



OUR FRESH WATER

Key Takeaways:

- Less than 1% of the world's water is fresh and accessible, yet freshwater habitats such as lakes, rivers, and wetlands are home to more than 10% of all known animals and almost 50% of all known fish species.
- Freshwater ecosystems help regulate temperature, transport nutrients, and allow wildlife to travel through different landscapes to complete their life cycles.
- Everything that lives on land, including people, depends on fresh water. Water is essential for drinking, growing crops, manufacturing, producing energy, and transporting goods.
- Wetlands are some of the most productive habitats on the planet. They help filter water, minimize the effects of floods and storms, and support high concentrations of animals.
- Poorly managed dams can divert and disrupt the natural flow of rivers, which affects wildlife and people. About a quarter of the world's river basins run dry before they reach the sea because so much water has been taken from them.
- Fresh water availability is becoming unpredictable and uncertain in many areas of the world. It's threatened by climate change, population growth, and changing consumption patterns.
- We are not alone in our need for water, but we have the ability to ensure that fresh water flows. To keep water flowing, all users need to work together. Reducing pollution, improving our irrigation systems, minimizing personal water use, and properly managing dams will help protect freshwater habitats. We should also focus on renewable energy options, such as solar and wind, that have a less detrimental impact on rivers and the communities, cities, and biodiverse ecosystems that rely on them.

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Florida manatees leave coastal seas to swim up rivers in the winter to find warmer water and abundant freshwater plants to eat. Humans are now taking so much water from springs, and polluting others, that manatees are losing their winter homes.

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GUIDED DISCUSSION PROMPTS

Use these prompts to generate a class or small-group discussion based on the Our Fresh Water episode or on videos on ourplanet.com.

- 1** Discuss fresh water's role in ecosystems like forests and deserts. Use terms related to the water cycle and examples from the episode. How do ecosystems and fresh water depend on one another? How would the health of one be impacted by the health of the other?

Examples from the episode:

The Iguazu Falls, lying between Brazil and Argentina, are the largest waterfalls on the planet. Much of the falls' water comes from the Amazon rain forest 1000 km away, where it rises as vapor from the canopy. One tree can give off 1000 L of water a day. As the vapor rises, it condenses into clouds. About 20 billion tons of water – more than what travels down the river itself—leave the forest as vapor each day. As clouds travel, they shed water, irrigating farmland and forest, and filling the Pantanal, the largest tropical wetland on Earth. If the rain forest is destroyed, this life-giving cycle will be broken.

The desert of central Australia is one of the driest places on Earth. Once per decade, this desert is transformed by moisture-laden clouds of the monsoon. These clouds eventually burst, flood the desert, and create Australia's largest lake. Huge numbers of fish and birds swarm this area to benefit from the lake before it dries up for another ten years.

- 2** Fresh water is becoming scarce. Climate change is impacting weather patterns, and growing human populations continue to misuse and overuse the water we have available. These effects are being felt all over the world and by many different species. Discuss how resource availability (specifically fresh water) affects organisms in an ecosystem, using examples from the episode.

Examples from the episode:

Elephants need to drink 200 L of water a day; they eat wood because it contains a lot of moisture and dig holes in the sand of riverbeds, following their extraordinary sense of smell in their search for water.

Hippos rely on flowing water to keep cool; without it, they're crammed together in mud, which can create tension.

Buffalo in an urgent search for water head to the water holes, risking their lives by having to share the water supply with their biggest predator—lions.



GUIDED DISCUSSION PROMPTS

3 Dams are created in order to provide an alternative source of energy generation. However, if constructed poorly, they can pose many problems. Cite examples from the episode of some of the negative impacts of dams. Who is affected and how? Research and discuss other ways in which communities can provide alternative sources of energy.

Examples from the episode:

Pacific salmon swim up rivers in North America, leaping up waterfalls to assist with their migration. However, they're not able to do this when dams are present. These salmon are now swimming up fewer than a quarter of the rivers they used to because of dams disrupting the rivers' connectivity. This poses problems not only for the salmon, but for Alaskan brown bears that depend on these fish for sustenance and will not sustain themselves through hibernation without them.

Rivers throughout the Mekong system no longer flow as a result of dam construction. This impacts the numerous species of freshwater fish that rely on these rivers to migrate and breed. The Mekong supports the largest inland fishery in the world; one-fifth of all freshwater fish caught by people worldwide comes from this system. The inability of these fish to reproduce will impact the people that depend on these rivers for income and food.

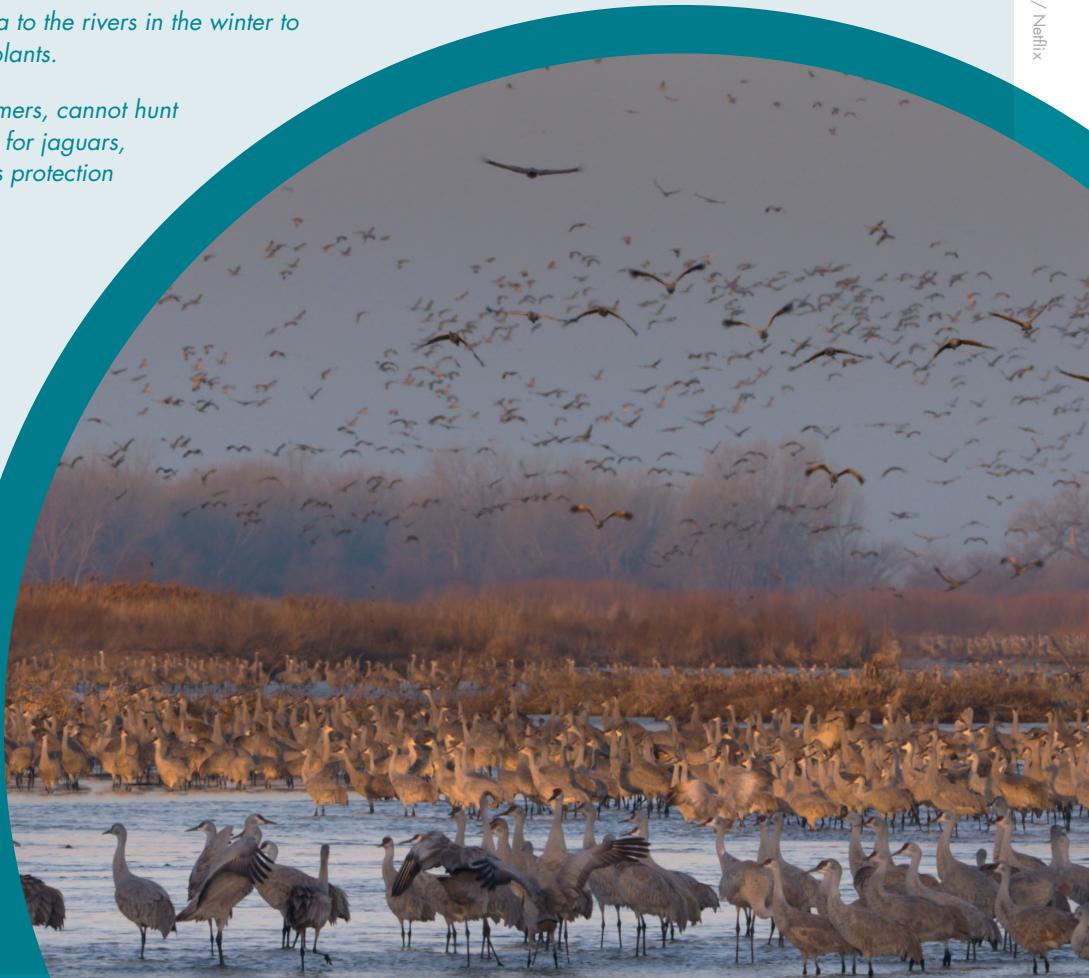
4 Every living thing needs water. Humans rely on it for the food we eat, the clothes we wear, and the energy we depend upon. Animals use it for their homes, for nourishment, and for protection. Freshwater ecosystems support more than 100,000 species – from fish and insects, to amphibians and reptiles, to birds and mammals. Share examples from the episode that demonstrate the variety of ways fresh water is used by species, then consider all the ways you use fresh water each day. What small changes could you make to your surroundings or daily routine to improve the status of fresh water around the world?

Examples from the episode:

Cichlid fish use Lake Tanganyika in Tanzania, and Siamese fighting fish use the Mekong River in Southeast Asia as breeding grounds to attract mates and lay their eggs.

Manatees in Florida travel from the sea to the rivers in the winter to keep warm and graze on freshwater plants.

Jaguars, despite being excellent swimmers, cannot hunt very well in water. Capybaras, a prey for jaguars, are aware of this and use the water as protection to escape.



ACTIVITIES

ACTIVITY IDEA	SUBJECTS
Itemize your daily water expenditure and strategize on how to improve it when given a water budget.— A Drop in the Bucket	Math
Compose a poem using metaphors and similes to describe the importance of free-flowing rivers.— Like the River Flows	Language arts
Build a model of a wetland ecosystem and perform a science experiment to unveil why they're important.— Nature's Sponges	STEM
Think twice about throwing food out by learning how much water it took to make that food and creating a pictograph representation of your lunch.— How Much Water Is in Your Lunch?	Math
Use the Free-Flowing Rivers app to interact with nature and discover the importance of flowing rivers through augmented reality.	STEM
Perform an audit at your school or home to analyze water usage and determine strategies for conserving water.	Social studies
Thinking of your local lake or river, take the How Healthy Is Your Favorite Water Basin quiz to give your local waterway a health report card. Then develop a plan with your community for improving the water basin's health.	Social studies

What We Can Do:

- Spread the word—talk to your friends and family about the importance of conserving fresh water.
- Watch your water use—understand your personal impact on our planet's water supply and avoid being wasteful.
- Save your energy—to help combat the effects of climate change, encourage renewable energy sources, unplug devices when they're not in use, and walk or bike when you can instead of using a car.
- Recharge your local water source—return rain where it belongs by using downspouts and gutters, or collect rainwater for outdoor uses such as watering lawns or flower beds.
- Enjoy your local freshwater resources—spend time in and around rivers and lakes, but always remember to leave them the way you found them!

Additional Resources:

- [Freshwater Force](#)—join the movement and fight for the conservation of freshwater habitats
- [Depending on Clean Water: Five Freshwater Animals](#)—highlights from just a few of the thousands of species that rely on fresh water
- [An 83% decline of freshwater animals underscores the need to keep rivers connected and flowing](#) – what the health of its species can tell us about the health of the freshwater ecosystem
- [5 Amazing Animals That Live in the Pantanal—and Need Our Help](#)—key species that call the world's largest tropical wetland home
- [Free-flowing Rivers WWF webpage](#)—colorful answers to questions on the importance of keeping rivers free-flowing
- [Freshwater habitats WWF webpage](#)—species that depend on fresh water, and the threats these habitats face
- [Fresh Water initiative WWF webpage](#)—what WWF is doing to help protect our planet's fresh water
- [Our Planet official webpage](#)

