What are some solutions to improving the water quality in Pow Wow Pond?

The Big Picture

Based on the current amount of vegetation in Pow Wow Pond, the potential decline of the pond ecosystem due to that vegetation, the result that this is having on recreation activities, and the other human health issues that may be present due to a variety of nonpoint source pollutants, it seems critical that something be done to clean up the pond.

While the task of improving the water quality in Pow Wow Pond may seem too large for just one person, the sophomore class of Sanborn Regional High School was able to implement several solutions around the pond in only one day (June 2013). This means that if the community works together it will be possible to return the water body back to a healthy state. If each person is more conscious about the effects of their actions and shares their ideas with others there is even a possibility that the whole watershed can be improved.



Reducing Nonpoint Source Pollution

The first and easiest solution is to reduce your household's nonpoint source pollution. Make a habit of picking up pet waste and disposing of it properly. Be sure to contain all carrelated contaminants such as oil and gas, and if you choose to wash your car or anything else on your property be sure to select eco-friendly soaps that do not contain high amounts of phosphate. Carefully read the fertilizer bag before applying any to lawns or gardens, and watch the weather so as not to put any down directly before a large rain storm. Finally make sure to keep your septic system up to code and properly maintained.





POSSIBLE SOLUTIONS:

- Educating the community
- Reducing nonpoint source pollution
- Increasing pervious ground cover
- Planting vegetation buffers
- Installing rain gardens

Slow it down, Spread it out.

The remaining solutions all provide ways in which stormwater from a large rain event can be slowed down and spread out in order for soil and plants to filter the water and remove pollutants before they enter the pond.

Increasing Pervious Ground Cover



Pervious surface is any area through which water can infiltrate, such as soil and gravel. Impervious surfaces do not soak in water, but rather cause the water to runoff, such as pavement, concrete and rooftops. Any ways in which impervious surface can be reduced will also reduce the flow of water directly into the pond. Infiltration ditches, such as the one on the left can be placed along the edge of a driveway,

while infiltration (gravel) stairs are a better option than concrete ones. Holey concrete and porous pavement are also good, but more technical solutions.



Planting Vegetation Buffers



Buffers are planted near the edge of the water body because their roots help to prevent soil erosion, take up water and nutrients and filter pollutants. Many types of plants can be used as vegetation buffers, although it is best to use a combination of trees, shrubs and groundcover.

Installing Rain Gardens

A rain garden is designed as a shallow depression to collect water that runs off from your roof, driveway and other impervious surfaces, preventing it from reaching the pond (or other water body). Gardens are typically installed to catch specific water such as that coming from a roof downspout during a storm. The soil, mulch, and plants are chosen specifically to withstand large amounts of water, absorbing it slowly while filtering out pollutants. The plants also take up the excess nutrients that may be running off the lawn and would lead to excess plant growth in the pond.



References

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