Household Hazardous Waste

**Part 1**

(Girl in Blue Shirt) – Yeah

(Guy) – Oh, we’re rolling.

(Girl in Blue Shirt) – Oh, up to Ann.

(Ann) – Day 1 of our eco-investigation.

(Guy) – Ok, so now this is simple science here. This whole Earth, now why is it called the Blue Planet?

(Girl in Blue Shirt) – Well it’s called the Blue Planet because it’s made up of 70% water. See?

(Guy) – So that means that the water cycle helps cause evaporation and precipitation. Without that stuff, nothing on this planet would be living.

(Ann) – Yeah, but not only that…the human body is 70% water. In fact, most of the living organisms out there are 70% water.

(Camera Girl) – And all that water that passes through our body, that’s what can affect our health for the rest of our lives.

(Guy) – Hey, over here. So this is where the science is not so simple. This water cycle can purify the water…

(Girl in Blue Shirt) – But it’s the same water cycle that can create pathways for contamination.

(Ann) – And what’s troubling is that all that contamination is caused by us: humans.

(Camera Girl) – Exactly what are those contaminants?

(Girl in Blue Shirt) – And how does it get in our food and water?

(Guy) – And how does it affect our lives?

(Ann) – But, but what can we do to change all this?

(Camera Girl) – An eco investigation. We need answers.

(Girl in Blue Shirt) – You go to the source.

(Guy) – You go to the experts.

(Song) – You say a picture’s worth a thousand words, but the more I speak the less I’m heard. And I’m so lost in the water, drowning in the water. Wash away the crowded, wash away the pain. Leave me where I started, leave me born again. Like a child out in the rain, wash it all away.

(Ann) – Alright, here’s your stop. Go get some answers.

**Part 2**

What are the sources of contamination?

Old cans of paint and some medicine.

I just have a tv and a dishwasher, got hazardous waste in it.

Uh, lead, cadmiums, chromiums…

All have mercury in ‘em.

Remove urine and manure stains from horses.

A lot of pesticides and antifreeze.

And when it rains it basically goes through

Components in there leach into the ground.

Down into the water table, I suppose.

Could get into our water supply.

Comes up into the pump on your house.

We’re drinking the chemicals that they’re leaching.

Drinking some contaminated water.

We drink it.

Probably started breaking down our organs and tissues and what not.

Well, we probably end up with cancer.

**Part 3**

(Deanna Erickson) – The St. Louis River is the largest river flowing into Lake Superior, which is the largest lake in the United States. Truth be told is we basically used it to carry waste away, things that we didn’t want, from refining oil to processing steel for a long time and that pollution is still in the sediment underneath the river. We call those legacy contaminants or legacy pollution. Now what we’re dealing with is a lot more urban effects, what comes off of our roads and what we put down our drain. Pharmaceuticals is a big one, household chemicals is another big one, and mercury is huge here.

(Tracey Ledder) – The largest input to water pollution and water quality problems nationwide is what they call non-point source. Point sources are things that come from a pipe, and in most cases that has a discharge permit. The non-point source is the stuff that doesn’t have an exit out of a pipe. It comes off the land. When rain washes across the surface of the land it carries what’s on the land into the water. And it’s called non-point and it’s also called people pollution because it really comes from what people do on the land.

(Diane Nelson) – One of the things people used to think is the solution to pollution is dilution. You got a big enough water body, it can absorb any amount of pollution and so just dump it down there. What we’ve found out is that a lot of these chemicals end up in our water bodies because they’re not being treated by a wastewater treatment plant. Wastewater treatment plants were designed to remove the solids that we flushed down toilets out of the water. They weren’t designed to remove those minute, tiny particles of chemicals that get into the water and cause problems.

**Part 4**

What are the sources of this pollution? What are the pathways of contamination?

The use of pesticides and fertilizers on the lawn

And all of the storm sewers find their way down to the lake, and so if there is spilled oil, antifreeze, any other fluid from vehicles, that all gets washed on down.

Mercury through broken light bulbs, fluorescent light bulbs

People put things down the sewers that shouldn’t go there.

Silicone grout sealer,

Gasoline,

Unwanted medications.

Acidic materials like your CRL’s.

Turpentine which is paint related stuff and

Bases like sodium hydroxide,

Fly Spray,

And antifreeze

Di and propyl (unintelligible)

Chlorine

Dicarboximide

Bleaches

Clemenorate. Yes, probably very toxic.

Blech, do you believe some of this stuff?

**Part 5**

(Voice) – What is all this household hazardous waste?

(Tim Kane) - Virtually thousands of household products that contain chemicals that are hazardous to human health. You start with a lot of cleaning products that you have around your home. There are also a lot of lawn and garden chemicals, herbicides, pesticides, poisons that people use.

(Woman) - We use so many chemicals every day in our lives and we don’t realize how many there are and some of the consequences of not only that chemical but the combination of chemicals that we use.

(Tom Fitz) - Yeah, you’d be surprised when you go into a hardware store the amount of stuff that you can buy that is really very hazardous and it’s not really regulated very closely. A wide range of things that are very toxic, that have long term consequences in the environment, there isn’t much of a consequence for how a homeowner discards of things until they understand what they have done to the environment and what the long-term consequences of these actions are.

(Matt Steiger) – Lead, mercury, um, some other heavy metals.

(Woman) – As people have things like thermometers, they have fillings in their teeth, they have jars of mercury. We’ve literally had, like, large jars of mercury.

(Man) – Household paints, that are really old, which contain lead yet

(Woman) – Some people get rid of their medicines by pouring them down the drain or flushing them down the toilet.

**Part 6**

What’s electronic waste?

The electronic waste problem is probably our society’s biggest and growing problem here we need to contend with.

Electronics from consumers has phosphorous inside the tv’s that gives the reflective value. Older sauder is lead based, and as we all know, lead is a bad substance.

Our batteries, they have hazardous waste in them, the ni-kads, mercury batteries, lithium batteries

I don’t care whether it’s metal or plastic or whatever, eventually it’s going to break down into different components. And some of those heavy metals are going to get into, potentially, our ground water, our surface water, and then that, you know, you and your friends are going to be drinking that.

**Part 7**

What are the pathways of this contamination?

Now if you’re out in the country, you might put it in a burn barrel which you’re going to incinerate that type of stuff, which is really very bad on the environment. If you’ve got a lot of land, we got a lot of public land around here, you say, hey there’s a lot of room, we’ll throw it in the ditch.

Over time, they’re going to break down and decay and some of those things are going to leach out of whatever is encapsulating them. That finds its way down into the water in a ravine which follows to a stream and the stream ends up in the lake. So that’s one potential way.

If you dump it down a storm drain, it’s going to go directly into a surface water of some kind.

Another is from landfills. Landfills are engineered to contain waste. This is a membrane that is designed to go under and then over a landfill that keeps materials from getting out. As you can see, there can be holes in this. Thus, there can be leakage from landfills that are designed to hold hazardous waste.

A lot of times, people don’t realize that if they put something in a storm sewer it’s going to go right into a water body and not be treated at our wastewater treatment plant.

Water can move through the soils and be contaminated as it’s penetrating down into the water table. So that’s how groundwater gets contaminated. Things that are dissolved in water, they can be transported a great distance. So whether those are good things or bad things, those can cycle through for long periods of time.

Well, in this particular community, and in a number of others along the Great Lakes,

Our drinking water comes from Lake Superior, the same place where we put in the sewage that gets treated, so if there’s a bunch of chemicals left over in our wastewater that go into Lake Superior, eventually they could end up in our drinking water and affecting us.

And pipes the water back to a treatment plant here in town that gets it ready for consumption

Wait, I thought you said that…

**Part 8**

What are the pathways of those contaminants that get into us, humans?

So water is the transport medium for all of the nutrients that we have, that are in the plants, and it’s also just necessary as the medium in which we exist, right? It also is important because it’s a transport medium in the environment, ok, and that’s really one of the things that we’re interested here is that, um, it’s not just helpful nutrients that are taken in by plants and animals from the water, it’s also harmful ones that are hazardous.

They don’t put just one thing into the water and different contaminants affect different things that are living in the water. What happens is that it goes into the water and can be taken up in plants and then be taken up in animals that eat the plants.

The lower organisms are eaten by higher organisms on the food web. Even a small amount of chemical in the lower organisms can magnify into the higher level predators.

The animal at the top of the food chain suffers the most, so that’s really something to think about because if we’re eating lake trout for example which is a predator fish that’s eating things like whitefish or cisco out in the lake and that means that the fish that we eat have mercury or PCB or pesticides.

There’s going to be some of that residue of those chemicals in its flesh and if we eat that you know where it ends up.

**Part 9**

How does this stuff affect you and me?

Mercury affects you in your nervous system. Growing children are particularly susceptible to mercury in the things that they eat, um, because their brains are growing. But people that eat excess amounts of mercury, in whatever the source, it can really affect how you move, you get a numb feeling, it doesn’t affect your IQ as much as it would a small child, but it does affect your nervous system.

You may have heard about the frogs with lots of legs? And that’s one of the things that happens. Or they could be being exposed to things that change their reproductive system, eventually those kinds of chemicals are going to do the same to us as they end up in our drinking water.

One of the biggest concerns we have right now is endocrine receptors. There’s a lot of chemicals that act in our body the same way that the hormones that we normally have react, so you have a hormone that causes you to start to develop. Well, if you’re getting that hormone now when you’re an infant or young toddler, or child, are you going to develop normally when you get to 13? Maybe not.

**Part 10**

What can the average person do to reduce those sources?

Cleansweep is sweeping up household hazardous waste and e-waste too. They’re getting it out of their environment and into its proper place.

Here comes another load.

There’s a lot of different things you can do with household hazardous waste. The first thing would be to try and not generate a household hazardous waste to begin with by buying a product that is not hazardous.

And the way you can work with that is when you’re buying things, you think about what is in them and where they might end up when you’re done with them.

You need to look at your label and if it says danger, flammable, caution, I mean those are immediate red flags and you need to think that these are products that have toxic properties to them and when we no longer use them, we need to find a proper disposal place for them.

All this stuff, this is toxic. It doesn’t belong in trash or water, it belongs here at Cleansweep.

Uh, recycling is another of the R’s and that’s certainly really important. When you’re done with something, don’t just throw it out. See if it can be refurbished, re-used, or at least recycled into another product.

Re-use, that’s what we’re talking about.

A lot of communities have permanent e-waste collection sites. And a more rural area like we live here in northern Wisconsin, we have Cleansweep collections, collected over 25,000 pounds of e-waste.

Bring your waste right in here.

A lot of e-waste has some very valuable metal components. Gold, silver, steel, uh, glass that can all be recycled. Hazardous chemicals can be incinerated. Some of them there’s chemical processes that you can use to break them down. Again the stuff that’s collected by your hazardous waste contractor doesn’t just go, “poof”. It does go to very specific destinations for very specific uses.

That’s it for Operation Cleansweep. I’ve got a full load of bad stuff so I’ve got to take it so we can properly dispose of our toxic materials.

So it might seem like when you throw something away it doesn’t have consequences but if you’re throwing something away improperly that can stay in the environment long term, it may very well come back right at you.

Well every one of us has an impact on the environment and if you spend a bit of time just considering what you’re using, what you’re consuming, and where you’re disposing of things, you can make an impact.

Collectively if we realize we’re making a difference, uh, at the end of the day we all feel good.

So basically, educate and take responsibility.

Those are the keys.

Let’s just put it on the hood guys.

Ok let’s gather around.

Come on Maddie, get over here.

Ok, so here’s the deal. We learned that water is the key to our lives and it affects us in so many ways.

And if it gets contaminated with bad stuff, it can seriously affect our lives.

Some stuff we can’t totally prevent but, by learning about it, we can make change.

And we can all do a lot to prevent household hazardous waste and e-waste from getting into this.

So spread the word with your family and friends and know that you have the power to make a difference by going out there and making a difference here.

Yeah, and our blue planet, right?

So be cool and help save the Earth.

Come on guys, we have a lot of work to do. Grab the camera!