



HAWAII GREEN BUSINESS GREEN HOTEL FORUM

Thursday, June 16, 2022
boardofwatersupply.com



OUR VISION ...

KA WAI OLA
(WATER FOR LIFE)

boardofwatersupply.com

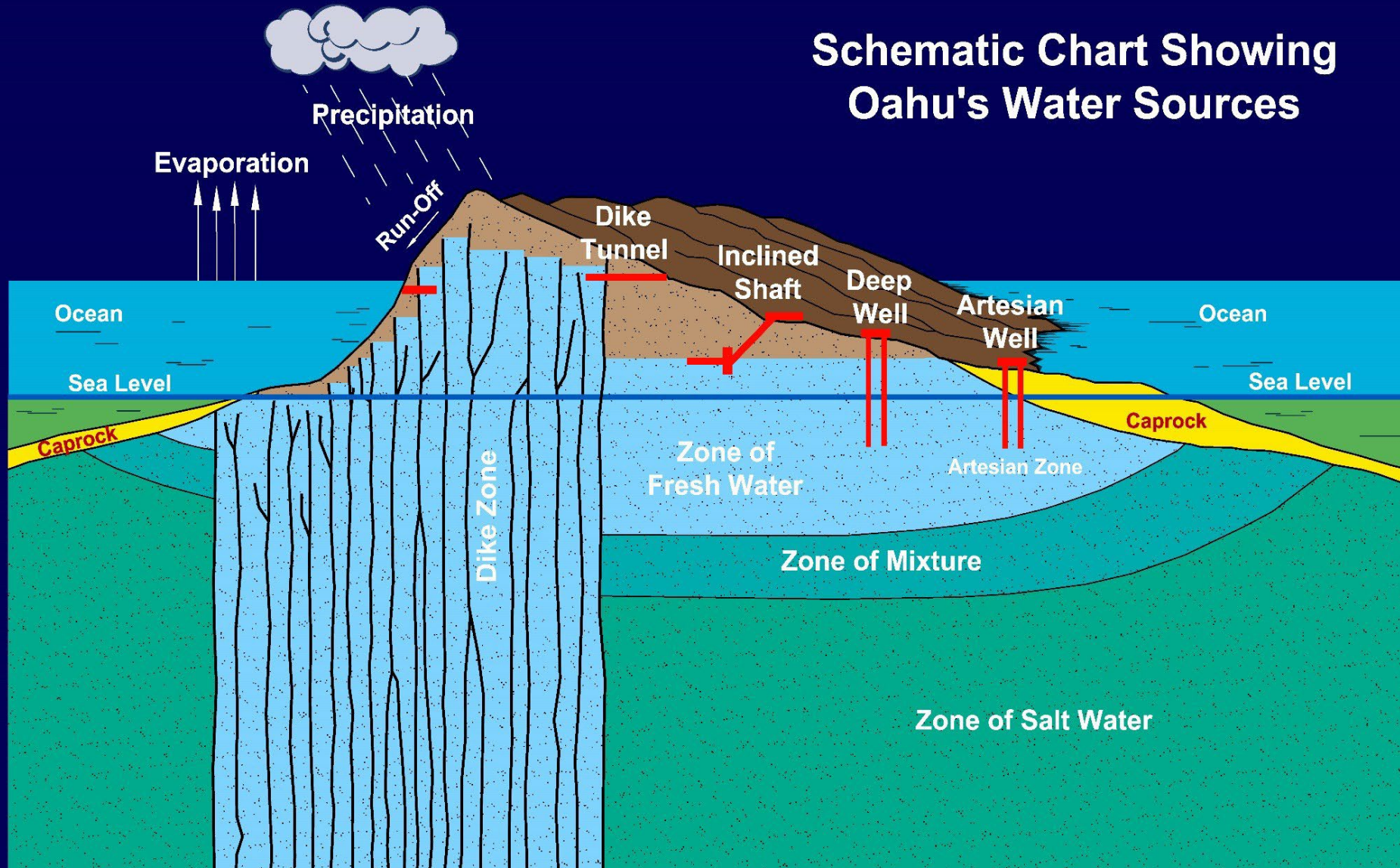


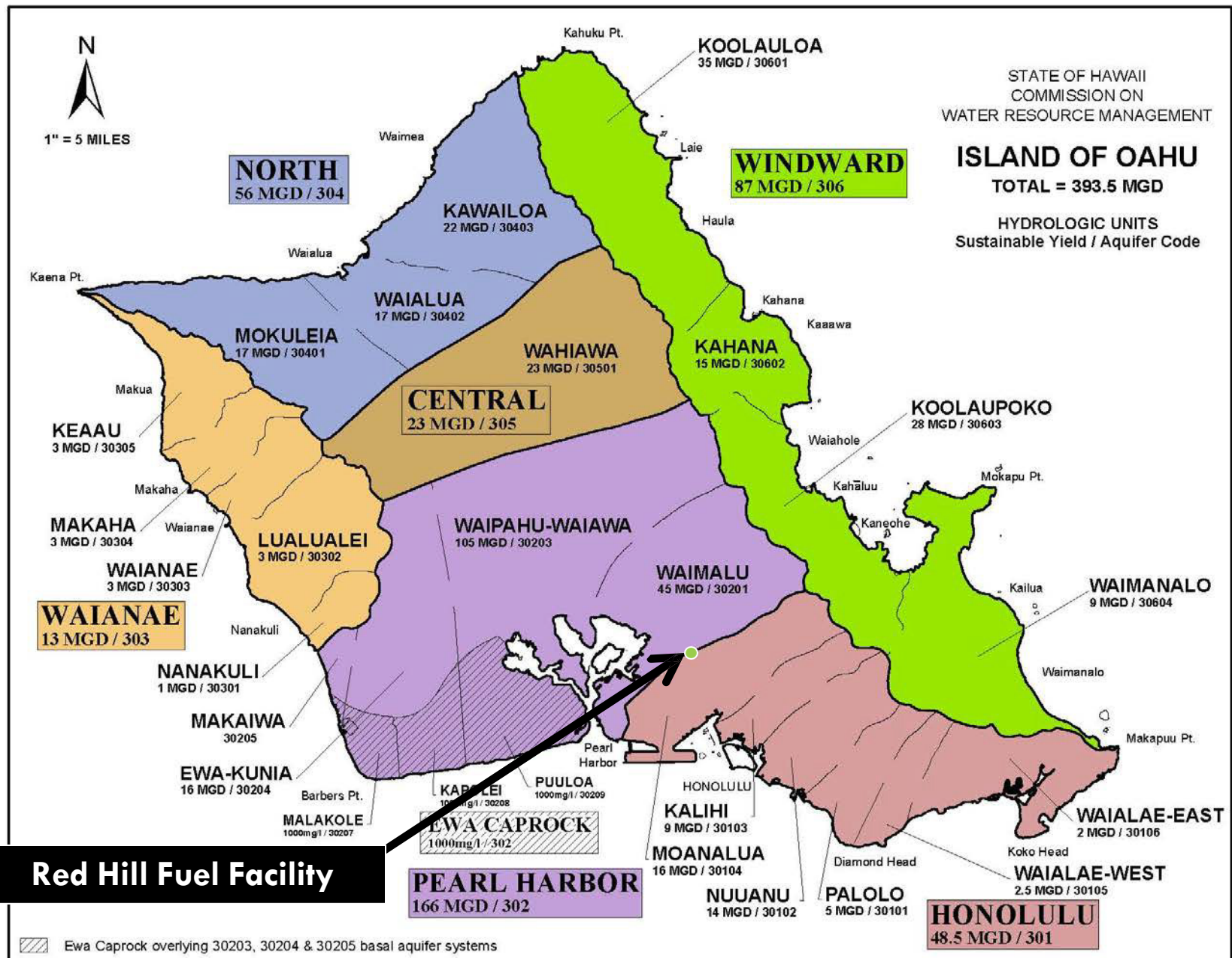
OUR MISSION ...

TO PROVIDE SAFE,
DEPENDABLE, AND
AFFORDABLE WATER
NOW AND INTO THE
FUTURE

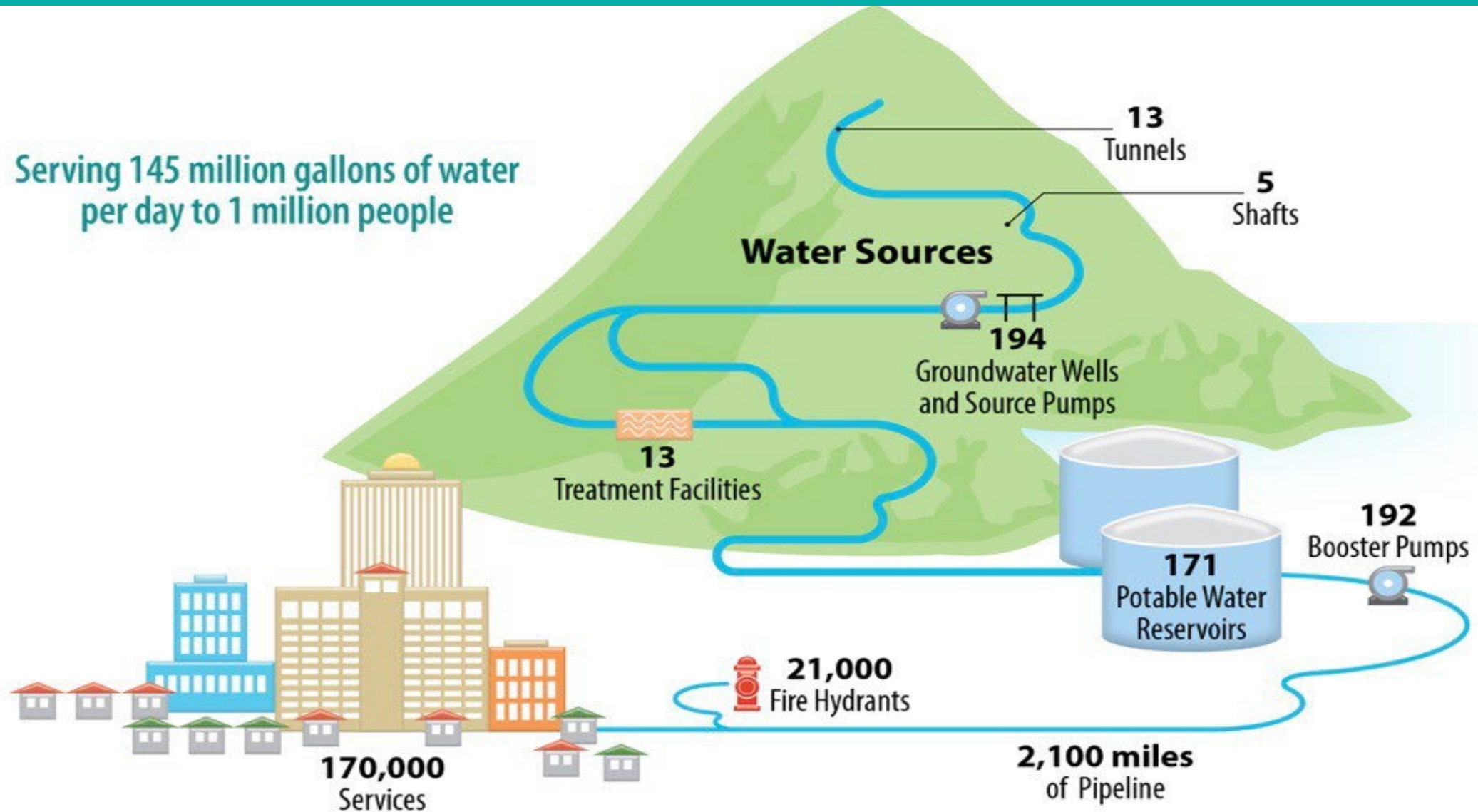
boardofwatersupply.com

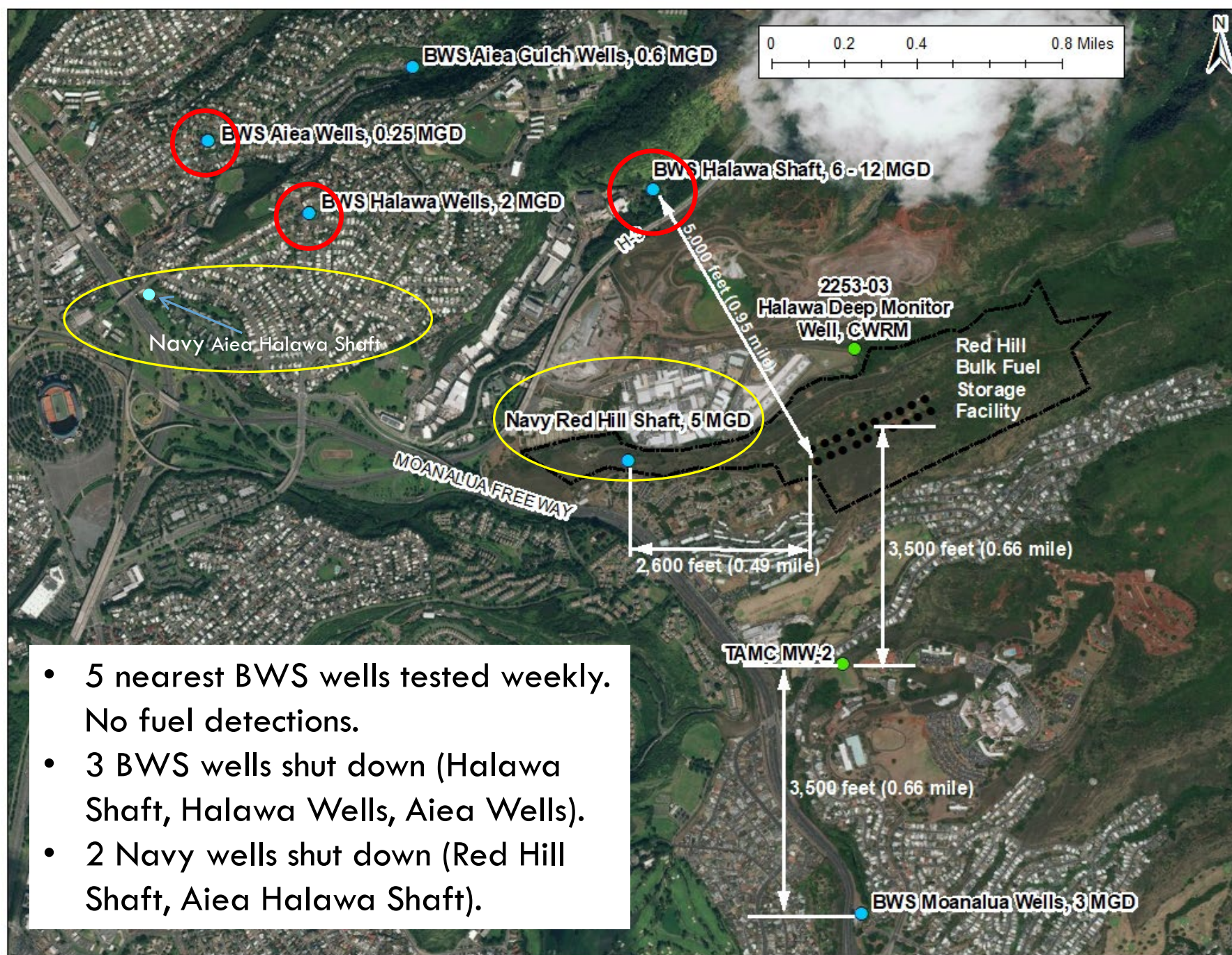
Schematic Chart Showing Oahu's Water Sources





OUR WATER SYSTEM IS LARGE AND COMPLEX



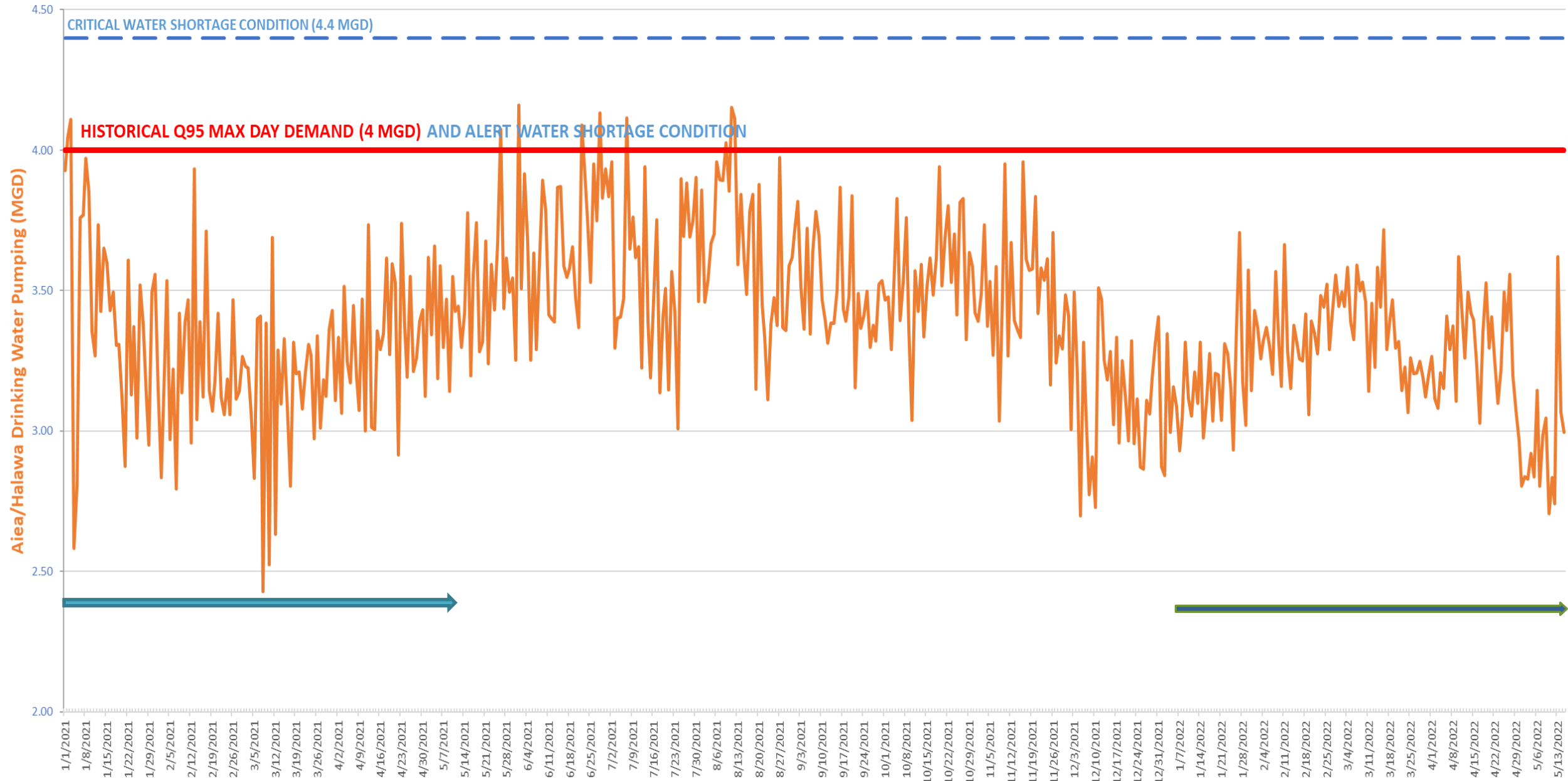


WE ANTICIPATE THE HONOLULU AND THE AIEA HALAWA WATER SYSTEMS WILL BE IN THE ALERT WATER SHORTAGE CONDITION
(VOLUNTARY CONSERVATION ONLY)

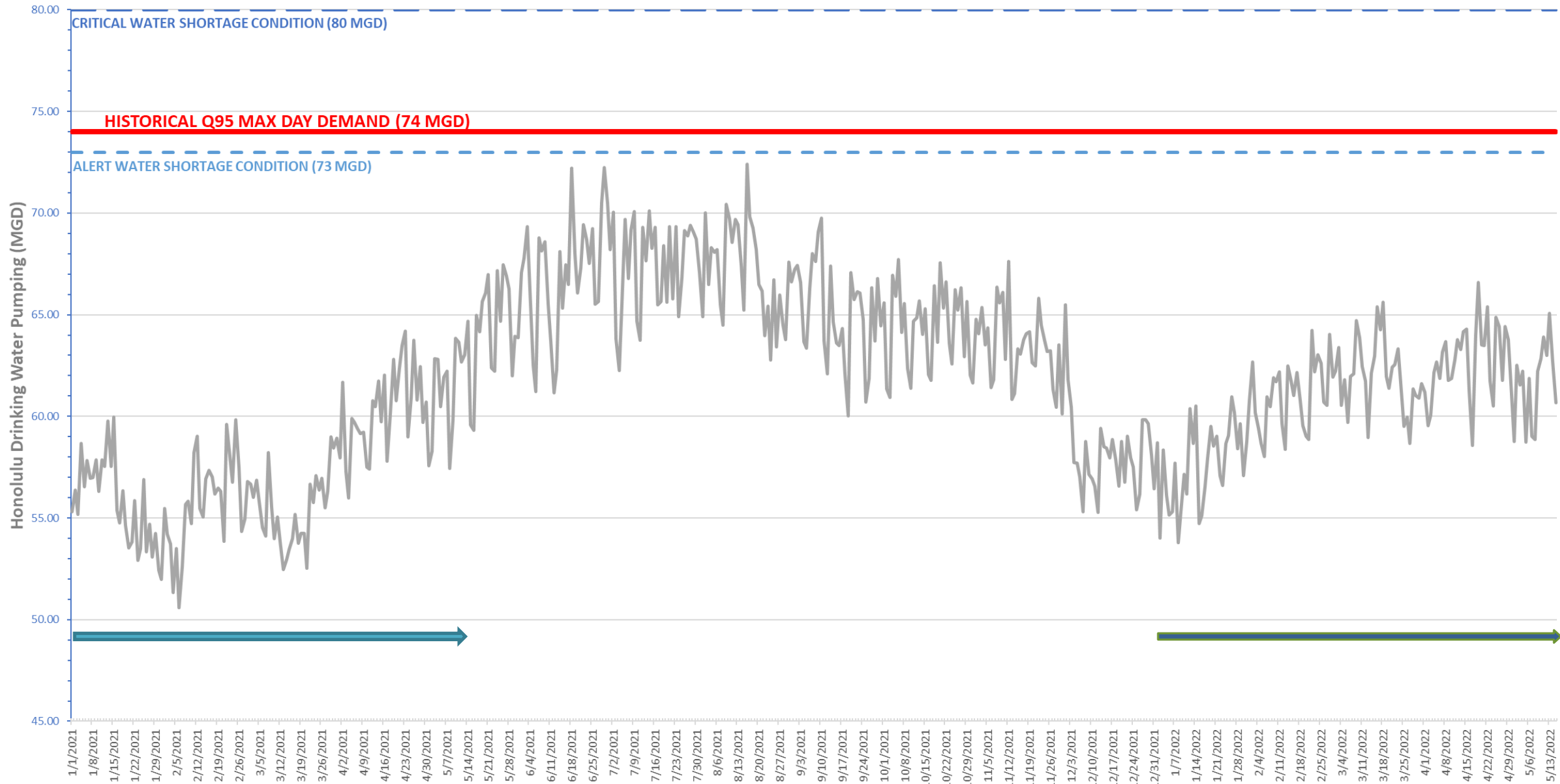
Water Shortage Condition	Source Capacity/Demand Trigger	Assessed Water Shortage Condition	Progressively Restrictive Conservation Response
No Water Shortage	Available pumping units meet max day demand in 16 hours , standby pumps not included		Voluntary – General Seasonal Messaging
Alert	Available pumping units meet Q_{95} max day demand in 20 hours , standby pumps not included.	<u>Honolulu Water System</u> Max Day Demand Q_{95} = 74 mgd <u>Aiea Halawa Water System</u> Max Day Demand Q_{95} = 4 mgd	Voluntary – Targeted Seasonal Messaging Requesting 10%+ Water Use Reductions
Critical	Available pumping units cannot meet Q_{95} max day demand in 22 hours , standby pumps not included		May Declare Mandatory Conservation in Progressively Restrictive Order 1) Require Targeted Water Use Reductions 2) Water Allotments, Flow Restrictors, Rate Surcharges 3) Moratorium if improvements extend more than 2 years



Aiea Halawa Weekly Pumping - JANUARY 2021 to PRESENT



Honolulu Weekly Pumping - JANUARY 2021 to PRESENT



SUMMARY OF NEW UPCOMING DEVELOPMENT PROJECTS (BEST ESTIMATE, SUBJECT TO CHANGE)

Honolulu Water System Projects		Avg Day Demand	Max Day Demand
Permits in Review, Construction, Approved Construction Plans (0-3 yrs.)	3,929	2.5 mgd	
Proposed Projects (3-5 years)	12	0.8 mgd	
Proposed Projects (Beyond 5 years)	25	2.1 mgd	
Total	3,966	5.4 mgd	8.1 mgd

Aiea Halawa Water System Projects		Avg Day Demand	Max Day Demand
Permits in Review, Construction, Approved Construction Plans (0-3 yrs.)	117	0.024 mgd	
Proposed Projects (3-5 years)	1	0.028 mgd	
Proposed Projects (Beyond 5 years)	3	0.99 mgd	
Total	121	1.04 mgd	1.5 mgd



Aiea Halawa Water System Proposed Developments

Total Projected Demands for 277' System		
	# of Projects	GPD
Building Permits undergoing construction and inspection (Residential)	58	14,250
Building Permits undergoing construction and inspection (Commercial)	45	2,250
Pending Building Permit Application	14	7,150
Signed Construction Drawings	0	0
Proposed Projects per DPP and Housing (start construction 3-5 years)	1	28,000
Proposed Projects per DPP and Housing (start construction after 5 years)	3	987,000
Total	121	1,038,650



Honolulu Water System Proposed Developments

Projected Demands by Type		
	# of Projects	GPD
SFD-Building Permits undergoing construction and inspection	2,084	374,050
SFD-Pending Building Permit Application	306	116,600
SFD-Signed Construction Drawings	0	0
SFD-Proposed Projects per DPP and Housing (start construction 3-5 years)	0	0
SFD-Proposed Projects per DPP and Housing (start construction after 5 years)	2	12,000
MFD-Building Permits undergoing construction and inspection	10	500
MFD-Pending Building Permit Application	41	542,815
MFD-Signed Construction Drawings	18	531,704
MFD-Proposed Projects per DPP and Housing (start construction 3-5 years)	7	815,000
MFD-Proposed Projects per DPP and Housing (start construction after 5 years)	21	2,077,914
COMM-Building Permits undergoing construction and inspection	1,193	59,650
COMM-Pending Building Permit Application	267	587,645
COMM-Signed Construction Drawings	10	289,140
COMM-Proposed Projects per DPP and Housing (start construction 3-5 years)	5	8,883
COMM-Proposed Projects per DPP and Housing (start construction after 5 years)	2	8,000
Total	3,966	5,423,901

Single Family: 502,650 gpd

Multi-Family: 3,967,933 gpd

Commercial: 953,318 gpd



PROPOSED RED HILL RESPONSE PROJECTS

- **CRITICAL/EMERGENCY IMMEDIATE RH RESPONSE PROJECTS:**

- Construct **5-6 exploratory wells** in Waimalu & possibly Moanalua to replace 3 pump stations shut down due to Red Hill fuel contamination
- Install **4 sentinel monitoring wells** in Halawa Valley to investigate aquifer contamination
- **Interconnect Pearl City 285' water system** with Metro 180' and Aiea-Halawa 277' water systems
- **Test pump existing Waimalu II, Kaonohi II and Kaamilo pump 2** for yield and chloride levels (salinity)
- **Test pump Waialae Nui Valley Well**
- Complete **repairs of Kalihi Pump Station and Kalauao Wells**
- Expand **water conservation** programs and outreach
- **Adjust water system operations** (Waipio water to Honolulu, Kaamilo Wells to Aiea-Halawa)

- **LONGER TERM PROJECTS**

- Ewa Shaft Well Field
- Kunia Wells IV
- Waikele Gulch Wells
- Kalaeloa Seawater Desalination Facility (Design-Build, Operate and Maintain 20 yr)

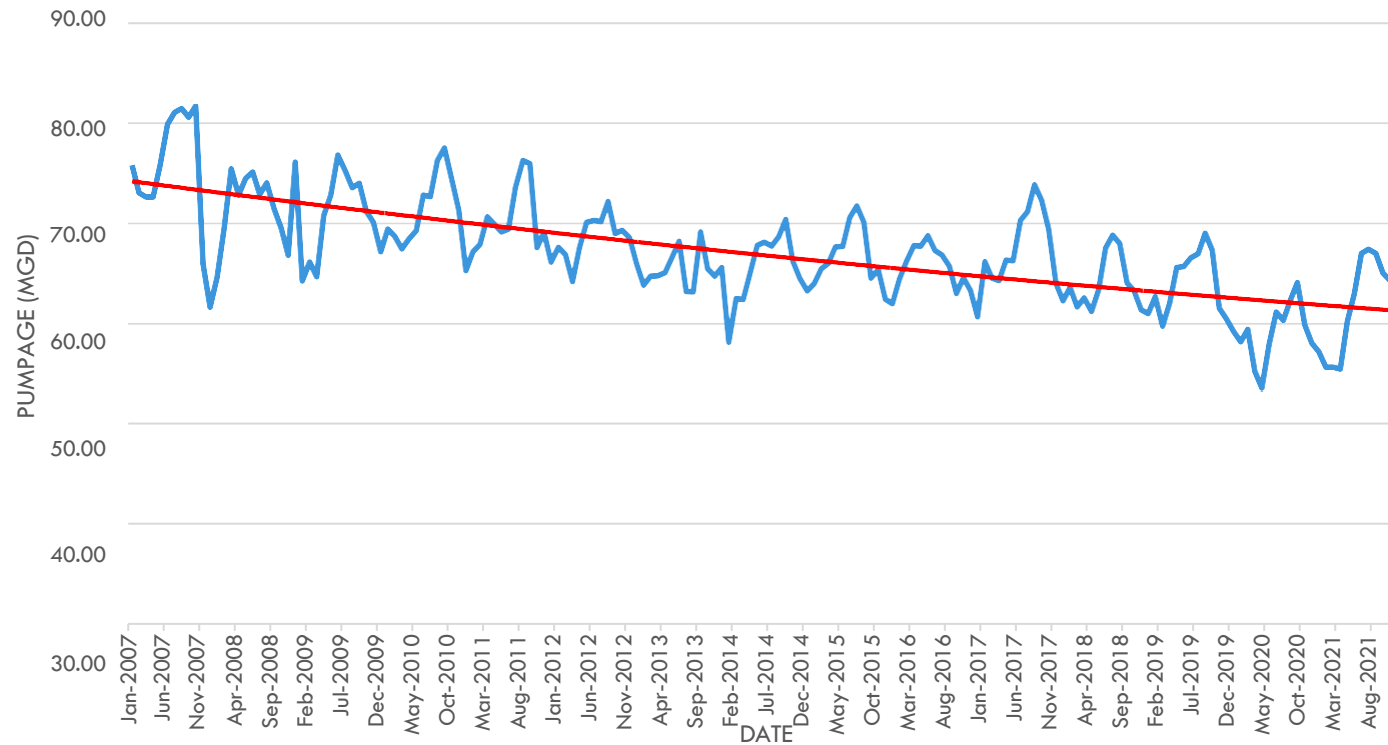


WATER CONSERVATION IS THE TOP PRIORITY

*The 10% Water Conservation
Challenge*



HONOLULU WATER SYSTEM (LOW, HIGH) MONTHLY AVERAGE DAILY PUMPAGE (MGD)



- Water Conservation plays a significant role in a decreasing trend in Metro (Salt Lake to Hawaii Kai) monthly source production from 2007-2021. **WATER CONSERVATION WORKS!**
- Reduced aquifer withdrawals and reduced Max Day demand
- The polynomial trendline shows a slight flattening of the rate of decrease, which will plateau in the future as conservation saturation is reached
- The trendline is expected to then increase with the rate of growth in the future



7 TIPS TO CONSERVE



**TIP #1 - WATER LAWNS JUST
1-2 TIMES A WEEK**



**TIP #2 - DON'T WATER LAWNS BETWEEN
9 AM AND 5 PM**



TIP #3 - CHECK FOR PLUMBING LEAKS



TIP #4 - INSTALL WATER-EFFICIENT FIXTURES



TIP #5 - TAKE SHORTER SHOWERS



**TIP #6 - PUT A NOZZLE ON YOUR GARDEN
HOSE**



**TIP #7 - DON'T LET THE FAUCET RUN AND
RUN**



CONSERVATION INITIATIVES

- Hawaii News Now Water Wisdom Wednesdays
- Waiwai E-newsletter
- www.protectohuwater.org website
- Social Media
- Large Condo Program
- Water Audits (e.g., restaurants, hotels, etc.)
- Hotel Partnership
- Hawaii Community Foundation – Fresh Water Council
- Op/Eds
- Radio and Television PSAs



CONSERVATION OUTREACH

- Hawaii Tourism Authority
- Hawaii Lodging & Tourism Assn
- Hawaii Hotel Alliance
- Hawaii Acute Care Assn
- NAIOP, BOMA
- General Contractors Assn
- Developers, LURF
- Hospitals
- Shopping Centers
- State Agencies
- City Agencies
- University of Hawaii
- Large Condominiums
- Golf Courses
- Neighborhood Boards
- Community Groups
- Letters to top 600 water users in affected water systems
- Pilot hotel program
- Events (BIA, disaster prep)



COMMERCIAL SECTOR CONSERVATION OPPORTUNITY

ACCOUNT TYPE	PERCENT OF TOTAL ACCOUNTS	PERCENT OF TOTAL CONSUMPTION
SINGLE FAMILY RESIDENTIAL	90%	38%
COMMERCIAL SEGMENT	10%	62%



WATER SENSIBLE PROGRAM

[Go to: Commercial Rebates](#) | [Food Service](#) | [Residential Rebates](#) | [WaterWisdom](#) | [Program FAQs](#) |



[#WaterSensible](#) [#WaterForLife](#) [#KaWaIola](#) [#BoardOfWaterSupply](#) [#WaterConservation](#)

The Honolulu Board of Water Supply (BWS) is working hard to preserve and protect our most essential resource – water. Through the Water Sensible program, Oahu residents and businesses will have the opportunity to save water and money. Water Sensible launched with a residential water conservation rebate program and has expanded its offerings to include the commercial sector. It has also recently launched a WaterWisdom program to help condominiums and townhome complexes improve their water conservation efforts.



For More Information:

Call (808) 237-6877

Email watersensible@honeywell.com.

[#WaterSensible](#) [#WaterForLife](#) [#KaWaIola](#) [#BoardOfWaterSupply](#) [#WaterConservation](#)

Updated: 02/11/22





WaterSensible

Commercial Rebate Program



The Honolulu Board of Water Supply is offering water conservation rebates on commercial kitchen, landscape, and plumbing products. This money-saving program helps non-residential customers:

- **Save water**
- **Save money on water, sewer, and energy expenses**
- **Reduce operating costs**

Commercial Kitchen	Rebate	Description
High Efficiency Pre-Rinse Spray Valve (flow rate up to 1.28 gpm)	Up to \$50	When rinsing dishes, replace that old, inefficient pre-rinse spray valve with a high efficiency model.
Water Efficient Dipper Wells (flow rate up to 0.3 gpm)	Up to \$150	Also known as scoop showers and utensil holders, dipper wells with max flow rates of 0.3 gpm and heated continuous flow replacements can save over 100,000 gallons each year compared to inefficient models.
ENERGY STAR® Rated Commercial Dishwasher	\$250	ENERGY STAR® Dishwashers save nearly 50% more water than standard models, and further reduce electric, water and sewer bills over time.
ENERGY STAR® Rated Batch-Type Ice Machine	\$100	ENERGY STAR® Batch-Type Ice Machines save 20% more water and 10% more energy compared with standard models.



Plumbing	Rebate	Description
EPA WaterSense® Fixed Showerheads	Up to \$30	EPA WaterSense® Fixed Showerheads can save up to 2,900 gallons/yr and up to \$140 in annual water bill savings.
EPA WaterSense® Swivel and Faucet Aerators	Up to \$10	EPA WaterSense® Faucet Aerators can reduce water flow by approximately 30% or more compared to standard products.
EPA WaterSense® Toilet	\$150	Replacing inefficient toilets with EPA WaterSense® models can save 20% over the federal standard of 1.6 gallons per flush (gpf).
EPA WaterSense® Urinal	\$50	EPA WaterSense® urinals can save an average office building as much as 26,000 gallons/yr.
ENERGY STAR® Commercial Clothes Washer	\$75	ENERGY STAR® Commercial Clothes Washers are about 25% more efficient and use about 45% less water than standard models.
Landscape	Rebate	Description
EPA WaterSense® Weather-Based Irrigation Controller (WBIC) with Soil Moisture Sensor	WBIC: \$100 Sensor: Up to \$35	WBICs automatically adjust irrigation schedules based on local weather. Soil Moisture Sensors detect ground moisture and override scheduled irrigation to help reduce overwatering.
Commercial Rain Barrels / Totes	\$150	Large barrels and totes can range in size from 100 to 450 gallons and provide commercial customers with an affordable and convenient strategy to reduce outdoor water use.

For rebate instructions, eligibility, and forms, please visit www.boardofwatersupply.com/rebates.

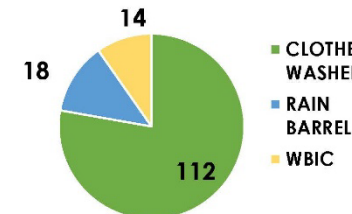


Water Sensible Monthly Dashboard May 2022

AT-A-GLANCE OVERALL REBATES AND WATER SAVINGS

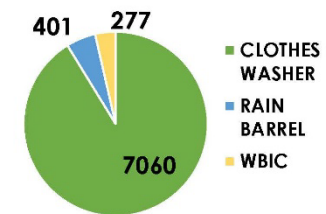
TOTAL	METRICS
\$562,524	(\$) REBATES PROVIDED
7,738	(QTY) REBATES PROVIDED
48,676,100	GALLONS SAVED PER YEAR
653,103,100	LIFETIME GALLONS SAVED

APPLICATIONS RECEIVED THIS MONTH*

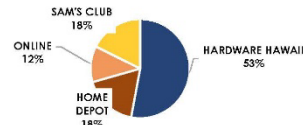


*APPLICATIONS RECEIVED INCLUDES MAIL-IN AND EMAILED APPLICATIONS.

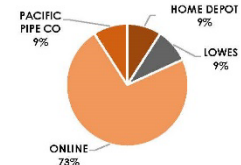
TOTAL REBATES PROVIDED



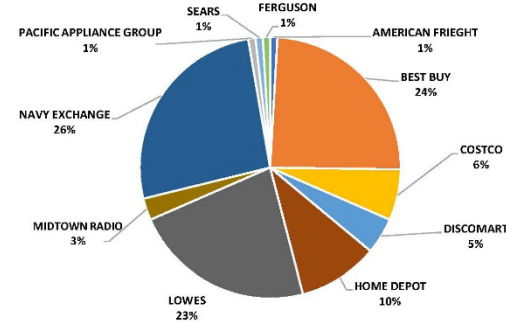
RESIDENTIAL RAIN BARREL RETAILER BREAKDOWN



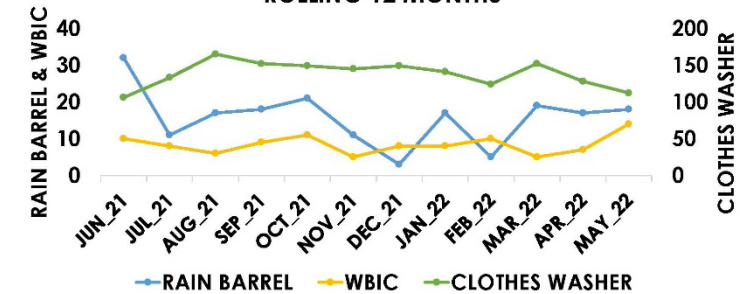
WBIC RETAILER BREAKDOWN



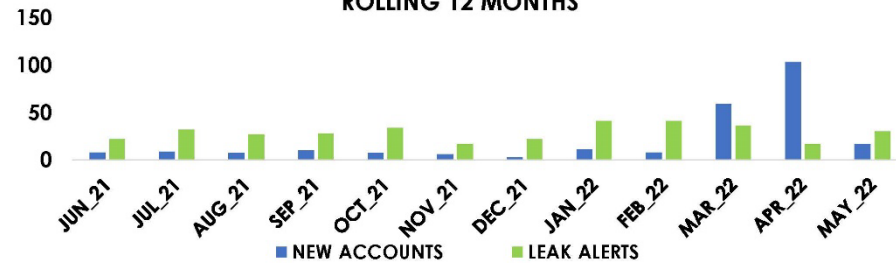
CLOTHES WASHER RETAILER BREAKDOWN (retailer breakdown by month)



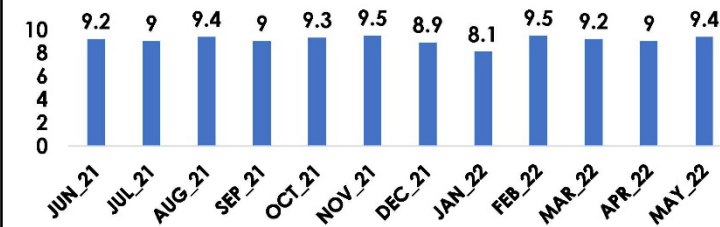
MONTHLY REBATE APPLICATIONS ROLLING 12 MONTHS



WATERSMART CUSTOMER ENGAGEMENT ROLLING 12 MONTHS



CUSTOMER SATISFACTION SURVEY RESULTS ROLLING 12 MONTHS



WATERSMART

WaterSmart provides customers with detailed information on their water use and personalized recommendations for using water more efficiently.

Information is available online or by mobile.

Customers who access the WaterSmart platform are more likely to use water efficiently.

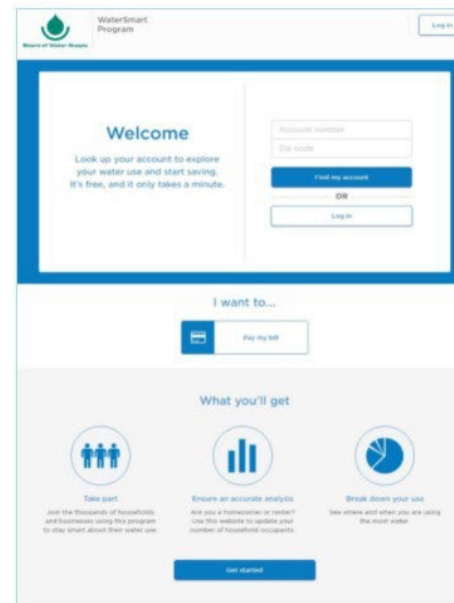


Create your WaterSmart® account today!

[JUMP TO: Contact Us | FAQs | Getting Started Video | Log Into WaterSmart® Portal | Leak Detection Tips](#)

About the WaterSmart® Program

The Board of Water Supply (BWS) mission is to provide safe, dependable and affordable water now and into the future, Ka Wai Ola—Water for Life. WaterSmart® is an initiative that would help to ensure a sustainable water supply by promoting water conservation, a key objective in the BWS Water Master Plan.



[Log into the WaterSmart® Portal](#)

BWS first introduced WaterSmart® to roughly 38,000 customers in 2017, giving them the chance to learn how their water use compares with similar neighboring households and to have free and convenient access to tools that help them have a better understand their water use. The project was co-funded by Energy Excelerator, a Hawaii-based accelerator program for energy and water startups.

Quick Links

[Frequently Asked Questions](#)

[Contact Us Form](#)

[WaterSmart® Portal Login](#)

[BWS Conservation Program](#)



TABLE TENTS



*We're helping to
conserve our supply
of clean, pure
island water.*

*Water will be served
upon request.*

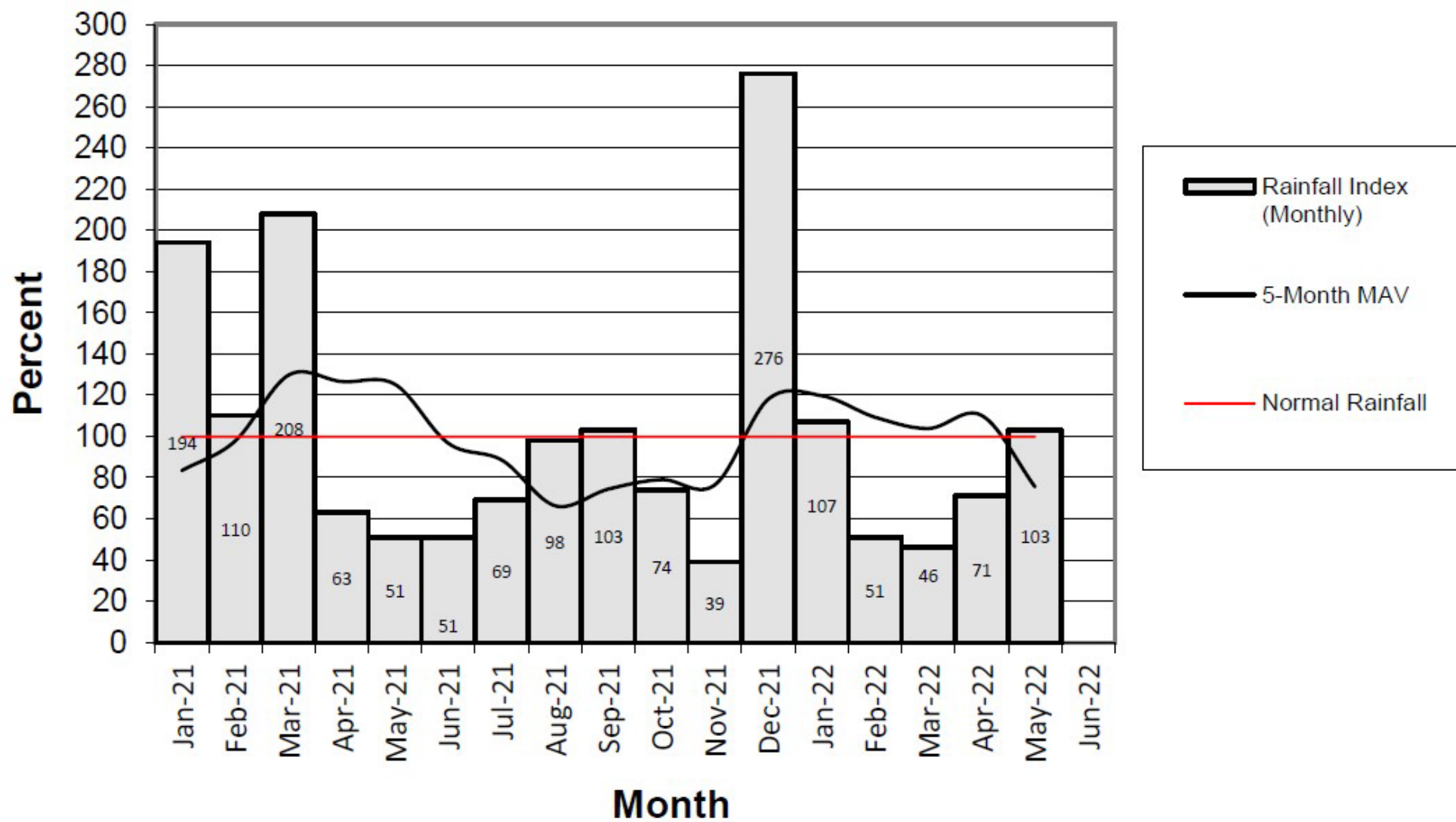
Mahalo!



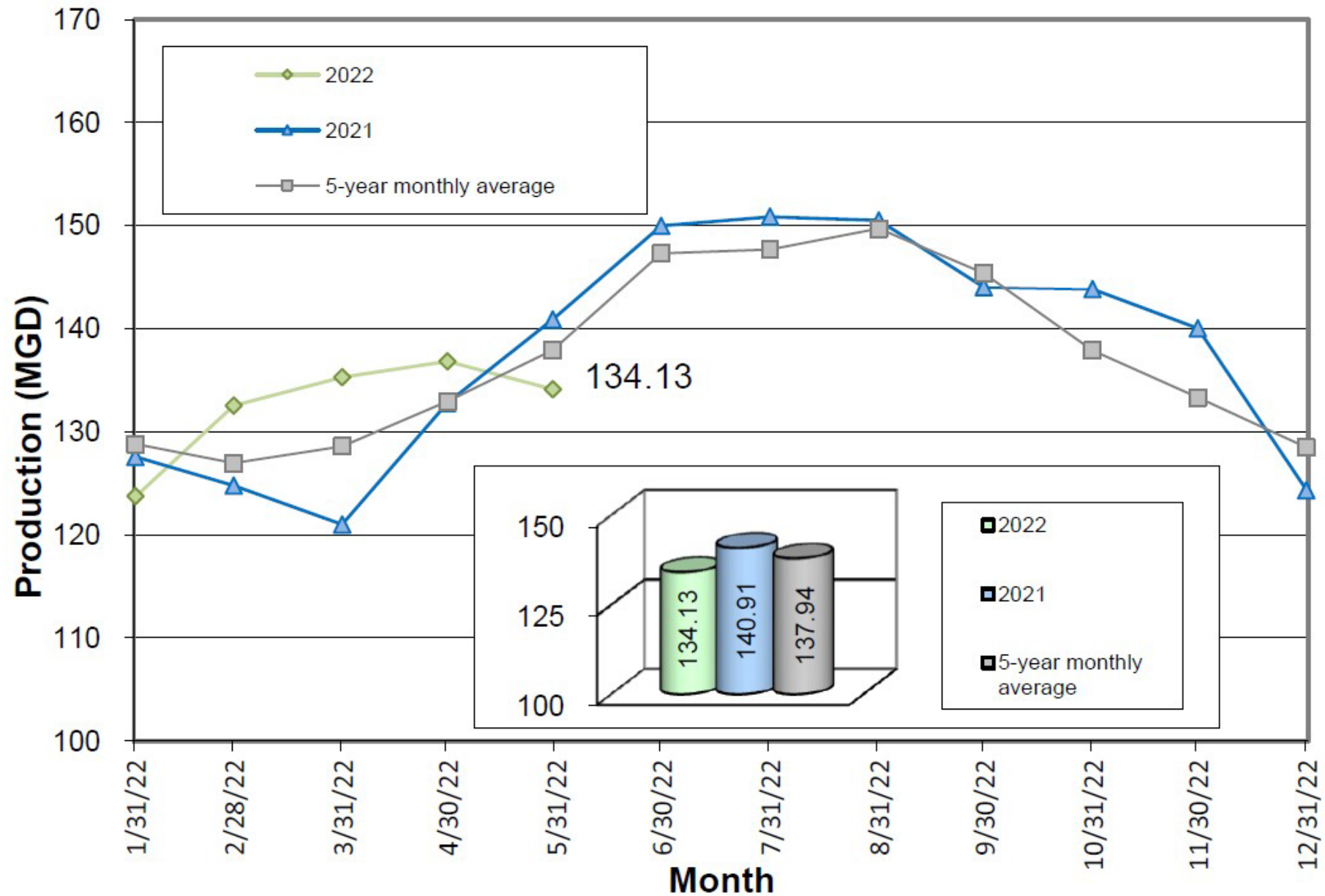
Board of Water Supply



HONOLULU WATERSHED AREA Rainfall Intake



Monthly Production





MAHALO!

THERE IS NO
SUBSTITUTE FOR PURE
WATER!

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