



Worksheet

1. Locate where you live on a map and trace where your flush will go once it goes down the drain. How is your sewage treated?

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2. Follow the downstream freshwater route to the sea, even if it goes through a lake (or two) first. Which regional sea or ocean does your water flow into and what is the route?

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3. What do you choose to stop putting down the drain, now that you know it goes to sea? Circle as many products to stop 'dumping' as you can manage yourself or with family and friends

Micro-plastics (in facial scrubs and cosmetics);

Cosmetic and baby wipes that are not paper;

Tampon applicators that end up on beaches;

Little batteries that can contain cadmium or other 'nasties';

Pills and pharmaceuticals;

Strong cleaners;

Paint;

Pesticides;

Herbicides;

Oil or fuel;

Please add more to this list of things that just do not go down the drain.

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2. Choose one Canadian Arctic, marine species at risk to celebrate with a compelling Species at Risk Recovery Poster.

Make your poster uplifting, positive and 'feel good'. Research your animal using the table or reliable sources. If you live in the arctic, have northern contacts or family members with knowledge, include if they are okay with sharing.

Make your poster at least 30 x 30 cm<sup>2</sup> (bigger is better)).

The poster will have a little information and will use emotion (love, care, humour) to help people want to help with recovery.

Fill the poster with your own drawing(s), painting(s), graphic (s), collage, to show off your chosen species in an eye-catching layout. Take a photo of your poster to share.

Name Risk status	Why is this species at risk?	Identify specific threats to recovery.	Shared actions, or what we can do together to reduce identified threats to recovery.
<p><b>Polar Bear</b></p> <p>(Yes this is a marine species.)</p> <p>SARA<sup>1</sup> status Species of Special Concern.</p> <p>IUCN<sup>2</sup> status Red Listed Vulnerable</p>	<p>Needs sea-ice on ocean, at key times, for hunting seals. Mothers with cubs need lots of food. Extent of sea-ice is declining. Polar bears are top predators so contaminants are magnified through food chain and can accumulate over years. Fat rich milk can download contaminant load to cubs. Human disturbance, habituation and killing in defense of life and property are threats in certain areas.</p>	<p>The biggest threat is global warming from rampant CO<sub>2</sub> emissions and sea ice loss. Contaminants mercury (Hg), organo-chlorines and brominated flame-retardants also threaten Polar Bears.</p> <p>Human bear conflicts often end badly for the bear but these big predators can also pose a real threat to people.</p>	<p>Action: reduce CO<sub>2</sub> emissions and reduce CO<sub>2</sub> in circulation. Plant trees. Help raise awareness about protecting blue carbon. Present to School Board about community-supported solar panels for school buildings. Track tonnage of carbon diverted on a big sign in the shape of a polar bear. Skype with a northern class to learn from them about polar bears as neighbours. Help northern communities raise awareness to prevent and manage Polar Bear – Human conflicts. Support local communities' (living near Polar Bears) involvement in decision-making and contribute traditional ecological knowledge in making plans.</p>

<sup>1</sup> SARA is Canada's Species at Risk Act and it lists species at risk in Canada

<sup>2</sup> The International Union for the Conservation of Nature, IUCN assesses and lists species at risk internationally for the UN Environmental Program (UNEP)



<p><b>Bowhead Whale</b></p> <p>IUCN Status Red Listed All five populations.</p> <p>SARA listed as Endangered in Eastern Arctic population</p>	<p>Bowheads are still recovering from industrialized whaling, which ended in 1921. Bowheads are very long-lived (can be over 200 hundred years old) and are slow to reproduce. Threats include ship strikes and noise pollution from offshore oil drilling. The IWC has called for a halt to subsistence hunting of the Bowhead.</p>	<p>Bowheads filter feed on copepods, tiny zooplankton that graze on phytoplankton. The food chain is short but key to their survival. There is still much to learn. Identify calf rearing areas and study feeding ecology (on going and important).</p>	<p>Raise awareness about the Bowhead Whale. Graph the recovery from the stop of industrial whaling in 1921 and start to plan a 2021celebration. Volunteer with an organization working for Bowhead Whales. Share what you learn with your MP. Keeping Bowheads in the spotlight, it encourages politicians to do the right thing in protecting them, by regulating noise production and shipping activity when they are around.</p>
<p><b>Narwhal</b></p> <p>Species of Special Concern COSEWIC<sup>3</sup> 2006 (not yet acted on by SARA)</p> <p>Red Listed by IUCN</p>	<p>Male Narwhal were hunted for their ivory 'tusks' (the original unicorn) by newcomers and there are still subsistence hunts for ivory, <i>mattak</i> and meat. Narwhal may be in compete with commercial fisheries for Turbot. Less ice may bring in Killer Whales. Cadmium and mercury are heavy metal contaminants found in narwhals.</p>	<p>Contaminants through diet, eats fish, squid and shrimp. Dives deep. One of the three most sensitive species to climate change due to small range, high site fidelity, special feeding and habitat choice (pack ice in winter). Some cadmium is local.</p>	<p>Better monitoring of hunting results and number of wounded animals that die after hunts would better inform about hunting pressure. Ivory is very valuable and can mean cash. Quota system has been replaced with local hunter/trapper community management. Compliance is better in some places than others. More community-based research needed.</p>

## Reflection

On reflection, it may seem like we've made a mess of things, but keep in mind that 500 years before our current calendar even began, the Greek philosopher, Heraclitus (who liked watching water moving), wrote down the idea that "change is the only constant". This is still true today and our

<sup>3</sup> Committee on the Status of Endangered Wildlife in Canada assesses and lists species at risk in Canada, COSEWIC recommendations are put into law by SARA.



culture is evolving and changing quickly as we develop new technologies, learn from our history and live up to our species name *sapiens*, which means wise or intelligent.

Alone, some of us feel too small and powerless to make a difference, like a drop in a bucket, but together we can choose to make changes for a better future. Whether it is getting along better, together and respecting our differences, or learning more about other lives and life and respecting that we're all connected: what we do counts. What are some of the things that your community does to make this world a better place? Elaborate about changes to the way things are done, since you were little? Ask your adults about changes that make the world a cleaner, healthier, safer place, since their parents were your age.