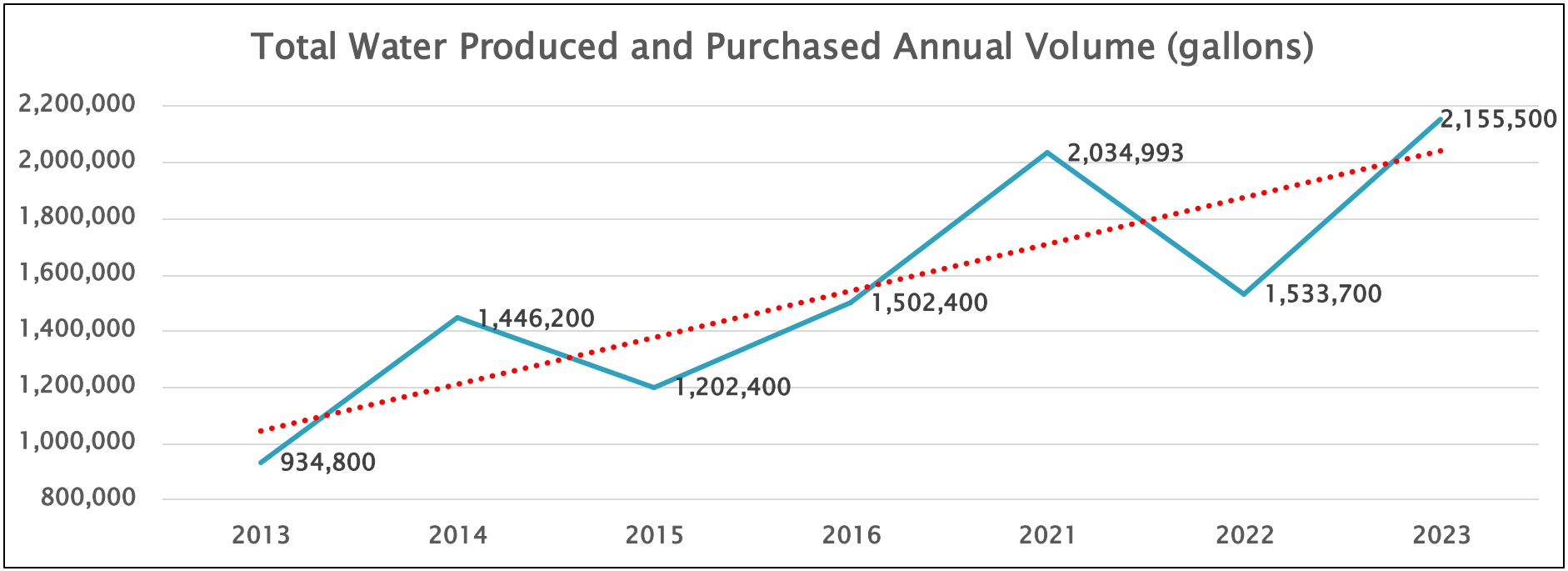
- Instantaneous draw rate of 30 gallons per minute from our well
- 17.5 acre-feet (5,702,392 gallons) per year
- *"Waters of the state belong to the public and can't be owned by any individual or group. Instead, a person or group may be granted a right to use a volume of water, for a defined purpose, in a specific place."* – quote from Dept. of Ecology website

Annual Water Use Efficiency (WUE) Report to WA State

- Unless all connections are metered and all meters are being read correctly, WUE cannot be measured accurately
- Lately, late June / early July report, so 2023 is latest
- Our first meter reading event in 2025 finally appeared to capture all water meters accurately (we think)

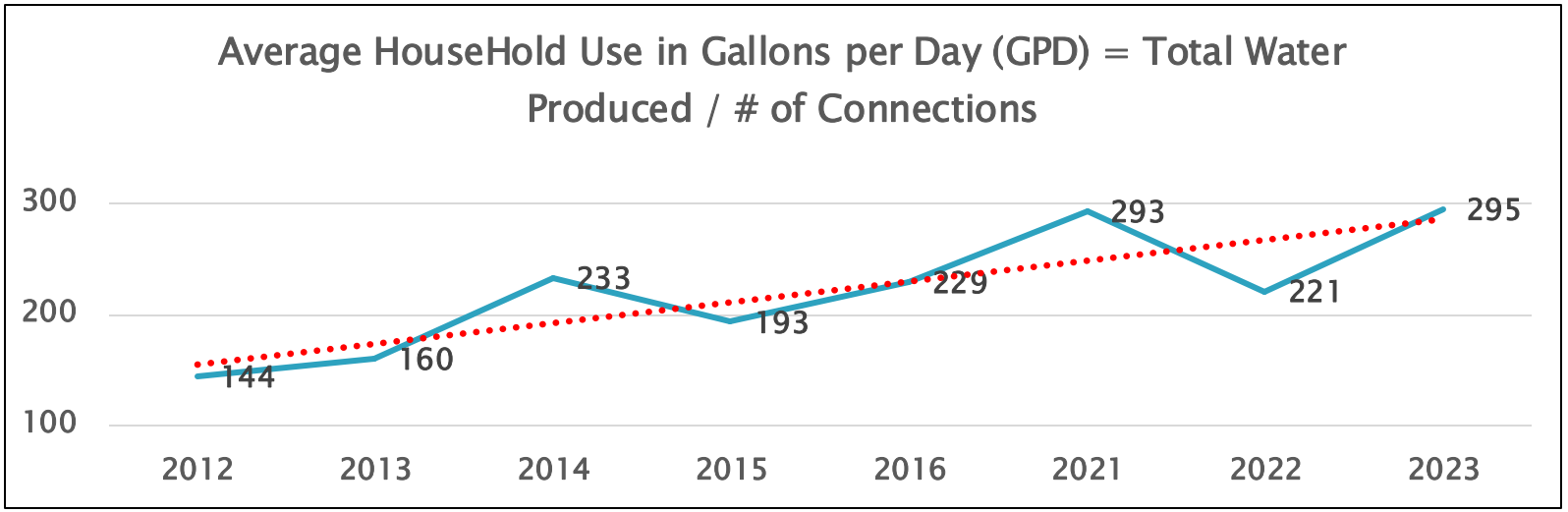
Year	Estimated % of Metered Connections	System Leakage (Gallons)	Leak %
2012	< 50%	0	0%
2013	<50%	0	0%
2014	50% to 75%	0	0%
2015	100%	0	0%
2016	100%	0	0%
2017	No Report	No Report	No Report
2018	No Report	No Report	No Report
2019	100%	0%	0%
2020	No Report	No Report	No Report
2021	>75%	0	0%
2022	>75%	0	0%
2023	>75%	745,594	34.6%

Total Gallons Pumped



Average Household use in gallons per day (GPD)

- Average person uses 80-100 GPD for indoor home uses: Source: US Geological Survey
- Average American family uses >300 GPD at home. Roughly 70 percent is indoors: Source: EPA



Year	GPD	Connections
2012	144	15
2013	160	16
2014	233	17
2015	193	17
2016	229	18
2021	293	19
2022	221	19
2023	295	20

Water Meters

- **WAC 480-110-305**
- **Access to premises.**
  - Authorized personnel of a water company have the right to enter a customer's property during reasonable hours to perform meter reading, maintenance, testing, installation or removal of the company's property. Customers may ask to see the identification of the water company personnel before allowing entry to the customer's property.

What Can We Do To Conserve?

- Check for leaks:
  - Hose bib
  - Toilet
  - Faucets
- Check for proper operation
  - Irrigation system
  - Dishwasher
  - Clothes washer
  - Water softener
  - Pressure pumps

Our GOALS
Gallons Per Day Per Unit

20XX	???	
20XX	???	
20XX	???	

Outline

- Opening
- System Description
- Treasurer's Report
- Asset Management
- Future Rates
- Saltwater Intrusion
- Water Chemistry
- Cross Connection / Backflow
- PFAS
- Water Conservation
- Communications
- Election of Board Members
- Meeting Close

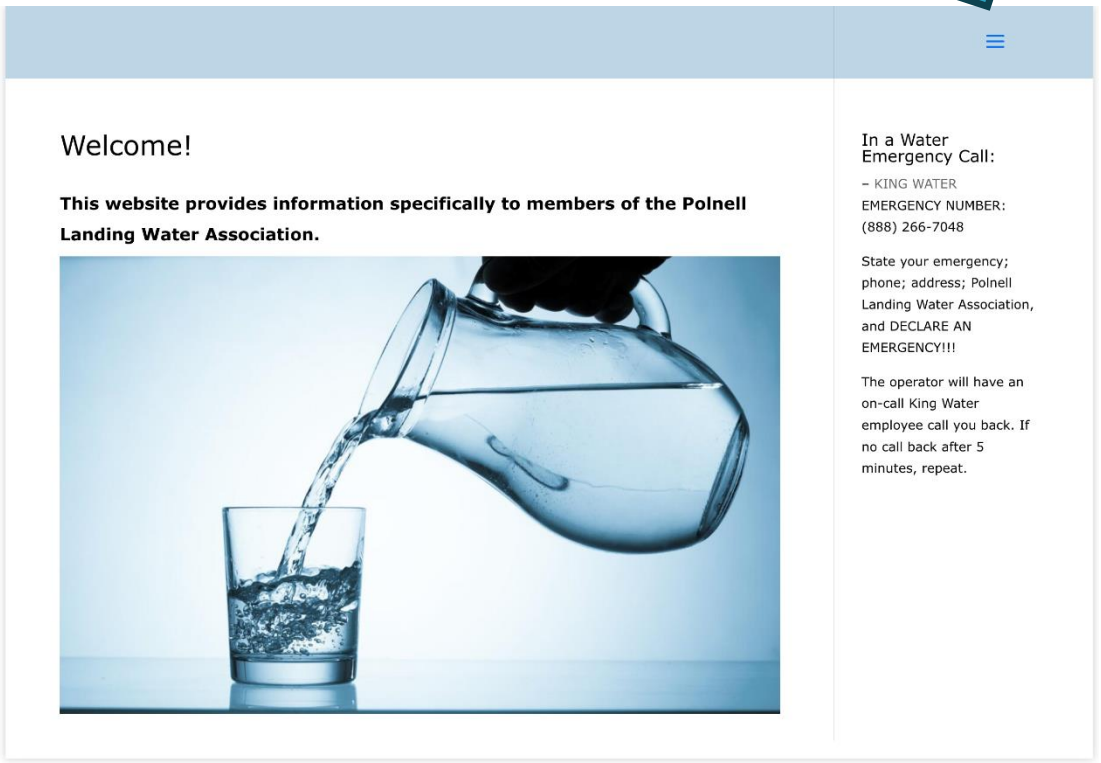
PLWA

Annual Meeting

Website

- https://polnellwater.org
- A communications vehicle
- A Board resource

Menu items



Website email

- Comes from “info@polnellwater.org”:
  - Informational emails (Annual meeting)
  - Emergency alert information
  - Ongoing project information (system flush, well cleaning, other maintenance)

- *Please keep your email address current with PLWA and change your privacy settings to receive email from PLWA*

Emergency Response Plan

- Our emergency response goal is to **protect and inform WWWA members regarding water system emergencies**

- Major Emergencies include:
  - Pump malfunctions or major line breaks
  - Water system or well contamination
  - Long term (24+ hours) power outage
  - Boil water notice

Power Outage

- Emergency generator powers:
  - Well
  - Booster pumps

- Single propane tank for fuel:
  - Should last a few days
  - Will need to call for propane for prolonged outage

Emergency Communications

- **Initial actions:**
  - **Water:** King Water (1-888-266-7048)
  - **Other:** 911

- **Communications plan:**
  - Group Email *(ONLY if your email is listed with us)*
  - Emergency notices of need to boil water distributed by King Water to each residence

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PLWA

Annual Meeting

Election of Board Members

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PLWA

Annual Meeting

Meeting Close