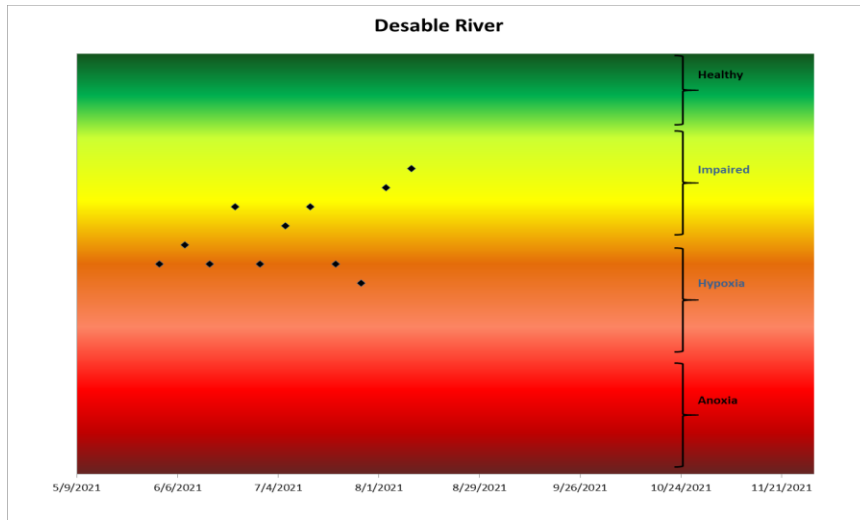


Desable River - 2021.

This chart shows estuary conditions in the Desable River in 2021.



This was the first time an Estuary Watch record was submitted for the Desable River.

Records were kept on a weekly basis between June 1st and August 10th, 2021. During this time, the estuary was either in an impaired or hypoxic state.

The Desable River estuary is not known to experience anoxia. There have however been numerous odor issues reported in the past.

These were related to dead and dying aquatic vegetation. The issue is due to eutrophication and is closely related to the occurrence of hypoxia and anoxia; so, it would not be unexpected to find those conditions present in the estuary. No anoxic conditions were reported to the PEI Department of Environment, Energy and Climate Action in the Desable River estuary in 2021.

The following table is a summary of these Estuary Watch results for 2021:

Period	# Days Recorded	Days Healthy	Days Impaired	Days Hypoxic	Days Anoxic
June 1 - Aug. 10, 2021	11 of 70 days	0	6	5	0
July 1 - Aug. 31, 2021	6 of 62 days	0	4	2	0

Sea lettuce coverage in the Desable River estuary was variable in 2021 but was mostly between 5% and 25%. This sea lettuce had significant (50%) die-off for much of the observation period. Overall, the risk to water quality represented by sea lettuce growth and die-off was low to moderate. Abundant algal growth and die-off can contribute to variable dissolved oxygen levels in water, including periods of hypoxia and anoxia. The reported growth and die-off in the Desable River estuary may have been enough to result in dissolved oxygen issues. Phytoplankton blooms can also contribute to variable dissolved oxygen however the conditions observed here were more consistent (cloudy, discolored water) with hypoxia or anoxia than with a phytoplankton bloom.

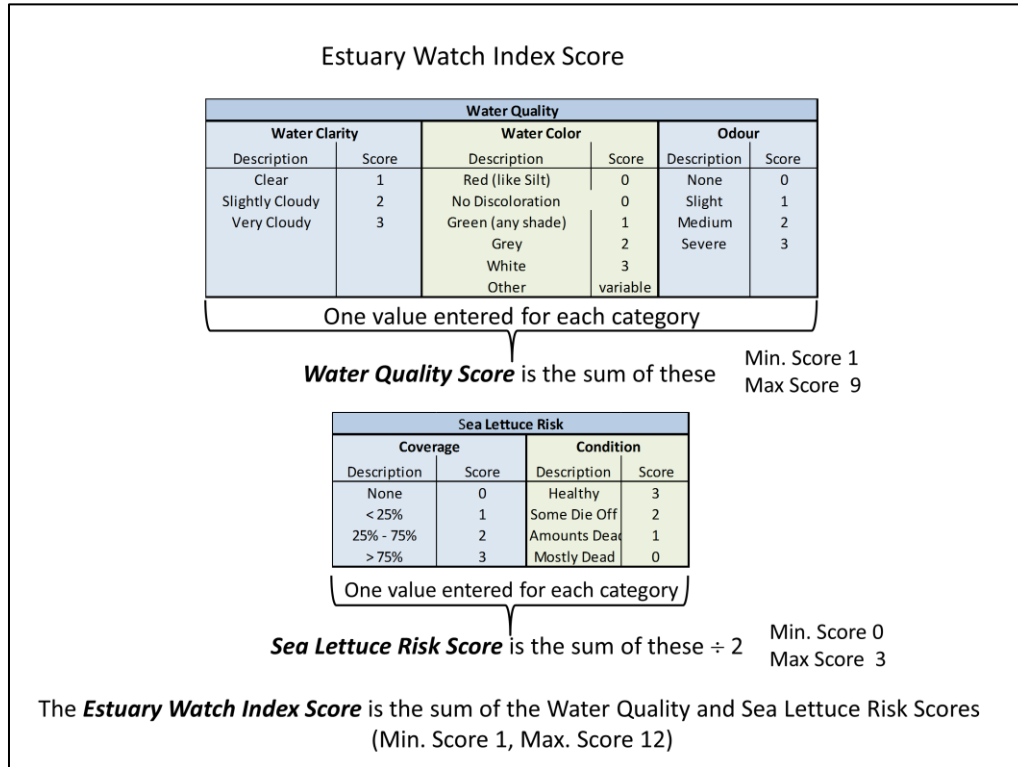
These observations were made by Estuary Watchers with the South Shore Watershed Association. The data was categorized following the Estuary Watch Index developed by the PEI Dept. Environment, Energy and Climate Action. Please see the following pages for the site location, a description of the index calculation, the water quality categories represented by the index and the data collected by the Estuary Watcher. Please contact Cindy Crane at cscrane@gov.pe.ca if you would like more information about Estuary Watch or if you are interested in becoming an Estuary Watch volunteer.

Location of the Desable River Estuary Watch Record



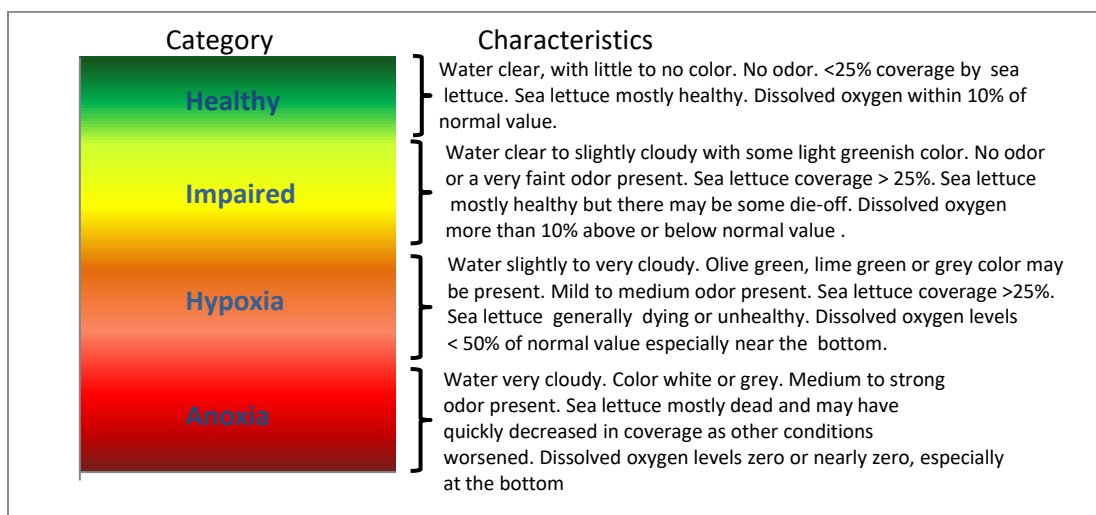
Estuary Watch Index

Estuary Watchers record their daily observations in a log by making a check mark in the most appropriate box for each of 5 types or categories of observations. The check marks for each observation are converted to scores and the **Estuary Watch Index Score** is calculated as shown in the diagram below.



Estuary Condition Categories

The Estuary Watch Index Score corresponds to four Estuary Condition Categories; **Healthy** (score 1-2.5), **Impaired** (score 2.6 – 5.5), **Hypoxia** (score 5.6 -8.5) and **Anoxia** (score 8.6 -12). The diagram below, describes the conditions that are typically observed in each of these four water quality categories.



Data from the 2021 Estuary Watch Record for Desable River

Date mm/dd/yyyy	Time	Weather Optional.	Water Clarity			Color of Water						Sea Lettuce Coverage				Sea Lettuce Condition				H2S Odor				Estuary Watch Score				
			Clear	Slightly Cloudy	Very Cloudy	Red (Like Silt)	No Discoloration	Green	Grey	White (Milky)	Other	< 5% Coverage	5% - <25% Coverage	25% - 75% Coverage	75% - 100% Coverage	Healthy	Some die off	Equal Amt. Healthy & Dead	Mostly dead	No odor	Mild or Faint odor	Medium Odour	Strong odor	Notes	Anoxia Score	Sea Lettuce Score	Score	
6/1/2021	8:49	cloudy		x												x				x						5	1	6
6/8/2021	8:20	sunny		x				x							x					x						4	1.5	5.5
6/15/2021	8:50	rainy		x					x						x					x						5	1	6
6/22/2021	8:26	cloudy, sunny		X				X							X	X				X						4	0.5	4.5
6/29/2021	8:42	CLOUDY		X				X	X						X					X						5	1	6
7/6/2021	9:05	overcast		x					x							x										4	1	5
7/13/2021	12:35	sunny		x			x								x						x					3	1.5	4.5
7/20/2021	15:10	cloudy		x					x			x			x											4	2	6
7/27/2021	8:35	cloudy		x				x	x						x					x						5	1.5	6.5
8/3/2021	11:40	sunny		x				x								x										3	1	4
8/10/2021	12:22	sunny		x				x								x				x						3	0.5	3.5

Red Text = Red text indicates an incomplete Estuary Watch Record. In this case details about odors present are missing. This was likely because no odor was present. If unreported odor was present the Estuary Watch scores for these dates would have been higher.