## SECTION 4 *Questions 31–40*

*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 **31** .....

**Research on effects of mercury on birds**

- Claire Varian-Ramos is investigating:
  - the effects on birds' **32** ..... or mental processes, e.g. memory
  - the effects on bird song (usually learned from a bird's **33** ..... )
- Findings:
  - songs learned by birds exposed to mercury are less **34** .....
  - this may have a negative effect on birds' **35** .....
- Lab-based studies:
  - allow more **36** ..... for the experimenter

**Implications for humans**

- Migrating birds such as **37** ..... containing mercury may be eaten by humans
- Mercury also causes problems in learning **38** .....
- Mercury in a mother's body from **39** ..... may affect the unborn child
- New regulations for mercury emissions will affect everyone's energy **40** .....



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# LESSON 11 – LISTENING SECTION 4

## TAPESCRIPT

OK, so we've been looking at how _____ in our environment can affect wildlife. Now I'll discuss a _____. Let's take a look at mercury. Mercury's one of the 120 or so elements that _____ all matter, and it has the symbol Hg. It's shiny, _____. You may have seen it in _____, but it's not used much for _____ _____ now because it's highly toxic.

But the problem is that _____ mercury in the environment's increasing. The main reason for this is the _____ used to produce electricity. The main _____ that most of them use is still coal, and when it's burned it releases mercury _____. Some of this _____ lakes and rivers, and if it's _____ by a fish it's _____, it stays in the fish's body and it enters the _____. So it's been known until quite recently is that those that insects can also _____.

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

And rather than looking at how many birds are actually killed by _____ _____, she's looking for more _____. And these may be to do with the behaviour of the birds or _____ mercury on the way their brain works, so whether it _____ problems with memory, for example. And she's particularly focusing on the effects of mercury on bird song. Now, _____ song learning happens at a _____ in the birds' development, and what you may not know is that a young bird _____ _____ this skill by listening to the songs _____ its father, rather than by any other bird.

And Varian-Ramos has already found in her research that if young male birds are _____ mercury, if they eat food _____ mercury, then the songs they produce aren't _____ those produced by other birds. So quite _____ to mercury is likely to _____ male birds in a natural situation, because it can mean that they're less attractive to female birds, and so it can affect their _____.

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Now the way she's carrying out this research is _____. She's using _____ studies using birds _____, and studies _____ outdoors in the wild. The _____ have the advantage that you don't get all _____ you would in a natural setting, so _____ has a _____ control, and that means they can be more _____ their results in some ways. And of course they don't have to _____ going out and finding the birds ____ _____ observe them.

So what are the _____ here for humans? Well, because many birds are _____, they may be _____ from contaminated sites. For example, it's been found that ducks who'd been feeding at a _____ were later shot by hunters over a thousand kilometres away, and _____. But these birds likely had mercury levels high enough to _____ for _____.

In addition, going back to song learning by birds, we saw that this may be affected by _____. Well, we also know that in humans, mercury causes _____ in the _____ of language, and in fact this process is very similar in the _____ it involves and even the genes that _____. But mercury contamination has other _____ _____ humans as well. It's now known that _____ can be affected if the food eaten by its mother contains high levels of mercury, and these effects can be _____.

In the end, it _____ whether more value is placed on human _____ or environmental wellbeing. It's true there are new _____ from power plants, but these will need billions of dollars to _____, and increases costs for everyone. Some argue that's too much to pay to _____. But as we've seen, the issues _____ that, and I think it's an issue we need to consider very carefully.

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# VOCABULARY

***Translate these expressions into Vietnamese:***

1. man-made changes
2. elements that make up all matter
3. silvery substance
4. old-fashioned thermometers
5. domestic purposes
6. power plants
7. gets deposited into lakes and rivers
8. ingested
9. excreted
10. the food chain
11. mercury poisoning
12. subtle sub-effects
13. a young bird seems to acquire this skill
14. low-level exposure to mercury
15. have an impact on
16. chances of reproduction
17. lab-based studies
18. get all the variables you would in a natural setting
19. the experimenter
20. be more confident about
21. implications
22. migratory
23. transporting mercury far from contaminated sites
24. to warrant concern for
25. mercury contamination
26. developmental delays
27. the acquisition of
28. substantial
29. comes down to
30. human economic wellbeing
31. regulations for mercury emissions
32. implement
33. go beyond

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