

Reading Passage

Survival in the Heat: Climate Change and UAE Wildlife

The United Arab Emirates is known for its extreme environment, characterized by arid deserts and very warm seas. While the local wildlife has evolved over thousands of years to survive these harsh conditions, the rapid pace of modern climate change is pushing many species to their physiological limits. Rising temperatures, increasing ocean salinity, and habitat loss are creating new challenges for animals on both land and sea.

The Marine Struggle

The waters of the Arabian Gulf are among the hottest in the world. This makes them a "natural laboratory" for scientists studying climate change, particularly regarding coral reefs. Corals are sensitive to temperature changes; when the water becomes too hot, they expel the colorful algae living inside their tissues, turning stark white in a process called "bleaching." In recent years, the UAE has witnessed several mass bleaching events, significantly damaging reef habitats. This affects the entire ecosystem, including the critically endangered Hawksbill turtle. These turtles rely on healthy reefs for food and shelter. Furthermore, rising global temperatures warm the sand on nesting beaches. Since the gender of a turtle hatchling is determined by sand temperature, hotter sand is leading to an imbalance, resulting in significantly more female hatchlings than males, which threatens future reproduction.

Another marine giant, the dugong, faces similar risks. The UAE is home to the second-largest population of dugongs in the world, mostly found in the waters off Abu Dhabi. These shy mammals feed exclusively on seagrass meadows. However, extreme heat and high salinity can damage seagrass beds, reducing the food supply for dugongs.

Life in the Desert

On land, the Arabian Oryx—the national animal of the UAE—is a symbol of desert survival. Once extinct in the wild, it was saved through captive breeding programs. However, climate change poses a new threat to their recovery. Studies show that as daily temperatures rise, Oryx are forced to change their behavior. They spend more time resting in the shade and less time foraging for food during the day, shifting their activity to the night. If temperatures continue to rise, the window of time available for them to eat may become too short to sustain them.

Hope for the Future

Despite these challenges, the UAE is taking active steps to protect its biodiversity. Conservationists are identifying "super corals" that are naturally more resistant to heat and using them to restore damaged reefs. Additionally, the government has expanded protected areas, such as the Marawah Marine Biosphere Reserve, and is planting millions of mangrove trees. Mangroves are vital because they absorb large amounts of carbon dioxide from the atmosphere and protect coastlines from rising sea levels, offering a glimmer of hope for the region's wildlife.

Comprehension Questions

Section A: Multiple Choice

Choose the best answer for each question.

1. Why is the Arabian Gulf described as a "natural laboratory" for scientists?

- A) It has the highest number of marine species in the world.
- B) It is an artificial environment created for experiments.
- C) Its naturally hot waters help scientists understand how marine life copes with high temperatures.
- D) It is the only place where coral reefs are found.

2. What is the primary diet of the dugong?

- A) Small fish and shrimp
- B) Seagrass
- C) Coral polyps
- D) Jellyfish

3. How does climate change affect Hawksbill turtle reproduction?

- A) Rising sea levels destroy all their eggs.
- B) Warmer water prevents them from swimming to nesting sites.
- C) Hotter sand temperatures cause an imbalance in the ratio of males to females.
- D) The heat causes the eggs to hatch too early.

4. How is the Arabian Oryx adapting to rising temperatures?

- A) They are migrating to other countries.
- B) They are eating different types of food.
- C) They are resting more during the day and feeding at night.
- D) They are shedding their fur to stay cool.

5. Which of the following is NOT mentioned as a conservation strategy in the UAE?

- A) Planting mangrove trees.
 - B) Importing polar bears to cool the environment.
 - C) Identifying heat-resistant "super corals."
 - D) Expanding protected areas like Marawah.
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Section B: True or False

Decide if the following statements are True or False based on the text.

1. Coral bleaching occurs when corals expel the algae living in their tissues.
 2. The UAE has the largest population of dugongs in the world.
 3. The Arabian Oryx has never been extinct in the wild.
 4. Mangroves are beneficial because they absorb carbon dioxide and protect coastlines.
 5. High salinity (saltiness) in the water can damage the seagrass beds that dugongs eat.
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Section C: Vocabulary Matching

Match the word from the text to its correct definition.

Word	Definition
1. Physiological	A. To search for food.
2. Bleaching	B. Relating to the way a living organism or body part functions.
3. Foraging	C. The variety of life in the world or in a particular habitat.
4. Biodiversity	D. The process of becoming white or pale, often due to loss of pigment.