

Handout 4 - Texts in Conversation Activity

Instructions: As a group, read the following three documents. Then, fill in the chart below, imagining what the people who wrote or were interviewed in each document might say to each other, were they to have a conversation about the use of pesticides.

Olaf Jensen & Matt Shardlow (Document 1)	. . .might say to Buffy Sainte-Marie:	. . .might say to Bayer Global:
Bayer Global (Document 2)	. . .might say to Jensen & Shardlow:	. . .might say to Buffy Sainte-Marie:
Buffy Sainte-Marie (Document 3)	. . .might say to Jensen & Shardlow:	. . .might say to Bayer Global:

Document 1: The following article appeared in The Guardian newspaper on October 2019, and discusses recent scientific findings on the use of neonicotinoid pesticides in Japan.

Fishery collapse “confirms Silent Spring pesticide prophecy”

Common pesticides found to starve fish ‘astoundingly fast’ by killing aquatic insects

Damian Carrington, The Guardian, Oct. 31, 2019

The *Silent Spring* prophecy that pesticides could “still the leaping of fish” has been confirmed, according to scientists investigating the collapse of fisheries in Japan. They say similar impacts are likely to have occurred around the world.

The long-term study showed an immediate plunge in insect and plankton numbers in a large lake after the introduction of neonicotinoid pesticides to rice paddies. This was rapidly followed by the collapse of smelt and eel populations, which had been stable for decades but rely on the tiny creatures for food.

The analysis shows a strong correlation but cannot prove a causal link between the insecticides and the collapse. However, independent scientists said other possibilities had been ruled out and that the work provided “compelling evidence”.

The research is the first to reveal the knock-on effects of insecticides on fish. Harm to bees is well known, but previous studies in Europe have linked neonicotinoids to die-offs in other freshwater species including mayflies, dragonflies and snails and also to falling populations of farmland bird that feed on insects, including starlings and swallows. The insecticide has also been shown to make migrating songbirds lose their way.

Rachel Carson wrote *Silent Spring*, her seminal book on the dangers of pesticides in 1962. In their report, the Japanese researchers said: “She wrote: ‘These sprays, dusts and aerosols are now applied almost universally to farms, gardens, forests and homes—nonselective chemicals that have the power to kill every insect, the ‘good’ and the ‘bad’, to still the song of birds and the leaping of fish in the streams.’ The ecological and economic impact of neonicotinoids on the inland waters of Japan confirms Carson’s prophecy.”

“This disruption likely also occurs elsewhere, as neonicotinoids are currently the most widely used class of insecticides globally,” worth more than \$3bn year, they said.

Prof Olaf Jensen, at Rutgers University in the US and not part of the research team, said: “This study, although observational, presents compelling evidence. A fishery that was sustainable for decades collapsed within a year after farmers began using neonicotinoids. This is a large and astoundingly fast response.”

The research, published in the journal *Science*, looked at data from Lake Shinji spanning the decade before and the period after the introduction of neonicotinoids in 1993, from which point the pesticides started running off into the lake. They found neonicotinoid concentrations in the water frequently exceeded levels that are toxic to aquatic invertebrates.

The midge *Chironomus plumosus*, an important food source for smelt, was one of the worst affected. It vanished completely from all 39 locations sampled in 2016, despite being abundant in 1982. Another important food source, an abundant zooplankton species, *Sinocalanus tenellus*, fell by 83%.

The researchers found annual catches of smelt fell 90% in the decade after neonicotinoids were introduced, compared with the decade before. Catches of eels dropped by 74% over the same time period.

“Several alternative explanations for the collapse were evaluated and rejected: invasive species, hypoxia, or changes in fish stocking cannot plausibly explain the observations,” said Jensen. Furthermore, catches of icefish, which do not rely on the affected invertebrates for food, remained unchanged.

The research shows neonicotinoid pesticides can affect entire food webs, he said. On the lack of other reports of similar collapses, Jensen said: “There is the issue of not seeing a problem if we don’t look for it.”

Matt Shardlow, from the charity Buglife, said: “Japan has had a tragic experience with nerve-agent insecticides. In the paddy fields, where the air once thrummed with the clatter of billions of dragonfly wings, these insecticides have imposed near silence.”

“The annihilation of humble flies and the knock on effects on fish serve as further testament to the dreadful folly of neonicotinoids,” he said. “Let’s hope this is a wake-up call for Asian countries and they move to quickly ban the chemicals from paddyfields.”

“It is also extremely worrying that the levels of neonicotinoids in rivers in eastern England, as recently reported by Buglife, are very similar to the levels reported in this research,” Shardlow said. “Unfortunately, while it is clear that harm must have been done to UK river health, the exact impact of neonicotinoids has yet to be quantified.”



Document 2: *Bayer is a multinational pharmaceutical and agricultural chemical company that sells insecticides worldwide. After the European Union banned neonicotinoid insecticides, the company released the following press release:*

Neonicotinoid ban: a sad day for farmers and a bad deal for Europe

Monheim, April 27, 2018 – Today’s decision by the EU Member States to restrict the use of certain neonicotinoids to applications in permanent greenhouses is a bad deal for the European agricultural sector and the environment, and one that will not improve the lot of bees or other pollinators. The decision will further reduce European farmers’ ability to tackle important pests, for many of which there are no alternative treatments available.

Bayer remains convinced that the restrictions are not warranted, because neonicotinoids are safe when used in accordance with the label instructions. Even under the extremely conservative evaluation criteria of the European Food Safety Authority EFSA, the most recent bee risk assessment reports (1) did not find high risks for many neonicotinoid uses where a definitive risk conclusion could be drawn; in those cases, only low risks were found for honey bees, and for wild bees the risk was also found to be low in the majority of cases.

Bayer is surprised that, once again, legislative measures are being implemented without a prior thorough impact assessment. Beyond the costs for European farmers, the restrictions in place have already brought considerable unintended consequences: a lack of alternative solutions; more spray applications, leading to more CO₂ emissions; an increased risk of resistant pest insects; and a return to older, less-effective chemicals.

Numerous recent studies, inter alia by the Joint Resource Centre of the European Commission (2), have highlighted the impact of these restrictions. As it currently stands, the European crop protection industry will not be able to offer any registered seed treatments or soil-applied insecticides that could replace the current use patterns of imidacloprid and clothianidin.

It is also puzzling that Member States were asked to take a decision at this time, since the verdict of the ongoing court case (scrutinizing the legal basis of the 2013 restrictions) has not yet been delivered; this is due on 17 May. A reversal of the current restrictions could have profound implications for the legal justification of the new proposals.

Finally, the restrictions are intended to address the alleged risks the substances pose to bee health. Bayer cares about bees. They are essential for the pollination of many arable crops. But there are other, better ways to support pollinator health – such as increasing pollinator foraging options or natural habitats and more efficient control of the varroa mite – than banning substances that have helped farmers effectively manage a broad range of significant pests.

As a leading agriculture company that has a vested stake in pollinator health, Bayer has been working with partners around the globe on efforts to improve habitat and nutrition, better understand the science behind pollinator health, and improve stewardship and farmer / beekeeper communication.

Document 3: *Buffy Sainte-Marie is an indigenous singer-songwriter who has been active since the 1960s. Her music regularly addresses environmental issues and the rights and histories of native people. The following are lyrics to her 2008 song “No, No, Keshagesh.” In the Cree language, “Keshagesh,” is translated as “greedy guts.”*

Buffy Sainte-Marie, “No, No, Keshagesh”

I never saw so many business suits
Never knew a dollar sign could look so cute
Never knew a junkie with a money Jones
Who’s buying Park Place?
Who’s buying Boardwalk?

These old men they make their dirty deals
Go in the back room and see what they can steal
Talk about your beautiful for spacious skies
It’s about uranium
It’s about the water rights

Got Mother Nature on a luncheon plate
They carve her up and call it real estate
Want all the resources and all of the land
They make a war over it
They blow things up for it

The reservation out at Poverty Row
There’s something cookin’ and the lights are low
Somebody’s tryin’ to save our Mother Earth I’m gonna
Help ‘em to
Save it and
Sing it and
Pray it singin’

No no, Keshagesh you can’t do that no more

O! Columbus, he was lookin’ good
When he got lost in our neighborhood
Garden of Eden right before his eyes
Now it’s all spyware Now it’s all income tax

O! Brother Midas, lookin’ hungry today
What he can’t buy he’ll get some other way
Send in the troopers if the Natives resist
Same old story, boys
That’s how ya do it boys



Look at these people Lord they're on a roll
Gotta have it all
Gotta have complete control
Want all the resources and all of the land
They break the law over it
Blow things up for it

While all our champions are off in the war
Their final ripoff here at home is on
Mister Greed, I think your time has come I'm gonna
Sing it and
Pray it and
Live it and
Say it singing

No no, Keshagesh you can't do that no more