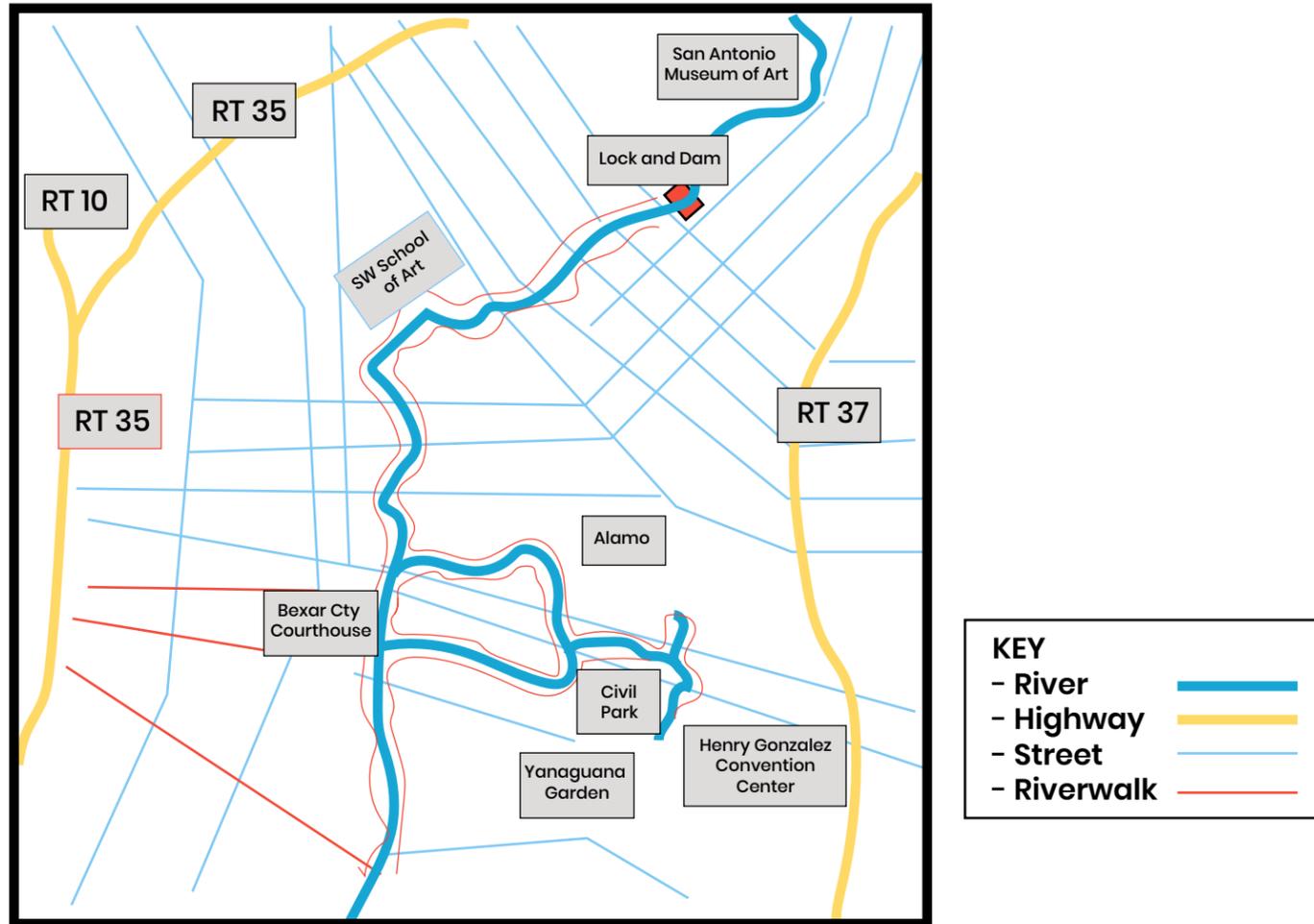


How does the San Antonio Riverwalk support the health of the San Antonio River basin watershed?



How does the San Antonio Riverwalk help support the health of the San Antonio River basin watershed?

1. Look at the San Antonio downtown area in the map below. The Riverwalk follows the river through the city. Where does the water flowing through the Riverwalk come from? Where does it go after leaving the city? How is the water controlled?



2. Exploring systems and system models. The San Antonio Riverwalk was first proposed by architect Robert Hugman back in the 1920s as a solution to the seasonal flooding of the city's downtown area. Today, it encompasses over 2,000 acres of public land that helps to manage the entire San Antonio River Basin ecosystem. Research the history of the San Antonio Riverwalk. Look for ways that it improves the entire San Antonio River system.

3. From your research, create a concept map showing how the downtown San Antonio Riverwalk supports the health of the entire San Antonio River watershed system?

San Antonio Riverwalk – How does the San Antonio Riverwalk help support the health of the San Antonio River basin watershed?

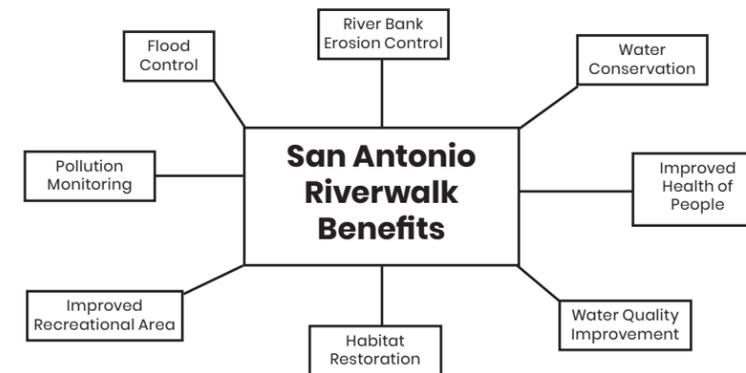
Image Information: The image shows the San Antonio Riverwalk. This tourist attraction is not just an entertainment area but is a functioning waterway that funnels water through the city of San Antonio. Today, there are nearly 15 miles of the waterway that include natural areas, public parks, along with many residential, commercial, and entertainment sections. The Riverwalk is the foundation for supporting the economic, environmental, and cultural features of the entire watershed system. The San Antonio River Basin extends through 15 counties in South Texas and covers over 240 miles.

Question: How does the San Antonio Riverwalk help support the health of the San Antonio River basin watershed?

Possible student answers: By controlling storm runoff, it prevents downtown flooding and surface erosion downriver, making the river a better habitat for plants and animals. Makes people more aware of the river and its importance for recreation, like boating, and can help reduce pollution from pedestrian trash. Allows for monitoring pollution factors like sewage and illegal waste dumping to prevent unhealthy bacteria contamination and creates a healthier environment for plants, animals and people along the river.

Interesting Info: The San Antonio River Authority was created in 1937 in response to voters recognizing the importance of developing and conserving the State's water resources. Their mission is on promoting safe, clean, and enjoyable stewardship of the watershed within their jurisdiction through science and engineering expertise and data. Their many projects and partnerships help maximize their use of resources.

Support the Phenomena: Where does the water flowing through the Riverwalk come from? [Dry weather water flow comes from natural springs located just north of the city in Bexar County. Seasonal rains and natural weather events like hurricanes also contribute to its volume.] Where does it go after leaving the city? [It feeds into the Guadalupe River, the San Antonio Bay, and then to the Gulf of Mexico.] How is the water controlled? [The river volume is controlled through the use of dams, cutoff channels, and overflow ponds.]



NGSS Crosscutting Concept #4 – Systems and System Models: In K-2, students describe how the parts of the designed world (Riverwalk) work together; in 3-5, students describe the system (Riverwalk), its components, and how they function together to solve a problem.

NGSS Science and Engineering Practices #2 – Developing and Using Models: in 6-8, students develop a model of a simple system with uncertain and less predictable factors; in 9-12, students design a test of a model to ascertain its reliability.

- In K-2, have students talk about ways the Riverwalk helps people in the community. Discuss any potential problems that the Riverwalk might create for people and have them propose some solutions.
- In 3-5, have students identify a problem that the Riverwalk might create for pedestrians and then have them draw a possible design solution to that problem.
- In 6-8, students build their own model of a city river basin and explore the flow of water in periods of either drought or excessive rainfall.
- In 9-12, students design a test to evaluate the effectiveness of the Riverwalk system model.

More information: To learn more about the San Antonio River watershed and its efforts on sustainability, visit sariverauthority.org.