



THE SPIGOT

from the NORTH DAKOTA RURAL WATER SYSTEMS ASSOCIATION

Why Do We Pay for Water?

“Water Water everywhere nor any drop to drink”
– The Rime of the Ancient Mariner
by Samuel Taylor Coleridge

North Dakota is blessed with an abundance of shallow surface waters that allow for wildlife and many recreational opportunities for the people of our state. Unfortunately, these same surface waters are not of the proper quality or quantity to be treated, or processed, into a reliable source of drinking water.

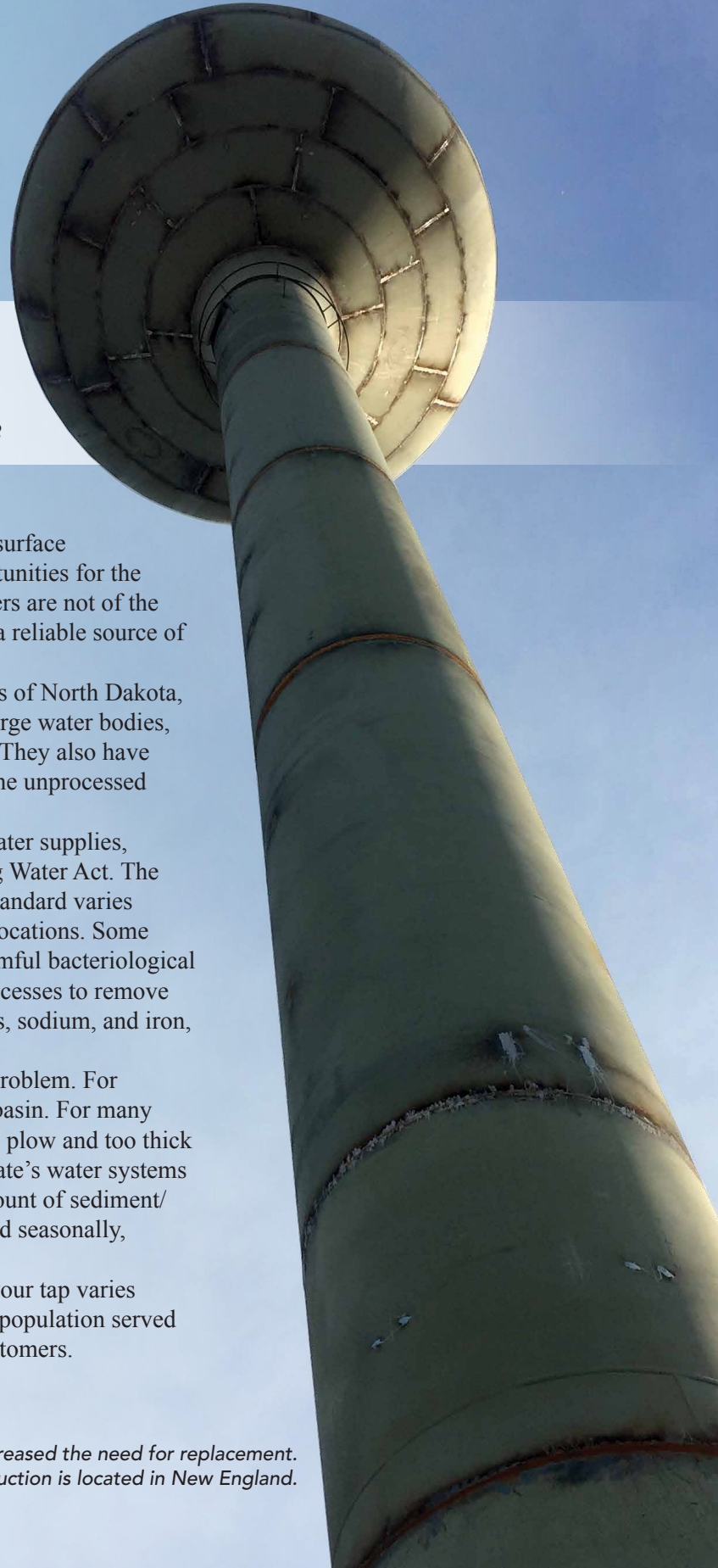
To provide for the drinking water needs for the residents of North Dakota, water systems have developed drinking water sources in large water bodies, such as Lake Sakakawea and the Red and Missouri rivers. They also have tapped North Dakota’s groundwater resources to provide the unprocessed water to meet the needs of the public.

Unfortunately, the water, as it is pumped out of these water supplies, doesn’t always meet the standards set by the Safe Drinking Water Act. The cost of treating water from its source to a drinking water standard varies by location and can be highly variable by season in some locations. Some ground waters only require disinfection to remove any harmful bacteriological organisms; other ground waters may require additional processes to remove dissolved minerals, such as arsenic, manganese, carbonates, sodium, and iron, along with many others.

Treating surface waters can be an even more complex problem. For example, Lake Sakakawea is a part of the Missouri River basin. For many years, our state’s largest river was described as “too thin to plow and too thick to drink.” This sediment is still an issue for many of our state’s water systems that treat water from rivers and lakes. The turbidity, or amount of sediment/dirt suspended in the water, changes throughout the day and seasonally, presenting complex water treatment challenges.

The cost of bringing drinking water from its source to your tap varies greatly based on the complexity of treatment required, the population served and the water demand from the drinking water utility’s customers.

*Aging infrastructure has increased the need for replacement.
This water tower under construction is located in New England.*



The Business of Water

Most water utilities treat their water system as a business to ensure they can continue to serve their customers in an economic, reliable and sustainable manner. Like any business, water utilities have costs to source their product and manufacture (treat their water) and deliver that product to consumers (water towers and pipes). The costs to source, manufacture and distribute water include utilities, labor, insurance, and facility and infrastructure maintenance. These costs are considered fixed expenses that exist before any water is ever sent to a customer.

Fixed expenses could also be viewed as the “base rate charge,” which is fairly and equitably distributed across a utility’s water customers.

The charge per unit, often expressed as 1,000 gallons or cubic foot, will vary widely between any given water systems. The amount charged will include the price for treatment, disinfection, transportation, storage, and metering of the water.

Like any business, the utility must set a price that doesn’t merely allow them to break even on the costs of providing the service, but also allow for some amount of additional revenue. The additional revenue serves an important purpose – it funds extraordinary maintenance costs and emergency repairs and acts as a savings account to help offset inflation. The revenue also allows for small improvements to treatment processes and the distribution system as needed.

Utility customers may find that the cost of their water is not the same as those in a neighboring water utility. These variances in cost are the result of the water utility’s history, access to state and federal funding initiatives, maintenance practices, and unique demands which can be the result of the geographic location of a water utility and its customers.

Our state’s economy is rapidly diversifying. Manufacturing, oil production, agriculture, technology, and shifting population all have increased the demand on our state’s water infrastructure. The rapidly expanding economy has outpaced the improvements needed in some areas. Meeting growing customer needs has increased the costs of the water business in those areas.

Evolving Regulations

As the Safe Drinking Water Act evolves, it often requires drinking water providers to meet continually changing standards, often stricter. It is always possible that a utility may need to add additional treatment protocols and even update their distribution pipes and tanks to continue to comply with regulations to meet standards. The additional regulations and treatment costs causes the price of drinking water to go up.

As regulatory, maintenance and expansion costs are increasing, water consumers can do their part in keeping operating costs down. This can be accomplished by reporting unusual water quality, possible sources or leaks, or damages to those responsible for operating the water utility. Information and practicing water conservation will ensure that all of North Dakota’s water systems will continue to operate in a highly reliable and safe manner.



Increased demand requires increased complexity of the distribution system. This valve is located in Southwest Water Authority's Dickinson plant.