



Sept. 8, 2018 - With more species at risk than resources to save them, conservationists face hard choices



Environmental degradation means scientists need to focus on triage

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The endangered southern resident killer whales are genetically and behaviourally distinct from other killer whales in B.C. Only 75 members of the population remain. (Valerie Shore/Shorelines Photography)



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This week [Quirks & Quarks](#) launches its season with a special: *What to save? Making hard choices in the conservation of wild animals and wild spaces.*

This past summer, a [female orca made headlines](#) around the world after she spent 17 days carrying her dead calf, highlighting the plight of southern resident killer whales.

Researchers say the orcas are starving, relying on a dwindling stock of Chinook salmon for food.

To tackle the declining numbers, the Canadian government, scientists and conservation groups have gone to enormous lengths: setting up hatcheries to reproduce salmon and limiting vessel noise and traffic around the endangered species.

But with a vast array of species facing similar threats, and limited resources for conservation, those same groups are increasingly facing a painful series of questions.

Bob McDonald talks to Sheila Thornton, a research scientist with the Department of Fisheries and Oceans Canada. 0:42

Is one species more valuable than another? How much are we willing to pay to preserve biodiversity? And at what point should we just give up?





Quirks host Bob McDonald with Rob Brouwer, watershed enhancement manager at B.C.'s Nitinat River Hatchery, where Chinook salmon - among others - are reproduced. Endangered southern resident killer whales rely on dwindling stock of Chinook salmon for food. (Anne Penman/CBC)

"Across the globe, there's a sort of a depressingly recurrent story of declines in biodiversity, largely due to habitat degradation and, in some cases, over-exploitation," said Eric Taylor, a professor of zoology, at the University of British Columbia.

Taylor says we need to look at how we define "saving" a species in the first place.

"Some people say to save a species, at least we've got a breeding pair in a zoo somewhere. That's not my view," he said.

"To save a species means to restore that species to its original range ... or at least to a level where the animal can persist without undue human intervention like captive breeding or penning them."

“We have more species at risk than resources to save them.”

- Conservation decision scientist Tara Martin

The asteroid-like impact of humans on earth

A recent study suggested that humans have killed more than 80 per cent of the world's wild mammals.

Studies also suggest human activity is destroying life on a scale the Earth has previously only experienced with a global supervolcano or an asteroid impact.

- **CBC News:** [Why Canada's endangered species are declining faster than ever](#)

We're only starting to experience the cost of these losses, says conservation decision scientist Tara Martin.

"It's biodiversity that sustains us, that produces clean air, clean soil, allows our crops to be pollinated. Even if we don't see ourselves connected to biodiversity, we are all fundamentally part of this global ecosystem," she said.

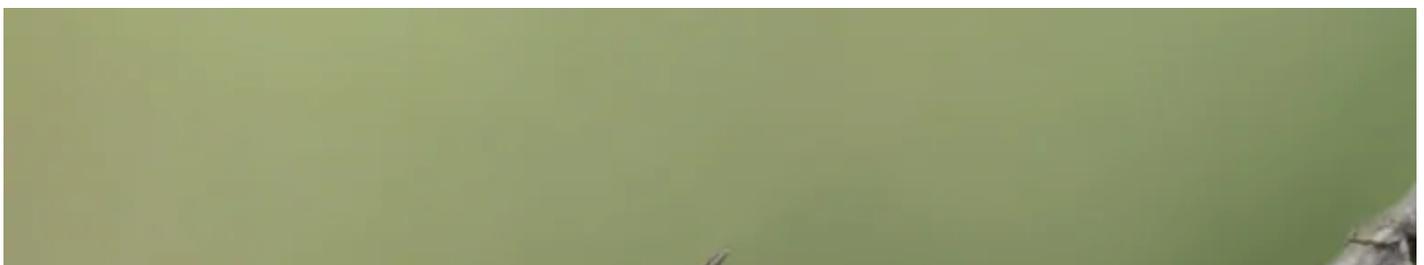
There's a core problem: we have limited resources for conservation.

So how do you pick between focusing on caribou, or fish, or bears, or songbirds?



Melting sea ice poses the biggest threat to polar bears which depend on the ice to catch prey and survive.
(David Goldman/Canadian Press)

Bob McDonald talks to Dr. Andrew Derocher, a professor in the department of biological sciences at the University of Alberta. He's been studying the populations up north for decades. 1:10





The Canada warbler has been designated as threatened in Canada. (Nick Saunders)

These are difficult decisions, and we may not be making the right choices, according to Martin.

"We have more species at risk than resources to save them," said Martin.

"In many cases we're spending our scarce resources on a handful of species that have the lowest likelihood of recovery at the highest cost," she continued.

In Canada, Martin said, the majority of the budget is going to a "handful" of high-profile species, when there are 521 species that are risk of extinction and probably 10 times that number should be listed.

On top of that, we don't have any idea how much it'd cost to save this many species, said Martin.

Bob McDonald talks to Dr. Alaine Camfield, a bird conservation biologist at the Canadian Wildlife Service and Environment and Climate Change Canada in Ottawa. 0:59

Case study: the Fraser River system

Take the Fraser River system in B.C., which Martin points to as an area "in particular need of triage."





Misty MacDuffee, program director of the wild salmon program at Raincoast Conservation Foundation, takes McDonald on a tour of their coastal restoration project on the North Fraser River. There is one of 12 projects funded by the Department of Fisheries & Oceans to restore function to salmon habitats. (Anne Penman/CBC)

There are 101 species at risk of extinction within the Fraser River estuary, from southern resident killer whales to several species of salmon to migratory birds.

It's also home to millions of people and valuable industries.

"What we have here is an incredibly contentious landscape where there's competing values," she said.

Martin said her group has estimated the cost of saving those 101 species in the system and found that if a concept she works on called "priority threat management" was implemented, there's a good chance of ensuring their continued existence.

The price tag for the work would be nearly half a billion dollars — but Martin says the economic benefit would quickly trump the investment.

"The income generated from having southern resident killer whales and having a whale-watching industry in this region is worth around \$70 million a year," she said.

Martin also pointed out that conservation is a job-creator and in turn improves nearby agriculture and fisheries.

A dire outlook





Dr. Sheila Thornton, lead orca researcher for Fisheries and Oceans (DFO) with Bob McDonald on the waters between Vancouver and Vancouver Island. (Anne Panman/CBC)

But without conservation strategies, over half of the 101 species in the Fraser River Estuary will not exist in 25 years, said Martin.

"We have the opportunity to save these species. We're at this tipping point, and we really need to act quickly in order to ensure that these species are going to be around for future generations," she said.

Let's come back to the southern resident killer whales.

To give them a fighting chance, conservationists can reduce the noise they're exposed to and increase the amount of food available.

The key, says Martin, is not to leave it too late.

"An example of that in British Columbia are southern mountain caribou. We already lost one herd. We have two herds that are functionally extinct," said Martin.



Southern mountain caribou in Jasper National Park (Mark Bradley/Parks Canada)

"Now we're in a situation where we're trying drastic measures," she said. "And it's uncertain if we'll succeed or not."

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