vation of water. All districts are locally controlled and independent, focusing on issues affecting their immediate surroundings. Despite the fact that groundwater accounts for 60% of all water use in the state and 85% of agricultural use, its regulation is left to nearly 100 independent districts with no central governmental regulation (Kaiser, 1987, pp. 31, 33; Texas Water Development Board, 2012).

Texas' lack of groundwater regulation is especially troubling when future water shortages are taken into account. Three Texas cities (Fort Worth, Houston, and San Antonio) are projected to be among the top five US cities hardest hit by global warming and water scarcity (McIntyre, 2010). This is partially due to projected increases in global warming and partially due to over-reliance on sources like the Jasper Aquifer in Houston and the Edwards Aquifer in San Antonio. The Edwards Aquifer in particular has been identified along as one of the four river basins most vulnerable to climate change (Loaiciga, 2003, pp. 35-36). Unless the issue of ground water regulation is addressed in Texas soon, the state could face severe consequences.

Comparison

While environmental groups have decried Michigan's groundwater policies, there is no doubt that Michigan's policies are far ahead of Texas in terms of regulation. However, the problems faced by Michigan are slightly different. While Texas' water is used almost entirely to support its cities and its farms, Michigan must deal with those attempting to export water to other states. The most recent calls for new state regulation were kicked off by disputes over a Nestle bottling facility near Mount Pleasant, and the company has remained a central part of the debate in years since. Just two years after the Water Legacy Act was passed, and following almost a decade of litigation between the company and environmental groups, a new well was drilled by the company that can draw 150 gallons per minute from the waters near Evart, MI (GONGWER, D.E.Q, 2008). Other attempts at curbing Nestlé's withdrawals have failed as well. In 2009 former Lt. Governor John Cherry proposed a ten-cent tax on every bottle of water produced in Michigan to help fund the Michigan Promise Scholarship. The plan was roundly criticized by politicians and Nestle alike and never came to fruition (GONGWER, Nestle, 2009).

The implications are troubling for Michigan. While the state is currently fighting against private corporations to retain control of its water, the future may hold other opponents. When states like Texas, Arizona, and California start experiencing water shortages, a water-rich state like Michigan may well be expected to begin exporting more water to offset losses in other regions. A situation like this illustrates why it is so important for all states to begin taking control of their water resources now with an eye on future need.

Proposed Solution

A hybrid of policy approaches from Michigan and Texas could be an effective solution to each state's water concerns. First of all, the public trust option from Michigan is a very good idea. The state's surface water is already covered by public trust, which means that it is the property of the state. Proponents of an extension of the public trust to groundwater argue that it will give the state more control over who can extract groundwater and exactly how much they can take. These proponents argue that groundwater should be treated as a natural resource and not a product (McWhirter, 2010).

However, opponents fear that by placing groundwater in a public trust, the state would be able to unfairly tax homeowners for water use. They also argue that it is unconstitutional for the state to confiscate private property (McWhirter, 2010).

These concerns could be offset by implementing a policy similar to what Texas uses to regulate surface water. Under the Texas Water Rights Adjudication Act, all users claiming riparian right must petition the state for access to and use of the water source. If their permit is approved, the petitioner is granted a permit, which allows them to withdraw a specific amount of water. Under this act, citizens and municipalities are granted first priority to the water source, ahead of private companies (Kaiser, 1987, pp. 19-20).

By ending private ownership of groundwater sources, the state would be able to keep track of everyone using the water source and have a better idea of how much water they were using. Use could then be limited to ensure water sources were not being overused. Coupled with advancing technology and conservation strategies, legislation of this type could prevent the major water catastrophes that many have