



ACTIVITY TIPS

River Power vs. Tidal Power

The River Power vs. Tidal Power activity asks students to draw an image of either the river (Hoover) or the tidal (La Rance) dam.

Students might show that Hoover Dam is in the mountains, located on a river, and made of concrete, and that the water changes levels. La Rance tidal dam harnesses the power of tides and is built on an estuary, a coastal body of water where ocean tides and river water merge.

Discussion Ideas

How would fish and other water creatures be affected by these dams?

Hoover Dam: Natural flooding has been eliminated here because of the dam. Much of the population of the native fish downstream from the dam has been decimated. Currently the native fish called razorback sucker, humpback chub, bonytail chub, and Colorado pikeminnow are endangered.

La Rance Tidal Dam: The tidal dam has caused progressive silting of the Rance ecosystem. Sand-eels and plaice fish have disappeared, though sea bass and cuttlefish have returned to the river.

Remind students that despite the negative biological impact that dams can have, tidal energy has the benefits of being a renewable source of electricity and also does not result in the emission of CO₂.

Can you think of some ways people can reduce the impact of dams on fish and wildlife?

Possible answers include:

- Add ladders to enable fish such as salmon to swim upstream.
- Artificially simulate the “natural” water movement that would be found in the river if it were not dammed off.
- Use a dam only in a location where there is excessive runoff at certain times of the year. Then allow constant flow at the lower levels year round, and trap the excess.