



## Fact Sheet

October 2013

### Nutrient Pollution in Utah

#### Utah Solutions for Utah Problems

Utah is well-positioned to address nutrient pollution. The Division of Water Quality conducted exhaustive studies on the economic and ecological effects of nutrient pollution as part of a two-year stakeholder process to develop adaptive management strategies. The result is a site-specific rather than a “one-size-fits-all” approach. Strategies include:

- A UDAF-sponsored environmental stewardship certification program (ACES) to reduce nutrient pollution from agricultural nonpoint sources.
- Technology-based standards for wastewater treatment plants that will result in significant nutrient reductions for only \$3.47 per month per household.
- A watershed-based approach for nutrient standards that will focus initially on pristine headwaters.
- An adaptive management approach in developing and implementing site-specific nutrient standards that will be protective of Utah’s waters.

This proactive approach offers Utah optimal flexibility to reduce nutrient pollution in state waters using state solutions.

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Excess nitrogen and phosphorous in Utah’s waters threaten the state’s water quality, economic viability, and quality of life. The good news is that Utah has the tools, the foresight, and the leadership to address nutrient pollution now so future generations will enjoy clean water, world-class recreation, a thriving economy, and an excellent quality of life.

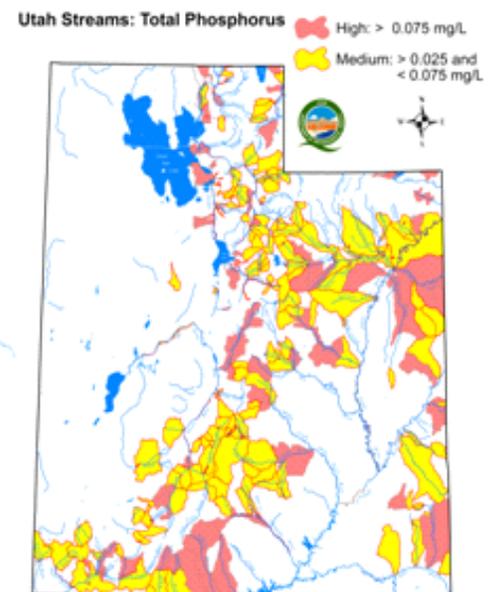
#### Too Much of a Good Thing

Nitrogen and phosphorus are nutrients that are natural and essential for healthy streams and lakes. Nitrogen and phosphorus support the growth of the algae and plants that provide food and habitat for fish and smaller aquatic organisms. Excess nitrogen and phosphorus, or nutrient pollution, cause algae to grow faster than ecosystems can handle—a process called eutrophication. Significant increases in algae hurt water quality, food resources and habitat, and decrease the oxygen that fish and other aquatic life need to survive. Large growths of algae, called algal blooms, can lead to illnesses and the death of large numbers of fish. Some algal blooms are harmful, producing toxins that can make people and animals sick. Algae can also taint drinking water sources, resulting in higher treatment costs. Finally, nutrient pollution can make recreational activities, such as swimming, unsafe or undesirable.

#### A Statewide Problem

Excess nutrients in Utah waters originate from a number of urban and rural sources. Wastewater treatment plants, stormwater runoff, septic system leachfields, and agricultural production all contribute nutrients to state waterways. Nutrient loading into Utah’s waterways grows as the state’s population and economy grows.

No portion of the state is immune from nutrient pollution. In urban areas, nitrogen and phosphorous pollution originates from fertilizer usage, pet waste, detergents, and stormwater runoff. In rural areas, excess nutrients come from soil erosion, application of fertilizers on cropland, and septic systems. Wastewater treatment plants discharge nutrients into receiving waters in both urban and rural areas.



## Quality of Life and Quality Water

Safe drinking water, clear lakes, and vibrant streams are critical to preserving Utah's quality of life. When the Utah Foundation surveyed residents for their Quality of Life Index (2011), it found that Utah residents ranked air and water quality as the third most important factor for a good quality of life—exceeding jobs, transportation, and healthcare. An economic benefits study conducted by the Division of Water Quality (2013) showed that 97 percent of the Utah households surveyed believed it was important to maintain water quality for future generations.

Water quality is also important to Utah's economy. National business rankings consistently give Utah high marks for its quality of life, particularly its recreational opportunities. The Governor's Office of Economic Development and the State Office of Outdoor Recreation promote outdoor recreation as important for Utah's economy, both as a direct source of revenue and a quality of life amenity for business. Annual expenditures for recreation trips to hunt, fish, and boat on Utah waters by state residents total between \$1.4 billion and \$2.4 billion. This boost to the state economy is even greater when expenditures by out-of-state visitors are included. All of these activities depend directly on good water quality.

## Water Quality Is Worth It to Utahns

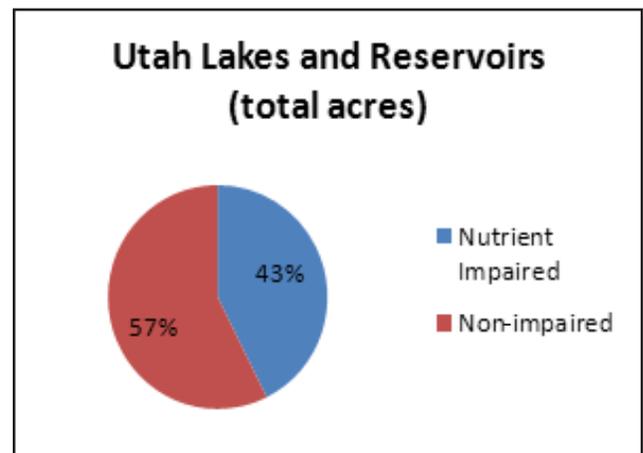
Willingness to pay is the maximum amount a person is willing to pay to receive a benefit or avoid something undesirable. Approximately three-quarters of Utah households surveyed expressed a willingness to pay an additional \$2 to \$5 a month for nutrient reduction to maintain and improve Utah waters. Over a 20-year timeframe, this means that maintaining water quality is worth about half a billion dollars to residents and improving water quality is worth about 1 billion dollars.



## Consequences of the Status Quo

If the State continues to control for nutrients under its current water quality policies, conditions at one-third of Utah lakes and nearly 50 percent of Utah rivers will degrade over the next 20 years. Population and economic growth will increase nutrient loading to the state's wastewater treatment plants, urban stormwater systems, and waterways. Costs for treatment of wastewater and drinking water will increase as water quality degrades and is usually much more costly to fix than to prevent.

Since the Clean Water Act passed in 1972, Utah's population has grown 260 percent, resulting in a commensurate increase in wastewater and nutrient loading to Utah's waters. Without a nutrient standard to control these pollutants, the problem will continue to grow.



## Money Well Spent

Nutrient pollution can be costly to fix. Voluntary measures to reduce nonpoint source pollution are less expensive than the capital and operating and maintenance costs for upgrading wastewater and drinking water treatment plants. Nationwide, every \$1 spent on source water protection saves an average of \$27 in wastewater treatment costs. Utilizing best management practices at the source of excess nitrogen and phosphorus is less costly than expanding wastewater plants to handle additional nutrient loading.

Nonpoint source pollution is the leading cause of water quality impairment in Utah's lakes and streams. Management programs and projects to prevent and control these nutrients are the most effective means for reducing nonpoint source pollution. The State must establish a mechanism that provides adequate, sustainable funding for these programs if Utah is to make headway in protecting its waters.