

Approved _____ Date 2-3-87

MINUTES OF THE SENATE COMMITTEE ON ENERGY & NATURAL RESOURCES

The meeting was called to order by _____ Senator Merrill Werts _____ at
Chairperson

8:00 a.m./~~PM~~ on January 29, 1987 in room 123-S of the Capitol.

All members were present except:

Senator Yost - Absent

Committee staff present:

Ramon Powers - Research

Don Hayward - Revisor

Nancy Jones - Secretary

Conferees appearing before the committee:

Clark Duffy, Ass't Director, Kansas Water Office

Russell Crites, Kansas Water Authority

Dovid Pope, Kansas Water Authority

John Strickler, Kansas Forestry Extension

Jim Triplett, Professor of Biology, Pittsburg State

John Kostick, Frankfort, KS.

Mike Stewart, Kansas Wild Turkey Federation

Bill Hanzlick, Fish & Game Commission

Mary Fund, Kansas Rural Center

Ed Martinko, Kansas Nongame Wildlife Advisory Council

SB 39 - Relating to obstructions in streams

SB 40 - Relating to water projects environmental coordination

Clark Duffy addressed SB 40 as necessary legislation for implementation of the Water Plan. The importance of interagency coordination was emphasized for development of water projects. Three water project types affected by this legislation are: levees and dikes, water obstructions including dams and channel changes and general plans of watershed districts. Specific sections of the bill were discussed by the committee. (Attachment A).

Russell Crites praised the continued effort of all water related agencies, groups and individuals who have contributed to development of the State Water Plan. He stressed the importance of this legislation as water is our most precious and viable resource.

Jim Triplett testified to the importance of dealing with the problem of channel changes. SB 40 is important in promoting and enhancing coordination among the agencies. He strongly favors passage of this legislation to further the efforts and cooperation given by agencies in development of the Water Plan. (Attachment B).

John Kostick testified on behalf of concerned citizens living in the area of the Black Vermillion River. There is a deep concern with the rapid deterioration of the condition of the river, unregulated and indiscriminate channel changes and lack of flood control. Flooding has led to contamination of water flowing into Tuttle Creek. Mr. Kostick strongly urged passage of SB 39. (Attachment C).

David Pope explained that SB 40 will implement the Environmental Coordination subsection of the Water Plan. Before permitting a proposed water development project, a review would be submitted to the Chief Engineer. Mr. Pope clarified the three statutes in the bill regarding issuance of permits. SB 40 will provide for adequate coordination and draw upon the expertise of all agencies for better protection of the environment. (Attachment D).

Mr. Pope testified regarding the importance of SB 39 relative to jurisdiction for regulation of dam construction and maintenance. The new provisions concerning channel modifications were explained. Lack of funding and staff as

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MINUTES OF THE SENATE COMMITTEE ON ENERGY & NATURAL RESOURCES,
room 123-S, Statehouse, at 8:00 a.m./~~p.m.~~ on January 29, 1987

well as the action by the Supreme Court in 1951 have placed limitations on the agency's ability to enforce water structure laws. SB 39 would overcome this as well as allow the Chief Engineer to apply a civil penalty for any violations under the act. (Attachment E).

John Strickler made a brief statement expressing support for SB 39 and 40. (Attachment F). Mr. Strickler also gave the committee a written statement of support for SB 39, 40, 42 and 51 from the Kansas Tree Farm Committee. (Attachment G).

Mary Fund stated the Kansas Rural Center strongly supports SB 39 granting authority to regulate channel changes. Support was given for passage of related bills heard in committee previously. (Attachment H).

Bill Hanzlick briefly stated that the Fish & Game Commission supports SB 39 and 40. (Attachment I and J).

Mike Stewart stated the Wild Turkey Federation heartily supports all these facets of the Water Plan and especially passage of SB 39 and 40.

Ed Martinko endorses passage of SB 39 and 40 for maintaining water quality and desirable wildlife habitat. Wildlife programs can be enhanced through the review process proposed in SB 40. (Attachment K). Mr. Martinko also voiced support on behalf of the Kansas Biological Survey. (Attachment L).

Written testimony supporting SB 39, 41 and 42 was given to the committee from Robert Suhler (Attachment M), Dean Wilson (Attachment N) and Richard Jones (Attachment O).

Meeting adjourned. The next meeting will be January 30, 1987.

Guest List

1-29-87

Rob Hodges	Topoka	KCCI
Ed Martinko	Lawrence	Ks. Biol. Survey
Ken Kern	TOPEKA	SCC
DARRELL MONTEI	PRATT	Ks. F. & G. Comm.
Richard D. Kready	Topoka	KPL Gas Service
Bill Bryson	Topoka	KCC
Tom Stiles	Topoka	KWO
Kerry Wedel	Topoka	KWO
Ed Reinert	Topoka	KsLWVs
W Paul Jones	Frankfort	
Dick Russell	Frankfort	{ Marysville Advocate Natural Resources Defense Council
Steve Snyder	Marysville	Attorney
Kuehl Greenwood	Frankfort	
John H. Kovach	Frankfort	Lower Black Vermillion Drainage Area
Cyula F. Kovach	Topoka	KDHE
Robert W. Cucco	Lawrence	Santa Allen
Brian Keating	Frankfort	
TREVA POTTER	TOPEKA	PEOPLES NATGAS
William Lyngard	Topoka	Comm of the Farm Org.
Harold Chubb	Topoka	Ks. Fossil Center
Mary Fund	Whiting	Ks. Rural Center
Dan Flukinger	Topoka	Ks Water Office
Kevin Davis	Topoka	League of the Municip.
Stephen Hunt	Topoka	Ks. Water Office
Wayland J. Anderson	Topoka	DWR KsBA
Vol A. Weatz	Topoka	KWO
James R. Triplett	Pittsburg	PSU

subject to interagency reviews under existing state or federal environmental laws. Water development projects affected by this act are projects currently subject to state regulation by the Division of Water Resources. The projects include:

1. levees and dikes
2. water obstructions including dams and channel changes
3. general plans of watershed districts

Senate Bill 40 provides the general framework for interagency review by appropriate state agencies. The Division of Water Resources would continue to be responsible for determining what, if any, action needs to be taken to address the concerns identified in the review process. This may be accomplished by applying appropriate conditions to the permit or approval.

The Kansas Water Office strongly supports passage of Senate Bill 39 and Senate Bill 40 as recommended in the State Water Plan.

T E S T I M O N Y

James R. Triplett
January 29, 1987

Senate Energy and Natural Resources Committee

Mr. Chairman, members of the committee: Thank you for the opportunity to address your hearings on these important legislative issues concerning the water resources of the state. I have included a brief personal background as a way of introduction since I am unfamiliar to most of you with the exception of Senator Thiessen whom I met on a prior occasion and Senator Martin from my home district. I am here today primarily as a representative of the Basin Advisory Committees, but also as a professional in the field of resource management.

The legislative proposals you are considering today and the previous two days are important to the further development and success of the state water plan. Senate Bill No. 39 explicitly identifies channel change as an aspect of stream alteration. It recognizes the need for regulation of this activity along with others that impact on the public and private sectors as well as the environment. It also provides for specific penalties for failure to comply with its provisions. Unregulated channel changes, channelizations in particular, have caused or aggravated downstream flooding and destruction of riparian areas. Bank erosion, higher sediment loads and damage to roadways and bridges have resulted from concentrating flows in narrow, straight channels over long distances where flood waters can gain momentum. These changes represent the collective wisdom of the agencies responsible for managing this resource. This legislation is needed to insure the protection of rights, property and the environment.

Senate Bill No. 40, Environmental Coordination, I believe is potentially one of the more significant pieces of legislation you will consider with respect to water resource management. While it does not restrict the authority of an agency to issue permits, it does provide an opportunity for input from other agencies responsible for the protection and management of our environment. This interaction may provide for an exchange of insights into resource management between agencies and the development of new alternatives which impact less on our environment. By its very nature, the success of this legislation will depend on the willingness of the people in the agencies involved to work together.

In addition to Senate Bill No. 39 and 40, I support 41, 42 and 51 which you considered earlier. While I realize there is some concern over S.B. 41, Minimum Streamflows, I think it is more important to move forward on this issue and adjust as needed

later if we find an unworkable situation. Minimum streamflows have been in effect on the Neosho River since the inception of the Basin Advisory Committee. We have not observed or heard of any problems or concerns to date on this issue from the people in our basin.

Concerns have also been expressed over S.B. 42, Establishing Conservation Easements. Most of these appear related to procedural issues. The intention of this legislation and the concept are sound. This is an important direction in resource protection which we have yet to fully explore. I hope the mechanics can be ironed out to everyone's satisfaction so we can have a chance to gain some experience with this approach.

Over the past 20 years, I have had various opportunities to work for, with and sometimes around many of the agencies with responsibilities for our water resources. I have seen agencies squabble over issue, maintain running turf battles and almost go to court over their differences. The net result was a tremendous waste of time, money and manpower. That has all changed now, thanks to the efforts of Mr. Martin and members of the Water Authority, Mr. Harkins and members of the Water Office, as well as the people in the other agencies. I think we have seen greater cooperation and accomplished more in water planning in the past 3 to 4 years than in the prior 15 years. This is a very exciting time in water planning and management. As members of the legislature, you have an opportunity to play a key role in this process. I hope you will support the plan and the people this session.

Thank you for listening.

James R. Triplett: Background and Associations

B.A. 1966 Zoology, Pittsburg State University

M.S. 1968 Biology, Pittsburg State University

Ph.D. 1975 Biology (Aquatic Biology), University of Kansas

Associate Professor of Biology, Pittsburg State University

Chairman, Biology Department, Pittsburg State University

Chairman, Neosho Basin Advisory Committee

Chairman, Basin Advisory Committee Chairmen

Member, Board of Directors, Kansas Commercial Fish Growers

Member, Kansas Chapter American Fisheries Society

TESTIMONY BEFORE COMMITTEE ON ENERGY AND NATURAL RESOURCES
BY JOHN KOSTICK DATED JANUARY 29, 1987
RE: SENATE BILLS 39, 40, 41, 42 AND 51

I live close to the Black Vermillion River in Marshall County, and I am here to voice support for the Bills under consideration. I speak for a number of people, some of whom are here and some of whom have signed this statement. We are deeply concerned with and affected by the prevailing condition of this river, which has been deteriorating rapidly in recent years. Whether we are talking about farm ground along the river and the livelihood of those who work it, or about the river as a fish and wildlife habitat and recreation area, or about it as a source of usable water, this river is in terrible need of protective measures such as these Bills would begin to provide.

In the upper reaches of this river extensive and unregulated channel changes have been made, changing farming practices have drastically increased runoff, and at the same time progress has been painfully slow toward completion of planned flood control dams within existing watershed districts. The result is much more frequent and violent flooding. These are devastating floods. Farmers sustain huge losses of crops and of topsoil, the riverbanks collapse, roads and bridges are damaged, and the lower stretches of the river are inundated with sediment, logs and debris.

A further result of all this floodwater running off and across farm ground is contamination of that water by agricultural chemicals. I'd like to remind the Committee that this river drains into Tuttle Creek Lake. There is evidence that fish taken from this river are also contaminated by pesticides. To document this, and to indicate to this Committee an ongoing concern in our community for water

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quality and the well-being of the environment, I submit a series of articles which have appeared recently in the Marysville Advocate.

With regard to Bills 39 and 40, which provide for more regulation of channel changes, I submit to the Committee a legal action which clearly illustrates the attitude of people within this area about indiscriminate channel changes. In this case, 26 land-owners and residents along the Black Vermillion jointly filed a complaint against an individual who had begun to dig an unauthorized channel above them. As a result of this action the Marshall County Commissioners adopted a resolution indicating that public roads and bridges are jeopardized by such channel changes and requesting that the State Division of Water Resources consider this ongoing problem and take such actions as are appropriate.

We feel that the provisions in Bills 42 and 51 for conservation districts for riparian protection, together with some equitable compensation such as conservation easements, is highly desirable. The recommendations of the State Water Plan contained in these Bills, while they are not nearly enough to solve all the problems we are experiencing, at least address some of them and are steps in the right direction. I would like to point out that protection of farmers' interests, protection of a natural fish and wildlife area, and protection of water quality are all at issue here, and are not incompatible. We urge this Committee to recommend these Bills as we feel they are needed to reverse the decline of the river and the lands around it.

By: _____


John Kostick

Dated: January 29, 1987

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OFFICIAL CITY & COUNTY NEWSPAPER

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Carbon tet is detected in Frankfort well

By DICK RUSSELL

Carbon tetrachloride, a chemical once widely used as a grain fumigant in elevators and bins, has been detected in one of three wells that provide the public water supply for Frankfort.

"I can't discuss the contamination levels that the state has detected until we transmit the final analyses to Frankfort officials," Bob Moody, a spokesman for the Kansas Department of Health and

Environment, said at the KDHE's headquarters in Topeka. "We did find carbon tetrachloride in Frankfort water but it was not at a level at which the town should now shut down the well."

According to James Picolet, Frankfort's street and water commissioner, the KDHE conducted three tests over the past three months on a town well drilled in 1973 and located at the northeastern edge of the Frankfort golf course. Standards set by the KDHE maintain that any

well that contains carbon tetrachloride at concentrations of 2.7 parts per billion or higher should be shut down for exceeding the safe drinking water level.

"The first test results were right on the border of the drinking water standard," Picolet said. "The second test showed real high in contamination. After that, we shut the well down for three weeks. We were very concerned. Then last week, the state asked us to fire up the well for 10 minutes

before they did the latest testing. And when they ran this last check, the water came out OK. They called us to say they'd found no traces of the chemical in it."

Despite the latest findings, Frankfort has not yet resumed using the water in the well. The town generally uses its three wells in rotation, a different one every three months.

Based on laboratory studies of animals, carbon tetrachloride is believed to cause adverse health effects in humans if consumed

at levels above the safe drinking water standard over long periods. Moody said carbon tetrachloride is a suspected carcinogen, or cancer-causing agent, as well as having the potential to cause lung, liver and kidney damage.

"Our action level, where we would shut off a well, is based on long-term consumption," Moody said. "But while a lot can be known from animal studies, nobody really knows for sure what these types of volatile organic compounds can do."

Carbon tetrachloride is a volatile organic compound, or VOC, which means that it evaporates in the air. Today it is primarily used in the production of industrial materials such as refrigerants and paint or plastic solvents. The Federal Environmental Protection Agency has recently banned its use as a grain fumigant and ordered it to be replaced by safer registered pesticides.

"Carbon tet is a liquid that was poured in at the top of a

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★ Carbon tet detected

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grain bin or silo and would sink to the bottom and kill the insects," said Jeff Lamfers of the KDHE's Lawrence office. Lamfers conducted the tests in Frankfort. "It might have just kept going into the ground, even with concrete bottoms on the silos. And some silos didn't have concrete bottoms."

Harvey Swanson, a member of Frankfort's City Council added, "This particular well is on a high knob, so there couldn't be any drainage. The chemical has got to be coming from someplace else. I know it was used on these government grain storage bins for years, about one-half mile north of town. There must have been 130 bins at one time, but they haven't stored any grain out there for 12 or 13 years."

Steve Shubkagel, manager of the Frankfort branch of the Farmers Union elevator, said carbon tetrachloride had not been used there for at least five years. Since 1978, the elevator has instead used a compound called phostox, which comes in pellet form and turns into a gas, and Shubkagel said "is a lot easier to handle and safe than carbon tet."

In the early 1970s, Shubkagel remembered, "We would take a five-gallon can of carbon tet and dump it into the railroad grain cars as they were going out to Topeka or Kansas City. We'd have maybe six gallons in a 3,500-bushel car and fumigate the grain while the cars were going. But this contaminated well is on the other side of the hill from us and upstream. It seems more likely that maybe some farmers could've had carbon tet out in their shed and thrown it away in a ditch or

something."

Picolet, Frankfort's street and water commissioner, said the most probable explanation is that the chemical has gradually seeped down into portions of the Frankfort ground water over a period of years.

"Just because we only found it now doesn't mean this is the first time it's been there," said Vic Robbins, coordinator of ground water studies for the state's Bureau of Water Protection. "Once volatile organic compounds like carbon tet get down into the ground water, they don't break down. This is simply the first time the state has looked for VOCs in Frankfort water."

Why did the tests discover a high contamination level one time and no traces of carbon tetrachloride another time? Nobody is really sure. The KDHE's Moody explained: "Often it depends on the pumping rates of a well. If the water sits for a while, a build-up of the chemical is more likely."

Frankfort officials say that this particular well had been idle for about three months before the testing.

"The trouble is, what's found can be pretty variable," Robbins said. "It depends on the pumping regime and the weather conditions. Sometimes VOCs can show up when a well hasn't been pumped and something only when it has. Or only during a certain time. Our technical expert here tells me that you can pump a well for three hours and never see a trace, but in the fourth hour suddenly it shows up."

So there is no certainty the carbon tetrachloride won't show up again. Frankfort officials said the state plans to conduct

two more tests over the next year.

The findings in Frankfort came about as part of a statewide study being conducted by the KDHE.

"About 1½ years ago, we finally started a first-time scan of all the public water systems in the state, testing for volatile organic compounds," KDHE's Lamfers said. "The equipment to do this is very expensive. Carbon tetrachloride is the main VOC that we've encountered in ground water. The level in Doniphan County, for example, were higher than in Frankfort."

There the small rural community of Bandena was found to have carbon tet levels three to four times above the safe drinking water standard.

"Under normal circumstances, we would close their well down," said Moody. "But so far they've been unable to find any other source of water, and the town only has this one well. So it's either bad water or no water."

A new report about ground water contamination in Kansas was released last week in Omaha at a conference sponsored by the National Water Well Association. Written by three professors at Kansas State University, who worked in conjunction with the KDHE, the report stated:

"Ground water has usually been assumed to be pure unless there was some reason to think otherwise. Often it is used with no pretreatment. Many ground water pollutants tend to be invisible — as well as being odorless and tasteless. Detection of drinking-water problems, then, is difficult . . . Many ground water contaminants, particularly volatile

organics, do not occur in surface water. Thus, experience with these chemicals is limited, and only recently has it become possible to detect many of them at the low concentration found in ground water. . . .

"Nearly 80 percent of citizens of Kansas use ground water as their source of drinking water. Ground water, for the most part, is consumed with little or no treatment; in particular there is almost no treatment to remove VOCs and pesticides. A recent incident where a farm well was found to be contaminated with carbon tetrachloride has raised the concern of the Kansas Department of Health and Environment about the amount and nature of contamination of farm wells with VOCs and pesticides

"KDHE is conducting a sampling and analysis program for ground water used for public supplies in Kansas. This has involved some 400 sources. Preliminary results indicate that from 10 to 20 percent of those sources contain one or more VOCs to require KDHE to notify the users of the extent of the contamination"

What this means for Frankfort's public water supplies, and perhaps many other parts of Marshall County, is unknown. As Frankfort Councilman Swanson said, "If we did have to shut down this one well, we'd still have plenty of water. But when you find the contamination in one well, I'm worried we may eventually get it in all of them."

Dick Russell is a native Kansan and free-lance writer for national publications specializing in environmental concerns.

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Nitrate level up in 3 wells

By DICK RUSSELL

Unsafe levels of nitrate contamination in rural drinking water have been detected in three of the four private farm wells tested in Marshall County during a statewide survey conducted by the Kansas Department of Health and Environment and Kansas State University.

The results of the first comprehensive Kansas Farmstead Well Survey were released at a conference on groundwater contamination held in Omaha in mid-August. In 29 of the 104 private farm wells sampled across the state, there existed nitrate concentrations above the public health standard established by the Federal Environmental Protection Agency.

Drinking water contaminated with nitrates above a level of 10 parts per million poses danger to babies, who may develop methemoglobinemia, also

known as "blue baby syndrome." Scientists have also reported that nitrate contamination can cause pregnant mothers to miscarry. Birth defects, nervous system impairment and cancer are other potential adverse health effects that have been suggested by scientific studies by the Council for Agricultural Science and Technology.

The council, whose headquarters is in Ames, Iowa, is a national organization made up of scientists and university experts in such fields as agricultural, engineering, animal health and toxicology.

Although state officials would not identify the farmstead owners or reveal the precise levels of contamination found in Marshall County, "We did find nitrates in excess of the public health standard in three of the four wells tested, and the highest level was 37 parts per

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million," said Vic Robbins, coordinator of groundwater studies for the Kansas Bureau of Water Protection. The three Marshall County landowners have since been advised that their well water should not be consumed by babies or pregnant women.

Two wells in Washington County were also tested in the survey. One of these contained nitrates above the safe drinking water standard. This landowner was given the same health advisory warning as the Marshall County farmers.

A detailed questionnaire that seeks to determine the primary cause of the nitrate contamination problem has been sent by the state to each participant in the well survey. "There are a lot of sources of nitrates," said Robbins, "and the contamination does relate to agricultural practices. In most places where you find real high levels of contamination, the nitrates are probably coming from animal or human waste. For example, someone has a well that is 50 feet from their hog lot, and maybe their septic tank is 50 feet from the well in another direction. But another reason is the gradual increase in nitrates leaching into the groundwater from the use of chemical fertilizers. This may be bringing nitrates into the well water from a natural level of three parts per million right up to the health standard of 10, or more."

A 1985 report titled "Agriculture and Groundwater Quality," published by the Council for Agricultural Science and Technology, stated: "Although loss of nitrate from soils to groundwater is a natural process, the potential for loss to groundwater is increased in local areas by high concentrations of livestock and in much of the cropland by nitrogen fertilizers."

The most alarming fact about the Kansas farm well survey is the probability of nitrate contamination in many more people's drinking water. The state agricultural census estimates that there are 40,000 private wells used in rural areas of Kansas. Based on the findings of the well survey, the Department of Health and Environment thinks that as many as 11,200 of these farm wells may exceed safety standards for nitrate contamination.

Groundwater pollution, by both nitrates and pesticides, is a growing problem throughout the Midwestern farm states. Late in June, the first known infant death from nitrate poisoning in the United States in three decades was reported in South Dakota. The two-month-old child had died of "blue baby syndrome," a nitrate-induced illness that deprived her brain of oxygen. Tests showed that the family's well contained 152 parts per million of nitrates. Possible causes for the contamination, according to South Dakota



Marysville Advocate, Sept. 11, 1986, p. 7, pt. 1.

officials, included nitrogen fertilizers in the intensively farmed area seeping through the soil, or spring flooding that washed excessive fertilizers into the family's shallow, 30-foot-deep well.

"The nitrates in our farm well water in Marshall County have been high for years," according to Dr. Don Argo, Marysville physician and county public health officer.

"Twenty years ago, there were instances of two different ladies who miscarried twice. I know that one of them had a new well drilled, she became pregnant again and was able to have the child. In recent years, I don't think we've seen any higher incidences of this for two reasons. One is the decrease in the number of young farm families. Another is that Marshall County now has two rural water districts for public drinking supplies. But if a family gets its drinking water from a private well and has not had it tested recently, we definitely know that newborns can get into problems with nitrates."

According to the Des Moines Register, a study in southern Australia has compared birth-defect rates among expectant mothers who drank rain water to those who drank from wells and a lake that were both contaminated by nitrates. The study found that pregnant women who lived in regions where drinking water contained 5 to 15 parts per million of nitrates ran three times the normal risk of having malformed babies. When nitrate levels exceeded 15 parts per million, the risk was four times greater.

Another concern is that the human digestive system can convert nitrates into nitrosamines, which are cancer-causing agents. Dr. Donald Morgan, a toxicologist at the University of Iowa College of Medicine, has said that

nitrosamines have established themselves as an "impressive" carcinogen in studies of laboratory animals.

James Steichen, one of three professors in the Department of Agricultural Engineering at Kansas State who prepared the Kansas well survey findings, said at the Omaha groundwater conference: "I think it would be prudent that anyone using a private well for drinking water ought to have it sampled for nitrates."

If contamination is found, an individual can do something about potential effects by moving to another drinking water source such as bottled water. But doing something about the causes is another matter. As Argo put it, "Any of the chemical fertilizers may be getting down into the groundwater. I think in years to come it's going to be a greater problem, because unfortunately many farmers think they just have to put more and more fertilizer onto their fields to maintain their crops."

Indeed, the survey of Kansas wells was conducted last winter; when the state re-tested the wells that showed unsafe contamination levels, even higher nitrate concentrations were detected after the spring planting season in all three Marshall County wells.

According to the Kansas Board of Agriculture figures, in 1985 Marshall County farmers applied 29,945 tons of chemical fertilizers to their fields. Calculated at \$150 a ton, the amount spent comes to \$4,491,750 for that year alone. Yet, if studies in Iowa are an

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indication of what is happening here in Kansas, as much as 50 percent of the nitrogen that's applied to fields is never used by the crops. Evidence being gathered at Iowa State University is poking holes in long-held theories that most of the nitrogen plants don't use either stays in the soil or escapes as gas into the at-

What might local farmers do to reduce their dependence on chemical fertilizers? The report by the Council on Agricultural Science and Technology has made a series of recommendations: "Various agricultural practices may be used to reduce the loss of nitrate to groundwater. These include (1) reducing the amounts of nitrogen fertilizers applied in current cropping systems, (2) adjusting nitrogen fertilizer applications on the basis of soil or plant-tissue tests, (3) applying nitrogen fertilizer in small amounts as needed during the growing season, (4) using slow-release fertilizers, (5) using chemical inhibitors to delay the formation of nitrate from the ammonium and other forms in which much of the fertilizer nitrogen is applied, (6) avoiding fall applications of nitrogen fertilizers for crops to be planted in the next spring, (7) spraying plants with solutions of urea in place of supplying nitrogen fertilizer to the soil and (8) changing to cropping systems that derive their supplemental nitrogen from legumes and can be used with little or no nitrogen fertilizer."

Aside from the health effects of nitrate contamination, the economic blow to farmers from lost nitrogen fertilizer is obvious. Nationwide, farmers may be losing \$2 billion annually. Oren Holle, a former board member of the National Farmers Organization who farms near Bremen, offered an example of how altering his fertilizer use has improved his economic situation.

"By and large we've gotten away from chemical fertilizers," Holle said. "We've moved from acid-treated commercial fertilizer to different types, paying attention

first to the calcium levels in the soil and building to soft-rock phosphate and other soil builders, and adding bacterial spray. Agrolig, or agricultural lignite, is a coal topping that is high in organic carbon and fairly high in humic acid content. It does a better job of breaking down crop residues and incorporating into the soil system. We use a lot of different practices that build organic matter up again in the soil. And we get better water utilization. Our soil is not necessarily wetter, but the moisture stays in the soil longer, so we get through dry spells better.

"Unfortunately," Holle added, "farmers have been brainwashed into believing that you just simply can't farm today without chemicals. You look at the tremendous amount of money the big companies spend on chemical ads, and no wonder. And farmers won't look at alternatives today if something is working reasonably well for them. They just go for what they figure will get them through this year."

The various federal and state agencies currently have no regulatory controls over the use of chemical fertilizers.

As Nancy Vogelsberg-Busch, Home City farm wife, said, "It's like we are human guinea pigs out here, and only 10 to 15 years down the road will we know the results. I'm so afraid it's my children who will suffer most from what is happening."

Dick Russell of Benton Farm near Frankfort is a free-lance writer for national publications specializing in environmental concerns.

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Nitrate testing in Kansas is a relatively simple procedure. A person should fill a small, sterile jar with well water, pack it carefully in a box with his or her name, address, phone number, time and day of sample and send a check for \$4.50 to: The Kansas Department of Health and Environment, Office of Laboratory Services and Research, Topeka, KS 66620.  
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Pesticides found in area's water

By **DICK RUSSELL**

The first comprehensive study of private Kansas farm water wells has found traces of pesticides in one of the four wells tested in Marshall County and one of two wells sampled in Washington County, according to officials with the Kansas Department of Health and Environment.

In addition, an ongoing study by the health department and U. S. Geological Survey of river water flowing into Tuttle Creek Reservoir is detecting the consistent presence of several pesticides in samples taken from the Big Blue River at Marysville, the Black Vermillion River near Frankfort, the Little Blue River at Barnes and Fancy Creek at Winkler.

"The whole northeast and north central area of Kansas, for any kind of groundwater or

surface water problems with farm chemical contamination, is the most susceptible in the state," said Vic Robbins, coordinator of groundwater studies for the Kansas Bureau of Water Protection.

The reasons for this, state officials said, are the large number of rivers and streams in the area, the amount of run-off of farm chemicals caused by rainfall and the geographical terrain.

"In Marshall County, the glacial aquifers are susceptible to contamination by pesticides and also by nitrates," said Charles Perry, project chief for pesticides in the geological survey study. "The Big Blue River marks the western edge of the Kansas glacier. I would say that the eastern half of the county is more susceptible to

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★ Pesticides found in area

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contamination because of the wind-blown clay there which pesticides tend to stick onto."

In the survey of Kansas farmsteads, pesticides were detected in seven of the 104 private wells tested. From these findings, according to KDHE spokesman Bob Moody, the state estimates that 2,800 wells across Kansas may contain traces of pesticides in the water.

"The pesticide we found in one well in Marshall County was the chemical herbicide atrazine, and the range was between 1.5 and 7.0 parts per billion," Robbins said.

In Washington County, we found 1.3 parts per billion of 2,4-D and 1.1 parts per billion of 2,4,5-T in the same well." The well sampling was done between last December and February. Last spring, when the KDHE retested the wells with pesticide traces, the detectable levels had increased in each case. Nitrate levels above the safe drinking water standard of 10 parts per million were found in the same wells, as well as two others, in Marshall County.

"There is a federal drinking-water standard for only six pesticides," Robbins added, "and these are ones you rarely find in drinking water. No public health standards exist for the rivers. We are developing state standards on our own for pesticides found in groundwater, but the Federal Environmental Protection Agency (EPA) is the only regulatory authority with the force of law."

Atrazine, the weed-killing agent in herbicides brand-named Aatrex or Atrazine, is "the most common pesticide in use in Kansas, and also by far the most common we detected in well water in the farmstead study," Robbins said. It was found in about 4 percent of the wells tested statewide. Atrazine is also the chemical being found most consistently and at the highest levels in the state's probe of local river waters.

In all instances, the levels detected of atrazine and other pesticides fall well below the state's current human health advisory levels for drinking water. The level considered tolerable for atrazine is around 88 parts per billion with lifetime consumption, Robbins said.

But new doubts about the acceptable health standard for atrazine, as well as several other herbicides in local waters, are now emerging at the federal level. Atrazine, manufactured by the Ciba-Geigy Chemical Co., has been on the market in Aatrex for 27 years. In the past, it was thought to be a non-persistent herbicide that would break down rapidly in the soil and was very unlikely to ever leach down into groundwater. But recent tests throughout the Midwest have been finding traces of Atrazine in drinking water supplies, particularly where continuous corn crops are grown.

Today, the label warning on atrazine reads: "Atrazine

leaches readily and accepted label rates have been found to result in contamination of water supplies by way of groundwater." Use in well-drained soils should be avoided, particularly in areas with high groundwater tables, the recommendation continues.

Research into the potential human health effects of atrazine was originally conducted by Industrial Bio-Test Laboratories (IBT) in suburban Chicago. For two decades, a number of corporations that sell agricultural pesticides had commissioned IBT to determine if their chemicals could cause cancer, birth defects, cell mutations and other health problems in lab animals. The IBT results were vital to government decisions permitting the sale of many pesticides that have been used on farms for years, and which are now showing up in groundwater.

In 1977, an investigation revealed that the majority of IBT's test results had been falsified or totally fabricated on a routine basis. Three company officials were indicted and went to jail, in one of the greatest scientific scandals ever. The federal EPA spent six years trying to determine which IBT tests could be salvaged, and eventually threw out 594 of the 801 results that had been considered the most important.

Last November, the EPA said it was unable to propose drinking water tolerances for atrazine, because the only

available research on the herbicide's health effects had been performed by IBT and still had not been replaced by valid tests. Then, this May, EPA officials advised state authorities in Iowa that "a new bioessay indicates there is a strong possibility atrazine may be carcinogenic."

"The haunting prospect is that we don't know the effects of long-term, low-level exposure," according to Richard Kelley, an official with the Iowa Department of Water, Air, and Waste Management. "If nitrates or pesticides do prove to be significant cancer-causing agents, it could take 20 or 25 years for the disease to develop. By the time any connection between contaminated water and human cancer might be established, you've exposed your whole population."

Not everyone takes such a cautious view. Chris Wilson, a spokesman for the Kansas Fertilizer and Chemical Association, has said the results of the Kansas farmstead well survey were not alarming and not cause for reducing use of chemicals.

Lloyd Polson, state representative for the 62nd District and a long-time farmer who used to sell agricultural chemicals, saw no cause for alarm.

"I think most of the commonly-used herbicides are relatively safe," Polson said. "Atrazine is one of the old

(Continued on Page 7B)

★Pesticides found in water

(Continued from section A)

common chemicals. I imagine if we were having a lot of health problems because of these kind of things, we'd have seen it long ago.

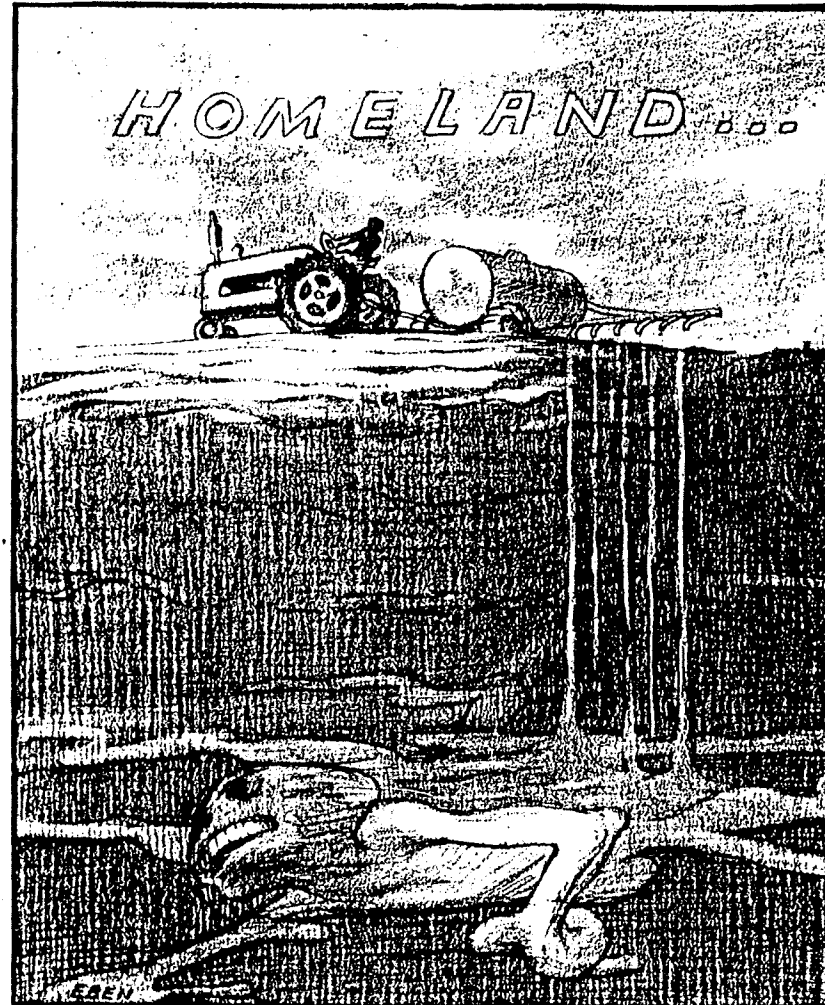
"Our scientific technology has become so sophisticated, now they are finding parts per billion," Polson added. "But what does that mean? It's almost ludicrous the amount of dosage it takes for these things to be lethal. We have a lot of carcinogens on the market today, including cigarettes.

"If there is a problem, the scientists should let us know about it. Certainly the ground-water should be monitored. But I think most farmers know how these chemicals should be used and taken care of. Chemicals are an integral part of the way we farm and do business. To go back to another way of farming would be very expensive. Chemicals and the ability to mass produce food are almost synonymous. In this nation people only spend 15 percent of their income for food, and use of chemicals is part of the reason."

Polson said the Legislature has enacted a chemigation safety law; pesticide business statute which enables the state to cancel an applicator's license; requires registration of pesticide dealers; enacted a pesticide use statute; and has established regulations for those who use pesticides.

Carla Fromm, who is supervising the study of the river water flowing into Tuttle Creek Reservoir for the health department, said "It's pretty clearcut that there are more herbicides in water in this part of the state. Tuttle Creek drains a considerable amount of farmland, and we want to know what the herbicides are doing to large reservoirs and which streams have the highest concentrations."

When the first samples of local rivers were taken in early April, no pesticides were detected. By May, a few were showing up at very low levels. The on June 5, a sampling at Fancy Creek, which flows into the west side of Tuttle Creek, found the highest con-



— Eben Given

Marysville contained the next highest amounts of atrazine. At six stream test sites, plus Tuttle Creek lake, lower levels of herbicides including alachlor (brand-name Lasso), metolachlor (Dual), metribuzin (Sencor) and (Lexone), cyanazine (Bladex), Ramrod and Round-Up were also found in the water.

Lasso is another widely used herbicide first marketed in the

lifted.

The highest level of alachlor, the weed-killing ingredient in Lasso, found in area waters was 4.5 parts per billion in the Big Blue River at Marysville on June 5. Last November, the EPA's Office of Drinking Water proposed a zero contamination level for alachlor, adding that "the available data indicate that alachlor has carcinogenic effects in animals. Alachlor has

where we could consider it, because of the expense involved."

Oren Holle, who farms near Bremen, told of taking a recent water sample from the Big Blue and sending it to a testing laboratory in Omaha.

"I was using the river water to irrigate and wanted to see if there was anything in it that could hurt my soybeans," Holle said. "The lab called right away

How to collect water samples

The procedure used in testing for nitrates in wells is more complex than the suggested method carried in last week's Advocate.

According to Gyula F. Kovach, P. E., manager, Bureau of Water Protection, Kansas Department of Health and Environment, the person who wants a nitrate analysis should collect the water sample in a clean glass or plastic container with an approximate volume of not less than one-half pint. The container shall be well rinsed with the same water from which the sample is being collected and must be labeled with the collector's name, address, date of collection and source of sample. No special preservation is needed, but the Post Office should be told the nature and contents of the shipment. The sample should be mailed with a \$4.50 check to:

Environmental Laboratories
Forbes Field, Bldg. 740
Topeka, KS 66620

Here are the full instructions from the state:

READ CAREFULLY BEFORE PROCEEDING

WARNING: A well used as a water source for household use that is located within 50 feet of a septic tank and/or lateral fields, pit privy, open animal manure piles or pits, animal loafing lots or any other source of fecal pollution is unsatisfactory even though laboratory results of a single examination may show the absence of pollution indicating bacteria.

For best results these sampling instructions have to be followed:

1. The sample collector should wash his hands with soap and water before collecting the water sample.
2. Water samples should NOT be collected from:
 - outside silt-cocks
 - frost-free hydrants
 - leaking faucets
 - softened water taps

— taps with aerator or charcoal filter attachments

— hot water faucets

3. After choosing a tap for collection of water sample, the first step is to partially open the cold water tap to the degree needed to fill sample bottle without water backspilling out of the sample bottle.

4. Allow the water to flow from the partially opened tap for 3-5 minutes.

5. Without further adjustment of cold water flow, remove cap from sample bottle and hold it with the one hand, making certain inner cap surfaces are untouched. With the other hand, hold sample bottle under flowing cold water stream until bottle is filled to the line or about 2/3 full.

6. After bottle fills to the line, remove from water stream and replace cap on bottle; tighten cap securely, making certain bottle cap is not cross-threaded.

7. Now — fill out these items on the left-hand side of the 3x10 inch cream-colored shipping card:

a. Name of Water Supply. In general this includes the name of the family unit that uses the water or the group name. For example: John H. Brown Family, Red River Grange, School District 401, etc.

b. Collection date. Give month, day and year when sample was collected. Please use number for month, not month name.

c. Collector's signature. Please sign name of sample collector.

d. Bottle No. On this line please give number that is painted on the sidewall of the 8-oz. plastic bottle used.

e. Time of day. Please give time of day when sample was collected.

f. Source of sample. Please give place where sample was collected. For example: kitchen faucet, bathroom lavatory, room 410 lavatory, etc.

g. The rubber stamp imprint box on back-side of cream-colored card. Please supply all the information requested. It is important! For example: The address where the report is to be sent is essential; if help is desired regarding what should be done after the report is received, the information listed can be of great aid in interpretation.

8. Place appropriate postage on the shipping container and mail the sampling outfit the same day the sample is collected.

9. Please allow a minimum of 5 working days after mailing the water sample before expecting the laboratory report.

10. Water samples should be collected and mailed on Monday, Tuesday or Wednesday.

The cost for a nitrate test is \$4.50 and the check should accompany the sample.

double the amount used 20 years earlier. Last spring, the EPA declared that pollution by pesticides is the most urgent problem it faces. According to the Cooperative Extension

scientists David Pimental and Lois Levitan, "Extremely little pesticide actually reaches target pests. Most of what is applied enters the environment, contaminating the soil, water,

centration of a pesticide ever detected in surface water in Kansas.

"We found 51 parts per billion of atrazine coming out of Fancy Creek," said Fromm, "probably right after the milo had been planted when there was a heavy rain." On June 18, Fancy Creek's atrazine level remained high at 25 parts per billion.

The Black Vermillion River near Frankfort had the second highest levels of atrazine concentrations — 16.0 on June 5, 22.0 on June 30, and 21.0 on July 2. The Big Blue River at

United States in 1969. Fifteen years later, in 1984, the EPA classified it as a "probably human carcinogen" and ordered additional tests and warning labels on the product. The federal agency is expected to decide in 1987 if the chemical presents an unreasonable risk to human health. By then, Lasso will have been applied to domestic farm fields for 18 years. Last year its use was outlawed by the Canadian government, a ban that Lasso's manufacturer, Monsanto Chemical Co., is trying to have

been detected in public water systems and is highly mobile in the environment."

Other herbicides found in sampling the Big Blue at Marysville were Dual, Sencor and Bladex. Dual is marketed in products containing atrazine; it was tested by IBT and the EPA has concluded that the results were deficient. When Sencor was tested on rats, the EPA found a significant increase in certain tumors at high dosages.

"Users are advised not to apply... where water table is close to the surface and where soils are very permeable," the label warning reads. Bladex, according to its label warning, can leach into groundwater and has produced birth defects in lab animals.

"In Marysville, the intake for the public water supply is right where we sample at the bridge," said Hugh Bevans, head of the Tuttle Creek project for the U. S. Geological Survey. "Normal water preparation procedures for drinking don't remove these types of contaminants. It's possible they are going into the drinking water."

Any town or city that uses surface water for its drinking water supply is required by the KDHE to monitor for pesticides once every three years.

"The city is responsible for the sampling and monitoring, and getting that information to us," said Moody of the state health department. "According to our records, Marysville last sampled for pesticides in October 1983. None were detected at that time in the drinking water supply."

Since last November, Marysville has been looking for a new public water source other than its major supplier, the Big Blue River.

"The quality of our water is forever getting worse," said B. K. "Buck" Overman, chairman of the water and sewage committee of the Marysville City Council. "The chemicals are part of it, and the silt problem, and the runoff from cattle lots and so on that all ends up in the Big Blue. It's a prime gatherer as far as a lot of undesirable things are concerned. So right now we are looking for a new water source, and it isn't the river. But we've reached no conclusions that one is even available reasonably close to

and said, 'Don't use the water.' They found triazine chemicals, especially atrazine, and suggested the water would do more harm than good for watering my soybeans." (Atrazine, used primarily to control weeds in cornfields, is also damaging to certain crops like soybeans.) "The quantities they found were very minute, but not when you're talking about pumping millions of gallons of water into your field."

"This was at the start of the irrigation season, when the first run-off came out of the cornfields around me," Holle said. "But the river was at one of its lowest points. It has to make you wonder about a town like Marysville and the drinking water they get out of the Blue. With our rivers around here, there's the smell of death all over the place. And to think they called it the Blue River at one time because it was so clear!"

The state is concerned about the levels of pesticides showing up in Tuttle Creek, which is being considered as a possible future emergency drinking water supply for some nearby cities.

"Is Tuttle Creek a sink for pesticides, or do they just go into it and out again? We only have six months of data and can't make that determination yet," said the geological survey's Bevans. "Plus there are some problems in analyzing pesticides in waters with a lot of suspended sediment. Our techniques are not as good as they should be, I suspect the levels in the lake and the rivers are actually higher than we are detecting, because we put solvents in to take these pesticides out of the water sample, but the pesticides may be absorbed onto the sediment so strongly that we're not getting them all off."

Bevans said a new federally funded study of the Upper Kansas River Basin, including the Big Blue and Little Blue rivers, may also include analysis of fish tissue for possible contamination. The new study will involve cooperation with the Nebraska branch of the U. S. Geological Survey, so that the Blue River can also be examined there.

A 1984 EPA study revealed that more than 1 billion pounds of pesticides a year are being applied in the U. S., nearly

Service at Iowa State University, excessive mortality from leukemia, multiple myeloma and non-Hodgkin's lymphoma is consistently associated with area herbicide usage in rural Iowa.

In Kansas a recent study by Kansas State University and the University of Kansas links 2-4-D with an increased risk of a cancer called non-Hodgkin's lymphoma. A total 5.9 million acres received herbicide applications in 1982, according to the Kansas Census of Agriculture's latest available data.

"I'm not sure that our leukemia rates are higher in Marshall County than elsewhere," said Dr. Donald Argo, Marysville physician and Marshall County public health officer. "Colo-rectal cancer may be slightly higher here than the national average, but that may be due to the types of foods that are eaten. Ten or 15 years ago, we had five or six cases in a year. In the last few years we've had a pretty big swing again. If we were just gradually seeing more and more every year, it would be easier to pinpoint why. What causes cancer? Why do people get it? It's difficult to say. But we must be concerned about herbicides showing up in the water. Better testing facilities are needed to detect them and something should be developed to remove them from the water supply."

Three scientists at the EPA, describing how hard it is to estimate human health risks from tiny residues of chemicals that cause cancer when fed in large doses to lab animals, wrote in a recent report: "These estimates provide a range of uncertainty equivalent to not knowing whether one has enough money to buy a cup of coffee or pay off the national debt."

The 1982 Kansas Census of Agriculture reported that Marshall County farmers spent \$2,083,000 on farm chemicals other than commercial fertilizers that year. In Washington County, farmers spent almost \$1.8 million. (The combined county total spent on fertilizers, which are known to cause potential nitrate contamination in drinking water, came to over \$8.2 million).

Yet, according to a 1986 article in BioScience Journal written by

contaminating the soil, water, and air, and perhaps poisoning or adversely affecting nontarget organisms."

As the geological survey's Bevans put it, "The farmers live on the land and drink the water. And if we are seeing a lot of these chemicals simply wash off, it is also costing them a lot of money. They could be more careful about when they apply them. The herbicides we are finding in the water do seem to be related to application time on the fields."

Holle, a former board member of the National Farmer's Organization, said he and his brother now "use no pre-emerged herbicides on our crops and we get as good of weed control as anybody."

Holle said: "Farmers have just accepted that chemicals are the way it must be done. But rather than go out and broadcast an herbicide everywhere, they could band it around the fields and cultivate instead. This would probably cut herbicide use to 25 percent or less of what it is now, and they could do just as good a job of farming. It's not quite as simple, but it could be done. I still think there is probably a place for some chemical use in agriculture. But we're at a transitional stage, while we look for other ways."

Last October, the Reagan administration's EPA chief Lee Thomas told a conference in Kansas City that pollution from "nonpoint" sources such as common farming practices over huge areas is the main threat to water quality in much of the U. S.

"When we went after point sources (such as industrial polluters), it was at least possible to distinguish the polluters from everybody else," Thomas said. "But we can't easily identify the nonpoint source polluters, because 'they' are 'us.'"

Looking at the growing contamination problem from an overall perspective, the health department's Bob Moody summarized: "Unfortunately, we as a society have had the mentality — not just with agricultural chemicals — that if a little is good, a lot is better. This doesn't hold true in all aspects. It's going to take education to change it, and people are going to have to become aware that everything is interconnected."

PESTICIDES IN THE RIVERS
A survey by the Kansas Department of Health and Environment
and the U. S. Geological Survey, 1986
(amounts measured in parts per billion)

THE BIG BLUE RIVER AT MARYSVILLE					
April 9		May 16		June 11	
Nothing detected					
	atrazine	4.4	atrazine	12.0	
	alachlor	.44	alachlor	4.5	
	Dual	1.6	Dual	1.2	
			Sencor	.2	
June 18		June 25		July 1	
atrazine	10.0	atrazine	15.0	atrazine	8.7
alachlor	1.0	alachlor	.94	alachlor	.35
Dual	.59	Dual	1.0	Dual	.68
Sencor	.15	Sencor	.12	Sencor	.58
		Bladex	.62		.18
THE BLACK VERMILLION RIVER NEAR FRANKFORT					
April 9		May 7		June 4	
Nothing detected					
	atrazine	1.7	atrazine	1.4	
	Dual	.32	Dual	.44	
			Sencor	.13	
June 5		June 11		June 26	
atrazine	16.0	atrazine	7.5	atrazine	2.3
alachlor	.36	alachlor	.73	alachlor	.4
Dual	8.8	Dual	1.5	Dual	2.4
Sencor	1.9	Sencor	.35		
Ramrod	9.9	Ramrod	.58		
June 30		July 2			
atrazine	22.0	atrazine	21.0		
alachlor	2.7	alachlor	3.4		
Dual	2.9	Dual	7.3		
Sencor	.89	Sencor	1.7		
Ramrod	2.7	Ramrod	.71		
LITTLE BLUE RIVER NEAR BARNES					
April 9		May 16		June 11	
Nothing detected					
			atrazine	6.5	
			Dual	.51	
			Sencor	.13	
June 18		June 25		July 1	
atrazine	7.8	atrazine	5.0	atrazine	17.0
alachlor	.35	alachlor	.39	alachlor	1.6
Dual	.87	Dual	.44	Dual	6.3
		Sencor	.14	Sencor	.59
FANCY CREEK AT WINKLER					
April 9		May 16		June 5	
Nothing detected					
	atrazine	3.9	atrazine	2.7	
	Dual	.41	Dual	.4	
			Sencor	.3	
June 11		June 18		June 25	
atrazine	4.4	atrazine	25.0	atrazine	8.6
Dual	.53	alachlor	1.7	alachlor	.83
		Dual	5.4	Dual	.29
		Sencor	.43	Sencor	.56
		Ramrod	1.9	Ramrod	.27
June 11		June 18		July 1	
atrazine	4.4	atrazine	25.0	atrazine	10.0
Dual	.53	alachlor	1.7	alachlor	.47
		Dual	5.4	Dual	1.5
		Sencor	.43	Sencor	.27
		Ramrod	1.9	Ramrod	.27
BIG BLUE RIVER AT MANHATTAN (Outflow)					
May 8		June 2		June 18	
Nothing detected					
	atrazine	1.6	atrazine	5.0	
	alachlor	.8	alachlor	.8	
	Dual	.86	Dual	.47	
LAKE DATA					
April 7 — nothing detected					
May 8		June 2		June 18	
Station 1 (nearest dam)					
	atrazine	3.8	atrazine	4.0	
	alachlor	.38	alachlor	.57	
	Dual	.47	Dual	.56	
			Sencor	.75	
June 2		June 18		June 18	
Station 1					
	atrazine	8.0	atrazine	8.6	
	alachlor	.87	alachlor	.6	
	Dual	1.0	Dual	.91	
			Sencor	.96	
			Ramrod	.82	

Time runs out

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September 25, 1986

PAGE 8—MARYSVILLE ADVOCATE

THE MARYSVILLE ADVOCATE

Editorial opinion

"Where all men think alike few men think at all."
—Alfred North Whitehead

Contamination from agricultural chemicals is showing up in our streams and groundwater, imperiling the well-being of generations yet to come.

What are we going to do about it? Are we moving fast enough to head off serious health problems? What can people do to ensure that they and their children and children's children are not being slowly poisoned?

These are among the questions state and federal health officials are hearing and pondering as they work to catch up in the deadly game of bad water getting worse.

In three recent stories on the Marshall-Washington County environment written by Dick Russell, we learned that:

— Carbon tetrachloride has been detected in one of three wells that provide the public water supply for Frankfort.

— Unsafe levels of nitrate contamination in rural drinking water have been detected in three of the four private farm wells tested in Marshall County during a statewide survey.

— The first comprehensive study of private Kansas farm water wells has found traces of pesticides in one of the four wells tested in Marshall County and one of two wells sampled in Washington County.

— In June the first-known infant death from nitrate poisoning in the United States in three decades was reported in South Dakota.

A growing number of chemicals have a carcinogenic effect on animals and it may be years before research reveals the full impact on people poisoned by chemical-laced water.

All this is cold comfort to the nearly 80 percent of Kansas citizens who use groundwater as their source of drinking water.

Those who take their water from streams can find little encouragement in news that several pesticides were present in samples taken from the Big Blue River at Marysville, the Black Vermillion River near Frankfort, the Little Blue River at Barnes and Fancy Creek at

Winkler.

"Normal water preparation procedures for drinking don't remove these types of contaminants. It's possible they are going into the drinking water," Hugh Bevans, head of the Tuttle Creek project for the U.S. Geological Survey, said of herbicides found in the Big Blue River at Marysville.

No wonder sales of bottled water are lively in local food stores.

The Kansas Legislature has passed some measures to control the use of herbicides and pesticides, and the U.S. House of Representatives Friday voted to strengthen the law protecting public health and the environment from chemical pesticides.

We need to demand more. People need to demand better, more comprehensive, more frequent testing of public and private water supplies, and land grant universities and federal funding should be utilized to help farmers move toward alternate ways to farm.

Shawn Aday, editor of The Washington County News, noted in an editorial last week, "banding herbicides around a field and cultivating could reduce chemical use by 75 percent, but he (Russell) does not mention the cost of the labor, time and fuel to do the cultivation. There are no simple answers. . . .

"Even if there are no easy answers, the possibility that we are endangering ourselves and future generations with our use of chemicals today is a possibility we shouldn't ignore."

The problem will not go away. Said Dr. Don Argo, Marshall County health officer: "Any of the chemical fertilizers may be getting down into the groundwater. I think in years to come it's going to be a greater problem because unfortunately many farmers think they just have to put more and more fertilizer onto their fields to maintain their crops."

This is no time for the wait-and-see mentality that wants to postpone change until people begin dropping dead. The parents of the dead baby in South Dakota will tell you that time is already here.

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THE MARYSVILLE ADVOCATE

(USPS 332-260 Weekly)

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Editor

Howard Kessinger



Stories on ag chemicals alarming

Letters

I have been reading with interest the series of articles on the quality of our water in Marysville and northeast Kansas. The articles written by Dick Russell citing agriculture chemicals as a major pollutant are most alarming. We must work together as a community to reverse the process and bring our water supply back to its original healthy quality!

I believe that there is an assumption by many people, including farmers, that the only way to farm successfully is with the use of chemicals. This is what has been taught to my generation by educators, media and chemical manufacturers. We all know, however, that the use of chemicals is dangerous.

County Agent Frank Shoemaker recently wrote an article on the dangers of the use of anhydrous ammonia as a nitrogen fertilizer. He gave several good suggestions on how to minimize the risk involved. But one additional idea should be suggested — the use of an alternative means of nitrogen fertilization by growing nitrogen-fixing legume crops in rotation with other cash crops.

Recently, I toured several farms that are being farmed the traditional, organic way using no chemical fertilizers or pesticides. These farmers use instead the time-honored methods their grandfathers

used of cultivation and crop rotation to control weeds and maintain the fertility of the soil. This is not an easy task. It takes skill and an investment of time and patience to rebuild soil that has been neglected. But it is a small investment compared to the gain of clean air, soil and water and the absence of worry that your spouse or children may be harmed through the use of chemicals. These farms are not one-horse operations but large, modern farms. However, their capital outlay is very low for there is no need for big, expensive equipment or for the added expense of chemical fertilizers and pesticides.

Somehow the word "organic" has become distasteful or threatening to some people. (The word "chemical" is much more distasteful and threatening to me.) Perhaps we should use the word "traditional" in reference to these farmers for they are merely using the farming methods that worked for farmers of a previous generation. Their yields are average or above and their expenses are way below average so they are not operating at a loss. And they

are growing quality food stuffs without inadvertently polluting our soil and water resources.

I don't know if anyone has figured the costs of cleaning up our rivers and treating chemical-related health problems into the so-called cost-efficiency of using chemicals on our farmland, but it seems that in the long run they may not be so cost-effective.

It is time we started looking at some of the long-term effects of our current farming practices. And until it can be proven that there is no effect on human life from drinking water containing agricultural chemicals (including nitrates) we must demand alternatives to our current use of these chemicals.

Judy C. Nickelson
Beattie

Problem for all

I am writing to applaud Dick Russell's series of articles for the Advocate on the pesticide and herbicide pollution of our local water supply. He has done an excellent job all around in researching, interviewing and calling public attention to something that is not just a local problem. And it is a problem that is not ours alone in more ways than one, as public apathy can only result in our children and theirs inheriting a worse dilemma than what is and has

been ours.

Ignorance is bliss, and as always has an expensive and in this case particularly painful price. I would like to see further research from Russell or other interested persons into what the actual costs are of farming practices that do not contribute to the erosion of our land, the pollution of our water or an increase in health care costs for our community.

Again, to Dick Russell and the Advocate staff, keep up the good work!

Jan Studer
Beattie

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THE MARYSVILLE ADVOCATE

PAGE 6—MARYSVILLE ADVOCATE

September 18, 1986

New water sources sought

AXTELL — The City of Axtell is continuing to look into new sources of water, City Council decided at its meeting Sept. 8.

Several citizens turned out to discuss the elevator runoff. The council also discussed electrical update for the elevator; some of the lines will be run underground due to the close proximity of the bins.

Insurance policies and companies are being reviewed by the council since renewal time is near.

Thursday, Sept. 18, 1986

PUBLIC NOTICE

(First published in the Marysville Advocate Thursday, September 18, 1986)

PUBLIC NOTICE FOR 1,2-DICHLOROETHANE IN DRINKING WATER

Water samples taken in July from City Water Supply Well No. 2 and analyzed by the Kansas Department of Health and Environment, have shown small amounts of 1,2-dichloroethane which are causes of concern, but not panic. The amounts of contaminants found do not present an immediate health risk; however, it may represent the presence of possible health effects from long-term consumption of the water.

The concentrations of 1,2-dichloroethane found in Well No. 2 range from 8.2 ug-1 (parts per billion) to 9.8 ug-1.

Although no regulations have been set for 1,2-dichloroethane in drinking water at this time, it is the City's desire to provide you with the safest water possible. The City Council is considering limited use of Well No. 2 and the construction of a new well or other sources of water to replace Well No. 2.

If you are concerned about the presence of low levels of 1,2-dichloroethane contamination, it is recommended you obtain water for drinking and cooking purposes from another source.

Clarence E. Wullschlegel
Regis Rochel
Gerald Brinker
Sheryl Ronnebaum
W. L. Landreth
David L. Perry
Mayor and City Council
City of Axtell

ATTEST:
Glen G. Keegan
City Clerk

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9/28/86 + 9/18/86
+ 8/30/86.

Saturday, August 30, 1986 The Kansas City Times A-7

Across the nation

The Associated Press

Firm hit by suit after Oklahoma nuclear accident

OKLAHOMA CITY — A lawsuit was filed against Kerr-McGee Corp. on Friday over a January accident in which toxic fumes and radioactive particles were released from a uranium processing plant.

A worker was killed and more than 100 people went to hospitals when a shipping tank loaded with uranium hexafluoride ruptured, spraying acid fumes and radioactive particles over the Sequoyah Fuels Corp. plant in Gore in eastern Oklahoma. Se-

quoyah Fuels is a subsidiary of Kerr-McGee.

The cloud of toxic particles drifted up to 18 miles from the plant.

The civil lawsuit, filed in state court on behalf of 14 persons exposed to the cloud, seeks \$25 million in damages. It alleges negligence by Kerr-McGee for overfilling the tank, inadequately training workers, failing to inform local residents and officials and having no emergency plan.

NVC, Sun, 7/20/86, p. 4, Grace Sells sec. 4, A Pollution Case

Using what seems to be a favored tactic in "toxic tort" cases, W.R. Grace & Company last week settled a suit brought by eight families in Woburn, Mass., who charged that Grace had contaminated two local wells with chemicals that caused leukemia, killing five children and one adult.

Both sides called the settlement "substantial," but the importance of the agreement was legal and medical, not financial. As in the \$180 million Agent Orange settlement in 1984, a major company paid a large sum, apparently to avoid the risk that it would be found responsible for the health effects of its pollution.

Legal scholars have termed the judicial system "wholly unprepared" to deal with such cases, for they often involve complex questions — for example, which chemical caused which cancer — that cannot be answered definitively, even under laboratory conditions. Experts have been watching the Woburn case carefully; a decision in favor of the plaintiffs would, some say, set a precedent in holding polluters accountable for the medical consequences of their acts. W.R. Grace said that it was "in no way responsible for the tragic events."

Grace settled after losing the first of three trial stages; it was found to have polluted the wells. The next two stages were to determine if the chemicals caused the leukemia and to set damages.

RESOLUTION

Now on this 16th day of June, 1986, the Board of Marshall County Commissioners has considered the continuing problem of flooding on the Vermillion River and its tributaries. The Commission notes that past and projected damage to public roads, bridges, and public utilities causes a continuing burden not only on the residents of the affected area but also on the taxpayers of the County. The Kansas Water Resources Division by statute is the State's public administrative body which is authorized to evaluate the causes of damage to public property caused by erosion by water. In response to the continued flooding and damage to public property, as noted directly by the Commission and by those who have elaborated their concerns about the damage and cost to the public, the Board makes the following resolution:

Be it resolved that the Board of Marshall County Commissioners hereby requests the Kansas Division of Water Resources to consider the damage which has occurred to roads, bridges, and public utilities as a result of the flooding along the Vermillion River and its tributaries; to determine the source of the cause in specific instances of damage; to analyze, recommend, and take such action as the State prescribes by statute, with the objective of reducing flooding, reducing damage to public property and coincidentally private property, and saving tax revenues currently spent to repair the flood damage.

In order to supply the necessary information to the State, the County Engineer is authorized to provide the State with information on road, bridge, or other public property damage that has occurred over the last five years.

IT IS SO ORDERED.

/s/ DeWayne Lindquist

/s/ Leo Caffrey

/s/ Francis Long

Marshall County Board of Commissioners

IN THE DISTRICT COURT OF MARSHALL COUNTY, KANSAS

Robert L. Jones, Lyle Jones, Roger))	
A. Jones, Kenny and Edna Howell,))	
Richard Long, Dean Seematter,))	
Marvin Horalek, Daniel L. Howell,))	
Kenneth R. Johnson, Terry Swanson,))	
Paul and Fern Jones, Bill and Ruth))	Case No. _____
Martin, John Kostick, Owen de))	
Long, Randy Foote, William and))	
Connie Jones, Arlin and Joy Spoo,))	
George Stauffer, Stephen and Karen))	
Morton, Lyle and Ann Howell, Arthur))	
Wapp, and Ethel Martin,))	
Petitioners,))	
x <i>Mary</i>))	
VS.))	
Leonard Deters,))	
Respondent.))	

296-3717

APPLICATION FOR INJUNCTION PURSUANT TO K.S.A. 60-901, et seq.

COMES NOW the petitioners and for their cause of action,
states as follows:

1. The names and addresses of the petitioners are as follows: Robert L. Jones, RFD #2, Frankfort, Kansas 66427, Lyle Jones, RFD #3, Frankfort, Kansas 66427, Roger A. Jones, Rural Route #2, Frankfort, Kansas 66427, Kenny and Edna Howell, RFD #3, Frankfort, Kansas 66427, Richard Long, Rural Route 2, Frankfort, Kansas 66427, Dean Seematter, Rural Route 4, Frankfort, Kansas 66427, Marvin Horalek, 702 Cooley, Blue Rapids, Kansas 66411, Daniel L. Howell, Rural Route 1, Frankfort, Kansas 66427, Kenneth R. Johnson, 501 East Avenue, Blue Rapids, Kansas 66411, Terry Swanson, Rural Route 1, Box 183, Frankfort, Kansas 66427, Paul and Fern Jones, Rural Route 2, Frankfort, Kansas 66427, Bill and Ruth Martin, Rural Route 2, Box 78, Frankfort, Kansas 66427, John Kostick, Rural Route #2, Box 34, Owen de Long, Rural Route 2, Box 34, Frankfort, Kansas 66427, Randy Foote, Rural Route 2, Box 34, Frankfort, Kansas 66427,

66427, William & Connie Jones, Rural Route #2, Box 74, Frankfort, Kansas 66427, Arlin and Joy Spoo, Rural Route 1, Frankfort, Kansas 66427, George Stauffer, Rural Route 1, Frankfort, Kansas 66427, Stephen and Karen Morton, Rural Route 2, Frankfort, Kansas 66427, Lyle and Ann Howell, Rural Route 1, Frankfort, Kansas 66427, Arthur Wapp, RFD #3, Frankfort, Kansas 66427, and Ethel Martin, 206 East 8th Street, Frankfort, Kansas 66427.

2. The respondent is a resident of Nemaha County, Kansas, with a post office mailing address of Route 1, Baileyville, Kansas 66404.

3. On or about May 31, 1986, Leonard Deters excavated a channel across a tract of property located in the Southwest Quarter (SW1/4) of Section Fourteen (14) and the Northwest Quarter (NW1/4) of Section Twenty-three (23), Township Four (4) South, Range Nine (9), East of the 6th P.M., Marshall County, Kansas. Said excavation is evidenced by the attached Exhibit A.

4. That the excavated channel was constructed without a lawful permit.

5. That the purpose and effect of the channel will be to divert the natural flow of the waters of the Vermillion River.

6. That petitioners will be damaged in the following manner:

A. Robert Jones leases farm land on the opposite side of the river from the excavated channel and will sustain irreparable damage in the nature of erosion to the soil and damage to his crops from a change in the natural flow of the Vermillion River.

B. The excavated channel will cause changes in stream flow and higher levels of flooding damaging all petitioners in the form of one or more of the following: additional and irreparable erosion of soil and/or damage to crops and ground vegetation; and erosion and/or damage to roads and bridges.

7. That unless an immediate Order is issued by the Court enjoining the respondent from further excavation and ordering immediate restoration, the affect upon the water course of the Vermillion River will become irreparable.

WHEREFORE, petitioners pray that the Court set an immediate time and place for a hearing, issue an injunction restraining any further excavation and mandating restoration of the excavated channel to prevent irreparable damage to the natural flow of water in the Vermillion River and damage to the petitioners' property and property rights.

/s/
Robert L. Jones

/s/
Lyle Jones

/s/
Roger A. Jones

/s/
Kenny Howell

/s/
Edna Howell

/s/
Richard Long

/s/
Dean Seematter

/s/
Marvin Horalek

/s/
Daniel L. Howell

/s/
Kenneth R. Johnson

/s/
Terry Swanson

/s/
Paul Jones

/s/
Fern Jones

/s/
Bill Martin

/s/
Ruth Martin

/s/
John Kostick

/s/
Owen de Long

/s/
Randy Foote

/s/
William Jones

/s/
Connie Jones

/s/
Arlin Spoo

/s/
Joy Spoo

/s/
George Stauffer

/s/
Stephen Morton

/s/
Karen Morton

/s/
Lyle Howell

/s/
Ann Howell

/s/
Arthur Wapp

/s/
Ethel Martin

The undersigned support the foregoing Testimony Before
Committee on Energy and Natural Resources by John Kostick

Dated January 29, 1987:

<u>NAME</u>	<u>ADDRESS</u>
<u>Daniel L. Howell</u>	<u>Frankfort, Mo. 66427-9546</u>
<u>Lera Bishop</u>	<u>Rt. 1 Frankfort</u>
<u>Goffy A. Blum</u>	<u>RR 2 Frankfort</u>
<u>Brian Keating</u>	<u>Rt 2, Frankfort</u>
<u>Faith Bude</u>	<u>Marshall County, Kansas</u>
<u>Mary Lou Koch</u>	<u>Marshall County, Kansas</u>
<u>Rachel Greenwood</u>	<u>Rt 2 Frankfort</u>
<u>Carson Kueskin</u>	<u>Rt 2 Frankfort</u>
<u>Daria Benton Lyman</u>	<u>Frankfort, K.S.</u>
<u>Gabriel Poppen</u>	<u>Frankfort, K.S.</u>

The undersigned support the foregoing Testimony Before
Committee on Energy and Natural Resources by John Kostick

Dated January 29, 1987:

<u>NAME</u>	<u>ADDRESS</u>
<u>Richard Herbruck</u>	<u>RR 2 FRANKFORT, KS 63427</u>
<u>Kathryn Guerin</u>	<u>Frankfort, Ks.</u>
<u>Marilyn Kuersten</u>	<u>Frankfort, Ks.</u>
<u>Alison Peper</u>	<u>Marshall County, Kansas</u>
<u>Joe Lyons</u>	<u>Frankfort Ks</u>
<u>Heidi Keegan</u>	<u>Frankfort, Kansas</u>
<u>St. Barland</u>	<u>Bigelow Kansas</u>
<u>John MacGinn</u>	<u>MARSHALL COUNTY, KS.</u>
<u>Paul Jones</u>	<u>Frankfort Ks</u>

The undersigned support the foregoing Testimony Before
Committee on Energy and Natural Resources by John Kostick
Dated January 29, 1987:

<u>NAME</u>	<u>ADDRESS</u>
<u>W. D. Martin</u>	<u>Martin Farms, Frankfort.</u>
<u>Lutz C. Martin</u>	<u>Frankfort, Kansas</u>
<u>Jerry P. Swanson</u>	<u>Frankfort, Kansas</u>
<u>Kenneth Howell</u>	<u>Frankfort, Ks</u>
<u>Edna J. Howell</u>	<u>Frankfort, Ks.</u>
<u>George H. Stauffer</u>	<u>Frankfort, Ks. - RR #1</u>
<u>Wm. Perry Jones</u>	<u>Frankfort, Kansas R.R. 2</u>
<u>Connie Jones</u>	<u>Rt 2, Frankfort, K.S.</u>
<u>Richard Russell</u>	<u>Frankfort, Ks.</u>
<u>Steve Boyd</u>	<u>Maupsville, Ks</u>

STATEMENT OF DAVID L. POPE
CHIEF ENGINEER
DIVISION OF WATER RESOURCES
KANSAS STATE BOARD OF AGRICULTURE
TO
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
SENATE BILL NO. 40
JANUARY 29, 1987

Chairman Werts and Members of the Committee, thank you for the opportunity to comment on Senate Bill No. 40 pertaining to the creation of the Water Projects Environmental Coordination Act which implements the Environmental Coordination Subsection recommendation of the State Water Plan.

This proposed Act provides for environmental review by various state agencies whenever a water development project is submitted for review and approval by the permitting agency. The Division of Water Resources, Kansas State Board of Agriculture, is the permitting agency for the statutes identified in the Bill.

Senate Bill No. 40 proposes that before permitting a proposed water development project, the permitting agency shall obtain a review of the proposed project for environmental effects by the appropriate review agencies within 30 days. The Division would then be authorized to condition the approval of a permit for a project in a manner which would address the environmental concerns of the environmental review agencies.

The Bill would apply to three statutes for which the Chief Engineer is required to review project plans and issue a permit, if appropriate, for construction of the project and/or approve plans for such a project. These are: 1) K.S.A. 24-126 which deals with the construction of levees and requires approval of plans by Chief Engineer prior to the construction of said levees; 2) K.S.A. 24-1213 which requires the Chief Engineer to review and approve the

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general plan for the works of improvement to be constructed by watershed Districts, generally a series of flood detention dams; and 3) K.S.A. 82a-301 et seq. which deals with the construction of dams and changes to the course, current or cross section of a stream. The Act requires the prior written approval of the specific plans by the Chief Engineer before any such activity may be undertaken. Examples would be channel realignments, stream obstructions, bank stabilization projects and dams which impound more than 30 acre-feet.

The Division of Water Resources already notifies some agencies on the list identified in Senate Bill No. 40 through mutual agreements. Two examples of this are: (1) the Kansas Historical Society is notified whenever a water structure is proposed so it can conduct a review of the site to ensure that nothing of historical value would be jeopardized by subsequent construction, and (2) The Kansas Fish and Game Commission is notified of proposed projects so that it can better carry out its duties under the Endangered Species Act.

Senate Bill No. 40 will broaden the list of agencies for which notification would be required from the Division of Water Resources. It further will require that consideration be given to environmental concerns. Environmental concerns should be considered during the preliminary design stages of a project so that mitigation measures can be incorporated into the design and construction of a project, rather than after the fact. Senate Bill No. 40 may facilitate that process.

In summary, we believe Senate Bill No. 40 will provide for adequate coordination and allow our office to draw upon the expertise available within state government to provide for the better protection of the environment. We have no particular opinion as to whether all of the agencies listed should be included, but would note that the more agencies that are involved, the more potential there is for delay and or problems in resolving concerns.

In some instances, where serious concerns are raised during the review process, some projects may be delayed considerably or result in re-design of certain features. If this Bill is passed, we will do our best to work with the other state agencies to help protect the environment of the state while facilitating the development, use and enjoyment of the water resources of the State of Kansas for the benefit of the health and welfare of its people.

Thank you very much. I would be happy to answer any questions the Committee may have.

STATEMENT OF DAVID L. POPE
CHIEF ENGINEER
DIVISION OF WATER RESOURCES
KANSAS STATE BOARD OF AGRICULTURE
TO
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
SENATE BILL NO. 39
JANUARY 29, 1987

Chairman Werts and Members of the Committee, thank you for the opportunity to appear relative to Senate Bill No. 39.

Senate Bill No. 39 is being proposed to implement two sections of the State Water Plan: the Riparian Protection Subsection of the Fish, Wildlife and Recreation Section and the Urban Flood Management Subsection of the Management Section.

In addition to implementing these two subsections of the State Water Plan, this Bill also cleans up or clarifies other language in K.S.A. 82a-301 through 305a.

First, in regard to the Urban Flood Management Subsection, it was recommended on page five that,

. . . K.S.A. 82a-301 et seq. should be amended to include additional authority for regulation of dams in populated areas which may present a threat to human life and which impound less than 30 acre-feet of water and are greater than six feet in height.

K.S.A. 82a-304 currently gives the Chief Engineer jurisdiction over any dam which impounds more than 30 acre-feet of water.

Senate Bill No. 39, in lines 153 through 157, would amend K.S.A. 82a-304 to also give the Chief Engineer jurisdiction over ". . . any dam which has a height of greater than six feet and poses a threat to human life."

The primary reason for this change was motivated, at least in part, by three or four instances in the past several years where the Division of Water Resources received calls for assistance because of an imminent dam failure in

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1-29-87

an urban area. Subsequently, an investigation of the complaint by Division of Water Resources' personnel revealed that the reservoir had been constructed as a farm pond, but because of urban growth, it now had houses below it. Because the dam impounded less than 30 acre-feet of water, the Division of Water Resources had no authority to become involved even though public safety was involved. These were instances where the Division of Water Resources could possibly have rendered assistance, but were prohibited from doing so by lack of statutory jurisdiction. The Division of Water Resources was forced to gracefully bow out of the situation by referring the matter to appropriate local and state officials who could render a response during an emergency.

The second provision in Senate Bill No. 39, which implements a recommendation in the State Water Plan, is found in the Riparian Protection subsection of the Fish, Wildlife and Recreation Section.

On page three of that subsection it was recommended that,

Any channel modification activity shall require a state permit with appropriate conditions to maintain riparian vegetation and stabilized banks as designated by rules and regulations of the Chief Engineer, Division of Water Resources.

The Obstructions in Streams Act, K.S.A. 82a-301 et seq., was initially enacted in 1929. It was amended subsequently in 1933 and 1978. But throughout its history, the primary thrust of this Act has been to regulate the construction of dams, primarily to protect public safety by means of promoting dam safety. Dam safety has been promoted by setting minimum requirements for plans and specifications for dam construction, processing plans and applications for dam construction and monitoring the construction and maintenance of dams to see that they are constructed and maintained in accordance with the approved plans and permit.

Since 1978 the Division has promulgated a rather extensive set of regulations pertaining to dam safety and construction.

Dam safety has become subject of increasing interest and importance throughout the state since 1978 when the National Dam Inspection program was funded for a few years by the federal government and dam failures in other states have resulted in extensive damage to property and loss of human life. However, even today the State of Kansas is not considered to have an adequate dam safety program.

Because of increasing concern in the area of channel change regulation, the Division of Water Resources promulgated an extensive set of regulations concerning channel modifications which will go into effect this coming May 1st. Although many of these regulations merely formalize the policies which the Division of Water Resources has been using for many years, there are a number of new provisions concerning channel modifications which are relatively new and relevant to the implementation of the recommendations of the State Water Plan.

1. Limitations on the increase in the velocity of the water that may be caused by the alteration of a channel alignment.
2. Side slopes of the channel are required to be stable.
3. Channels may no longer be constructed by digging a pilot channel and letting erosion carry the sediment into downstream reservoirs.
4. A vegetative strip must be maintained along the channel at a width necessary to maintain slope stability to prevent or minimize bank erosion.

With the promulgation of these new regulations, you might ask why Senate Bill No. 39 is needed to implement the provisions of the State Water Plan.

The State Water Plan recommends broadening the authority of state agencies to review new channel modification projects from an "environmental"

perspective. Senate Bill No. 39 would do that. The Division of Water Resources currently does not have such authority.

For example, our regulations, which will go into effect May 1 of this year, will require a vegetative strip along a new channel, but this is for slope stability and sediment control purposes, not for the direct purpose of maintaining wildlife habitat, even though that may be an incidental benefit to the maintenance of a vegetative strip.

Senate Bill No. 39 would also require consideration of the environmental aspects of maintaining a riparian strip beyond mere bank stabilization and sediment control considerations to include wildlife habitat, etc.

The other amendments to K.S.A. 82a-301 et seq. are being proposed to allow the Division to carry out what it considers to be the intent of the Obstructions in Streams Act.

Back in 1951, the Kansas Supreme Court, in two cases, State ex rel v. Mills, 171 Kan. 397, 233 P.2d 720 (1951) and State ex rel v. Barnes, 171 Kan. 491, 233 P.2d 724 (1951) dealt a severe blow to the State's ability to enforce the levee law.

In essence, the Kansas Supreme Court held that the Chief Engineer could not institute enforcement action, by means of an injunction, against a private landowner to prevent damage to private property unless there was a public interest involved. The Court said that the State should not be involved in disputes between two private individuals.

It has been felt that in order to adequately enforce the laws relating to water structures, that these Court precedents would have to be overturned. These two Kansas Supreme Court cases have greatly impaired the Division's ability to enforce the water structure laws aggressively.

I might add, that in addition to the enforcement barrier created by the Kansas Supreme Court, another major limitation on enforcing state law prohibiting illegal changes has been lack of funding and staff to carry out the intent of the Act.

While we have done a good job of reviewing applications and plans for proposed channel changes, we simply have not, and do not, have the staff to search out and investigate the literally hundreds of illegal changes that occur annually in the State of Kansas. While it is true that many are minor in nature or effect only the landowner making the modification, the cumulative effect of individual channel alterations has become a serious problem in many areas.

At this time the biggest weakness in the channel modification law is the inability of the Division of Water Resources to carry out the intent of the Act because of staffing limitations and adverse Supreme Court precedents.

Because of the Mills and Barnes cases which say that the State of Kansas should not become involved in lawsuits unless public interest is involved, the Division of Water Resources and the office of the Attorney General met back in 1979, to determine what the "public interest" was under these statutes. The Division of Water Resources and the Attorney General agreed that the "public interest" would include damage to public property and protection of human life. Based on this interpretation, the Division of Water Resources has not instituted Court action against any individual to remove, or alter, a channel modification unless there was a request, in writing, from a public entity, such as a county, city, township or state agency or it was necessary to protect human life.

The remainder of Senate Bill No. 39 primarily consists of technical amendments or changes to overcome these two Kansas Supreme Court cases. One of the primary changes, found in line 68 through 70, would broaden the Chief Engineer's review of a project beyond that necessary for protection of public property and human life and add the authority to protect private property and the environment.

Finally, new section 10 would allow the Chief Engineer to impose a civil penalty for any violation under the Act. At the present time the Chief Engineer has little option of enforcing the Act between writing a stern letter to the offender and filing criminal charges. There is very little in-between. Although any landowner can bring a private action to prevent damage from violations of the Act, it is extremely expensive and almost impossible if the problem has been caused because of the cumulative effect of multiple illegal and improper channel changes. The authority for a civil fine would add an intermediate type of remedy to the arsenal of techniques which could be used by the Chief Engineer to enforce these statutes. While we do not have any strong feelings concerning addition of this section, it might provide an additional deterrent against construction of illegal channel changes and other violations of the law.

Chairman Werts and members of the Committee, I thank you for this opportunity to appear and I would be happy to answer any questions you might have concerning Senate Bill No. 39.



Cooperative Extension Service

Department of Forestry
State and Extension Forestry
2610 Claflin Road
Manhattan, Kansas 66502
913-532-5752

January 28, 1987

TO: Senate Committee on Energy and Natural Resources
Merrill Werts, Chairperson

FROM: John K. Strickler, Associate State Extension Forester *John K. Strickler*

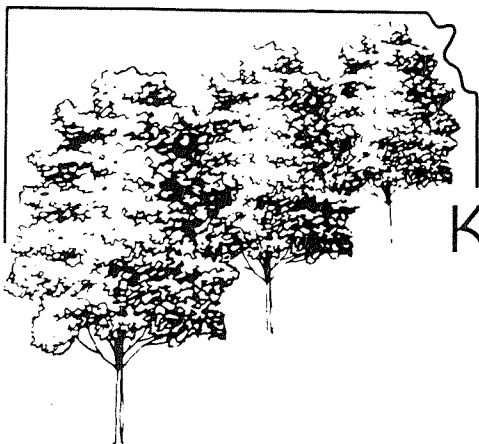
RE: Senate Bill 39-Kansas Stream Alteration Act; Proposal No. 10
Senate Bill 40-Water Projects Environmental Coordination Act;
Proposal No. 10

On behalf of State and Extension Forestry, I want to express our support for passage of SB 39 and SB 40.

By strengthening the existing law to include channel changes and specifying the intent under the public safety definition to include protection of the environment and public and private property, SB 39 is consistent with the Riparian and Wetland Protection Programs provided for in the State Water Plan and in SB 51.

Considerable discussion and coordination have taken place during the past several years by the various agencies and organizations involved in development of the Fish, Wildlife and Recreation Section of the State Water Plan. SB 40 will assure that this interagency coordination continues in a timely manner as water projects are implemented. We feel that passage of SB 40 will be a very positive step forward in development of a coordinated and effective state water policy.

JKS/plp



Kansas Tree Farm Committee

RFD #2, Box 142
Erie, KS 66733
Phone: 316/244-3477
January 29, 1987

TO: Senate Committee on Energy and Natural Resources

FROM: Kansas Tree Farm Committee
Rex Naanes, Chairman

RE: Proposal No. 10:
SB 39-Kansas Stream Alteration Act
SB 40-Water Projects Environmental Coordination Act
SB 42-Establishment of Conservation Easements
SB 51-State Water Plan; Conservation Structures

The Kansas Tree Farm Committee is dedicated to promoting the cause of sound forest management for timber products, wildlife, soil and water protection and other multiple benefits. Members of the Committee represent the forest industry, consulting foresters, wildlife and soil conservation interests, and the general public. The more than 300 individual Kansas Tree Farmers are recognized for the outstanding job of multiple use management they are doing on their woodlands.

The Committee has reviewed the Fish, Wildlife and Recreation Section of the State Water Plan as adopted by the Kansas Water Authority in 1986. The Kansas Tree Farm Committee wishes to go on record as endorsing Senate Bills 39, 40, 42 and 51 which will implement the Environmental Coordination, Riparian Protection and Wetland Protection Subsections of the Water Plan. It is the Committee's hope with this legislative action, the various agencies will implement the provisions of these Subsections through timely administrative action.

We believe proper management of the state's riparian woodlands can make a valuable contribution to water quality and water quantity in Kansas while also providing timber, wildlife, recreation and other multiple benefits. Our Committee works closely with the State Forester in assisting woodland owners in their management efforts.

The Kansas Tree Farm Committee stands ready to support and assist in any way it can in the implementation of the Fish, Wildlife and Recreation Section of the Water Plan as it relates to the Kansas forest resource.

·RAV/plp

Route 5, Box 172A, Manhattan, Kansas 66502



Energy
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THE KANSAS RURAL CENTER, INC.

304 Pratt Street

WHITING, KANSAS 66552

Phone: (913) 873-3431

Kansas Rural Center
Testimony on SB 39

Presented to the Senate Energy and Natural Resource Committee

January 29, 1987

The Kansas Rural Center endorses SB 39 titled the "Kansas Stream Alteration Act", which gives the state clear authority to regulate channel changes.

In Northeast Kansas, particularly along the Upper Black Vermillion River in Marshall and Nemaha counties, channel modification, or the widening, deepening, and straightening of the stream channel in order to remove flood water from an area more rapidly, has been a controversial issue for many years. It has also been a volatile issue within communities, pitting neighbor against neighbor.

The reason is because what is seen as a solution to one landowner's flooding problem has created or contributed to flooding downstream landowners. Channel modification projects have not only increased flood damages on private property downstream and destroyed riparian habitat along the channelized section of the stream, but they have damaged public roads and bridges - damage that county governments are financially ill prepared to repair.

However, the effects of ill planned channel projects are not simply local or countywide in nature. Channel modification degrades water quality due to the increased silt load and to the agricultural chemicals carried off the land and into downstream reservoirs. A prime example of this is Tuttle Creek Reservoir, the state's largest reservoir and potential drought supply for the population corridor along the Kansas River.

The current law (KSA 82a-301 et seq.) has led to public misunderstanding and frustration regarding channel modifications, and has done nothing to protect either private or public interests. SB 39, which specifically defines and addresses channel changes in the state's permitting process, gives the Chief Engineer authority to condition permits for channel changes by requiring proper bank stabilization, revegetation, and maintenance, and provides the Division of Water Resources with enforcement authority, will clearly establish the state's authority to regulate stream modifications.

We urge the Committee to support SB 39.

Gregory
(H)

1-29-87

KANSAS FISH AND GAME COMMISSION
PERSPECTIVES ON STATE WATER PLAN/KANSAS STREAM ALTERATION ACT (SB 39)

Testimony presented to the
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

January 29, 1987

The Kansas Fish and Game Commission endorses Senate Bill 39. The bill follows several recommendations of the State Water Plan. It serves to tie together two subsections of the Fish, Wildlife, and Recreation Section, those being Riparian Protection and Environmental Coordination.

This bill amends Division of Water Resource statutes to address most channel changes, requiring permits prior to such changes. It also gives the Division of Water Resources permitting authority to address environmental concerns in addition to public safety and private property. In addition, it provides a workable definition of a stream. Penalties are also provided for violations of this act.

Most importantly, the bill provides an avenue for natural resource agencies to review projects before construction to pinpoint adverse environmental and natural resource impacts in time to recommend alternative problem solutions which may be less degrading on fish, wildlife, and water quality. Currently, the State has no provisions to consider environmental consequences of many stream alteration projects. The bill would assure that potential environmental consequences regarding our water resources are reviewed and rectified before projects begin. In the past, this lack of review has led to severe environmental damage in several of the State's stream systems.

Benefits of Legislation:

It would enable the State to develop sound guidelines for stream alterations and ensure that such are compatible with the environment. Proper planning would ensure that dollars were not wasted by creating situations which would require later corrective measures. This legislation

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fits together with the Water Project Environmental Coordination Act (SB 40) which allows natural resource agencies to comment on state planned, permitted, or funded water projects.

Agency actions for implementation:

The Kansas Fish and Game Commission currently has two Environmental Services personnel who review projects which require federal permits or which use federal dollars for environmental compatibility. Restructuring of agency personnel duties and the acquisition of additional environmental services staff through reclassification using agency funds will allow this section to review state projects via the Environmental Coordination Act (SB 40) and provide the Division of Water Resources with sound recommendations on channel change permits for environmental acceptability.

KANSAS FISH AND GAME COMMISSION
PERSPECTIVES ON STATE WATER PLAN/WATER PROJECT ENVIRONMENTAL
COORDINATION ACT (SB 40)

Testimony presented to the
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

January 29, 1987

The Kansas Fish and Game Commission endorses Senate Bill 40. The bill is the product of efforts by several technical committees founded by the Kansas Water Authority and the Kansas Water Office in response to concerns raised by the public at water plan public meetings. State and federal agencies participated and worked out agreeable language satisfying identified concerns.

This bill provides for an opportunity for natural resource agencies to comment on water development projects, thus insuring the potential adverse or beneficial impacts of development projects will be documented. The bill removes no powers from current permitting authorities but does provide input from other areas of expertise so that planning of water projects can consider the broadest array of benefits possible.

Benefits of legislation:

The State of Kansas and its citizens will benefit over the long term by considering all ramifications of a given water project, so that Kansans may enjoy a healthy environment and provide for an improved quality of life.

This bill insures that fish and wildlife resources of our state will receive consideration in water project developments.

Agency actions for implementation:

The Kansas Fish and Game Commission currently reviews water projects in Kansas which receive federal funding or require federal permits. However, state funded or permitted projects are not subject to such a review. Allowing the review of such projects would ensure their environmental soundness and ensure that additional problems were not created through incomplete project planning. The Kansas Fish and Game Commission would

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meet the additional work load requirements through the environmental services section. Previously two personnel reviewed federal projects, one in Game Division and one in Fisheries Division. Through reclassification, one additional position has been added to this section to create a three man environmental services section to provide the necessary reviews of state funded projects. This section's recommendations would then be delivered to the Division of Water Resources who conditions project design and permits. Agency fee funds will be used to accomplish our efforts, general fund monies will not be required to implement this section. However, should the number of state projects dramatically increase in the future, additional funding may at some time become necessary.

KANSAS NONGAME WILDLIFE ADVISORY COUNCIL

2291 Irving Hill Drive
Lawrence, Kansas 66045

TO: Senate Committee on Energy and Natural Resources

FROM: Kansas Nongame Wildlife Advisory Council
Edward A. Martinko, Chairman *Edward A. Martinko*

RE: SB 39 - Kansas Stream Alteration Act
SB 40 - Water Projects Environmental Coordination Act

DATE: 29 January 1987

The Kansas Nongame Wildlife Advisory Council serves as a citizens advisory group to the Kansas Fish and Game Commission in its nongame program funded by the "Chickadee Checkoff" on the state income tax form. In October 1986 the Council voted unanimously to support the legislation necessary for implementation of the Fish, Wildlife and Recreation Section of the State Water Plan. The Council, therefore, wishes to support passage of SB 39 and SB 40.

SB 39 establishes an important mechanism for regulating the construction, operation and maintenance of dams, channel changes or obstructions for the protection of public and private property as well as the environment. Those parts of the bill that require bank stabilization, revegetation or maintenance of a riparian strip along a stream provide the tools necessary for dealing with issues of water quality, flood impact control and wildlife habitat quality in a straightforward way.

The Council fully endorses the provisions of SB 40 in the establishment of environmental coordination for water projects. The goals of nongame wildlife programs in Kansas will be more fully realized through the environmental review process outlined in this bill. Although the review process described in this bill cannot prohibit the issuance of a permit, it provides an important opportunity to review the environmental effects of a project and consider alternatives.

The council respectfully endorses the provisions of these bills in recognition of their importance in maintaining water quality and desirable wildlife habitat.

EAM:tb

Do something WILD!

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KANSAS BIOLOGICAL SURVEY

The University of Kansas

Raymond Nichols Hall
2291 Irving Hill Drive—Campus West
Lawrence, Kansas 66045-2969
(913) 864-4777

TO: Senate Committee on Energy and Natural Resources

FROM: Edward A. Martinko, State Biologist, Director
Kansas Biological Survey *Edward A. Martinko*

RE: SB 39 - Kansas Stream Alteration Act
SB 40 - Water Projects Environmental Coordination Act

DATE: 29 January 1987

The Kansas Biological Survey would like to express its support for SB 39 and SB 40 and their role in addressing significant water issues in Kansas. Kansas streams are an asset to the state and one which should be regulated adequately for the public interest. SB 39 provides such regulation and the opportunity to minimize adverse impacts of water quality and the associated aquatic and terrestrial biota. SB 40 further extends the opportunity to formally review the environmental impacts of water development projects as well as viable alternatives, in a process that fosters cooperation and constructive comment.

The Kansas Biological Survey feels that SB 39 and SB 40 are worthy of endorsement for the benefit of water quality and the plants and animals of Kansas.

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Kansas Wildlife Federation, Inc.

Affiliate of National Wildlife Federation

P.O. Box 5715

Topeka, Kansas 66605

1/28/87

RESOLUTION 1986-03

MINIMUM DESIRABLE STREAMFLOWS

WHEREAS, minimum desirable streamflows are critical in maintaining stream ecosystems and their fish and wildlife populations; and

WHEREAS, standards for flows in nine streams have been adopted by previous Kansas Legislatures; and

WHEREAS, nine additional minimum desirable streamflows have been supported by the Kansas Water Office, Kansas Water Authority, Division of Water Resources, Kansas Fish and Game Commission and the Kansas Department of Health and Environment for the following systems: Medicine Lodge River, Chikaskia River, Saline River, Smoky Hill River, Republican River, Little Blue River, Big Blue River, Delaware River, and Mill Creek; and

WHEREAS, minimum desirable streamflows standards for these streams have been determined; and

WHEREAS, support from the public is strong for these measures indicated in numerous public meetings across Kansas;

NOW, Therefore, BE IT RESOLVED, that the Kansas Wildlife Federation, Inc., in annual meeting assembled on October 11-12, 1986, in Topeka, Kansas, hereby urges the Kansas Legislature to accept the recommended minimum desirable streamflows for the nine additional streams; and be it

RESOLVED FURTHER, that copies of this resolution be sent to the Kansas Water Authority, Kansas Water Office, Kansas Department of Health and Environment, Division of Water Resources, Kansas Fish and Game Commission, members of the Kansas Legislature and the governor of the State of Kansas.

Robert Subler
KWF

1-29-87

TESTIMONY PRESENTED TO THE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

ON SENATE BILL NO. 42

BY

DEAN WILSON
JANUARY 27, 1987

I am a member of the Sierra Club, Topeka Audubon's Board of Directors, Kansas Wildlife Federation's Conservation Issues Committee, Kansas Canoe Association (past president, past chairman of legislative committee), and Riley County Fish & Game Association. I am not speaking for these organizations, but, I do have a good feel for what the public feelings are on this legislation. I have followed this part of the Kansas Water Plan for the past 2 years -- from the public meetings, formal hearings, and the Kansas Water Authority's final meetings.

The original Kansas Water Plan policy recommendation was:

"The state will develop a voluntary program to enroll riparian lands for protection and management, there by retaining wildlife habitat, bank stabilization, timber, water quality, recreation and flood protection benefits".

That sums up exactly what this legislation is: a voluntary program that benefit the landowner, the public, and our future generations. We get caught up in problems and situations concerning the now and forget to think of the future. We need to plan the future, today.

I hope that with all the public input into this legisaltion, that you vote with the public. Having received all the information on this bill during your committee hearings, when the bill is voted to the full Senate, I hope you will educate your fellow Senators as to what this could mean for our Future Kansas generations.

Dean W. Wilson
3509 SE Highland Ave.
Topeka, Kansas 66605
913-266-6591

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Senate Committee on Energy and Natural Resources
January 29, 1987

Testimony on Senate Bill No. 39 - An act concerning water; relating to obstructions in streams; amending K.S.A. 82a-301, 82a-301a, 82a-302, 82a-303, 82a-303a, 82a-303b, 82a-303c, 82a-304 and 82a-305a and repealing the existing sections; also repealing K.S.A. 82a-312, 82a-313 and 82a-314; and Senate Bill No. 40 - An Act concerning water; enacting the water projects environmental coordination act.

I am Richard Jones, Executive Director of the Kansas Association of Conservation Districts.

The Kansas Association of Conservation Districts represent the 105 county conservation districts in Kansas. Conservation districts provide assistance to landowners and operators for the protection and improvement of their soil, water, plant and animal resources. Conservation districts are governed by a five member board of supervisors made up of local farmers and ranchers.

The Kansas Association of Conservation Districts urges the passage of Senate Bill 39 as an important component for protecting riparian areas and Senate Bill 40 to ensure that the water related agencies in the state coordinate and consider environmental factors in approving certain water projects.

Natural riparian areas are important for their timber production, sediment and erosion control, water quality protection, streambank stabilization as well as for wildlife habitat. A key factor in protecting riparian areas is state

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supervision of channel modifications to rivers and streams. Senate Bill No. 39 would require that prior approval or a permit be obtained from the Chief Engineer of the Division of Water Resources before any alteration to an existing stream channel could be made. Unauthorized channel modifications have contributed to countless cases of streambank erosion and destabilization as well as damage to water quality and destruction of wildlife habitat. The passage of Senate Bill No. 39 is needed to protect our vital natural resources in riparian areas from unauthorized channel changes.

The Kansas Association of Conservation Districts supports the environmental coordination process as set forth in Senate Bill No. 40. This process is needed to ensure that all water related agencies in the state are informed of pending water development projects and have an opportunity to review such projects for environmental concerns. Such concerns will be presented to the permitting agency which may condition approval of or permit for the project based on the concerns. This kind of environmental coordination is essential as the environmental effects of certain water development projects may impact several state agencies.

In summary, it is the view of the Kansas Association of Conservation Districts that the passage of Senate Bills No. 39 and 40 are essential for sound and prudent water resource management in the state.