Listening Practice

The effects of environmental change on birds

AUDIO - open this URL to listen to the audio:

https://goo.gl/HS2qSi

Questions 1-10

Complete the notes below.

*Write **ONE WORD ONLY** for each answer.*

The effects of environmental change on birds

Mercury (Hg)

•Highly toxic

•Released into the atmosphere from coal

•In water it may be consumed by fish

•It has also recently been found to affect birds which feed on **1**.....

Research on effects of mercury or binds

•Claire Varian-Ramos is investigating

- the effects on birds' **2**..... or mental processes, e.g. memory
- the effects on bird song (usually learned from a bird's **3**.....)

•Findings:

- songs learned by birds exposed to mercury are less **4**.....
- this may have a negative effect on birds' **5**.....

•Lab-based studies:

- allow more **6**..... for the experimenter

Implications for humans

•Migrating birds such as **7**..... containing mercury may be eaten by humans

•Mercury also causes problems in learning **8**.....

•Mercury in a mother's body from **9**..... may affect the unborn child

•New regulations for mercury emissions will affect everyone’s energy **10**.....

Solution:

1. insects	**6.** control
2. behaviour/behavior	**7.** duck(s)
3. father	**8.** language
4. complex/complicated	**9.** food
5. reproduction/breeding	**10.** cost(s)/price(s)/bill(s)

Audioscript:

OK, so we've been looking at how man-made changes in our environment can affect wildlife. Now particular example. Let's take a look at mercury. Mercury's one of the 120 or so elements that ma matter, and it has the symbol Hg. It's a shiny, silvery substance. You may have seen it in old-fash thermometers, but it's not used much for domestic purposes now because it's highly toxic.

But the problem is that the amount of mercury in the environment's increasing. The main reason power plants used to produce electricity. The main source of energy that most of them use is still when it's burned it releases mercury into the atmosphere. Some of this gets deposited into lakes and if it's ingested by a fish it's not excreted, it stays in the fish's body and it enters the food chain known for some time that birds which eat fish may be affected, but what wasn't known until quite that those that eat insects can also be affected.

So a woman called Claire Varian-Ramos is doing some research on how this is affecting birds.

And rather than looking at how many birds are actually killed by mercury poisoning, she's looking subtle sub-effects. And these may be to do with the behaviour of the birds, or with the effect of m way their brain works, so whether it leads to problems with memory, for example. And she's partic focusing on the effects of mercury on bird song. Now. the process of song learning happens at a stage in the birds' development, and what you may not know is that a young bird seems to acquir listening to the songs produced by its father, rather than by any other bird.

And Varian-Ramos has already found in her research that if young male birds are exposed to me eat food contaminated with mercury. then the songs they produce aren't as complex as those pro other birds. So quite low-level exposure to mercury is likely to have an impact on male birds in a r situation, because it can mean that they're less attractive to female birds, and so it can affect thei reproduction.

Now the way she's carrying out this research is worth thinking about. She's using a mixture of stu birds kept in laboratories, and studies carried out outdoors in the wild. The lab-based studies hav advantage that you don't get all the variables you would in a natural setting. so the experimenter higher level of control, and that means they can be more confident about their results in some wa course they don't have to worry about going out and finding the birds in order to observe them.

So what are the implications here for humans? Well, because many birds are migratory, they may transporting mercury far from contaminated sites. For example, it's been found that ducks who'd l at a contaminated site were later shot by hunters over a thousand kilometres away, and presuma these birds likely had mercury levels high enough to warrant concern for human consumption.

In addition, going back to song learning by birds, we saw that this may be affected by mercury co Well, we also know that in humans, mercury causes developmental delays in the acquisition of la in fact this process is very similar in the brain regions it involves and even the genes that are invo mercury contamination has other important implications for humans as well. It's now known that a child can be affected if the food eaten by its mother contains high levels of mercury, and these eff quite substantial.

In the end, it comes down to whether more value is placed on human economic wellbeing or envi wellbeing. It's true there are new regulations for mercury emissions from power plants, but these billions of dollars to implement, and increase costs for everyone. Some argue that's too much to p wildlife. But as we've seen, the issues go beyond that, and I think it's an issue we need to conside carefully.