



# Why Is the Navy Sampling for PFOS and PFOA?

Additional information can be found online at  
[www.secnave.navy.mil/eie/pages/pfc-pfas.aspx](http://www.secnave.navy.mil/eie/pages/pfc-pfas.aspx)

For updates as more information becomes available, visit  
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If you have specific questions, please contact  
[PAO\\_feedback@navy.mil](mailto:PAO_feedback@navy.mil) (email) or 360-396-1030 (voicemail)

## The Navy is being protective by identifying potential exposure to unregulated compounds (PFAS) in drinking water.

- The Navy used AFFF, a source of PFAS, for fire fighting.
- The EPA established a lifetime health advisory (70 ppt) for two PFAS, specifically PFOS and PFOA, in drinking water.
- Navy policy is to identify and prioritize locations with the potential for exposure to PFOS and/or PFOA.
- The Navy has tested and continues to test for PFOS and PFOA in drinking water to prevent exposure and protect human health.



AFFF aqueous film forming foam  
EPA U.S. Environmental Protection Agency  
PFAS per- and polyfluoroalkyl substances

PFOA perfluorooctanoic acid  
PFOS perfluorooctane sulfonate  
ppt parts per trillion







EPA

Washington State Department of Health

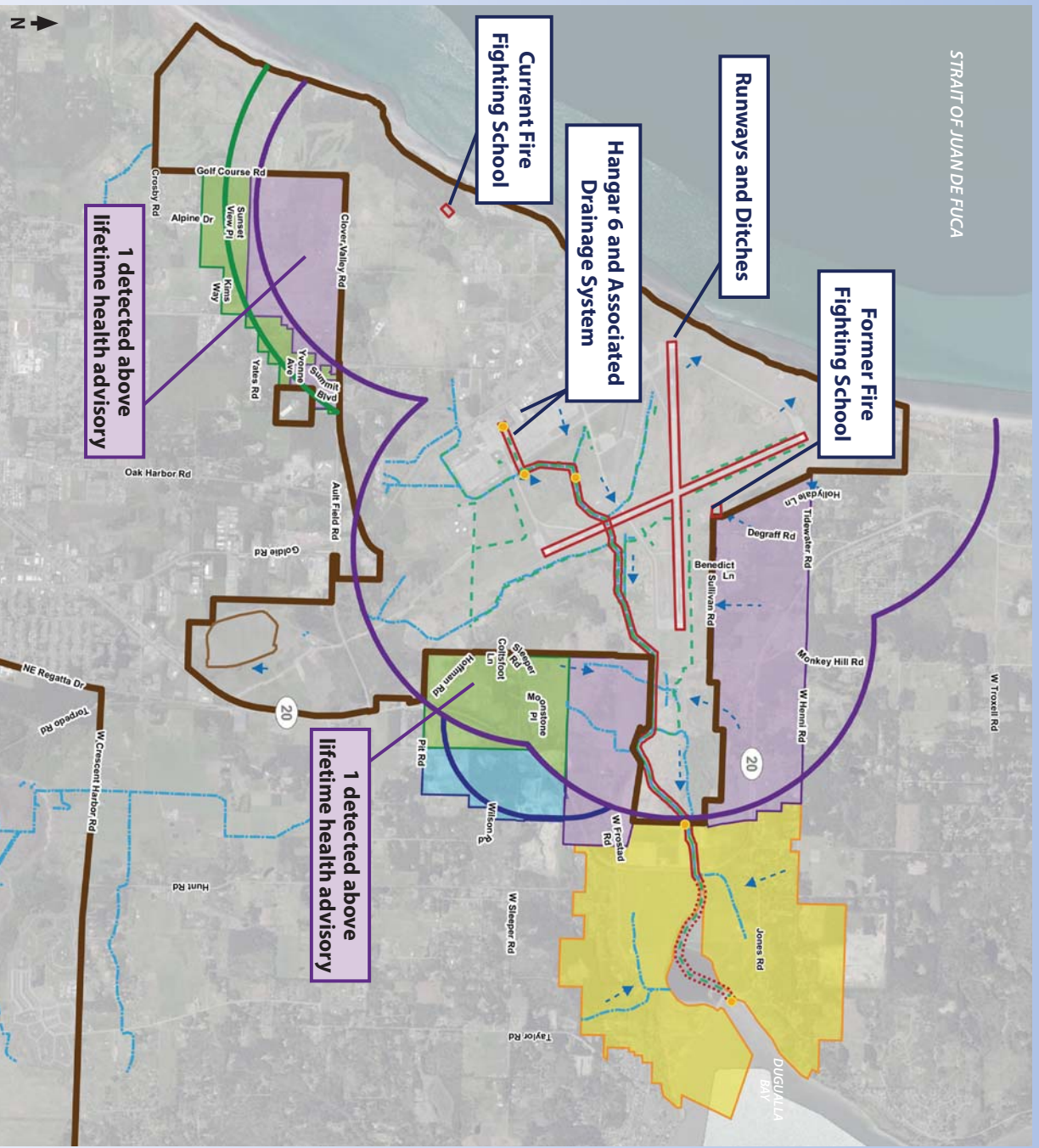


# Ault Field Drinking Water Investigation

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## LEGEND

- Phase 1 Sampling Area
- Phase 2 Sampling Area
- Phase 3 Sampling Area
- Phase 4 Sampling Area
- PFAS Sampling Point

- Base Boundary
- Suspected Source Area
- 1-mile Zone
- Half-mile Step-out Downgradient (Phase 2)

- Half-mile Step-out Downgradient (Phase 3)
- Surface Water
- Drainage Ditch
- Approximate Groundwater Flow Direction

Note: Figure represents PFOS and/or PFOA exceedances for unique wells sampled during all phases.

AFFF	aqueous film forming foam	PFAS	per- and polyfluoroalkyl substances	PFOS	perfluorooctane sulfonate
EPA	U.S. Environmental Protection Agency	PFOA	perfluorooctanoic acid	ppt	parts per trillion



EPA

Washington State Department of  
Health

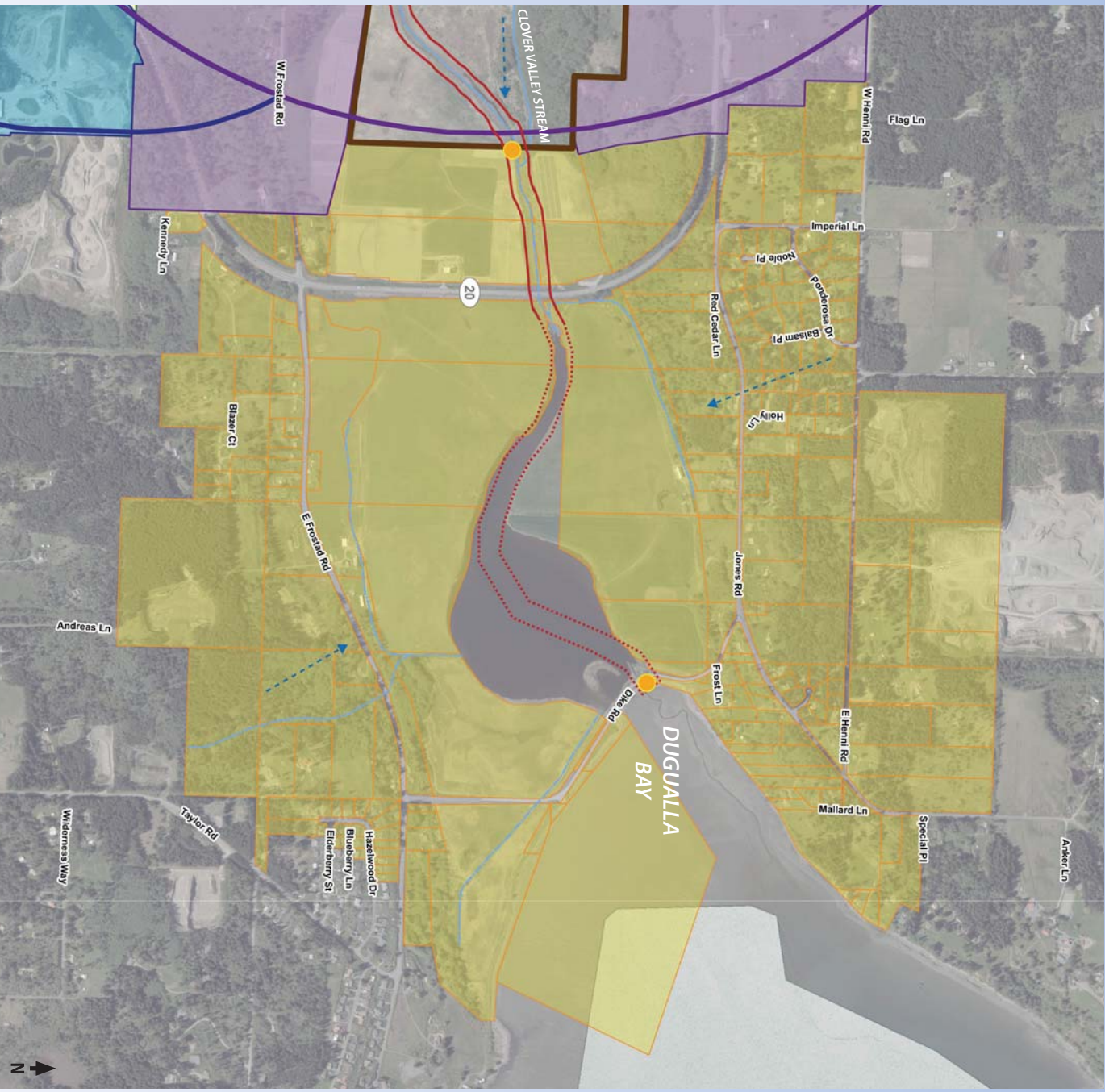


# Phase 4 Sampling Area

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## LEGEND

- Phase 1 Sampling Area
- Phase 3 Sampling Area
- Phase 4 Sampling Area

- PFAS Sampling Point
- Base Boundary
- 1-mile Zone

- Half-mile Step-out
- Downgradient (Phase 3)
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- Approximate Groundwater Flow Direction

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# Ault Field Drinking Water Investigation Timeline

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## PFAS Known and Suspected Release Locations on Ault Field

On-base monitoring wells have PFOs and/or PFOA above the lifetime health advisory (70 ppt)

- Two wells near the Former Fire Fighting School
- Nine wells near the Current Fire Fighting School
- Also found near hangars, runways, and in adjacent ditches

## Off-base Sampling Is Occurring in Phases

Goal is to sample private wells and provide bottled water to owners with PFOs and/or PFOA above 70 ppt. The Navy is evaluating long-term solutions for the two wells that exceed the lifetime health advisory.

- **Phase 1** (November 2016) – Areas within a half-mile of on-base wells with detected PFAS
- **Phase 2** (February 2017) – Expanded areas half-mile downgradient of exceedance and accounted for uncertainty in ground water flow
- **Phase 3** (June 2017) – Expanded areas half-mile downgradient of exceedance
- **Phase 4** – Proposed sampling in January 2019
  - Areas within half-mile of where PFAS were detected above 70 ppt in surface water of the on-base drainage system
  - Includes drinking water wells to the north-northeast and south-southeast

## Sampling Information

	Number of properties identified	Wells Sampled				Total	Wells with PFOs and/or PFOA above 70 ppt
		Phase 1 11/2016	Phase 2 2/2017	Phase 3 6/2017	Phase 4 1/2019		
Phase 1	176	54	27	0	TBD	81	1
Phase 2	60	–	17	0	TBD	17	1
Phase 3	14	–	–	7	TBD	7	0
Phase 4	114	TBD	TBD	TBD	TBD	TBD	TBD
<b>Total</b>	<b>364</b>					<b>105</b>	<b>2</b>

TBD = to be determined

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# Path Forward

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## Removal Actions

May be implemented at any time within the process

- A response implemented in an expedited manner to address situations that require prompt action
- Removal action response type is based on situation, urgency, and required planning period

- **Emergency Removal Action**  
Response required immediately

**The Navy will provide bottled water for cooking and drinking to households whose water exceeds the EPA lifetime health advisory for PFOS and/or PFOA.**

- **Time-Critical Removal Action**

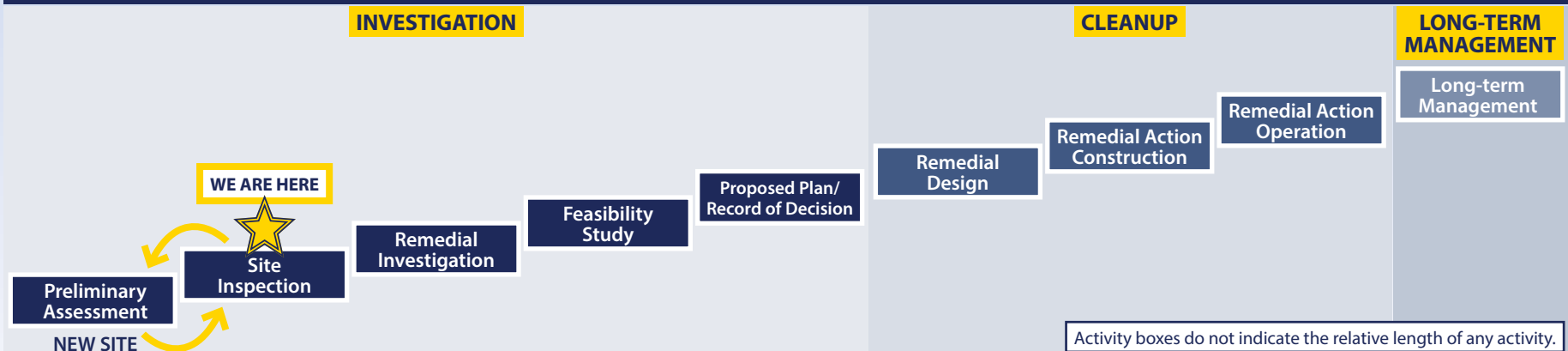
Time-Critical and Non-Time-Critical Removal Actions may include:

- Point of service treatment
- Hook up to alternative source
- Drinking water monitoring
- New well

- **Non-Time-Critical Removal Action**

# The Navy will be involved until necessary actions are complete.

## Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Implementation Process



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EPA U.S. Environmental Protection Agency

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# Per- and Polyfluoroalkyl Substances (PFAS)

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# Exposure and Health Effects

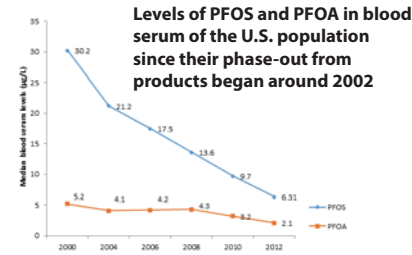
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## PFAS in People

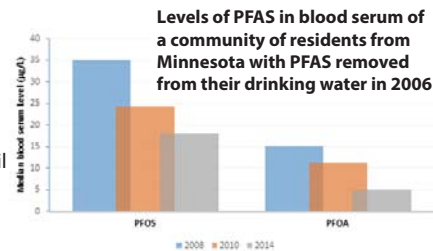
- Monitoring by the Centers for Disease Control estimates that most people in the U.S. have PFAS in their bodies.
- Levels of PFOS and PFOA are going down over time following their phase-out from use.
- Some PFAS can build up in the body and leave slowly over time through urine.



Source: CDC National Health and Nutrition Examination Survey

## Exposures to PFAS

- Exposure appears to be widespread across the world.
- For most people, exposure occurs when they:
  - Ingest contaminated food, water, or soil
  - Breathe air that contains contaminated dust from carpets, upholstery, clothing, etc.
- PFAS build up in the body until exposure stops.
- PFAS reach the fetuses or nursing infants of mothers who are exposed.
- Exposure is not significant through skin contact when bathing or showering.



Source: Minnesota Department of Health.  
Available from: <http://www.health.state.mn.us/divs/hpcd/tracking/biomonitoring/projects/emetro-landing.html>

## How To Reduce Exposure

- If water contains PFOS and PFOA above the health advisory level, you can reduce exposure by using a different water source for drinking, cooking, and brushing teeth.
- Use certified granular activated carbon or high-pressure membrane systems, such as reverse osmosis, to filter water. These treatment systems require ongoing maintenance.

## Health Effects

- More research is needed to confirm or rule out possible links between exposure and health effects. Based on limited evidence from studies with people, the potential health effects include:
  - Higher cholesterol levels
  - Altered hormone levels
  - Thyroid disease
  - Immune system changes
  - Higher risk of certain types of cancer
  - Problems with pregnancy
  - Lower infant birth weight
- Animals in PFAS studies exhibit developmental, reproductive, and liver effects, as well as an increased occurrence of cancer.
- The presence of PFOS or PFOA in a well or water system does not predict whether any health effects will occur.

## Should I Have My Blood Tested?

ATSDR and CDC understand and acknowledge that you may want to know the level of PFAS in your body. However, there are some limitations with blood tests to consider:

- Test results will not provide clear answers for existing or possible health effects.
- Blood testing for PFAS is not a routine test that health care providers offer.

Consult with your doctor for more information.

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ATSDR Agency for Toxic Substances and Disease Registry  
CDC Centers for Disease Control and Prevention

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# Next Steps

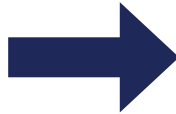
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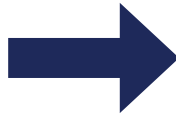
## The Navy has expanded the off-base sampling area and will notify residents of results.

Is the result  
**above**  
the health-  
based level?



The Navy will  
provide alternate  
water for drinking  
and cooking.

Is the result  
**at or below**  
the health-  
based level?



No immediate  
action is needed;  
the Navy may  
monitor as necessary.

## Please help us:

- Identify drinking water wells in sampling areas.
- Sample wells to aid site investigations.
- Understand the community's concerns by participating in the Restoration Advisory Board.

### Ongoing Actions

- Provide bottled water to limit exposure to PFOS and/or PFOA.
- Expand sampling area based on validated sampling results near Ault Field.
- Monitor drinking water wells where PFOS and/or PFOA were detected.
- Meet with homeowners with results above the EPA lifetime health advisory to gather data needed to develop long-term solutions.
- Continue to monitor the science and regulations related to PFAS.
- Continue to communicate with residents through the press, websites, emails, phone line, and Restoration Advisory Board.
- Continue to investigate on-base groundwater for PFAS source locations, migration, and exposure pathways.
- Continue to partner with local, state, and federal environmental and health agencies to determine the best path forward.

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# We Need Your Help – Drinking Water Sampling Process

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## Sampling Process

- We encourage you to contact us if you've received a sampling notification letter and have not signed up for sampling.
- We need your help to:
  - Make your appointment (sampling will take less than an hour).
  - Review and fill out the questionnaire.
- A team of qualified professionals will:
  - Collect cold water from the sample point (water will run for 3–5 minutes).
  - Analyze the sample according to EPA guidelines for a sampling and analysis process that follows strict quality control and quality assurance protocols.

## Other Ways to Schedule an Appointment

To schedule an appointment for sampling your drinking water, please contact:  
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## Email Distribution List

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