

Changing the Landscape

Analyze how environmental changes bring benefits and costs.

8.11.B “describe the positive and negative consequences of human modification of the physical environment of the United States.”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each positive consequence and circle each negative consequence. Draw an arrow from each marked consequence to the human modification that caused it.

Managing Water, Changing Places

- ① People in the United States have long changed rivers, wetlands, forests, and coastlines to meet needs. A levee is an earthen wall built along a river to keep water from spreading onto nearby land. Along parts of the Mississippi River, levees have helped protect homes, farms, roads, and businesses from frequent floods. They also made it easier for some communities to grow near the river. This protection, however, changes where floodwater can go and how the river behaves.
- ② During very large floods, water held between levees may rise higher and move faster. If a levee fails, the sudden flooding can be severe. Levees also prevent muddy floodwater from regularly reaching some floodplains. That sediment once renewed soil and helped build wetlands near the Gulf Coast. Without as much sediment, some wetlands shrink, leaving coastal communities with less natural protection from storm surge and erosion. This leaves them more exposed during hurricanes and tropical storms.
- ③ In the arid West, dams and canals store and move water for cities and farms. Reservoirs can provide drinking water, irrigation, hydropower, and recreation. Yet diverting too much water can lower river flows, harm fish habitat, and leave less water for downstream users. Judging a modification means naming both its intended benefit and its costs, then considering who experiences each result and over what time period. Some effects appear immediately, while others build over decades.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Name two ways levees along the Mississippi River can help nearby communities.

2 Describe two negative consequences that levees can cause during or after major floods.

3 How can keeping sediment from reaching floodplains lead to greater danger for Gulf Coast communities?

4 Give one benefit and one negative consequence of using dams and canals in the arid West.

3 YOUR TURN _____ Your own words

Choose a human modification in the United States that is not discussed in the passage. In four sentences, explain one positive consequence, two negative consequences, and the people or places affected.

PART 1 • READ AND MARK

Underline each positive consequence and circle each negative consequence. Draw an arrow from each marked consequence to the human modification that caused it. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Name two ways levees along the Mississippi River can help nearby communities.	They can protect homes, farms, roads, and businesses from frequent floods, and they can make it easier for communities to grow near the river.
2	Describe two negative consequences that levees can cause during or after major floods.	Water between levees can rise higher and move faster, and a levee failure can cause severe sudden flooding. Levees can also keep sediment from reaching floodplains and wetlands.
3	How can keeping sediment from reaching floodplains lead to greater danger for Gulf Coast communities?	Less sediment means wetlands may shrink. Smaller wetlands provide less natural protection from storm surge and erosion, leaving communities more exposed to hurricanes and tropical storms.
4	Give one benefit and one negative consequence of using dams and canals in the arid West.	Benefits include drinking water, irrigation, hydropower, or recreation. A negative consequence is lower river flow, harmed fish habitat, or less water for downstream users.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Building large parking lots around shopping centers gives drivers easier access to stores and can support local businesses. Because pavement does not absorb much rain, runoff can increase flooding in nearby streams. Runoff may also carry oil and trash into the water. Shoppers and businesses benefit, while downstream neighbors and stream habitats may face flood risk and pollution.

Accept equivalent accurate benefits and costs that are supported by the passage. For the open response, accept varied U.S. examples if the student clearly explains one positive consequence, two negative consequences, and affected people or places.