

Section 19. Basin-wide Mitigation Action Plans

This Hazard Mitigation Plan identifies twelve specific hazards that could affect the Basin. Section 20 of this Plan set forth mitigation action plans to be carried out by individual jurisdictions to reduce the risks to these hazards.

This section includes twelve mitigation actions to be taken collectively by the jurisdictions in concert with the Guadalupe-Blanco River Authority. These are followed by actions to be undertaken specifically by the Guadalupe-Blanco River Authority. Basin-wide actions are those that have been or will be taken by, or will affect, all Guadalupe River Basin communities rather than just a single jurisdiction. Section 20 includes mitigation actions and mitigation action plans of the individual jurisdictions that are participating in the planning process.

Some of the basin-wide actions in this section are directed at reducing the risk from a single hazard, such as flooding. Other actions pertain to multiple hazards or all twelve hazards. These twelve hazards differ in important ways, such as in their predictability, length of warning time, speed of onset, magnitude, scope, duration of impact, and the possibilities of secondary impacts. Many of the demands on the emergency management infrastructure they generate, however, arise not from their differences but from their commonalities.

The basin-wide mitigation actions are identified below, in priority order, with the highest priority actions appearing first. These are followed by the GBRA actions, which are not in priority order. Appendix B contains detailed information about grant funds that may be available to support implementation of the mitigation actions.

Collective Actions

Listed below are basin-wide hazard mitigation actions to be undertaken collectively by the jurisdictions and GBRA. These are intended to be actions for all jurisdictions to consider pursuing collectively and may be dependent upon the availability of funds.

1. Pursue GIS-based hazard information, including:
 - flood hazard areas;
 - the location of low-water crossings; and,



- National Flood Insurance Program policies, claims and losses, including repetitive losses.
2. Explore the feasibility of the Guadalupe-Blanco River Authority serving as a Cooperating Technical Partner of the Federal Emergency Management Agency in flood mapping.
 3. Develop criteria to identify and prioritize basin-wide flood hazard mapping needs.
 4. Educate the public on the risks they face from natural and man-caused hazards and steps they can take to protect themselves, their families and their livelihoods.
 5. As funding becomes available and with the assistance of the U.S. Army Corp of Engineers, undertake a feasibility study to thoroughly assess the needs, problems and opportunities for flood damage reduction in the Guadalupe River Basin.
 6. Initiate a campaign to increase the awareness and level of participation in the National Flood Insurance Program.
 7. Establish a mechanism through which local governments can share common basin-wide concerns regarding flooding and other hazards in the Guadalupe River Basin.
 8. Encourage communities to participate in the Community Rating System.
 9. Promote disaster-resistant building, for example:
 - tornado safe rooms;
 - hail resistant roofs;
 - steel connectors; and
 - consideration of the 2003 International Building Code.
 10. Make available model floodplain management ordinances and permitting systems developed by outside organizations as samples for consideration by local governments.
 11. Identify sites where stream gages need to be added or upgraded, explore funding options and coordinate installation requests with GBRA and the U.S.G.S.
 12. Explore the potential for formal adoption of mutual aid agreements between jurisdictions for all-hazards assistance.



GBRA Mitigation Actions

Guadalupe-Blanco River Authority

ACTION: Conduct an annual workshop with the National Weather Service (NWS) for the County EMCs and Floodplain Administrators within the GBRA ten-county district

Hazard Flood
Background The Guadalupe River basin has experienced numerous flooding since the 1930's. On an average, the Guadalupe River records a flood event every 5 years.

Benefits The annual workshop will allow an exchange of information and help improve the understanding of the hydrology within the Guadalupe River basin. The workshop will also foster better communications between counties and the NWS.

Priority High
Estimated cost \$1000/per year
Responsible organization GBRA and NWS

Target completion date Ongoing

Funding sources General Funds
Related objective(s) 1.1, 1.2, 2.1 and 2.3

Guadalupe-Blanco River Authority

ACTION: Continue to participate in the funding of Phase 2 and Phase 3 of the COE Cibolo Watershed Study

Hazard Flood
Background The COE completed a reconnaissance study in 2001 for the Guadalupe River Basin. The Cibolo Creek Watershed study was one of several studies recommended for further analysis . Study participants include GBRA, San Antonio River Authority (SARA) and the San Antonio Water Systems





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Benefits (SAWS). Phase 1 of the study has been completed.
 The Study goals are to examine ways to reduce flooding in the upper watershed as well as examine recharge and ecosystem restoration potential.

Priority High

Estimated cost \$300,000

Responsible organization COE, GBRA , SARA and SAWS

Target completion date 2007

Funding sources General Funds

Related objective(s) 2.2, 3.1

Guadalupe-Blanco River Authority

ACTION: Continue Weather-Net Program with the National Weather Service (NWS)

Hazard Flood

Background Communication problems are common during major flood events. In the last few years, GBRA has worked with the NWS to develop alternate methods of sending out river forecasts. Today GBRA gathers flood stage forecasts from the NWS and provides a river summary to the EMC's and other emergency management personnel within the Guadalupe River Basin. The program is called the Weather-Net Program.

Benefits The GBRA river summary provides the EMC's with an overview of river flooding.

Priority High

Estimated cost \$10,000/year

Responsible organization GBRA Engineering Department

Target completion date Ongoing

Funding sources General Funds

Related objective(s) 4.1, 4.2



Guadalupe-Blanco River Authority

ACTION: Outfit a portable emergency electric generator to provide temporary electric power at water and wastewater treatment plants

Hazard All hazards
Background GBRA has recently purchased a used 700 Kwatt generator. The unit needs to be refurbished and mounted on a trailer.
Benefits During a power outage, the generator can be driven to the site and temporarily tied into the plant electric grid until normal service is restored.
Priority Very High
Estimated cost \$15,000
Responsible organization GBRA Operation Department
Target completion date 2005
Funding sources General Funds
Related objective(s) 4.4

Guadalupe-Blanco River Authority

ACTION: Work with FEMA's Engineering consultant to upgrade river models within Guadalupe County

Hazard Flood
Background FEMA is presently updating the floodplain models in Guadalupe County. Half Associates has been hired by FEMA to develop the models for the area between New Braunfels and Seguin. The Guadalupe River in this area includes four small lakes. GBRA has acquired an instrument that can be attached to a boat and will provide accurate cross sectional data on the lakes.
Benefits The lake sounding data will help the FEMA contractor provide a more accurate hydraulic model.
Priority High
Estimated cost \$5,000
Responsible organization GBRA Engineering Department
Target 2004



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completion date
Funding sources General Funds
Related 3.1
objective(s)

Guadalupe-Blanco River Authority

ACTION: Participate with the Corps of Engineers (COE) on a Feasibility Study in the lower Guadalupe River Basin

Hazard Flood
Background The lower reach of the Guadalupe River experiences extended periods of flooding. The COE in their reconnaissance study identified the lower Guadalupe river as an area for further study.

Benefits The study will examine potential flood reduction projects.

Priority High
Estimated cost \$350,000
Responsible organization GBRA Engineering Department
Target completion date 2004
Funding sources General Funds
Related objective(s) 5.2

Guadalupe-Blanco River Authority

ACTION: Conduct an biennial review of the GBRA “Heavy Rainfall and Flood Response Manual”

Hazard Flood
Background During flood events in the Seguin/New Braunfels area, GBRA activates a flood response team to handle the hundreds of calls that come from the general public. The Authority has developed a manual that contains data on past floods and other relevant information to assist team members. The



document is reviewed at least every two years.

Benefits The manual allows GBRA to respond in a professional manner and provides needed information to the public. A biennial review is a necessary component to ensure the document is up to date.

Priority High
Estimated cost \$5,000/year
Responsible organization GBRA Engineering Department and Project Development Dept.
Target completion date 2004
Funding sources General Funds
Related objective(s) 3.2, 4.1

Guadalupe-Blanco River Authority

ACTION: Conduct an annual review of the Hurricane Preparedness Plan for GBRA's lower basin operations

Hazard Flood/Hurricane
Background During a hurricane event, keeping water and wastewater facilities in operation is critical. Developing a hurricane preparedness plan and maintaining the plan is an important part of the process. GBRA has developed plans for its lower basin operations

Benefits An annual review will ensure the plan is kept up to date.

Priority High
Estimated cost \$2,000/year
Responsible organization GBRA Operations Division
Target completion date Each year
Funding sources Plant Operating Budget
Related obj. 1.2





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Guadalupe-Blanco River Authority

ACTION: Work with Texas Department of Transportation to stabilize erosion upstream of Hwy 59 Bridge over the Guadalupe River

Hazard	Flood/Hurricane
Background	The Guadalupe River at the Hwy 59 bridge near Victoria has experienced severe erosion on the eastern bank. Continued erosion may jeopardize the bridge in the next 5 to 10 years. If the erosion is not checked in the next 30 to 40 years, the Victoria Wastewater Treatment plant may also experience problems since the plant is not far from the bridge.
Benefits	Highway 59 is a major transportation route for South Texas and must be kept open.
Priority	High
Estimated cost	\$20,000
Responsible organization	GBRA Operations Division
Target completion date	2008
Funding sources	Plant Operating Budget
Related objective(s)	5.2



Guadalupe-Blanco River Authority

ACTION: Evaluate alternatives and implement modifications to the spillgates at the TP-4 Dam in Seguin, in order to prevent recurring damage during severe floods.

Hazard Flood
Background During the past five years, three major floods have caused damage to the spillgates at the TP-4 dam. The total cost of repairs for the first two floods was \$990,140. The repairs from the 2004 flood are estimated to be approximately \$390,000.
Benefits During severe floods, the operational reliability of the TP-4 dam will be improved and repair costs will be eliminated.
Priority High
Estimated cost \$1,000,000.
Responsible organization GBRA Operations Department
Target completion date 2008
Funding sources General Funds and grant funds
Related objective(s) 4.4