

Kuhn water board drive aims at '82

With only 17 percent of the needed signatures in hand to qualify for the fall ballot, suburban proponents of a petition drive to restructure the Detroit-controlled sewer and water system will attempt to put the question on the November 1982 ballot.

Oakland County Drain Commissioner George Kuhn, chairman of the Citizens for a Regional Water & Sewer System, announced last week that the group had

"over 40,000 signatures in-hand," far short of the more than 229,000 signatures needed to place the referendum on the Nov. 4 ballot.

The petition campaign began in January with a goal of 300,000 signatures by May 15. To qualify for the fall ballot, the petitions were due in the Michigan Secretary of State's office last week for certification.

THE PETITION campaign seeks a change in the state law that established the Detroit Board of Water Commissioners.

All seven members of the board, which sets water rates for nearly 100 metropolitan area communities and sewer rates for more than 70, is appointed by Detroit Mayor Coleman Young. The board includes three suburban representatives.

Kuhn, who organized the petition effort, had proposed the Detroit Water Board be replaced with two appointed committees.

"A metropolitan council," comprised of one representative from Detroit and one from every water and sewer customer community, would meet annually to appoint a nine-member regional water and sewer commission.

The regional commission, to have three Detroit representatives and six suburban, would replace the current board.

Kuhn, who is seeking re-election this year as drain commissioner, said petitions would remain in circulation in a four-county area including Oakland, western and downriver Wayne, Macomb and Genesee.

Veteran bonus deadline nears

The deadline for applying for the Vietnam Veterans Era Bonus is June 30.

"Every Vietnam vet who is eligible for this program should apply for the benefits," he said. "It grants \$15 for each month of service up to a maximum of \$450, and veterans who are eligible for the Vietnam Service Medal or Armed Force Expeditionary Medal are entitled to a \$600 cash bonus."

to Jan. 1, 1961; and must have served honorably.

Surviving wives and husbands, children or parents may also be entitled to benefits. The Legislature has also expanded the program since it began in 1973 to permit those who were previously denied a bonus because of the character of their service but who have since had their discharge upgraded to re-apply.

Reservists may also qualify under certain circumstances.

Anyone who thinks he or she may be eligible can pick up an application packet at the MESC office or request one by mail from the Vietnam Bonus Section, Department of Military Affairs, 2500 S. Washington St., Lansing 48913.

Exercise? Running pays — for rodents

Can vigorous exercise help cause a pattern of increased or accelerated growth during youth and adolescence?

It does in hamsters.

At the University of Michigan, Katarina T. Borer, assistant professor of physical education and a zoologist, has compiled clear evidence that strenuous running, combined with adequate food supply, causes hamsters to reach about one-fourth times the size of their more sedentary counterparts.

"The hamsters who are given access to exercise wheels also show about a 30 percent increase in appetite over the inactive hamsters in boxes without wheels," Borer reports.

"So it may be that they grow more rapidly because they exercise, it may be because they eat more food, or it may be a combination of both."

"BASICALLY, I am studying the interrelationships between exercise, eating behavior and physical growth."

The research is being conducted in the U-M's physical education laboratories, housed in the same facility where fitness enthusiasts come daily to run, swim and work out in competitive sports. Just two floors above the hamsters racing around on their exercise discs, U-M students jog around the gymnasium track.

Borer stresses that her findings on hamsters can't be automatically applied to humans. The National Science Foundation supports her research.

"All warm-blooded creatures follow a certain pattern of growth — rapid early in life, then a slow leveling off as the animal, or human, reaches a size suitable for reproduction," Borer explains.

In children, the growth process is relatively slow; anthropologists have suggested that this has evolved to allow longer interaction with families and adaptation to a complex society, Borer notes.

"AROUND THIS TIME, puberty, hamster growth slows down. This appears to be due to a circuit — a series of regions in the old part of the brain called the limbic forebrain — which in some way inhibits growth in adult hamsters."

"I have found that by making small cut in this circuit at any of several places, I can cause the hamster to continue growing for about two more months and become about two times larger than normal," Borer explains.

"More recently, I have found that I can produce the same rapid growth effect just by letting the hamsters run on their exercise wheels."

Transferring from the U-M Neuroscience Laboratory to the department of physical education, Borer expanded her investigations to look at both the effects to the brain lesions and exercise as means of influencing growth.

"It is interesting that the hamster doesn't need any special inducement to run," she comments. "He does so by choice, almost from the time his eyes are opened."

Borer constructed a special cage with a "home" on one side for the mother and baby hamsters and a "playground" with three activity devices on the other. The two spaces were separated by a partition that only the babies could pass through.

BY THE TIME they were only about 17 days old, the babies were sleeping beside their little wheels," Borer reports, "instead of with their mother."

The exercising hamsters reached a peak of about 30,000 revolutions per day at about age 35 days. The more they ran, the more they ate and the larger they grew. The exercising began to decrease after the hamsters reached a certain size, Borer reports, but it was a gradual decline.

To learn more about the interaction between strenuous exercise and eating behavior, Borer examined what would happen if the hamster's diet was restricted.

"We found that the diet does not stop the hamster from wanting to run. If we restrict him to the amounts of food eaten by the inactive hamster, he will run and grow thinner. But as soon as he is allowed food again, the quickly recovers his weight."

"If an exercising hamster is placed on a restricted diet for four weeks he will become undernourished and undermoulted — smaller than the exercising hamster who gets unlimited food," Borer reports.

"But when the food supply is increased during the next three weeks, the undernourished hamster will experience a growth spurt, passing up the sedentary hamster and nearly reaching the above average size of the largest hamster which is both eating and exercising."

THIS PHENOMENON, called "catch-up growth" has also been reported in children recovering from malnutrition or a severe illness, Borer notes. The children fail to grow or gain weight normally during the illness, but then show a faster than average growth spurt after they recover.

A child's growth is also some times retarded in an extremely bad family situation, she continues. The child is undernourished and undermoulted while he lives in the home, but exhibits the rapid "catch-up growth" as soon as he is removed to a foster home.

"So we can see in the human, as in the hamster, evidence that the brain is also involved in the growth function."

"Much of what we now understand about the human growth process is speculative," Borer concludes. "Obviously we cannot conduct experiments involving food withholding on children, but we can learn more about what the effects of such an experience would be through the studies with animals."



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