

## Citizen Science Fact Sheet W-12

# Interpretation Guide for Water Tests



### W-12 Interpretation Guide for Water Tests

	<b>Best</b>	<b>Good</b>	<b>Fair</b>	<b>Poor</b>
	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>Turbidity</b>	Turbidity reading is higher than 60 cm.	Turbidity reading is 30 to 60 cm.	Turbidity reading is 10 to 30 cm.	Turbidity reading is less than 10 cm.
<b>Temperature</b>	Water temperature is below 90°F (32°C), and is even cooler in some locations due to shade from trees and/or grass. The varied habitat and temperature allows for more stream/pond species diversity.	Water temperature is below 90°F (32°C) throughout the water body (pond, lake, stream or river).	Water temperature is above 90°F (32°C) at some sampling locations, but this is due to lack of shade and ambient temperature, not industrial or farm run-off.	Effluent from farm runoff or on-farm industry raises the temperature of the water more than 3°C above ambient, and the water temperature is above 90°F (32°C) in several locations.
<b>Color Rating</b>	Water is basically clear, no distinguishing color.	Slight tint of green, tan, or brown to the water.	There is a murky look to the water, in addition to a dark, distinct color.	Visible oil or other non-natural substance affects water color.
<b>Odor Rating</b>	No detectable odor.	Some odor, but basically natural smell of soil, fish, or leaves.	Strong odor, not completely natural or pleasant.	Strong, unpleasant odor, might be manure, sewage or chemical smell.
<b>pH</b>	The water pH is between 6.5 and 8.5.			The water pH is lower than 6.5 or higher than 8.5.
<b>Nitrate nitrogen</b>	No detectable nitrate N.	Nitrate N detectable, but less than 1 ppm.	Nitrate N between 1 and 10 ppm.	Nitrate N higher than 10 ppm.
<b>Nitrite nitrogen</b>	No nitrite N detected.	Nitrite N detectable, but less than 1 ppm.	Nitrite N between 1 and 2 ppm.	Nitrite N higher than 2 ppm.
<b>Ammonia nitrogen</b>	Ammonia-N level is zero or non-detectable.	Ammonia level is detectable, but below the level in Table 12-1 (chronic toxicity).	Ammonia level between chronic toxicity and acute toxicity (Tables 12-1 and 12-2).	Ammonia-N level is above the acute toxicity level for aquatic life (Table 12-2).
<b>Ortho-phosphate</b>	Zero, or no detectable phosphorus.	Kit reading PO <sub>4</sub> less than 0.3 (Phosphorus levels detectable at the 0.1 level or lower.)	Kit reading PO <sub>4</sub> between 0.3 and 3.0. (Phosphorus levels between 0.1 and 1.0.)	Kit reading PO <sub>4</sub> higher than 3.0. Phosphorus (P) levels higher than 1.0.)
<b><i>E. coli</i> (blue dots)</b>	None detected. (For drinking water, this is the only acceptable level.)	<i>E. coli</i> detected, but less than 2 per plate. (Safe for contact recreation, such as swimming.)	<i>E. coli</i> between 2 and 20 cfu/plate. (Not safe for contact recreation, but acceptable for non-contact recreation, like boating.)	<i>E. coli</i> greater than 20 per plate. (Not considered safe for non-contact recreation.)
<b>Coliform bacteria (pink dots)</b>	None detected. (For drinking water, this is the only acceptable level.)	Less than 20 colonies per plate.	20 to 200 colonies per plate.	200 colonies or more, or too many to count (TMTc).
<b>Triazines</b>	No detectable triazines.			Detectable triazines (higher than 3 ppb).



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## Interpretation – Ammonia Nitrogen (NH<sub>4</sub>-N)

This nutrient form has both acute and chronic toxic affects on aquatic life. To calculate whether the level in the water is toxic at either the acute or chronic level, you must also know the temperature and pH of the water.

**Table 12-1. Chronic Concentration Criterion (Total Ammonia as mg/L or ppm N)**

pH	Temperature (Degrees Celsius)						
	0	5	10	15	20	25	30
6.50	2.20	2.06	1.95	1.90	1.81	1.79	1.27
6.75	2.58	2.41	2.31	2.20	2.13	2.12	1.50
7.00	3.12	2.96	2.77	2.71	2.63	2.59	1.84
7.25	4.27	3.99	3.80	3.62	3.55	3.50	2.48
7.50	3.18	3.00	2.87	2.75	2.69	2.71	1.93
7.75	2.23	2.11	2.01	1.93	1.86	1.90	1.36
8.00	1.46	1.37	1.31	1.27	1.26	1.27	0.92
8.25	0.83	0.78	0.75	0.73	0.73	0.74	0.54
8.50	0.47	0.45	0.43	0.43	0.43	0.45	0.34
8.75	0.27	0.26	0.25	0.25	0.26	0.28	0.22
9.00	0.16	0.15	0.15	0.16	0.17	0.19	0.15

**Table 12-2. Acute Concentration Criterion (Total Ammonia as mg/L or ppm N)**

pH	Temperature (Degrees Celsius)						
	0	5	10	15	20	25	30
6.50	42	39	37	36	34	34	24
6.75	38	36	34	33	32	32	22
7.00	33	32	30	29	28	28	20
7.25	28	26	25	24	23	23	16
7.50	21	19	19	18	18	18	13
7.75	15	14	13	13	12	12	9
8.00	10	9	9	8	8	8	6
8.25	5	5	5	5	5	5	4
8.50	3	3	3	3	3	3	2
8.75	2	2	2	2	2	2	1
9.00	1	1	1	1	1	1	1

*To convert degrees Celsius (°C) to Fahrenheit (°F), use the equation (°C × 9/5) + 32 = °F*

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