

Northeast Regional Mercury Total Maximum Daily Load

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Overview

💧 **Background Information**

💧 **TMDL Development**

💧 **TMDL Calculations**

💧 **Implementation**

Project Team

💧 Connecticut DEP

💧 New York State DEC

💧 Maine DEP

💧 Rhode Island DEM

💧 Massachusetts DEP

💧 Vermont DEC

💧 New Hampshire DES

💧 NEIWPCC

Who is NEIWPCC?

- 💧 **New England Interstate Water Pollution Control Commission**
- 💧 **Compact Member States: New England States and New York**
- 💧 **Congressionally Authorized Interstate Commission formed in 1947**
- 💧 **Based in Lowell, Mass.**

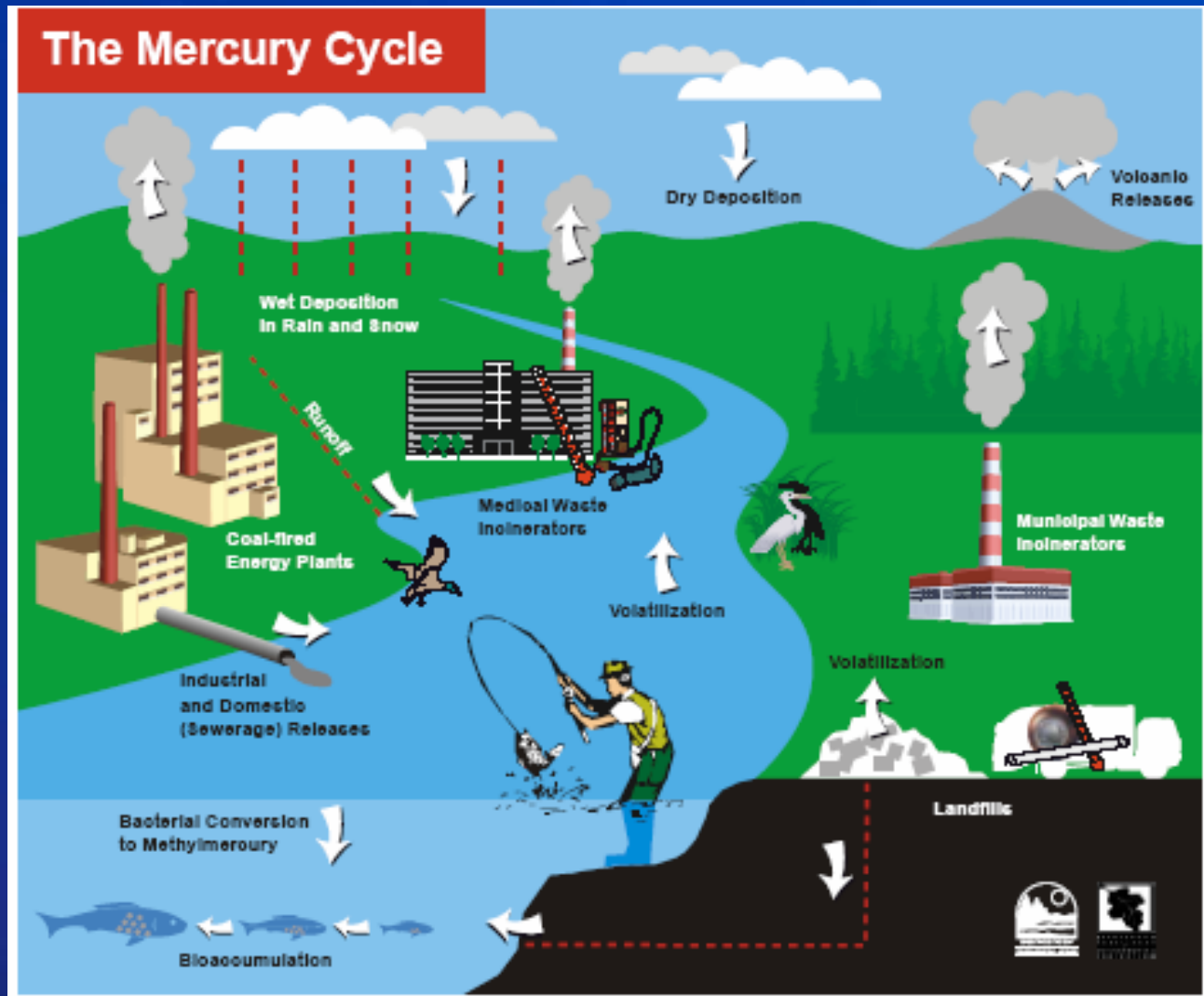
Why is mercury a concern?

💧 **Toxic metal**

💧 **Human exposure from contaminated fish**

💧 **Fish consumption advisories**

How does mercury get into fish?



Fish Consumption Advisories and Impaired Waters

- 💧 Statewide fish consumption advisories in six states**
- 💧 Over 10,000 impaired lakes, ponds, and reservoirs**
- 💧 Over 46,000 impaired river miles**

What is a TMDL?

TMDL = Total Maximum Daily Load

- 💧 Amount of a specific pollutant that a waterbody can receive and still meet water quality standards (WQS)
- 💧 States required to develop TMDLs for all waters listed on their 303(d) list (of impaired waters)
- 💧 TMDLs approved/disapproved by EPA

Why a regional TMDL?

- 💧 **Atmospheric deposition of mercury common problem in region**
- 💧 **All states impacted by out-of-region sources**
- 💧 **Less resource-intensive**
- 💧 **Existing framework for regional collaboration**

New England Governors – Eastern Canadian Premiers Mercury Task Force

 **Formed in 1998**

 **Virtual elimination goal**

 **Interim goals**

 **50% for 2003**

 **75% for 2010**

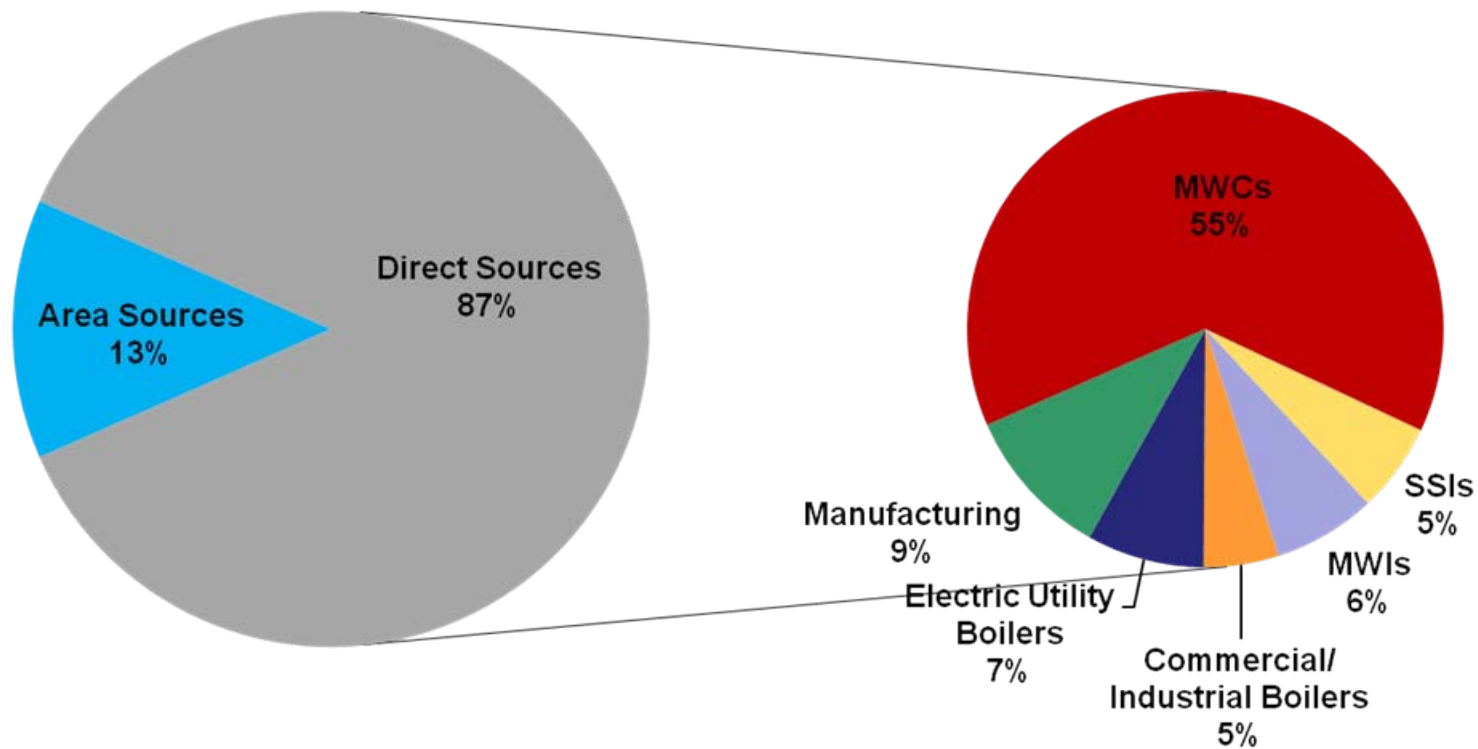
General Approach

- 💧 **Based on MN Statewide Mercury TMDL**
- 💧 **Assumes proportional relationship between reductions in mercury emissions, deposition, and fish tissue concentrations**
- 💧 **Accounts for deposition due to natural sources**

Necessary Data

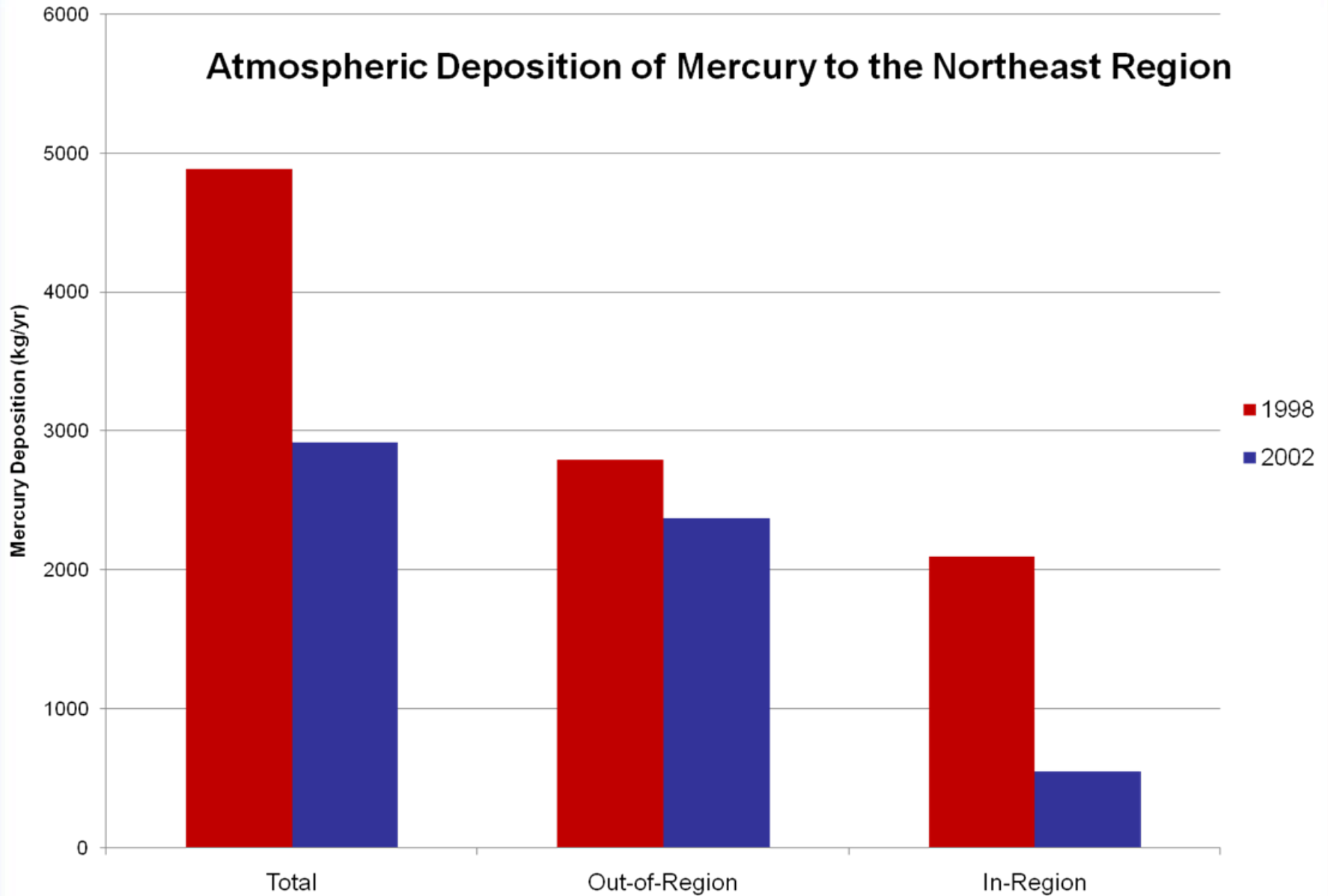
- 💧 **Fish tissue concentrations**
- 💧 **Emissions and deposition loads**
- 💧 **Wastewater concentrations and loads**

Regional Emissions Sources in 1998



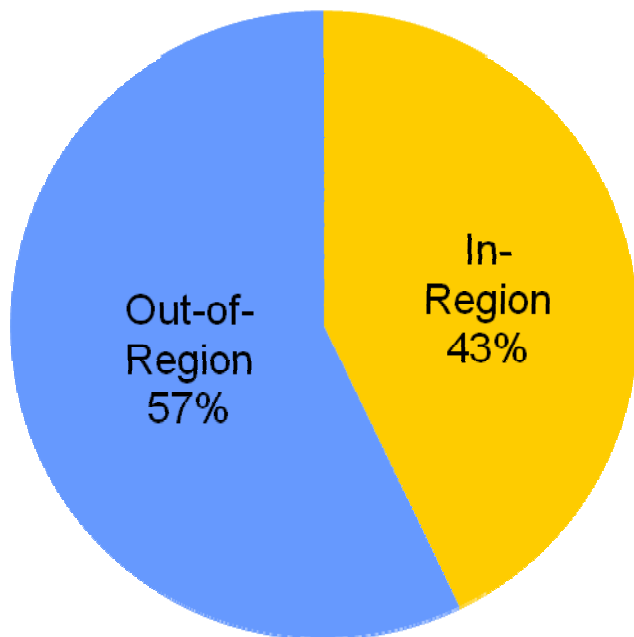
Source: NESCAUM

Atmospheric Deposition of Mercury to the Northeast Region

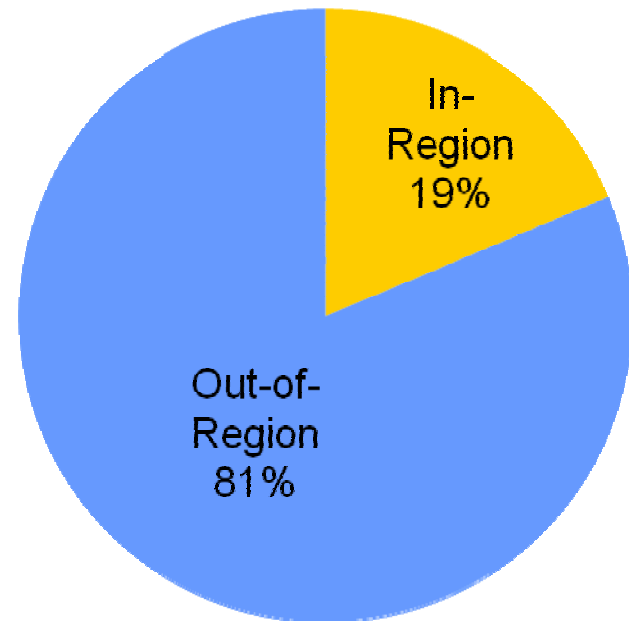


Source: NESCAUM

Contributions of In-Region and Out-of-Region Sources to In-Region Deposition



1998



2002

TMDL Baseline

💧 **Baseline year 1998**

💧 **Baseline fish concentration 1.14 ppm for smallmouth bass**

💧 **Initial target fish concentration 0.3 ppm**

TMDL Framework

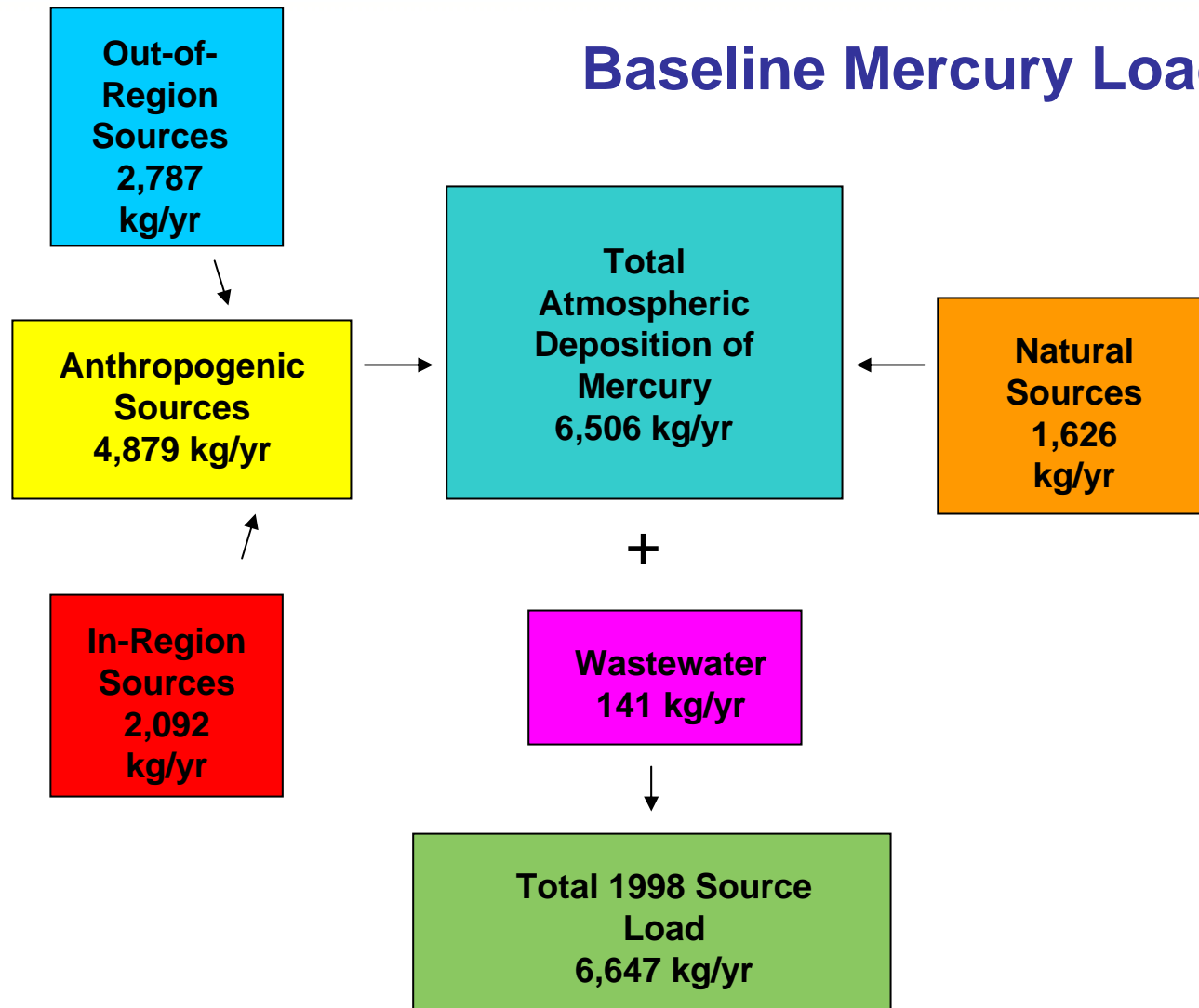
**Current Fish
Tissue Levels
1.14 ppm**



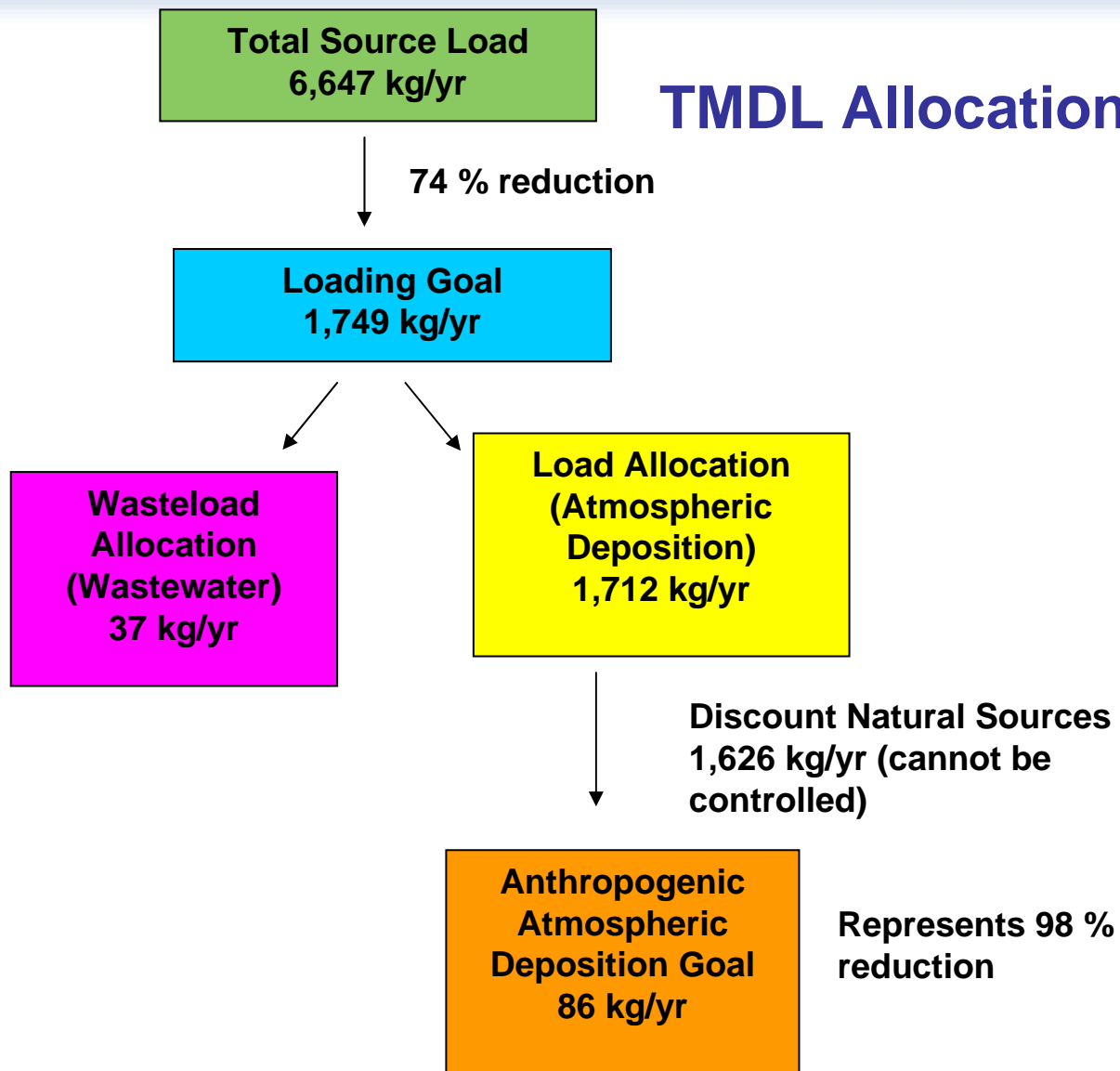
74% reduction

**Target Fish
Level
0.30 ppm**

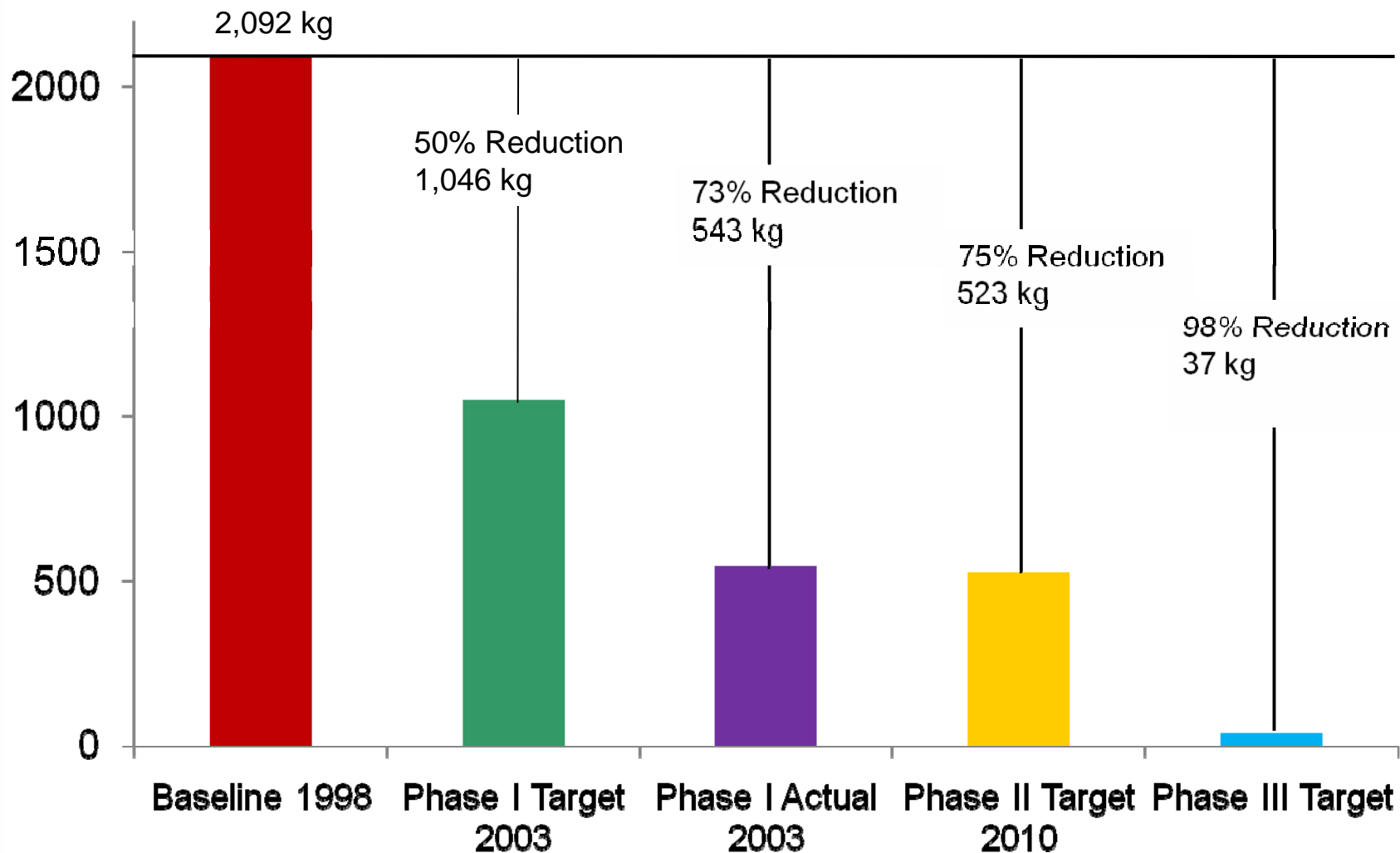
Baseline Mercury Load



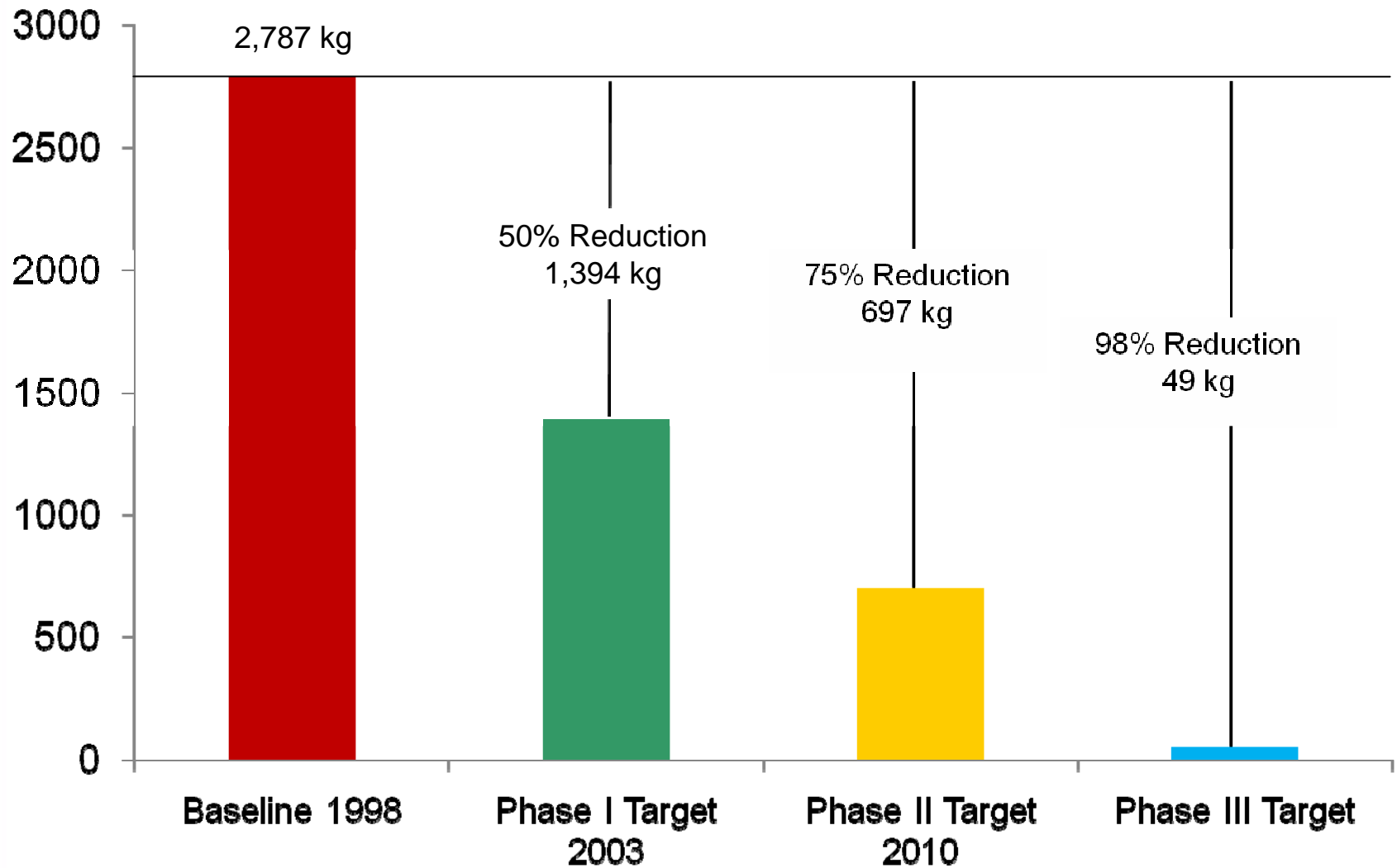
TMDL Allocations



Necessary In-Region Mercury Reductions



Necessary Out-of-Region Mercury Reductions



Adaptive Implementation

- 💧 All Northeast states will continue with mercury reduction initiatives in place
- 💧 Re-evaluate fish tissue, emissions, and deposition data in 2010
- 💧 Reconsider end goal and timeline

Success!

- 💧 **Draft TMDL released for public comment on April 11, 2007**
- 💧 **Final TMDL submitted to EPA on October 24, 2007**
- 💧 **Approval received from EPA Regions 1 and 2 on December 20, 2007**

Next Steps

💧 **Implementation!**

💧 **Further investigation of contributions of out-of-region sources**

Special Thanks to...

💧 **Traci Iott and Paul Stacey, CT
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💧 **Tim Clear and Neil
Kamman, VT DEC**

💧 **John Graham, NESCAUM**

💧 **Beth Card, NEIWPCC**

💧 **NEIWPCC Executive
Committee**

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