How to Remove Turbidity

Three Methods: Pools Aquariums[2] Ponds[4]

Water that is especially cloudy or turbid can be unhealthy, regardless of whether that water is in a pool, aquarium, or pond. Different problems can cause high turbidity, but after enough trial and error, you can usually remove most or all of the cloudiness.

Method 1 Pools[1]

1 **Remove organic debris.** Use a pool net to fish out any large, visible debris in the water. Organic debris commonly includes leaves, branches, and dead insects.

- Organic debris can decay and add sediment to the water. The dirt on the debris can also cause cloudiness.

2 **Run the filter.** Keep the pool filter running 24 hours a day, seven days a week until the water is clear again.

- If the pressure gauge is 8 to 10 lbs (3.6 to 4.5 kg) higher than it is at the pool's clean starting pressure, you should backwash or clean the filter.
- As long as the pressure has not reached these levels, though, you should let the filter remain dirty. Some dirt and debris in a filter can actually be helpful since it can make it easier for the filter to trap small particles.

3 **Test the pool water.** Determine the pool water's pH, chlorine composition, and cyanuric acid levels. After testing it, you can make any necessary adjustments to correct off levels.

- A home testing kit is usually sufficient.
- If you do not have a home testing kit or if you suspect that the results might be inaccurate, take a sample of the water to a local pool store for professional testing.
- Chlorine levels should be between 1.0 and 3.0 ppm, and pH levels should be between 7.2 and 7.4. Cyanuric acid levels should be at about 40 ppm.
- Also pay attention to the levels of calcium hardness and total alkalinity.

4 **Shock the water with chlorine.** If the amount of chlorine in your pool is remarkably low, you can shock the water by adding 3 lbs (1.35 kg) of granular chlorine per 10,000 gallons (2500 L) of water.

- Low chlorine levels are among the most common causes of turbidity in pool water. The sunlight can damage chlorine and make it less effective. When this happens, bacteria can build up in the water, causing it to become cloudy.
- If you tested the water and the chlorine levels are only slightly lower than usual, you can correct them by adding the amount of chlorine called for on the label instructions. Shocking the water is only necessary when the chlorine is abnormally and severely low.

5 **Dilute the water.** If you have a high level of cyanuric acid in the water, shocking it with chlorine may not be enough. Lower the cyanuric acid levels by draining 20 percent of the water and refilling the pool with fresh water.

- Too little cyanuric acid can make it easier for the sun to break down the chlorine in your pool, creating water that is less resistant to dirt and bacteria. As such, you should only dilute the pool water if your cyanuric acid levels are at 100 ppm or above.

6 **Use a pool clarifier.** When all else fails, you can try correcting the cloudiness by adding a "pool clarifier" chemical. Dosage of these chemicals vary by manufacturer, so check the label for instructions before proceeding.

- Clarifier chemicals bind and coagulate small particles, making it easier for filters to trap them.

7 **Address possible filter problems.** If none of these solutions fix the turbidity, there might be a problem with your filter. Diagnose and correct this problem before trying again.

- Make sure that your filter is not undersized for your pool.
- Verify that the filter media is still active and not in need of replacement.
- Check the pressure. Abnormally low pressure could indicate a clog or blockage in the filter. It could also indicate a damaged backwash valve.
- If you have a DE filter, disassemble it and clean the entire thing thoroughly. Look for tears or other damage as you clean it.

Method 2 Aquariums[2][3]

1 **Change some of the water.** Until the water clears, change up to 20 percent of it on a daily basis. Remove some of the dirty water and immediately replace it with fresh water.

- Do not change more than 20 percent of the water in one day. Changing more can shock you fish and cause them to become ill or die.
- Changing out some of the water removes at least some of the waste. The bacteria thriving in your water then begin to starve, thereby creating cleaner water.
- After the water clears, you only need to change water once every two weeks or so.

2 **Reduce the amount of food.** If your fish do not regularly eat all of the food you put in the tank, reduce the amount of food by 5 to 10 percent.

- When fish food breaks down, its particles can make the water dirty. The decayed food can also breed bacteria.
- Check on the aquarium 10 minutes or so after you feed your fish. If the fish have stopped eating at that point, use a net to remove any uneaten food.

3 **Add aquarium chemicals.** Too many chemicals can hurt your fish, but regular doses of aquarium salt, water conditioner, or quick cure can help clear your water. These chemicals are formulated to clear debris and correct bacteria levels.

- Follow the dosage on your box of aquarium salt and apply the salt once.
- Follow the dosage on the bottle of conditioner and apply it each day until te water clears.
- Use half a dose of quick cure each day until the water clears.
- Only use one of these chemicals at a time. Mixing chemicals can hurt the ecosystem of your aquarium.

4 **Mix in some gravel.** Sprinkle a handful of gravel from an established aquarium into your tank. Wait roughly 24 to 48 hours and note the results.

- Established gravel has beneficial bacteria on it. Unlike the harmful bacteria living in your tank, this bacteria can digest waste and balance out its harmful cousins.
- Beneficial bacteria also helps to establish a bacteria colony in your filter. When a colony grows in your filter, it attracts and draws bacteria out of the tank itself, clearing up the water.
- The gravel must come from an established tank with health fish. You can usually purchase some from a store that sells fish if you do not know anyone who can give you some for free.

5 **Check the filter.** The aquarium must have a power filter, and that filter must be clean and working properly.

- Feel the outside of the filter. If it seems abnormally warm, it might be clogged or damaged.
- Check the instructions for your particular filter model to determine the proper way to clean it.

Method 3 Ponds[4][5]

1. **Add cured hay.** Spread two square bales of hay per surface acre every two weeks throughout the spring and supper. Do not apply more than four times per year.
   - Cured hay can be used to remove clay turbidity.
   - For best results, use alfalfa, red clover, bermuda, or other legume hay.
   - Pull apart the bales of hay and evenly scatter the pieces in the shallow water around the edge of the pond.
   - As the hay decomposes, it produces organic acids and positive ions that can neutralize the negative clay ions.
   - Hay stimulates helpful bacteria growth. Do not apply the hay too often, however, since it can deplete the oxygen in the water and kill some of the fish living there. For that reason, it is also best to use hay in ponds that have low levels of natural organic materials.

2. **Use gypsum.** Apply 500 lb (225 kg) per acre foot of water. If this initial dose does not clear the water within four weeks, apply a second dose of 125 lb (56.25 kg) per acre foot.
   - Gypsum is also used to clear clay turbidity. It attracts clay particles, binding them and preventing them from settling.
   - Use a small shovel to evenly spread the gypsum over the pond.
   - Gypsum is chemically known as calcium sulfate. As a calcium compound, this treatment is generally not effective if you have hard water, which already contains large amounts of calcium.

3. **Keep livestock animals out.** Grazing livestock can easily cause turbidity, but you can solve the problem by building a fence around the pond to keep the animals out.
   - When livestock approaches the pond, debris from the shoreline can get into the water and cause cloudiness.
   - If you need the livestock to be able to drink to water, you should siphon the water into a separate tank. You could also fence off all but a small corner of the pond, which should limit the access and debris getting stirred to one spot while still allowing the animals access to the water source.

4. **Balance the pond ecosystem.** Bottom feeding aquatic animals and marine life that burrows into the sediment can stir debris and cause excessively cloudy water when left unchecked.
   - Possible sources of trouble include crayfish, aquatic insects, common carp, an bullhead catfish.
   - You can control crayfish and insects by introducing predator species to the water. Some options include the largemouth bass and channel catfish.
   - Large numbers of catfish or other bottom feeding fish can be controlled by fishing some out with dough balls or other baits. You can also control populations of catfish by introducing competing fish species, like largemouth bass and bluegill.

5. **Protect the pond from run-off.** Wind, waves, soil erosion, and watershed sources can all cause debris run-off in your pond, and that run-off will create turbid water.
   - To minimize watershed run-off, keep a vegetated ground cover around the perimeter of the pond, extending at least 100 feet (30.5 m) around. Sod grass is usually a good choice.
   - Reduce wind run-off by spreading crushed rock along the shorelines receiving the largest, strongest gusts of wind.
   - You can also plant trees or shrubs around the pond to block the wind, concentrating on the upwind side of the pond. Plant aquatic vegetation on the downwind side to reduce wave erosion.
   - Never plant trees on a dam, however, since the roots can damage the structure.
   - If there is a stream leading into the pond, install sediment traps further upstream to catch additional run-off.

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Things You'll Need

Pools

- [ ] Pool net
- [ ] Pool filter
- [ ] Water testing kit
- [ ] Granular chlorine
- [ ] Clean water
- [ ] Chemical clarifier

Aquariums

- [ ] Clean water
- [ ] Aquarium tank net
- [ ] Established gravel
- [ ] Filter
- [ ] Aquarium salt
- [ ] Water conditioner
- [ ] Quick cure aquarium chemical

Ponds

- [ ] Cured hay
- [ ] Gypsum
- [ ] Shovel
- [ ] Fence
- [ ] Ground vegetation (sod grass, etc.)

- [ ] Trees or shrubs
- [ ] Crushed rock

Sources and Citations

1. http://blog.poolcenter.com/article.aspx?articleid=6213
2. http://www.aquariumfish.net/information/cloudy_water.htm
3. http://www.oscarfishlover.com/cloudy-aquarium-water

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