

Uses of Fresh Water

Guided Practice

Real Data

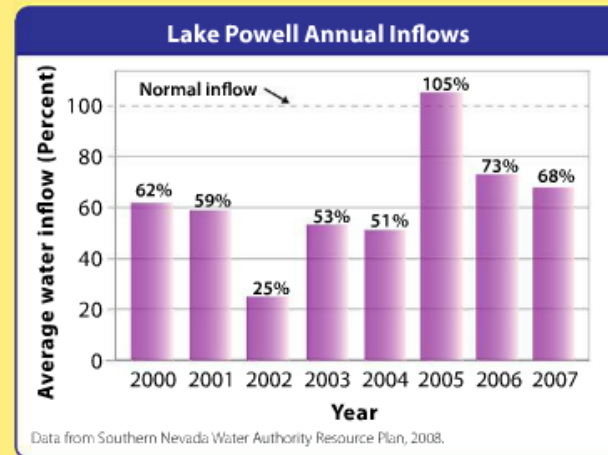


Lake Powell

Lake Powell is a major storage reservoir along the Lower Colorado River. Along with Lake Mead, Lake Powell provides drinking water, power generation, and recreation opportunities. The Colorado River Compact specifies how much water must be released (outflow) from Lake Powell each year.

The normal annual inflow from the Colorado River to Lake Powell from 1971 to 2000 was 12 million acre-feet (maf). The graph uses this figure as 100% of annual inflow as shown by the dashed line on the graph. An acre-foot is the volume required to cover an acre of land in one foot of water.

1. **Calculate** Using 12 maf as 100% of inflow, calculate the inflows for each of the years in the graph.
2. **Infer** What may have accounted for the increase in inflow in 2005?
3. **Analyze the Data** The annual minimum outflow to meet the conditions of the Colorado River Compact is 8.23 maf. For each of the years graphed, determine if Lake Powell had a net gain or loss of water.



4. **Draw Conclusions** Based on your answer to Question 3, how has the Colorado River Compact affected the volume of water stored in Lake Powell?



MATH SUPPORT For help calculating with percentages, see the Math Handbook.

1. At your group, read and complete “Real Data: Lake Powell” on page 431 in your textbook.

2. **What do you think?** In your opinion, is groundwater mining a sensible solution? How else could Las Vegas meet its future water needs?

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Independent Practice

1. What are the three main categories of water use? Give an example of each.
2. Explain how water diversions and dams affect surface water depletion.
3. How does agriculture contribute to groundwater depletion? What are some possible solutions to this problem?
4. What solution do you think would be the most helpful in moving toward global sustainable water use? Explain your answer.

