



UNDERDOG STREAMS, BEYOND LONG CREEK

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WHAT IS AN UNDERDOG ?



- Underdogs are at a disadvantage and expected to lose.
- face daunting odds
- given little hope

What are Underdog Streams?



- ▣ Share Low Status
- ▣ Status Perception of Waters
 - Large waterbodies-Oceans, Estuaries & Lakes
 - Large Rivers
 - Streams with trout & salmon, intact habitat
 - Streams that no longer support trout & salmon, degraded habitat, impaired
 - Wetlands
- ▣ How Long Creek moved to Top Dog

SMALL STREAMS CONUNDRUM

- ▣ Larger waters are only as healthy as the tributaries that feed them
 - Cumulative impact
- ▣ Neglected due to the ubiquitous nature of small drainages
- ▣ Questionable water quality disconnects personal involvement
 - Fear of the unknown
- ▣ Underdogs are at a disadvantage



CASCO BAY UNDERDOGS

STREAMS IMPAIRED FOR AQUATIC LIFE DUE TO IMPERVIOUS SURFACE AND URBAN RUNOFF

STREAM

TOWN

UNNAMED TRIBUTARY TO ANDROSCOGGIN RIVER (near River Road)

BRUNSWICK

UNNAMED TRIBUTARY TO ANDROSCOGGIN RIVER (near Water Street)

BRUNSWICK

FROST GULLY BROOK

FREEPORT

CONCORD GULLY

FREEPORT

FALL BROOK

PORTLAND

NASONS BROOK

PORTLAND

DOLE BROOK

PORTLAND

CAPISIC BROOK

PORTLAND

RED BROOK

SCARBOROUGH, SOUTH PORTLAND

KIMBALL BROOK



SOUTH PORTLAND

BARBERRY CREEK

SOUTH PORTLAND

UNNAMED TRIBUTARY TO ANDROSCOGGIN RIVER (draining Topsham Fair Mall)

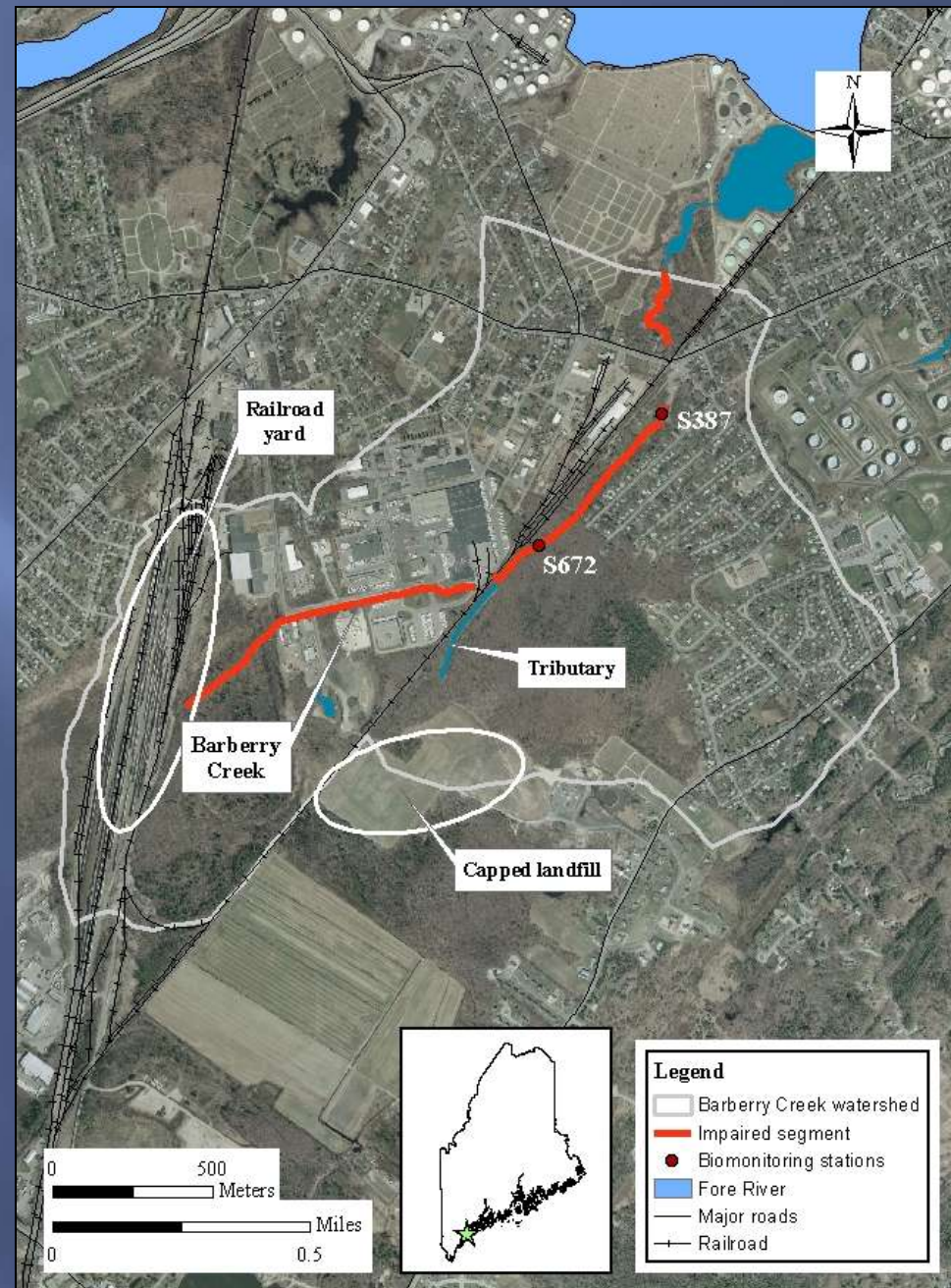
TOPSHAM

UNNAMED TRIBUTARY TO ANDROSCOGGIN RIVER (near Topsham Fairgrounds)

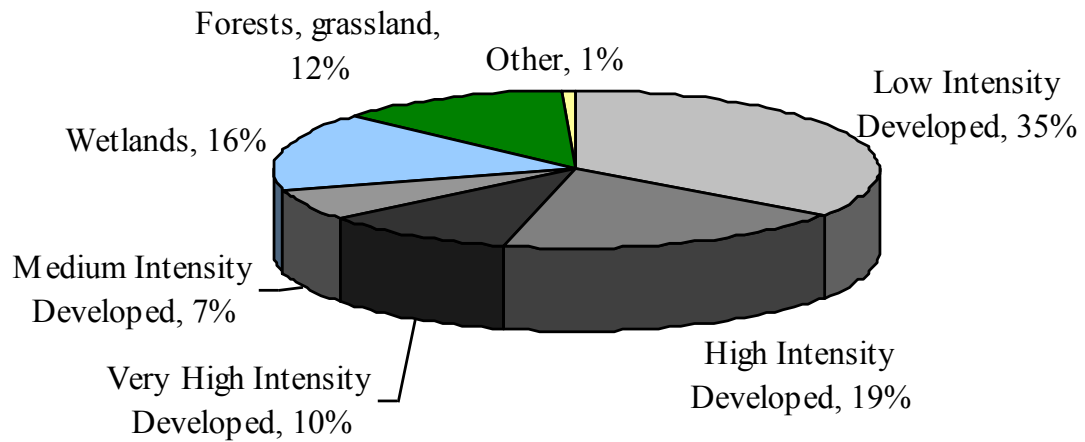
TOPSHAM

Barberry Creek (in red)

- ▣ 1.3 miles long, low gradient
- ▣ Watershed ~786 acres
- ▣ Originates in wetland next to a railroad yard
- ▣ 71 % of watershed has high, low, and medium intensity urban development
- ▣ Most of the stream has been channelized and overwidened
- ▣ The riparian zone next to the stream is largely undeveloped



Barberry Landuse & Habitat



Stressor: Altered Hydrology

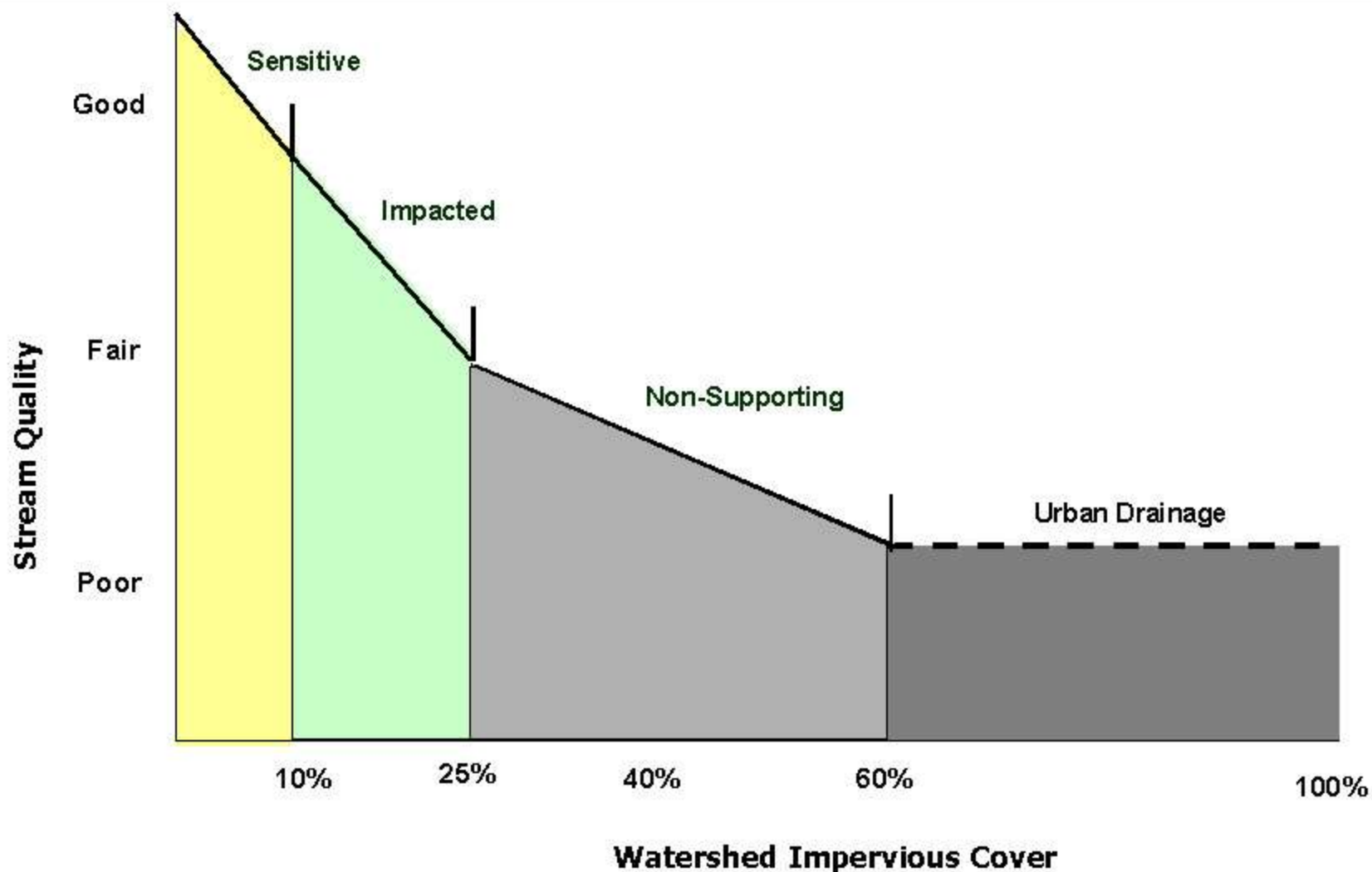


Findings of Urban Streams Project

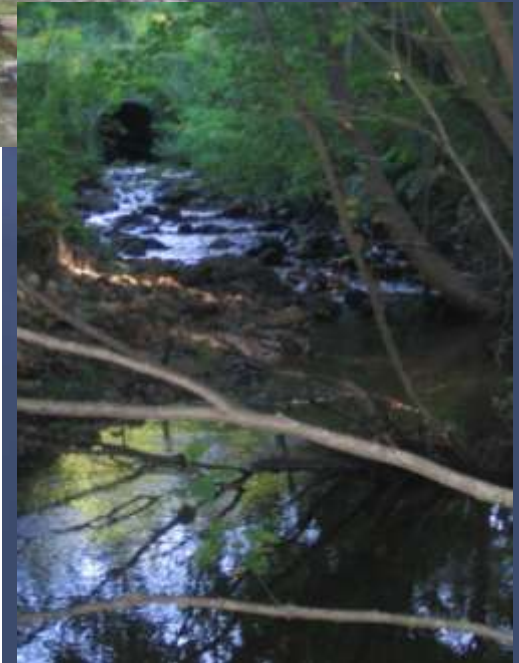
- ❑ Biological communities are impaired (macroinvertebrates, fish, algae)
- ❑ Water quality is degraded (nutrients, temperature, oxygen, conductivity))
- ❑ Habitat quality is impacted (woody debris abundance, sediment, bank erosion)
- ❑ Stream morphology has changed (channelization, erosion)
- ❑ Stormwater metals exceed standards



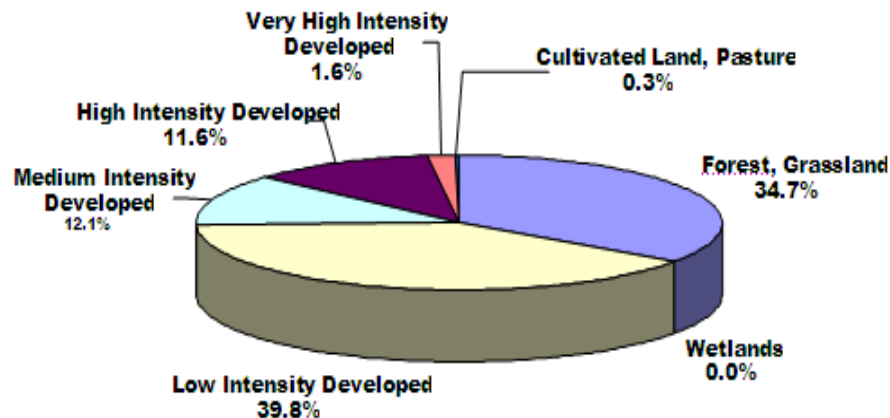
Impervious Cover & Stream Quality Relationships



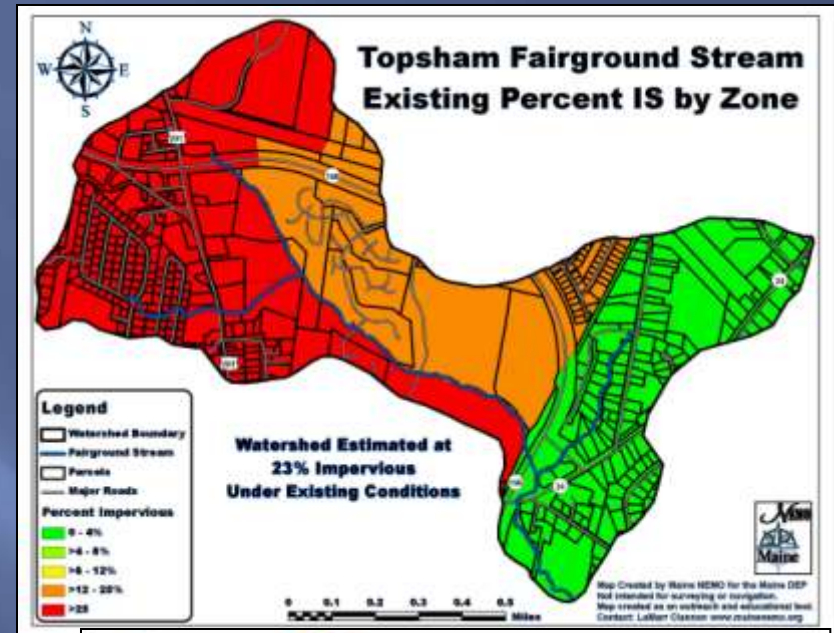
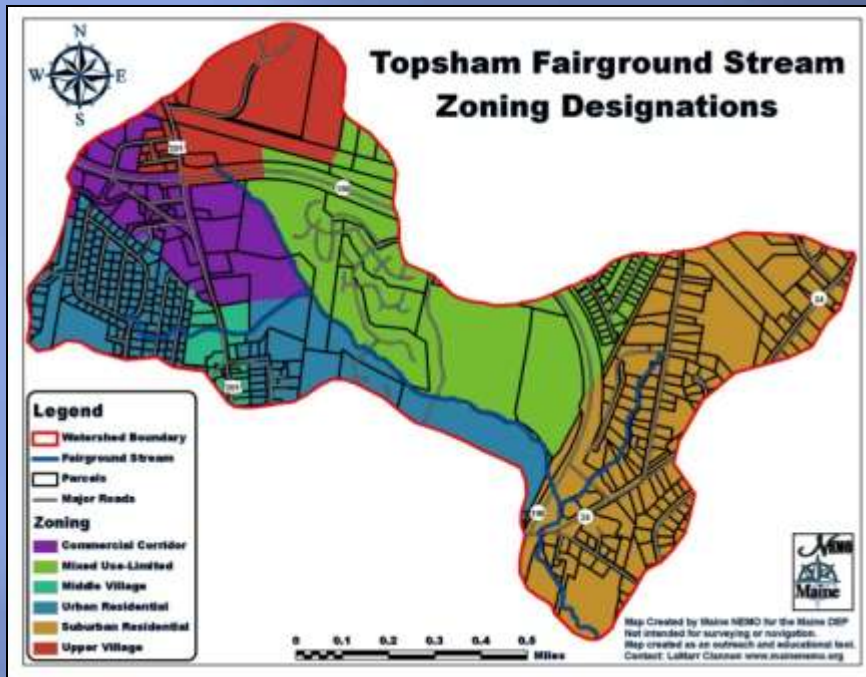
Topsham Fairground Stream



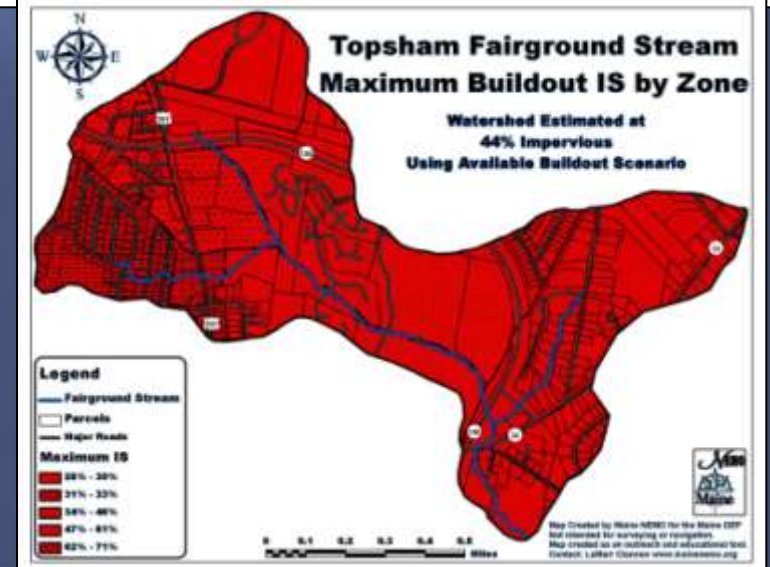
Topsham Fairground Stream
Land Use Cover %

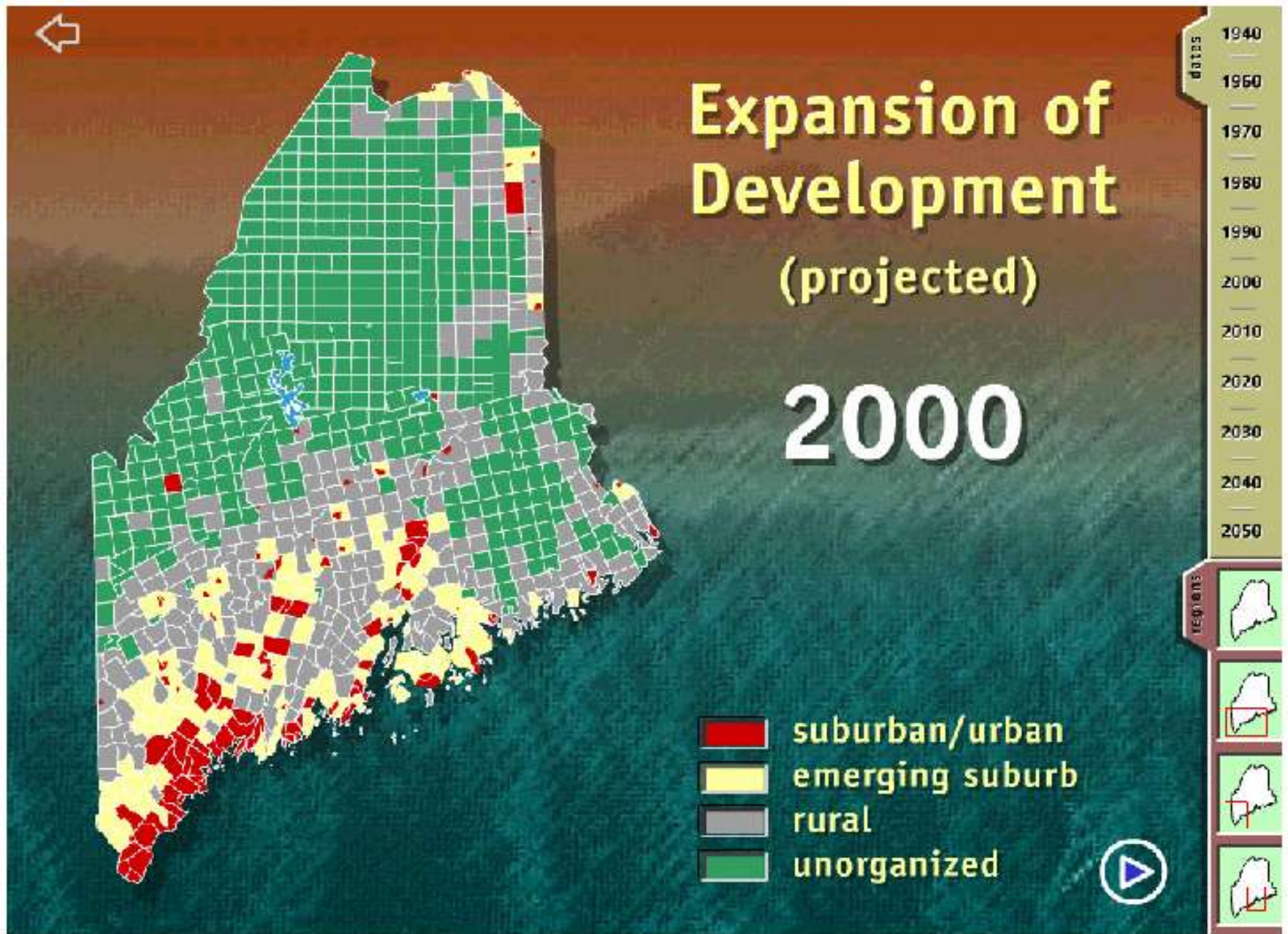


Topsham Fairground Stream

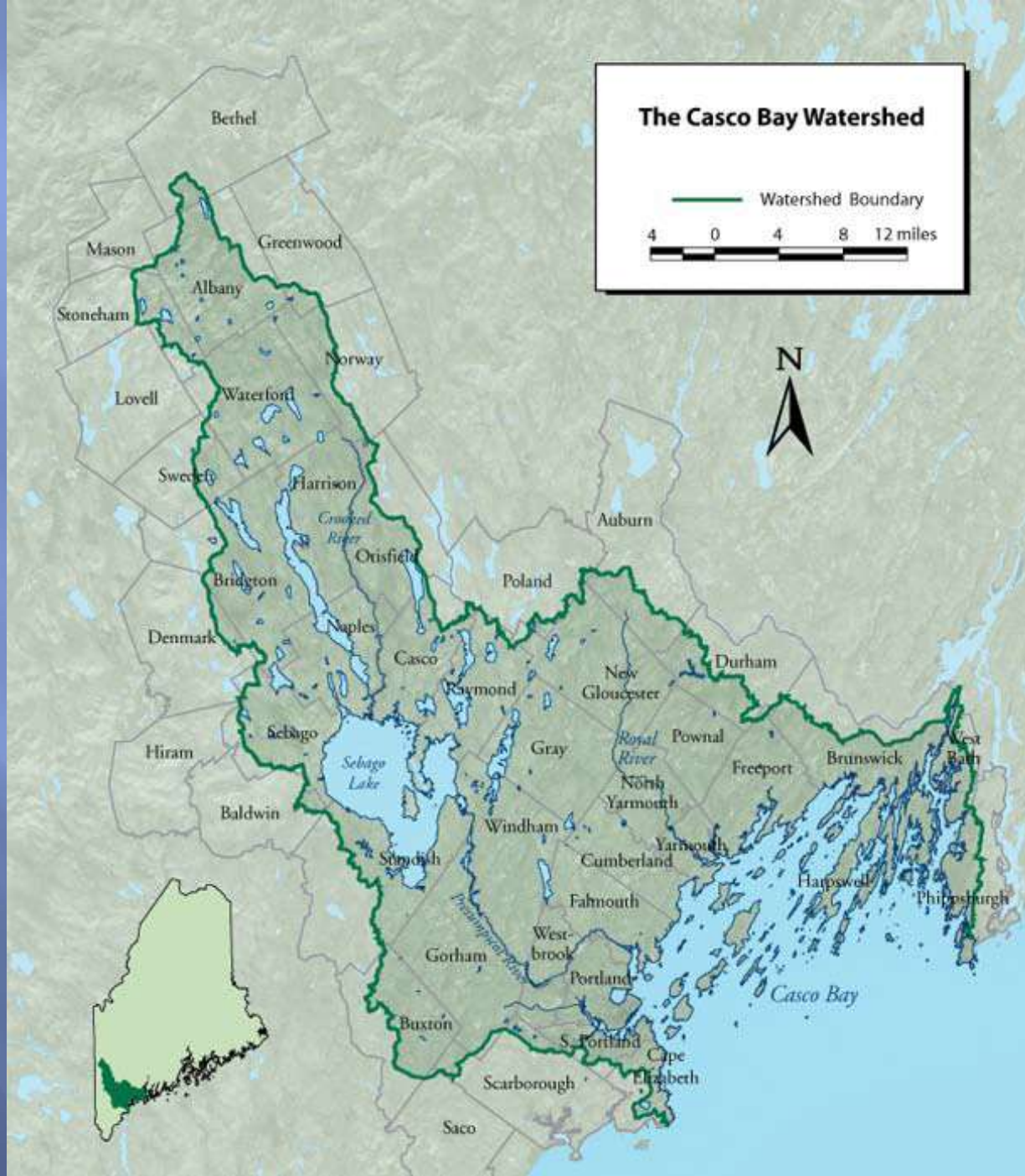


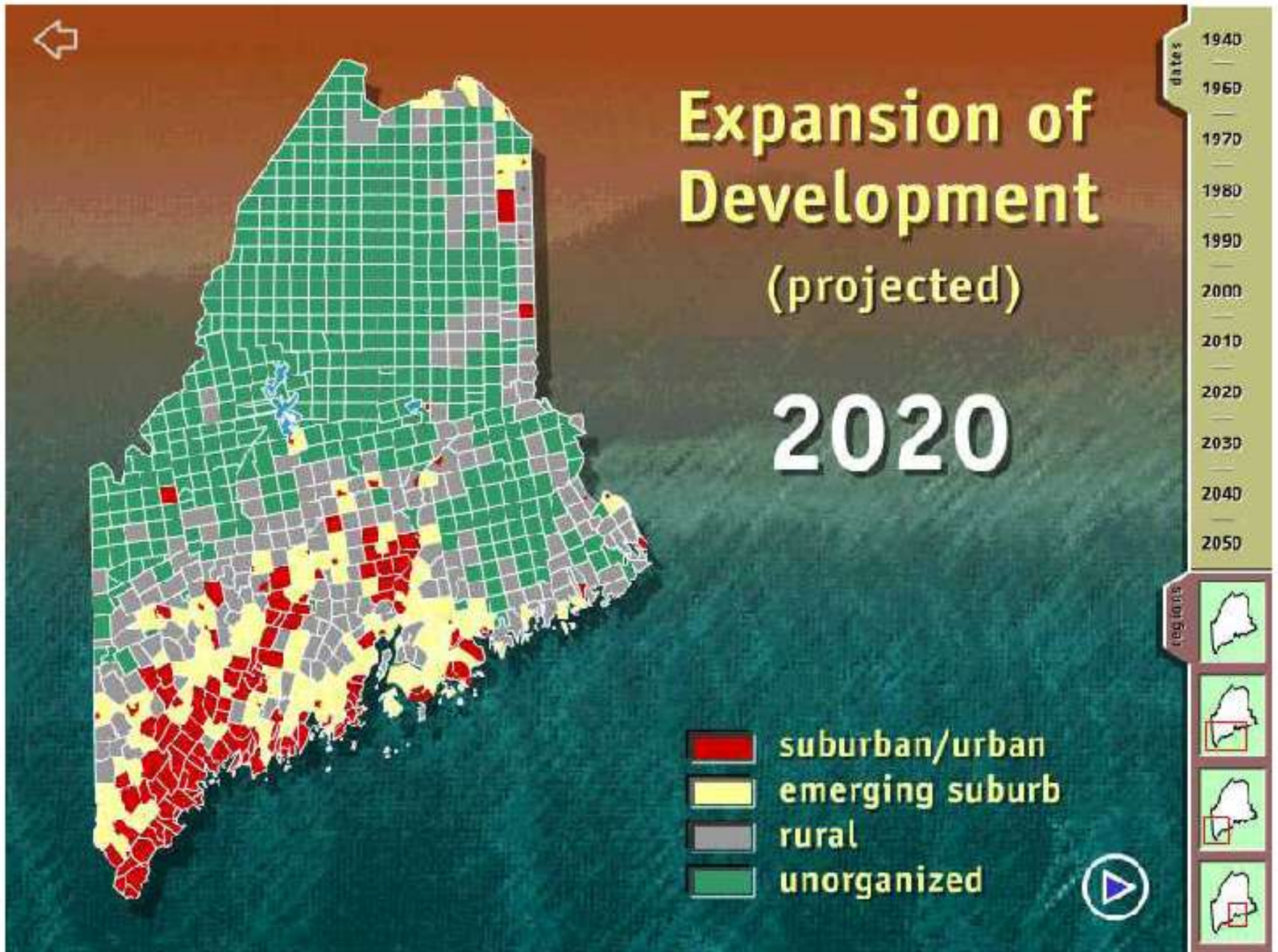
Topsham Unnamed Brook		
Zone	Existing IS	Expected IS
CC Commercial Corridor	45.5	46.2
MUL Mixed Use Limited	23.6	28.2
MV Middle Village	35.1	71.2
R1 Urban Residential	28.9	31.7
R2 Suburban Residential	2.2	56.2
UV Upper Village	34.6	60.9
total watershed	23%	44%





Source- State Planning
Office





IMPAIRED STREAMS IMPLICATIONS

Impaired stream listing



Government Agency-TMDL development



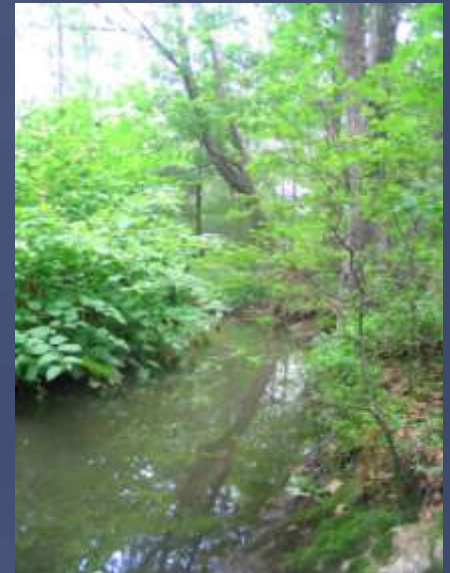
Who will spearhead Restoration



Complex watershed management plans—Plan
implementation—Monitoring—Permitting
existing development

JUSTICE FOR THE UNDERDOGS

- ▣ Until Underdogs receive attention from local interests, all downstream waters are at a risk, including Casco Bay
- ▣ Is the Long Creek model applicable or sustainable?
 - Are there more champions out there?
- ▣ What is the appeal of the Underdog?



Appeal of the Underdog



- ▣ People find motivation when rooting for the disadvantaged
- ▣ Low expectations mean that every incremental improvement can be personally satisfying
- ▣ Small streams offer realistic hope for environmental restoration
 - Compare to the whole Casco Bay
- ▣ The ever changing-flowing nature of streams mean they respond to effort



Appeal of the Underdog

- ▣ How do we protect, restore and maintain these streams?
- ▣ Where do we find Champions for these arteries of the Bay?
- ▣ Are you ready to fulfill your sense of justice by advocating for the Underdog?
- ▣ Start with the stream in your backyard

