

How to keep yourself, others, and everything in between safe in the St. Louis River.
By Raven Wagner for the Annual Captain Ray Skelton Writing Contest
From Leigh Jackson's 6th Grade class
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Hello. I'm a homosapien named Raven Wagner. And I'm here to talk about water. Or, more specifically, things that heavily relate to water. I come from a huge fishing family, though I've only gone fishing once. My grandparents own Russ Kendall's Smoked Fish, and water is pretty important to us because of that fact, so I'm here to talk about how you can be safe in the water and how to keep it clean so that you and other people can enjoy it too. First off, the definition of buoyancy. Ahem... "The ability to float on water, air, or any other fluid." Or cheerfulness, but the second definition doesn't matter.

Buoyancy is caused by the difference in density between the fluid and the thing that's floating, or sinking, in the water. If it has lower density, it floats. If it has higher density, it sinks. You might wonder why I informed you the definition of buoyancy. Well, because I'm about to talk about life jackets, of course!

Did you know that around 10 people drown every day? Most of them weren't donning a life jacket, or, if you're one to talk fancy, PFD. (Personal floatation device) 88%, to be exact. Pennywise was wrong. You won't, as a matter of fact, float too. You have much more density compared to water than a life jacket. If you don't wear one, you'll be one of the 10. And none of us want that to happen.

But, depending on what you're doing, you can't just wear any old life jacket, no. You might need a small, nimble one, that can turn big and mighty just by having a tab pulled. Or, you might just need a boring basic one. All life jackets have a different trait. It could be density, mobility, or how much they stay on you, but they're all used for different activities and purposes.

So. What can you take from this? Wear your life jacket. The first and only time I went fishing a few years ago, I'm glad I wore a life jacket. Mostly because I didn't know how to swim, but even if you do know how to swim, you still have a risk of drowning. I don't personally do much stuff related to water anymore, but my family does, and if you do, putting on a life jacket is as easy as tying your shoes. Which I don't know how to do... Anyways, next topic. Poowater.

Maybe I should rephrase that. Wastewater. Wastewater is what goes down the drain and needs to be cleaned. Toilet water, for example. But it's not just that. There's also shower water, sink water and laundry water, just to name a few. You may wonder why I am making your lip curl and your eye twitch by talking about these gross, disgusting topics, but I'm doing it to tell you how to clean it. Or, how you **can** clean it.

You see, I'm here to talk about WLSSD. If we didn't have them, the St. Louis River would look sludgy and contaminated, filled with disgusting wastewater of all types.

It did look like this, actually. From 1930-1970, you would never, ever be allowed to swim, or do anything really, in the river. But it all changed when the WLSSD was formed. They're like superheroes. They cleaned up what was currently in the river, and planned to not let anything dirty into it again. And this is how they do that today. The water goes through some pipes, then goes through bigger pipes, before it gets to WLSSD. When it gets to WLSSD, the stuff in the water gets stuck to the bars, usually stuff that can't be eaten by bacteria, but I'll get to that later, then they scrape the stuff off the bars, wash it, put it into a compactor, compact it, then throw it all in the trash. Then, what's left after that, is an unassuming liquid called influent.

Seriously, these things are wolves in sheep's clothing. They may seem harmless on the outside, but if they get into the river, it can cause an economic collapse. How? It kills all the fish with what's inside, like your breakfast, for example. So, to fix this, they send in the real heroes of this story. Bacteria.

Inside a tube and in large numbers, they look like thick, black sludge. But Batman has a black suit! They get put into the influent and have a field day. An all you can eat buffet of poo. Then, after about an hour of chowing down, making the influent clean and turning it to effluent which is safe for the river, they get sent to a clarifier, the big silver domes. Then, they take the bacteria out of the tank, then send them to a new process, anaerobic digestion. The bacteria get eaten by other bacteria, (Rest in peace), which then make biosolids, which is very similar to dirt, which can then be used as fertilizer. The bigger bacteria that eats the smaller bacteria is called an aspidisca, or a scrubbing bubble.

So now we know how the St. Louis River has gone from a disgusting, waste filled graveyard, to a clean, nice river you can do anything you'd like in, and how it stays like that. If the river was like it was before, you would never be able to fish in it, can you imagine? My family definitely would not have been as successful as they are today. But there's still a problem that hasn't been solved yet. Invasive species.

You've probably heard about them. And they're just as bad as everyone makes them out to be. There are 2 different types of invasive species, land and aquatic, but since this is all about keeping the lake safe, I'm obviously going to be covering aquatic invasive species, or AIS. You probably already know what makes up an invasive species, but I'll tell you anyway.

The first reason an invasive species is an invasive species is in the name. It's not supposed to be there. It's invasive. The second reason is that it damages the place it's in, may it be by killing all of the food of a native, polluting the waters, or damaging human health. The third reason is that it spreads quickly, reproducing at accelerated rates. We are battling more than 30 species of invasives in the St. Louis River alone, and why? Ships, mostly. Invasives can be attached or inside of these boats, and they

can fall out and get into our waters, adding a new AIS to the list. Or, some not-so-smart human being might purposely release them into the water. It's all the same, really. Something happens, they get into the water, they reproduce, thousands of them appear in a flash second. But what can you do to reduce the spread of these invasives?

Stop releasing them. There's not much you can do to kill them all, so why not just not add more? Don't release your pets. Don't release your plants. They will either die or become invasive. It's not respectful at all. To anybody. Do anything **other** than release them into the wild. Everybody will be much safer. And try to stop other people from doing that too, please. And remember, don't neglect your pets. Just had to add that in there. Oh, another unsolved problem has just popped up in my mind. Plastic. About just as bad, if not worse than Aquatic Invasive Species.

You might not worry too much about plastic. It may be useful sometimes, but ends animal lives, and reduces humans. It's worse than you think. Many fish have a bunch of plastic in their stomachs from eating so much of it in the water everyday. And it never fully breaks down. You might wonder, "That's not possible, it has to decompose at some point!" Well, no, it doesn't. It breaks down into littler and littler pieces, but never goes away. There's so much everywhere, you're even breathing plastic right now.

Did you know that you eat about a credit card every week? That's because of all the plastic that you're inhaling, which is very unhealthy. And plastic can get stuck on aquatic animals, suffocating them, making less animals, which make fishermen and fisherwomen gain less money, causing economic problems. Do you see how plastic is bad now?

So what can you do to reduce the amount of plastic in the air and in your waters? It's kind of like AIS. You can't really stop it, but you can reduce it. Don't use as much plastic, especially single use plastic, and especially don't litter it or throw it in the trash. Recycle it. It's the best you can do.

I hope you learned something important from my cautionary essay. If you don't keep your waters safe and clean, so many people won't be able to have fun, and they might lose their jobs. If my family can't fish, I can't even imagine what we'll do. We'll lose our business, and much of our money. And nobody will be able to eat our delicious fish from there either. I hope you understand how important it is for the River to **not** be like it was 50 years ago. Bye!