

We Must Act for an Environmentally Sustainable Future

A New Wave of Mass Extinctions

The National Union of Public and General Employees (NUPGE) is a family of 11 Component and 3 affiliate unions. Taken together we are one of the largest unions in Canada. Most of our 390,000 members work to deliver public services of every kind to the citizens of their home provinces. We also have a large and growing number of members who work for private businesses.

Larry Brown, President

Bert Blundon, Secretary-Treasurer

A New Wave of Mass Extinctions

Many researchers now see our planet as being in the midst of a mass extinction of plants and animals—the 6th wave of extinctions in the past half-billion years.

We're currently experiencing the worst spate of species die-offs since the loss of the dinosaurs 65 million years ago. Although extinction is a natural phenomenon, it occurs at a natural “background” rate of about one to five species per year. Scientists estimate we're now losing species at 1,000 to 10,000 times the background rate, with literally dozens going extinct every day. It could be a scary future indeed, with as many as 30 to 50 percent of all species possibly heading toward extinction by mid-century.¹

The Center for Biological Diversity reports that

unlike past mass extinctions, caused by events like asteroid strikes, volcanic eruptions, and natural climate shifts, the current crisis is almost entirely caused by us—humans. In fact, 99 percent of currently threatened species are at risk from human activities, primarily those driving habitat loss, introduction of exotic species, and global warming. Because the rate of change in our biosphere is increasing, and because every species' extinction potentially leads to the extinction of others bound to that species in a complex ecological web, numbers of extinctions are likely to snowball in the coming decades as ecosystems unravel.²

We all understand, at a fundamental level, that we are all connected. The evidence for this is all around us. The reduction or loss of a species results in a cascade of impacts across the ecosystem.

The research demonstrates that species diversity helps all ecological communities to withstand stress. So, while conservationists often focus their efforts on important species-rich ecosystems, like rainforests and coral reefs, we must also act to protect those habitat types with fewer species—like grasslands, tundra, and polar ecosystems. This is an important point. While efforts to protect species in the world's tropical regions are essential, we cannot lose sight of the need for action within Canada.

The World Wildlife Fund reports that many of Canada's species are facing threats to their survival. Examining data from 1970 to 2014, their Living Planet Report Canada, 2017, found that half of the country's 903 monitored wildlife species (including mammals, birds, amphibians, reptiles and fish species) were in rapid decline.³

Canada has over 600 plant and animal species protected by the Species at Risk Act. Globally, the International Union for Conservation of Nature reports that of the more than 98,000 species on its *Red List of Threatened Species*, the world's most comprehensive inventory, more than 27,000 are threatened with extinction. This is but a

small proportion of the number of species that have been assessed. The crisis is likely to be even greater than imagined.⁴

Global seed diversity is also threatened by climate change as well as by industrial agriculture and corporate concentration in the commercial seed industry. Loss of seed biodiversity poses a threat to the world's food crops, farmer livelihoods, and global food security.⁵

One issue at the nexus is pesticides. The decline of bee populations—the result of climate change, habitat loss and pesticide use—has been a subject of concern in recent years. Bees and other pollinators, which pollinate crops and other plants, play an important role in food security. A type of pesticides called neonicotinoids (or neonics) is a major contributor to the decline of bees.⁶

Given neonics' harmful effects on biodiversity, scientists and environmental groups have called on governments to restrict the use of neonics and prevent similar harmful chemicals in the future.⁷ The Canadian government announced a phase-out of 3 key neonics for ornamental plants over 2 years. Environmental groups have challenged the government in court, arguing that it should ban neonics immediately and end the use of neonics on field crops and grain.⁸

The other most talked-about pesticide is Roundup, the weed killer made by Monsanto. It has been the subject of much criticism, study, and even court cases. A key ingredient is glyphosate, the most widely used herbicide ingredient in Canada.⁹ The widespread use of pesticides and, in turn, glyphosate is closely linked to the use of genetically modified crops, as seeds were engineered to tolerate these chemicals. The trend has threatened seed diversity, soil and water health, and small-farming livelihoods.¹⁰

Pesticides also have negative health effects on the eaters and farmworkers who are exposed. Glyphosate has been shown to contribute to cancer and other health issues.¹¹ It most recently made headlines with a precedent-setting U.S. court case in which a former school groundskeeper challenged Monsanto in court. The jury found that Roundup had caused the plaintiff's cancer and that Monsanto had failed to warn of the risks.¹² Key to preventing these impacts is the right of workers and the public to know of the use and effect of these pesticides, and action by governments to prohibit their use.

The use of pesticides is just one of the ways in which human activities are negatively affecting biodiversity. It is clear that many thousands of species are at risk of disappearing forever in the coming decades. Declining biodiversity, a result of human-induced climate change, will jeopardize ecosystems, community livelihoods, human health, and food security around the world.

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- ¹ https://www.biologicaldiversity.org/programs/biodiversity/elements_of_biodiversity/extinction_crisis/
 - ² Ibid.
 - ³ <http://www.wwf.ca/conservation/species/>
 - ⁴ <https://www.iucn.org/theme/species>
 - ⁵ <https://www.usc-canada.org/the-issues/seed-diversity>
 - ⁶ <https://foecanada.org/en/issues/the-bee-cause/>
 - ⁷ <https://www.cela.ca/sites/cela.ca/files/Neonicotinoid-insecticides-Ltr-toPM.PDF>
 - ⁸ <https://foecanada.org/en/2019/05/delay-cancelling-certain-uses-of-neonicotinoid-pesticide-unlawful-environmental-groups-are-pursuing-health-canada-in-federal-court/>
 - ⁹ <https://cban.ca/wp-content/uploads/GM-Crops-and-Herbicides-Nov2018.pdf>
 - ¹⁰ <http://gmoinquiry.ca/wp-content/uploads/2015/05/gm-and-environment-pamphlet-En.pdf>
 - ¹¹ <https://www.cela.ca/sites/cela.ca/files/MegSears-CELA-glyphosate-31Jan2018.pdf>
 - ¹² https://cban.ca/?na=v&nk=4-2d22868b3a&id=124&fbclid=IwAR2APJRaNU8ipz7V4wRvP6wVifV5bS62totLsi_jZZ9Zf08c-hFMS1fOcOc



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The National Union of Public and General Employees is an affiliate of the Canadian Labour Congress and a member of Public Services International.

15 AURIGA DRIVE
NEPEAN, ONTARIO
CANADA / K2E 1B7

[613] 228-9800
FAX [613] 228-9801

www.nupge.ca

national@nupge.ca

