SELENIUM IN WESTERN COLORADO –

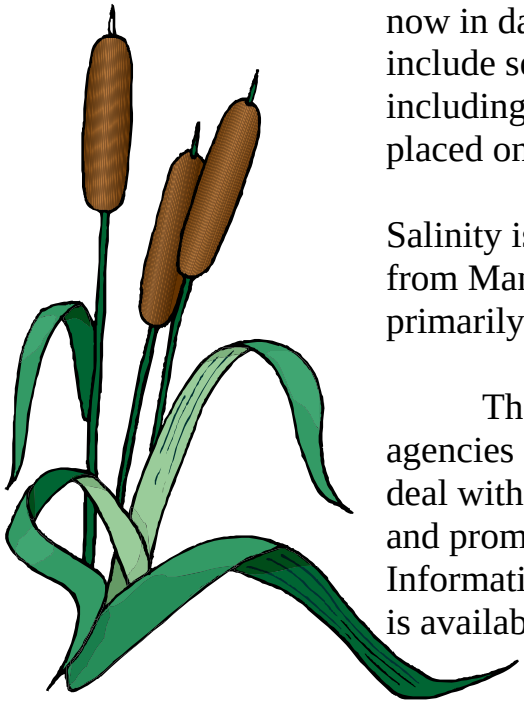
Why Should You Care?

Selenium occurs naturally in soils derived from the Mancos shale in the Grand Valley and lower Gunnison River basin. The Mancos shale was deposited as bottom sediments in an ancient sea that once covered this area. The shale contains large amounts of salt and selenium. Some selenium is naturally carried in area streams, but inefficient or over-irrigation of farms, lawns, gardens and golf courses; and seepage from unlined canals and ponds has created water-quality problems.

The goal of the Gunnison Basin Selenium Task Force is to meet the water quality standard for selenium in local waterways and reduce negative effects on fish and waterfowl. To do this, we need to:

Improve water use efficiency on soils derived from Mancos shale by promoting water conservation and wise water use.

Selenium, at low concentrations, is essential for all life. However, elevated levels in many of our local streams and ponds affect some sensitive fish and waterfowl that live and feed there. The most common effects from selenium are related to reproduction. For example, eggs don't hatch, or if they do hatch, the fish or waterfowl may have deformities that reduce their chances of survival. Evidence shows us that some native fish that once proliferated in the area are very sensitive to selenium. Some are now in danger of extinction due to many reasons which may include selenium contamination. To protect all aquatic life, including waterfowl, stricter water quality standards have been placed on local water bodies.



Salinity is another bi-product of water application on soils derived from Mancos shale and results in significant economic damages, primarily for downstream water users.

The good news is concerned citizens and government agencies are identifying reasonable options and opportunities to deal with the problem in ways that have minimal or no local cost and promote efficient local water use. Additional "Background Information" on the problem, its sources, and potential solutions is available for those desiring more detail.

(Over)

Why should local governments and water users take action now?

1. To take advantage of an OPPORTUNITY to improve the situation or bring additional benefits to their communities. Some improvements or benefits might be:

- Improved water quality to enhance local habitat for fish and waterfowl,
- Federally funded or subsidized water-efficiency improvements (piped laterals, lined canals, gated pipe, sprinklers, etc.) that reduce the landowner's operation & maintenance costs and improve water use efficiency. This is especially helpful during drought as more water is available for crop growth, and the economic viability of local farms is improved,
- A reduction in pressure from regulatory or environmental entities by taking local action, and
- The local economic benefit of additional Federal funding for selenium and salt-reduction projects

2. To AVOID FUTURE HEADACHES, that might include:

- Regulation of non-point sources of pollution by state or Federal government, or
- A requirement to use less water or implement remediation measures (which could be a cost for local water users) because of impacts to endangered fish species

How can you help?

- Provide support for the Gunnison Basin and Grand Valley Selenium Task Forces as they pursue funding for projects.
- Strongly encourage the adoption and use of agricultural and non-agricultural Best Management Practices (BMPs) to efficiently use and conserve water.
- Participate in water conservation programs and personally adopt a philosophy of wise water use in your own home.
- Help the public better understand the environmental implications of excessive water use on soils derived from Mancos shale.
- Avoid new intensive water applications on <u>previously</u> <u>un-irrigated</u> soils. For example, one new golf course initially negated the selenium-reduction effects of a $1.3 million lateral piping project in the Uncompahgre Valley. (Note: this is now being addressed by altering water use and storage on the golf course.)

<u>Remember</u>: **Excessive water use on soils derived from the Mancos Shale degrades and pollutes our ponds and streams. It damages local aquatic life (fish, waterfowl, aquatic insects, etc.) and costs us (the taxpayers) <u>millions of dollars each year</u> for salinity control[1].**

[1] Much of the monetary damages are due to high salinity that impacts water users in the lower Colorado River basin. Taxpayers provide up to $20 million annually to control salinity in the upper Colorado River basin.