Pennsylvania Trout In The Classroom

Chapter 4: Trout Habitat and Needs





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Trout Habitat Needs

Trout need a healthy habitat to survive, which includes cold, clean, oxygenated water, food and shelter.

COLD WATER = temperature 52-56°F		
Why?	Trout need coldwater stream ecosystems that provide cold water (52 to 56 degrees Fahrenheit).	
	Coldwater streams are a result of snow melt, rainfall, springs/groundwater and/or cold feeder	
	streams. Vegetation along the stream bank provides shade, protection and assists in maintaining	
	cool water temperatures.	

CLEAN WATER = no chlorination, no sedimentation, $pH = 7$, low levels of ammonia and nitrites		
Why?	A healthy coldwater stream ecosystem is cleaned by bacteria, scavengers and aquatic plants. It also provides ample amounts of water exchanges through rain, snowmelt and ground water. In addition, a natural stream's carrying capacity for trout is not usually an issue because of flowing water and diverse holding areas for trout.	
	An aquarium is a closed system, with no natural water exchanges and limited space for your trout population; as a result, ammonia, pH, nitrite/nitrate levels and carrying capacity can impact the health of your trout. You need to make sure your aquarium has a proper nitrogen cycle and conduct water changes on a regular basis or as needed when your parameters indicate that you need one.	
	Keep a watchful eye on your aquarium trout population. In a 55 gallon aquarium the number of healthy trout that can be sustained is approximately 80-100 based on your trout size and water quality. If you have more than 120 trout in your aquarium, you may want to schedule an early release. Excess food will increase ammonia levels in your aquarium. Make sure people assisting you.	
	students, or other helpers do not overfeed your trout.	

OXYENATED WATER: High level of dissolved oxygen (DO) (above 7 ppm)		
Why?	A healthy coldwater stream ecosystem is full of dissolved oxygen; 1) there is constant water flow	
	over boulders, stones, wood debris (riffles, runs and pools), and 2) the water is cold – cold water	
	holds more oxygen. Using your airstone and keeping the water at 52-56 degrees Fahrenheit will	
	maintain proper DO levels.	

FOOD: Trout feed upon varieties of the following: macro-invertebrates, crustaceans, terrestrial insect life & other fish (sometimes their own young)
Why? Healthy trout habitats are diverse in their food sources enabling trout to be opportunistic.

SHELTER: gravel, boulders/woody debris, shallow pools, stream bank vegetation			
Why?	Trout need different types of shelter depending on t life cycle stage. The more shelter available		
	and the more diverse it is, the greater potential of a healthy trout population. Clean gravel and		
	shallow pools/riffles provide nesting opportunities for spawning trout and nurseries for young		
	trout. Boulders, woody debris and stream bank vegetation provide areas for trout food sources and		
	refuge for adult trout.		