

MINUTES OF THE SENATE NATURAL RESOURCES COMMITTEE

The meeting was called to order by Chairperson Carolyn McGinn at 8:30 a.m. on February 16, 2006, in Room 423-S of the Capitol.

All members were present.

Committee staff present:

Raney Gilliland, Kansas Legislative Research Department
Lisa Montgomery, Revisor of Statutes Office
Judy Holliday, Committee Secretary

Conferees appearing before the committee:

Harold Hacker, Retired Veteran
Mike Hayden, Secretary, Kansas Wildlife & Parks
Steve Swaffer, Director, Natural Resources, Kansas Farm Bureau
Brent Haden, Assistant Counsel, Kansas Livestock Association
M.S. Mitchell, Legislative Chair, Kansas Building Association Industry (written only)
Constantine Cotsoradis, Secretary, Kansas Department of Agriculture
Jim Koelliker, Professor of Biological & Agricultural Engineering, Kansas State University,
Kansas Society of Professional Engineers
Tracy Streeter, Director, Kansas Water Office

Others attending:

See attached list.

Mr. Harold Hacker, retired veteran, testified in favor of **SB 395, Hunting and fishing licenses for disabled veterans** (Attachment 1). Mr. Hacker stated that Kansas and some other states offer free hunting and fishing licenses and state park permits to national guardsmen and reservists as a benefit for serving their country, and he felt that this benefit should also be afforded to disabled veterans. He stated that this bill would encourage disabled veterans to take advantage of their hunting and fishing rights in Kansas and to do something outdoors to make them feel better about themselves.

Senator Taddiken asked how many disabled veterans there are in Kansas, and Mr. Hacker responded that he did not know. Mr. Hacker told the Committee that he had a hunting and fishing license from Oklahoma that was issued by the Department of Veteran's Affairs and asked if Kansas could do something like that.

Mike Hayden, Secretary of Kansas Wildlife & Parks Department, testified in opposition to **SB 395** (Attachment 2). Secretary Hayden testified that the Department supports those in the military as well as disabled veterans. He stated that the bill contains no provisions for funding to replace both state and federal revenues lost by providing these free licenses, and that the costs associated with this entitlement should be covered by an appropriation from the general fund, not by fees on park users, hunters and anglers. Secretary Hayden told the Committee the Department felt that the bill was overly broad in defining who qualifies for the licensing with regard to the amount of disability and residency.

Chairperson declared the hearing on **SB 395** closed, and opened the hearing on **SB 524, Concerning dam safety**. Raney Gilliland, Director, Legislative Research, provided a brief explanation of the bill to the Committee. Following his explanation, Senator Teichman asked if a dam held no water, would it still need an inspection, and Mr. Gilliland stated that it depended on the development downstream from the dam.

Steve Swaffar, Director of Natural Resources, Kansas Farm Bureau, testified as a proponent to **SB 524** (Attachment 3). Mr. Swaffar referenced provisions of the bill which provided that the dam owner not be held liable for post-construction development, and that buildings existing within the inundation zone of a watershed dam prior to construction should not cause the upgrading of the dam from its original classification. Mr. Swaffar stated that the issue of dam safety and related costs of upgrading, inspections and landowner liability needs to be addressed, and that while the bill is a good starting point, it does not provide adequate protection for landowners.

CONTINUATION SHEET

MINUTES OF THE Senate Natural Resources Committee at 8:30 a.m. on February 16, 2006, in Room 423-S of the Capitol.

Brent Haden, Assistant Counsel, Kansas Livestock Association, testified in support of **SB 524** (Attachment 4). Mr. Haden stated that the Kansas Livestock Association (KLA) has concerns about the increasing cost to the dam owners of dam inspections and repairs caused by third-party downstream development, and that dam owners should not be subject to inspection and repair requirements when the only lives endangered by the dam in question are those of the dam owner, operator or their immediate families.

Chairperson McGinn called the Committee's attention to the written testimony submitted by M.S. Mitchell of the Kansas Building Industry Association. In the testimony (Attachment 5), the Association supports **SB 524**, with some clarification needed regarding the opinion upon which exceptions are based and if decisions can be appealed. The testimony further states that decisions can only be made if a dam breach analysis determines properties downstream from the dam are at risk.

Constantine Cotsoradis, Assistant Secretary, Kansas Department of Agriculture, testified in opposition to **SB 524** (Attachment 6). Mr. Cotsoradis stated the bill makes changes to the Obstructions in Streams Act that are contrary to the mission of the Department and could lead to loss of life, particularly to families living below the dam. He stated that eliminating inspection requirements, eliminating responsibility for safe and proper maintenance by the dam owner, and removing the chief engineer's authority to regulate dams and structures may alleviate the dam owner's costs, but at a cost to public safety. High risk dams require more inspections.

James Koelliker, P.E. & Ph.D., Biological and Agricultural Engineering, Kansas State University, testified in opposition to **SB 524** (Attachment 7) on behalf of the Kansas Society of Professional Engineers. Mr. Koelliker stated that the bill is in direct conflict with the Code of Ethics of the National Society of Professional Engineers, which provides that an engineer be dedicated to the protection of public health, safety and welfare. He stated that for an engineer to ignore circumstances that endanger life or property, and merely notify local emergency personnel, that the hazard to the general public is not reduced, and this presents an ethical as well as political and financial conflict.

Senator Lee asked if the state paid for the inspection, did Farm Bureau have any idea of what the cost would be, and Mr. Swaffar stated that he did not, and that it would only be a partial solution to the problem. Brent Haden of KLA responded that it would not be attractive to his association.

Senator Taddiken asked if the Department of Agriculture had a proposal for the funding of these inspections. Constantine Cotsoradis replied that the cost the first year was \$275,000 the first year and \$200,000 for subsequent years. Senator Taddiken stated that was just for inspections, but what about taking care of the problems. Mr. Cotsoradis stated that some dams could cost upwards of \$500,000, but there were some funds available to help with these upgrades.

Chairperson McGinn turned the Committee's attention to **SB 540, Requiring submission of breach inundation maps for dams**. Raney Gilliland provided background information to the Committee on the bill.

Brent Haden, Assistant Counsel, Kansas Livestock Association, testified on **SB 540** (Attachment 8). Mr. Haden testified that **SB 540** was essentially a continuation of **SB 524**. He testified that the filing of a dam inundation map with the Register of Deeds may prevent future construction within the dam's inundation zone, which would in turn prevent the increases in expense to dam owners for downstream construction. Mr. Haden expressed opposition to the provision of the bill in which the chief engineer would require a breach inundation map retroactively and the associated expense from the owner of an existing dam.

Constantine Cotsoradis, Secretary, Kansas Department of Agriculture, testified in support of **SB 540** (Attachment 9). Mr. Cotsoradis explained that the inundation maps are a tool for dam owners, landowners and local governing bodies to use to plan better development below dams with regard to dam hazard classification.

Steve Swaffar, Director of Natural Resources, Kansas Farm Bureau, testified in support of **SB 540** (Attachment 10). Mr. Swaffar gave qualified support to the bill, but the requirement for the maps by the chief engineer should only be for high hazard dams. He also stated that the Legislature should make the funds available statewide rather than for specific dam repair.

CONTINUATION SHEET

MINUTES OF THE Senate Natural Resources Committee at 8:30 a.m. on February 16, 2006, in Room 423-S of the Capitol.

James Koelliker, P.E. and Ph.D., Biological and Agricultural Engineering, Kansas State University, testified in support of **SB 540** (Attachment 11). Mr. Koelliker stated the bill is a step in the right direction for getting information to the public on potential concern for new dams. The bill should include more descriptive language on the property affected, including private property.

Tracy Streeter, Director of the Kansas Water Office (KWO), testified in support of **SB 540** (Attachment 12). Mr. Streeter told the Committee the Legislature last year appropriated \$750,000 to the State Conservation Commission to assist with construction, maintenance or operation of a dam. The Kansas Water Authority directed the Kansas Water Office to develop a policy for dam safety and rehabilitation to complement the funds appropriated for this effort. The KWO believes development of breach inundation maps is essential in development below dams, in zoning negotiations, easements restricting development, or in informing landowners of land located in breach zones.

Chris Wilson, Kansas Building Industry Association, stated KBIA is a proponent of **SB 540** (See Attachment 5), but that breach maps should not be required until a methodology has been established.

Brent Haden, KLA, testified as neutral on **SB 540** because the bill does not address the money required by **SB 524**. Senator Lee asked Mr. Haden if **SB 540** requires maps for dams with development below, who has the liability, and Mr. Haden answered that the dam owner has the liability. Senator Lee then asked if negotiations are required for easements, who initiates it, is it a county? Mr. Haden replied that it can be a county or a water district. He said now if water districts propose to build a dam they have to secure easements from landowners on land that may be inundated, but they may initiate eminent domain. Senator Lee asked if eminent domain was for the easement or to take the land, and Mr. Haden said in many cases they can acquire the land, take the easement out and then sell it back.

Chairperson McGinn asked for approval of the minutes of the February 9 and February 10 Natural Resources Committee meetings. Vice Chair Ostmeier made a motion, seconded by Senator Pyle, that the minutes be approved as presented. The motion carried.

Chairperson McGinn advised the Committee that they would work both dam bills and asked for guidance of the Committee to work one or both of the bills. She noted that Senator Lee has a bill that was referred to the Natural Resources Committee and that it may be worked.

With no further business to come before the Committee, the meeting adjourned at 9:26 a.m.

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**Testimony in support of SB 395
Presented to Natural Resources Committee
by Harold R. Hacker**

February 16, 2006

Madam Chairwoman and members of the Senate Natural Resources Committee:

Thank you for the opportunity to testify today.

Senate Bill 395 will allow disabled veterans to receive free hunting and fishing licenses.

Under current law, disabled veterans are paying for hunting and fishing licenses in Kansas. Other states have offered 100% disabled veterans free hunting and fishing licenses, as well as many other benefits. When I lived in Oklahoma, 50% or more disabled veterans received free hunting licenses, two deer tags each year, and free fishing licenses. These benefits are offered to thank veterans who have served our country, and I believe it is time for Kansas to do the same. I feel that if disabled veterans in Kansas find out what other states are offering them, our veterans may move to other states in order to receive these benefits. If Kansas can offer the same benefits, veterans will be more likely to stay in Kansas.

Last year, Kansas offered free hunting and fishing licenses and state park permits to national guardsmen and reservists. As I am a 100% disabled veteran, this was upsetting to me and other veterans in our state, because we all served our country, as did the national guardsmen and reservists.

I believe that this bill will encourage disabled veterans to get out of their homes and do something outdoors to make them feel better about themselves. Receiving free hunting and fishing licenses will make it easier for disabled veterans to take advantage of their rights to hunt and fish in Kansas.

Thank you for your consideration of this bill. I will stand for questions.

*Senate Natural Resources
2-16-06
Attachment 1*

KANSAS

DEPARTMENT OF WILDLIFE & PARKS

KATHLEEN SEBELIUS, GOVERNOR

**Testimony on SB 395 relating to Free Licenses and Permits for
Members of the Military and Disabled Veterans
To
House Committee on Wildlife, Parks and Tourism**

**By J. Michael Hayden
Secretary
Kansas Department of Wildlife and Parks**

February 16, 2006

Senate Bill 395 would amend K.S.A. 32-901 to allow for free motor vehicle entrance for members of the military, K.S.A. 32-906 to allow for free fishing by disabled veterans, and K.S.A. 32-919 to allow for free hunting by disabled veterans. The provisions of this bill would be effective on July 1, 2006. **The Department is opposed to the provisions contained in this bill.**

While the Department strongly supports members of the various branches of the military that currently serve our country as well as disabled veterans, the bill contains no provisions to replace lost funding for providing the free privileges. The bill is also drafted broadly enough that it does not just apply to Kansas residents and contains provisions that may be difficult to enforce, such as the amount of disability rating.

Currently the Department has a program in place that offers free hunting and fishing licenses as well as park permits to members of the Kansas National Guard. The licenses and permits issued are reimbursed by an appropriation of state general funds on a first-come, first-served basis. While the Department generally supports free issuances to members of the military, the costs of that appreciation should be borne by all members of society in the form of an appropriated general fund, not borne on the backs of current park users, hunters and anglers. In addition, the fiscal impact for free fishing and hunting is not just lost revenue in direct dollars but also federal aid dollars, which are dependent on the number of licenses sold. Increasing user bases without adequate funding to support programs is not sound public policy.

Given the fact that the current park fee fund balance is strained as well as the broad based negative implications of the bill on hunters and anglers, the Department would appreciate your support in opposition to the bill.

Kansas Farm Bureau
POLICY STATEMENT

Senate Natural Resources Committee

SB 524 an act concerning water and watercourses;
relating to dams

February 16, 2006

Submitted by:

Steve M. Swaffar

Director of Natural Resources

Chairperson McGinn and members of the committee, thank you for this opportunity to provide testimony today on Senate Bill 524. I am Steve Swaffar, Director of Natural Resources for the Kansas Farm Bureau. We stand today in partial support for SB 524 as some of the provisions of the bill address problems our members are experiencing.

Our members have expressed much frustration and concern over the issue of dam safety regulations and expenditures. Dams built to provide public good by affording flood and sediment control, in addition to creating water supply for landowners domestic and recreational needs are now being viewed as a public liability. Many of these dams are decades old and in need of attention to keep them structurally sound.

Due to no fault of the dam owners, development below the dam in the breach inundation zone causes hazard classification increases resulting in increased inspection costs and potentially devastating dam upgrade expenses. Many dam owners and watershed districts simply cannot afford these expenses and as a result face serious threat of being driven out of existence.

Our members do not believe dam owners should be held liable for the action of others causing dam classification upgrades. Buildings or dwellings in existence prior to dam construction should not cause a dam hazard upgrade post-construction. KFB policy does not directly speak to reclassification due to post-dam construction development, but our members do believe that costs associated with post-dam construction should be borne by the individual(s) responsible for that development.

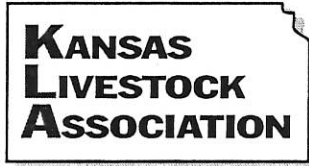
Buildings that existed as well as development within the inundation zone of a watershed dam prior to the construction of a dam should not cause the up grading of the dam from its original classification.

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ATTACHMENT 3

Those developing land within the inundation zone of a pre-existing watershed dam must be responsible for any additional costs to the watershed district for required upgrading of a dam.

It is clear that the issue of dam safety and the costs associated with upgrades, inspections and liabilities for landowners needs to be addressed in some fashion. SB 524 attempts to address some of these issues but may not provide some of the certainty needed by landowners and the agency for protection and cost control. However it does serve as a good starting point. Thank you for this opportunity to provide testimony.



Since 1894

TESTIMONY

To: Senate Natural Resources Committee
Senator Carolyn McGinn, Chair

From: Brent Haden, Assistant Counsel, Kansas Livestock Association

Date: February 16, 2006

Re: SB 524

The Kansas Livestock Association (KLA), formed in 1894, is a trade association representing over 6,000 members on legislative and regulatory issues. KLA members are involved in many aspects of the livestock industry, including seed stock, cow-calf and stocker production, cattle feeding, grazing land management and diversified farming operations.

Good morning Madame Chair and members of the Committee. My name is Brent Haden, and I serve as Assistant Counsel for the Kansas Livestock Association. I appreciate the opportunity to testify this morning to discuss KLA's support for SB 524.

KLA supports SB 524 because we are concerned about the rising cost of dam inspections and repairs caused by third party downstream development. SB 524 seeks to amend the K.S.A. 82a-303b to prevent dams from being placed in a new hazard class merely because of downstream development, over which the dam owner has no control. SB 524 also amends K.S.A. 82a-303b and 82a-303c to eliminate the inspection and repair requirements for dams that endanger only the lives of the dam's owner or operator, or their immediate families.

To aid in understanding the problems K.S.A. 82a-303b and 82a-303c are causing for dam owners', I'd first like to explain the provisions of both statutes. Current law grants the Department of Water Resources (DWR) the power to promulgate safety regulations for the construction and maintenance of dams. Under current DWR guidelines, dams that are not a threat to human life are classified as hazard class A dams. Any dam at which a failure would endanger one human life is classified as a hazard class B dam, and any dam at which a failure would endanger two or more human lives is classified as a hazard class C dam.

Under the current provisions of K.S.A. 82a-303b, hazard class A dams are not required to be inspected. A dam owner who owns a dam that is classified as a hazard class B dam is required to have an inspection performed by a licensed engineer at the owner's expense once every five years. The owner of a hazard class C dam is required to have the dam inspected by a licensed engineer at the owner's expense once every three years. The provisions of K.S.A. 82a-303c in turn require the repair of any structural defects in a dam that an inspection might

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discover. So class A dams are generally the cheapest to maintain because no inspections are required for those dams, while class B and C are respectively more expensive to maintain because of the increased inspections requirements for each class.

The regulatory arrangement set out in these statutes is causing two problems for dam owners around the state. The first problem that has arisen for some dam owners with respect to these statutes is that downstream construction by third parties within a dam's breach inundation area causes the dam's hazard class to be changed to a higher classification. Dams that were once hazard class A dams have become hazard class B or C dams with the construction of downstream homes. Thus the dam owner, through actions beyond his or her control, may be subjected to significantly increased inspection costs and repair liabilities.

SB 524 seeks to remedy this problem by prohibiting the re-classification of dams to a higher hazard classification when the only cause of re-classification is third party downstream construction. The bill amends the current K.S.A 82a-303b to state that the chief engineer shall not change a dam's hazard classification, regardless of downstream construction, so long as the owner has notified local emergency management personnel of the dam's presence.

The bill also amends the current statute to state that any dam at which the chief engineer has changed the hazard classification due to downstream development shall have its hazard classification rolled back to its original classification, so long as the owner has notified local emergency management personnel of the dam's presence. KLA believes these changes are necessary to protect dam owners against the expense that currently being caused by third party downstream development

The second problem caused by these statutes is that some dams have been classified as hazard class C even though the only lives or homes they threaten are those of the dam's owner or operator, or their immediate families. For example, KLA has a member in south-central Kansas whose farm dam has been classified as a hazard class C dam because two houses, both of which belong to him, sit below the dam. Under current law, the owner is responsible for hiring an engineer to inspect the dam every three years, and to repair any defects in the dam to DWR specifications. This has created a situation in which it would be cheaper for the landowner to move both houses from their current locations than to repair the dam to DWR's satisfaction.

KLA believes dam owners should not be subjected to the inspection and repair requirements of K.S.A. 82a-303b and 82a-303c when the only lives endangered by a dam are those of the dam's owner or operator, or their immediate families, and SB 524 amends both statutes to remove those requirements.

In conclusion, KLA believes that dam owners should not be subjected to the expense of increased dam inspections that come with hazard re-classification when the cause is downstream development that is beyond control of the dam owner. Furthermore, KLA believes that dam owners should not be subjected to expensive inspection and repair requirements when the only lives endangered by the dam in question are those of the dam owner or operator or their immediate families. I appreciate the chance to discuss our concerns with you this morning, and KLA stands ready to assist the Committee in any way we can with this important issue. Thank you.

STATEMENT OF M.S. MITCHELL
KANSAS BUILDING INDUSTRY ASSOCIATION
TO THE SENATE NATURAL RESOURCES COMMITTEE
SENATOR CAROLYN MCGINN, CHAIR
REGARDING S.B. 524 AND 540
FEBRUARY 16, 2006

Chairman McGinn and Members of the Committee, I am M.S. Mitchell, Legislative Chair of Kansas Building Industry Association (KBIA) and an engineer from Wichita, Kansas. KBIA is the professional organization of the state's residential building industry with over 2300 members. Thank you for the opportunity to offer comments regarding S.B. 524 and S.B. 540, regarding dam regulations.

S.B. 524 is very much needed to give relief to dam owners where downstream development might have triggered a size or hazard class change. Concerning page 2 lines 18-20 and Sec. 2 (b) beginning on line 25 on page 3 of the bill, we think it should be clarified on whose opinion the exception is based. In other words, who decides whether only the owners are endangered? Can that decision be appealed, and if so to whom? In my opinion, that decision can only be made if a dam breach analysis is performed which will determine, within reason, what downstream properties are at risk.

S.B. 540 may help to address this concern. We support S.B. 540, except, we do not believe that breach maps should be required until methodology for the calculations used to produce such maps has been accepted by the technicians having expertise in such calculations and regulations developed and adopted by the chief engineer.

Thank you for the opportunity to comment on this important dam regulation legislation.

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Attachment 5



KANSAS

DEPARTMENT OF AGRICULTURE
ADRIAN J. POLANSKY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

**Testimony on SB 524
to
the Senate Committee on Natural Resources**

**by
Constantine Cotsoradis
Assistant Secretary
Kansas Department of Agriculture**

February 16, 2006

Good Morning Madam Chairman and members of the committee. I am Constantine Cotsoradis, assistant secretary of agriculture. I am here to testify in opposition to Senate Bill 524.

This bill would make three significant changes to the Obstructions in Streams Act, all of which are contrary to our mission to protect the public, and could very well lead to the loss of life.

- First, it would prohibit the chief engineer from changing a dam's hazard classification, or size class, once it was constructed, unless the owner voluntarily enlarged the dam.
- Second, it would require the chief engineer to revert to the original hazard classification all previous changes that resulted in a higher classification.
- Third, once a dam is constructed, if it poses a potential threat only to the owner or operator, or his or her immediate family, it would be exempt from all requirements. Specifically, inspections mandated by the existing statute would not be required, nor could the owner be required to correct any violations of regulations or permit conditions, or to fix any conditions that threaten public safety.

Like most other states, Kansas has adopted a risk management approach to dam regulation. Different standards of design and construction are applied to different hazard classes to account for the unique risks they pose. When a dam has a higher hazard classification, it must meet more stringent design and construction requirements and it must be inspected more frequently.

High- and significant-hazard dams earn their classification because their failure is more likely to result in injury or loss of life or property than the failure of a low-hazard dam. Because of this risk, high- and significant-hazard dams currently are required to be inspected periodically by a licensed professional engineer to detect problems that could lead to a failure, and the engineer's report must be filed with the chief engineer.

Freezing or rolling back hazard classifications, as proposed by this bill, will prevent the chief engineer from adjusting a hazard classification in response to downstream changes that increase the threat to public safety. The chief engineer also will not be able to require that a dam be made safer than it was originally designed to be, even if the consequences of its failure are far more serious now than when it was first built.

Currently, high-hazard dams must be inspected once every three years and significant-hazard dams once every five years. However, if a hazard classification cannot be changed once a dam is built, or if the current hazard classification is rolled back to match the risk the dam posed when it was first built, dams that pose the greatest risk will not be inspected. These are the dams that were constructed to meet less stringent design and construction standards, and the hazard classification will not accurately reflect the consequences of a dam failure.

We are well aware that changing a dam's hazard classification from low-hazard to high- or significant-hazard can result in extra costs for the dam owner. The costs can be ongoing, such as for required periodic inspections, or they can be one-time costs to upgrade the dam to meet the standards appropriate for the hazard classification. To address this issue, we put together a work group of dam owners, industry associations, federal agencies, the Kansas Water Office and the State Conservation Commission.

The work group agreed that defining the problem is easy but finding a single, workable solution that doesn't compromise public safety is a significant challenge. Eliminating inspection requirements, eliminating the dam owner's responsibility to properly and safely maintain a dam, and removing the chief engineer's authority to regulate dams and structures, including bridges, alleviates the cost to dam owners, but only at a cost to public safety.

To help you understand the consequences of this bill, I would like to describe for you a dam in Junction City. Rimrock Dam is a relatively small dam built in the early 1950s. The original owner obtained a permit for the dam and it was approved as a stock pond in 1952. Had we been assigning hazard classifications in 1952, it likely would have been classified as a low-hazard dam.

The dam has deteriorated somewhat through the years due to poor maintenance and ill-advised changes to the dam. Today, it is owned by Junction City, and the city is working with the division of water resources to remedy the situation.

As required by statute, Junction City hired an engineer to perform a dam safety inspection late in 2004. The inspection documented that two day care centers, a pharmacy and an important local street would be inundated if the dam failed. The dam has been classified as a high-hazard dam since 1979 for these reasons.

If this bill were to pass, the chief engineer would be required to revise the dam's hazard classification to what would have been appropriate when it was built – low hazard. The impact of this revision is twofold. First, the chief engineer could require only that the dam be restored to its originally approved condition based on it being built to provide stock water in a pasture. Second, even though the dam's failure would endanger many people, periodic safety inspections would no longer be required and the dam would not have to meet more stringent design and construction standards appropriate to ensure public safety.

As I mentioned earlier, our work group recognizes that dam owners are impacted when their dam's hazard classification is raised, and we have been looking for a solution that does not compromise public safety. Senate Bill 540, a bill also before this committee, would require that breach inundation maps accompany each new dam application submitted to the chief engineer. It also would require that these maps be filed with the register of deeds. Identifying inundation zones could help promote better planning when areas below dams are developed. Also, the State Conservation Commission has funds it will make available to dam owners to help them repair or upgrade their dams.

No one solution will completely remove the monetary burden dam owners' face, but we are making steps in the right direction. With time, we believe we will be able to solve this problem without endangering the public.

I will answer questions at the appropriate time.

Dam Hazard Classification

Dams are assigned a hazard classification to categorize the risk they pose to human life and property if they should fail. There are three classifications:

Classification	Meaning
“A” or Low Hazard	Failure is unlikely to cause injury or loss of life. Damage would be limited to farm buildings, agricultural land, county, township or private roads.
“B” or Significant Hazard	Failure would likely endanger a few lives. Damage would occur to isolated homes, secondary highways, or minor railroads. Failure might interrupt relatively important public utilities.
“C” or High Hazard	Failure would likely cause extensive loss of life. Serious damage would occur to homes, industrial or commercial facilities, major highways or major railroads. Failure might interrupt important public utilities.

What does hazard classification mean to the dam owner?

Safety Inspections: Owners of certain dams must periodically hire a professional engineer to conduct a safety inspection of their dams.

Classification	Safety Inspection Schedule
“A” or Low Hazard	Not required.
“B” or Significant Hazard	An inspection by an engineer once every five years.
“C” or High Hazard	An inspection by an engineer once every three years.

Dams considered unsafe must be inspected annually by engineers from the Department of Agriculture’s Division of Water Resources. The statute mandates that a fee for these inspections be assessed to the owner of the dam.

Design and Construction Standards: The higher the hazard classification of dams of the same size, the more stringent the requirements are for its design and construction. Soils and foundation testing requirements are higher for high- and significant-hazard dams than for low-hazard dams. High- and significant-hazard dams must have emergency spillways with larger capacities than low-hazard dams. During construction, high- and significant-hazard dams must have more thorough inspection than low-hazard dams.

Upgrade Requirements: If a dam’s hazard classification changes to a more stringent classification, the owner may be required to modify the dam to meet some or all of the standards that a new dam of the more stringent classification would have to meet. Upgrade requirements are limited to those changes deemed necessary to protect public safety.

Alternatives to Upgrading: There may be alternatives to physically upgrading a dam. The alternatives depend on circumstances specific to each dam. Alternatives might include removal of the dam or moving or protecting the facilities that would be at risk if the dam failed.



Kansas Society of Professional Engineers

A state society of the National Society of Professional Engineers

Senate Natural Resources Committee
SB 524 – Dam Inspections
Testimony of Kansas Society of Professional Engineers
Submitted by James K. Koelliker, P.E., and Ph.D.
Biological and Agricultural Engineering
Kansas State University
Thursday, February 16, 2006

Thank you Senator McGinn for the opportunity to express the concerns of the Kansas Society of Professional Engineers regarding SB 524. KSPE is opposed to SB 524. I have engineering expertise in water resources including water control structures. However, my main objection to the SB 524 is that it is in direct conflict with the Code of Ethics of the National Society of Professional Engineers.

The preamble of our Code of Ethics states:

“Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness, and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.”

Further, the Fundamental Canons of our profession state:

“Engineers, in the fulfillment of their professional duties, shall: 1. Hold paramount the safety, health and welfare of the public. Finally, the Rules of Practice state, 1. Engineers shall hold paramount the safety, health, and welfare of the public. a. If engineers' judgment is overruled under circumstances that endanger life or property, they shall notify their employer or client and such other authority as may be appropriate.”

This bill, specifically Page 2, Lines 4-17, would require that the Chief Engineer of the Division of Water Resources, a person required to be a licensed professional engineer, to ignore his/her dedication to the protection of the public health, safety, and welfare. If a dam, according to the chief engineer, presents a hazard to the safety, health or welfare of any person, then the act of notifying local emergency management personnel does not materially reduce the hazard that the dam imposes to the general public.

Also, Page 2, Lines 18-20, while well intended, also is a concern to the general public. It is difficult to see how a dam owner can assure that no other person(s) or their property might from time to time be subject to the hazard that a dam presents. Therefore, we oppose exempting any dam that falls under the inspection system that has been established to protect the public health, safety, and welfare.



Since 1894

TESTIMONY

To: Senate Natural Resources Committee
Senator Carolyn McGinn, Chair

From: Brent Haden, Assistant Counsel, Kansas Livestock Association

Date: February 16, 2006

Re: SB 540

The Kansas Livestock Association (KLA), formed in 1894, is a trade association representing over 6,000 members on legislative and regulatory issues. KLA members are involved in many aspects of the livestock industry, including seed stock, cow-calf and stocker production, cattle feeding, grazing land management and diversified farming operations.

Good morning Madame Chair and members of the Committee. My name is Brent Haden, and I serve as Assistant Counsel for the Kansas Livestock Association. I am grateful for the opportunity to appear before you this morning to discuss KLA's position regarding SB 540.

KLA is unopposed to the general concept behind SB 540, as requiring the filing of a dam inundation map with the register of deeds may voluntarily prevent future construction within a dam's inundation zone by providing notice of the dam's presence to downstream property owners. This would in turn provide some measure of future prevention for the current problem in Kansas in which downstream construction is causing involuntary increases in the hazard classifications of dams, at great expense to the owners of the dams.

However, I would like to make two comments regarding this bill to balance KLA's general non-opposition. The first is that KLA opposes the provision of the bill under which the chief engineer may require a breach inundation map from the owner of an existing dam. This provision will create an unforeseeable expense for owners of existing dams, and as such KLA opposes this provision.

Secondly, KLA would point out that while this bill may help mitigate the problem of third party downstream development in the future, it does not fix the problem of involuntary hazard re-classification that has already occurred for several dams around the state. KLA therefore reiterates its support for additional measures like those contained in SB 524 to bring relief to dam owners that have already been affected by re-classification.

To conclude, KLA is unopposed to SB 540, with the exception of the provision that allows the chief engineer to retroactively require a breach inundation map for a permitted dam.

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However, KLA would point out that SB 540 does not provide any relief for dam owners already facing involuntary re-classification due to downstream development, and as such we would ask the Committee to consider the provisions of SB 524 to help alleviate the hardship of increased inspection and repair costs for existing dam owners. KLA looks forward to working with the Committee on this issue, and we thank you for your time this morning.



KANSAS

DEPARTMENT OF AGRICULTURE
ADRIAN J. POLANSKY, SECRETARY

KATHLEEN SEBELIUS, GOVERNOR

**Testimony on SB 540
to
the Senate Committee on Natural Resources**

**by
Constantine Cotsoradis
Assistant Secretary
Kansas Department of Agriculture**

February 16, 2006

Good Morning Madam Chairman and members of the committee. I am Constantine Cotsoradis, assistant secretary of agriculture, and I am here to testify in support of Senate Bill 540.

SB 540 would require that breach inundation maps accompany each new dam application submitted to the chief engineer. It also would require that these maps be filed with the register of deeds in the county or counties identified in the inundation map.

A dam's hazard classification can change due to downstream development, and that can lead to additional costs for the dam owner. The costs can be ongoing, such as for required periodic inspections, or they can be one-time costs to upgrade the dam to meet the standards appropriate for the hazard classification.

Identifying inundation zones could help promote better planning when areas below dams are developed. The information will be useful to dam owners, landowners below dams and counties, all of whom can use the information to decide where to develop land.

Making inundation maps a requirement was discussed by a working group made up of dam owners, industry associations, federal agencies, the Kansas Water Office and the State Conservation Commission to address the additional costs dam owners face when downstream development causes a dam's hazard classification to change. The work group agreed that defining the problem is easy but finding a single, workable solution that doesn't compromise public safety is a significant challenge.

Inundation maps are one tool dam owners, landowners and local governing bodies can use to better plan development below dams. Based on our dam classification work group meetings and recent comments, we believe there is widespread support for this legislation

I will stand for questions at the appropriate time.

Kansas Farm Bureau
POLICY STATEMENT

Senate Natural Resources Committee

SB 540 an act concerning water and watercourses;
relating to dams

February 16, 2006

Submitted by:

Steve M. Swaffar

Director of Natural Resources

Chairperson McGinn and members of the committee, thank you for this opportunity to provide testimony today on Senate Bill 540. I am Steve Swaffar, Director of Natural Resources for the Kansas Farm Bureau. We stand today in qualified support for SB 540.

Our policy supports watershed dam breach inundation zone mapping. Without such maps, it is nearly impossible to accurately determine the hazard classification of any dam. Attaching breach inundation maps to the property deeds within potentially impacted areas provides downstream landowners with solid information as they consider placement of life and property on their land.

Landowners downstream of dams often benefit from enhanced flood and sediment control, greater recreational opportunities and more stable streamflow conditions. We believe once downstream landowners are aware what land is potentially impacted by dam failure they will make rational development decisions or should be willing to live with the consequences of those decisions. Owning property carries not only privileges but also responsibilities.

We support the requirement of breach inundation maps for new dam construction. But due to the potential financial burden on watershed districts or landowners, we do have concerns about expanding the authority to require such maps for any existing permitted structure, as is given to the Chief Engineer with the new language in section 1. We believe such delegation would be better stipulated if applied only to true high hazard dams, which pose the greatest public risk.

There have been ongoing discussions with stakeholders and the State Conservation Commission regarding the potential use of appropriated funds from the 2005 legislative session for inundation zone mapping. We believe this would be a wise use of those funds and would assist in addressing this issue, but those funds should be made available statewide. Since all dams have some potential risk, it only makes sense that all areas of the state are eligible for designated State cost share resources to help fund breach inundation zone maps.

Thank you for allowing me to speak on behalf of the members of Kansas Farm Bureau.



Kansas Society of Professional Engineers

A state society of the National Society of Professional Engineers

Senate Natural Resources Committee
SB 540 – Dam Inundation Maps
Testimony of Kansas Society of Professional Engineers
Submitted by James K. Koelliker, P.E., Ph.D.
Biological and Agricultural Engineering
Kansas State University
Thursday, February 16, 2006

Thank you Senator McGinn for the opportunity to express the support of the Kansas Society of Professional Engineers for the concept embodied in SB 540. I have engineering expertise in water resources including water control structures.

This bill attempts to require the provision of information about the extent of the area possibly affected by a breach of a new dam. This is a positive step in dealing with the potential of a dam to impact persons or other property and it is consistent with letting others have the right to know of the hazards or lack thereof.

The bill might be improved if the requirements of what the Register of Deeds is to do with the breach inundation map are spelled out. If the requirement was that the breach inundation map be attached to property on which the dam is situated AND also to all other properties within the possible impact area of the inundation map, then the full intent of the bill would be better realized.

The Kansas Society of Professional Engineers is the Kansas Chapter of the National Society of Professional Engineers, the largest professional society in the world for licensed Professional Engineers. With nearly 750 members statewide, KSPE serves as an advocate for the public health, safety and welfare of all Kansans.

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Testimony on Senate Bill 540
Senate Natural Resources Committee

February 16, 2006

Chairperson McGinn and members of the Committee, I am Tracy Streeter, Director of the Kansas Water Office (KWO). I am pleased to appear before you today in support of Senate Bill 540.

SB 540 amends K.S.A. 82a-302 to require the submittal of breach inundation maps with Stream Obstruction Act permit applications for dams. The bill also requires the breach inundation maps to be filed by the dam owner with the register of deeds for the county or counties where the breach inundation zone is located.

During last year's Omnibus Session, the Legislature appropriated \$750,000 to the State Conservation Commission to create a cost-share program for correcting the construction, modification, operation or maintenance of a dam. As a result of this appropriation, the Kansas Water Authority (KWA) directed the KWO to embark on the development of policy for dam safety and rehabilitation to complement the State Water Plan Funds appropriated for this effort. Attached is the Small Dam Safety and Rehabilitation Policy Section of the Kansas Water Plan. This Section was approved by the Water Authority in November of last year.

The KWA Policy includes 21 recommendations addressing the rehabilitation of existing dams or to prevent future changes in hazard classification resulting from downstream development. The amendment proposed in SB 540 is one of the adopted recommendations.

The development of breach inundation maps is the foundation of any effort to prevent development below dams. The proposed requirement of breach maps and the availability of cost-share assistance for breach map development will accelerate this process. In counties choosing to restrict development in these areas through zoning regulations, the maps are an essential element in the process. In counties without zoning regulations, the maps can be utilized to negotiate easements restricting development or used by watershed districts in the establishment of special assessment areas. At a minimum, landowners with land located in breach zones will be made aware that their property or a portion of their property is located in a breach inundation zone. SB 540 will ensure that breach inundation maps are accessible at the local level.

I appreciate the opportunity to discuss our efforts to address these dam safety issues and encourage your support of SB 540. I will stand for questions at the appropriate time.

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KANSAS WATER PLAN

Policy Section Small Dam Safety and Rehabilitation

EXECUTIVE SUMMARY

As indicated below, there are nearly 6,000 dams in Kansas regulated by the Kansas Department of Agriculture, Division of Water Resources. With an average age of 37 years, some dams are exhibiting structural deficiencies, while post-construction development downstream of others has raised their hazard class.

Dam rehabilitation or upgrades to meet standards of a higher hazard class is expensive. Federal financial assistance is available for rehabilitation of dams built under US Department of Agriculture programs, but the need extends far beyond the 831 dams eligible for such assistance. An FY 2006 appropriation of \$750,000 was made to the State Conservation Commission for small dam rehabilitation.

This Policy Section makes recommendations for expenditure of the FY 2006 State Conservation Commission appropriation, including a recommendation that part of the appropriation be used for breach inundation area mapping. Also recommended is cost-share assistance for such mapping provided that appropriate measures to control future development within the inundation area have been taken. A breach area map requirement for some new dams is recommended as is a requirement that development controls be in place before state financial assistance for new dam construction is provided. Establishment of a state cost-share program for small dam rehabilitation and upgrades is also recommended. Notice to be given owners of property within dam breach inundation areas and limitation of dam owner liability are included among the recommendations.

ISSUE DESCRIPTION

Nearly 6,000 small dams in Kansas are regulated by the Kansas Department of Agriculture, Division of Water Resources. Of these, some 180 are presently classified as high hazard with an additional 247 being classified as significant hazard. The average age of these dams is 37 years.

With time, structural components of many projects have deteriorated while demographic and land use changes have greatly changed the setting in which some projects are located. Also, dam construction standards have been revised since many dams were built. The hazard class of some dams has been increased due to increased development within the floodplain below the dams that might be affected in the case of dam failure.

There is growing need for repair or replacement of the structural components of older dams. Dams elevated to a higher hazard class may need to be upgraded to meet the design standards for that class regardless of their current condition. Also, many dam owners are challenged by the costs of routine maintenance, inspections and upkeep.

At issue is how the State of Kansas can best respond to increasing needs for dam rehabilitation while limiting the future instances of costly dam hazard class increases.

BACKGROUND

Throughout history people have built dams in an attempt to control water. Dams provide water supply, flood control, recreation, hydro-power and generally enhance the quality of life in areas lacking natural lakes.

As is the case with other physical infrastructure, dams need regular maintenance and upkeep. Structural components may deteriorate over time. Many dams were constructed in the mid-20th Century and are now showing the effects of aging. Some common problems with older dams are:

- Deteriorating metal pipes and structural components.
- Inadequate hydrologic capacity
- Increased runoff due to upstream development.
- Increased failure hazard due to downstream development.

Today, many dams are in a far different setting from when they were originally constructed. Most were built in rural areas to protect downstream farmland or provide water supply. Over the years, population growth and urban expansion have occurred both upstream and downstream from the dams. Some dams do not meet current dam safety requirements. Also, many of these dams are unknown to most of the people who are protected by them. Some are quietly deteriorating as time takes its toll on their components. Unless something is done to rehabilitate or remove them, they pose a public safety issue.

The Association of State Dam Safety Officials has provided a useful national perspective on issues facing the dam safety community. They have identified six top issues as follows: 1.) risk of failure; 2.) increasing hazard of dam failure; 3.) maintenance, upgrade and repair financing; 4.) lack of adequate authority and resources for state programs; 5.) lack of emergency preparedness; and 6.) lack of public awareness.

Kansas is dotted with nearly 6,000 regulated small dams that have been constructed to provide flood control, public water supply, recreation and other benefits. Many of these dams were built by local watershed districts using federal or state cost-share assistance. Others have been constructed by municipalities, by private organizations or individuals, and by the state.

Regulation of Dams in Kansas - The Dam Safety Program is part of the broader Water Structures Program of the Kansas Department of Agriculture, Division of Water Resources. The Kansas Stream Obstructions Act (K.S.A. 82a-301 through 305a) gives the Chief Engineer, Kansas Department of Agriculture – Division of Water Resources the exclusive authority to regulate the construction, operation and maintenance of dams in Kansas. The written consent or permit of the Chief Engineer is required to construct a dam or make changes in any dam as required by the Act.

The Chief Engineer has the power and duty to inspect any dam. The Chief may issue orders requiring correction of deficiencies or removal of the dam. An annual inspection of all dams found to be unsafe is required until the deficiency is corrected or the dam is removed.

Where a dam condition is so dangerous as to pose an immediate safety threat, the Chief Engineer shall immediately employ any remedial means considered necessary. The Chief Engineer shall continue in full charge and control of any such dam until it is considered safe or the emergency prompting the remedial action has ceased.

Three dam hazard classifications have been established as described in K.A.R. 5-40-9. These classes are:

1. Class A (low hazard) – dams located in rural or agricultural areas where failure may damage farm buildings, limited agricultural land, or county, township and private roads.
2. Class B (significant hazard) – dams located in predominately rural or agricultural areas where failure may endanger few lives, damage isolated homes, secondary highways or minor railroads or cause interruption of use or service of relatively important public utilities.
3. Class C (high hazard) – dams located in areas where failure may cause extensive loss of life, serious damage to homes, industrial and commercial facilities, important public utilities, main highways or railroads.

These hazard classes are risk-based. A high hazard dam is not necessarily unsafe. An individual dam's hazard classification is based upon the potential consequences of dam failure and does not reflect the physical condition of the dam. Post-construction development in the area that would be flooded by failure of the dam (breach inundation zone) may result in the dam's reclassification to a higher hazard class than was originally assigned.

The Chief Engineer or his authorized representative has the power (K.S.A. 82a-303b) to inspect any dam. If the dam is found to be unsafe, an annual inspection is to be conducted until the deficiencies are corrected or the dam is removed. A safety inspection of each high hazard (Class C) dam is to be conducted by a qualified engineer once every three years unless otherwise ordered by the Chief Engineer. Significant hazard (Class B) dams are to be inspected once every five years. The cost of these inspections is the responsibility of the dam owner.

Table 1 provides a summary of dams currently regulated by the Division of Water Resources.

Item	Number of Dams
Total number of regulated ¹ dams	5,951
Number of high hazard dams	180
Number of significant hazard dams	247
Number of low hazard dams	5,524
Average age in years (based on 4,000 dams)	37.1
Number of permits for dams held by watershed districts	1,513
Number of federally owned dams in 2002	38
1. Dams regulated by the Kansas Department of Agriculture, Division of Water Resources. Source: KDA, Division of Water Resources as of July 15, 2005	

National Flood Insurance Program - It is important not to confuse the Dam Safety Program with the National Flood Insurance Program (NFIP). Through the NFIP, flood insurance is made available to residents of communities (municipalities or counties) identified as being flood prone and which have enacted floodplain regulations approved by the Chief Engineer. Generally speaking, there isn't any relationship between the NFIP and small dams. The Federal Emergency Management Agency (FEMA) has usually been opposed to including breach inundation areas on FEMA - published flood insurance rate maps, although they are not opposed to others developing inundation area overlays and using them in conjunction with NFIP maps.

Watershed Dams - As indicated in A Report to Congress on Aging Watershed Infrastructure (USDA, Natural Resources Conservation Service, 2000) there is growing national concern that many small flood control dams that were built by local watershed districts with United States Department of Agriculture technical and financial assistance are at or near the end of their 50-year planned design life.

The Kansas Watershed District Act (K.S.A. 24-1201 *et seq.*) was enacted in 1953 as enabling legislation to provide a subdivision of state government with adequate powers to sponsor watershed projects developed with federal assistance under PL 83-566.

The Act requires that a general plan identifying planned works of improvement such as dams and their associated costs and benefits be prepared. The general plan is reviewed and approved by the Chief Engineer, Division of Water Resource, Kansas Department of Agriculture.

Among the powers and duties of watershed districts as stated in (K.S.A. 24-1209) are the following:

1. To purchase, hold, sell and convey land and personal property.
2. To construct, improve, maintain and operate works of improvement.
3. To acquire land and interests in land by gift, purchase, exchange or eminent domain. Power of eminent domain to be exercised within and without the boundaries of the district in like manner as provided by K.S.A. 26-501 to 26-516, inclusive, or any other amendments thereto.
4. To levy taxes and assessments, issue bonds and incur indebtedness within the limitations prescribed by this Act.

A practical limitation to the ability of watershed districts to finance works of improvement is the willingness of landowners to support and finance decisions of the board of directors. Most districts have found it necessary to finance their projects from tax revenue with only a few utilizing the special assessment option. As a result, the smaller districts are extremely limited in their financial capability. Larger districts or those with higher value lands have considerably more resources with which to work.

Watershed district general plans usually include works of improvement beyond those eligible for federal financial assistance. The most common funding source other than federal PL 83-566 assistance is the State Assistance to Watershed Dam Construction Program managed by the State Conservation Commission.

There are presently 86 organized watershed districts in Kansas that cover about 22 percent of the state's area. Approximately 60 districts have active general plans. As indicated in Table 1, the Division of Water Resources has issued permits for the construction of 1,513 dams by watershed districts in Kansas.

NRCS Watershed Rehabilitation Program – Watershed Rehabilitation Amendments to the Watershed Protection and Flood Prevention Act of 1954 (PL 83-566) were enacted in 2000. These amendments authorize the United States Department of Agriculture, Natural Resources Conservation Service (NRCS), to work with local communities and watershed project sponsors to address the public health and safety concerns and potential adverse environmental impacts of aging dams.

The authorization defines rehabilitation as all work necessary to extend the life of the dam and meet applicable safety and performance standards. Federal funds may not be used to correct deficiencies caused by inadequate operation or maintenance. Only dams that were constructed through one of four USDA assisted water resource programs or authorizations qualify for rehabilitation assistance. These programs and authorizations are the PL-534 Flood Control Act of 1944; the PL-566 Watershed Protection and Flood Prevention Act of 1954; the Pilot Watershed Program and the Resources Conservation and Development Program.

Rehabilitation projects must be cost-shared between the federal government and local project sponsors. The NRCS may provide up to 65 percent of the total cost of the rehabilitation project. Local sponsors provide the remaining 35 percent which may include in-kind services such as the value of land rights, project administration and other planning or administration costs associated with the project.

NRCS Rehabilitation Needs and Costs in Kansas - There are 831 watershed dams in Kansas that qualify for rehabilitation assistance under the 2000 amendments to the PI 83-566 Watershed Protection and Flood Prevention Act. Of this total, 776 were built with PL 83-566 assistance.

Most of these dams have a 50-year design life. Their average age is 33 years. One of these dams has now exceeded its design life; an additional 115 dams will do so within the next 10 years. Also, 45 dams have had a hazard class change due to development of housing or infrastructure immediately below the dam.

Between 1958 and 1979, 105 dams were built with corrugated metal pipe as the principal spillway. A study of one of the first watershed projects showed that 40 percent of such spillway pipes needed replacement which would also include upgrading the dam to today's design standards.

The NRCS has completed assessment of 37 dams in Kansas with an additional nine dams presently being assessed. These assessments were conducted at the request of the responsible watershed districts. Of the 37 dams, varying degrees of structural deficiency were discovered in 14 dams; 18 of these dams have had a hazard class increase.

To date, the NRCS has received one application to proceed with rehabilitation planning in Kansas. This request was for the Sand Creek Site #2 in Harvey County. There is about a 3-year project implementation time period.

In a 1999 report, the Natural Resources Conservation Service estimated that it would cost approximately \$20 million to repair or upgrade 97 watershed dams in Kansas needing rehabilitation. An inspection of dams in the Little Delaware-Mission Watershed in northeast Kansas identified 11 grade stabilization structures in need of major rehabilitation. The cost of rehabilitating one of these dams, constructed in 1958, to current dam safety standards was estimated to be \$155,000.

It must be emphasized that dam rehabilitation and upgrade needs go beyond those associated with dams eligible for Natural Resources Conservation Service assistance.

POLICY ISSUES AND RECOMMENDATIONS

Recommended policies regarding four primary issues are outlined below. These issues are:

- Expenditure of the FY 2006 State Conservation Commission Appropriation.
- Controlling Dam Hazard Class Changes due to Development.
- Limiting Dam Owner Liability for Damages due to Dam Failure
- Financial Assistance for Small Dam Rehabilitation and Upgrades.

Implementation requirements are presented following the recommendations.

Issue: Expenditure of the FY 2006 State Conservation Commission Appropriation

The 2005 Kansas Legislature provided an appropriation of \$750,000 to the State Conservation Commission (SCC) to address rehabilitation of existing dams that have structural problems or that are now in a more stringent dam safety classification due to downstream development. The SCC must adopt new rules and regulations that guide how these funds will be spent by March 6, 2006.

Recommendations for expenditure of this appropriation are:

1. Assistance should be made available to all structures defined as dams in the Stream Obstruction Act (K.S.A. 82a – 301*et seq.*).
2. Assistance should be made available for decommissioning of dams.
3. Assistance should not be provided for routine operation and maintenance (O & M) activities or to correct deficiencies caused by inadequate O & M. The Natural Resources Conservation Service PL 83-566 National Operation and Maintenance Manual checklist should be used as guidance in this regard.
4. Applications for assistance should be prioritized in a manner consistent with that used by the Natural Resources Conservation Service Watershed Rehabilitation Program. Consideration should be given for the upgrading of properly maintained dams which have had an increase in dam hazard class.
5. Part of the appropriation should be directed towards dam failure breach inundation area mapping.

Issue: Controlling Dam Hazard Class Changes due to Development

Kansas utilizes three dam hazard classes (low, significant and high) depending upon the potential for loss of life and property damage in the event of a dam failure. The hazard class does not reflect the physical condition of the dam itself. The hazard class rating of some dams has changed since the dam was constructed due to development within the breach inundation area below the dam. Higher hazard dams have more stringent design standards that must be met than do lower hazard dams. Upgrading a dam and associated works to these higher standards may be more expensive than building to such standards initially.

Delineation of potential breach inundation areas downstream from dams and enforcement of appropriate local development control measures are the keys to limiting the number of dams reassigned to a higher hazard class due to downstream development. Among available control measures are locally established zoning of the breach inundation area and special assessments levied against downstream property owners who willfully put life or property in harm's way. These special assessments could help offset the cost of any necessary dam upgrade and more frequent inspections.

Recommendations for responding to the potential for hazard class changes due to downstream development are:

6. A breach inundation area map should be required before a permit to construct a new dam is approved by the Chief Engineer, Division of Water Resources.
7. Where development downstream of an existing dam owned by a public entity such as a municipality or a watershed district results in a hazard class increase, notice should be given to property owners within the breach inundation area of the dam and the levying of a special assessment against these property owners for the purpose of making necessary modifications to the dam consistent with the design standards of the new hazard class should be authorized.
8. Project sponsors for new low or significant hazard dams to be constructed with state financial assistance must ensure that appropriate local measures have been taken to control future development within the breach inundation area as delineated on approved maps.
9. Provide education on dam safety and the effects of development in the catchment areas above dams and breach inundation areas below dams.

Issue: Limiting Dam Owner Liability for Damages due to Dam Failure

Depending upon the circumstances, a dam failure may cause loss of life, personal injuries and/or extensive property damage. Such instances generally result in extensive litigation with all parties remotely connected to the dam being involved. Legal liability for damages caused by dam failure may be established by proof of negligence or through the doctrine of strict liability.

Those designing, maintaining and operating dams have a duty of reasonable care which extends to those who could foreseeably be injured by negligence on their part. In the broadest sense, the law requires the exercise of skill and judgment that could be reasonably expected from those under similar circumstances. Negligence results from the failure to act in this reasonably expected manner. Strict liability for damages may be imposed on dam owners or

operators under the theory that dams are inherently hazardous. Negligence need not be established.

While the Kansas Tort Claims Act (K.S.A. 75-6101 *et. seq.*) limits the liability of some governmental entities in specific situations, this Act does not explicitly limit the liability of watershed districts or other dam owners for damages due to dam failure.

There is no statutory requirement that notice of permit to construct a dam be given to the public. However, the Kansas Department of Agriculture, Division of Water Resources does request that dam construction permits be filed with the county registrar of deeds. The only notice requirement related to dams is that an easement must be filed for agricultural lands upstream of a dam on which water may be backed-up. There are no notice requirements downstream of a dam.

Recommendations for limiting dam owner liability are:

10. Permits to construct dams issued by the Chief Engineer under authority of the Kansas Stream Obstructions Act should be filed with the Registrar of Deeds in the county in which the dam is to be constructed.
11. Approved dam breach area inundation maps should be filed with the Registrar of Deeds in the county or counties in which the breach area is located.
12. Upon filing of a dam breach area inundation map, the Registrar of Deeds should notify all property owners whose land lies wholly or partially within a dam breach inundation area of this fact and should attach notice of this fact to the deed for all such properties.
13. The owner of a dam should not be held liable for damages caused by breach of the dam to real property developed after provision of notice as proposed in Recommendation No. 12. This limitation would not affect liability for personal injury or death caused by breach of a dam.

Issue: Financial Assistance for Small Dam Rehabilitation and Upgrades

The Association of State Dam Safety Officials has identified maintenance, upgrade and repair financing as one of six top issues facing the dam safety community. A lack of funding for dam upgrades has become a serious national problem. Many dam owners can't afford these maintenance, inspection and rehabilitation costs. Financial assistance from government has generally been minimal, although several states have grant or loan programs for such assistance.

In 2001; the American Society of Civil Engineers released an Infrastructure Report Card in which dam safety was given a mark of "D" partially due to inadequate funding for dam repairs and upgrades. In 2002, the Association of State Dam Safety Officials concluded that it would take approximately \$10 billion to rehabilitate the nation's most critical high-hazard dams in need of rehabilitation.

Much additional funding will be needed to address aging dams in the future. An assessment to evaluate the need for small dam rehabilitation in Kansas, with estimated costs, is needed.

The following recommendations are made for providing ongoing financial assistance to dam owners for dam rehabilitation or upgrade measures or other measures as specified:

14. Establish a cost-share program to assist eligible dam owners in paying for needed dam rehabilitation and upgrade measures.
15. Assistance should be made available to all structures defined as dams in the Stream Obstruction Act (K.S.A. 82a-301 *et seq.*).
16. Assistance should be made available for repair of damage caused by catastrophic events.
17. Assistance should be made available for decommissioning of dams.
18. Provide state cost-share assistance for the preparation of dam breach inundation area maps that meet KDA Division of Water Resources standards.
19. Assistance should not be provided for routine operation and maintenance (O & M) activities or to correct deficiencies caused by inadequate O & M. The Natural Resources Conservation Service PL 83-566 National Operation and Maintenance Manual checklist should be used as guidance in this regard.
20. Applications for assistance should be prioritized in a manner consistent with that used by the Natural Resources Conservation Service Watershed Rehabilitation Program. Give priority to assistance for modifying properly maintained structures placed in a higher hazard class due to downstream development.
21. As a condition to participating in the cost-share program, appropriate local measures must have been taken to control future development within the breach inundation area of the dam to be rehabilitated or upgraded. In the case of breach inundation area maps, assistance should be provided only where assurance has been made by local authorities that appropriate local measures will be taken to control future development within the breach inundation area of the dam.

PLAN IMPLEMENTATION

Legislative Action – The Kansas Stream Obstructions Act (K.S.A. 82a-301 *et seq.*) should be amended to implement Recommendations 6 and 10-12 regarding dam construction permits and breach inundation area map requirements.

The Kansas Watershed District Act (K.S.A. 24-1201 *et seq.*) should be amended to explicitly authorize special assessments as stated in Recommendation 7.

Statutory authorization limiting state financial assistance for construction of new low or significant hazard dams (Multipurpose Small Lakes Program, State Assistance to Watershed Dam Construction Program) as stated in Recommendation 8 is needed.

The Kansas Tort Claims Act (K.S.A. 75-6101 *et seq.*) should be amended to limit the liability of dam owners as stated in Recommendation 13.

Statutory authorization for establishment of the dam rehabilitation and upgrade cost-share program (Recommendations 14-21) is needed. This authorization should also provide bonding authority to finance the program.

Administrative Action – Recommendations 1-5 should be incorporated into the Rules and Regulations to be promulgated by the State Conservation Commission for expenditure of the FY 2006 appropriation for dam rehabilitation.

The Kansas Department of Agriculture, Division of Water Resources should continue to provide education on dam safety and the effects of development (Recommendation 9).

The Kansas Water Office, with the Kansas Department of Agriculture-Division of Water Resources, State Conservation Commission and the USDA Natural Resources Conservation Service, should conduct an assessment evaluating the need for small dam rehabilitation in Kansas. This assessment should include cost estimates.

Financial Requirements – While the extent of financial requirements for needed small dam rehabilitation and upgrades will be determined from the assessment recommended under Administrative Action, the cost can be expected to be substantially greater than the FY 2006 appropriation of \$750,000.

Funding for cost-share assistance for breach inundation area mapping should come from the State Water Plan Fund.

Implementation Schedule – The State Conservation Commission has a legislative mandate to adopt Rules and Regulations for expenditure of the FY 2006 appropriation by March 6, 2006. Bills to accomplish the legislative actions necessary to implement this Kansas Water Plan Section may be introduced in the 2006 Session of the Kansas Legislature.

REFERENCES

Please see Kansas Water Plan Background Paper No. 76 for additional information regarding Small Dam Safety and Rehabilitation.