

Some Water Program Activities of the National Council for Air and Stream Improvement (NCASI)

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National Council for Air and Stream Improvement

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Introduction

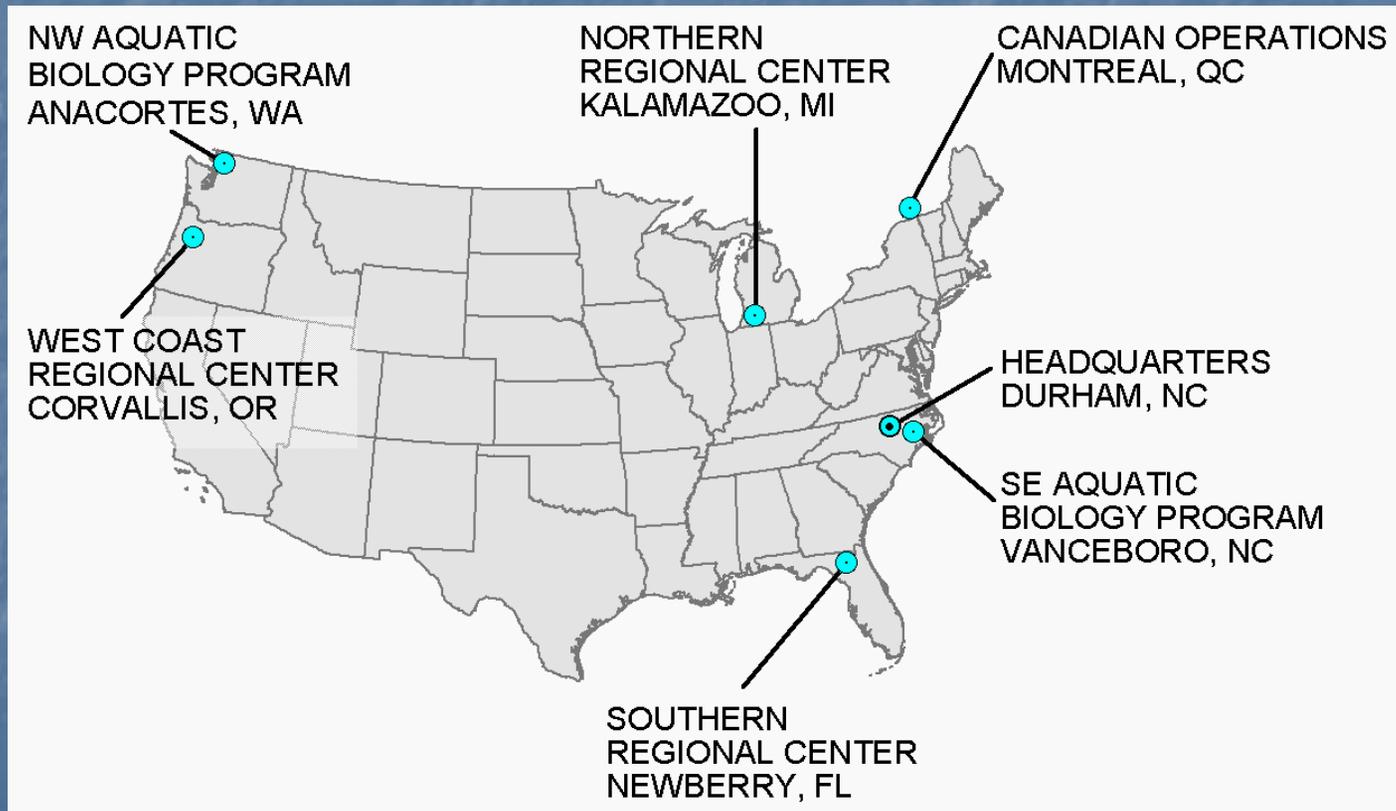
- Presentation Objective
 - To describe NCASI's role as a stakeholder/ user of water information in assisting its members with water quality management.

Introduction

- NCASI established in 1943 to serve the U.S. forest product industry's environmental information needs;
- Member-funded non-profit organization;
- Current membership represents 95% of today's U.S. pulp and paper production;
- NCASI operations in U.S. and Canada.

Introduction

NCASI Facilities

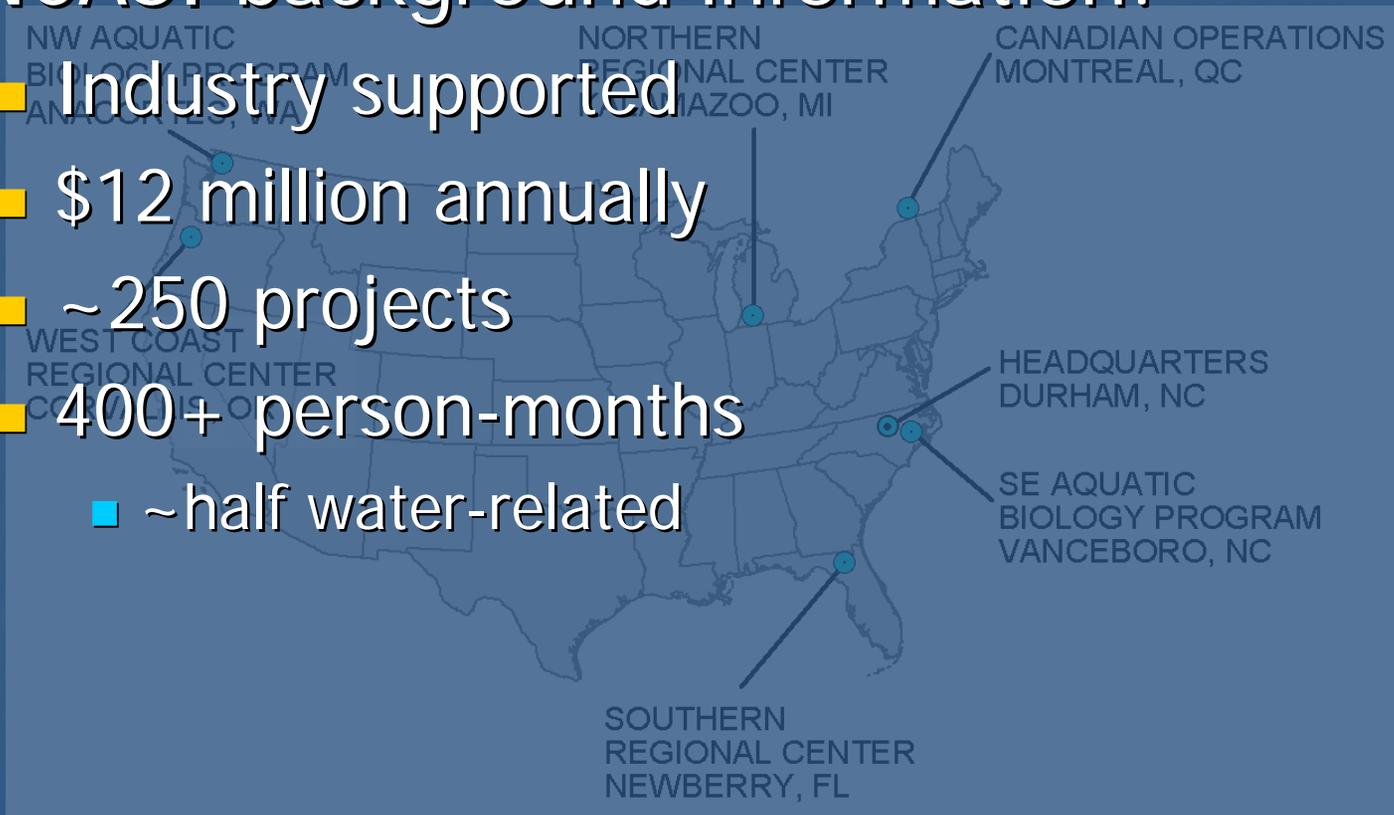


Introduction

NCASI Facilities

- NCASI background information:

- Industry supported
- \$12 million annually
- ~250 projects
- 400+ person-months
 - ~half water-related



Introduction

- NCASI Technical Studies Programs
 - Air Quality
 - Water Quality
 - Aquatic Biology
 - Sustainable Forestry
 - Forest Watershed Management
 - Forest Wildlife Management

Some Surface Water Research Areas Related to Manufacturing

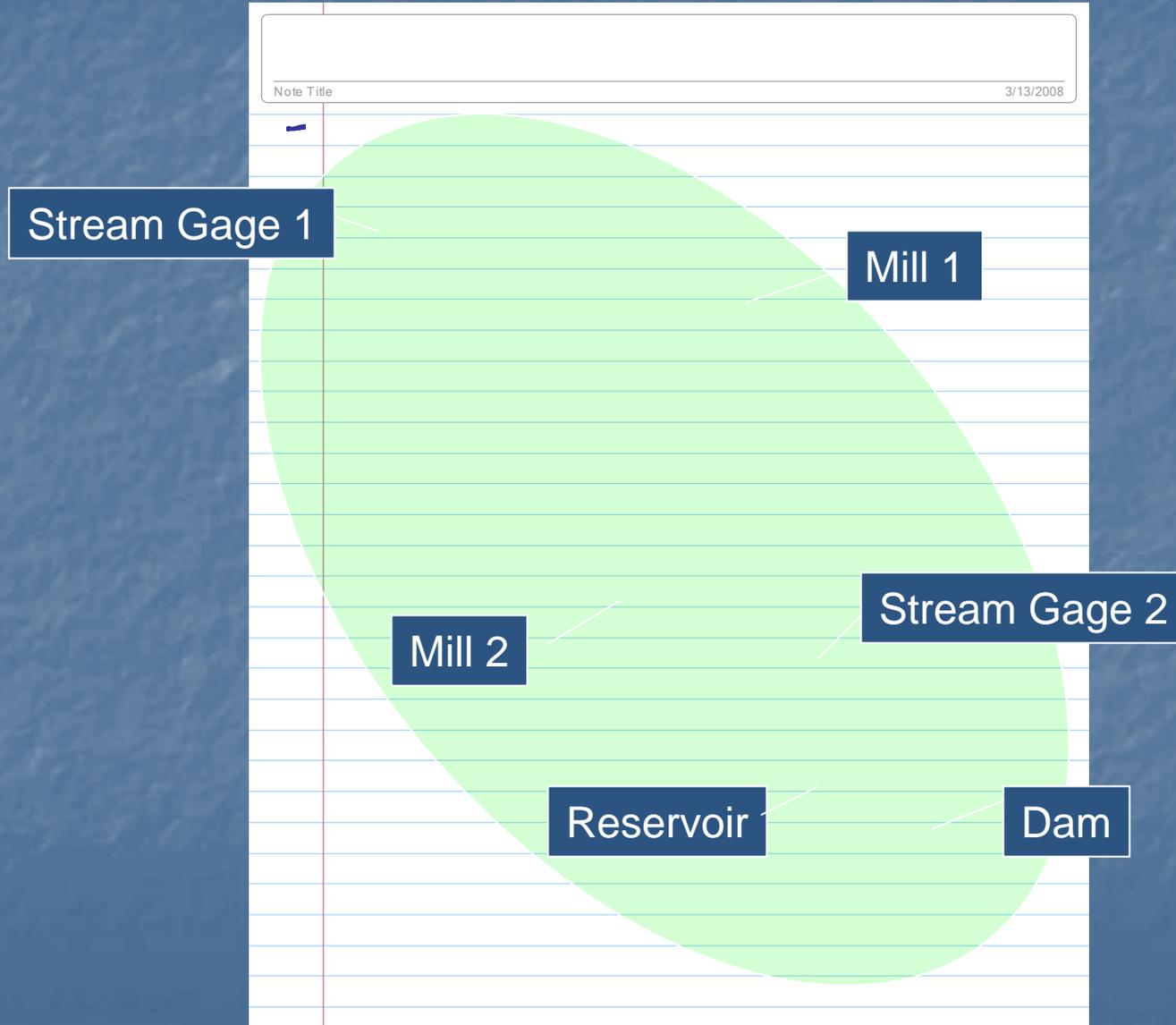
- Understanding Pulp and Paper Mill Watersheds
 - Using developments in GIS to “know our watersheds”
- Water Quality Standards and Criteria
 - Assessing procedures for aquatic life criteria development
 - Understanding natural background conditions and developing appropriate site-specific criteria

Some Surface Water Research Areas Related to Manufacturing, cont'd

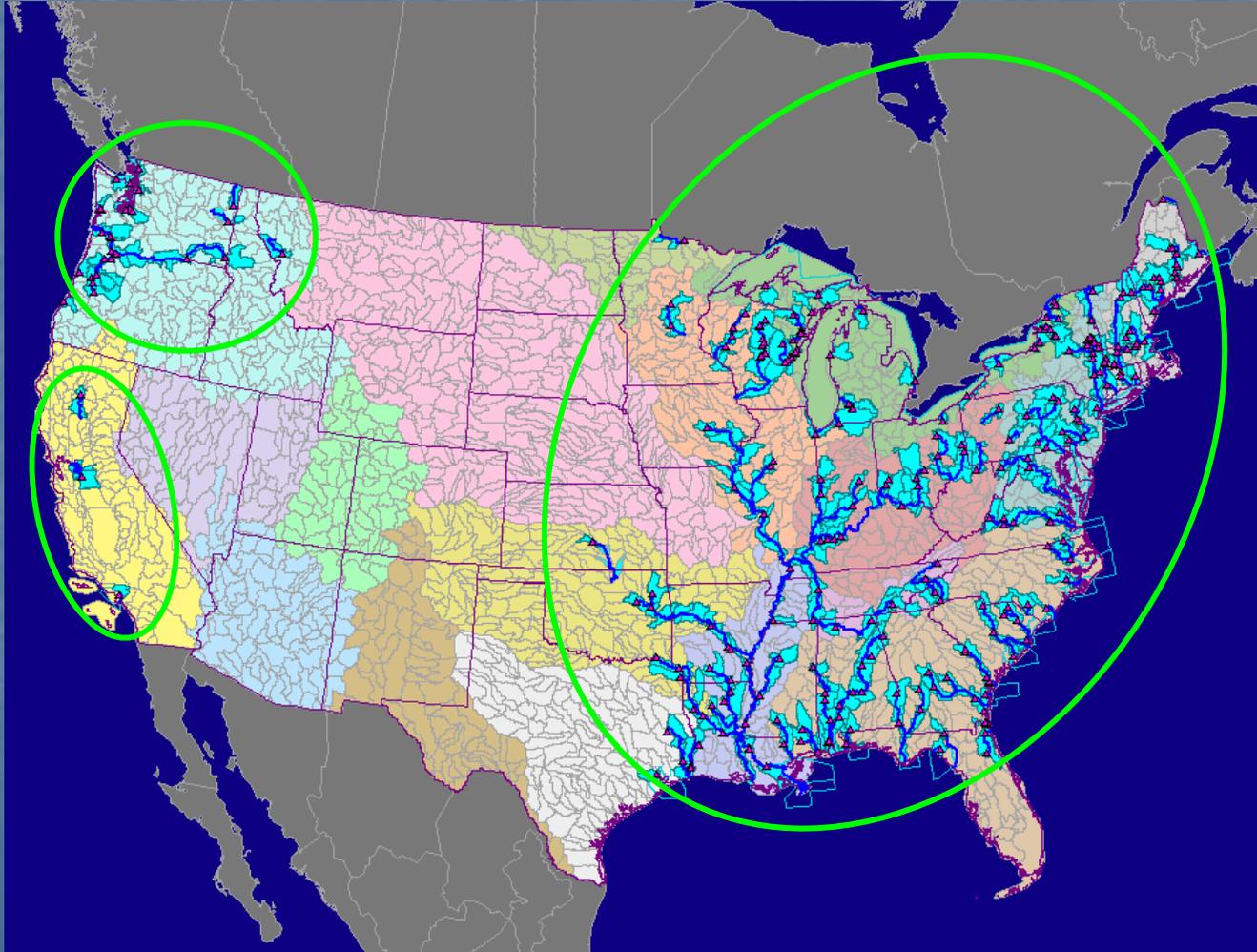
- Statistical methods in water resources
 - Spatial and temporal trend analysis, handling nondetects, characterizing relationship “breakpoints”
- Long Term Receiving Waters Study
 - Assessing ecosystem impacts of instream pulp and paper effluent exposure
- Water “Footprint” Analysis
 - Water sustainability assessment and indicators

Understanding Pulp & Paper Mill Watersheds

Understanding Pulp & Paper Mill Watersheds



U.S. Pulp & Paper Mill Locations



Understanding Pulp & Paper Mill Watersheds

- NCASI Receiving Water Database (RWDB) Data Sources
 - PCS
 - RF1/RF3
 - NHD, NHD+
 - WATERS
 - STORET
 - NWIS
 - TMDL
 - WQS
 - More

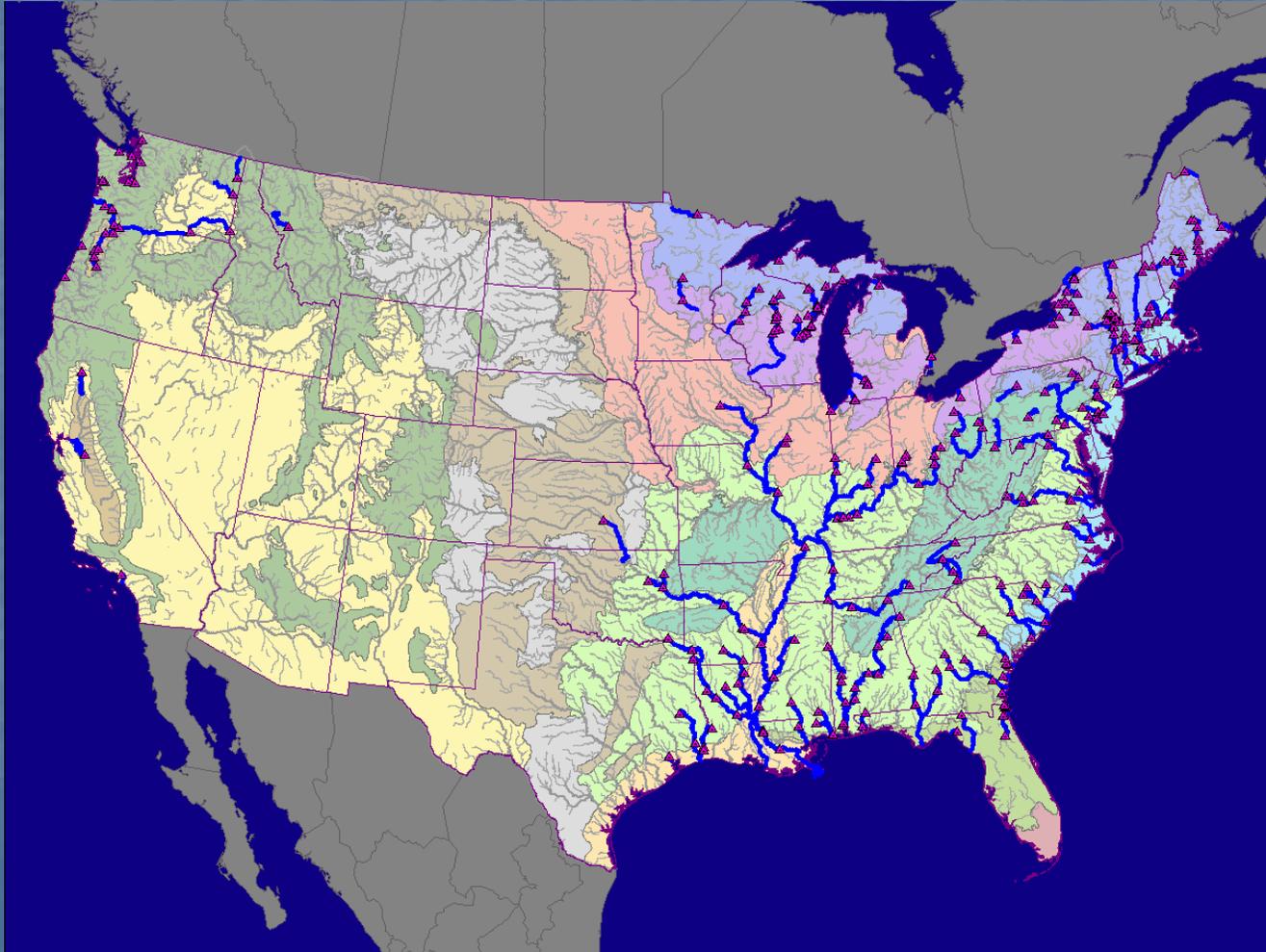
Mill Locations & Hydrologic Regions

USGS Hydrologic Region	Description	Number of Mills
3	South Atlantic-Gulf	56
4	Great Lakes	47
2	Mid-Atlantic	41
1	New England	35
17	Pacific Northwest	29
7	Upper Mississippi	19
5	Ohio	17
8	Lower Mississippi	14
11	Arkansas-White-Red	12
6	Tennessee	9
12	Texas Gulf	6
18	California	3
9	Souris-Red-Rainy	1

Nutrient Criteria Development

- Applicable EPA 304(a) criteria
 - State Criteria Development Initiatives
- Waterbody-specific Information
 - Receiving water designated use
 - Coastal vs. inland criteria
 - Receiving water size
 - Downstream reservoirs
 - Stream gaging information

Mills & Receiving Waters By EPA Nutrient Ecoregion

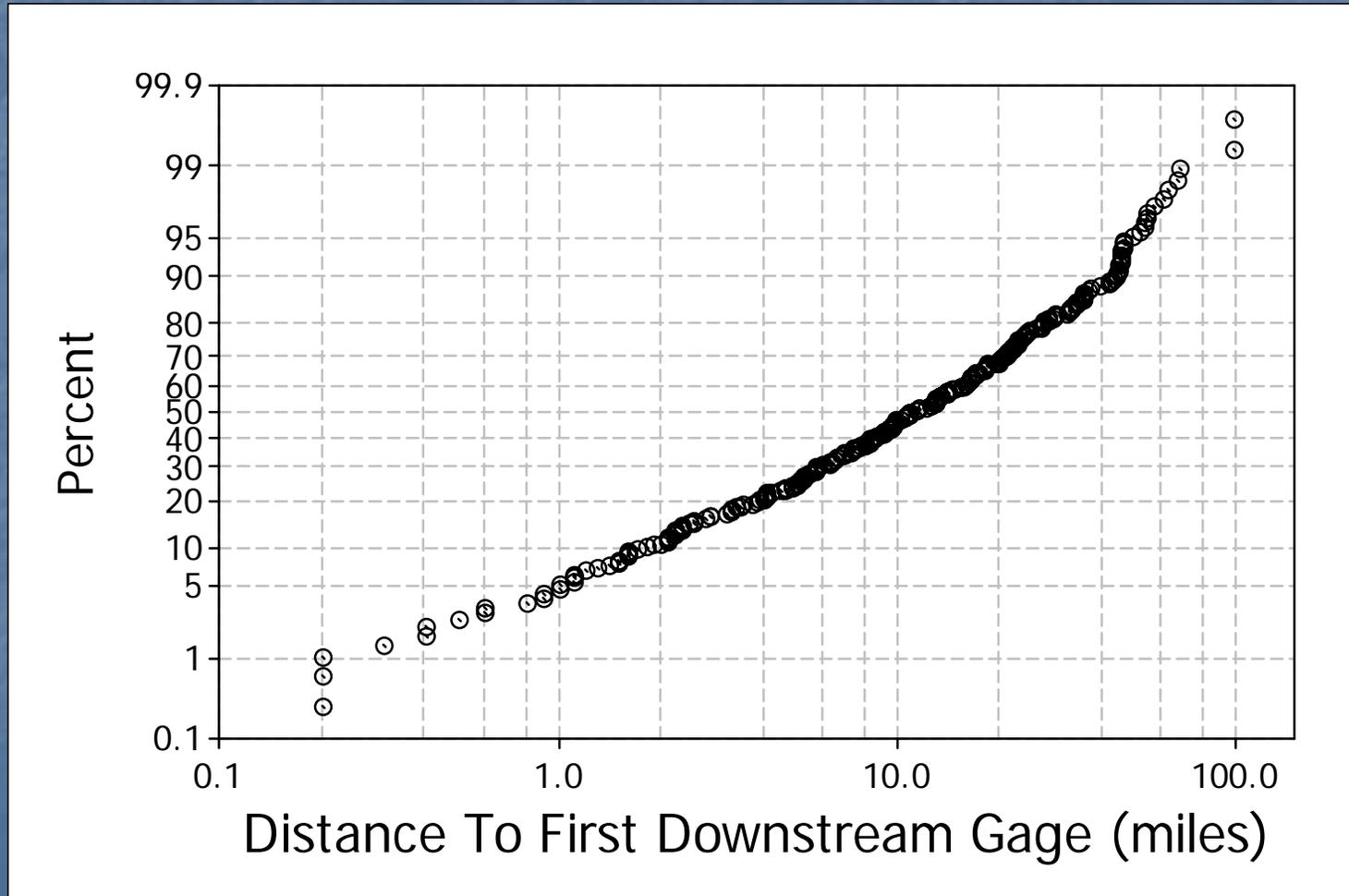


Mill Locations, Nutrient Ecoregions and 304(a) Total Phosphorus Criteria

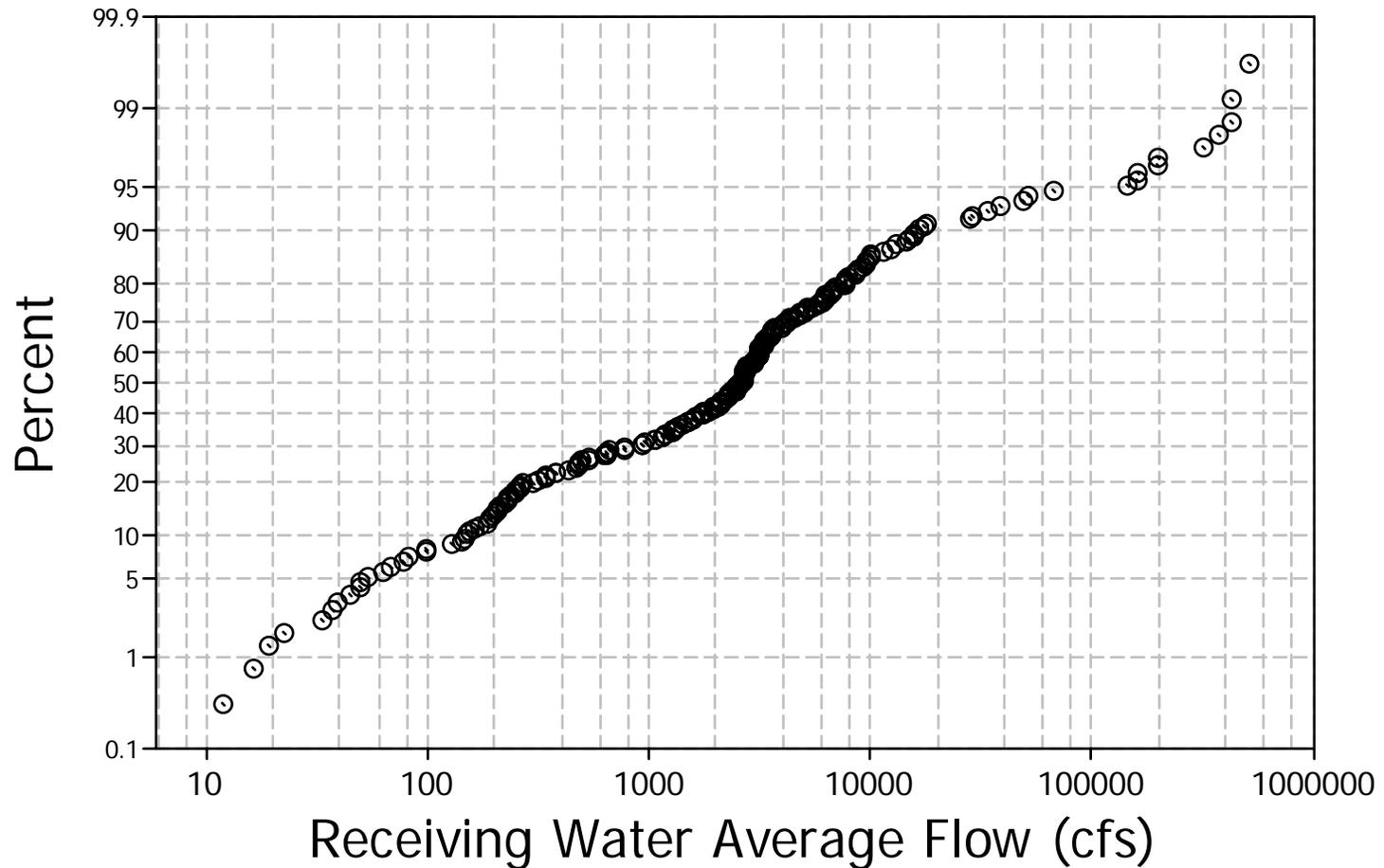
Nutrient Ecoregion	Number of Mills	Rivers & Streams Criteria	Lakes & Reservoirs
9	67	36.56	20
7	62	33	14.75
8	50	10	8
11	23	10	8
12	18	40	10
2	17	10	8.75
14	14	31.25	8
10	13	128	60
1	11	47	55
6	9	76.25	37.5
3	4	21.88	17
5	1	67	33

Units:
ug/L

Mill Locations & Downstream Flow Gages



Size of Receiving Waters



Mill Locations & "Coastal" Vs. Non-Coastal Watersheds

- Coastal = 131 Mills
 - Marine coastal = 84
 - Great Lake coastal = 47
- Non-Coastal = 158



Summary- Understanding Pulp & Paper Mill Watersheds

- GIS, NHD, and electronic database tools are increasingly integrated into NCASI's water research program.
- The result is improved access to water resources information and analyses relevant to the many types of environments that pulp & paper facilities operate within.
- These tools are an important part of NCASI's efforts to participate effectively with other stakeholders to address complex water resources issues.

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