

Damariscotta River Association's Report on
The Health of the Damariscotta River Estuary



“It is important to act now to protect the resources and values that define the spirit of this place, otherwise our children and grandchildren may not be privileged to know it as we do.”

Pete Noyes
Former Executive Director,
Damariscotta River Association

THE HEALTH OF THE DAMARISCOTTA RIVER ESTUARY WATERSHED

The Damariscotta River Watershed covers an area of 103 square miles, stretching from the headwaters of Damariscotta Lake to the Gulf of Maine. The watershed includes at least 25 upland natural community types such as maritime spruce-fir forests, salt marsh habitat, vernal pools and oak hardwood forests. Everything on the land, or in the water within the watershed, has the potential to drain into the estuary. The estuary is the region in which the fresh and salt water mix from the head-of-tide in Damariscotta Mills to Fort Island, where the impact of fresh water becomes negligible. Estuaries provide a wide variety of bird nesting grounds, migration stop-over locations, fish migration habitat, aesthetic and recreational value for residents and tourists, and much more. In addition, the combined value of fisheries and businesses associated with the Damariscotta River Estuary annually was determined to be \$13 million in 1994 (Damariscotta River Estuary Project).

The good news is the Damariscotta River Estuary is in relatively good health. The bad news is that there are several notable threats that have appeared on the horizon which require careful monitoring. Additionally, a significant amount of information on the ecological health of the estuary is unknown because no supporting data yet exists.

This report card is intended to gather a large amount of scientific data from a variety of sources into one concise document for the public. This document uses standards or management goals set by the State of Maine, or another scientific authority, against which the data has been compared.

REPORT CARD KEY

Grade	Reason (for pollution parameter)	Reason (for species listed)
A	Exceeds standard and no pollution evident	Exceeds carrying capacity/management goal and population stable
B	Exceeds standards but some pollution evident	Exceeds carrying capacity/management goal in successive recent years
C	Meets standards with allowable amount of pollution evident	Meets carrying capacity/management goal currently
D	Below standard	Below carrying capacity/management goal now and in recent past
F	Below standard and minimal controls in place	Far below carrying capacity/management goal and worsening

Current Trend: ↑ Improving / ↓ Worsening

DAMARISCOTTA RIVER ESTUARY WATERSHED REPORT CARD 2012

Parameter	Grade	Current Trend	Data Limitations	Source
Dissolved Oxygen	A	Unknown	1996 Data	"Dissolved Oxygen in Maine Estuaries and Embayments," 1996, Casco Bay Estuary Project, Maine Department of Environmental Protection.
Bacterial Contamination	B	↑	Generalized for large area	"Growing Area WQ Triennial Report of 2007-2008," 2010, Maine Department of Marine Resources.
Metals: Mercury and Lead	C	Unknown	Small sample size from mussel tissue	"Shellfish Tissue Analysis," 2001, Surface Water Ambient Toxic Program, Maine Department of Environmental Protection.
Nickel	D	↓	Replicate samples variable	Same source as above.
Pesticides (PCB, DDE and DDT)*	Unknown	Unknown	No Data	
Nutrients (P and N)**	A	Unknown	1996 Data	"Dissolved Oxygen in Maine Estuaries and Embayments," 1996, Casco Bay Estuary Project, Maine Department of Environmental Protection.
Antibiotics	Unknown	Unknown	No Data	
Endocrine Disrupters	Unknown	Unknown	No Data	
Marine Invasive Species	F	↓	Minimal historical data	Felipe Paredes, PhD (c), School of Marine Sciences University of Maine (personal communication, 2012).
Sea Urchin	D	↓	Carrying capacity unknown	"Maine's Sea Urchin Survey," Maine Department of Marine Resources, 2010.
Lobster	A	↑		Dr. Richard A. Wahle, Ph.D., Research Associate Professor, School of Marine Sciences, University of Maine (personal communication, 2012).
Clam	Unknown	Unknown	No population studies available	Special Note: Landings data (quantity fishermen catch) is available from the Maine Department of Marine Resources.
Alewife	B	↑		Fish Committee of Nobleboro and Newcastle and Deb Wilson, Town of Nobleboro and Claire Enterline, Maine Department of Marine Resources (personal communication, 2012).
Eel Grass	Unknown	Unknown	No Data Available	
American Eel	Unknown	Unknown	No Data Available	
Rainbow Smelt (Federally Listed Species of Concern)	Unknown	Unknown	No population studies; only presence/absence of spawning sites	Claire Enterline, Maine Department of Marine Resources (personal communication, 2012).
Horseshoe Crab	Unknown	Unknown	No Data Available	
Bald Eagle	B	↑	State-wide management goal (no local goal exists)	Kendall Martin, Maine Department of Inland Fisheries and Wildlife (personal communication, 2012).
Short-nosed Sturgeon (Federally Listed Endangered Species)	Unknown	Unknown	Data Limited	Gayle Zydlewski, School of Marine Sciences, University of Maine and Gail Whipplehauser, Maine Department of Marine Resources (personal communication, 2012).

* Polychlorinated biphenyl, dichlorodiphenyldichloroethylene and dichlorodiphenyltrichloroethane
 ** Phosphorus and Nitrogen



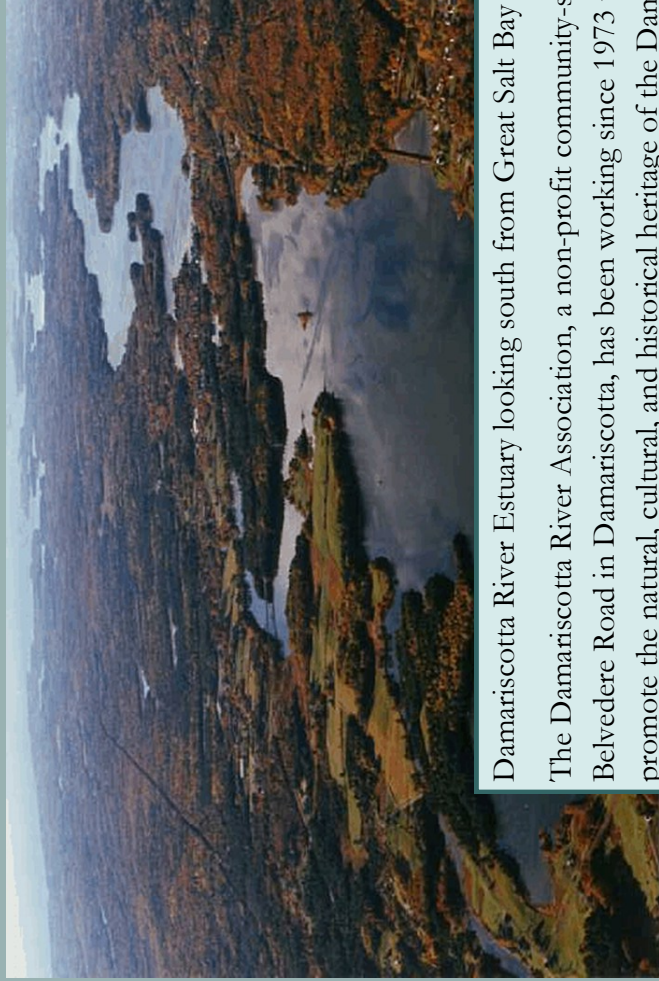
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Damariscotta River Estuary looking south from Great Salt Bay Estuary.

The Damariscotta River Association, a non-profit community-supported land trust located at 110 Belvedere Road in Damariscotta, has been working since 1973 to preserve and promote the natural, cultural, and historical heritage of the Damariscotta River region. Through the organization's programs in land protection, stewardship, water quality monitoring, marine conservation, and education, the DRA works to foster healthy, productive waterways and surrounding lands for the benefit of the natural and human communities that rely on them. For more information about DRA visit www.DamariscottaRiver.org.

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Photographs: Tom Arter, Thomas Arter Productions and Darryn Kaymen