

## Seawater Dumped on LA Fires: Scientists Monitor Impact

## **Description**

In January 2025, firefighters in Los Angeles struggled to fight wildfires due to a shortage of freshwater. Skilled pilots in Super Scoopers planes collected seawater and dumped it on the fires with precision. While using seawater may seem like a quick solution, it can harm ecosystems and damage firefighting equipment.

Research on coastal forests exposed to salty water from sea-level rise shows that prolonged exposure can harm trees and change soil composition. In a study called TEMPEST, scientists saw trees react negatively to salty water over time.

Sea-level rise is a growing concern globally, causing more saltwater exposure in coastal areas. While seawater can help fight fires, freshwater sources are preferred when available to avoid potential risks.

By Patrick Megonigal, Associate Director of Research, Smithsonian Environmental Research Center, Smithsonian Institution

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# **Vocabulary List:**

- 1. **Wildfires** /'waɪldˌfaɪərz/ (noun): Uncontrolled fires that spread rapidly through vegetation.
- 2. Freshwater /'frɛ[,wɔ:tər/ (noun): Water that is not salty commonly found in rivers and lakes.
- 3. **Ecosystems** /,iː.kəˈsɪs.təmz/ (noun): Communities of living organisms and their interactions with their environment.
- 4. Prolonged /prə'lɔ:ŋd/ (adjective): Extended in duration; lasting longer than usual.
- 5. **Composition** /,kpm.pə'zɪʃ.ən/ (noun): The nature of something's ingredients or constituents; a mixture.
- 6. **Exposure** /ɪkˈspoʊʒər/ (noun): The state of being subjected to something such as environmental conditions.

# **Comprehension Questions**

#### **Multiple Choice**

1. In what year did firefighters in Los Angeles struggle to fight wildfires due to a shortage of freshwater?



Option: 2020 Option: 2025 Option: 2030 Option: 2040

2. What type of planes did skilled pilots use to collect and dump seawater on the fires?

Option: Jetliners

**Option: Super Scoopers** Option: Helicopters Option: Propeller planes

3. What negative impact can using seawater for firefighting have according to the text?

Option: It attracts more wildlife to the fires Option: It accelerates the spread of fires

Option: It harms ecosystems and damages firefighting equipment

Option: It helps in controlling the fires efficiently

4. What is the name of the study where scientists observed trees reacting negatively to salty water over ESL-NEW time?

Option: OCEAN Option: TEMPEST Option: SEAFLOW Option: AQUASPHERE

5. Which environmental center is the author affiliated with?

Option: National Geographic Society

Option: World Wildlife Fund

Option: Smithsonian Environmental Research Center

Option: Greenpeace

6. What is the preferred water source for firefighting mentioned in the text?

Option: Rainwater Option: Seawater Option: Freshwater

Option: Underground water

#### **True-False**



7. Using	seawater fo	r firefiahtina d	can result in harm	to ecosystems	and damage	to firefiahtin	a equipment.
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- 8. Prolonged exposure to salty water from sea-level rise has been proven to have no negative effects on trees.
- 9. Sea-level rise is not a global concern according to the text.
- 10. Freshwater sources are not preferred for firefighting whenever available.
- 11. The author of the article is the Director of Research at The Conservation.
- 12. TEMPEST is a study that observed trees reacting positively to salty water exposure.

## **Gap-Fill**

13. In January 2025, firefighters in Los Angeles struggled to fight wildfires due to a shortage of
14. Skilled pilots in Super Scoopers planes collected and dumped it on the fires
with precision.
15. Research on coastal forests exposed to salty water from sea-level rise shows that prolonged exposure
can harm trees and change composition.
16. Sea-level rise is a growing concern globally, causing more saltwater exposure in coastal
17. While seawater can help fight fires, sources are preferred when available to
avoid potential risks.
18 Megonigal is the Associate Director of Research at Smithsonian Environmental
Research Center.



## **Answer**

Multiple Choice: 1. 2025 2. Super Scoopers 3. It harms ecosystems and damages firefighting equipment

4. TEMPEST 5. Smithsonian Environmental Research Center 6. Freshwater

**True-False:** 7. True 8. False 9. False 10. False 11. False 12. False **Gap-Fill:** 13. freshwater 14. seawater 15. soil 16. areas 18. Patrick

## Vocabulary quizzes

### Multiple Choice ( Select the Correct answer for each question. )

1. Which natural disasters are characterized by uncontrolled fires in wildlands?

Option: Hurricanes Option: Earthquakes Option: Wildfires Option: Tornadoes

2. Which process describes the gradual development of organisms over generations?

Option: Revolutionary Option: Evolutionary Option: Reactionary Option: Involuntary

3. Which mineral is essential for strong bones and teeth?

Option: Iron
Option: Calcium
Option: Potassium
Option: Magnesium

4. Which infectious bacterial disease is also known as rabbit fever or deer fly fever?

Option: Tuberculosis Option: Malaria Option: Tularemia Option: Cholera

5. Which term refers to an organism that hunts and feeds on other organisms?





Option: Parasite
Option: Prey
Option: Predator
Option: Producer

6. Which sense is related to the sense of smell?

Option: Tactile Option: Auditory Option: Olfactory Option: Visual

7. Which term describes the deliberate release of viruses bacteria or other germs to cause illness or death?

Option: Bioculture Option: Biodefense Option: Biotechnology Option: Bioterrorism

NEWS.COM 8. Which term describes a rapid back-and-forth movement?

Option: Rotation Option: Vibration Option: Expansion Option: Constriction

9. What kind of conditions result from a lack of essential nutrients in the body?

Option: Excesses Option: Deficiencies Option: Sufficiencies Option: Abundances

10. What term is used to describe the sudden occurrence of a disease in a specific geographic area or population?

Option: Epidemic Option: Outbreak Option: Pandemic Option: Endemic

### Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

11.	is essential for human survival and agricultural activities.
12.	remains provide valuable information about ancient life forms.



13. Regular screening can help detect early signs of cancer.				
14 are chemical signals that trigger social responses in animals.				
15. Photosynthesis is the by which plants convert sunlight into energy.				
16. Regular exercise and a balanced diet contribute to a healthy				
17. Measures of indicate the frequency of a disease in a defined population.				
18. Biodiversity plays a crucial role in maintaining healthy				
19. Long-term to environmental toxins can have detrimental health effects.				
20. The Amazon rainforest is home to an incredible diversity of plant and animal				
Matching Sentences ( Match each definition to the correct word from the vocabulary list. )				
21. The chemical of the atmosphere is crucial for supporting life on Earth.				
22. Insects have tiny sensory organs called on their antennae.				
23. The period saw a rapid diversification of multicellular life forms.				
24. High blood can increase the risk of cardiovascular diseases.				
25. Scientists conducted extensive to understand the effects of climate change.				
26. The lion stalked its silently through the tall grass.				
27. Dogs are often used to illegal substances at airports.				
28. The flu is caused by an virus that spreads easily from person to person.				
29. Ethical dilemmas often involve questions of and right and wrong.				
30. A single can quickly multiply and cause an infection.				

## **Answer**

**Multiple Choice:** 1. Wildfires 2. Evolutionary 3. Calcium 4. Tularemia 5. Predator 6. Olfactory 7. Bioterrorism 8. Vibration



9. Deficiencies 10. Outbreak

**Gap-Fill:** 11. Freshwater 12. Fossilized 13. Colorectal 14. Pheromones 15. Process 16. Lifestyle 17. Morbidity 18. Ecosystems 19. Exposure 20. Species

**Matching sentence:** 1. Composition 2. Sensilla 3. Cambrian 4. Pressure 5. Research 6. Prey 7. Detect 8. Infectious 9. Morality 10. Bacterium

#### **CATEGORY**

1. Health - LEVEL2

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