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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  Nitrates High levels of Nitrates (NO3) in water can promote algae blooms and effect turbidity as well as dissolved oxygen levels. Fertilizers carried to the creek by runoff can raise Nitrate levels. Nitrites (NO2), a product of decomposition, can easily be converted into nitrates and raise levels in the water as well. Algae blooms will decrease light penetration (increase turbidity) and prevent bottom dwelling producers from receiving sufficient supplies of energy. Algae grows much faster than it can be consumed by herbivores. A significant amount of dead algae begins to accumulate on the creek bottom leading to substantial decomposition and compounding the nitrate problem. In addition, decomposition will lead to a dramatic decline in DO levels near the bottom making it impossible for those sensitive to poor water quality to maintain their presence. An optimum range of nitrates needs to be maintained to insure adequate supply for producers without triggering rapid algae growth and the subsequent problems described above. Nitrate levels exceeding .8ppm are likely to cause detrimental algae blooms. We witness algae blooms whenever water flow is limited and temperatures rise, in other word almost every summer. We have only witnessed nitrate levels higher than .8ppm on two occasions. It appears that the flow of water may be the biggest contributing factor to algae blooms and a decline in diversity of organisms during summer months.  We measure nitrate levels in one of two ways. The LaMotte Chemette Nitrate test kit (shown above) until the Fall of 2007 when we then started using [Vernier LabPro](http://www.vernier.com/) equipped with a [nitrate sensitive probe](http://www2.vernier.com/booklets/ise.pdf) (below left) which is connected to a laptop running [Logger Pro Software](http://www.vernier.com/soft/). Both methods of collection are very easy to use and provide accurate enough readings for establishing a baseline needed for comparison purposes.  Nitrate levels in the study area have for the most part remained rather consistent.Levels greater than .2ppm have only been observed on two occasions.The third week in [October 1996](http://docs.google.com/about/chronicles/news/solvent.html) Nitrate levels approached 1ppm at site 6 & 7. This was a direct consequence of the discharge of herbicides into storm drains that led to an extensive fish kill and death of plants and algae. A combination of decomposition and no plants to absorb nitrates led to its dramatic rise in concentration.   |  |  | | --- | --- | |  |  |  |  | | --- | | Copyright © 2008 Amador Valley High. All Rights Reserved. Reproduction in whole or in part in any form or medium without express written permission of Amador Valley is prohibited. | |