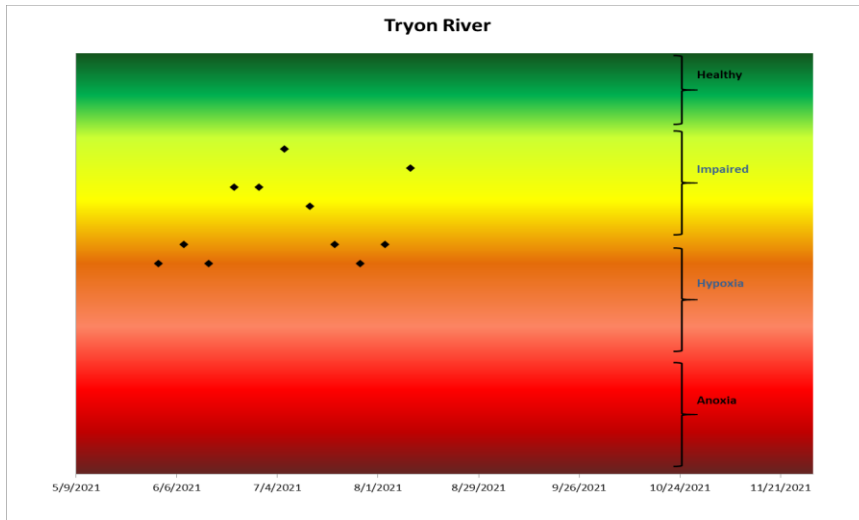


Tryon River - 2021.



This chart shows estuary conditions in Tryon River in 2021.

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

Records were kept on a weekly basis between June 1st and August 10th, 2021. During this time, the upper portion of the estuary was mostly in an impaired with a few days of hypoxia mixed in.

The Tryon River estuary is not known to experience anoxia, however odor issues related to dead and dying aquatic vegetation have been reported in the past. This odor 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 2021 in the Tryon River area.

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	8	3	0
July 1 - Aug. 31, 2021	6 of 62 days	0	5	1	0

Sea lettuce coverage in the upper Tryon River estuary was less than 25% for all observations and was usually < 5%. This lettuce generally had some die-off. Overall, the risk to water quality presented by sea lettuce growth and die-off was low. Abundant algal growth can contribute to variable dissolved oxygen levels in water, with algal die-off leading to low dissolved oxygen levels including periods of hypoxia and anoxia. The reported growth in the Tryon estuary did not seem to be great enough that this could be an issue. Phytoplankton blooms can also contribute to variable dissolved oxygen however the conditions reported here (occasional cloudy, green water) are more consistent with an estuary experiencing hypoxia/anoxia than they are with one experiencing a phytoplankton bloom.

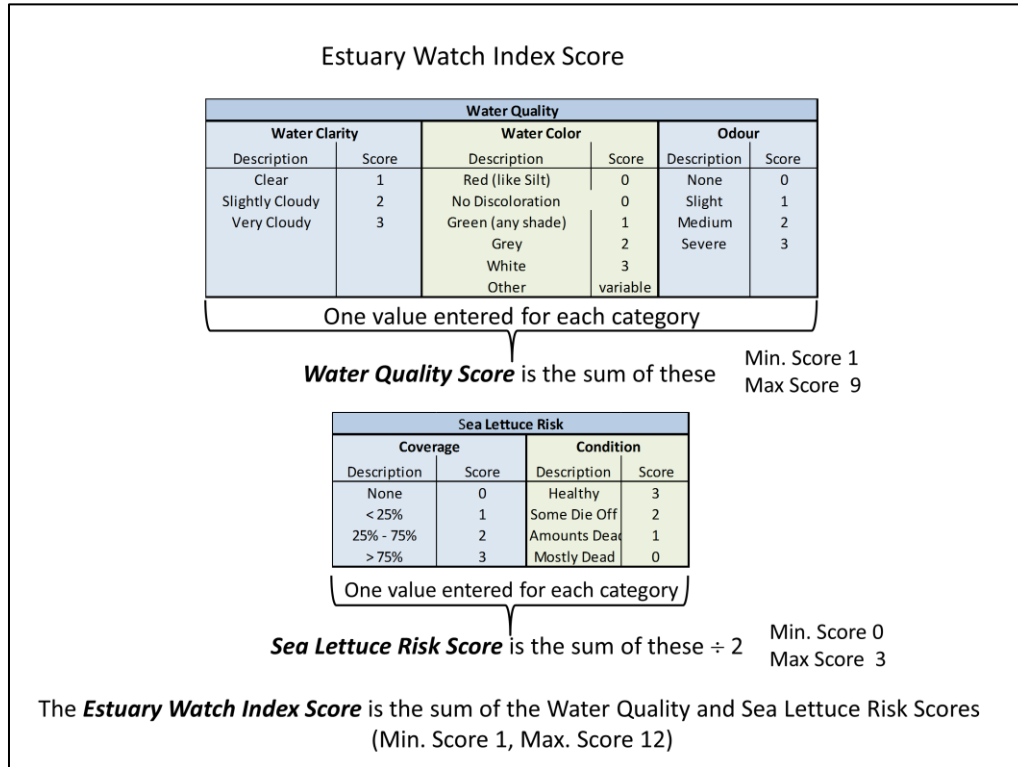
These observations were made by Estuary Watchers with the South Shore Watershed Association. The data was categorized following the Estuary Watch Index developed by the PEI Dept. Environment, Energy and Climate Action. Please see the following pages for the site location, a description of the index calculation, 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 Tryon River Estuary Watch Record



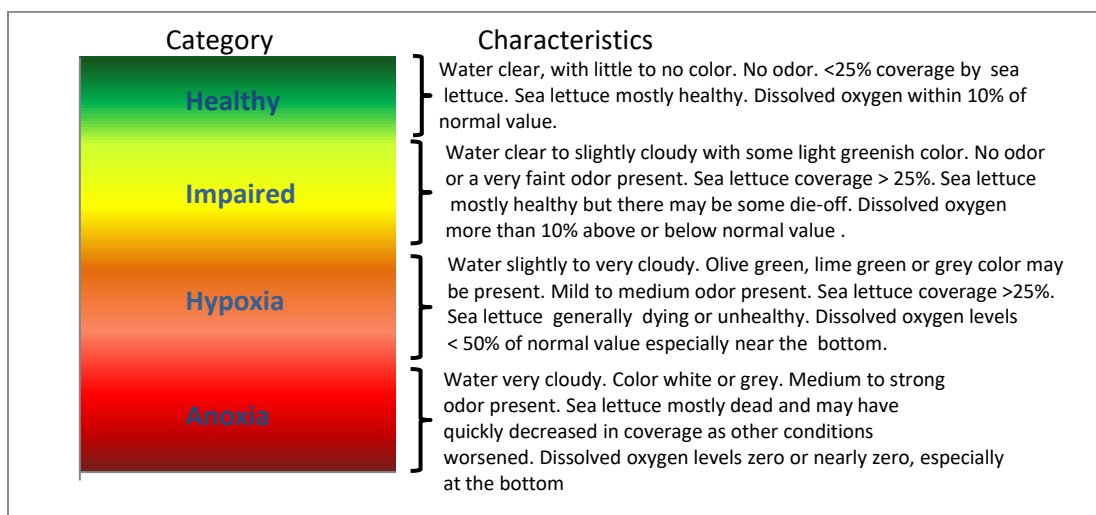
Estuary Watch Index

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 Tryon River

Date	Time	Weather	Water Clarity			Color of Water						Sea Lettuce Coverage				Sea Lettuce Condition				H2S Odor				Estuary Watch Score				
			Optional.	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	10:45	cloudy		x							x					x					x					5	1	6
6/8/2021	10:06	sunny			x			x			x				x				x							4	1.5	5.5
6/15/2021	11:18	rainy			x			x	x		x							x			x					6	0	6
6/22/2021	11:57	RAINY			X	X					X							X			X					4	0	4
6/29/2021	11:59	PARTLY SUNNY			X	X					X				X			X								3	1	4
7/6/2021	14:30	sunny	x			x					x				x						x					2	1	3
7/13/2021	11:31	sunny			x	x					x					x					x					4	0.5	4.5
7/20/2021	10:57	cloudt			x				x			x														5	0.5	5.5
7/27/2021	11:48	cloudy			x				x		x				x				x							5	1	6
8/3/2021	9:43	sunny		x				x				x				x					x					4	1.5	5.5
8/10/2021	14:42	sunny			x	x					x						x									3	0.5	3.5