





# Time for **GENACTION!**

## Try This at Home:

### **PROTECT YOUR STORM DRAINS FROM POLLUTION**

Did you that know that one example of a non-native species in this watershed is the Parrot feather, which made its way into the Katzie Slough, which are wetlands on **q̓ícəy** territory? This non-native species arrived because of folks pouring water used in aquariums into drains, which carried the plant all the way to the slough.

Outside of your homes, you may have also noticed drains next to the sidewalks of streets. These are storm drains, which drain excess rainwater from our neighbourhoods and lead directly to local water bodies such as rivers, lakes, or the ocean. However, our streets are made of pavement, a hard surface, and any pollutants that are spilled on our streets will not be able to get absorbed into soil.

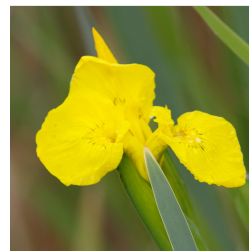
These spills on pavement will instead eventually be carried into the storm drains by rainfall! Some examples of pollutants include many common household items, such as paint, fertilizers, pesticides, or used car motor oil, which can all have devastating effects on aquatic habitats. Typically, these storm drains come with small signs that attempt to stop neighbourhood residents from dumping polluted water or other substances. However, these signs may not be very visible or informative of where exactly the drain connects to. You can create better signage yourself to help your neighbours understand what kinds of ecosystems they can harm by not preventing pollutants flowing into storm drains. Get creative! This could look like a drawing or list of fish species that live in your local rivers, lakes, or oceans.

## Climate Action **THE POWER OF VOLUNTEERS**

Never underestimate the power of plants, especially ones that are considered invasive! An invasive plant is a species that is growing in a region that is outside of its natural range. Because there are no natural predatory species that will control the population of this species, these plants can grow without limit.

Invasive species have a large impact on salmon habitat in the Fraser River Basin watershed. The yellow flag iris is an important invasive species to note, as it invades wetlands and stream systems by having a large underwater root system that can block waterways and other native species.

However, there is also a lot of power in the work of volunteers, and local organizations such as the Watershed Watch Salmon Society helps organize volunteers to pull invasive species, as well as monitor overall water quality in salmon-rearing waterways.



Yellow Flag Iris

By learning to recognize invasive species, you can help notify local organizations about their presence, an important step in ensuring healthy salmon habitat. Check out other incredible work being done by Watershed Watch Salmon Society ([watershedwatch.ca](https://watershedwatch.ca)) or become one of their volunteers!

# Climate Change

## Past, Present, and Future

Earth is the only planet in the solar system known to support life. What makes our home so special? Earth has an atmosphere, a layer of gases between our planet and space. Some of these gases, like carbon dioxide, are called **greenhouse gases**. They are crucial parts of our atmosphere; they trap in the heat of the sun, similar to how heat is trapped in a greenhouse, or in a car on a hot day. This process, called the **greenhouse effect**, keeps Earth's temperature warm enough for living things to thrive.

The sun's rays hit our round, tilted planet unevenly. This uneven heating of Earth's surface leads to differences in temperature, which drives weather patterns. We call the patterns in temperature and weather over long periods of time **climate**. Different parts of the world have vastly different climates; it depends on how much heat they receive, as well as what landscape features are nearby. Water, mountains, ocean currents, and forests all impact our climate. In turn, living things around the world have adapted to the climate they live in.

Something, though, is changing. Over the past two hundred years, humans have been burning fossil fuels, such as coal and oil, to make energy to power our daily lives. Fossil fuels are made from decomposed plant matter and microscopic life millions of years old. This matter is full of carbon, and, burning it releases, or emits, billions of tonnes of **carbon dioxide** gas into the atmosphere every year. When too much carbon dioxide is emitted, the delicate balance of greenhouse gases maintaining

Earth's climate is upset. More and more heat is trapped, causing the planet to warm. Weather patterns change, water levels rise, storms get worse.

Climate has changed many times throughout Earth's history, from ice ages to periods much hotter than today. So why is this time any different? Scientists agree on two things. One, temperatures are rising faster than they ever have in documented climate history. Two, this climate change is driven by human activities, due primarily to greenhouse gas emissions.

Climate change is already impacting people's ways of life all over the world. Powerful storms, droughts, forest fires, and floods are threatening people's access to food, water, and safe homes.

The most important step we can take to prevent serious climate change is to reduce greenhouse gas emissions. Incredibly brave and caring people around the world are finding new ways to reduce emissions and make our communities climate resilient every single day. And you can join them! These Science Spotlights are here to help us learn more about climate change and how you can take action.

## Our Commitment to the Decolonization of Science

Institutions of GenAction initiative respect and affirm the inherent and Treaty Rights of all Indigenous Peoples across what we now know as Canada. We give thanks to the Indigenous Peoples who care for this land since time immemorial and pay respect to their traditions and ways of knowing. We acknowledge their many contributions to innovations in Science, Technology, Engineering, and Mathematics, past and present, and are committed to deepening engagement and collaborating with Indigenous Peoples as partners in order to advance truth and reconciliation and the decolonization of science.

