**Week 2: Water Management with the City of Boise**

Water Management on the Boise River is incredibly complex. There are numerous people and groups that need to use the water in the river, want to recreate, want to keep the river pristine, are in charge of the health of the organisms that live in the water, and all sorts of other things. These people that rely on and use the Boise River are called **Stakeholders**. Stakeholders can be organizations, governments, groups and even individual people. Even YOU are a stakeholder on the Boise River! Below, we have listed several the stakeholders on the river so that you can see how many entities contribute to the protection and management of the Boise River.

**Water Management Stakeholders**

**Cities**

Cities like the city of Boise, Eagle, Caldwell, Nampa, Parma, and more, are all in the Boise River Watershed and they all need to use the water in the river. These cities have engineers, water quality scientists, and other staff who work on keeping the river clean and usable. Also, these cities collect used water from our homes and businesses, clean it, and put it back into the watershed.

**Dam Managers**

These are the people who build and operate the dams in the Boise River.

Have you ever wondered who built all the dams on the Boise River? **The U.S. Bureau of Reclamation** is the government entity that builds a lot of our dams! They oversee and built Anderson Ranch Dam and Arrowrock Dam in order to control the water in the Boise River. They help make sure that there isn’t too much flooding in the spring and that our farmers and cities have water in the late summer.

**The Army Corps of Engineers** is a group of engineers from the US Army who do engineering work all over the world. They built and maintain Lucky Peak Dam and Powerhouse. The power generated at the dam is owned by Seattle City Light, the company that provides people in Seattle their electricity. Crazy! That means people living in Seattle are also stakeholders on the Boise River.

Another entity which works with the dams and with the canals and irrigation that run through our watershed is the **Boise Project Board of Control**.They help monitor and manage the water that is used by irrigation.

**Drinking Water**

Drinking water in the Boise River Watershed usually comes from ground water sources. However, that ground water is recharged by the Boise River and by the irrigation that happens in the spring, summer, and fall. In fact, thanks to leaky irrigation systems, we have more groundwater access now than we did in before we started irrigating the arid land in the Treasure Valley. In Boise, a French company called **Suez** oversees providing people water. In the other cities, they may have a company or district that provides water, or they do it as a city. Some people have wells which let them pull up ground water directly into their homes.

**Farmers and Ranchers**

Farmers and ranchers in the Boise River Watershed need to grow crops and raise animals with the water from the Boise River. The dams help store water so that they can have access to water even in the late summer.

**Wildlife Management Agencies**

Agencies like **Idaho Fish and Game** and the **US Fish and Wildlife Service** are working on the river to make sure that all the fish and animals that rely on the river can maintain healthy populations.

**Industry**

Many Businesses operate in the Boise River Watershed area. A lot of these Businesses need water to create their products or services. Businesses like Micron, Simplot, HP, and other big businesses are ones that we know. However, there are many small, local businesses that have been in the Boise River Watershed for a long time that rely on the water from the river.

**People**

People like you rely on having a clean river. Whether you drink water, like to swim or raft, like to boat in Lucky Peak Reservoir, or more, you are a stakeholder in your watershed.

**Some Helpful Links**

[US Army Corps Engineers, Walla Walla District](https://www.nww.usace.army.mil/)

[Idaho Fish and Game](https://idfg.idaho.gov/)

[US Bureau of Reclamation, Arrowrock Dam](https://www.usbr.gov/projects/index.php?id=6)

[Arrowrock Dam: A Century of Service](https://www.youtube.com/watch?v=TvIj-4Ydhro)

[Suez](https://www.mysuezwater.com/idaho/standard-home)

[Treasure Valley Water Atlas](https://www.boisestate.edu/hes/tvwa/)

[City of Boise Public Works](https://www.cityofboise.org/departments/public-works/)

**Activities for Week 1**

**Activity 1: Dam it up!**

We want you to experiment with how dams hold back water. Find an adult to help you get the materials to build a beaver dam in a box. Experiment with different materials and objects to see which ones hold back the water the best. You can find a video of how to do the experiment here: <https://www.youtube.com/watch?v=BX5jNXajJLs&feature=emb_title&fbclid=IwAR17wglUpc5N2xyZDm0o2glXPQpg457ILE9yEL6gKXGUpunVyQ3xgBAGuH0>

Be sure to take some pictures and send them to use at bw@cityofboise.org so that we can share them on our social media.

**Activity 2: To dam or not to dam?**

We want you to research and form your own opinion about dams in the west. There is a lot of information about how dams affect ecosystems and recreation where we live. They also can provide clean energy. Some people think that we should take out dams on the Snake River (which the Boise River feeds into). Other people think that we should invest more into the benefits that dams might provide. Do some research online and find multiple sources. Then, write a persuasive paragraph in support of or against dams in the West.

**Activity 3: Irrigation and water quality, let’s fix it!**

When we irrigate crops and lawns, excess water runs off into the rivers and streams in our watershed. Farmers and managers work very hard to make sure that the fertilizers and chemicals they use don’t go into our water, however, they can’t stop everything, and these non-point source pollutants will sometimes end up in the Boise River. Your challenge is to do some research about pollution found in runoff from cities and farms and then engineer a plan to help reduce the amount of pollution getting into our rivers. You can draw out your plan, make a video, make a model, or whatever you want to use to communicate your plan. You can send pictures and videos of this engineering challenge to bw@cityofboise.org.