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Global warming to shrink fish by 24%

1st October, 2012

http://www.breakingnewsenglish.com/1210/121001-fish.html

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THE ARTICLE

From http://www.BreakingNewsEnglish.com/1210/121001-fish.html

The size of fish in the oceans is shrinking. A new report from the University of British Columbia in Canada states fish may shrink by as much as a quarter in the coming decades because of global warming. The research team conducted extensive tests on the effect of rising ocean temperatures on the size and number of over 600 species of fish around the world. They concluded that most fish are likely to shrink in size by 14-24 per cent by the year 2050. The biggest changes will be seen in tropical regions. The scientists said there is less oxygen in warmer water so fish cannot grow at the rate they should. They added that many fish will migrate to cooler waters outside the tropics.

Lead researcher Professor William Cheung said: "We were surprised to see such a large decrease in fish size. Marine fish are generally known to respond to climate change through changing distribution and seasonality. But the unexpectedly big effect that climate change could have on body size suggests that we may be missing a big piece of the puzzle of understanding climate change effects in the ocean." He added that human activities such as overfishing and pollution will worsen the problem: "Our work shows a very concerning future for the oceans and so it is very important to reduce greenhouse gas emissions and develop better fish management policies to adapt to these changes," he said.

WARM-UPS

1. SHRINKING FISH: Walk around the class and talk to other students about shrinking fish. Change partners often. Share your findings with your first partner.

2. CHAT: In pairs / groups, decide which of these topics or words from the article are most interesting and which are most boring.

size / shrinking / a quarter / global warming / species / tropical / oxygen / migrate / surprised / decrease / body size / puzzle / overfishing / pollution / greenhouse gas

Have a chat about the topics you liked. Change topics and partners frequently.

3. CONCERNED: What things worry you about the future of the Earth? Complete this table with your partner(s). Change partners often and share what you wrote.

Worry:	How worried?	Why?	What to do about it?
Fish stocks			
Water			
Weather			
Drought			
Pollution			
Cost of food			

4. PLENTY: Students A **strongly** believe the oceans will always have plenty of fish; Students B **strongly** believe otherwise. Change partners again and talk about your conversations.

5. HUMAN ACTIVITY: Rank these things that affect our life and share your rankings with your partner. Put the worst things at the top. Change partners often.

- overfishing
- driving instead of walking
- eating meat
- using too much water

- air conditioners
- not turning off lights
- destruction of forests
- overconsumption (too much shopping)

6. GLOBAL WARMING: Spend one minute writing down all of the different words you associate with the term 'global warming'. Share your words with your partner(s) and talk about them. Together, put the words into different categories.

BEFORE READING / LISTENING

From http://www.BreakingNewsEnglish.com/1210/121001-fish.html

1. TRUE / FALSE: Read the headline. Guess if a-h below are true (T) or false (F).

- a. A report says all fish will shrink by 24 per cent by within decades. T / F
- b. Researchers did tests on more than 600 different types of fish. T / F
- c. Scientists say fish sizes will change most will be in the polar regions. T / F
- d. The research predicts many fish will relocate outside of tropical areas. T / F
- e. The head researcher was not surprised at the figures in his research. T / F
- f. The researcher said marine fish do respond to changes in temperature. $\,$ T / F $\,$
- g. He suggested human activities are not helping make things better. $\,$ T / F $\,$
- h. He suggested humans needed to change the way they fish. T / F

2. SYNONYM MATCH: Match the following synonyms from the article.

- 1. shrinking
- 2 coming
- 3. extensive
- 4. likely
- 5. migrate
- 6. decrease
- 7. respond
- 8. puzzle
- 9. concerning
- 10. policies

- a. relocate
- b. probable
- c. approaching
- d. problem
- e. diminishing
- f. react
- g. worrying
- h. large-scale
- i. strategies
- j. drop

3. PHRASE MATCH: (Sometimes more than one choice is possible.)

- 1. in the coming
- 2 The research team conducted
- 3. over 600 species
- 4. fish cannot grow at
- 5. migrate to cooler waters
- 6. fish are generally known to respond
- 7. missing a big piece
- 8. overfishing and pollution
- 9. develop better fish management
- 10. adapt to

- a. of fish
- b. policies
- c. outside the tropics
- d. of the puzzle
- e. decades
- f. will worsen the problem
- g. these changes
- h. the rate they should
- i. to climate change
- j. extensive tests

WHILE READING / LISTENING

From http://www.BreakingNewsEnglish.com/1210/121001-fish.html

GAP FILL: Put the words into the gaps in the text.

The size of fish in the oceans is (1) _____. A new report from the University of British Columbia in Canada states fish may extensive shrink by as (2) _____ as a quarter in the coming regions decades because of global warming. The research team outside conducted (3) _____ tests on the effect of rising ocean temperatures on the size and number of over 600 species (4) ______ of fish around the world. They concluded that shrinking most fish are (5) _____ to shrink in size by 14-24 per rate cent by the year 2050. The biggest changes will be seen in tropical (6) . The scientists said there is less oxygen in much warmer water so fish cannot grow at the (7) _____ they likely should. They added that many fish will migrate to cooler waters (8) _____ the tropics.

Lead researcher Professor William Cheung said: "We were surprised to see such a large (9) _____ in fish size. piece Marine fish are generally known to (10) _____ to climate policies change through changing distribution and seasonality. But the concerning unexpectedly big (11) _____ that climate change could have on body size suggests that we may be missing a big respond (12) ______ of the puzzle of understanding climate change overfishing effects in the ocean." He added that human activities such as decrease (13) _____ and pollution will worsen the problem: "Our work shows a very (14) ______ future for the oceans and emissions so it is very important to reduce greenhouse qas effect (15) _____ and develop better fish management (16) _____ to adapt to these changes," he said.

LISTENING – Listen and fill in the gaps

From http://www.BreakingNewsEnglish.com/1210/121001-fish.html

The size of fish (1) _______ shrinking. A new report from the University of British Columbia in Canada states fish may shrink by as much as a quarter (2) _______ because of global warming. The research team conducted (3) ______ the effect of rising ocean temperatures on the size and number of over 600 species of fish around the world. They (4) ______ fish are likely to shrink in size by 14-24 per cent by the year 2050. The biggest changes will be (5) ______. The scientists said there is less oxygen in warmer water so fish cannot grow at the rate they should. They added that many fish will (6) ______ waters outside the tropics.

Lead researcher Professor William Cheung said: "We were surprised to see (7) ________ in fish size. Marine fish are generally known to respond to climate change through changing distribution and seasonality. But (8) _______ effect that climate change could have on body size suggests that we may be missing a big (9) _______ of understanding climate change effects in the ocean." He added that human activities (10) _______ and pollution will worsen the problem: "Our work shows a very (11) _______ the oceans and so it is very important to reduce greenhouse gas emissions and develop better fish management policies (12) _______ changes," he said.

AFTER READING / LISTENING

From http://www.BreakingNewsEnglish.com/1210/121001-fish.html

1. WORD SEARCH: Look in your dictionary / computer to find collocates, other meanings, information, synonyms ... for the words 'climate' and 'change'.

climate	change

- Share your findings with your partners.
- Make questions using the words you found.
- Ask your partner / group your questions.

2. ARTICLE QUESTIONS: Look back at the article and write down some questions you would like to ask the class about the text.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

3. GAP FILL: In pairs / groups, compare your answers to this exercise. Check your answers. Talk about the words from the activity. Were they new, interesting, worth learning...?

4. VOCABULARY: Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

5. TEST EACH OTHER: Look at the words below. With your partner, try to recall how they were used in the text:

 report 	 surprised
• much	generally
• 600	missing
• 2050	worsen
• warmer	reduce
 outside 	 develop

SHRINKING FISH SURVEY

From http://www.BreakingNewsEnglish.com/1210/121001-fish.html

Write five GOOD questions about shrinking fish in the table. Do this in pairs. Each student must write the questions on his / her own paper.

When you have finished, interview other students. Write down their answers.

	STUDENT 1	STUDENT 2	STUDENT 3
Q.1.			
Q.2.			
Q.3.			
Q.4.			
Q.5.			

- Now return to your original partner and share and talk about what you found out. Change partners often.
- Make mini-presentations to other groups on your findings.

SHRINKING FISH DISCUSSION

STUDENT A's QUESTIONS (Do not show these to student B)

- a) What did you think when you read the headline?
- b) What springs to mind when you hear the word 'fish'?
- c) What do you think about what you read?
- d) How big a problem is it if fish shrink by a quarter?
- e) How important are fish in your life?
- f) How would the world change if fish got smaller in size and number?
- g) Why are fish in the oceans getting smaller?
- h) If the fish migrate to cooler waters, will that mean the fish will grow to their regular size and there'll be no problem?
- i) What might the situation be like in the year 2100?
- j) Do things like this worry you?

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SHRINKING FISH DISCUSSION

STUDENT B's QUESTIONS (Do not show these to student A)

- a) Did you like reading this article?
- b) Why do you think the lead researcher was so surprised?
- c) How do you respond to climate size?
- d) Do you think shrinking fish will change the portions on your plate or things like sushi?
- e) Do you think climate change could change our body size?
- f) What should we do about overfishing and pollution?
- g) What other human activities are affecting climate change?
- h) What did you do today that added to greenhouse gasses or that helped the climate?
- i) Will countries adapt to these changes? Why (not)?
- j) What questions would you like to ask professor William Cheung?

LANGUAGE – MULTIPLE CHOICE

From http://www.BreakingNewsEnglish.com/1210/121001-fish.html

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Lead researcher Professor William Cheung said: "We were surprised to see such a large decrease in fish size. Marine fish are (7) _____ known to respond to climate change through changing distribution and seasonality. But the unexpectedly big effect that climate change could have on body size (8) _____ that we may be missing a big piece of the (9) _____ of understanding climate change effects in the ocean." He added that human activities such as overfishing and pollution will worsen the problem: "Our work shows a very (10) _____ future for the oceans and so it is very important to (11) _____ greenhouse gas emissions and develop better fish management policies to (12) _____ to these changes," he said.

Put the correct words from the table below in the above article.

1.	(a)	up	(b)	at	(c)	by	(d)	of
2.	(a)	coming	(b)	being	(c)	going	(d)	doing
3.	(a)	species	(b)	races	(c)	forages	(d)	ancestors
4.	(a)	likely	(b)	likeable	(c)	likelihood	(d)	liking
5.	(a)	agricultural	(b)	tropical	(c)	topical	(d)	multicultural
6.	(a)	migratory	(b)	migration	(c)	migrant	(d)	migrate
7.	(a)	general	(b)	generalize	(c)	generally	(d)	generalization
8.	(a)	believes	(b)	concludes	(c)	thinks	(d)	suggests
9.	(a)	puzzle	(b)	doodle	(c)	doddle	(d)	muddle
10.	(a)	concerning	(b)	worry	(c)	fretting	(d)	issue
11.	(a)	increase	(b)	reduce	(c)	stable	(d)	enhance
12.	(a)	adopt	(b)	apt	(c)	adapt	(d)	adept

WRITING

From http://www.BreakingNewsEnglish.com/1210/121001-fish.html

Write about **shrinking fish** for 10 minutes. Correct your partner's paper.

HOMEWORK

1. VOCABULARY EXTENSION: Choose several of the words from the text. Use a dictionary or Google's search field (or another search engine) to build up more associations / collocations of each word.

2. INTERNET: Search the Internet and find out more about global warming. Share what you discover with your partner(s) in the next lesson.

3. SHRINKING FISH: Make a poster about the shrinking fish. Show your work to your classmates in the next lesson. Did you all have similar things?

4. CONCERNED: Write a magazine article about concerns over the shrinking size and number of fish. Include imaginary interviews with a fisherman/fisherwoman and a consumer.

Read what you wrote to your classmates in the next lesson. Write down any new words and expressions you hear from your partner(s).

5. LETTER: Write a letter to a global warming expert. Ask him/her three questions about the Earth's rising temperature. Give her/him three of your opinions. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

TRUE / FALSE:

-	-	ь.	-		-	-1	-		-	r	-		-	т.	-
a.	F	р.	Т	с.	F	а.		e.	F	т.	F	g.	I	n.	

SYNONYM MATCH:

- 1. shrinking
- 2 coming
- 3. extensive
- 4. likely
- 5. migrate
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PHRASE MATCH:

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- 9. develop better fish management
- 10. adapt to

diminishing a.

- b. approaching
- c. large-scale
- probable d.
- e. relocate
- f. drop
- react g.
- h. problem
- i. worrying
- j. strategies
 - decades a.
 - extensive tests b.
 - c. of fish
 - d. the rate they should
 - e. outside the tropics
 - to climate change f.
 - of the puzzle g.
 - h. will worsen the problem
 - policies i.
 - these changes i.

GAP FILL:

Global warming to shrink fish by 24%

The size of fish in the oceans is (1) shrinking. A new report from the University of British Columbia in Canada states fish may shrink by as (2) much as a quarter in the coming decades because of global warming. The research team conducted (3) extensive tests on the effect of rising ocean temperatures on the size and number of over 600 (4) **species** of fish around the world. They concluded that most fish are (5) likely to shrink in size by 14-24 per cent by the year 2050. The biggest changes will be seen in tropical (6) regions. The scientists said there is less oxygen in warmer water so fish cannot grow at the (7) rate they should. They added that many fish will migrate to cooler waters (8) **outside** the tropics.

Lead researcher Professor William Cheung said: "We were surprised to see such a large (9) decrease in fish size. Marine fish are generally known to (10) respond to climate change through changing distribution and seasonality. But the unexpectedly big (11) **effect** that climate change could have on body size suggests that we may be missing a big (12) **piece** of the puzzle of understanding climate change effects in the ocean." He added that human activities such as (13) overfishing and pollution will worsen the problem: "Our work shows a very (14) **concerning** future for the oceans and so it is very important to reduce greenhouse gas (15) emissions and develop better fish management (16) policies to adapt to these changes," he said.

LANGUAGE WORK

1 – c	2 – a	3 – a	4 – a	5 – b	6 – d	7 - c	8 – d	9 –a	10 – a	11 – b	12 – c