



The Environmental Health Program: Who are we & What do we do?

Jonathan Ali, Ph.D.
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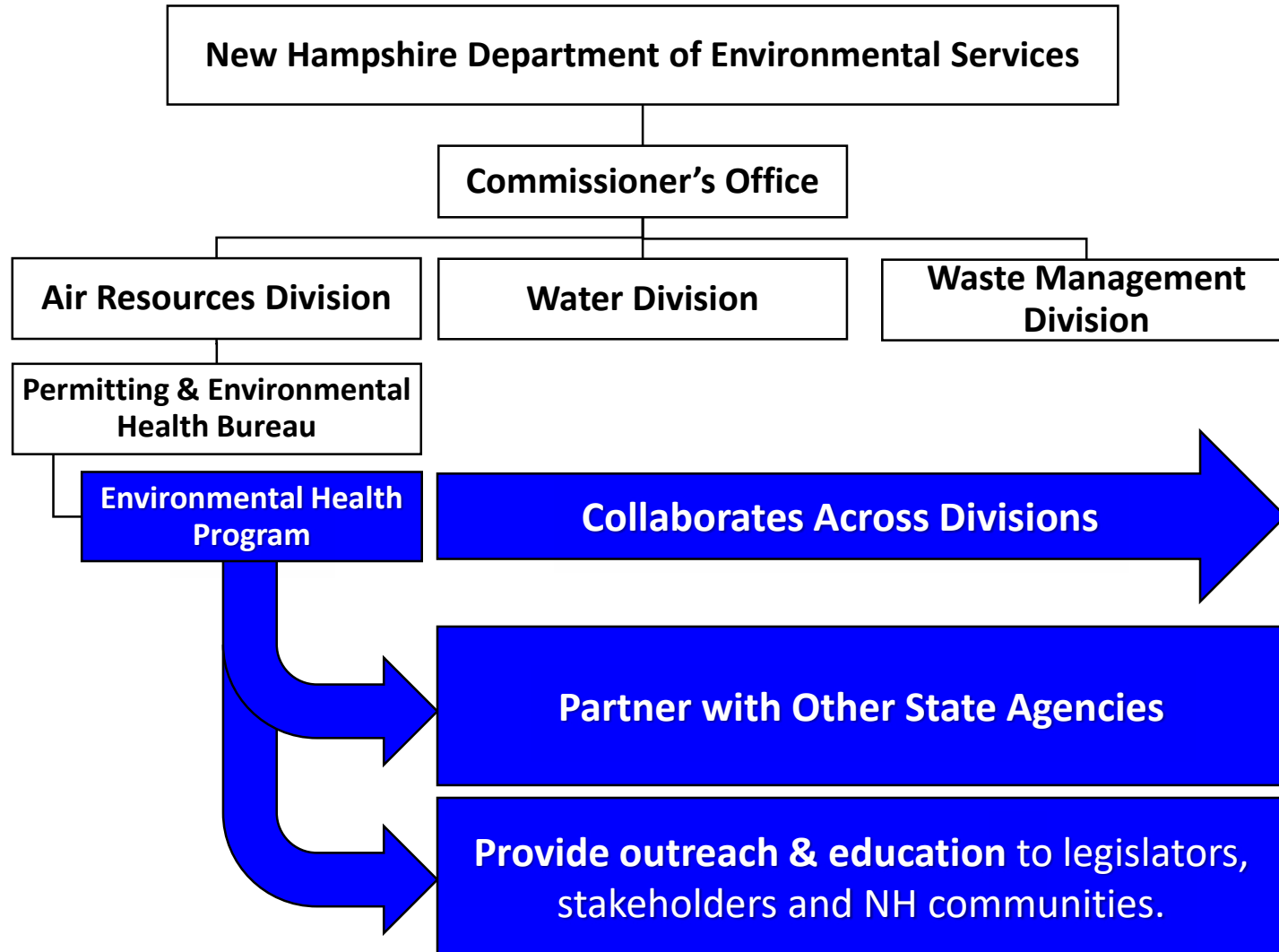
What's Environmental Health?



“The detection, control and prevention of environmental hazards that affect human health.”

National Environmental Health Association

What is the Environmental Health Program?



The EHP Team & Collaborators

Pat North, M.P.H.

Program Administrator

Dave Larson, M.P.H.

Health Risk Assessor

T.B.D.

Principal Investigator

Alyssa Moodie

Program Assistant

Mary Butow, M.S.

Health Risk Assessor

T.B.D.

Health Risk Assessor

Jon Ali, Ph.D.

Toxicologist

Actively Work with:

Academic Partners

Community Partners

Stakeholder Partners

Interstate Workgroups

And more...

What we do.

Hazard Identification

What effects are associated with chemical exposure?

Is there strong evidence in human and/or animal studies?

What are current limitations of our scientific knowledge?

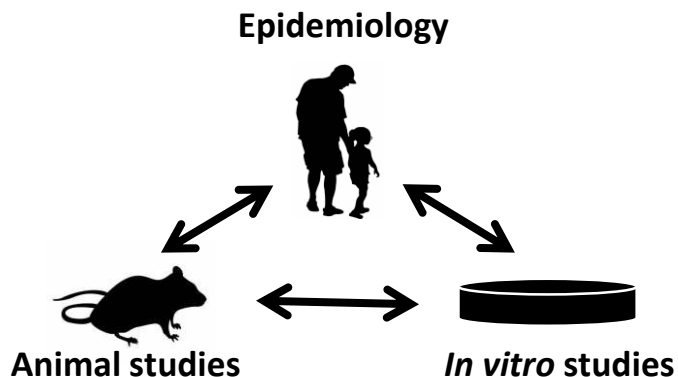


Risk Assessment

What dose causes the adverse effect(s)?

What's the rate of exposure?

What are the other sources of exposure to this hazard?

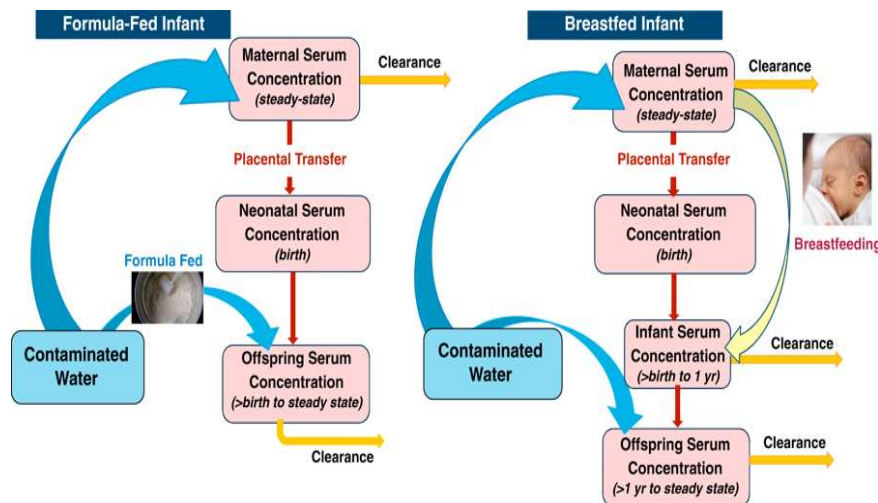


$$\frac{\text{POD (ng/mL)}}{\text{Uncertainty Factors}} \times \frac{\text{Toxicokinetic Factors} \times \text{Relative Source Contribution (\%)}}{\text{Media Ingestion Rate (g/kg-day)}} = \text{EHP Guidance}$$

Risk Assessment & Drinking Water Standards

NH's Maximum Contaminant Levels (MCLs/AGQS) are:

PFOA	12 ng/L
PFOS	15 ng/L
PFHxS	18 ng/L
PFNA	11 ng/L

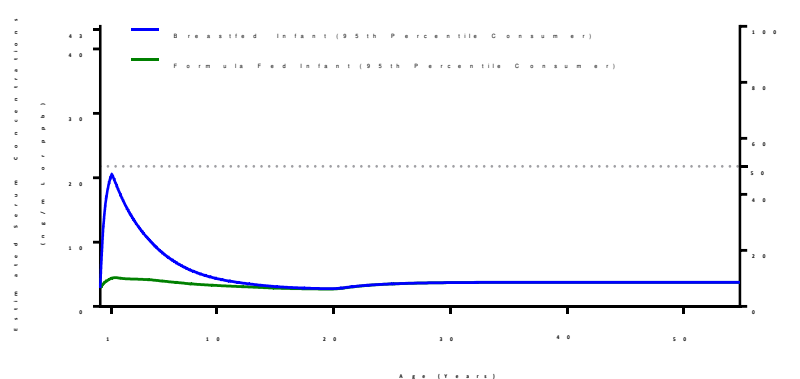


For More Information, Contact:

Jonathan Ali, Toxicologist

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Top Image: Goeden et al. 2019. *Journal of Exposure Science & Environmental Epidemiology*, 29, 183–195.

Bottom Image: NHDES Documents & Presentations available at: https://www4.des.state.nh.us/nh-pfas-investigation/?page_id=1036

Risk Assessment & Drinking Water Standards

On-going review and update of existing **Ambient Groundwater Quality Standards**.

Per New Hampshire **Senate Bill 309** (2018).

Includes evaluation of current science for several chemical contaminants including:

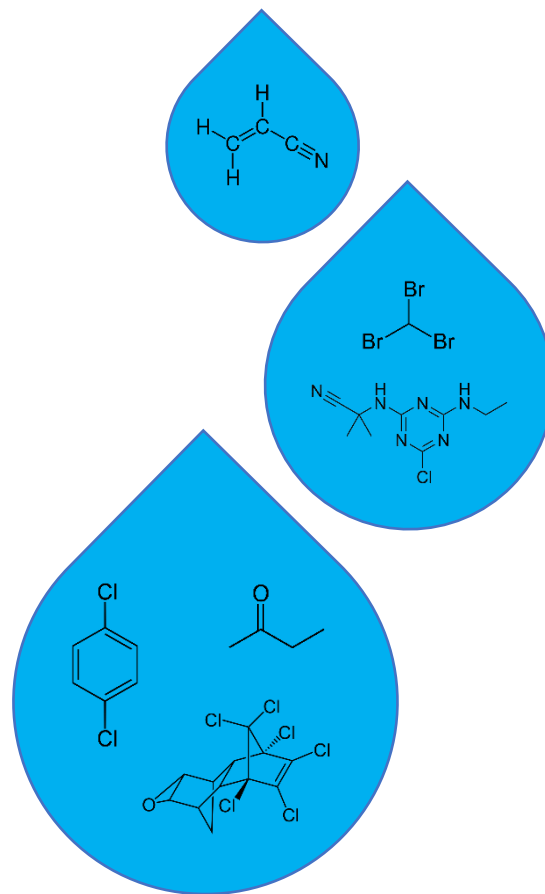
- Legacy pesticides
- Trihalomethanes
- Chlorinated compounds
- And others

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Risk Assessment & Fish Consumption Advisories

Recommended Fish Consumption Limits at Squam Lake

	Adults & children >7 years of age	Women of childbearing age	Children <7 years of Age
	8 oz. fillet meal		4 oz. fillet meal
PCBs (due to cancer risks)	3 meals per year	2 meals per year	1 meal per year
Methyl Mercury* (due to non-cancer risks)	4 meals per month	1 meal per month	1 meal per month
PFAS** (due to non-cancer risks)	4 meals per month	3 meals per month	2 meals per month

**Applies to freshwater fish caught across NH. More restrictive advisories, such that at Squam Lake, may exist for some waterbodies. For more information, see: <http://www.eregulations.com/newhampshire/fishing/19nhfw/fish-consumption-guidelines/>

*Based on concentrations of perfluorooctane sulfonic acid (PFOS) in smallmouth bass.

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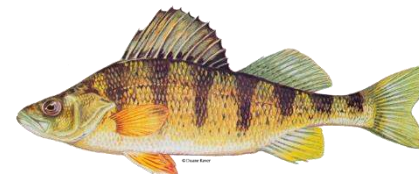
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Smallmouth bass



Yellow perch



Air Toxics Control Program

A part of **Env-A 1400 – Regulated Toxic Air Pollutants.**

Helps to identify sources & types of harmful air pollution.

Assist in determining compliance & **Ambient Air Limits (AAL)** for regulated pollutants.

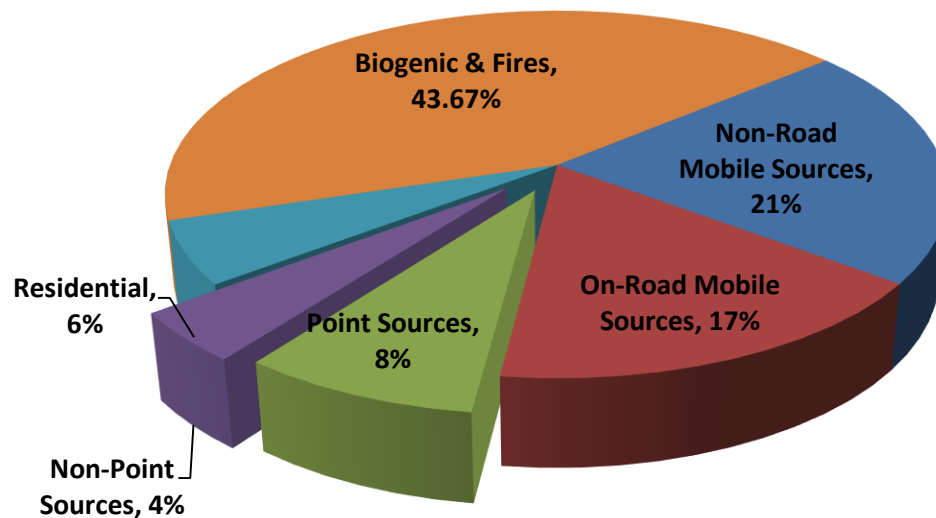
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Emissions of Air Toxics - 2011



Data from US EPA National Air Toxic Assessment for 2011

Site-Specific Investigations

Supports Waste Division Investigations
& Site Management efforts.

**Assesses exposures with site-specific
information.**

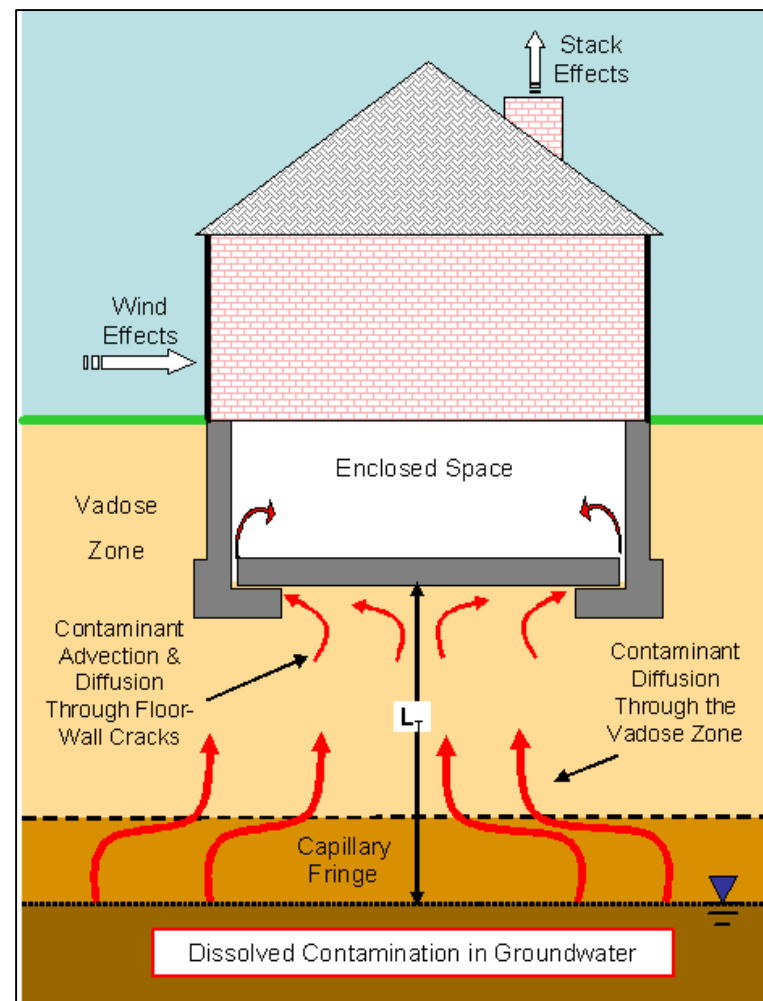
Interacts with local, regional and
federal partners at several sites with
chemical releases.

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Future Opportunities

1. Help to identify, understand and reduce risks from environmental hazards.
2. Information sharing and improved risk assessment in New Hampshire.
3. Assist with risk communication, education and outreach to affected communities.





Questions?

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