

# When it comes to water, everyone's in the same boat

By CHRISTINE CARTER  
P.O. Area Editor

**TOO MUCH** water is a problem up and down the Big Sioux River in South Dakota.

"Everybody is in the same boat," said Jerry Siegel, manager of the East Dakota Water Development District in Brookings. "I'm hearing the same concerns from Watertown all the way down to the Union County folks."

Heavy rains this spring and summer have created flooding problems throughout eastern South Dakota.

The area was already wet going into last fall, Siegel said. "The aquifer was right at the top, soils were saturated, the sloughs were full. The lakes were

## Flooding

not overfull, but in general they were fairly full. Then we started adding moisture."

Most years there would be a lot of capacity to handle the rainfall. However, Siegel said, this year there was no place for the water to go and two wet years in a row only complicated the problem. The situation is similar to what happened at Lake Poinsett in 1985-87.

"IF WE GET an inch of rain now, maybe a quarter will sink in and three-quarters will run off. That dramatically changes what happens to rivers

and lakes and what runs into those lakes."

Any additional rainfall will only aggravate the problem, Siegel said. "The soil is saturated and there is no where for the water to go except surface runoff," Siegel said.

Lake Kampeska and the Big Sioux River work as a unit in Watertown, Siegel explained.

"If the Big Sioux gets higher than Kampeska, the water just moves into the lake.

"But if the lake is overflowing and the river is full, basically there is nowhere for the water to run off. Kampeska is not going to go down and will continue to rise if the Big Sioux

picks up any elevation. The river will continue to bring Kampeska right along with it."

Lake Kampeska measured 26 inches above full as of today (Wednesday). According to records kept at the Filtration Plant, that figure is the highest level for July on record. Other high July readings included 20 inches above in 1984 and 18 inches above in 1991.

Some people have suggested cutting away a low-head dam on the river, but Siegel said that won't help the situation.

"You can cut the metal out all you want, but the water is still going to stay in the lake. The high water level in the river then becomes the dam," he

said.

**ANOTHER FLOOD** control measure is nearing completion.

The feasibility study for the Flood Control Project for Watertown and Vicinity is scheduled to be completed by June 1994, according to Tom Johnson, a project manager for the U.S. Army Corps of Engineers.

Johnson said officials have completed much of the research and are working on finalizing areas such as the wind-wave analysis on Kampeska.

The study, which began in the spring of 1988, should be ready for a final report by March 1994, when the Corps will hold public meetings.

After the final report is issued, the

report will go to the Corps in Washington, D.C., for final approval. If approved, the report goes to the Assistant Secretary of the Army. The next step in the journey is approval by the Office of Management and Budget.

After that the report goes back to the Assistant Secretary of the Army for final approval. Once approved, the report goes to Congress for authorization.

When the study is completed next spring, the next step would be pre-construction engineering and design.

If everything goes on schedule, Johnson said construction could begin in the summer of 1997.

## Water quality monitored at Lake Kampeska

By CHRISTINE CARTER  
P.O. Area Editor

**ALONG WITH** the water flowing from the Big Sioux River into Lake Kampeska, residents are worried about what else is flowing into the lake.

Some people are wondering about some of the water quality parameters on Kampeska. Water officials test for a variety of levels, including pH levels, fecal coliform, dissolved oxygen, nutrients and a host of others.

According to information from the S.D. Department of Environment and Natural Resources (DENR), laboratory pH is a measure of the hydrogen ion activity which directly affects the toxicity or solubility of heavy metals in the water.

The pH level can be affected by the water flowing into the lake from the watershed. Much of the soil in Kampeska's watershed is alkaline and that affects the water flowing into the lake, DENR officials said.

The pH range is 1 to 14 with 7 being neutral. Any value less than 7 is considered acidic and any value greater than 7 is considered basic. The information says "the pH range for most natural lakes is between 6 and 9."

DENR does a regular assessment of lakes every summer, plus any lake with a special study, like Kampeska, is sampled on a monthly basis.

**KEN MADISON**, a DENR biologist in Watertown, has worked at sampling Kampeska through a diagnostic/feasibility study for the lake.

The standard pH range for Lake Kampeska is 6.5 to 9.0 and according to Madison, none of the samples during the 18-month study period exceeded the standard for Kampeska.

The standard is based on designated uses for a body of water. Designated uses for Kampeska include a domestic water supply, warm water permanent fish life propagation, immersion recreation, limited contact recreation (boating, fishing) and wildlife propagation and stock watering. Based on those uses, the water quality standards are determined for a lake.

"Lake Kampeska is on the alkaline side," Madison said. "If the pH does get high enough, it can have an impact on fisheries and probably aquatic life in general. The last sample we took was in May 1993, but we never had a

## Flooding

9 or above."

During the study period, Madison said, the pH level at Kampeska ranged from a low of 7.84 on Oct. 7, 1991, to a high of 8.75 in May 1993. Biweekly samples were collected from April to September for 18 months on three separate sites on Kampeska.

If the pH level got too high, Madison said, it could impact some recreational activities, like swimming, waterskiing and diving where a person is completely submerged in the water. A high pH level can irritate the eyes and nose or other exposed tissue.

**AS FAR AS** swimming safety, if there is a water quality problem on any public beach, the area would be posted.

Jay DeLange is Game, Fish & Parks parks manger for District 1 and said there have been no problems in any state swimming beach in his district this year.

Parks managers take samples every Monday morning and the water samples are sent to the state health lab in Pierre.

"We took samples yesterday (Monday) and haven't got the results back yet for this week, but there hasn't been a bad sample since we started taking them this year," DeLange said. The sampling began around Memorial Day and continues through Labor Day.

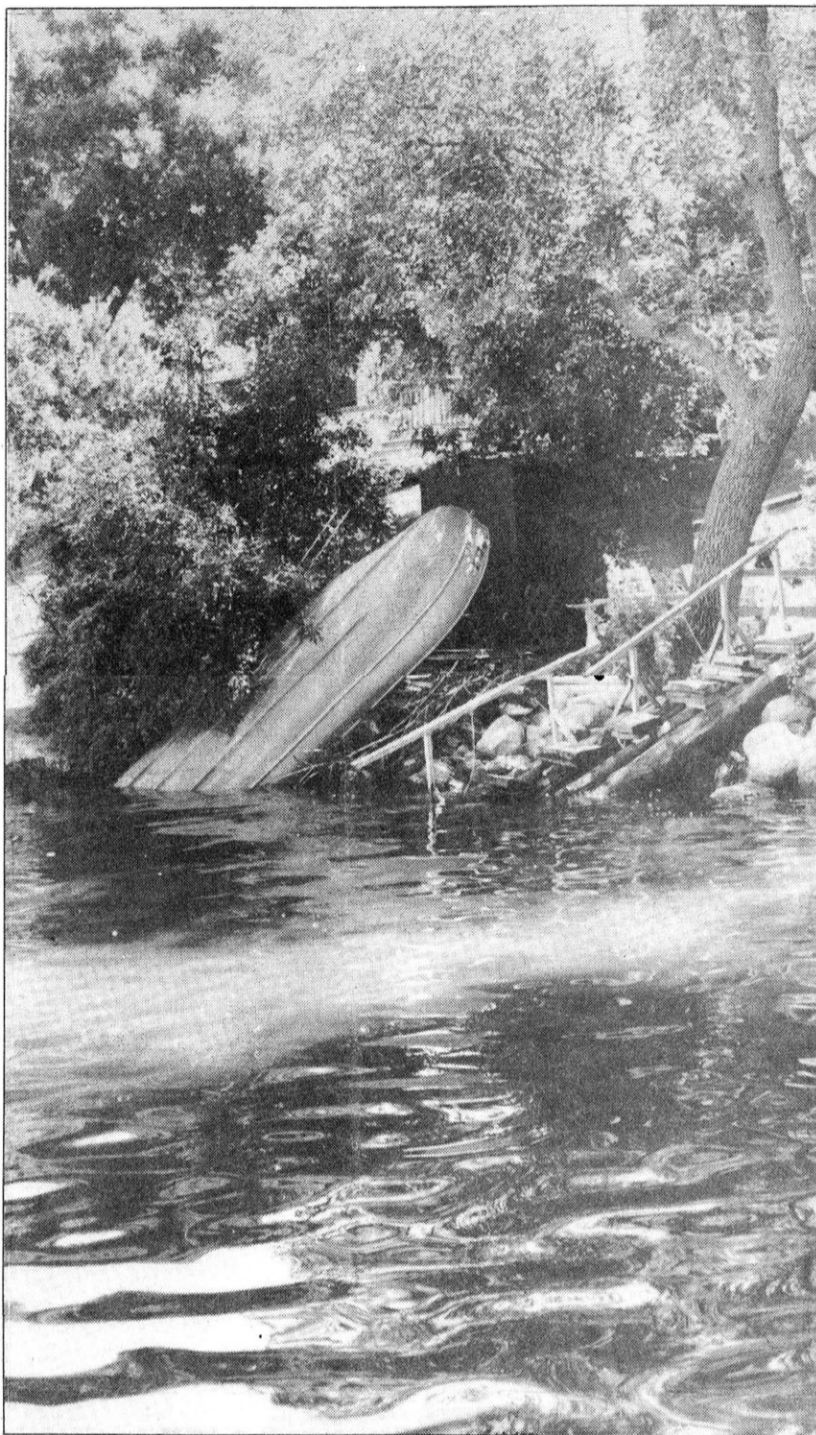
Test results are usually back by Thursdays. If there ever was a problem on a public swimming beach the area would be posted, he said.

The city also monitors the pH level at Kampeska.

The city gets 45 percent of its drinking water from Lake Kampeska and crews monitor the raw water. There is no problem with the city's drinking water, but the pH level of the lake does affect how the city treats the water.

"It gets harder to treat when we get pH levels above 8.2 or 8.3," said Don Sears, water superintendent. According to records kept by the Municipal Utilities Department, the pH levels at Kampeska measured 7.5 to 7.6 back in the 1960s.

The higher pH level affects the coagulation chemical officials use at the treatment plant.



**WET BOAT** — Boats are supposed to get wet, but when they are stored on what was expected to be high and dry land like this one, it's a different story. Lake Kampeska's story today (Wednesday) is that it is 26 inches above full. The flooding waters have sent a number of lake residents scurrying to protect their property that had previously been considered high and dry. (Public Opinion photo by Gordon Garnos)

## Treatment plant does its job

By JASON WILLIAMS  
P.O. Staff Writer

**ALTHOUGH THE CITY'S** waste water treatment plant has teetered at its maximum flow capacity recently, the facility has been able to safely handle the increased influx of sewage attributed to heavy summertime rains and flooding.

Dan DeWall, superintendent of the plant, said normal waste water flow for Watertown is roughly 3 million gallons per day. Recently, the plant has been handling up to 6 million gallons every 24 hours, he said.

"Our peak capacity is roughly 6.5 million gallons (per day)," DeWall said. "If we get more water than we can physically pump out, it's going to back up and start flooding out basements."

DeWall said he suspects the increased flow is being caused by old sewer pipes that may have cracks or loose hinges which absorb ground water. Sump pumps at homes illegal-

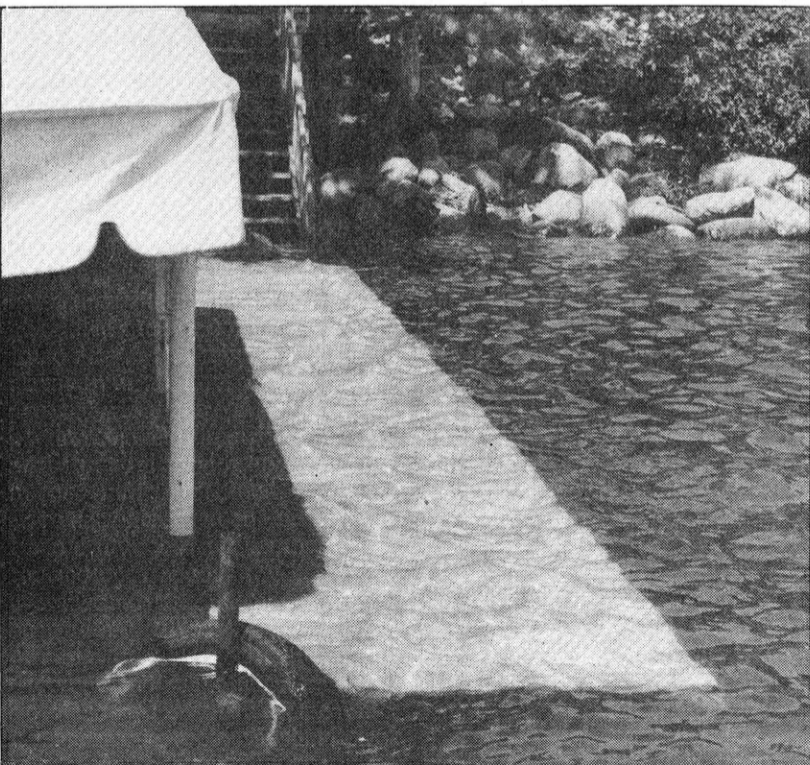
ly feeding directly into sewer drains may also be a source of the above average waste water flow, he added.

"We'd like to ask people to put the sumpage water outside," DeWall said. "I know some people that put on an extra garden hose and water their lawn with it."

**PUMPING "SUMPAGE"** water directly into sanitary drains violates a municipal ordinance which is a misdemeanor, according to City Attorney Bob Wagner. A Watertown misdemeanor of this nature carries a maximum punishment of 30 days in jail and a \$100 fine, he added.

The treatment plant is currently undergoing an expansion project that will enable the facility to handle 11 million gallons of waste water per day, DeWall said.

The increased flow of waste water at the plant is not unusual during wet years when the water table is high, according to City Engineer Bob Day.



**DOCK SUBMERGED** — This dock along the west shore of Lake Kampeska is representative of a number of docks that are now covered by the high water or nearly so. A lot of the lake dwellers have removed their docks from the lake in anticipation of the flooding. (Public Opinion photo by Gordon Garnos)