

Christian Environmental Stewardship & The Plastic Problem

Paul Steen's
explorations of
being a Christian
in a world of
plastic

Aspects of this presentation
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Who am I?



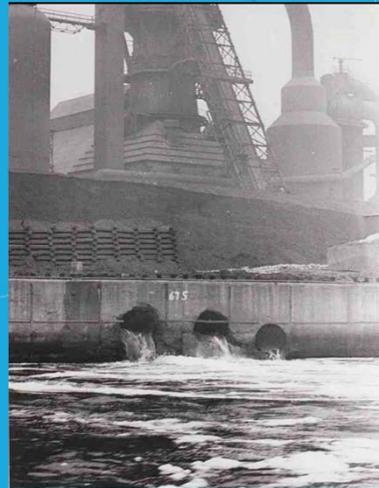
A deep question? Who am I. Well you might know me best by my famous children, prominently displayed on the Ann Arbor Christian website.

I am a 41 year old man. I am a husband and a father. I am the son of CRC preacher. I am a Christian who grow up in both the CRC church and a more mainstream evangelic elementary and high school school. And about half of my waking hours during the week I spend working for the Huron River Watershed Council, an Ann Arbor based non profit that focuses on keeping the rivers and streams of our section of Michigan healthy and vibrant. I am an environmentalist.

I wanted to prepare and present on the topic of being a Christian and being an environmentalist because it is a very personal thing to me. So many Christians are do not care about the natural world, and this makes me sad. Because it makes me sad, I have put a lot of thought into why this is. Why do some Christians feel that caring for Creation is important; and others feel the exact opposite? We are going to take short look at this issue, then after I hopefully can successfully appeal to you that caring for Creation is Biblical, I'm going to talk a bit about how we can live into that in a practical way and discuss our problem of plastic.

Historical Roots of Environmentalism in the US

- Silent Spring (1962), Rachel Carson
- Clear Air Act (1963)
- The Tragedy of the Commons (1968), Garrett Hardin
- Cuyahoga River Fire (1969)
- Formation of the US EPA (1970)
- Clean Water Act (1972)
- The Endangered Species Act (1973)



Silent Spring— pesticides decimating bird populations; leading to the ban of DDT in 1972

Tragedy of the Commons— everyone has a tendency to take more than their share of shared and unregulated resources like fish stocks, grasslands, open spaces, resulting in overexploitation. This is a real problem in fisheries in particular because it is so hard to know how much is out there; fisheries have been long overharvested and have collapsed throughout the world at this point.

The idea here is to show that environmental awareness was built in the public and governmental sphere through the 1960s and 1970s, and in the context of this cultural shift, this white article comes out.

Christianity blamed for the modern environmental crisis.

White, Lynn Jr. 1967. The Historical Roots of Our Ecological Crisis. Science 155, no 3767: 1203-1207.

- Author blames the Judeo-Christian tradition for using the Genesis 1:28 dominion mandate as a license to abuse creation:
- God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground." Genesis 1:28



White as a historian, basically makes the case that the technologies of Western Civilization and the Industrial Revolution the tool that allows humanity to disrupt the environment, but the philosophy behind that is of dominion, of humans trying to tame the wilderness and wrest it under control. The word rule here is very strong, even in the Hebrew, but we do run into the problem that this is one verse and has been used to justify all sort of the behavior, when the rest of the Bible has a different tone to it, and one of the things I want to do today is show you some of those other pieces.

White, Lynn Jr. 1967. The Historical Roots of Our Ecological Crisis. Science 155, no 3767: 1203-1207.

“Especially in its Western form, Christianity is the most anthropocentric religion the world has seen.”

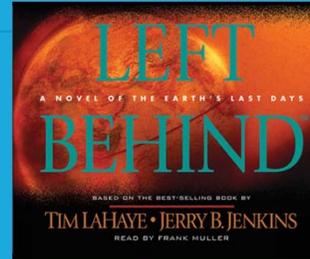
“Our science and technology have grown out of Christian attitudes toward man's relation to nature which are almost universally held by Christians.”



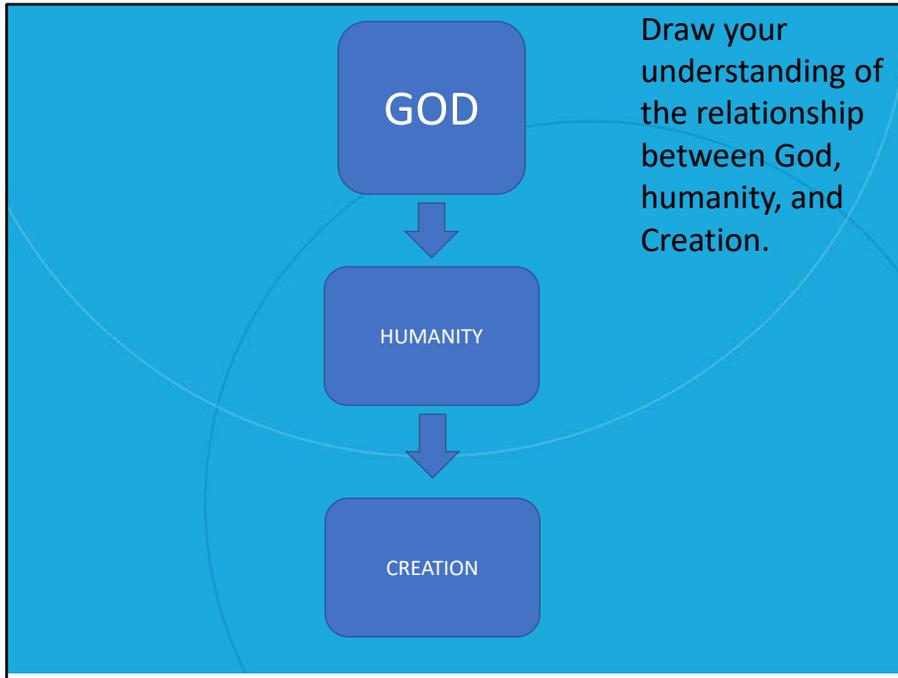
While his argument is distasteful to me; I can't deny often seeing an anti-nature bent to some of the mainstream protestant churches today... But in my opinion, and in the opinion of more esteemed people than me who I will mention in just a bit, it isn't Christianity itself that is the problem; it isn't the actual Biblical teachings that are the problem, but rather Christendom, the culture formed around Christianity that is as often misguided as it is guided.

- **Christians can often have an anti-environmental bent.**

- Caring for Creation is secondary to leading others to belief in Christ; we shouldn't be wasting our time.
- Environmental problems are just a political agenda to put Democrats in power.
- Premillennial eschatology; this world is not our home; Jesus will come back and take us away before things get too bad; let the world burn as it will more quickly usher in the return of Christ;



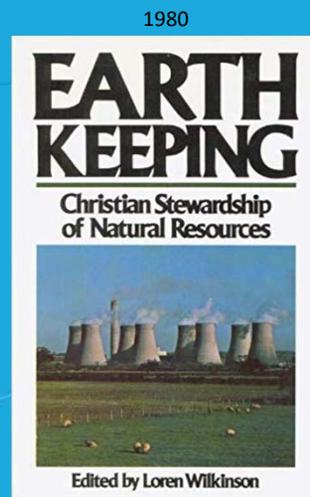
Reminder on premillennialism: Believers are raptured into heaven, followed by a time of the Great Tribulation in which the world essentially becomes dominated by evil.



My research experience in college-- Grand rapids theological seminary at cornerstone university.

Reformed Scholars!

- White's Science article & rise of environmental awareness brings a rebuttal from Reformed Scholars.
- Rise of the Christian Environmental Stewardship concept in the 1980s and 1990.
- Two important words: Stewardship; Earthkeeping
 - "The Lord God took the man and settled him in the garden of Eden to cultivate and take care of it." **Genesis 2:15**
 - Earthkeeping Principle: As the Creator keeps and sustains us, so must we keep and sustain the Creator's creation.



Calvin Center for Christian
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Reformed Scholars swooping in for the rescue! Prompted by White's article, there was a need to propose a different Christian perspective. A perspective based on a more holistic view of the Bible and not on the Genesis 1:28 verse. There is a need to temper the Genesis dominion mandate with the other pieces of the Bible.

A Reformed perspective

- Creation has fallen; creation has been redeemed through Jesus's work.
- Eschatology; this world is our home now and in the future; this world has already been saved; we are waiting for the final fulfillment of Christ's promises when God will make his dwelling on the Earth; the gap between heaven and earth will be no more.



This world was made to be our home. There isn't some far off heaven that is our real home. This is our home now and forever and what we do here matters. We will not sit back and watch it burn.

And these points are some of the reasons I love the CRC so much and I will never leave this denomination for another one. These concepts were preached to me by my father in the 1990s and our pastors here do the same.

Our World Belongs to God

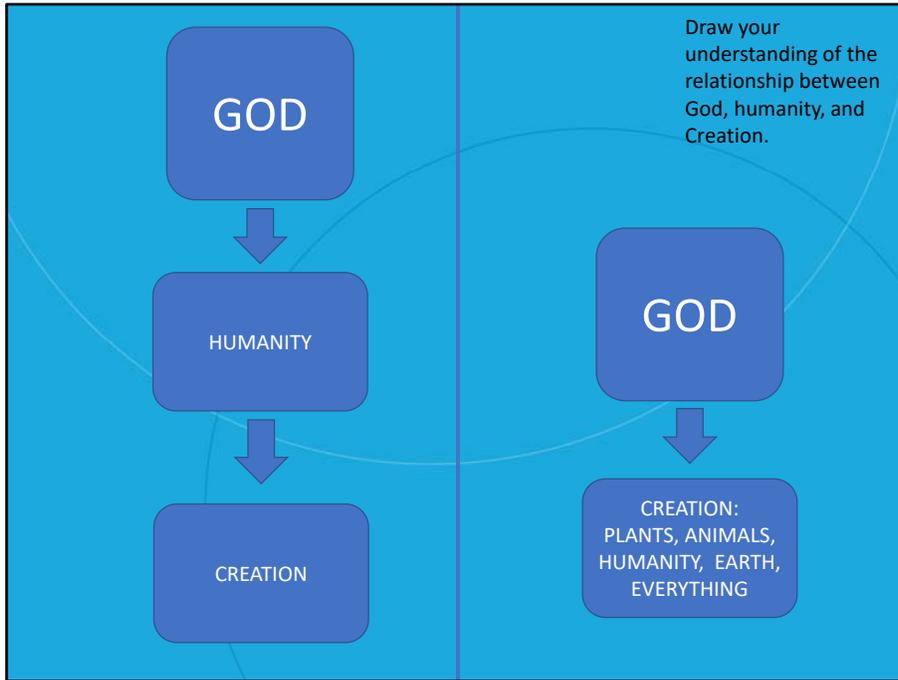
10. Made in God's image
to live in loving communion with our
Maker,

we are appointed **earthkeepers** and
caretakers to tend the earth, enjoy it,
and love our neighbors.

God uses our skills for the unfolding and
well-being of his world so that creation
and all who live in it may flourish.

This second edition of Our World Belongs to God was approved by Synod 2008 of the Christian Reformed Church in North America. (The first edition was adopted by Synod 1986.) While not having confessional status, it is meant to give a hymn-like expression of our faith within the heritage of the Reformed confessions, especially addressing issues that confront the church today.

Contemporary Testimony.



My research experience in college... Calvin Seminary students

Other traditions

- “If you have men who will exclude any of God's creatures from the shelter of compassion and pity, you will have men who will deal likewise with their fellow men.” **St. Francis of Assisi**
- “Care of water resources and attention to climate change are matters of grave importance for the entire human family.” **Pope Benedict XVI, St Peter's Square, September 5, 2007.**
- “If you were a fish, you wouldn't want somebody dumping garbage into your home. Every fish is fancy in one way or another. There is something fancy about every creature in the world. Each person, each fish, each animal, each bird, each living creature.” **Mr. Rogers**

Reformed Christians are not the only ones thinking this. (technically Mr Rogers is Presbyterian which is in the reformed tradition)

Assisi: loose interpretation: how you treat Creation is a reflection of one's heart

Reformed Scholars!

Calvin DeWitt. 1995. Ecology and ethics: relation of religious belief to ecological practice in the Biblical tradition. *Biodiversity and Conservation* 4, 838-848.

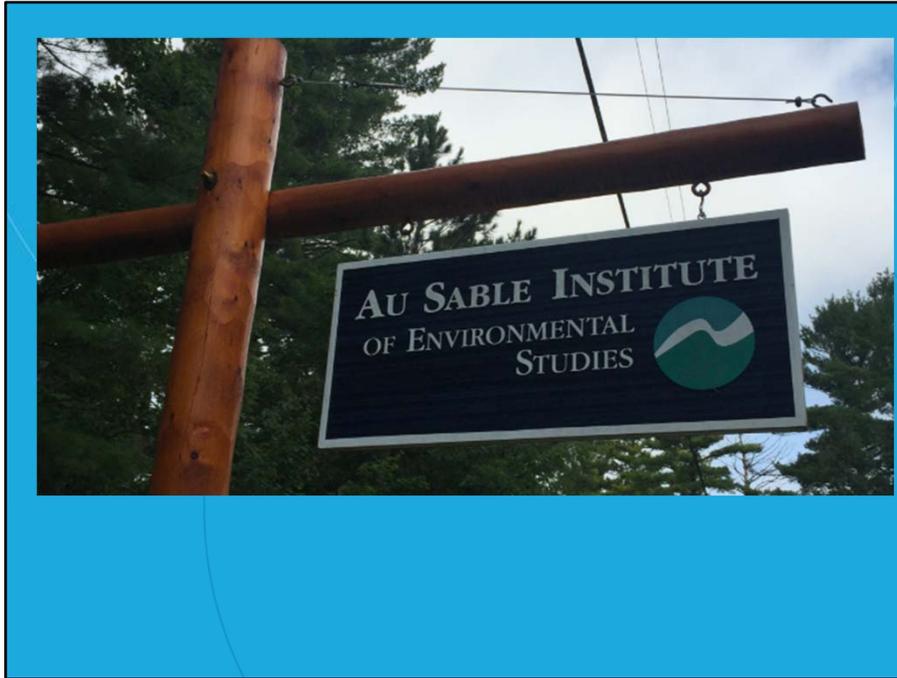
1. **Sabbath Principle:** Sabbath is not just for humans, but all of Creation. Rest is needed for rejuvenation, restoration... applies to humans, creatures, and the land.
2. **Fruitfulness Principle:** We should enjoy, but not destroy, Creation's fruitfulness. "Be fruitful and increase in number and fill the water in the seas and let the birds increase on the earth." Genesis 1:22



Drop me an email and I will send you a digital version of this– it is really good in giving a LOT of Biblical examples.

The Sabbath principle is about knowing our limits. The Bible provides this guidance; paraphrased: You may go 6/7 of the way to the limit and no further and "If you find it necessary to press yourself, your family, your employees, or your animals to work more than six days in seven then you are in danger of transgressing the limits." Also, if you find it necessary to stop giving the land time for regeneration by not letting it rest on year in seven, you also are approaching the limits. If we live according to this Sabbath principle it provides us buffers that help us stop short on confronting head on the crises of species extinctions, starvation, environmental genocide, and the generation of environmental refugees. In the 7th year the land is to have a sabbath rest, a sabbath to the Lord; failure to keep these and other ordinances will result in being driven off the land, and nothing that once cleared of its disobedient people that the land will rest and enjoy its sabbath, getting the rest it did have during the sabbaths you lived on it. Observing the sabbath prevents us from reaching the end of our leash.

Fruitfulness– if we stop the fish and birds from being fruitful and increasing in number, we are preventing them from fulfilling the mandate that God gave to them

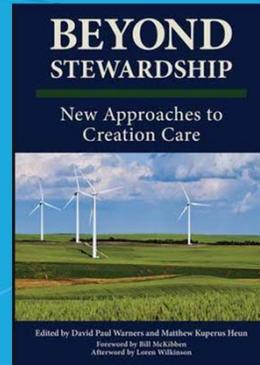


Cal DeWitt was the first Executive Director and saw the organization turn from a summer boy's camp in 1980 to institution that would train college students in both the academics of environmentalism and how to live as an environmentalist. Rolf Bouma who many people here know was a regular professor there for many years. I went there during college and it heavily affected my trajectory.

Beyond Stewardship

- Stewardship is not the best term in regards to a Christian tradition, one may think it refers to money. It also is used in many secular ways.
- “Environmental Kinship” would be more productive and closer to reality for how we are to live with and in nature.... It is a better recognition that we are a part of Creation.
- “Earthkeeping” is still a wonderful term that no one else has stolen.

2019



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The stuff I talked about to date is from the 80s and 90s. The book here, released in 2019, was meant to be a successor to Earthkeeping.

....but the point here is that, the conversation continues. White in that 1967 article said the Christianity is the most anthropogenic religion; in this book many people agree with that and propose new ideas about how it shouldn't be so. Christian Environmental Stewardship is still thinking and acting and talking and changing with the times.



Sadly, there are so many environmental topics that one could go into; there are SO many ways for us as Christians to be Earthkeepers. I am going to address one of these as it has been higher up on brain waves recently, given the changes we are making at church and things that I have been doing at work.

Plastic.... Fast Facts

[How to Give Up Plastic.](#)
Will McCallum



Some fast facts about plastic!

-- beach clean ups top five: 1) cigarettes, 2) food wrappers, 3) plastic beverage bottles
4) plastic bags, 5) straws (various lists have things in different orders but generally this is what you get)

-- (British view) less than half of the 35 million plastic bottles that British people throw away every year are recycled.

-- over 90% of seabirds are estimated to have plastic in their gut

-- 120 billion plastic bottles made by Coca-Cola each year, majority will not be recycled.

-- 450 years for a plastic bottle to break down in the ocean.

Bisphenol A (BPA) is an endocrine disrupting chemical associated with a host of human health problems. BPA leaches into bottled water, especially if temperatures get high. Do not drink from a bottle that was in parked car. And do we know how these bottled were stored coming from the factories? What temperature they were stored at. No, we don't.

Recycling isn't as good as you think

- Google search "how much recycled plastic is actually recycled"
- Watch Netflix's "Broken", episode 4



The proper solution is to not generate as much plastic waste.

<https://www.nytimes.com/2018/05/29/climate/recycling-landfills-plastic-papers.html>.

Aluminum, glass, paper have much higher recycle rates; it is technologically simpler.

There are thousands of types of plastic, and they like must be recycled with like. The 1's, 2's, and 5's are the ones actually get recycled (not a market for the others, they end up trashed). 1 are polyethylene— water bottles. 2's are semi-clears, high density polyethylene, like milk jugs. 5's are polypropylene, stuff like salad dressing bottles or ketchup bottles.

Seeing #'s ranging from 10-50% of plastic recycled actually recycled in current practices; much of it goes right from your recycle bin to a landfill.

According to this Broken episode about, 9% of plastic produced to date has been recycled. The rest has been buried, burned, dumped, if it is contained. For many countries with a poorly sanitation system, the plastic "leaks" from the system and finds its way to city streets, river, beaches.

13:48 to about 17:06 (stop when it says: They were finished serving as the recycling bin to

the world). Take away. No more trash to China (which we shouldn't have done anyway, that is wrong to deflect our responsibility). Own recycling infrastructure in the US very poor since little investment put in it. So, look for another poor country to give it to. (Malaysia). This is absolutely a social justice issue. It is the poor who are suffering the most, for the benefit of a few rich recycling company owners, and for the benefit of the wealthy parts of the world who get to continue with life as normal. This Broken episode does a really good job highlighting social justice issues with plastic production and recycling.

Estimated that 1/3 of plastic waste in the oceans are microplastics...

What are microplastics?

HRWC's social media/awareness campaign

- Three 60-second videos placed on Facebook, Instagram, and YouTube in 2019 (60,000 people reached)



Some repetition, in case people only saw one. What microplastics are, biggest sources in Great Lakes, and actions to take.

Microplastic videos from HRWC

- <https://www.hrwc.org/our-watershed/threats/microplastics-pollution/>

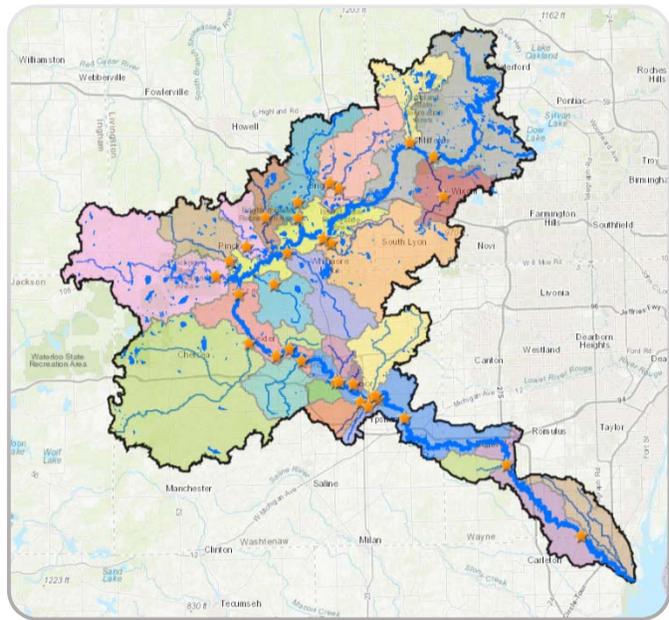


Microplastics Fast Facts: Beyond the videos...

- Microplastics are in dust.
- We consume a credit card worth of plastic each week (food and water, average across the world)
- Microplastic found in every stool sample from people in 8 countries around the world.
- What is their effect on our health and ecosystem health?
 - Obstruction
 - Toxic Rafts
 - Endocrine disrupters
- 2016 USGS report says the Huron River has the highest microplastic count of the major Great Lake tributaries.

Huron River Watershed

Samples in all major creeks, close to mouth, and several in the main branch of the River.





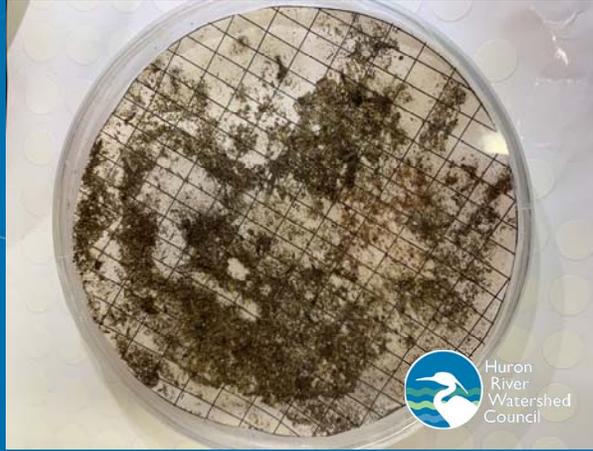
Site 35: Millers
Creek
@Glazier Way

- Very clear water
- Baseflow measurement

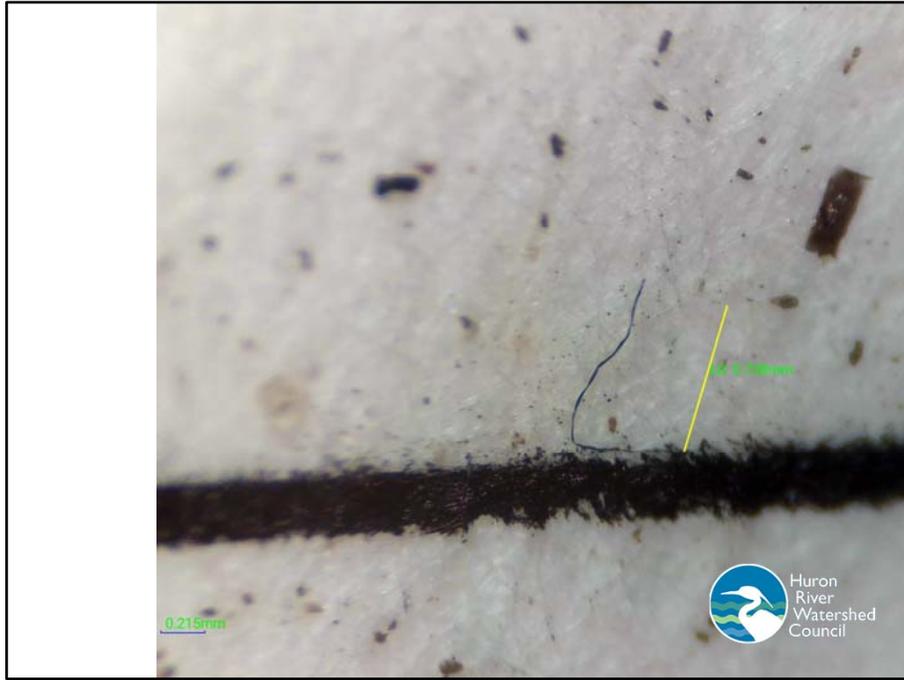


Site 37: Portage Creek: Dexter-Townhall Rd

- Baseflow measurement
- Moderate sediment load

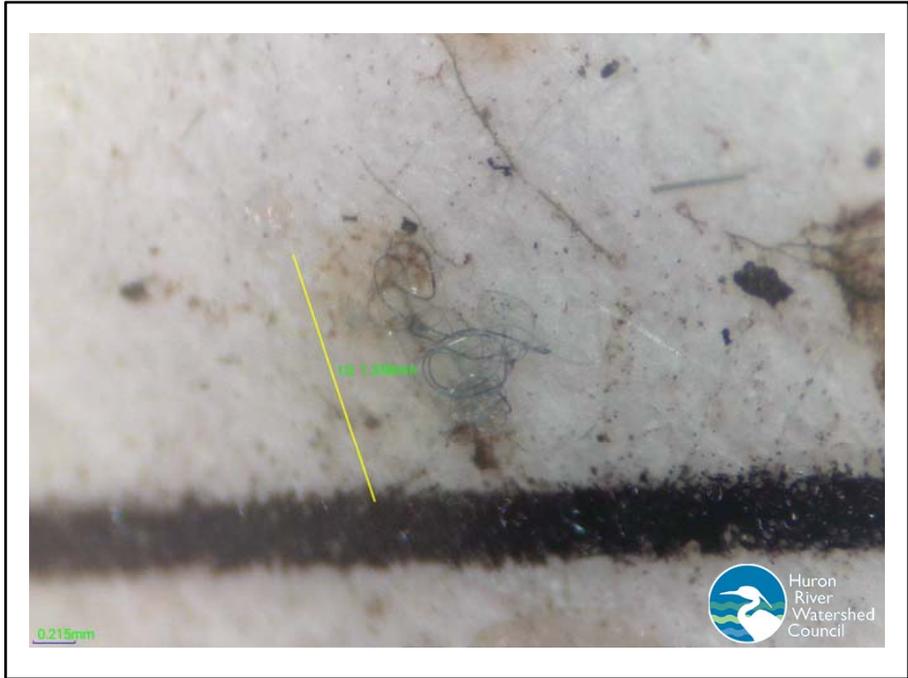




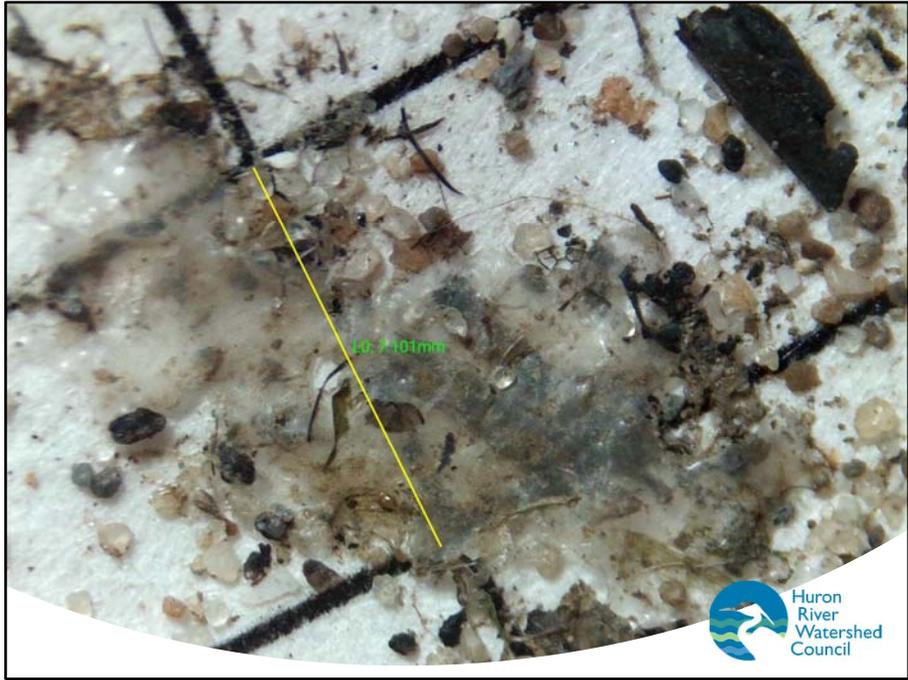


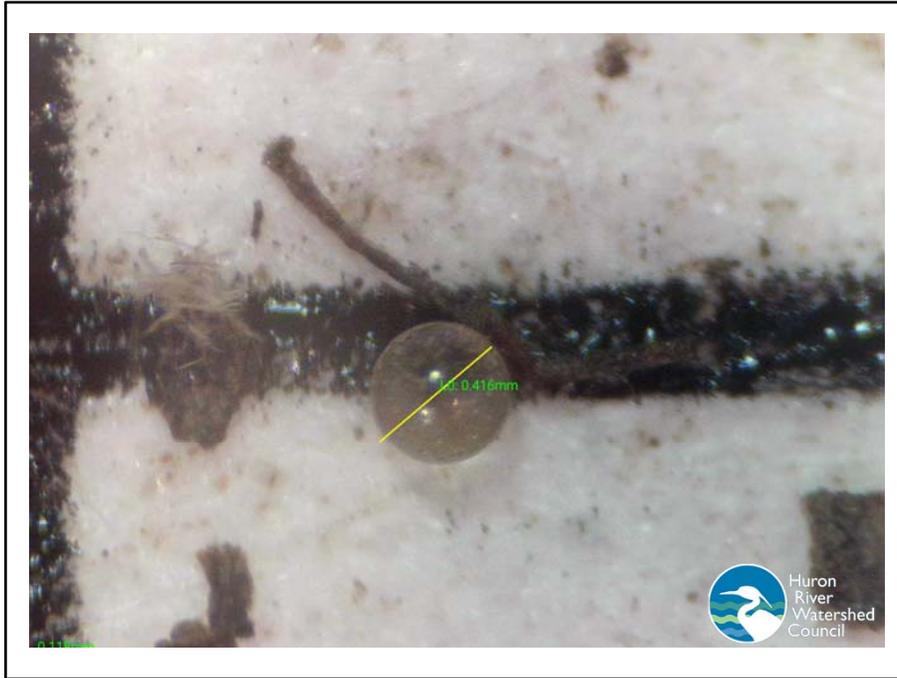


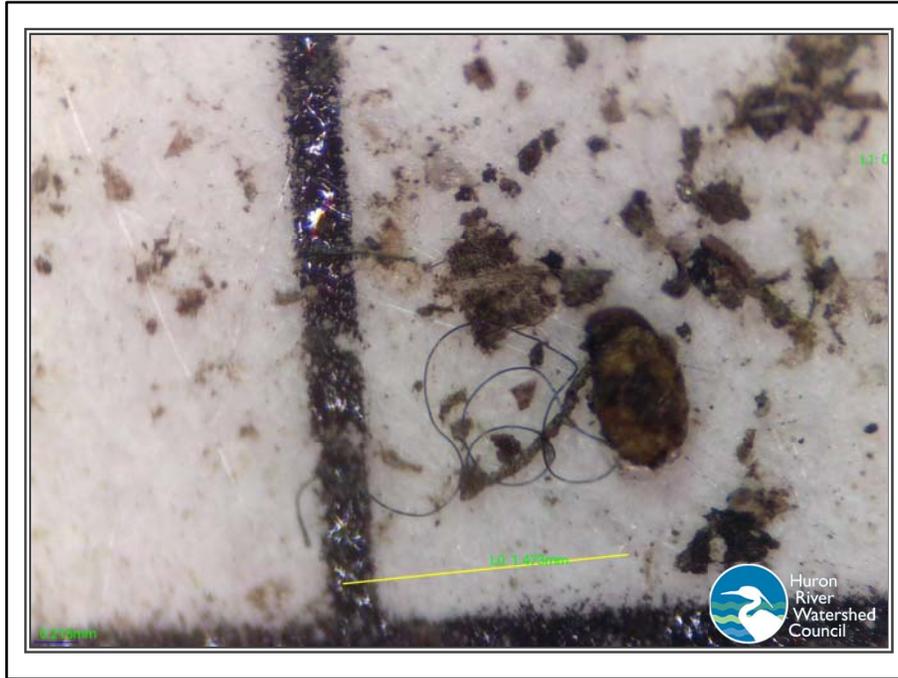


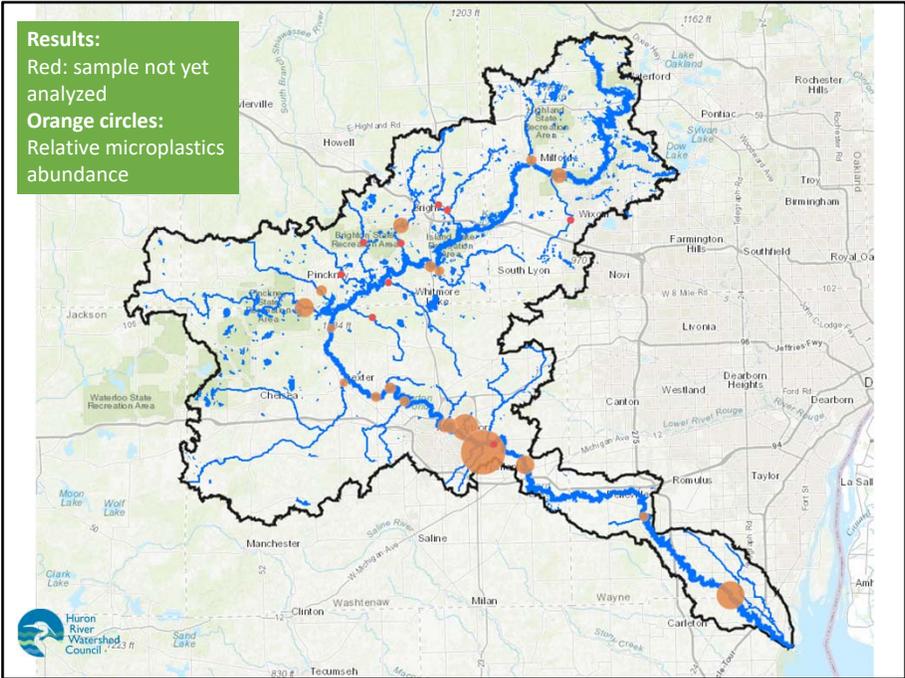


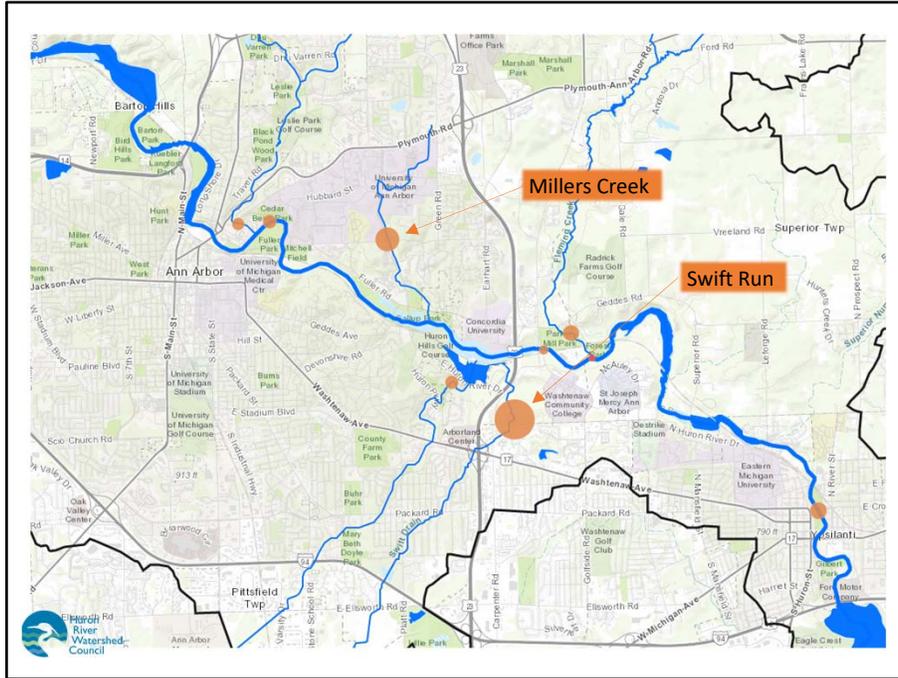












Microplastics in Drinking Water

	Count of Sample #1	Count of Sample #2
1: Air only (3 hours left out)	2	3
2: 2L Ann Arbor, HRWC Office Water	27	16
3: 2L Distilled Water	6	1
4: 2L "Spring" Bottled Water	2	11
5: 2L Friends #1's House	3	9
6: 2L Friend #2's House	3	2
7: 2L Bottled Kroger	13	13

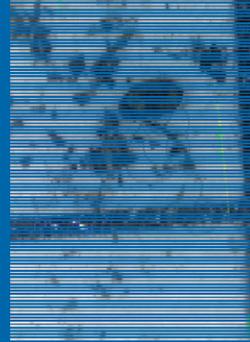
Further learning:
12 brands of beer from Great Lake area water <https://www.wpr.org/minnesota-researchers-find-microplastics-beer-made-great-lakes-water>





Initial take-aways from Paul's microplastic work

1. We absolutely have plenty of plastic flowing through our natural systems and our drinking water systems.
2. I accidentally discovered that microplastics are more concentrated in our drinking water vs. river water by a factor of somewhere between 100-500x. (Needs more work).
3. There is a lot of variation in between samples at the same site. Weather and flow are going to make a big difference in results. Sample more at hotspots; many samples throughout the summer.
4. I think there is more to the story of microplastics than fleece clothing. I am not sure where it is coming from in Millers Creek and Swift Run.



Will we be Earthkeepers?

- Is our use of plastic lowering the Earth's fruitfulness? Can we give the Earth a "plastic sabbath"?
- But think of us as a collective group, making a bigger difference together; then beyond that consider we aren't the only ones trying to change.
- We have already moved away from single use plastic at our potlucks/pizza nights.
- Per event, the trash going to a landfill has decreased from an entire big trashcan to just a few items.

The plastic problem feels immense, and it is easy to react with a "what difference can I make?" or "It is too hard to change."

What else can I do?

Recognize: It is nearly impossible to go plastic free entirely. Don't let guilt cause you to throw up your hands and give up. Perfection isn't needed.

#1: If you drink from single use plastic bottles, stop. Move to drinks in aluminum cans which are far more likely to be recycled.

#2: Tell your server at a restaurant to not give you a straw, BEFORE they put it down on the table.

#3: Use reusable bags at stores... and not just at grocery stores. (If you use plastic bags as trash liners; fine--- take what you need but when you don't need more, don't take them.)

#4: Stop buying polar fleece. Minimize the washing of what you already own. Pay attention to new products that are made to minimize sloughing.

There also should be recognition that this isn't all on the individual. There are societal structures that need to change on the long run; it is impossible to go plastic free and still live in society.

What else can I do? Advanced version

#5– Get your own utensils and carry them around in a purse or in your car in case you go somewhere that forces you to use plastic utensils.

#6– Plastic is a problem that goes beyond individual responsibility. It is a governmental and corporate responsibility. Write letters to companies. Communicate with legislators. Complain (nicely) to restaurant managers and store managers.

#7--Read [How to Give up Plastic](#) by Will McCallum to learn other practical tips for your bathroom, kitchen, bedroom, etc.



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