



Water Structures

The Water Structures program is made up of four teams: administration; stream obstructions and channel changes; dam safety; and floodplain management.

The program regulates human activities that affect the flows of rivers and streams to ensure that those activities are properly planned, constructed, operated and maintained so they do not adversely affect public health, welfare or safety, the environment, or public and private property. This regulation is accomplished primarily by permitting dams and other structures constructed in a stream or floodplain, or that alter the course, current or cross-section of a stream, inspecting certain dams periodically, and investigating complaints from the public about such structures.

The program is also responsible for state coordination between local units of government and the Federal Emergency Management Agency for the National Flood Insurance Program.

An ongoing special project is funded by a federal dam safety grant administered by FEMA. The grant funds four full-time positions, a part-time intern, and a portion of a full-time clerical position. These positions enhance the dam safety program by improving public education and information efforts, investigating dams that currently are not permitted, examining existing dams in counties experiencing rapid urban development to identify dams potentially

affected by that development, helping dam owners prepare emergency action plans, and operating a document management system that will reduce the amount of paper used and improve the flow of work in the dam permitting process. This grant must be used to enhance the dam safety program; it cannot be used to fund portions of the program affected by budget cuts.

The floodplain management team provides general technical assistance to the public and local units of government regarding floodplain management issues, oversees floodplain mapping projects, and works to best use federal grants and state resources to implement future floodplain mapping and studies in the state.

The studies noted in the table below are funded by the Federal Emergency Management Agency's cooperative technical partnership program. Congress has charged FEMA with developing new floodplain maps for major population areas nationwide by 2011 and then maintaining those maps in the future. Our mapping projects follow FEMA priorities for the most part. The floodplain management team manages contracts with engineering firms to conduct these studies and to ensure FEMA's requirements are met in a timely manner. With this map modernization program coming to an end, FEMA is transitioning to a new program called RiskMAP to maintain maps on a regular basis and include other

Bowersock dam on the Kansas River in downtown Lawrence.

hazards on the maps if appropriate. We will participate in this program through the cooperative technical partnership program.

In recent years, several communities have been frustrated by revisions to their floodplain maps. Although occasional errors are made, most revised floodplain maps better reflect the flood risks faced by a community's residents. The revised maps are produced with better technology and, in a number of instances, better data. Some, however, are in areas of the state where the available data, particularly topographic data, are no better than they were 20 years ago. We are working with FEMA and our mapping contractors to reduce errors, but nothing can replace a community's full participation in the mapping process to understand what a revised map means and to provide local understanding of how floods affect communities. Frequently this participation doesn't happen, although city and county officials do get very involved if the new floodplain map varies significantly from the old map.

As communities receive new maps, they update their floodplain management ordinances. Those modifications must be approved by the chief engineer. A community that manages a floodplain can be either a city or county, although maps are now created on a county basis.

	FY 2010 Actual	FY 2011 Goal
Communities with new or updated flood hazard maps	11	13
Studies initiated	7	6
Studies completed	11	15
Miles mapped in completed studies	8,236	8,700

The stream obstructions and channel changes team processes permits for floodplain fills, levees, channel changes and all stream obstructions except for dams. We continue to focus on reducing the length of time it takes to review permit applications and on increasing public awareness of legal requirements. Due to recent funding reductions, we are holding open 1.5 full-time equivalent positions on this team, which makes it difficult to improve processing times. We are also completing a revising regulations relating to these types of projects to improve the permitting process and streamline it where possible. The formal adoption process for these regulations should start at the beginning of calendar year 2011.

All categories referring to days show median number of days to process applications.

	FY 2010 Actual	FY 2011 Goal
Processing time – regular permit applications (days)	70	70
Processing time – general permit applications (days)	59	30

In 2011, the team will again coordinate with our dam safety team to present a seminar on permitting stream obstructions and channel changes at the annual dam safety conference. The conference will be in Topeka in February, 2011.

The dam safety team is responsible for permitting dams above a size specified in statute and for inspecting those structures. There are more than 6,000 regulated dams in Kansas. Each dam is assigned a hazard classification ('a' or low, 'b' or significant, 'c' or high) based on the expected impact downstream if the dam failed. The hazard classification does not reflect the

Ambrose Ketter measures a culvert downstream of a dam near Eureka to accurately assess its carrying capacity as part of a dam breach study.



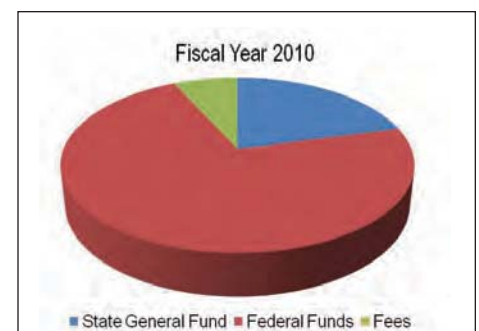
actual physical condition of the dam, although a dam and its spillways may be inadequately sized if the hazard classification changes to a more stringent level due to downstream development.

In 2006, the Legislature provided funding for three new positions, which allowed us to resume inspections of all high- and significant-hazard dams, a responsibility placed on dam owners by changes in the statute in 2002. Due to funding shortfalls, the two engineers and one support staff person were laid off last year. In accordance with the statute, the owners of high- and significant-hazard dams are once again responsible for having these inspections conducted and the reports sent to the chief engineer. Because the inspection program ended in November of 2009, the chief engineer extended by one year the time for inspections to be conducted. The deadline for inspections to be completed for 146 dams is April 30, 2011, with the reports due to the chief engineer 60 days later.

	FY 2010 Actual	FY 2011 Goal
Number of new dams and modifications completed	10	12
Dam and dam modification permits processed	24	25

A project continuing from fiscal year 2009 that the floodplain team and dam safety team are coordinating is a federal grant through the Hazard Mitigation Grant Program to conduct breach analyses of dams throughout the state. The grant was awarded to the Division of Emergency Management and the Department of Agriculture is the subgrantee. The breach analyses

will result in maps of the areas below selected dams showing land that would be affected by a catastrophic failure of the dams. These maps can be used by local governments to manage development so dam owners are not faced with large expenses to upgrade their dams due to development in the affected areas and by the agency to determine appropriate hazard classifications for dams. ■



The Water Structures budget for fiscal year 2010 was \$3,623,237. 21 percent came from the state general fund, 72 percent came from federal funds and 7 percent came from fees.

The program had approval for 18 full-time equivalent and 7.5 unclassified temporary positions in fiscal year 2010.