Water, Water Everywhere - Scenarios

Choose one of the fictitious, yet plausible, scenarios listed below for your classroom's Town Hall meeting.

1. **A new water-mining operation is planned near the park** - The city of Las Vegas, Nevada has contracted with Global Hydroscovery Water Miners, Inc. to purchase water from deep wells that they will develop just outside of Great Sand Dune's park boundary. The plan calls to have the water arrive in Las Vegas through very circuitous means.

   First, water will be pumped from the wells into the Rio Grande and flow to the city of Albuquerque. Albuquerque subsequently will sell their water right on nearby rivers to the city of Phoenix. Las Vegas will construct a tunnel for the city of Phoenix underneath the Continental Divide, which will carry the Albuquerque water to Phoenix. Phoenix's right to Albuquerque's water will be sold to Los Angeles which, in turn, will sell an equal Colorado River water right to Las Vegas.

   The cost of the wells, pipelines, tunnel, and water rights is estimated at $48 million dollars over a three year period, yet the potential cost benefit to the city of Las Vegas in water is $5 million dollars per year. The wells could export up to five million cubic feet of water per day, which may potentially have a devastating effect, not only on the wildlife and ecology of Great Sand Dunes, but also to farmers and ranchers who live nearby. Global Hydroscovery Water Miners, Inc. has been found to legally have the right to develop these wells near the park.

   Can a solution be found that weighs water needs of urban areas, as well as needs of local farmers, ranchers, and park managers?

2. **A senior water right on Medano Creek emerges and the owner wishes to put it into use** - As the owner of a senior water right (which existed prior to the 1932 establishment of Great Sand Dunes National Monument) on Medano Creek, Dirk Doublehorn wishes to double the amount of water he uses for his ranching operation. Legally, it is found that he has a right to three times the amount of water he is currently using.

   Studies have shown that if he takes double the water, waterfowl and elk populations will be negatively affected. Also, dropping groundwater levels may dry up some of the shallower wells at The Dunes, a nearby residential community.

   Mr. Doublehorn estimates that he can expand his ranching operation and make an extra $80,000 per year if he doubles his water usage. He is also considering the sale of the remaining amount of his water right to a nearby agricultural operation, Spudilicious Acres Potato Farms, Inc., which is willing to pay him $200,000 for the partial water right. The extra income will be appreciated by Mr. Doublehorn's family as a means of financing college costs. Four additional ranch hands will also gain employment, as a result of the expanded cattle operation.

   Can a solution be found that balances water needs of the ranchers, farmers, community members, and natural systems?

3. **The State of Texas is not receiving its share of water from the Rio Grande** - As stated in the Rio Grande Compact, Texas has the right to a portion of water from the Rio Grande, but it turns

out that Colorado has not been living up to its side of the compact. Colorado's San Luis Valley reservoirs are almost dry. Farming and ranching irrigation ditches and wells have been running low due to recent drought conditions. As defined in the Rio Grande Compact, Colorado has been found to be deficient in the amount of water that it sends across the border to New Mexico. New Mexico, on the other hand, has been releasing the required amount of water through to Texas.

A multi-state coalition of local businessmen and agency representatives will discuss options on how to deal with Colorado's water delivery shortfall.

4. **For fifteen consecutive years, the San Luis Valley has experienced drought conditions** - Wells are running dry, agriculture is coming to a standstill, unemployment is high, reservoirs are almost empty, wildlife is having a difficult time finding water sources, migrating birds are not finding stopover locations, and even harder times seem close at hand. Colorado has been fulfilling its duty in regards to releasing water through to New Mexico, as required by the Rio Grande Compact.

   A focus group representing five different perspectives has been invited to the Town Hall to discuss how to deal with this water shortage and the potentially disastrous effects if the drought continues.

5. **A new residential development has been proposed for the San Luis Valley** - The Denver-based development company, Green Desert, Inc., has initiated planning for the Rock of Ages retirement community near the Great Sand Dunes. Five thousand seniors from Denver and two thousand seniors from Colorado Springs are planning to move into their new homes -each with a green lawn- after construction is complete.

   The Rock of Ages retirement community will be built on top of four newly-purchased potato farms. Independent assessments have found that the community will require up to three times more water than estimated by Green Desert, Inc. The company estimated that the community will require only the amount of water previously used by the potato farms, but these predictions were based on information from Denver, where precipitation is 15 inches per year. At the potato farms, precipitation averages about 7 inches per year.

   Great Sand Dunes managers have produced a study which shows that wildlife may be affected by the amount of water used by this new community. The study also demonstrates that a lower water table near the park will also affect the wells of at least one local ranching operation.

   A five member team (which includes the attorney of Green Desert, Inc.) has been created to discuss the problem with the Town Hall committee members, who will draft an agreement that will help resolve the potential hydrologic impacts to the area.