

# Mapping Fifty Years of Changes in Maine's Water Quality Classifications



Becky Schaffner  
Doug Suitor  
Dave Courtemanch  
Susan Davies  
Eileen Sylvan Johnson

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

*Protecting Maine's Air, Land and Water*

# Before the Clean Water Act (1940s)

1942: Subcommittee on Classification of Streams in New England recommends the adoption of a 4\* tier classification system based on highest use (Scott and Weston, 1942):

## CLASSIFICATION OF WATERS ACCORDING TO HIGHEST USE

The Committee endeavored first to classify waters according to their highest use, as follows:

Class A—Waters used as sources of drinking water or for the cultivation of market shellfish.

Class B—Waters used for bathing.

Class C—Waters used for recreational boating, fishing, culture of seed oysters, or industrial supply after treatment.

Class D—Waters used primarily for commercial navigation or transportation of wastes without nuisance.

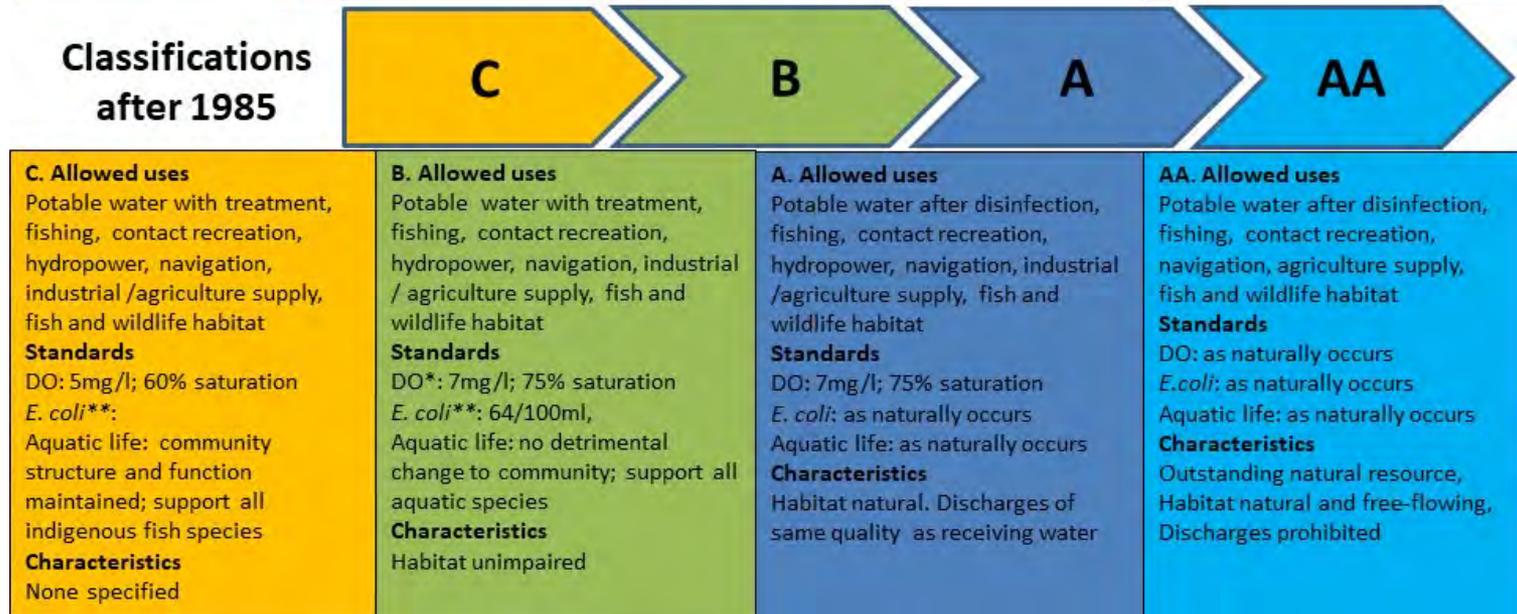
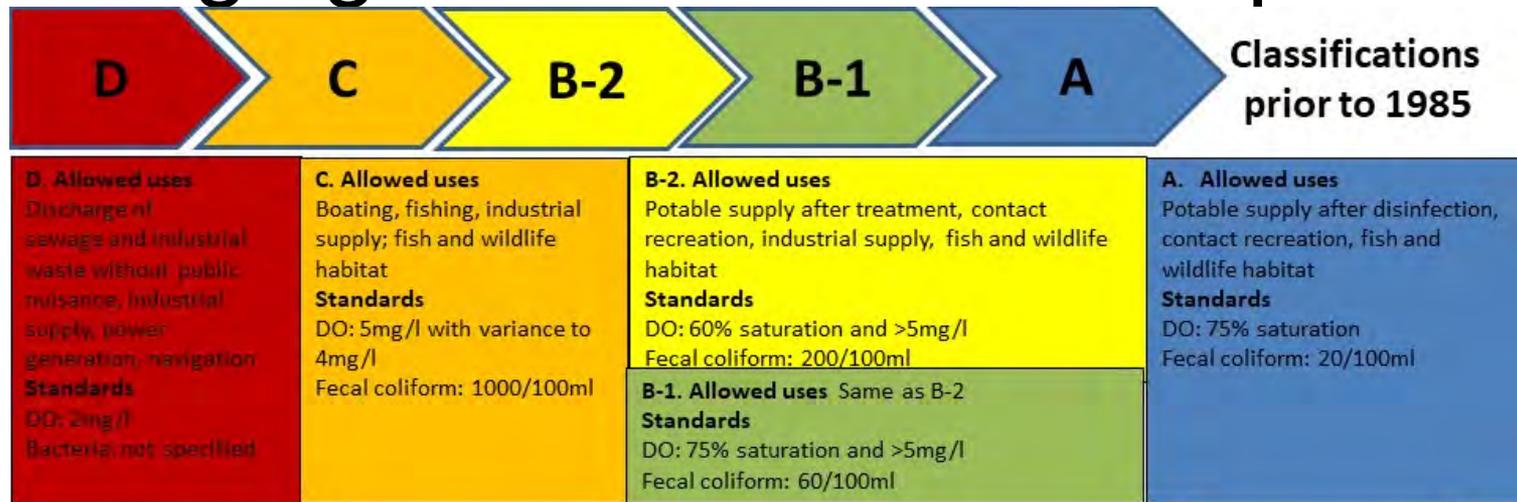


# 1940s-1950s

- New England Interstate Water Pollution Control Commission (NEIWPCC, 1948) approves tentative standards based on the 1942 scheme (A, B, C, D, E).
  - Based on current use/status
  - Minimum DO criteria for A, B, C
  - Subjective and descriptive
    - oil and grease, odor, floating solids, color, and turbidity should be “not objectionable.”
- Maine Sanitary Water Board (1946) releases initial survey of 6000 miles of rivers excluding major industrialized rivers
  - Assessed industries, population, amount of treated and untreated wastewater
  - Assigned a preliminary water class (A, B, C, D)



# Changing Standards: 1964 to present



# Mapping Water Classification History

- Major and minor revisions in 1970, 1979, 1987, 1989, 1990, 1993, 1994, 1999, 2001, 2003, 2004, and 2009. Also 2018 and 2022.
- “Blue Books” (up to 2009) classify state waters by major watersheds, minor drainages, and estuarine and marine waters.

## 1. Androscoggin River Basin.

A. Androscoggin River, main stem, including all impoundments.

(1) From the Maine-New Hampshire boundary to its confluence with the Ellis River - Class B.

(2) From its confluence with the Ellis River to Worumbo Dam in Lisbon Falls - Class C.

(3) From Worumbo Dam in Lisbon Falls to a line formed by the extension of the Bath-Brunswick boundary across Merrymeeting Bay in a northwesterly direction - Class B.

B. Little Androscoggin River Drainage

(1) Little Androscoggin River, main stem...



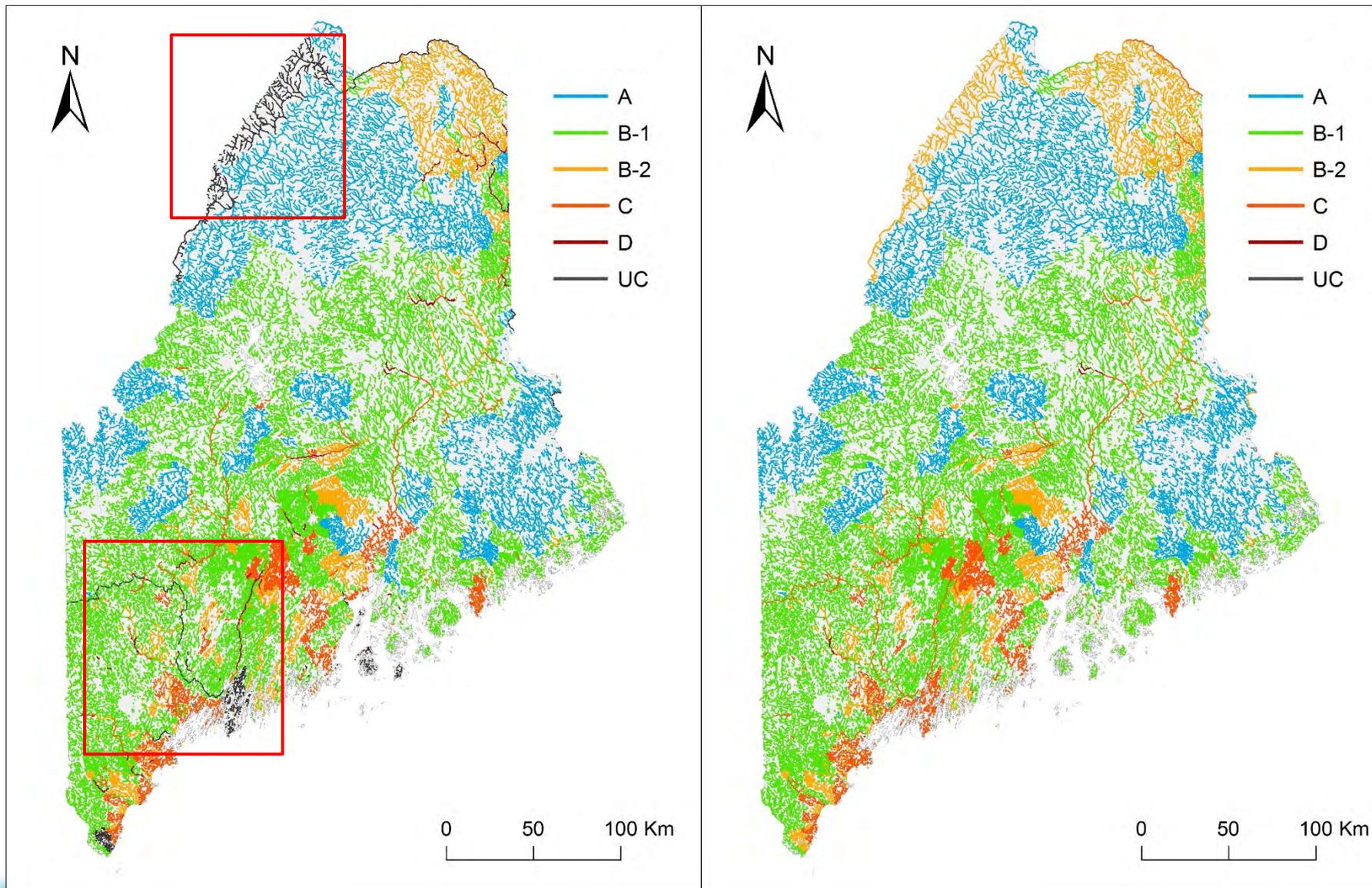
# Mapping Water Classification History

1. Transcribe each set of statutes into an Excel file by major basin
2. 1964-1979 and 1985-2022 use two different classification systems and were mapped separately using Esri ArcMap.
3. The National Hydrography Dataset was used as the basis for mapping.
  - High resolution (1:24k); includes all waterbody types.
  - Approx. 77600km or 48000 miles of rivers and streams

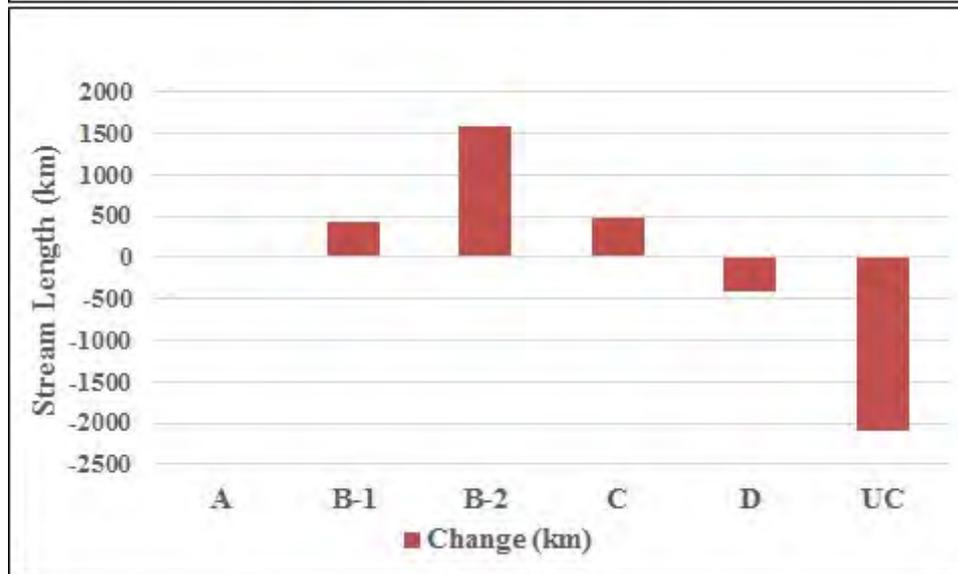
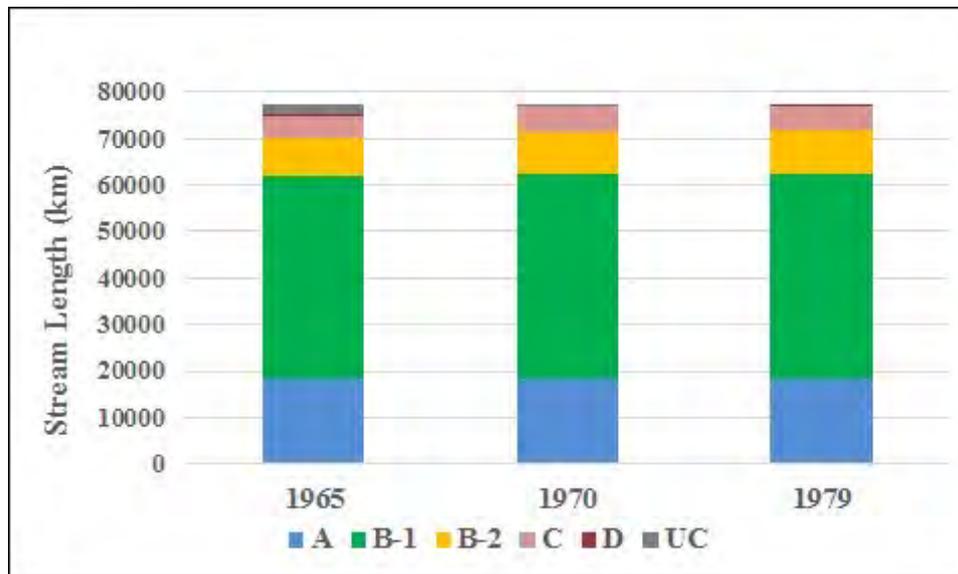
	GNIS_NAME	HUC8	Miles	Class_1987	Class_1989	Class_1990	Class_1993	Class_1994	Class_1999	Class_2001	Class_2003	Class_2004	Class_20
1	Abacotnetic Stream	01020001	9.2	A	A	A	A	A	A	A	A	A	A
2	Abagadasset River	01050003	6.7	B	B	B	B	B	B	B	B	B	B
3	Abagadasset River	01050003	8.2	B	B	B	B	B	B	B	B	B	B
4	Abbott Brook	01040001	0	A	A	A	A	A	A	A	A	A	A
5	Abbott Brook	01040001	4.1	A	A	A	A	A	A	A	A	A	AA
6	Abbott Brook	01040001	0.7	A	A	A	A	A	A	A	A	A	A
7	Abbott Brook	01040002	4.5	B	B	B	B	B	B	B	B	B	B
8	Abbott Brook	01060003	3.3	B	B	B	B	B	B	B	B	B	B
9	Abbott Brook	01050002	1.8	C	C	B	B	B	B	B	B	B	B
10	Abol Stream	01020001	4	AA	AA								
11	Abol Stream	01020001	2.9	B	B	A	A	A	A	A	A	A	A



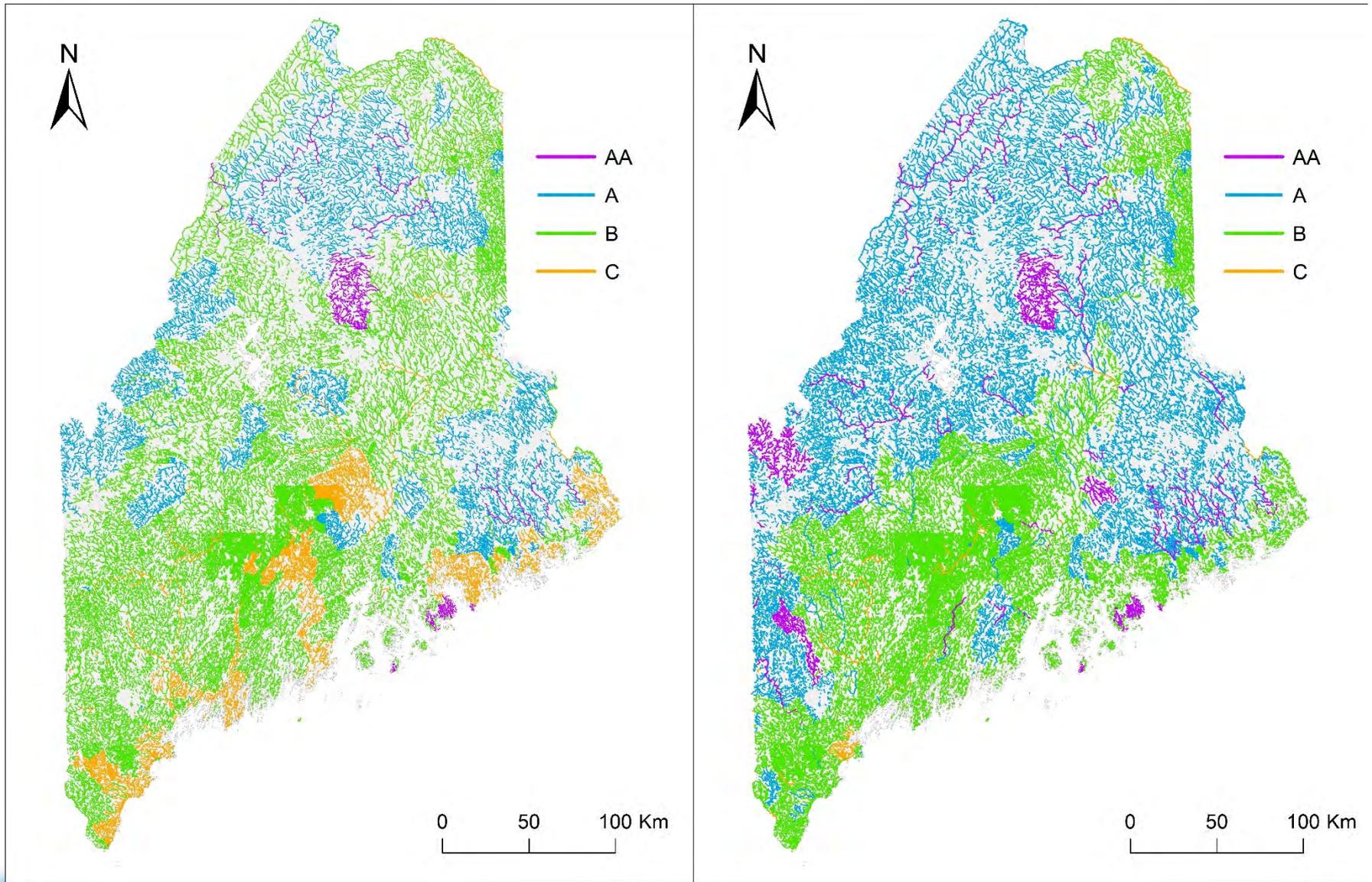
# Pre-CWA: 1964 to 1979



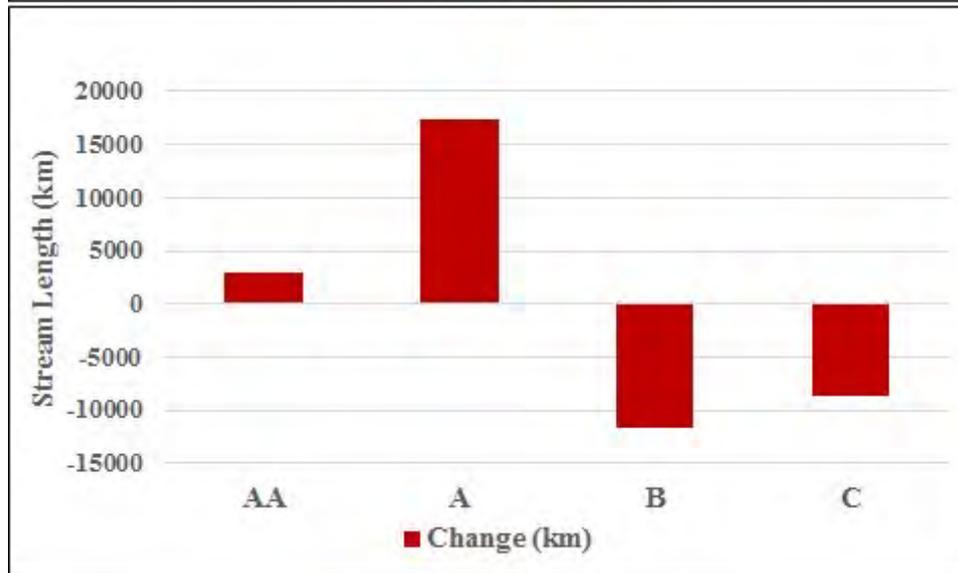
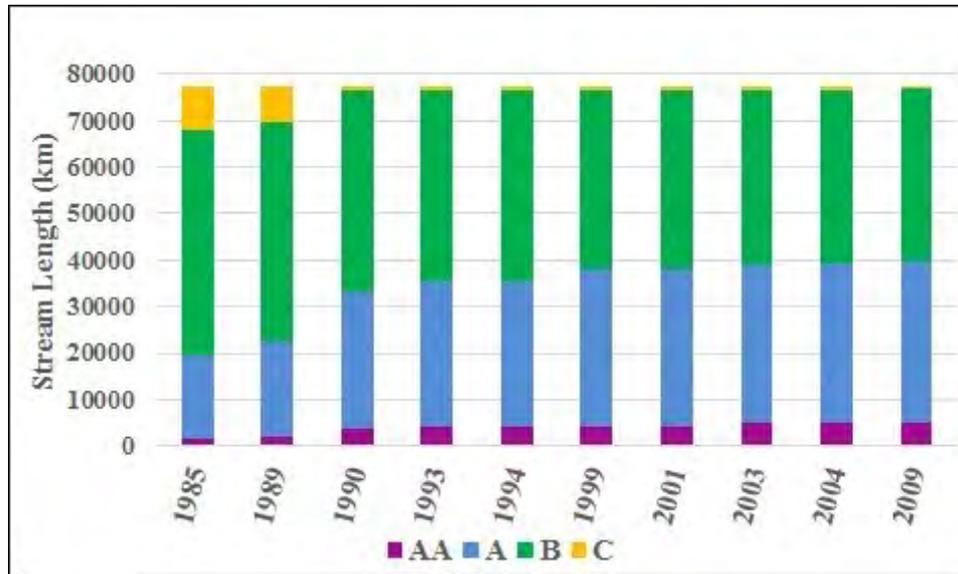
# Pre-CWA: 1964 to 1979



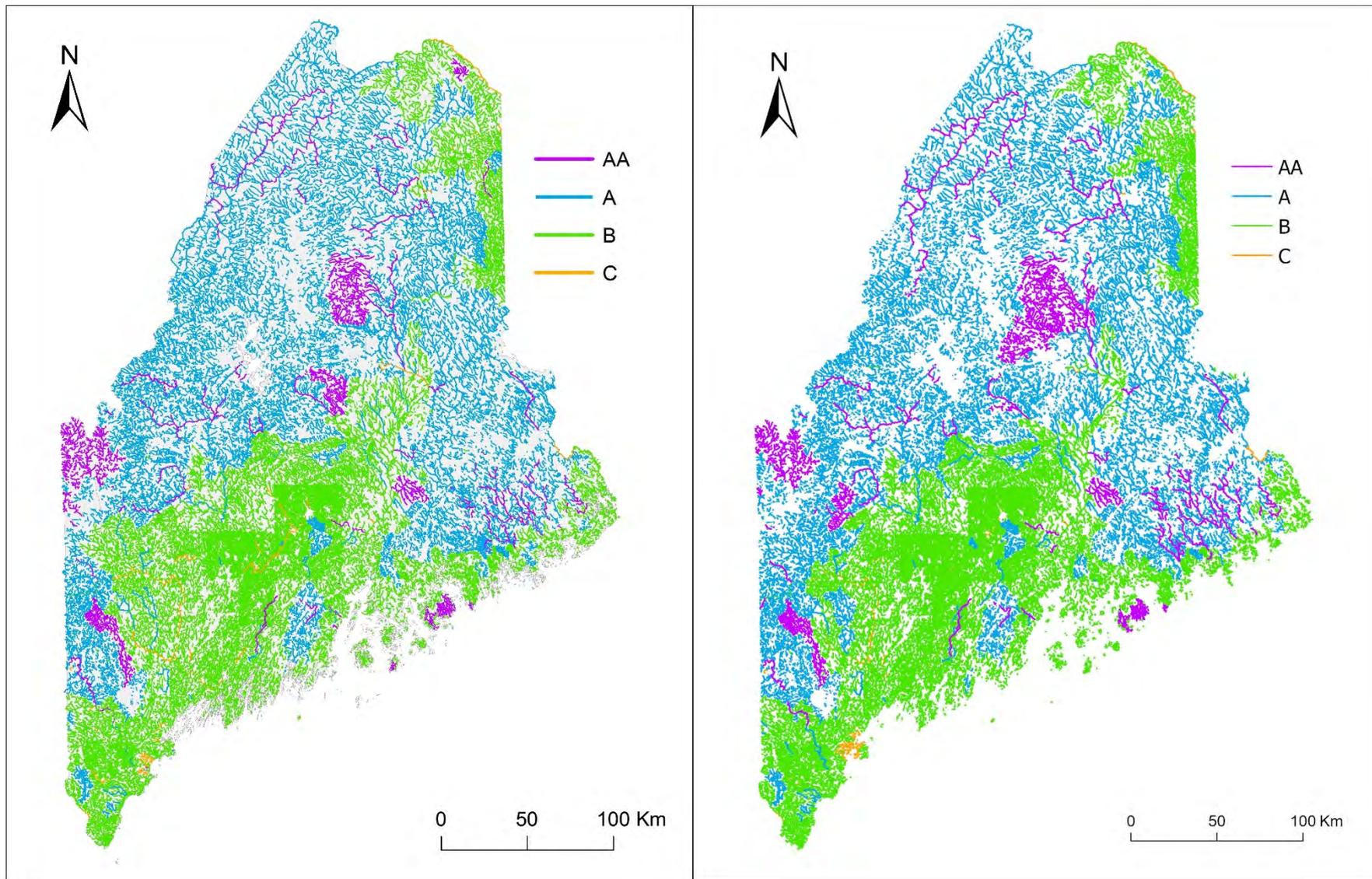
# After CWA: 1985 to 2009



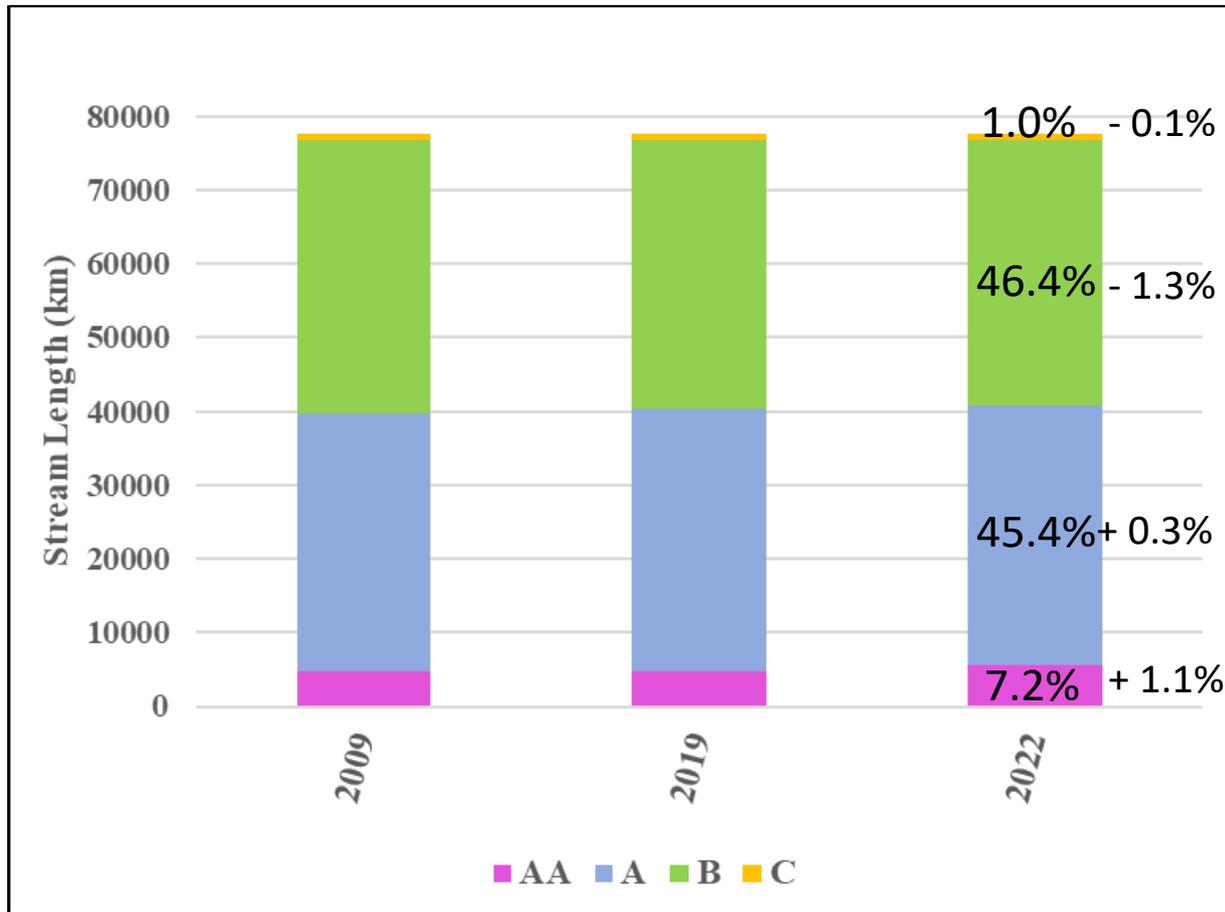
# After CWA: 1985 to 2009



# Current: 2009 to 2022



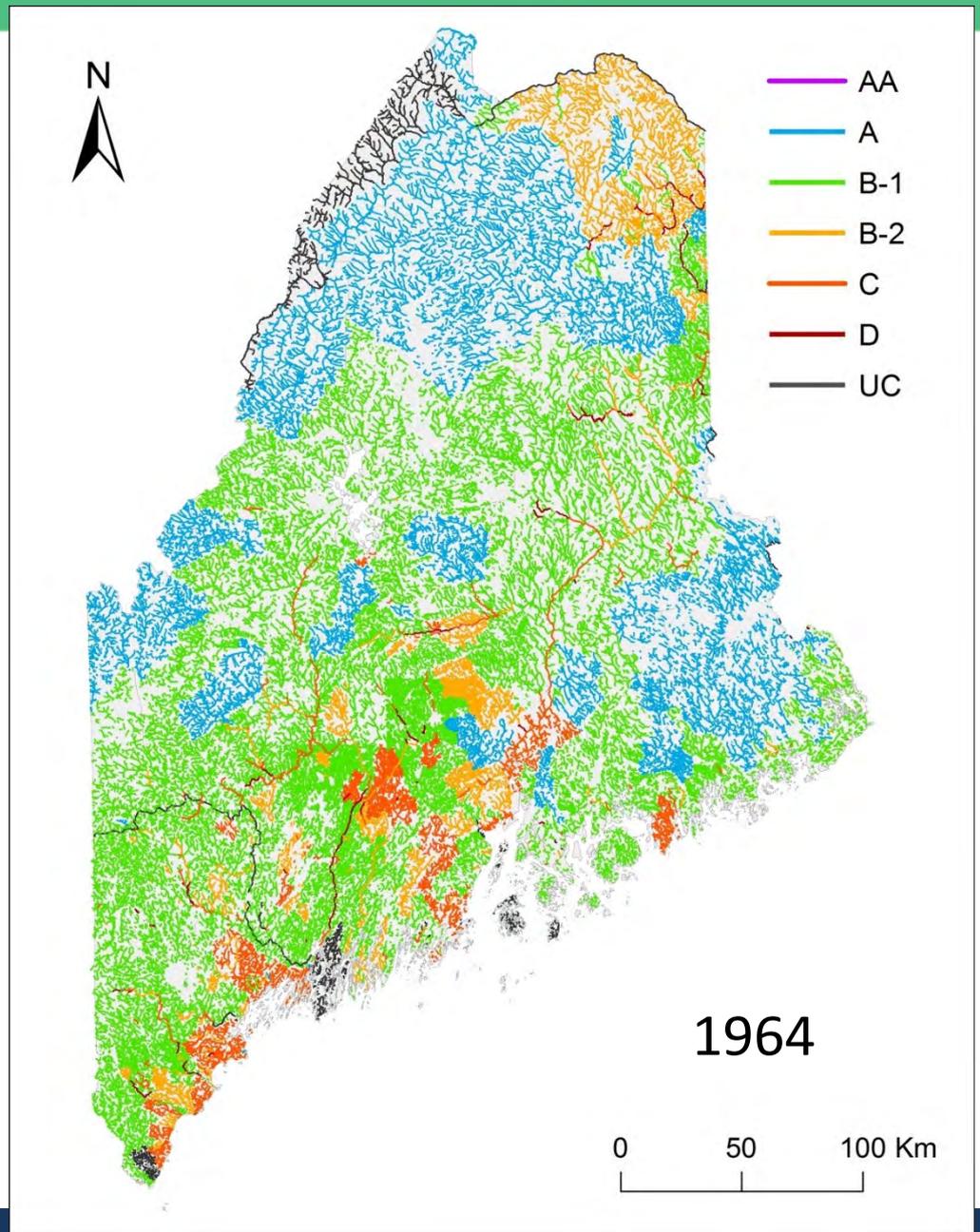
# Current: 2009 to 2022



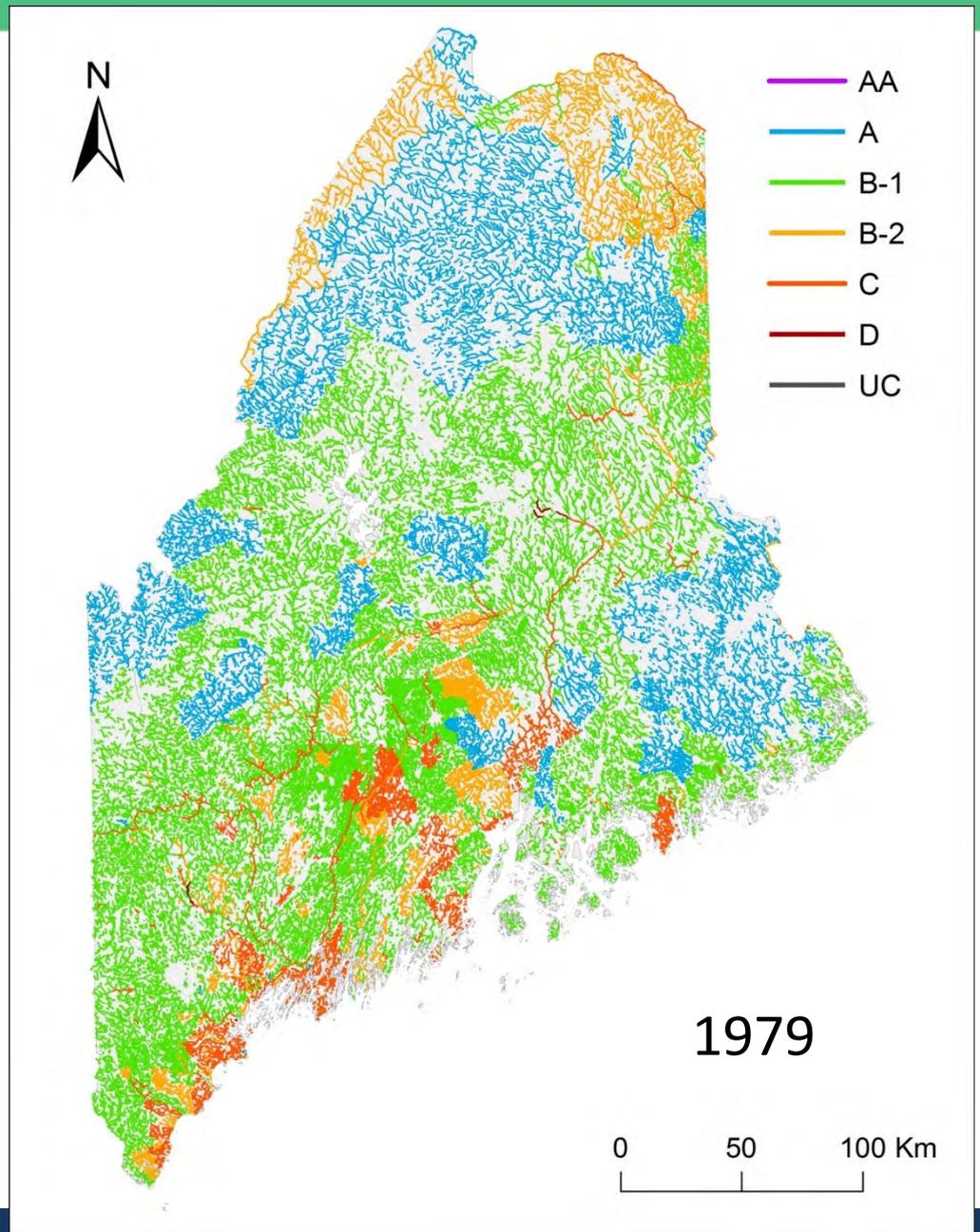
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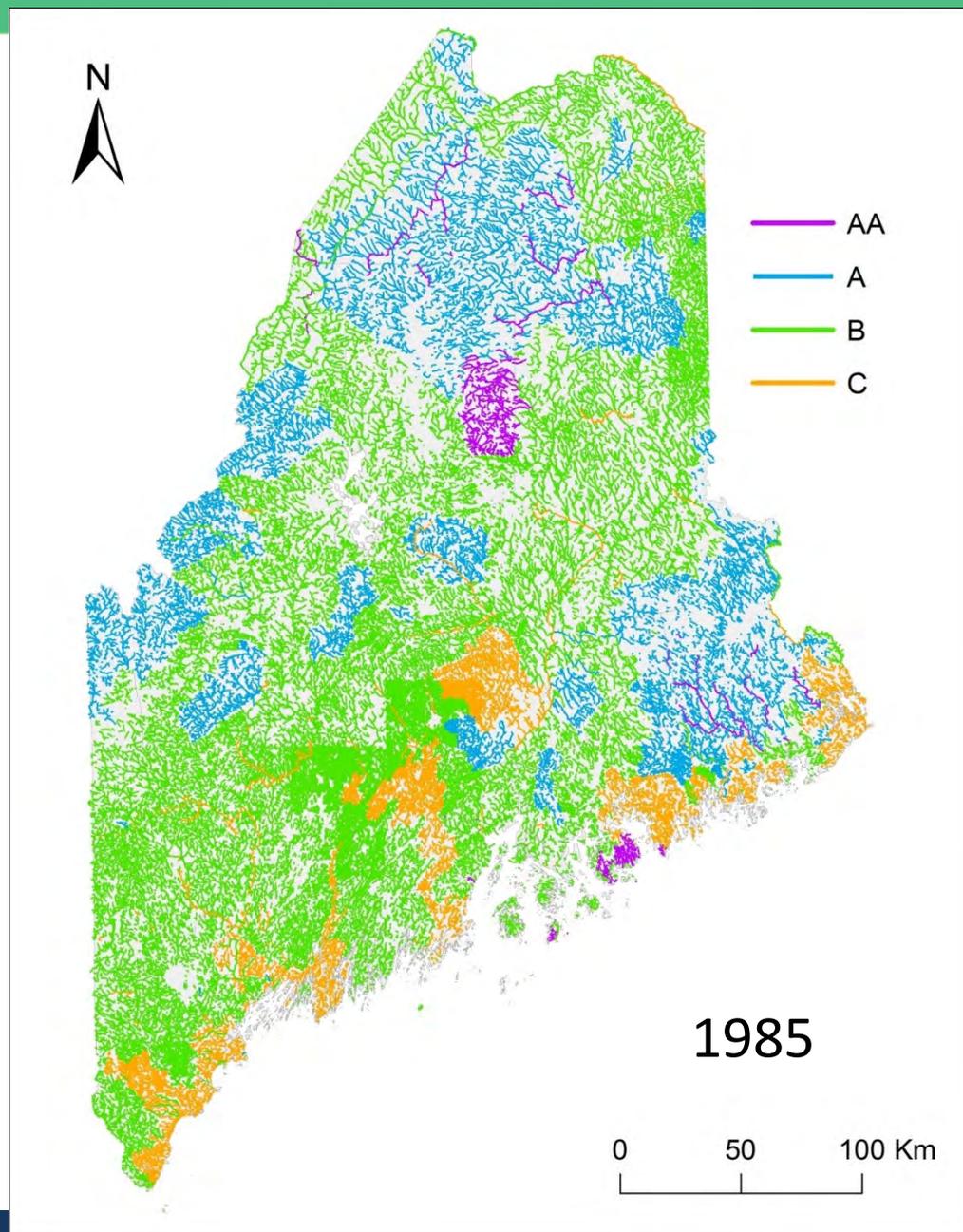
Becky.Schaffner@maine.gov  
[www.maine.gov/dep](http://www.maine.gov/dep)



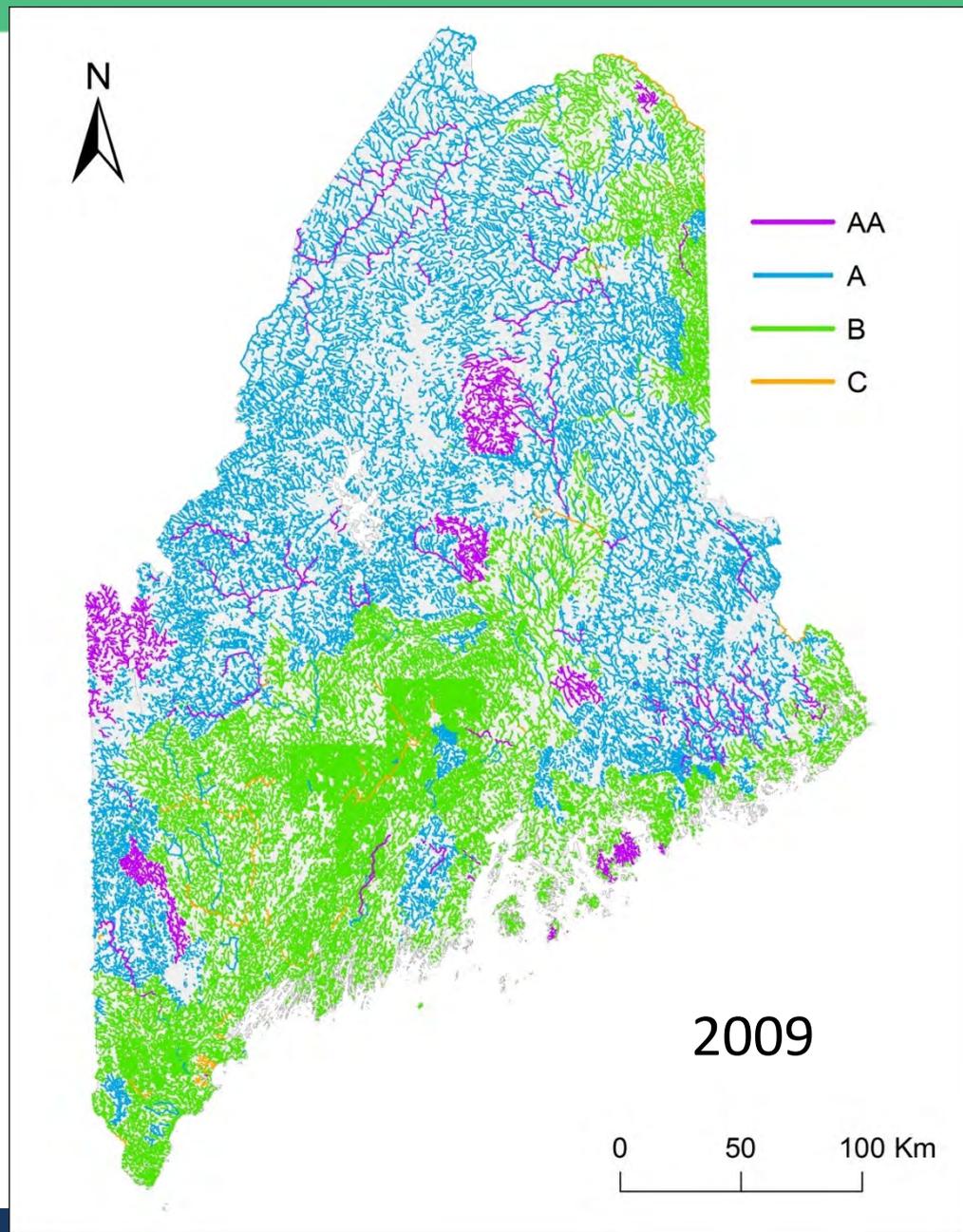
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