Water Resource Management

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Current Issue of 2020

+ Current Issue Topic: How to control our local water sources.

How is it Affecting Local:

+ Aquatic Ecology
+ Wildlife
+ Forestry
+ Soils/Land Use

Impacts of the Aquifer:

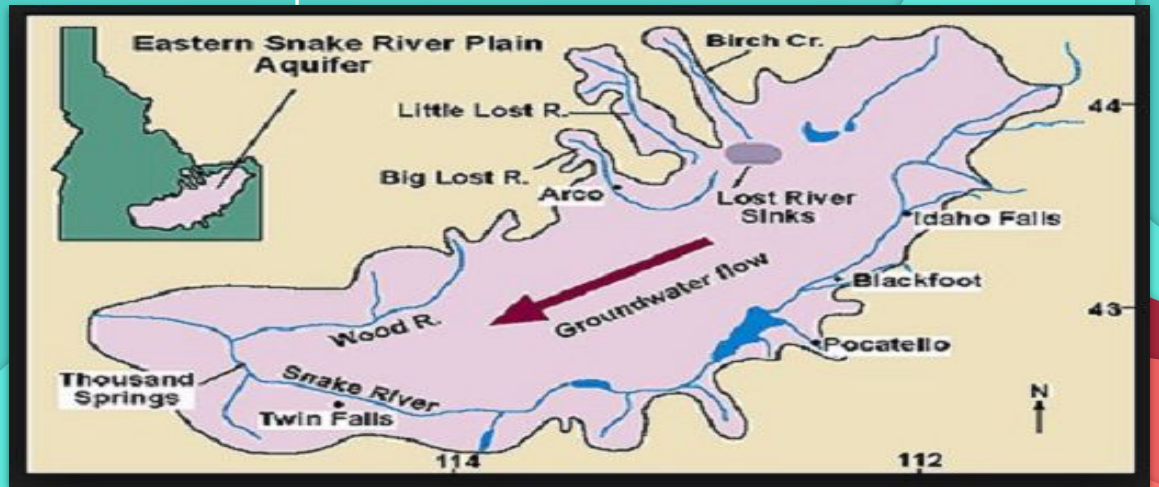
+ **Stream Recharge:** Rivers will seep into the aquifer.
+ Canals are built from the rivers for crops.
+ **Incidental Recharge:** Canals can act like a river and seep into the aquifer.
+ Pumping (Wells)
+ **Artificial Recharge:** Excess water put back into the aquifer.

Southern Idaho's Main Water Source:

* The Eastern Snake River Plain Aquifer is the home to several different water sources in southern Idaho.

One of the largest and most productive in the World

- Wesley Hipke

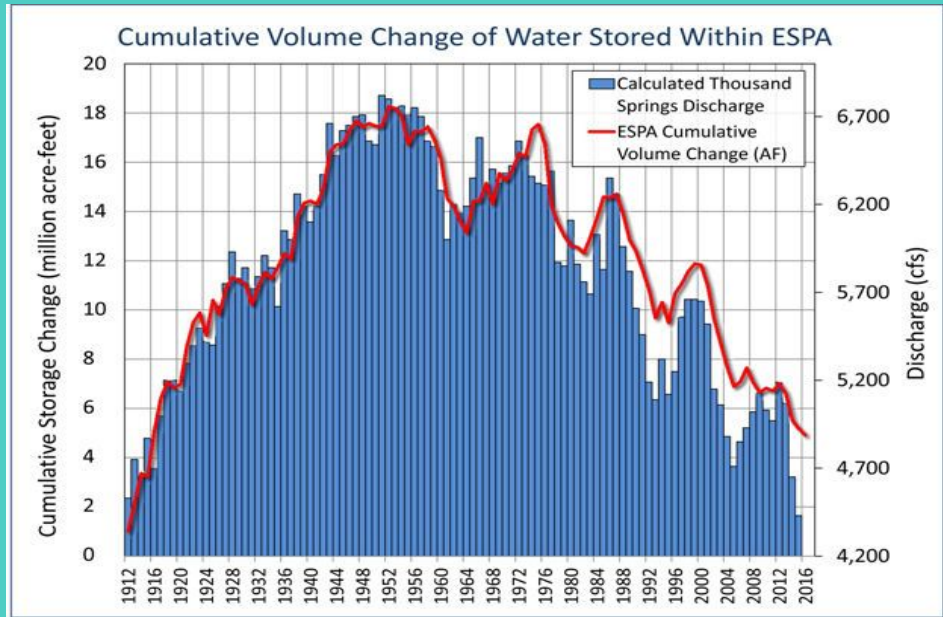


What's the Problem?

Changes in the volume of water stored
- 1912-1952 (The Peak) Gained 400,000 AF/YR
- 1952-2015 (The Lowest) Lost 215,000 AF/YR
- Aquifers Need 400,000 AF/YR, just to stabilize.

*Better the aquifer, better the stream flows.

Information from Wesley Hipke



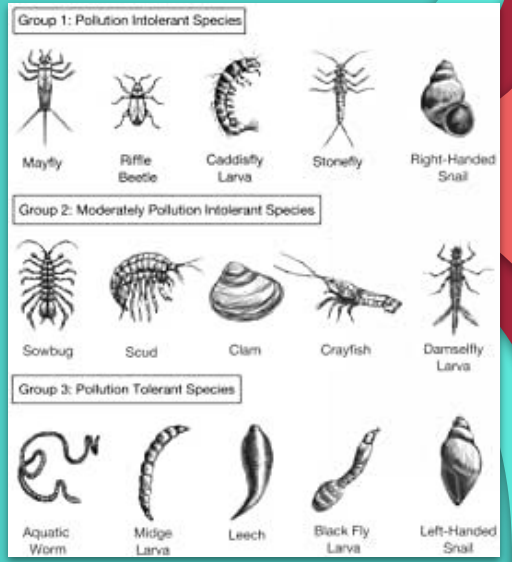
Possible Solutions Represented:

- **Aquifer Recharge**- IWRB program to recharge 250,000 AF/YR on average, using water not being stored.
- **Demand Reduction**- Groundwater users reduce by 240,000 AF/YR.
- **Groundwater-to-Surface Water Conservation**- Projects to convert groundwater users to surface water.
- **Cloud Seeding**- Augment precipitation.

How is it Affecting Local Aquatic Ecology:

Water Quality:

- Macroinvertebrates can be used to assess water quality.
- Macroinvertebrates are cold-blooded, aquatic organisms often identified as larval or nymphal forms.
- Mayflies and Stoneflies are Pollution Sensitive.
- Leeches and Aquatic Worm are Pollution Tolerant.
- One can use these insects to determine preliminary water quality.



Water Management Possibilities:

As stated before the Eastern Snake River Plain Aquifer is the source of potable water for most of Idaho. If this water was not taken care of properly the quality of said water would be jeopardized. The bad quality would affect how Idaho Power filtered the it, making it a not potable source of water.

How is it Affecting Local Wildlife:

To sustain wildlife in Idaho water must remain...

Clean

&

Abundant

"Nothing is more important to wildlife than abundant and clean water. When rivers, wetlands, lakes, and shorelines are healthy, wildlife thrives."-National Wildlife Federation

Careful and deliberate thinking is required when factoring in local wildlife into how we control our water resources.

How is it Affecting Local Forestry:

Impacts on Aquifer

- Mountain runoff
  - Slow/steady runoff is partly created by trees holding snow
  - Steady runoff allows rivers and streams to fill without serious flooding
  - Streams and Rivers could recharge the aquifer

Aquifer Effects on Forestry

- Water leaving aquifer:
  - Evapotranspiration
    - Plants using water from aquifer
    - Water evaporates and leaves through atmosphere

Possible Management Solutions

A possible management solution through forestry is to preserve and aid growth of local forests and woods, to not only help control runoff but also helping with evapotranspiration

How is it Affecting Local Soils/ Land Use:

Local Soils:

Water resources in Idaho affect soils by being one of the main factors deciding whether an area gets good soil or poor soil. In areas directly affected by the Snake River aquifer, the soil quality is ideal for agriculture. Without a consistent water source, the soil becomes unusable and dry.

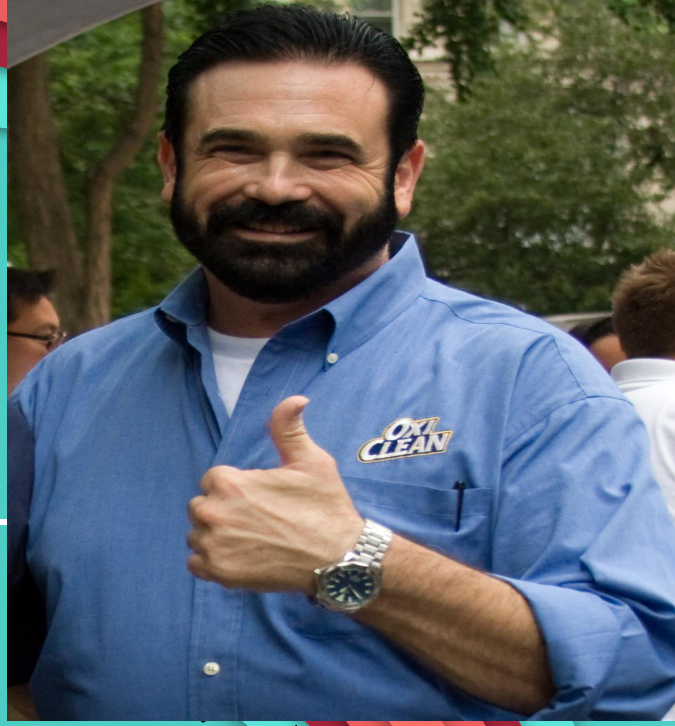
Land Use:

With a large water source, there comes a want for the land around it. With large water sources, such as reservoirs, rivers, lakes, etc., a majority of the land is used for agricultural use.

Possible Management Solutions

Possible ways of controlling the land use through water resources are dedicating areas of the land to become reserves for either forests, local wildlife, or even another water source. This can ensure the soil in the area is unaffected by things like houses, buildings, and roads.

Conclusion



+ Having a stronger aquifer and water sources help's:
  - Aquatic life
  - Wildlife
  - All shrubs, trees, crops, etc.
  - Our farmers
  - The land and our soils
  - Everyone!!!
+ Solution:
  - Recharge our aquifers with local canals, rivers, streams, reservoirs, etc.
  - Recharge with our extra water that has not been used
  - Promote forestry to help with the runoff into streams and rivers, helping to recharge aquifer
  -Create short term incentives for average consumers and agriculturists to preserve aquifers and other natural water resources.