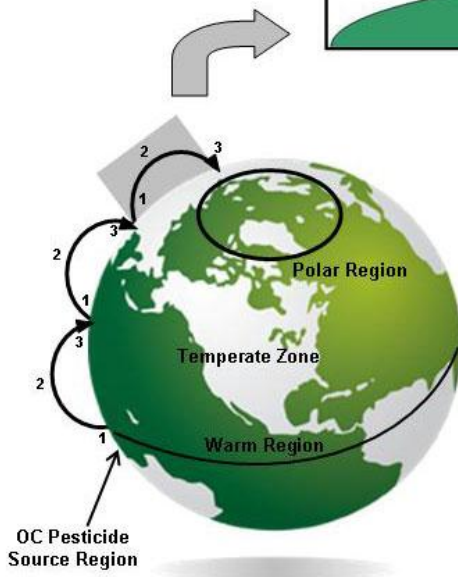
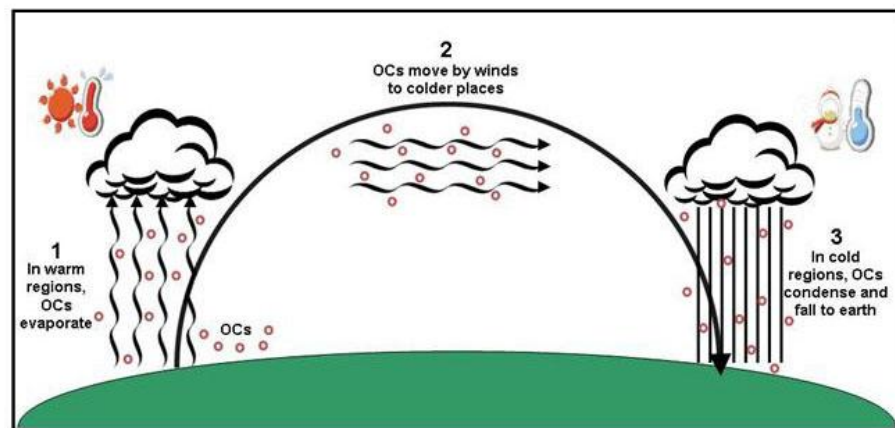
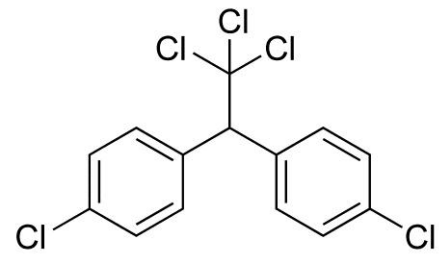


Organochlorine (OC) Pesticides

What are OCs and where do they come from?

Organochlorine Pesticides (OCs) are a group of human-made chemicals that contain carbon, hydrogen and chlorine. It was discovered in the 1940s that some OCs are toxic to insects. OCs have been used to kill insects that carry disease and that are pests on crops. A well known OC pesticide is DDT (dichlorodiphenyl-trichloroethane). The structure of DDT is shown in the picture to the right. Many OCs are no longer used in Canada or the United States. OCs are still used in some developing countries to kill biting insects that spread human diseases like malaria.

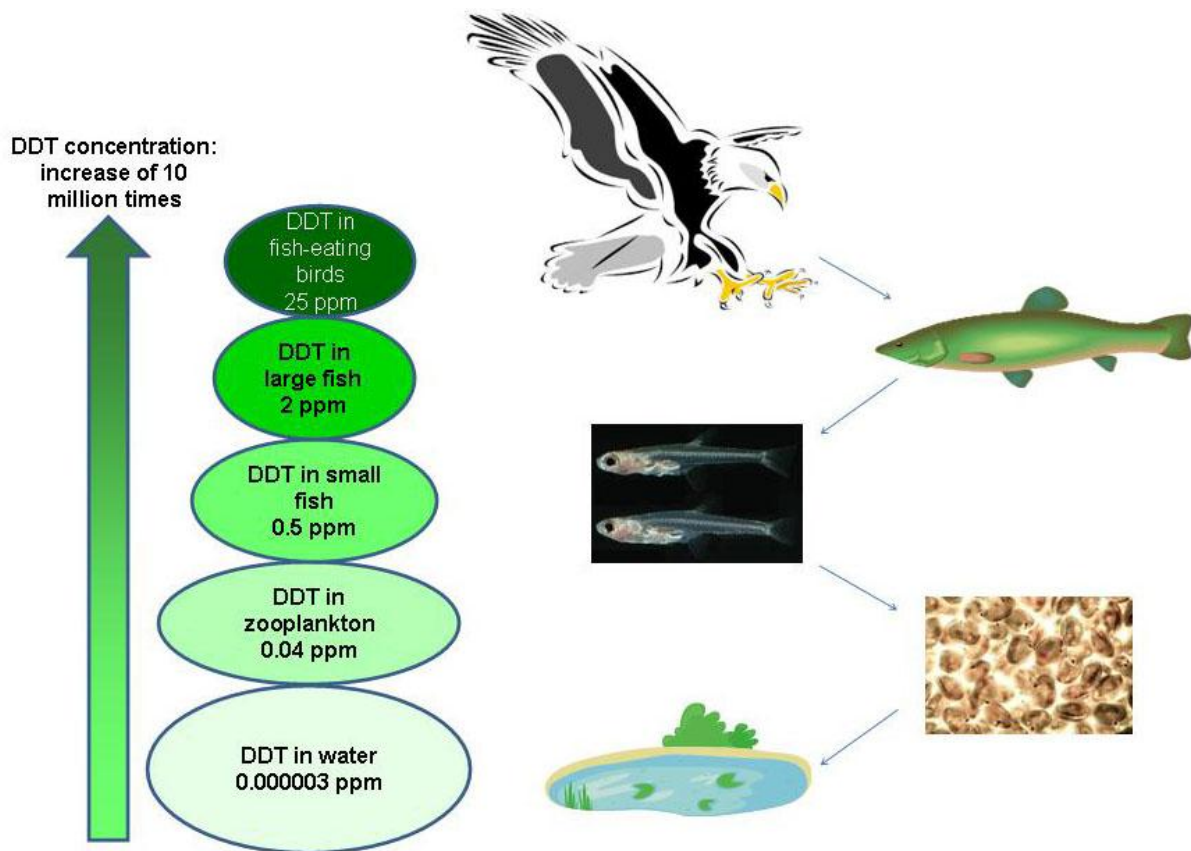


The "Grasshopper Effect"

OCs are not used in the North. They come to the North from far away. OCs are used in Southern locations where there is a lot of farming. When it is warm down South, OCs that have been put on land evaporate into the air and travel on winds and clouds. When they reach the colder temperatures of the North, they fall back to earth in rain and snow. OCs can go through this cycle many times and travel very far North. Notice in the picture below that the OCs go from the land, to the air and back to the land several times as they travel North. This type of movement is called the "grasshopper effect". When OCs reach the North, they become stuck there because the temperatures are so cold.

OCs in the Environment

In the 1950s and 1960s, OCs were used almost everywhere. These high levels of OCs were very damaging to wildlife, especially predatory birds. Bald Eagles were almost wiped out in the United States during this time. DDT, in particular, caused their eggs to thin and break before they were ready to hatch. In some places, using such high levels of OCs has caused the insect targets to become resistant and they not as easily killed anymore.



Today, levels of OCs in the environment are declining and bird populations are doing much better. However, some OCs still continue to reach the North. When they arrive, OCs can enter water bodies like lakes, rivers or the ocean. From the water, OCs can move up the food chain. First they are taken up by small plants in the water. These plants are eaten by tiny animals, which are in turn eaten by fish. Fish are eaten by eagles, bears, beluga whales and of course, by people.

References/For More Information

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U. S. EPA

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