Appendix E – Public comments received

The draft State Flood Assessment document was posted online for public review and comment from September 17 to October 3, 2018, and included the October 3 meeting of the Texas Water Development Board where the public was invited to provide comments in person. Written or emailed comments were also accepted.

This appendix contains all written public comments received (attached here). The comments provided at the October 3, 2018, of the Texas Water Development Board can be viewed online.

CAPCOG

Capital Area Council of Governments
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October 3, 2018

State Flood Assessment Public Comments
Attn: Dr. Mindy Conyers
Texas Water Development Board
1700 North Congress Avenue, P.O. Box 13231
Austin, TX 78711-3231

Dear Dr. Conyers,

The Capital Area Council of Governments (CAPCOG) appreciates this opportunity to comment on the Draft Texas Water Development Board (TWDB) State Flood Assessment. CAPCOG believes that Councils of Government (COGs) can play an important role in helping the state and local governments improve flood risk management as envisioned in this report. As the TWDB revises this draft State Flood Assessment in the future, we appreciate TWDB's consideration of the following comments:

Geographic Scale of a "Watershed"

The draft report states that, "stakeholders expressed a preference for locally-led flood planning on a watershed-scale." However, the report does not explicitly define the term "watershed." The Texas Parks and Wildlife Department uses the following definition of a "watershed" that seems appropriate: "an area of land whose total surface drainage flows to a single point in a stream." This definition matches the definition and classification hierarchy used by the U.S. Geological Survey, with a "watershed" identified at the ten-digit hydrologic unit code (HUC-10). More than half of all of the HUC-10 level watersheds fall entirely within a single COG boundary (see the map below). We believe that organizing planning and funding at this geographic level or the sub-basin level (HUC-8) makes the most sense.

The Importance of Local Action and Initiative

The legislature has delegated responsibility for floodplain management down to the local government level, as indicated in Sections 16.3145 and 16.315 of the Texas Water Code. As such, our view is that resources and other support for flood mitigation should primarily be directed towards the units of local government carrying out the day-to-day business of floodplain management.

COGs Can Help Provide Collaboration, Coordination, Leadership, and Efficiency in Planning

The draft report states that stakeholders called for "increased collaboration, coordination, and leadership among all entities with flood responsibilities." The legislature created COGs, "to encourage and permit local governmental units to join and cooperate to improve the health, safety, and general welfare of their residents and plan for the future development of communities, areas, and regions." Since each COG planning region consists of a group of local governments that have agreed to collaborate and coordinate actions and COGs are

designed to support the type of planning described in the draft report, COGs are well-suited to help the state and local governments carry out the type of planning and risk mitigation work needed to manage flood risks within Texas.

COGs Can Help Awarding and Managing Funding to Mitigate Flooding

The draft report acknowledges that, while "the responsibility to prepare for and mitigate flood impacts is primarily local, most communities do not have the economic resources to accomplish their goals." COGs have extensive experience awarding funding from the state and federal level down to the local level, and would be well-suited to perform this function for awarding flood management grants within watersheds.

COGs Are Well-Positioned to Coordinate Watershed-Level Flooding Research and Mapping

In the same way that COGs like CAPCOG have become the lead agency for improving the scientific understanding of regional air quality and solid waste issues and coordinating regional environmental research, COGs could perform the same function for their communities for flooding research and mapping. For example, CAPCOG's air quality program operates a network of air quality monitors and CAPCOG could similarly operate a network of stream sensors to help collect data valuable for watershed-level data collection and planning.

COGs are Best-Positioned to Conduct Outreach, Education, and Technical Assistance within our Communities and Provide a Consistent Institutional Framework for Carrying Out this Work Across the State

The draft report states that, TWDB heard a call to expand educational outreach and technical assistance opportunities throughout the state. COGs already conduct these types of activities across all of our program areas, and we would be in the best position to help coordinate flooding-related outreach, education, and technical assistance as part of our portfolio of services. Also, each COG is structured similarly with a governing board organized by the local governments that comprise the COG region designed to be responsive to those local governments. The powers, role, and rules of all 24 COGs are described in Chapter 391 of the Local Government Code, and COGs are designed explicitly to provide the state and local governments with a consistent institutional framework for addressing complex cross-jurisdictional issues.

Flood Risk Mapping Means more than Regulatory Insurance Maps

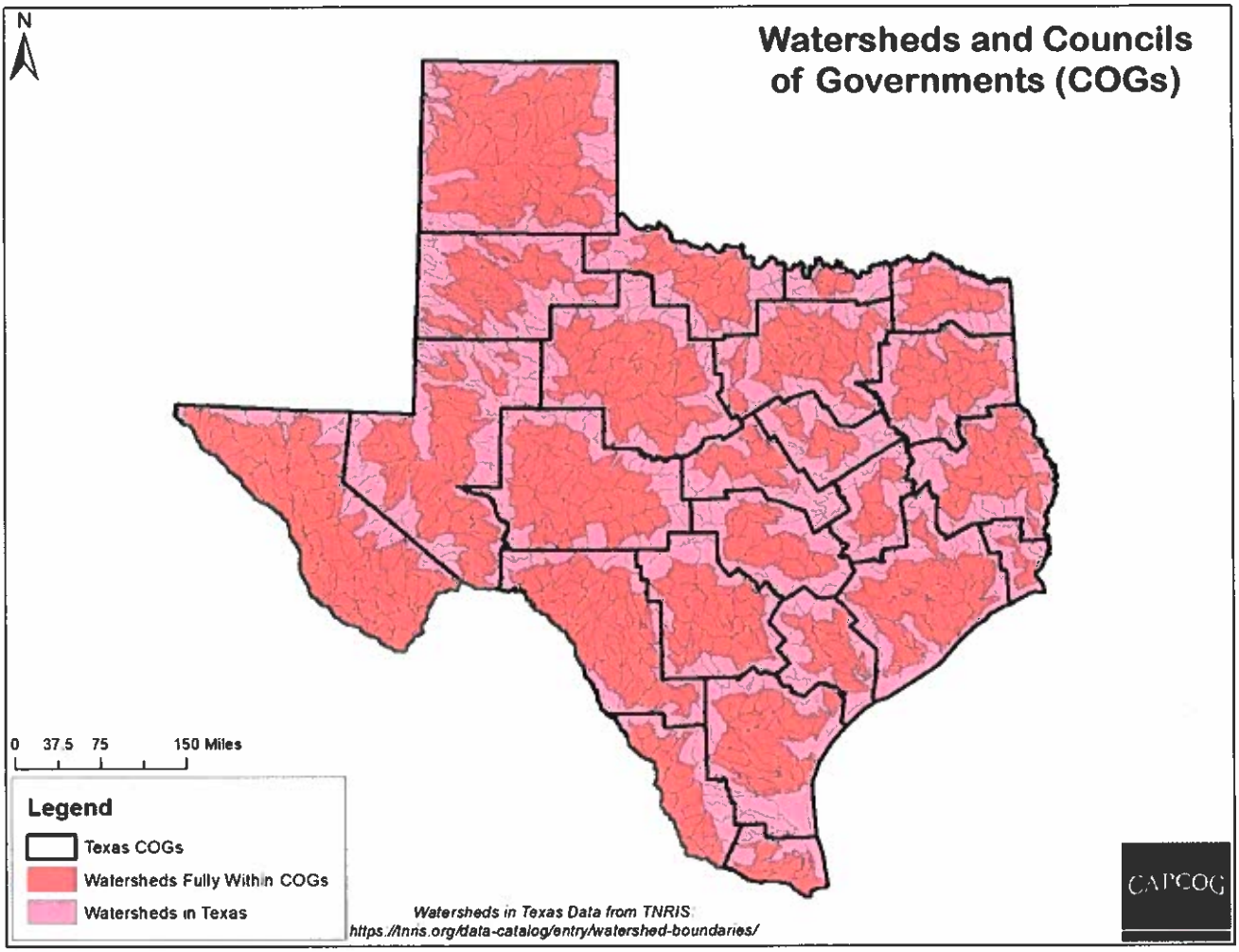
The draft report also indicates that "sound science and data are the core elements of effective planning and flood mitigation." CAPCOG believes that, while mapping a 100-year floodplain for the purposes of participating in the NFIP remains an important part of the flood risk management process, the draft report puts too much emphasis on the FIRM and not enough emphasis on the need for more comprehensive flood risk assessments. We encourage TWDB to expand this section of the report to discuss FEMA's "RiskMap" approach to mapping risks, including flooding, and how that type of an approach can be used to enhance floodplain management in the state compared to simply relying on 100-year floodplain insurance maps.

Conclusion

CAPCOG supports the goal of the TWDB to enhance flood risk management across the state, and stands ready, along with the other 23 COGs in Texas, to help the TWDB, the River Authorities, our local governments, and other stakeholders carry out this important mission.

Sincerely,

Chris Schreck
Director of Regional Planning and Services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Watersheds in Texas Data from TNRIS
https://tnris.org/data-catalog/entry/watershed-boundaries/
CAPCOG

SAN ANTONIO
RIVER AUTHORITY

October 3, 2018

State Flood Assessment Public Comments
Texas Water Development Board
Electronic Transmission
PUBLIC-COMMENT@twdb.texas.gov

RE: State Flood Assessment Public Comment

Dear Mr. Walker,

Thank you and your staff for conducting a thorough and comprehensive assessment of the State's exposure to flood risk. The State Flood Assessment is the first comprehensive assessment of statewide flood mitigation efforts, gaps, and costs. The first draft of State Flood Assessment is a collection of valuable information, and will serve as a guidepost and educational resource for the Legislature and communities across the State. Having reviewed the document, the San Antonio River Authority (SARA) offers the following comments to the Texas Water Development Board (TWDB).

Framing the Conversation

The draft State Flood Assessment frames the conversation describing how the nature of flooding, flood risk, management, mapping, and mitigation tend to be burdened by the gap between complex industry jargon and colloquial terminology adopted overtime. The draft State Flood Assessment establishes the need for a uniform language when policy makers, experts, and the general public exchange communication about the various issues surrounding flood planning throughout the state.

Key Pillars of Comprehensive Flood Risk Management

The draft State Flood Assessment identifies three key pillars of comprehensive flood risk management: 1) mapping, 2) planning, and 3) mitigation. These pillars provide a roadmap for communities, and demonstrate that flood risk management involves multiple components. SARA supports adding a fourth pillar for "interlocal partnerships." Rather than comment on each of the pillars, because we're generally in agreement, we highlight some opportunities for additional elaboration.

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Planning

The draft assessment recognizes that local hazard mitigation planning is not sufficiently scoped to provide collaborative, watershed-based strategic flood planning. One possible framework to empower communities and encourage local collaboration on cross-jurisdictional flood risk management would be something akin to the State's regional water planning process. Rather than determining regional boundaries based on the diverse water resources of the state, a watershed-based approach would determine regional groups based on the diverse flood conditions throughout the state. Watershed-based planning is key to sophisticated and effective flood risk management on a statewide scale.

The draft assessment calls for consistent support of any planning process. Because land use and topography are ever changing, and rainfall data improves overtime, planning is a perpetual activity. Any framework for planning should consider the future need to revisit and update plans on a regularly scheduled basis.

Partnerships – Regional, State, and Federal Collaboration

In the context of flood risk management, intergovernmental partnerships should extend both horizontally to regional actors and vertically to state and federal agencies. By harnessing shared information, knowledge, and other resources, communities can plan more effectively and efficiently.

As previously noted, flood mapping, planning, and mitigation can be costly. In SARA's experience, intergovernmental partnerships have been a crucial element of flood risk management. Our watershed master planning efforts have benefited from collaboration with local governments, state and federal agencies, floodplain administrators and stakeholders, helping our team better identify flood risk on a watershed and regional basis. SARA leverages relationships and resources at every level to efficiently implement effective flood risk and water quality management.

Through intergovernmental and community collaboration, local actors can work together to educate the public and influence decision makers and regulators regarding land use changes, capital projects and modifications to local development regulations within the basin.

Such collaboration also provides access to federal resources and tools. As the Federal Emergency Management Agency's (FEMA) local Cooperating Technical Partner, SARA has been able to provide some of the most current information and technology to our four-county jurisdiction and beyond. This partnership has enabled us to connect property owners to information about their potential risk for flooding through FEMA's RiskMAP program.

Additionally, partnerships enable local governments to leverage resources as the local match for federally funded mitigation projects. The Bexar Regional Watershed Management (BRWM) partnership has provided a solid foundation for Bexar County, the City of San Antonio, and SARA to collaborate, plan, and prioritize projects, while coordinating with 20 suburban cities to better synergize the management of flood risk throughout Bexar County. By sharing the burden, partnerships provide an avenue to implement regional flood management projects that involve multiple local and regional entities. Intergovernmental agreements help define the responsibilities of each partner regarding planning, design, construction and funding. Partnerships provide more opportunity, information, inclusivity, awareness, and efficiency, while avoiding the duplication of efforts and disjointed decision making.

Clarification

In reference to SARA, on page 26 of the draft assessment it states, "… the San Antonio River Authority has implemented holistic watershed planning across the basin to manage land use change and maintain water quality." As we read this sentence, it suggests SARA manages land use changes. However we do not have that authority. We request the sentence be edited to, "… the San Antonio River Authority has implemented holistic watershed planning across the basin *to assist the responsible local entities* to manage land use changes and maintain water quality." SARA collaborates with local entities in gathering the information and data that builds the holistic watershed master plans, and then provides the final documents which contain policy and capital project recommendations so these entities can make informed development decisions.

Next Steps

SARA believes TWDB is the appropriate agency to provide state leadership in addressing flood planning needs across the state. The final draft of the State Flood

Assessment should include a more detailed roadmap for the 86th Legislature to adopt a framework for a statewide flood planning process, and an estimated cost for watershed-based planning itself. The assessment should identify key stakeholders based on the information TWDB has received over the course of its study, and should recommend an adequate appropriation for a regional watershed-based planning framework across the state.

SARA appreciates the opportunity to comment, and TWDB's continued efforts to solicit stakeholder input to improve flood risk management throughout the state. The draft State Flood Assessment is the result of a job well-done, and should be an excellent tool for decision makers at the state and local level. SARA is happy to offer our expertise on flood risk management now and in the future. Should you, your staff, or the Board have additional questions, we are always ready to provide our watershed level perspective.

Sincerely,

Suzanne B. Scott,
General Manager

Mindy Conyers

From: David Zwernemann <>
Sent: Wednesday, October 03, 2018 3:40 PM
To: PUBLIC-COMMENT
Subject: Draft State Flood Assessment comments

Greetings,

I have reviewed this draft document and believe it is a thorough assessment and well presented. We really appreciate your efforts!

I just have a few clarification type comments that I wish to offer:

- In the Executive Summary and Section 2.2, the report mentions rainfall data has not been updated in 40 years. The 1961 TP-40 document has been the primary national source of data for roadway and land development design in Texas since it includes the depth-duration-frequency (DDF) data in standard use for this infrastructure design. The 1977 Hydro-35 document has additional DDF data but is not as widely useful for these applications. Nevertheless, your report references in the back include the USGS Asquith 1998 DDF report for Texas. The data from this 1998 analysis was used as the basis for the subsequent USGS Asquith 2004 *Atlas of Depth-Duration Frequency of Precipitation Annual Maxima for Texas*, SIR 2004-5041, which has been widely used across the state since it was published but perhaps never received the recognition as the old TP-40 data. I just wanted to point this out for transparency. Nonetheless, the 2018 NOAA Atlas 14 for Texas has 20 more years of rainfall statistics since the Asquith study, and obviously includes the many large storms Texas has experienced since 1998.

- In Section 4.4, the report mentions the Upper Brushy Creek study covers most of Williamson County; however, this study area encompasses only about 25% of the county.

- In Section 7.1, the discussion about dams says there are more than 9000 federal dams in Texas. This number appears to be an error.

- In Section 8.3, subsection 2, the discussion about the age of a FIRM does not tell the whole story. In Williamson County for example, the entire county received updated FIRMs in 2008; however, there were no new studies associated with this update (other than isolated LOMRs). The update provided DFIRMs, and was supposed to better match existing floodplain delineations to topography, but that matching effort was very inconsistent and incomplete. All of the detailed flood studies were still from the late 1980's and early 1990's. Even today, we have been issued preliminary FIRMs; however, not all of the floodplains on these preliminary FIRM panels have received new studies. Some of these Zone AE floodplains still have 25-30 year old studies. You explain this issue earlier in Section 4.3 of the report.

We appreciate the opportunity to comment, and look forward to future activities with this endeavor. Thanks!

David Zwernemann, P.E., CFM
Floodplain Manager

Williamson County Engineer's Office

Mindy Conyers

From: John Nielsen-Gammon <>
Sent: Wednesday, September 26, 2018 5:56 PM
To: PUBLIC-COMMENT; n-g
Subject: Comments on draft State Flood Assessment

I'm John Nielsen-Gammon, the Texas State Climatologist and a Regents Professor of Atmospheric Sciences at Texas A&M University. I appreciate the opportunity to comment on the draft assessment (hereafter dSFA), which I am doing in my capacity as Texas State Climatologist. I could talk a long time about how important and valuable this dSFA is, but it's easier and more time-effiicent for me to focus on the gaps and shortcomings. Thank you for creating this assessment!

1. In the Introduction, the dSFA notes that there has never been a "comprehensive statewide assessment" that addresses "the full spectrum of complexities that characterize our flood issues". This report doesn't serve that role either. Missing from the report is any discussion of emergency reaction and response to flooding, which is a major factor in mitigating loss of life from Texas floods, or consideration of enabling the public to respond better to floods. While emergency response is mostly local, there are important roles for regional or statewide actors, and planning is an important component of this.

Here are a few examples:
a. Harvey demonstrated that some floods are so large that they overwhelm local abilities to deal with threats and rescues. Is there a plan (or should there be a plan) for coordinating emergency flood response resources across jurisdictions?
b. Harvey also demonstrated that highway networks are not designed to ensure that certain critical routes remain open in even the worst floods. Likewise, hurricane evacuations have demonstrated that road networks are often not designed to facilitate evacuation from remote areas. The traffic lights along Hwy 6 in Hearne, Calvert, and Reisel, and along Hwy 290 in Brenham and Giddings, are local bottleneck examples of which I am aware. Is there a plan (or should there be a plan) for designing and implementing flood-resilient critical transportation infrastructure statewide?
c. What is being done to ensure that visitors to the state (or travelers within the state) have timely access to flood warnings and information about appropriate strategies?
d. What is being done to create maps of escape routes during floods, including information on what level of flooding makes each route unavailable, and to make those publicly available?
e. What is being done to require clear disclosure of existing and potential flood risks to home buyers? What about to renters?

If such concerns are beyond the scope of the SFA, this limitation should be clearly stated, so that the SFA does not give the impression that such issues don't exist at all.

2. A major deficiency in statewide mitigation planning, as noted in the report, is the lack of comprehensive and up-to-date floodplain maps. The report notes the high cost for filling the gap and producing statewide FEMA-approved maps. Because of this high cost, the report should also consider intermediate solutions, such as less comprehensive and less accurate assessments of flood risk that can provide useful flood risk knowledge but yet could be completed for less than 1% of the cost of FEMA maps. Here's a recent article that gives an example of this technology: https://eos.org/opinions/millions-more-americans-face-flood-risks-than-previously-thought

3. The first paragraph of 2.2 says Harvey broke the single-storm record for the United States, which was set in Hawaii. That's not quite true. Harvey broke the single-tropical-storm record for the United States, which was set in Hawaii. Or, Harvey broke the single-storm record for the continental United States.

4. Be sure to update the mention of NOAA Atlas 14 in section 2.2; the new estimates should be out by the time the SFA is finalized. It would be good to include the 24-hour 100-year rainfall amounts from the new Atlas and include a caption explaining what they mean.

5. The last paragraph of Section 3.1 says that "FIRMs represent the flood risk". Better to say that "FIRMs are intended to represent the flood risk". As we know with the new NOAA Atlas 14, the current FIRMs in many areas do not represent the actual historical flood risk. Also, the last sentence improperly attributes a mistake to FIRMs; better to say "Further, the binary presentation of flood risk on FIRMs conveys the false sense that..."

6. The second paragraph of Section 3.2 mentions the economic impact of flood damage. Also worth mentioning is the economic impact of temporary shutdowns (roads, power plants) due to flooding that aren't actually related to flood damage.

7. In addition to the cost of producing regulatory FIRMs described in Section 4.4, it is important to also estimate the ongoing maintenance cost of updating FIRMs on an appropriate regular basis.

8. Section 5.1 does not exist.

9. Section 5.4 misstates the purpose of flood planning. Flood mitigation efforts are always a balance between risk reduction and expense. So the purpose of flood planning is to identify ways of achieving acceptable risk at acceptable cost. Rather than necessarily reducing risk, good planning "manages" risk.

10. Section 6.1, first paragraph: Structural activities can also involve removing physical barriers to water, such as creating a floodway for floodwaters to safely spill out of a too-confined river channel.

11. Sections 5.4, 6.2, etc.: Another important difference between drought planning and flood planning is that drought planning is mandated to achieve (at a minimum) a statewide standard for drought resilience: adequate water supply during a repeat of the drought of record. Flood planning has no such statewide standard, and such a standard is essential if future mitigation activities involve coordinated statewide financial assistance for local mitigation activities. The report briefly mentions the lack of a standard (in Section 8.2), but doesn't fully consider the implications of this. A defacto standard for state-level screening of requests for federal assistance requires that the benefits exceed the cost, but such a standard places a premium on protecting expensive assets rather than societally-important assets and carries with it a serious risk of enhancing social inequity and injustice.

12. The need for new maps because of the new NOAA Atlas 14 should be mentioned in item 2 in section 8.3.

Please let me know if I can clarify anything or be of further assistance.

- John Nielsen-Gammon
Texas State Climatologist

Trinity River Authority of Texas

General Office

October 3, 2018

Dr. Mindy Conyers
State Flood Assessment Coordinator Texas
Water Development Board
P.O. Box 13231
Austin, Texas 78711-3231
Via email: public-comment@twdb.texas.gov

RE: Draft State Flood Assessment
Comments of the Trinity River Authority of Texas

Dear Dr. Conyers:

The Trinity River Authority of Texas (Authority) appreciates the opportunity to provide the following comments to the Texas Water Development Board (TWDB) regarding TWDB's Draft State Flood Assessment (DSFA). The DSFA reflects the diligent work of the TWDB's staff and its Board to develop a comprehensive picture of the current state of and challenges associated with flood mitigation in Texas. Since Hurricane Harvey, the Authority's attention has also been focused on flooding, and what role it may play in flood mitigation in the Trinity River basin. Like TWDB, the Authority has been called upon to quickly develop new knowledge regarding a subject with which it has not been actively involved in the Authority's sixty-two-year history.

TWDB and major water suppliers in Texas like the Authority were principally created not to address the overabundance of water during flooding, but instead to counter the ever-present risk of devastating drought in Texas. In part through TWDB's leadership, Texas has prepared for drought through the construction of water supply reservoirs, many having that single purpose and constructed without flood mitigation capacity. The Authority shares TWDB's belief that new flood mitigation projects can provide collateral water supply benefits.[1] However, the Authority urges TWDB to exercise caution with regard to suggestions that existing water supply facilities may be operated differently to confer flood mitigation benefits.

The Authority wishes to provide the Board with the following specific comments on the DSFA:

1. Texas cannot prepare for flooding in the way it has addressed its water supply challenges.

The powers associated with flood preparation and response are appropriately and necessarily distributed among many levels of Texas government. As recognized in the DSFA, "[r]esponsibilities for floodplain management and mitigation lie with local decision-makers,"[2]

[1] DSFA, § 7.3.
[2] DSFA, Chapter 7 introduction.

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which are primarily responsible for land use regulations that can confer structural (*e.g.*, detention) and non-structural (*e.g.*, development limitations) protection for their citizens. Additionally, cities and counties have been appropriately assigned primary responsibility for flood warning and response. Local offices of emergency management serve as the central, public-facing communication outlets during flood and other emergency events. They have the expertise and resources to perform this task (in coordination with other agencies such as the River Forecast Center of National Oceanic and Atmospheric Administration/National Weather Service), and it is critical that they continue to serve in that role.

The TWDB, in partnership with river authorities and similar large special districts, can and have contributed to the efforts of local jurisdictions in this regard. River authorities, with the support of TWDB, can be a more robust partner with local offices of emergency management by providing more and better data during storm events. Several river authorities have sought or received financial support for these efforts from TWDB under the auspices of TWDB's flood protection planning grant program. That program is significantly underfunded. It provides an opportunity for all governmental participants in the flood planning and response community to better address the needs of Texas. The Authority encourages TWDB and would support efforts by it to both expand and better fund this program.

Additionally, regarding future structural flood mitigation projects, river authorities have the ability to partner with local entities to assist in securing funding and to deliver flood mitigation projects through design and construction. Many river authorities have significant expertise in capital project planning and delivery, and can leverage that experience for the benefit of local partners, especially those in areas that are economically disadvantaged. However, as described below and as recognized in the DSFA, river authorities generally do not possess the power to levy ad valorem taxes, which are essential to fund both the development, and operation and maintenance, of significant structural flood mitigation projects.

2. <u>Funding for structural flood mitigation must reflect its non-revenue generating nature and cannot undermine water supply funding</u>.

Water supply development is a capitally intensive proposition. Likewise, the development of new, significant flood mitigation infrastructure will require significant capital expenditures. However, a major difference exists between the development of water supplies and flood protection. Water supply projects generate revenue. Flood protection projects do not. That is why flood mitigation capital investment has historically been backed by ad valorem tax revenues.

Generally lacking ad valorem taxing authority, river authorities and similar large special districts can nonetheless play a role in structural flood mitigation planning and delivery as described above. River authorities lack of ad valorem taxing authority is tangentially addressed in the DSFA,[3] but warrants a more detailed discussion. In particular, the DSFA cites the San Antonio River Authority's unique programs and efforts, which depend upon that power. Without taxing power, other river authorities and special districts cannot be called upon to take the lead role in

[3] DSFA, § 5.2.

financing new structural flood mitigation projects. Their lack of this power should be more specifically described in the DSFA.

As an entity created for and primarily engaged in water supply, the Authority is also keenly concerned with the possibility that flood mitigation mandates and associated costs could consume both the processes and capital made available for water supply planning and finance in Texas. The Authority would encourage the Board to include in the DSFA the need to maintain existing water supply development processes and capital separate from any new programs created to address flood mitigation financing.

3. Changes to the operations of existing water supply reservoirs to confer flood mitigation benefits should be addressed with great caution.

The DSFA opines that "reservoirs may be operated to allow for seasonally adjustable flood and conservation pool elevations to balance water supply and flood control objectives throughout the year."[4] The Authority strenuously cautions that the balance described in fact places critical water supply at risk, for what the DSFA acknowledges are modest flood mitigation benefits. Moreover, the simplicity of the foregoing statement belies the complexity of decisions regarding such operational changes, which must only be undertaken after thorough study. The Authority is engaged in such study at this time. Such changes not only provide illusory flood mitigation benefits, they can also aggravate downstream flooding in the case of prereleases from storage.

The Authority respectfully recommends that TWDB carefully consider including any discussion of operational changes to single-purpose water supply reservoirs in the DSFA. Such discussion potentially invites mandates to modify existing water supply reservoir operating regimes to confer what the Board recognizes are modest flood mitigation benefits. Those changes could significantly undermine currently needed supplies, and the commitments of existing but unused supplies in the Texas State Water Plan. Texans have spent billions of dollars since the 1950s to prepare for and mitigate against the effects of drought through the construction of water supply reservoirs. Those investments should not be compromised for the sake of negligible flood mitigation benefits.

4. The Trinity River Authority master plan does not contemplate watershed-level flood planning.

Regarding "[r]iver basin planning," the DSFA observes that the San Jacinto and Trinity River Authorities "publish basin-wide plans that include discussion of flood protection . . . ."[5] While the Authority does publish a basin-wide master plan, flooding is mentioned retrospectively or as an item of interest as it relates to specific, independent projects, such as the Dallas and Fort Worth floodway projects. The DSFA's mention of the Authority in this example creates the false impression that the Authority is engaged in basin-wide flood planning activities. In order to avoid confusion, the Authority requests that the example be modified to remove its name.

[4] DSFA, § 7.3.
[5] DSFA, § 5.2.

Sincerely yours,

J. KEVIN WARD
General Manager

JKW/cac

c: Mr. Jeff Walker, Executive Administrator, TWDB

Mindy Conyers

From:	Vanderpool, Marie J CIV USARMY CESWF (US) <Marie.J.Vanderpool@usace.army.mil>
Sent:	Wednesday, September 19, 2018 1:27 PM
To:	Mindy Conyers
Cc:	Loftin, Craig H CIV USARMY CESWF (US); Vanderpool, Marie J CIV USARMY CESWF (US)
Subject:	RE: TWDB Draft State Flood Assessment - Review Comments - Fort Worth District Corps of Engineers
Attachments:	TWDB State Flood Assessment - Draft Review Comments 18 Sept 2018.docx

Mindy,
Thank you for the opportunity to review the subject document. Attached are comments from those on the Cc line. Please let me know if you have questions or need additional information.

Marie
Asset Management Program Coordinator
FRM BL Mgr
Fort Worth District
(817) 886 1955

Comments by:
Marie Vanderpool, PE, CFM
Asset Management Program Coordinator
Flood Risk Management Program Manager
US Army Corps of Engineers
Fort Worth District
(817) 886 1955

General Comment
Communication of flood/hazard risk is by far the most important issue. Regardless of the quality of the data, people can be informed as to their risk and how best to prevent, mitigate and respond. I feel this effort is not well addressed in the Assessment.

Table A.1 – The Corps does not provide any type of grant funds. The description of CAP and Specifically Authorized Projects is a little confusing and I'm not sure how best to correct the information in the table and footnote. It would probably be easiest to call and we can discuss.

Comments by:
Craig Loftin, PE, CFM
Technical Lead Engineer
Hydrologic and Hydraulic Studies Section
Water Resources Branch, Engineering and Construction Division
Fort Worth District US Army Corps of Engineers
817-886-1683 office

Note that this quick review covers only the Executive Summary portion of the draft report.

"Flood risks pose..." paragraph:

The phrase "1 in every 10 Texans is exposed to moderate or high risks of riverine flooding each year" is hyperbole. What percentage of the State population has residential or business property within a riverine floodplain? It simply could not be 10 percent! My wild guess would be "likely less than 2 percent and potentially less than 1 percent". We would have to do quite a bit of research to hone in a more reasonable estimate, but a good place to start would be by finding out how the "State of Texas Hazard Mitigation" folks derived their 10 percent estimate.

Saying "more than half of recent flood insurance claims occurred outside of areas identified as high-risk zones" is also very misleading. Most of that pattern is related to (a) having unmapped streams (predominantly very small tributaries where urbanization has recently arrived) and (b) the fact that Hurricane Harvey produced widespread instances of "greater than FEMA Base Flood" conditions (extreme flooding levels for which the NFIP is simply not configured to address).

"Much of Texas is ..." paragraph:

The fact that many of the currently-effective FIRMs may not (exactly) "reflect flood conditions based on the most current topographic(y), land use, or rainfall data" is simply used as (a) an excuse to defer prudent, real actions to deal with the cases of obviously high risk and (b) a mechanism to justify funding for what is typically nothing more than "repetitive" modeling where sufficient modeling is already available.

Land use changes, such as urbanization, impact the hydrologic analysis results to some degree, but the impact upon peak discharges is typically significantly muted.

Having more detailed topographic mapping provides an opportunity to more definitively identify the boundary of the computed floodplain, but this typically amounts to no more than an "increased horizontal resolution" of the mapped boundary. It has some potential to impact the actual computed water surface profile elevations, but typically only in cases where the original modeling failed to capture the significant features (hillsides, etc.) which affect floodwater conveyance along a given reach.

Updates in the precipitation "intensity-duration-frequency" relationships are being treated as imperative in the industry, as if the original figures are somehow "in error". The earlier

projections (National Weather Bureau Technical Paper Number 40 and subsequent NOAA Technical Memorandum NWS HYDRO-35) were simply much more regionally averaged in comparison to the recent projections by the USGS and NOAA. Projected changes in the point rainfall values have much more to do with the applied statistical approaches (especially how the frequency curve is extrapolated at its rare end) than they do with climatic changes. Nonetheless, considering the now much-extended "period-of-record" was and continues to be worthwhile research. However, it should be noted that impacts of this particular parameter on the projected flood risk are substantially muted, due to the fact that (a) projected intensities for shorter storm durations (i.e. the portion of the storm which essentially drives the resulting peak discharges on most streams) have not been substantially modified and (b) the projected intensities for more frequent event (i.e. those more substantially contributing to overall flood risk) have remained relatively stable.

"Local drainage issues" needs to be defined. The NFIP was originally configured to address floodplains on watersheds of perhaps one square mile and greater. Eventually, some flooding sources had detailed studies extending far into the headwaters of the tributary streams. For publicly-funded studies and risk mitigation actions, it may not be reasonable or even plausible to address "local drainage" to a seemingly infinite-coverage degree. Instead, it would probably be most prudent to establish a "cutoff point", be it drainage area size related or perhaps as a function of a particular flooding depth on developable lands.

"Rainfall drives ..." paragraph, I refer you to my preceding discussion.

"Texas does ..." paragraph, their draft narrative sounds pretty good to me. However, care will need to be taken concerning the term "watershed-scale". This likely cannot be the river basins, because the assessments would become far too burdensome in terms of bulkiness of the H&H data, etc. Conversely, it probably cannot be specific tributaries of named creeks, because the potentially-detrimental impacts upon adjoining systems might go un-addressed. I suspect that a reasonable compromise might be to adopt a particular level of HUCs, capturing perhaps 100-square miles at-a-time. The industry is becoming accustomed to this (HUC) designation, but there might be conflicts at some incorporated communities or counties, where disagreements will surface due to a community being asked to "play ball" with adjacent entities. I would hope that the "watershed-scale" definition would help facilitate better communication, coordination and workability between each community and their county.

"Significant funding is ..." paragraph, their draft narrative sounds pretty good to me. I would hope that rehabilitation of high hazard dams does not get intertwined with the Flood Assessment mission. In my opinion, it needs to be dealt with completely separately.

"Stakeholders identified ..." and the "Sound science and data are ..." paragraphs, their draft narrative sounds pretty good to me.

It is my wish that the focus somehow be placed on immediate correction of any obviously errant or otherwise absent floodplain modeling and mapping. My fear (actually my regret) is that the program will be configured in such a manner to suggest that "everything" must first be updated in order to perceive the areas with flawed floodplain information. It will take wise, experienced, and unbiased analysts to effectively discern where the study funding should best be directed. "Age of the currently-effective data" would be one of the poorest indicators of the quality of that data. Better indicators are "who performed the currently-effective analysis" and "what assumptions and methodologies did they apply".

Mindy Conyers

From: Warren Samuelson <>
Sent: Tuesday, October 02, 2018 2:49 PM
To: PUBLIC-COMMENT
Subject: State Flood Assessment

On Page 48 of the draft, first paragraph.

The statement is made that there are over 9,000 federal dams in Texas that are overseen or regulated by four federal agencies. The number is incorrect and there are only three federal agencies that oversee or regulate dams.

There are 37 dams owned by the USACE, the International Boundary and Water Commission (IBWC), and the Bureau of Reclamation. The Natural Resources Conservation Service built over 2,000 dams, but does not own the dams. Therefore, those dams are considered non-federal dams and are under the jurisdiction of the TCEQ.

Page 48, second paragraph, first sentence.

Non-federal dams are maintained by the state, counties, cities, water districts, river authorities, or private organizations or individuals. Approximately 60% of the non-federal dams are privately owned and maintained.

Page 48, second paragraph, second sentence.

The statement is correct for dams built by the Natural Resources Conservation Service (NRCS) only.

Thank you for the opportunity to comment.

Warren D. Samuelson, P. E.
Manager, Dam Safety Section
TCEQ

Mindy Conyers

From: Chuck Gilman <>
Sent: Wednesday, October 03, 2018 5:04 PM
To: PUBLIC-COMMENT
Subject: Draft State Flood Assessment

I'd like to thank the TWDB Staff and Board for its preparation of the Draft State Flood Assessment, and offer the following comments and suggestions.

- Section 3.3 (page 13) notes that 53% of the more recent flood insurance claims occurred outside of the high-risk flood zones and Section 4.4 (pages 23) states that only 62 NFIP communities in Texas participate in the Community Rating System program, was any consideration given to a discussion on the cost/benefit of requiring cities and counties to participate and exceed the minimum standards set by FEMA in the NFIP, or establishing statewide standards to guide mitigation of local drainage issues?

- Section 5.2 discusses the planning efforts in Texas related to Hazard Mitigation Planning. Was any consideration given to the role the Council of Governments (COG) could potentially play to assist with the development of these larger regional plans?

- In Section 5.2, under the section titled River Basin Planning, the assessment states "Regional entities and partnerships, such as development councils, river authorities, and councils of government may conduct planning activities to guide development and assist local governments in implementing plans regarding land use, water supply, drainage, and open spaces." Although river authorities, development districts, and councils of government have the ability to participate in such planning activities, and could provide some valuable input, it may be worth noting that only a city, village or township, is statutorily authorized to make land use decisions and adopt development standards and regulations that impact development density, drainage, water and wastewater demands, etc.

- In Section 5.2, under the section titled River Basin Planning, the assessment explains "the San Antonio River Authority has implemented holistic watershed planning across the basin to manage land use change and maintain water quality." Additionally, "Funding for these initiatives is supported by the river authority's ability to levy and ad valorem tax, which is limited to $0.02 per $100 of assessed property valuation." This funding explanation could be a bit misleading, because there is a tremendous about of ad valorem value in the San Antonio River Authority jurisdiction. It might be beneficial to also report San Antonio River Authority's actual annual budget to help put this cost of this endeavor into perspective.

- In Section 7.1 (Page 48) the assessment states "non-federal dams are maintained locally. Water districts such as soil and water conservation districts or water control and improvement districts are responsible for dam maintenance and safety as well as the enforcement of upstream flood easements." You may want to clarify that most high hazard dams in Texas are operated and maintained by river authorities.

Thanks,

Chuck

Chuck Gilman, P.E., PMP
Director of Flood Management
San Jacinto River Authority

RUBEN JOHN VOGT
El Paso County Judge

October 1, 2018

State Flood Assessment Public Comments
Texas Water Development Board
1700 North Congress Avenue
P.O. Box 13231
Austin, Texas 78711-3231

Via: PUBLIC-COMMENT@twdb.texas.gov

Dear Sir or Madame:

I appreciate the opportunity to provide public comments on the September 17, 2018 draft of the Texas Water Development Board's ("TWDB" or "the agency") *State Flood Assessment: Report to the 86th Texas Legislature* ("the *Assessment*").

Flooding is of more than passing interest to our county and has happened with increasing frequency. In 2006, over $200 million in damage to homes and $100 million in damage to our storm water system occurred as 15 inches of rain--10 inches in one day--fell in our area. Since then, there have been specific rain incidents that impact portions of the incorporated and unincorporated areas of El Paso County.

County staff participated in the workshops held by the TWDB, as well as both of the surveys conducted by the agency. I appreciate the work done by the TWDB in trying to gather as much substantive input from the local governmental entities that are responsible for dealing with flooding in Texas. The *Assessment* reflects that input in several ways that I hope the 86th Legislature will take into account as it devises new ways to address flooding in our state:

- Flood mitigation and prevention requires planning that is overdue in many areas, including the need to update floodplain maps.
- The exercise of regulatory authority is needed to address flood mitigation and prevention.
- Flooding is a result of factors that may be different depending on a variety of characteristics of a given area.
- Land use is a factor that contributes to flooding.

I am respectfully requesting that the agency strengthen several parts of the report in order to highlight the themes described above as they relate to areas of the state that have conditions in common with El Paso County. Many Texas counties, like El Paso, have experienced very substantial--essentially urban--development outside the boundaries of the municipalities within them, which, unlike counties, have a wide variety of legal tools to address that development in terms of flood prevention and mitigation. The County is concerned that, taken together several

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parts of the *Assessment* may cause legislators to draw inaccurate conclusions about the ability of counties to address the conditions that cause or contribute to flooding.

On Page 21 (second paragraph) the *Assessment* states: "However, an NFIP community has the authority to set and enforce local floodplain ordinances." On Page 23 (third paragraph), the *Assessment* states: "All political subdivisions have the authority to take all necessary actions to meet or exceed the minimum requirements of the NFIP (Texas Water Code Sec. 16.315)."

Similar language regarding local governments' authority to mitigate and prevent flooding appears in other parts of the *Assessment*. On Page 34 (third paragraph) the Assessment describes non-structural tools available to some local governments, including the adoption of building codes and zoning. The chart on Page 46 describes counties as having "primary roles" in NFIP "Floodplain regulation adoption" and "Stormwater and drainage management." No fewer than 15 parts of the *Assessment* emphasize the contributing effects of land use on flooding.

However, as a general rule, Texas counties have little authority to regulate land use, including strict limitations on the adoption of building codes and no authority for zoning. The cited provisions of the Water Code provide counties with authority to manage conditions *inside the floodplain*. However, development *outside the floodplain* often contributes to flooding inside the floodplain, in addition to causing localized flooding outside the currently defined floodplain.

Counties have little or no authority to address conditions outside the floodplain that contribute to flooding. Where mapping of floodplains is outdated, as it is in El Paso County, a county has virtually no authority in an area that might be within the floodplain *if the maps were up-to-date*.

El Paso County's situation is compounded by the fact that (1) development is occurring at a very rapid pace and (2) the topography and geology of the area cause massive runoff from areas *outside* the existing mapped floodplains *into* the floodplain. The *Assessment* recognizes this phenomenon on Page 8 (second paragraph): "In Far West Texas where intense but infrequent rains fall on steep slopes and crusted soils hardened by the sun, water runs off quickly and powerfully--transporting large cobbles while carving new paths across the landscape."

I understand that the *Assessment* cannot discuss the details of every area's conditions. But, recent events associated with Texas coastal areas may cause legislators to focus on conditions in those areas, far from--and far different from-- conditions in our end of the state. Because El Paso County does face conditions not unlike other areas in Texas, we request:

- Clarifying language added to the *Assessment* that the regulatory authority referred to in several parts of the document applies, as it relates to counties, only in the floodplain areas shown on the existing floodplain maps at any given point in time.

- The addition of language located in a single place in the *Assessment* that focuses legislators' attention on the combination of conditions that can impede flood mitigation and prevention. We suggest adding language that conveys the following:

> "In some areas, factors *combine* to impede flood mitigation and prevention, including: (1) limited county authority to address conditions *outside* mapped floodplains that contribute to flooding; (2) floodplain maps that are out-of-date; (3) rapid development; and (4) topographic and geological conditions that magnify runoff.

- For the *Assessment* to point out the need for state law that governs county authority to mitigate and prevent flooding to define the "watershed" as going beyond the 100-year flow limits and provide that smaller tributaries, including dry wash and dry wash arroyos, should be included within areas within which a county has authority to address drainage and flood-related issues.

I very much appreciate the work the TWDB has done in producing the draft *Assessment* and especially the agency's efforts to include our county's input. Please feel free to contact me should you have any questions or concerns at (915) 546-2098. I and/or staff in our Public Works Department are available to you at any time to assist with your preparation of the final draft of the *Assessment* and any other help we might provide your agency.

Sincerely,

Ruben John Vogt
El Paso County Judge

Cc: El Paso County Legislative Delegation

TEXAS A&M FOREST SERVICE

October 3, 2018

Dr. Mindy Conyers
Texas Water Development Board
1700 North Congress Avenue, P.O. Box 13231
Austin, TX 78711-3231

Re: Draft State Flood Assessment Comments

Dear Dr. Conyers,

On behalf of Texas A&M Forest Service (TFS), I appreciate the opportunity to provide input to your agency as the State Flood Assessment is developed. Flooding is already a critical issue for Texas, and will only grow in importance due to the state's expanding population, unpredictable weather, and aging infrastructure.

The mission of TFS is to provide statewide leadership to assure the state's trees, forests, and related natural resources are protected and sustained for the benefit of all. Texas has over 60 million acres of forestland, providing numerous benefits and services to Texans and the nation, including clean and abundant water. Almost fifty percent of Texas freshwater resources originate on forestlands within the state, making these lands critical to Texas future water supply. In addition, forestlands also help reduce flooding, recharge aquifers, filter stormwater runoff, and maintain watershed stability and resilience.

TFS has long recognized the connection between forests, flood mitigation, and water supply. In fact, the agency's enabling legislation was authored over 100 years ago by one of the premier water conservationists in the state, Representative Richard F. Burges of El Paso. With 95% of Texas in private ownership, initiatives that promote forest conservation and land stewardship could be one of the cornerstone solutions for water management in the state.

General Comments

TFS recommends including tree planting and forest conservation as types of flood mitigation activities (6.1) that are synergistic with water supplies (7.3), in much the same way that wetlands are discussed. Forests play an integral role in maintaining a continuous supply of clean drinking water for millions of Texans while simultaneously mitigating flood potential and recharging groundwater aquifers.

While existing grey and green stormwater management systems are often not enough to accommodate significant runoff, adding trees to these systems has been shown to reduce runoff by intercepting rainfall as well as improving infiltration rates and capacity of the surrounding soil—thus keeping it the watershed. Nature-based solutions are not designed for extreme flood events but can have substantial effect on local smaller floods. More detailed supporting information can be found here: https://www.epa.gov/soakuptherain/soak-rain-trees-help-reduce-runoff

On flood prone properties that are deemed critical for buyouts, restoring native forest cover can provide significant uplift. In addition to minimizing future property damage, this strategy also provides numerous other co-benefits including carbon sequestration, air pollution removal, and aesthetic enhancement.

Specific Comments

Suggested language inclusion - page 34

Minor structural activities provide local-scale stormwater management benefits via grey and green infrastructure, such as culverts, gates, diversions, trees and detention and retention basins, aimed at protecting critical facilities (water supply infrastructure, utilities, sanitary sewer systems, roads, and bridges) and other properties by retaining or diverting floodwater which accumulates during rain events.

A wide array of flood mitigation activities is considered non-structural: educational efforts that increase public awareness, professional training, or technical assistance related to flooding; creation of local flood hazard mitigation plans; installation of flood early warning systems; collection and analysis of geographic, hydrologic, and atmospheric data to identify flood risks or monitor conditions; restoration and conservation of wetlands; strategic implementation of trees and associated green infrastructure; conservation, restoration, and enhancement of upstream forestland; and completion of local feasibility, design, and engineering studies represent a few such activities.

Suggested language inclusion - page 52

At the other end of the spatial scale, small actions, such as adoption of low impact development practices, can reduce excess runoff during storm events, and when stored may increase water supplies or reduce water demands later. Examples of low impact development practices include rooftop rainwater capture, v-cuts in curbs to allow stormwater to drain to landscaped areas, addition of trees to drainage or detention areas and permeable pavements that allow infiltration to aquifers.

Thank you for the opportunity to provide input to your agency. Please contact me if Texas A&M Forest Service can provide any additional information, clarification, support, or technical assistance as your agency moves forward with this assessment.

Sincerely,

Gretchen Riley
Partnership Coordinator

VINCENT M. PEREZ

EL PASO COUNTY COMMISSIONER
COUNTY OF EL PASO – PRECINCT THREE

October 3, 2018

State Flood Assessment Public Comments
Texas Water Development Board
1700 North Congress Avenue
P.O. Box 13231
Austin, Texas 78711-3231

Via: PUBLIC-COMMENT@twdb.texas.gov

To Whom it May Concern:

I write to offer comments related to the September 17, 2018 draft of the *State Flood Assessment: Report to the 86th Texas Legislature* (the Assessment) as prepared and presented by the Texas Water Development Board (TWDB).

El Paso County has historically experienced severe flash flooding during the summer monsoon season. In 2006, the community suffered the wettest monsoon season on record, where over 30 inches fell in the metro area causing nearly $200 million in damage to property and loss of life as well. In the year following this unprecedented devastation, El Paso County commissioned a regional stormwater plan, focused on areas located outside the limits of the City of El Paso, ultimately identifying over $154 million in needed capital infrastructure.

After reviewing the Assessment, I would like to provide input and commentary on the three following sections:

- Section 2.1: Types of Floods
- Section 4.4: Mapping Needs in Texas
- Section 5.4: Elements of Sound Planning
- Section 6.3.1: Local Funding

My comments are limited to information presented in the document that may require revision to accurately capture the flooding and stormwater management issues in El Paso County.

In ***Section 2.1 (Types of Floods)***, the descriptions of flood events does not necessarily accurately capture the flooding situation present in the County. The flash floods in El Paso are not necessarily limited to a "type of riverline flooding," as described on page six. The flooding is not an issue of the river's capacity, nor that of the historic water flow paths known as *arroyos*, it is an issue of the

movement of water, sand and debris moving at high speed from higher elevations towards lower-lying areas; stormwater is ultimately attempting to reach its historic destination, the Rio Grande.

While the statewide plan cannot detail the specific needs of every individual community, accurately describing the flooding situation for arid communities, such as El Paso and much of the Rio Grande region, is vital to discussing the challenges related to mitigating flood risk.

Additionally, ***Section 4.4 (Mapping Needs in Texas)*** discusses the responsibility and authority local jurisdictions may have in adopting standards and regulations related to participation in the National Flood Insurance Program administered by the Federal Emergency Management Agency of the federal government. While the County does have the authority to further regulate development *within* the floodplain, that authority does not extend *outside* of the floodplain. This is particularly important as it relates to my previous comments of Section 2.2, where stormwater in El Paso flows through historic paths from higher (outside of the floodplain) to lower (inside the floodplain) areas.

With the City of El Paso and other municipalities in our county slowing down annexations of various areas, a growing number of residents are relying on the County to provide basic municipal services, including the management of storm water. In fact, some of the zip codes I represent are growing at rates 11 times faster than the City of El Paso according to the most recent data available from the U.S. Census Bureau. This growth translates into an increasingly urbanized, yet, unincorporated community. The County's limited land-use authority in areas outside, but directly contributing to the floodplain, furthers the concern that language within the Assessment may overstate the authority and role county governments have in regulating development that may mitigate flood waters.

As the discussion for managing stormwater evolves and communities begin to develop plan on a local and regional level, the largest challenge, as described in the Assessment, will be funding mitigation initiatives. While ***Section 5.4 (Elements of Sound Planning)*** discusses the potential for regional planning efforts, similar to that of water-planning groups, the challenge that will remain is a funding mechanism. During the 84th Legislature, HB 995 (Gonzalez-75) amended the Local Government Code (Chapter 391), creating a regional planning agency specific to El Paso County. While the body brought together key stakeholders related to managing stormwater, the lack of a dedicated-funding mechanism significantly limited its effectiveness.

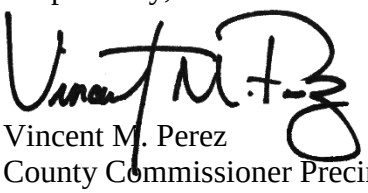
In discussing funding availability for local jurisdictions in section ***6.3.1 (Local Funding),*** the Assessment states that "only a few communities in Texas have implemented…tax districts for flood mitigation (page 40)." While the responsibility of stormwater and flood management is definitively a local issue, many communities, El Paso included, face challenges in generating significant revenue through local property taxes due to a constrained tax base.

Based on data collected and provided by the Texas Comptroller of Public Accounts, El Paso County generates a little over four million dollars per penny on our tax rate. Compare this to Bexar County, a community twice the size of El Paso, where a penny on the tax rate generates $15.1 million, nearly four times as much compared to El Paso. On a statewide level, the average amount of revenue generated per penny by county governments is $970,292.

Relying on local government funds creates significant disparity in accessing the required resources to address the growing need of stormwater infrastructure. Such an analysis needs to be included as a constraining factor related to local government revenue generate to ensure the Legislature is aware of the role the state should play in helping to address the need across the state for funding.

I would like to thank the work of the TWDB staff over the past months in producing the Assessment, including the efforts to incorporate and address the comments and feedback offered by our agency. Please feel free to contact me with any questions you may have via email at Commissioner3@EPCounty.com or at (915) 546-2144. Thank you for your attention and work on this critical matter.

Respectfully,



Vincent M. Perez
County Commissioner Precinct 3
County of El Paso

ASCE
TEXAS SECTION

1524 S. Interstate 35, Suite 180
Austin, Texas 78704
512.472.8905 | TexASCE.org

October 3, 2018

Texas Water Development Board
Attn: Kathleen B. Ligon, Senior Policy Analyst, Governmental Relations
1700 North Congress Avenue
Austin, Texas 78701

Re: Comments to Draft *State Flood Assessment*, dated September 17, 2018

Dear Ms. Ligon,

On behalf of the Texas Section of the American Society of Civil Engineers (ASCE), I am providing this letter in response to the Texas Water Development Board's request for stakeholder comments with regards to the Draft *State Flood Assessment* report prepared for the 86th Legislature and released on September 17, 2018.

The Texas Section of ASCE is a non-profit association which facilitates the technical, educational, and professional advancement of nearly 10,000 members and civil engineers state-wide. Our association is a subsidiary of ASCE and is governed by a 31-member Board of Direction, including 29 civil engineers elected, by their industry peers, to serve in their respective Board positions. Our members volunteer their time as leaders, in addition to their daily duties as civil engineers employed within the private, public, and educational sectors of our industry.

We appreciate the Texas Water Development Board's call for stakeholder comments. In response, we have charged our leaders and general membership – civil engineers who are experts in the field of water resources – to review the Draft *State Flood Assessment* report. As a result, we are pleased to provide the following comments for consideration as the final *State Flood Assessment* report is prepared.

The Draft *State Flood Assessment* report (Report) is a good summary of the key challenges in addressing effecting flood mitigation. The Report is consistent with the Post-Harvey Recommendations we presented within our *Addressing Flood Risk* document (dated August 15, 2018). We suggested the State Flood Plan itself be acknowledged as a key recommendation of our *Addressing Flood Risk* document and we fully embrace the process. The watershed approach, the need for sustained funding, and communication of flood risk are both well covered in our *Addressing Flood Risk* document and the Report.

We do believe the Report falls short on the specifics of the State Flood Plan development and suggest that this document outline future tasks, such as those being planned to produce the specific plan at the watershed level and to address the limitation and challenges identified in the Report.

We have developed the following responses as they relate to the general topics discussed within the Report as well as more detailed, specific comments for the Texas Water Development Board's (TWDB's) consideration.

GENERAL COMMENTS

1. **Discussion of Risk:** The Report does not include much detail on risks. The first sentence of the introduction notes that every waterbody will flood "at some point in time"; however, that reality, that flood mitigation is really about *risk management*, is not carried forward in the Report in a meaningful way. We suggest that the concept of risk management, and that zero risk is not possible to achieve, be included in the Report in a more explicit way.

2. **Control, Preventing, Prevention, Protection, and Adequate Protection:** These words appear in a few places in the Report and they perpetuate misunderstanding about risk exposure. They imply zero risk, when we know this is not true. We suggest rewording the Report to avoid any suggestion that zero risk is possible.

3. **Funding Gap:** The Report indicates that $31.5 billion will be needed over the next 10 years for flood mitigation. While this value is noted to be based on stakeholder reported funding needs, it appears to be much smaller than any reasonable assessment of actual need. For example, Houston – Harris County drainage and flood risk management practitioners have known for some time that to achieve a 1% annual chance risk level for the region would take at least $35 to $40 billion. We suggest the TWDB request all surveyed stakeholders report the level of risk for which their cost estimates were based. For example, did stakeholders report simply the cost to implement a small list of projects or alternatively, the cost that will achieve the 1% annual chance risk level? The desired level of service associated with the reported cost should be included.

   Additionally, we suggest the cost estimates for flood mitigation presented within the Report also be expressed in cost per capita.

4. **County Statutory Authority:** The Report is silent on the statutory authority of counties to impose stormwater mitigation requirements on new land development and to exceed NFIP minimum standards when regulating floodplains. It would seem prudent to identify why Figure 7.1 shows light gray shading (some take on the responsibility) for almost all of the flood-related responsibilities in the county category.

5. **Minimum Standards:** The Report is silent on the state's role in establishing a floor or a set of minimum standards to mitigate the cross-jurisdictional impacts from development, floodplain management, and dam and river operations. Harris County stakeholders are aware of upstream developments that are being constructed without detention to mitigate the change in peak stormwater runoff rates. It would seem prudent for the state to play a role in this, rather than have any potential conflicts be addressed by the judiciary.

6. **Stationary Assumption:** The Report assumes that after the Atlas 14, Volume 11 update to rainfall statistics we will have the information necessary to plan and design flood mitigation programs and projects to any desired risk level we choose. This assumes that the distribution of rainfall events (depth, intensity, frequency, aerial extent, and duration) will be the same in the future as it has been in the past. Recent literature suggests that this is not the case. We suggest that the Report address this issue more explicitly. TWDB

could fund a small statistical study that would help quantify, for example, the anticipated depth of the 1% annual chance, 24-hour rainfall event in various locations in Texas in the years 2050 and 2100. This would allow the state to plan and implement projects that would be more "future proof."

SPECIFIC COMMENTS

Section 2.1, Page 5: Suggest adding overflows between watersheds to the types of floods. This is the case of several watersheds in flat topography in coastal areas.

Page 7, last paragraph. Text reads: "*Once an updated Atlas 14 Volume 11 is finalized, additional studies can determine the exact consequences of the changes in rainfall estimates*." Suggest not using the word "exact" and there is always uncertainty. Suggest using "better estimates".

Page 10, second bullet in summary box: Text reads: "*At least 2.8 million people (11 percent of Texas' population) are exposed to high or moderate riverine flood risk annually."* The word annually is not necessary.

Page 11, third paragraph reads: "*High or moderate coastal flood risk, also displayed on FIRMs, poses the greatest threat, again, to the Houston-Coastal and the Nueces-South Coastal Plains regions.*" Suggest writing: "*High or moderate coastal flood risk is also a significant threat to the Houston-Coastal and the Nueces-South Coastal Plains regions.*" This suggested wording addresses the fact that riverine flooding is as important as coastal flooding in these regions.

Page 13, first paragraph. Suggest that the estimates in economic loss since 1978 be presented in 2018 dollars and that a clarification be added in that regard.

Pages 12 and 13, Section 3.3, Future risk. This section needs to include sea level rise as a source of future flood risk.

Page 15, Section 4.1, Second sentence of first paragraph: Text reads: "*The size and shape of a floodplain influences the characteristics of a flood event".* We suggest: "*The size and shape of a floodplain is influenced by the magnitude of a rain event".*

Further down in the same paragraph, text reads: "*A regulatory floodplain, however, is determined by modeling a specific storm event and depicting the boundaries of inundation resulting from that storm on a map*." This sentence needs to be revised as the regulatory floodplain includes the 1% AEP, the 0.2% AEP as well as the floodway, which is not necessarily a specific storm event.

Page 16, text box: FIRMs do not use terminology high, moderate, or low risk flooding. They depict areas subject to inundation with a storm with an annual probability of 1 percent. We suggest using the terminology listed in the maps.

Page 16, text box: Suggest the text clarifies that the maps are limited to studied streams. Not all streams are studied and flood risk in these unstudied streams are not illustrated.

Page 16, text box, next to last sentence: Text reads: "*Flood insurance also can be required as a condition for receiving federal disaster aid."* This text implied that property owners may receive federal assistance. The assistance is received by a participating community in the NFIP. Suggest revising with *"A Community's participation in the NFIP may be a condition required for receiving federal disaster aid*".

Section 4.2, page 17, last sentence of second paragraph. In discussing high water marks, the text reads: "*Though useful to building a narrative of local flood hazards, on their own, these observational signs are inadequate for certain mapping activities."* The statement does not recognize the importance of high water marks. High water marks can be used to calibrate models if they are documented and surveyed after the flood event. Suggest: "T*hese observational signs, on their own, provide useful information to building a narrative of local flood hazards, and if well documented and deemed accurate, can be useful to calibrating or validating hydraulic models".*

Page 41, Section 6.3.1, Figure 7.1: Please revise Figure number to be 6.1.

Page 41, Section 6.3.1, Figure 7.1: Please clarify that storm water utility fees can only be collected by municipalities.

Page 42: The bullets in the text box do not describe the pie chart.

Page 46, Table 7.1: Please consider adding the U.S. Bureau of Reclamation to the Table as the agency is also discussed in the narrative.

Again, we appreciate the Texas Water Development Board's call for stakeholder comment. Thank you in advance for considering input from the civil engineering community.

Please don't hesitate to contact me by phone or email if you have any questions.

Respectfully,

J. Brandon Klenzendorf, Ph.D., P.E., CPESC, M.ASCE
Vice President for Professional Affairs

Cc: PUBLIC-COMMENT@twdb.texas.gov

Susan K. Roth, P.E., PMP, M.ASCE, ASCE Texas Section *President Elect*

Andrés A. Salazar, Ph.D., P.E., D.WRE, M.ASCE, ASCE Texas Section *Vice President Elect for Technical Affairs*

Michael F. Bloom, P.E., ENV SP, CFM, BCEE, M.ASCE, ASCE Houston Environmental & Water Resources Institute Chapter *President*

ASCE
TEXAS SECTION

TO: Jeff Walker, Executive Administrator, Texas Water Development Board

via PUBLIC-COMMENT@twdb.texas.gov

FROM: Lori Olson, Executive Director, Texas Land Trust Council

RE: Texas Land Trust Council public comment on the Draft State Flood Assessment issued Sep 17, 2018

Texas needs a wealth of innovative solutions that can help our communities mitigate flood risk and minimize the devastating damage to lives and property that so many of us have experienced across the Lone Star State. Storms like Harvey and the epic floods that have occurred repeatedly in communities across our state demonstrate that extreme weather events are likely to be a continuing aspect of our lives. These problems will only continue to worsen, as our state's population grows- and Texas is expected to almost double in population by the year 2070. We must begin to utilize available tools, partners, and techniques that will enhance the integrity of our natural systems, not work against them.

The Flood Assessment process has helped to advance our understanding of the nature of the threats and the full scope of strategies necessary to make Texas truly flood-resilient for decades to come. As part of this process, TWDB has looked at a variety of flood mitigation strategies. We were glad to see mention of natural infrastructure projects as a mechanism to reduce the impact of future flood events, though we would like to see this important strategy further expanded upon.

The report states that flood mitigation strategies should include a variety of project types, including " non-structural, lower cost strategies such as open land preservation". Non-structural solutions, such as permanent buyouts and land preservation, to restore natural floodplain function to the most repetitive flood hazard areas, can serve as an effective strategy to prevent loss of life and property. Specifically targeting such buyout investments to high-benefit, low-cost parcels can be a cost-effective strategy.[1] Texas needs additional research into flood loss areas, to learn where those most hazardous areas are located, so that we can begin to take action to reduce the impacts from these extreme weather events.

From the information gained from the statewide survey respondents who contributed to the Draft Plan, the report indicated that "looking ahead, stakeholders indicated a need for more funding…[for] non-structural solutions such as buyouts" or permanent return to natural open space for the most recurring flood loss areas. So, communities and flood administrators in Texas are recognizing this need as well.

Land trusts have been working in Texas since the 1960s, with a large expansion of their work in the 1990s, growing from a handful of organizations to the robust coalition of more than 30 who work across Texas today to conserve our state's most precious lands and waters. Conservation is an important and essential tool to improving our flood resilience. Texas land trusts stand as ready partners to work with communities across the state to help better mitigate flood risk and damage, by enhancing floodplain conservation efforts.

Land conservation of floodways, floodplains and flood recharge areas has been shown to be an effective solution for flood damage reduction. The U.S. Environmental Protection Agency states that "by reducing

[1] https://pubs.acs.org/doi/pdf/10.1021/es303938c

stormwater runoff and protecting floodplains, green infrastructure can help manage both localized and riverine floods."[2] Open space preservation is an effective tool that is has been employed in other states with major flooding impacts[3], and it must be part of an overall flood mitigation strategy for Texas. The recently released report- *Protecting Open Space & Ourselves*[4]- led by The Nature Conservancy and Texas A&M University, highlights the role that open space can play in reducing flood risk across the entire Gulf of Mexico region. The findings provide guidance on where to target strategic land conservation to both reduce flood risk and conserve biodiversity.

An open space protection program could focus on outright purchase of these areas, or on buying and retiring development rights. The latter can be referred to as a purchase of development rights program or a conservation easement. The beauty of a development rights purchase program is that the state would be paying for only a portion of the land value, leaving open the possibility for additional uses such as agricultural or recreational. With a conservation easement, the land remains in private hands, stays on the tax rolls, the owner retains responsibility of operating and maintaining the land, and the landowner can still sell, gift, or bequeath the property as he or she chooses.

There are also federal programs established to help with flood mitigation, including the Hazard Mitigation Assistance Program (HMA), administered by FEMA, that offer funds to be used for costs associated with acquisition and removal of properties within the floodplain.[5] Since 2013, the program benefit analysis has included ecosystem-based management to better integrate ecological and environmental benefits, and the permanent economic benefits of removing structures from flood hazard areas. In addition, the Community Rating System (CRS) recognizes and encourages community floodplain management activities that exceed the minimum NFIP standards. The CRS provides credits for a variety of community flood protection activities, including land conservation. Depending upon the level of participation and the activities undertaken, flood insurance premium rates for policyholders can be reduced up to 45%. If a jurisdiction takes action to permanently conserve floodplain lands, keeping them free from development, additional credits are given.[6]

Most all federal programs require that a non-federal, state/local match be brought to bear. Rural Texas communities will need help coming up with matching funds, as they do not have ample taxing or bonding authority to provide what is needed to recover from a large-scale flooding disaster. The draft report must emphasize the need for the State of Texas to provide a largescale, statewide fund for flood mitigation projects, so that these even larger sources of federal funding are not left on the table.

In general, we would like to see the final Flood Assessment include some additional focus and detail on some of these non-structural mitigation actions and programs that can help to return floodways to their natural state and, in the long run, save money and provide great benefits related to damage prevention. Texas land trusts stand as ready partners in this important effort to preserve and restore our natural infrastructure- floodways and coastlines- in order to protect our citizens, safeguard our economy, and enhance our quality of life, now and for generations to come.

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[2] https://www.epa.gov/green-infrastructure/manage-flood-risk

[3] https://www.epa.gov/sites/production/files/2014-07/documents/vermont-sgia-final-report.pdf

[4] https://www.conservationgateway.org/ConservationPractices/Marine/crr/library/Documents/TNC_open_spaces_2016.pdf

[5] https://www.fema.gov/hazard-mitigation-grant-program

[6] https://www.fema.gov/community-rating-system

Mindy Conyers

From: Matthew Berg
Sent: Wednesday, October 03, 2018 4:41 PM
To: PUBLIC-COMMENT
Cc: Mindy Conyers
Subject: Re: Draft State Flood Assessment comment period is now open
Attachments: image001.jpg

Thank you for the invitation to be a part of the discussion and for your hard work on this groundbreaking statewide effort. My thoughts are inserted below, and please don't hesitate to contact me for additional information if you have any questions.

Executive Summary, p. ii
$31.5 billion is low, even for Harris County alone. Interpreting this number is made more difficult by issues explained in comments below.

Section 2.2, p. 7
In last sentence on page, text describes “larger floodplains” resulting from Atlas 14 updates. From a geomorphology standpoint, floodplains don’t really change over this timeframe, so clarifying this is talking about regulatory floodplains connected to NFIP would be a good idea.

Section 4.4, p. 21
Sorry to go all grammatical, but Stakeholder’s Top 3 should read as a plural possessive, Stakeholders’ Top 3, since there are lots of stakeholders and common themes among them. Same for all other Stakeholders’ Top 3 boxes, which I like overall.

Section 6, p. 33
In addition to the mentioned major reservoirs and NRCS dams, Texas also has thousands upon thousands of small constructed ponds at among the highest densities in the U.S., with significant impacts on water resources (citation below). This is also well worth a mention.

Reference: Berg, M.D., Popescu, S.C., Wilcox, B.P., Angerer, J.P., Rhodes, E.C., McAlister, J.A., and Fox, W.E., 2015, Small farm ponds: overlooked features with important impacts on watershed sediment transport: Journal of the American Water Resources Association Water Journal, v. 52, no. 1, p. 67-76.

Section 8.3, p. 55
Priority 1 (and elsewhere), funding is often discussed over a 10-year time horizon. However, this is inherently difficult to interpret (and thus to estimate necessary funds), since that period, storm return-rate probabilities, funding pipelines, project timelines, and population/land use change are all decoupled from one another. As the plan mentions, since there is no real benchmark for “success,” there is also no meaningful time horizon in parallel with that found in water planning (water supplies to meet projected water demands). The 10-year estimate really is pretty arbitrary to the point of not having a whole lot of meaning. Perhaps a more meaningful discussion would be to elaborate on the need to establish benchmarks or simply to identify funds needed to meet current identified needs, independent of a time horizon.

Section 8.4/8.5, p. 58

I fully understand the objective of this exercise, but I think it would be well worthwhile to at least briefly touch on one additional nuance necessary for a meaningful statewide discussion of flood impacts. It's philosophical, yes, but even a mention of the fact that floods provide benefits to agriculture through soil fertility, to land replenishment through sediment deposition, and to wildlife through high flows at the very least acknowledges the tension required in watershed and flood planning. You're setting the tone for the state, and this is an important consideration. Floods are not uniformly bad. Accommodation/adaptation should be considered key tools for the toolbox.

Contact Mindy Conyers | 512-463-5102 | www.texasfloodassessment.com

STATE FLOOD ASSESSMENT

Draft State Flood Assessment comment period is now open

The public review and comment period for the Texas Water Development Board's (TWDB) Draft State Flood Assessment is now open. The TWDB encourages the public to participate in the final opportunity to contribute to the flood assessment.

The public review and comment period is open until **5:00 p.m. on October 3, 2018**. There are three options for providing comments:

Mindy Conyers

From: Omar Martinez
Sent: Wednesday, October 03, 2018 3:24 PM
To: PUBLIC-COMMENT
Subject: Comment on the Draft State Flood Assessment

Follow Up Flag: Follow up
Due By: Monday, October 08, 2018 2:30 PM
Flag Status: Flagged

Thank you for the opportunity to comment on the Draft State Flood Assessment. The following comments are submitted for your consideration:

Comment 1: Publicize Population Projections and HUC-8 Subbasin Boundary Overlay Methodology

It is recommended that the methodology used to determine population projections corresponding to HUC-8 subbasin boundaries as shown in Figure 3.1 is made public. It is reasonable to infer that future flood planning led by the TWDB could be based on HUC-8 subbasin boundaries because [1] the Draft Flood Assessment shows strong stakeholder support for watershed-level planning (pages 24 and 57), [2] the TWDB GIS data portal only refers to HUC-8 subbasin layers, and [3] the Draft Flood Assessment describes the development and use of a funding prioritization tool by the TWDB and FEMA based on HUC-8 subbasin boundaries (page 22). The Draft Flood Assessment provides references to data from the U.S. Census Bureau, but it is not clear how HUC-8 subbasin boundaries are juxtaposed with data at the census tract or other levels.

Population counts and distributions are central to flood planning and prioritizing investments in flood infrastructure. For example, the TWDB's 2018-2019 Flood Protection Grants program allocated 50% of its funds to communities with less than 50,000 people in part because smaller communities and rural areas are less likely to have access to local funds and dedicated stormwater fees. Also, the Hazard Mitigation Grant Program (HMGP) uses benefit-cost analyses (BCAs) for evaluating and selecting flood infrastructure projects. Projects benefitting higher concentrations of people, buildings, services, and infrastructure are generally more competitive to receive funding. As such, communities should be able to review how population projections and HUC-8 overlaying can have an impact on planning and future funding decisions.

In Figure 3.1, El Paso County and the City of El Paso is divided into two subbasins with 50-year projected population totals of less than 250,000 in the Texas portion of the El Paso-Las Cruces subbasin (West El Paso) and over 1 million in the Rio Grande-Fort Quitman subbasin (East El Paso and Hudspeth County). Recent local population projection analyses suggest that the population of West El Paso will be very close to or exceed 250,000 by the year 2050. Because funding and prioritization in flood programs are linked to population, it is recommended that the methodology used to determine population projections is made public as the subbasin division in El Paso County may have an impact on future planning efforts.

Comment 2: Consider Populations less likely to Purchase Flood Insurance and Report Flood Damages

It is recommended that the narrative of the Draft Flood Assessment include possible approaches to account for damages and needs of populations less likely to purchase flood insurance and less likely to report flood damages. This population group includes homeowners who decided not to purchase flood insurance because of varying perceptions of risk (this is already discussed in the Draft Flood Assessment). Other segments include low-income households (since NFIP insurance rates do not depend on income), property owners with mortgages that do not require the purchasing of flood insurance (e.g., owner-financed), property owners living in colonias and other areas with limited water, wastewater, and drainage infrastructure (where flooding can also cause hazards to public health), and property owners with diverse backgrounds and limited English proficiency who may or may not have flood insurance but have difficulty making claims and reporting

damages. Also in this group are homeowners classified as having lower socioeconomic status as defined by the Substance and Mental Health Services Administration (SAMHSA 2017).

As stated in the Draft Flood Assessment (pages 13-14), current flood analyses in Texas make use of flood insurance claims data and hazard impact projections to inform risk and mitigation strategies. The use of historical and event-related property damages from insurance claims facilitate post-flood event recovery efforts, including meeting the property damage thresholds needed to issue disaster declarations and access funding. However, damages not captured by this approach are often reported by damage estimates led by local jurisdictions, contractors, not counted at all. As such, it is recommended that possible approaches to account for damages outside the flood insurance claims data.

References:

Substance and Mental Health Services Administration (SAMHSA). (july 2017). Greater Impact: How Disasters Affect People of Low Socioeconomic Status. *Disaster Technical Assistance Center Supplemental Research Bulletin*. Retrieved from https://www.samhsa.gov/sites/default/files/programs_campaigns/dtac/srb-low-ses.pdf.

Thank you.

With respect,

Omar L. Martinez

Mindy Conyers

From: Raymond Slade
Sent: Tuesday, September 25, 2018 5:58 PM
To: PUBLIC-COMMENT
Subject: TWDB flood assessment
Attachments: Catastrophic floods in Texas.pptx

Consider referencing within your report that an online interactive report presenting photos, data, and descriptions (including property damage and loss of life) for every identified catastrophic Texas flood and related storm during the past about 150 years (through abut 15 years ago), is available at
http://pubs.usgs.gov/of/2003/ofr03-193/cd_files/USGS_Storms/index.htm
Also, attached is a PowerPoint presentation I prepared on Catastrophic floods in Texas. Fell free to use any of that.
As the retired Surface-Water Specialist for the U S Geological Survey in Texas, I have much experience and training in Texas floods. I would be glad to offer any assistance needed. Feel free to contact me at my email address or phone.
Raymond Slade,Jr., PH
Certified Professional Hydrologist
Adjunct Professor

October 2, 2018

State Flood Assessment Public Comments
Texas Water Development Board
1700 North Congress Ave
PO Box 13231
Austin, TX 78711-3231

Submitted via email to PUBLIC-COMMENT@twdb.texas.gov

To Whom It May Concern:

The City of Grand Prairie staff has reviewed the draft State Flood Assessment. Overall, the draft plan appears to be a summary of existing flood-related efforts at the local, state and national levels. This report is a good first step in looking at the flooding issues across the state of Texas. However, this report is simply the first step in developing a State Flood Plan. Grand Prairie city staff offers the following comments, questions and suggestions to improve the final plan:

1. Use a different font for the titles associated with tables and figures. In many cases, it appears that the paragraph that should follow a figure or table simply begins at the end of the title.
2. All tables and figures should be labeled.
3. A list of tables and a list of figures should be added to the table of contents.
4. A more concise Executive Summary is needed. Another option to consider would be adding a brief abstract to the beginning of the report.
5. The Executive Summary states that the TWDB is requesting an additional $4.45 but does not state the total requested funding for flood-related purposes in the upcoming 86th Texas Legislative Session.
6. On page 1, the second paragraph states that over 60" of rain fell during Hurricane Harvey over a period of 8 days. This statement is misleading as the intense rainfall fell in a much shorter time period. This statement needs to be revised to reflect the intensity of rainfall in the first 24 to 48 hours, not just the total rainfall from the storm.
7. On page 5, the fourth bullet in the blue box does not tell the reader anything and should be deleted.
8. "Stormwater flooding" should also be referred to as "urban flooding". The North Texas area has been using the term "urban flooding" for many years. The terms appear to be interchangeable.
9. The potential impacts of the Atlas 14 Volume 11 rainfall need to be analyzed across the state. Some areas of the state are anticipating an increase in rainfall. However, other areas of the state may experience decreases in rainfall and resulting runoff. How will the areas that reflect a decrease in rainfall and runoff be represented on future maps? Will the current, more conservative levels still be used or will the lower water levels become the recommended rainfall?
10. On page 8, the first paragraph mentions that rivers widen. The sentence should also reflect that rivers deepen, which can result in increased risk due to erosion.
11. On page 8, "Flash Flood Alley" is described. Please add a map that shows the location of Flash Flood Alley.

Stormwater Department • P.O. Box 534045 • Grand Prairie • Texas • 75053-4045 • 972-237-8321

12. On page 10, please reword and/or clarify the second bullet. Does the statement mean that 2.8 million people live within the 1% annual chance floodplain? What does the risk of "high or moderate riverine flood risk" mean?
13. On page 10, Section 3.1, the phrase "with rapid growth in the area along the IH-35 corridor potentially exacerbating the risk" should be deleted as it is a subjective statement.
14. On page 10, Section 3.1, the last sentence begins with the word "We". Who is "We"? Is that the local floodplain administrators, the TWDB, or some other group?
15. On page 11 "Risk from stormwater flooding", the phrase "urban flooding" should also be used here. Please expand on the additional threats that are associated with drivers proceeding through flooded roadways. Items to be mentioned include drivers/passengers being swept off the road, roads being washed out, debris on the roads, and the first responders being put at risk trying to rescue people.
16. On page 12, the statement is made that residual flood risk information is available for dams. These structures need to be identified.
17. On page 12, the last paragraph in Section 3.1 should also state that the public also misunderstands that the area within the 100-year floodplain will only flood once every 100 years. While this is mentioned elsewhere in the document, it is also relevant in this part of the report.
18. On page 12, Section 3.2, wastewater plants are also susceptible to flooding and should be included in the critical infrastructure sentence.
19. In Section 3.3, please state the current population in the state. Otherwise, the 41.9 million by 2050 is hard for the public to grasp.
20. Identify the source(s) of information shown in Figure 3.1.
21. On page 14, Section 3.4 notes that the public considers the 100-year floodplain line to mean "safe" or "not safe". However, the report does not identify any potential solutions to correcting this misunderstanding.
22. Pages 16 and 23 include a description of the NFIP. Does the NFIP provide the opportunity for states to participate in the program? If so, then Texas should participate in the program.
23. On page 17, why is the phrase "event or how" underlined in the third paragraph?
24. On page 18, instead of beginning the sentence with the word "Or", simply begin with the word "A".
25. The discussion regarding the FEMA CTP program begins on page 18. While the CTP program can be beneficial to developing "existing conditions" maps, it is important to note several things about the CTP program in this section:
    a. FEMA Region 6 has told existing CTP communities that FEMA will no longer award CTP funding directly to CTP communities. Instead, FEMA will award the funds to a Council of Government who then forwards it on to the communities. This is inefficient and adds more cost to the program that could otherwise be spent on the project itself instead of additional management.
    b. FEMA will only consider existing conditions for CTP studies and maps. FEMA will not contribute funding for ultimate conditions models and maps. As noted elsewhere in the plan, "existing" conditions are already outdated by the time the maps area published. Communities need funding assistance to develop ultimate conditions models and maps.
    c. FEMA will only pay for the 100-year and 500-year storm events to be analyzed using the CTP grant. Other storms could be modeled, but another source of funding is needed to assist communities in modeling such storms.

26. On page 20, it appears that a new paragraph begins with the phrase “Digital flood insurance rate…”
27. What does “Stakeholder’s Top 3” mean? The first of such highlights is included in a blue box on page 21. However, the sentence that follows states that the topic is the second most important. Either reword or reorder so that the first is listed first.
28. On pages 21-22, the North Carolina program discussion indicates that maps for the entire state will be updated within a ten-year timeframe. Was this a one-time activity or will the maps continue to be updated on a regular basis? If the maps will be updated regularly, how often will that activity occur?
29. On page 22, the last paragraph discusses the TWDB’s prioritization funding for flood mapping projects. What is this program? Is this associated with the InFRM program, the base level engineering program, or something else? The program description as it currently reads is unfamiliar to City staff.
30. Following page 23, please provide a map showing the NFIP participants in Texas.
31. Page 25 includes the second blue box regarding the “Stakeholder’s Top 3” and is followed by the third most important area. These boxes seem to be out of order or need to be renamed.
32. Page 26 describes river basin planning. However, the section does not explain what NRCS (or other agencies) are doing to help bring these structures up to current standards. Development has expanded and numerous NRCS structures that are now at the end of their useful life are also now immediately upstream of development. This may mean in some cases that these NRCS structures are now high hazard dams. What funding opportunities are available to property owners to assist with bringing these structures into dam safety compliance?
33. On page 29, the North Carolina Cooperating Technical State program approach may be an appropriate solution for counties and areas in Texas without maps.
34. Page 29 also mentions statewide mesonet programs. TWDB has a statewide mesonet program. Grand Prairie has offered its rain/stream gauge data to this program. The City provided links to the TWDB to allow them to pull the raw data. However, none of the Grand Prairie gauges are visible at www.texmesonet.org The City supports expanding the TexMesonet program to incorporate data gathered by other communities across the state.
35. The City of Grand Prairie supports the state’s pursuit of obtaining an Enhanced State Mitigation Plan that would provide for additional funding to come to Texas.
36. Also discussed on page 29, Florida’s requirement to update hazard mitigation plans on an annual basis. Given the time it takes to prepare these plans, the City of Grand Prairie believes that annual updates and approvals of these plans are overly burdensome. Cities cannot implement plans if they are constantly rewriting the plans. Grand Prairie does not support rewriting the multi-hazard mitigation plans annually.
37. Page 30 discusses a concept being implemented in North Carolina that assesses a transaction fee with the recording of deeds and mortgages. The collected fees support floodplain mapping. This is an interesting concept that might be an option for Texas.
38. On page 35, the graphic would be better represented and easier to understand in the form of pie charts: structural and non-structural. This figure needs to be numbered and added to the table of contents.
39. Page 36 includes the last of the “Stakeholder’s Top 3” blue boxes, which happens to be the number one priority. Again, the title of the box needs to be reconsidered along with the order in which they are presented.

40. The blue box on Page 38 mentions the HMGP program. The HMGP applications for initiative project have become increasingly more complicated to complete and obtain. Both HMGP (initiative projects and traditional projects) applications should be simplified. Areas attempting to recover and document damages do not have time to spend completing competitive HMGP applications.
41. Are the billion dollar figures noted in Section 6.3.2 nation-wide values?
42. The blue box on page 42 states that $3.05 million of maintenance taxes is set aside for floodplain management activities. Please provide a breakdown of how the $3.05 million is applied.
43. At the bottom of page 43, the last paragraph discusses 2016 and 2018 funding available for studies and projects using state money. Why was the amount of funding available in 2018 only half of what was available in 2016? What support can communities offer to convince the State Legislature that significantly more funding is needed to truly begin addressing the flood risk in the state?
44. As for the federal grants discussion on page 44, the HMGP grant requires communities to front the full amount of the project and then wait for reimbursement. This is problematic as communities often do not have the money to begin with, which is why they applied for the grant.
45. FEMA's Public Assistance (PA) grant was not mentioned in this document. However, the PA grant program is setup such that a community documents the damages, FEMA inspects the damages and eventually writes a Project Worksheet that may or may not have any input from the community, the community performs the project, and then the community hopes that FEMA will agree to pay for some portion of the project when it is complete. FEMA does not provide any agreed upon funding amounts prior to the work being done yet FEMA expects the community to do the work. Again, this gets back to the earlier concern that communities do not have these funds readily available to them in order to complete projects.
46. On page 46, is the title for Figure 7.1 a full paragraph, or does the paragraph need to begin following the table?
47. Please define the "technical assistance" that is available through TDEM and TWDB for FEMA grant funding.
48. The blue box on page 50 is either in an unusual location in the report or needs to be clarified that the assistance needed is associated with grant application preparations and awards management processes.
49. Page 50 should include some discussion about the grant application restrictions that make it difficult for communities to pursue. The federal and now some of the state grant programs prevent applicants from obtaining assistance regarding scope of work and cost estimates from consultants and/or vendors prior to applying for the grant. This restriction leaves communities asking for less funding than what they truly need to complete the project. Communities are then left to cover the overruns and/or significantly changing the scope of work that then has to be reevaluated by the funding agency. This is yet another road block for communities when it comes to pursuing grant funding.
50. Another difficulty communities have with pursuing grant funding is that funding cannot be awarded to an existing vendor without bidding the project separately as a new project. Even though the community went through a Request for Qualifications and/or Request for Bids process to select the vendor, the entire process must be repeated for the grant-specific project. This creates unnecessary "do over" work. In some cases, the original contract unit prices were less than what the vendor submits for a grant-funded project. In other cases, the preferred vendor decides not to submit because the vendor does not want to deal with the additional and burdensome paperwork associated with a grant-funded project. Because grants for equipment are required to be awarded to

the low bidder, the project may end up with a new manufacturer with equipment that the local community is unfamiliar maintaining.

51. On page 54, the second bullet states that communities experience financial limitations. However, no potential solutions are discussed in this plan.

52. On page 55 under Limitation 4: Lack of standard benchmark for flood planning and mitigation, text should be added regarding the financial auditing process. Financial audits and testing should be performed throughout the project any time the award recipient requests a reimbursement. Any errors should be caught and addressed prior to releasing the funds. When the project is complete, it should be financially sound with all appropriate documentation having been collected along the way. Waiting three years after a project is complete to even begin a financial audit is ridiculous. Staff turnover at the agency and the community levels create significant confusion that is difficult to resolve at that point.

53. Section 8.5 discusses the benefits of acting now. The BCA is complicated to determine. Every agency has its own BCA formulas and software programs that must be used. This creates additional work and confusion for the communities interested in pursuing the potential funding. The BCA is more than simply what costs FEMA less – paying out flood insurance claims or paying for a project. The BCA fails to take into account the staff time, equipment and expenses used during the flood event and the post-flood recovery efforts.

54. The report is missing a critical section that provides recommendations for next steps. The report should inform the Texas Legislature what the communities recommend as the next steps in developing a State Flood Plan.

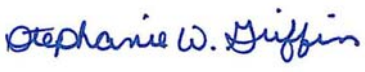
55. Following Presidential Disaster Declarations, the federal government awards a specific amount of funding to the impacted state. What percentage of the funding awarded to Texas actually gets spent in Texas? What percentage of the federal funding originally awarded ends up going back to Washington?

56. The Texas Legislature needs to be made aware that TxDOT's policy and approach when it comes to designing interstates and roads is that "floodplains do not exist within the TxDOT right-of-ways." The agency uses this as their justification to avoid complying with local development requirements to build roads and bridges with additional freeboard above the base flood elevation. TxDOT's policy exposes many of the state's emergency evacuation routes to flooding!

57. While the report is quick to point out that it does not seek to fund specific strategies, funding is critical to a successful flood mitigation program. Appendix A provides basic information on potential funding opportunities. It is important to note that the federal funding dollars are available nation-wide, not just to Texas.

58. Is it possible for the state to pursue additional federal dollars to bring back to Texas for local use? Is it possible for an easier grant application process to be used while still meeting the state and federal requirements?

Sincerely,



CITY OF GRAND PRAIRIE
Stephanie W. Griffin, P.E., CFM
Stormwater Utility Manager and Floodplain Administrator

National Wildlife Federation
South Central Regional Center
505 East Huntland Drive, Suite 485 • Austin, TX 78752 • 512-476-9805

Texas Water Development Board
C/O Jeff Walker, Executive Administrator
1700 N. Congress Avenue
Austin, Texas 78711
PUBLIC-COMMENT@twdb.texas.gov

October 3, 2018

Re: Comments from the National Wildlife Federation to the Texas Water Development Board's Draft State Flood Assessment

Dear Mr. Walker,

On behalf of the National Wildlife Federation and our more than 292,000 members and supporters in Texas, I am writing to commend the Texas Water Development Board for putting together the state's first Draft State Flood Assessment and offer the following comments.

The National Wildlife Federation (NWF), founded in 1936, is one of the nation's oldest, most respected conservation organizations whose mission is to unite all Americans to ensure wildlife thrive in a rapidly changing world. NWF focuses on protecting wildlife habitat, restoring important freshwater and coastal ecosystems, and reconnecting people of all ages with nature. Our South Central Regional Center, based in Austin, has worked for nearly two decades to ensure that Texas laws and policies protect precious water resources for wildlife and people. Additionally, we focus on coastal ecosystem health and coastal resilience, and we look to natural systems to help buffer communities from events like storms and flooding.

NWF commends the Texas Water Development Board for investing in and creating the state's first flood assessment. A statewide assessment of flood risks, needs, stakeholder input, and the identification of possible next steps to help the state get closer to comprehensive flood risk management and mitigation was needed, especially after the devastating impacts of Hurricane Harvey last year. This assessment is a helpful repository of statistical information that all Texans can access and use to educate themselves on how Texas interacts with specific programs like the National Flood Insurance Program and the various funding mechanisms for flood mitigation.

In particular, NWF is very supportive of new ideas and efforts to update Texas' Flood Insurance Rate Maps (FIRMs) and expand educational outreach and technical assistance to property

owners, including the conveyance of not just “safe” or “unsafe” to flooding but gradients of flood risk. A better understanding of risk and the limitations of the regulatory floodplain will help developers, homeowners, and floodplain managers alike make more informed decisions while taking the future into account. We further feel education campaigns should work to increase awareness and understanding of future risks associated with ongoing climate and land use changes. We understand that the process of updating FIRMs is a timely, costly, and complex endeavor; this assessment should emphasize the need for new studies, partnerships, and resources to understand the equity, affordability, societal, and economic impacts of updating community FIRMs.

NWF would like to emphasize the value of natural and hybrid approaches for flood control and mitigation and encourage the use of these and other non-structural mitigation solutions where appropriate. Natural approaches, including low impact development, open space creation and preservation, and natural habitat preservation and restoration, are effective for all types of flooding experienced in Texas – riverine, coastal, stormwater, and structural failure flooding. There is ample evidence that these types of approaches effectively reduce stormwater runoff and flash flooding, as well as reduce storm surge during coastal flooding. Natural approaches to flood mitigation compared to more traditional structural engineering designs are typically less expensive to implement and provide ongoing benefits for communities and wildlife, thereby positively impacting local economies as well. The benefits of these investments are not only experienced in times of emergency, but rather are evident 365 days a year. These approaches also give communities an advantage in the FEMA Community Rating System (CRS), which currently represents a significant opportunity in Texas.

We applaud the Texas Water Development Board and fully support increased funding for enhanced flood mitigation activities, flood risk data and mapping, watershed-based flood planning, and increased outreach and assistance. Please do not hesitate to reach out to NWF for support and assistance as you approach the Texas Legislature in 2019. We stand ready to continue making the case for the value of natural infrastructure in Texas and the benefits it provides to local communities and wildlife.

Sincerely,

Amanda Fuller, Esq.
Deputy Director, Gulf of Mexico Restoration Program
National Wildlife Federation

Emily Powell, Ph.D.
Coastal Resilience Specialist, Gulf of Mexico Restoration Program
National Wildlife Federation

Mindy Conyers

From: Allen Messenger
Sent: Wednesday, October 03, 2018 1:31 PM
To: PUBLIC-COMMENT@twdb.texas.gov
Cc:
Subject: Draft State Flood Assessment - Comment

To Whom It May Concern:

The following comment is made regarding the September 17, 2018 “Draft State Flood Assessment” (DSFA)

The DSFA does not address input by County Floodplain Administrators. It is essential that the TWDB work closely with the County Floodplain Administrator in counties with an administrator. These individuals are the most familiar with flooding and floodplain issues in their County and their input must be incorporated into the State Flood Assessment process in order to help assure the quality of the assessment.

Regards,
Allen Messenger, P.E.

Greater Edwards Aquifer Alliance

Member Organizations

Alamo, Austin, and Lone Star chapters of the Sierra Club
Aquifer Guardians in Urban Areas
Bexar Audubon Society
Bexar Green Party
Boerne Together
Bulverde Neighborhood Alliance
Cibolo Nature Center
Citizens Allied for Smart Expansion
Citizens for the Protection of Cibolo Creek
Comal County Conservation Alliance
Environment Texas
First Universalist Unitarian Church of San Antonio
Friends of Canyon Lake
Friends of Dry Comal Creek
Friends of Government Canyon
Fuerza Unida
Green Party of Austin
Headwaters at Incarnate Word
Helotes Heritage Association
Helotes Nature Center
Hill Country Planning Association
Green Society of UTSA
Guadalupe River Road Alliance
Guardians of Lick Creek
Kendall County Well Owners Association
Kinney County Ground Zero
Leon Springs Business Association
Medina County Environmental Action Association
Native Plant Society of Texas – SA
Northwest Interstate Coalition of Neighborhoods
Preserve Castroville
Preserve Lake Dunlop Association
San Antonio Audubon Society
San Antonio Conservation Society
San Geronimo Nature Center
San Geronimo Valley Alliance
San Marcos Greenbelt Alliance
San Marcos River Foundation
Save Barton Creek Association
Save Our Springs Alliance
Scenic Loop/Boerne Stage Alliance
Securing a Future Environment
SEED Coalition
Solar San Antonio
Sisters of the Divine Providence
Travis County Green Party
West Texas Springs Alliance
Water Aid – Texas State University
Wildlife Rescue & Rehabilitation
Wimberley Valley Watershed Association

October 2, 2018

Texas Water Development Board
Via e-mail: PUBLIC-COMMENT@twdb.texas.gov

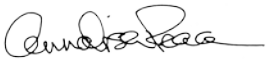
Please accept the attached comments on behalf of the fifty-two member groups of the Greater Edwards Aquifer Alliance.

Flooding is an issue of great importance to our members. We very much appreciate that this issue is being addressed and have worked with our member groups and experts in the field of stormwater management to address issues specific to the City of San Antonio. (https://aquiferalliance.org/geaa-recommendations-for-managing-stormwater-in-san-antonio-texas/)

You can learn more about GEAA and our member groups through links on our web-site at https://aquiferalliance.org/member-groups/ .

Thank you for the opportunity to submit these comments.

Sincerely,



Annalisa Peace
Executive Director

P.O. Box 15618, San Antonio, Texas 78212 210-320-6294
www.AquiferAlliance.org

Roles of local, state, and federal agencies relative to preparing for, mitigating, and recovering from floods?

This effort will require a fundamentally new approach by all levels of government and will include the decreased use of concrete to direct stormwater reduce drainage areas. Begin using multidisciplinary solutions that work with and enhance natural systems providing long-term resiliency.

1. Federal :
    a. Set standards and continue incentivizing green infrastructure for new development and retrofits. Fund research in strategic locations to verify the validity of stormwater runoff calculations and submitted LOMRs before allowing floodplain changes.
    b. Ensure that highway funding for projects requires stormwater facilities that address quantity and quality of runoff and discharges.
    c. Be more pro-active in issuing violations to local jurisdictional entities for floodplain violations.
    d. Increase the area designated for voluntary buyouts and ensure the land is left for open space devoted to flood-tolerant uses such as parks, recreation areas and wetlands. Forgive the flood insurance program's current debt and reinstate the federal flood risk management standard.
    e. Require floodplain maintenance practices to have a sound ecological/horticultural basis that would improve the functioning of riparian vegetation to provide ecosystem services using the NRCS as a resource.
    f. Incentivize the use of constructed wetlands to not only build flood resiliency, but to also act as carbon sinks while providing additional benefits.

2. State :
    a. Create a state-wide watershed plan that includes standards that must be met even in counties. Provide design and technical guidance with an emphasis on solutions that address multiple environmental issues with an emphasis on those that address both water and air quality.
    b. Include regulations for impacts to groundwater especially aquifers for all developments/industries and require environmental assessments throughout the state.
    c. Ensure a more active state role for implementing water quality standards that include consideration of discharge impact on ecological functioning of receiving water bodies.
    d. Fund studies for “flash flood alley”, that assist local stormwater utilities to better understand the role of vegetation and its maintenance in providing flooding resiliency while allowing the “correct” amount of stormwater to move through stream/river channels.
    e. Acknowledge that litter is a pollutant and allow local governments to control as they deem necessary to protect water quality of surface and below ground water, protect from flooding and provide resiliency to recover from natural disasters.
    f. Change TCEQ contested hearings to allow state agencies to testify and for those with standing to be able to cross examine a developer’s expert witnesses to

ensure that contested hearings for permits allow sufficient process and public input.

g. Incentivize the use of constructed wetlands to not only build flood resiliency, but to also act as carbon sinks while providing additional benefits.

3. Local :
    a. Require a minimum of on-site detention for 25yr event that includes a water quality component and fees to support future inspections.
    b. Add an additional factor in “run-off” calculations to consider individual site conditions.
    c. Create a transparent system to document stormwater variances given to projects during the permitting process.
    d. Discourage and disincentivize additional concrete channelization which negatively impacts;
        i. Water and air quality
        ii. Aesthetics, wildlife habitat and recreational area
        iii. Flooding resiliency
    e. Ensure that Stormwater review staff and inspectors are trained to fully implement and facilitate Low Impact Development and natural channel design to increase their effectiveness in working with consulting engineers.
    f. Make water quality a priority and set standards above state’s requirements.
    g. Utilize Stormwater utility fees for gap funding to install retrofit water quality and debris collection components at major discharge points before entering a “natural” stream.
    h. Develop maintenance policies that promote slowing stormwater down to allow infiltration. Training would be required for maintenance staff; parks, public golf courses, etc. Initiate public education on the purpose of “grow it and slow it” and emphasize that these new practices address flooding, water quality and air quality.
    i. Ensure that taxpayers are not paying for new developments’ impact on the City’s stormwater infrastructure.
    j. Develop a stormwater fee credit program where property owners retrofit to reduce their stormwater discharge and/or improve water quality. Offer additional credits when practices that can also address air quality are used such as constructed wetlands that act as carbon sinks (~ 25 metric tons of CO2/ac sequestered annually).

Mindy Conyers

From: Audra Valamides <>
Sent: Friday, September 21, 2018 9:32 AM
To: Mindy Conyers
Cc:
Subject: Texas Flood Plan

I just finished reading the state flood assessment. Great work! I know that was a bear to put together, but I think the end conclusions are right on! TFMA has been struggling to supplement the state's needs when it comes to training. I think you clearly articulated that communities need funds and technical support from the state.

Audra Valamides, CFM, PE
Senior Engineer / Stormwater |

Mindy Conyers

From: Brent Batch
Sent: Wednesday, October 03, 2018 11:36 AM
To: PUBLIC-COMMENT
Subject: Mustang creek in zip code 76093 needs to have some flood control retention ponds dug on it somewhere. Over the past few years the creek swells out of its banks more than I have seen in the 38 years I have lived in this area. Any help state agencies can...

Mindy Conyers

From: Ballard,Chad
Sent: Tuesday, October 02, 2018 10:58 AM
To: PUBLIC-COMMENT
Subject: Draft State Flood Assessment - Public Comments

Thank you for taking the time and effort to develop the Draft State Flood Assessment. A few comments came to mind as I was reading the document that I thought I would share.

- Very recently, on September 27, 2018, NOAA Atlas 14 Volume 11 rainfall data was released. It is to be noted that significant increases in precipitation values in the Austin, San Antonio and Houston area. Here is a link to a graphic put together by NOAA showing the rainfall differences. Most of the state utilized the TP-40 data from 1961, Houston (Harris County) has been using more recent Tropical Storm Allison Recovery Project study from 2007, however there still are increases in comparing this 2007 study with NOAA Atlas 14 just not as large as shown in the graphic. The draft could be updated with current values and information.
- It was mentioned that there are synergies but are some difficulties with water supply planning. Might be valuable to point out synergies with other activities like Emergency/Disaster Management. Flood studies while in the past were very local due to limitation in science and technology, however current technologies allow refined but large watershed scale multi-purpose flood models to be developed as a more cost effective method of both emergency planning and floodplain management. The United States is 5-10 years behind other countries like Australia, for example, in this effort as well as the technologies and methods being used in the studies.
- Misinformation is a constant problem and understanding of the NFIP program and mapping process by communities administrators and Certified Floodplain Managers (CFM) is important. Education and communication is very import especially between stakeholders as what improvement over time happen upstream affect stakeholders downstream. For this reason flood planning really needs to be addressed on a watershed basis.

My particular specialty is in the flood mapping and modeling technologies (2D hydraulic modeling, LiDAR, GIS, computer programming, stochastic approaches). I am a strong proponent of watershed based planning emphasizing cost effective multi-use flood studies. While the new engineering tools available require more training and technical understanding, they are very powerful in the planning process. From my perspective the United States is behind in the implementation of new technologies but is out in front on other funding aspects of flooding. There is a lot to be done but my hope is to help improve where I am able to during my career.

Best Regards,

Chad Ballard

Chad Ballard, MS, PE, CFM
Project Manager – Stormwater and Flood
Alan Plummer Associates, Inc.

Mindy Conyers

From: Cindy Loeffler <>
Sent: Wednesday, October 03, 2018 1:56 PM
To: PUBLIC-COMMENT
Subject: TPWD comments re: draft State Flood Assessment

Greetings!
Thank you for the opportunity to provide feedback on the draft State Flood Assessment. The draft report is a well written, accessible document that provides a good summary of existing programs. More importantly, the assessment clearly identifies the resource gaps and data needs that currently exist. Based on stakeholder input gathered through workshops and surveys, floodplain management and mitigation needs are appropriately prioritized. The report acknowledges the ecological importance of floods and the utility of non-structural flood mitigation strategies that also conserve wildlife habitat. The report places proper emphasis on the need for improved science and data. To that end, TWDB has requested legislative funding that would allow TWDB to develop hydraulic river models, expand TexMesonet, acquire new Lidar data to better predict flood levels, develop new coastal circulation and rainfall runoff models and develop a web-based flood dashboard/water data hub, among other things. These advances will not only help protect Texans in the future but will also provide tools that can be used to manage water more sustainably for fish and wildlife.
Sincerely,

Cindy Loeffler, P.E.
Chief, Water Resources Branch
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, TX 78744

Life's better outside.®

Re: Comments on Draft State Flood Assessment

October 3, 2018

To: Texas Water Development Board (TWDB)

The Citizens Alliance for Responsible Development (CARD) is a volunteer, non-partisan organization working with citizens and officials for development that enhances the traditional character of the Hill Country. We are residents of the Wimberley Valley which was in recent years impacted by three historical floods. In fact, some of our members are survivors of the Memorial Day Flood of 2015. Thus, your preliminary findings resonate with our members.

Flooding has long been a fact of life in the Wimberley area. But the impact of such flooding is being exacerbated by rapid development both along our waterways and in the uplands where development is clearly disrupting historic water flows. As such our group has become very interested in approaches to stormwater management embodied within Low Impact Development (LID) which you mentions in your report. Such practices not only address times when there is too much water, but also when there is too little. That too is a problem we are facing here in the Wimberley Valley as development pressures exacerbate the rapid depletion of the Trinity Aquifer, our major source of potable water. Thus, we encourage the TWDB to consider giving priority to projects in our area that favor techniques that have some level of commonality with respect to both flood and drought mitigation.

The Wimberley Valley is governed by three entities, the City of Wimberley, the City of Woodcreek and Hays County which has jurisdiction over unincorporated areas making up sizable portions of the sub-watersheds associated with our numerous creeks. And the Blanco River starts in Blanco County, runs through the City of Blanco and extends all the way to the City of San Marcos. Thus, like other stakeholders, we would favor a regional approach to flood planning, one that encourages these various entities to work toward common goals in addressing flooding and that takes into account the full lengths of our various watersheds.

We also urge more outreach to individual land owners to help them understand the part their property plays in mitigating peak flows and making them aware of any incentives that might be available for leaving key areas in their natural state. And we would like to see more consideration given to developing additional incentives, perhaps as some form of tax abatement, that could play a part in discouraging the development of sensitive areas.

Thank you for the opportunity to comment on your draft State Flood Assessment Report.

CARD Steering Committee

Mindy Conyers

From: David Todd
Sent: Tuesday, September 18, 2018 9:33 AM
To: PUBLIC-COMMENT
Subject: State Flood Assessment

I am writing to offer comments on the September 17, 2018 Draft State Flood Assessment.

As a general thought, I am delighted that the State is taking an overall look at flood risks, planning and mitigation in Texas. This kind of foresight and preparation seems key to me.

More specifically, I am encouraged at several elements in the Assessment:

1) the focus on adopting Atlas 14 rainfall model estimates, with the attendant changes in flood zones

2) the interest in flood damage mitigation through discouraging construction in flood zones, and supporting buyouts of structures in high-risk areas, particularly those that have suffered repeat damage

3) the recognition of the value of monitoring weather

4) the value of providing warning systems

5) the understanding of the special needs for smaller, less well-funded communities.

I was disappointed that there was no outright mention of climate change, global warming, or sea level rise. These risks are already with us, and will be ongoing and increasing threats to flooding in the state. They need to be recognized by name for an honest and transparent discussion of flood preparation.

With best regards,

David Todd

--

Mindy Conyers

From: FEATHER WILSON <>
Sent: Monday, September 17, 2018 3:24 PM
To: PUBLIC-COMMENT
Subject: TEXAS FLOOD COMMENT

My wife and I live on a flood prone creek (Williams). We have owned this property for 35-years.
FEMA Maps are generally arbitrary and inaccurate.
We built our home approximately 4' above the highest debris line that I could find upon a wide terrace.
We have experienced a few terrific floods with one exceeding 24" of rainfall within a two-day period.
This month we have received 17.1" of rainfall near Tarpley, Texas.
We have lost a deck but the floods have never gone up beyond the highest debris line and wide terrace that I mapped years ago.
However, the FEMA maps show the floodplain to be well beyond my mapping and experience and do not necessary honor the topography.
If FEMA maps are ever revised they should employ LIDAR data and field check each foot of all flood plain maps for accuracy as well as interview people who live in these areas.

Wm Feathergail Wilson PG 21

October 3, 2018

Dr. Mindy Conyers
State Flood Assessment Coordinator
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711-3231
Via email: PUBLIC-COMMENT@twdb.texas.gov

Re: Draft State Flood Assessment
Comments of Texas Water Supply Partners

Dear Dr. Conyers:

On behalf of the Texas Water Supply Partners ("TWSP"), I want to thank the members of the Texas Water Development Board ("TWDB" or "Board"), as well as the TWDB staff, for its preparation of the Draft State Flood Assessment ("DSFA"). We commend the TWDB for its development of a comprehensive, stakeholder-driven product, and appreciate the Board's leadership as Texas comes to terms with the need for new strategies to mitigate flooding.

Hurricane Harvey has drawn focus to the tension between water supply and flood mitigation efforts.

Texas constructed many single-purpose water conservation reservoirs following the drought of the 1950s, when Texas suffered the catastrophic effects of drought on agriculture and the economy as a whole. Those reservoirs were not designed or constructed to provide flood mitigation, and changing the way they are operated to confer what in most cases would be negligible to modest flood mitigation benefits would have drastic effects upon the primary purpose of those reservoirs, which is to provide critical supplies during drought.

The TWSP applaud the Board on its recognition of the synergies that may be achieved in new dual-purpose, flood mitigation and water supply projects. DSFA, §7.3. However, TWSP is concerned that mandates to modify existing water supply reservoir operating

regimes to confer what the Board recognizes as modest flood mitigation benefits could significantly undermine both existing supplies and the commitments of those supplies in the Texas State Water Plan.

The DSFA notes that while "reservoirs may be operated to allow for seasonally adjustable flood and conservation pool elevations to balance water supply and flood control objectives throughout the year," doing so carries with it great risk to the supplies upon which the Texas State Water Plan relies. DSFA, §7.3. As recognized by the State Meteorologist in 1927, "Texas is a land of perennial drought, broken by the occasional devastating flood."

The state has spent billions of dollars since the 1950s to prepare for and mitigate against the effects of drought through the construction of water supply reservoirs, and those investments should not be compromised to achieve negligible to modest flood mitigation benefits.

Again, the TWSP commends the TWDB's thorough, stakeholder-driven process when compiling the DSFA and appreciate the opportunity to provide comment. The DSFA will be an invaluable tool as the 86th Legislature addresses the impacts of Hurricane Harvey, state flood planning efforts, and flood mitigation needs. We look forward to continuing to work with the TWDB and the Legislature on these important issues.

Sincerely,

Heather L. Harward
Texas Water Supply Partners

cc: Mr. Jeff Walker, Executive Administrator, TWDB

P.O. Box 10572 – Austin, Texas – 78766
512-826-7490

Mindy Conyers

From: Rifai, Hanadi S
Sent: Wednesday, October 03, 2018 7:20 AM
To: PUBLIC-COMMENT
Subject: Comments on Draft State Flood Assessment

Dear Texas Water Development Board,

Thank you for the opportunity to provide comments on the Draft State Flood Assessment.

Floodplain mapping depends, to a large extent, on the availability of current data such as LIDAR. It is critical to develop and maintain statewide LIDAR datasets that are reflective of current landscape topographies and other surface landscape data over time. Such information would not only be valuable for flooding but for water and ground water resources planning for Texas. Academic institutions and resources such as the National Center for Airborne Laser and Mapping (NCALM) at the University of Houston can support State efforts in developing the framework and data curation for such an initiative and can establish the collaborative network with other universities and the private sector in this domain that would be needed to provide Texas with the highest quality data. Having a statewide framework, network, and associated datasets can be coordinated with local entities at the watershed and basin scale, including other governmental agencies involved in flooding, to support watershed scale mapping in addition to other county and statewide needs that utilize LIDAR.

Best regards,

Hanadi Rifai, PhD, P. E., Fellow ASCE
John and Rebecca Moores Professor
Director
Hurricane Resilience Research Institute

Mindy Conyers

From: Ivan Langford
Sent: Tuesday, September 18, 2018 6:46 PM
To: PUBLIC-COMMENT
Subject: State Flood Assessment - comment

Accurate mapping of the most vulnerable areas of the State should be very high on the the legislature's priorities list for next year. Better yet, use the 'rainy day' fund and get started tomorrow. Stop kicking the can down the road.

Ivan Langford

Mindy Conyers

From: Jill Boullion <>
Sent: Thursday, September 20, 2018 3:16 PM
To: PUBLIC-COMMENT
Cc: Jill Boullion
Subject: State Flood Assessment

Anticipated mitigation costs (section 6.2.1) does not seem accurate. Harris County Flood Control District estimates approximately $1 billion in mitigation costs for each of the 22 major watersheds in the county. That would mean Harris County alone would have anticipated costs of $22.0 billion.

Anticipated statewide mitigation costs $31.5 to $36.0 billion

Based on the mitigation needs reported by survey respondents, the estimated total statewide cost for future flood mitigation ranges between $31.5 and $36.0 billion (Table 6.1). This range comes from the amount reported by communities who responded to the survey, totaling about $23.4 billion, combined with a range of $8.1 billion to $12.6 billion as estimated from a statistical analysis to capture the costs associated with mitigation needs for the communities who were not represented by survey responses (the non-responding communities).

Jill Boullion, PCED
Executive Director

We preserve land along streams
for flood control, clean water, and wildlife.

TWDB State Flood Assessment Comments
October 3, 2018
Houston Public Works, City of Houston

Houston Public Works commends the Texas Water Development Board (TWDB) for its efforts to develop the State of Texas' first ever Flood Assessment and we are appreciative of the opportunity to provide initial responses to the surveys, of which the assessment is based on, and for the opportunity to now provide comments on the draft assessment made available to stakeholders and the public.

Over the past decade, Houston has experienced several major flood events due to hurricanes and storms. The cumulative impact of these disasters has been devastating in Houston and the scale of damage is unprecedented. Thousands of residential and commercial buildings have been damaged, some several times in the last decade. Infrastructure has been overwhelmed or destroyed, and there has been loss of life and property. This level of devastation from flooding and the cost associated with the impact of these disasters is at an extraordinary scale, and residents impacted by multiple disasters have often exhausted many options for their recovery, such as savings.

As a result of Hurricane Harvey, over one quarter of all Houston households were damaged or destroyed by floodwater, and approximately one in ten households citywide had flooding inside their home. Much of the flooding occurred outside of Federal Emergency Management Agency (FEMA) flood zones, signifying the enormity of the event. The direct damage to homes caused by floodwaters and the indirect impacts resulting from the flooding, such as displacement, have impacts on the broader community.

The risks associated with flooding in and around the City of Houston are significant and remain a priority for Houston Public Works. Due to the large population and significant economic impact the Houston region has on the State, we believe the risk and consequences of flooding in the City of Houston should be more adequately addressed and represented in this assessment. Considering current and future population and the impacts of recent flooding in Houston, addressing flooding issues in the Houston Metropolitan area should be a statewide priority.

Flooding in Houston is characterized not only by riverine and coastal flooding, but largely by urban flooding (referred in this assessment as "stormwater flooding"). Houston is likely to experience more frequent and more extreme rainfall events based on the findings of Atlas 14. These floods will impact more and more people as Houston's population grows.

As a participant to the survey, Houston Public Works endorses the three stakeholder priorities put forward in the assessment, namely more resources and support for mapping, planning and mitigation.

Considering the significant impact of urban flooding, Houston Public Works would recommend that more discussion be dedicated in this assessment to the importance of mapping and managing flood risks outside the floodplain as there is currently a significant lack of information in this area. The assessment includes no discussion of non-regulatory products that could map non-riverine, non-coastal flooding (non-regulatory updated riverine maps are mentioned). These areas face significant risk and have the opportunity for improvement through regulation, projects and awareness.

Houston Public Works concurs with the assessment that watershed-based planning is a good approach for planning and upstream and downstream considerations should be measured.

The assessment provides great examples of approaches used in other states and their role in flood planning. Among the most significant as addressed in the assessment are North Carolina as a FEMA Cooperating Technical State, Iowa's and Minnesota's Watershed Approach programs and Florida's activities that have enabled them to receive greater access to post-disaster federal funding. Houston Public Works strongly recommends that this assessment provide a framework of these other state approaches and best practices that could be implemented in the State of Texas to address community needs for flood risk reduction rather than just a summary of other state best practices.

As stated, a key purpose of the assessment is to better understand the resources needed by communities to properly manage floodplains and mitigate flood risks. To that end, Houston Public Works does have concerns that the use of survey response data as the sole source to express community needs is underestimating the actual needs. The survey information sent by Houston Public Works noted that cost figures were based solely on studied drainage problems. Numerous known areas of repetitive loss remain unstudied and additional need definitions are required. Therefore, needs may be underestimated and should be appropriately addressed in the assessment.

In addition, Houston Public Works recommends addressing barriers to flood mitigation implementation be provided with possible support from the State. Houston Public Works, for example, has seen federally funded mitigation programs not equitably distributed based on need and cost benefit value. There are references to big cities having more funds available for mitigation with rural areas lacking but no discussion of benefit and value of mitigation activities in urban areas with greater populations affected.

While briefly mentioned, we believe a significant discussion of economic impacts must be included in the assessment as this leads to significant risk throughout the State and should help drive mitigation efforts and resources.

There is repeated reference to local responsibility for mitigation, but as the surveyed stakeholders responded, local governments are seeking additional resources to address the needs to reduce flood risks. While the stated purpose of the assessment is to address needed resources, the State should provide some discussion of possible solutions to these needs including funding recommendations and a framework of legislative priorities that could be considered to begin to address the needs. Recommendations seem to be solely for TWDB to provide data whereas stakeholder stated priority of financial assistance for mitigation projects as the most significant factor.

Mindy Conyers

From: Jim Maury <>
Sent: Tuesday, September 18, 2018 4:24 PM
To: PUBLIC-COMMENT
Subject: Flood Assessment

Lake Buchanan is considered full at 1018' above sea level pursuant to an agreement with FEMA I understand. This reduced level (from 1020') was set based upon downstream flood concerns. Now that the LCRA has spend several million dollars automating and revamping the dam gates at Buchanan this concern should be alleviated. Please return the level of Buchanan to 1020 to hold drinking water supplies and to reduce the impact of future droughts. Thanks JBM

Mindy Conyers

From:
Sent: Wednesday, October 03, 2018 1:13 PM
To:
Cc:
Subject: RE: Draft of TWDB State Flood Assessment for Public Comment

Thank you for sharing this draft with me. I was aware that the TWDB State Flood Assessment was underway but had not seen this document and I appreciate the opportunity to review it. I was out of town and was unable to attend the stakeholder meeting which the TWDB held in Houston earlier this year as part of the assessment process. The comments below reflect my personal observations of the assessment document after reviewing it. My comments/observations have not been reviewed or endorsed by the Cypress Creek Flood Control Coalition (CCFCC) of which I am a board member.

The assessment is looking at a major issue in the second largest state in the lower 48. The types of flooding encountered across the state vary widely and there are no simple solutions. This is the first time such an assessment has been done for Texas. While the TWDB has funded flood related studies for many years Texas does not have a parallel effort to deal with flooding similar to the system in place to deal with water supply. The assessment clearly identifies the needs and complexities of attempting to deal with flooding.

The draft document is understandably long at 69 pages. It provides a significant amount very useful information and serve as an excellent "primer" for someone who is attempting to understand the basics, complexities, and challenges of dealing with flooding in Texas. It is a very useful tool for legislative staff and legislators to get up to speed and develop an important, basic understanding of this critical topic. By reading the Executive Summary and Section 8 (Preliminary findings and stakeholder priorities) one can obtain a shorter understanding of this complex issue.

I find much that I agree with in the draft. The issues and challenges are numerous. I respect and appreciate the perspective of those who attended the stakeholder meetings and completed the surveys which were compiled to create the assessment. The flood managers and others who attended and provided input are much more knowledgeable about this topic than I am. The assessment provides a comprehensive and important perspective for the legislature to consider. The TWDB has provided a necessary, very important and comprehensive step in moving forward to address flooding issues in Texas.

I do have some comments regarding items that I think might warrant additional consideration.

- In those areas or jurisdictions where regulations are in place (or will be put in place) regarding flooding, do the regulations in fact attain the desired condition of no adverse impact on areas upstream or downstream of where the regulations are applied? While this may be more of a local issue I think that this question is something that needs to be included as flooding issues are evaluated.
- The need for resources to handle all aspects of flooding is recognized. Once flooding solutions are implemented and in place do the appropriate jurisdictions have the resources to ensure tha the flood solutions being implemented are being attained according to the regulations in place? The role of new development is recognized as a factor in flooding as Texas continues to grow at a rapid pace. Are these newly developed areas in fact attaining the standards set by flood regulations, both at the time of completion and into the future?
- It is estimated that the cost to implement statewide mitigation projects over the next 10 years is $31.5 billion. I have a concern that his estimate may be low. In Harris County the cost estimated to attain flood mitigation to the 100 year event has ranged from $25 to $35 billion. I cannot confirm that these estimates conform to the criteria used to develop the assessment's $31.5 billion estimate but there is the potential for a wide discrepancy in the needed funding.

Thank you again for sharing this with me, and for the opportunity to review it. Please let me know if you have any questions or would like to discuss this further.

Regards,

Jim Robertson

Mindy Conyers

From: Kyle Burow <>
Sent: Wednesday, October 03, 2018 4:49 PM
To: Mindy Conyers
Subject: TWDB State Flood Assessment Comments

Good afternoon Mindy.

I have not had a chance to fully review the draft report but did notice early on that Figure 2.1 referenced on page 11 was not in the report. There were a few minor grammatical corrections I saw but the bulk of the report was well compiled and greatly appreciated. We plan to continue the review of this document in the coming days and look forward to the results of the efforts.

Thank you.

Kyle Burow, P.E., CFM

Mindy Conyers

From: katherine shannon <>
Sent: Wednesday, October 03, 2018 6:56 AM
To: PUBLIC-COMMENT
Subject: Normans Crossing

We're getting no where in Normans Crossing, Eastern Williamson County. Our property is in Hutto's ETJ. We are not represented and cannot vote because of being outside city limits. Our flooding concerns are literally downstream at the bottom of Williamson County agenda. FEMA is giving us a second opportunity to show current flooding. We are voicing discontent over new proposed floodplain maps. They do NOT show development within the past 2 years along Brushy Creek. The City of Hutto is not a current participant in flooding mitigation. They do not represent the our Heritage Farm of over 100years, nor do they report any flooding damages or creek changes. Brushy creek and cottonwood run through our farm. The City of Hutto has been in the process of redeveloping and fast track rezoning agricultural farmlands (open land). Our community needs the open fields (farmland) to assist the hydrological cycle and floodwater drainoff. The areas of main concern are undocumented development (FEMA's proposed flood maps DO NOT show) upstream at CR 137 and Hutto's newly developed Brushy Creek Park. These lands have been recently rezoned from agricultural to "mixed use commercial," "medium density residential" and "institutional." Building is currently underway unless rain impedes development.
Pictures show our Blackland clay doing its job. Retaining moisture to slowly seep back into the deeper levels of geography.
from March 28th 2018

You can see the artificial elevation raise. Ray and Farley elementary schools are adjacent. The flooding mitigation team for Williamson County rejected any methods proposed on the plan to help mitigation flooding in this area. Our property, 12150 FM 1660, and Normans Crossing is downstream. The south water treatment plans for Hutto, has been online and we have seen an elevation in the creek water. Nothing except our eyes have been used to measure the increase water flow. No gages and nothing to measure water velocity. Our property is being removed and citizens along Brushy and Cottonwood creek are in danger. Students and staff who attend Farley and Ray are in this zone. The city and county constantly close Dow CR137.

of cr137 at Brushy Creek

Behind Farley Middle School.

City of Hutto if filling in low areas for rain/creek water over flow Along Brushy Creek. They are not using terracing methods and water capture to keep accumulated water from rushing into the creeks. The park is being leveled for baseball fields tennis courts and basketball courts. I'm also worried about the amphitheater and permanent restroom facilities. More imperviousness landscaping . Development within AE flood zones has major impacts to floodways. It's a cycle that need to be addressed by individuals who are not part of the commercial land development.

and recent rains

Rather than argue what has already been done, we need flooding mitigation representation. We need to be heard. There are no flood gages along the 2 creeks. Cottonwood and brushy We hope that we are heard. I hope we are listened to as progressive instead of reactionary. Obviously, conventional water drainage with fast pace growth is not working. Hoboken New Jersey is currently ex It's using man made forms to emulate natural barriers. These elements have double if not triple benefits. Example, ponds in nature. Retention ponds are the man made version. Use a retention pond with a porous concrete or other hard surface and turn it into a basketball court. Holds water and slows run off. Can you imagine how much water 1 court can hold? many gallons? I see the giant ponds around current subdivisions. They are opportunities to give back to the neighborhood.
So, why are we not being creative? (Rhetorical question) Let's get developers to pay for these? They already are required to use retention ponds per code. The city of Hutto does not have money and the support of voters for previous bonds for sports and recreational activities.
How about that amphitheater? It was also a great opportunity to hold back water run off from adjacent development. Could have gotten the developers on board in the beginning. You guys gotta get out of the box your predecessors put us in.

"It's a choice in the end. It's a human choice. We can think about that future as an opportunity or close our eyes and do nothing."

Henk Ovink

If you watch, this is a great example of unconventional floodwater management.

https://www.google.com/amp/s/www.cbsnews.com/amp/news/storm-water-management-dutch-solution-henk-ovink-hurricane-florence-damage-60-minutes/

Katherine

Mindy Conyers

From: Leah Tarrant <>
Sent: Monday, October 01, 2018 1:58 PM
To: PUBLIC-COMMENT
Subject: State Flood Assessment

To Whom It May Concern,
The City of Patton Village is located along the Hwy 59/69 Corridor north of Kingwood. During Harvey we received 56 inches of rainfall and floodwaters from Peach Creek. Peach Creek is a tributary of the San Jacinto River. 190 of our approximately 675 homes took on water, many to their rooftops. If the city were able to mitigate the smaller tributaries that run throughout the city into Peach Creek, then flooding would not be so severe. We would need a huge project which would include desilting the San Jacinto River, Peach Creek, Mares Branch, Haggarty Branch, our three retention lakes and the smaller tributaries. Desilting and cleaning ONLY the waterways through the city would cost an estimated 10 million dollars. Mitigation of homes in the floodway is of highest priority, removing the helpless from inundation during every flood would be a necessity. Buyouts of those homes would cost an estimated 4 million dollars. Proper ditches and culverts in the city would also be imperative to the success of flood control. I do not have an estimate of costs for ditches and culverts at this time. A HUGE issue in Montgomery County is the absence of a flood control district. Development within the county is under the over stretched ability of the county engineer's office. Our city moves water through it from Liberty County, Splendora, Roman Forest and Woodbranch. Our county is in desperate need of flood control on the county and state level. I understand that Texas did an amazing job for the magnitude of Hurricane Harvey, but feel we can do a lot to make sure the devastation doesn't happen again on such a large scale.

Leah Tarrant, CMO
Mayor
City of Patton Village

TEXAS HOUSE *of* REPRESENTATIVES

Mary E. González
State Representative, District 75

October 2, 2018

Jeff Walker, Executive Administrator & Peter Lake, Chairman
Texas Water Development Board
P.O. Box 13231, 1700 N. Congress Ave.
Austin, Texas 78711

Dear Mr. Walker and Chairman Lake,

I am writing to contribute comments to the Texas Water Development Board's (TWDB) Draft State Flood Assessment. Firstly, I'd like to thank you both for your leadership on this issue. I greatly appreciated the inclusion of the regional analysis of flooding issues in the draft assessment, specifically the inclusion of Far West Texas. As you can see from the pictures below, though House District 75 is located in the desert, members of my community are certainly not immune to flooding and its devastating impacts.

P. O. Box 2910 • Austin, Texas 78768-2910 • *phone* (512)463-0613 • *fax* (512)463-1237 • marygonzalez@house.texas.gov
District Office: 1498 Main Street • San Elizario, Texas 79849 • *phone* (915) 851-6632

TEXAS HOUSE *of* REPRESENTATIVES

Mary E. González
State Representative, District 75

Additionally, I'd like to raise the following considerations regarding the draft assessment:

- This report is a crucial first step for the state to increase its investment in stormwater planning and resources.

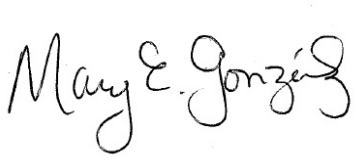
- Given that the Rio Grande region is larger than other regions delineated in the report, I would like to submit comment that a region's size not be the sole consideration for potential funding of future projects, and that factors such as existing infrastructure, need, income level, population, and growth rate be considered.

- The development of TWDB's plan to examine how different entities are interconnected is much needed, as I have witnessed in my community that coordination amongst different stakeholders is key to the success of stormwater and flood planning.

- I appreciate the holistic, broad and comprehensive lens of this report, and I look forward to the next stage where detailed issues are more clearly identified, such as regional differences and emergency planning.

Thank you for your thoughtful consideration of this matter. I support TWDB's continued efforts to improve data, mapping, and monitoring of flooding conditions across Texas, and I greatly appreciate the agency's depth of analysis and work on the flood assessment. Please contact my office should you have any questions.

Sincerely,



Mary E. Gonzalez
Texas Representative
House District 75

P. O. Box 2910 • Austin, Texas 78768-2910 • *phone* (512)463-0613 • *fax* (512)463-1237 • marygonzalez@house.texas.gov
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Mindy Conyers

From: Martin Mollat <>
Sent: Tuesday, September 25, 2018 8:56 PM
To: PUBLIC-COMMENT
Subject: Flood Assessment comments

Hello TWDB,

I am a beef producer running a stocker operation in Collin County near Leonard Texas and have been affected by heavy rains with insufficient drainage 3 times in the past 1 year.

Our property has a Corps of Eng pond (about 5 acres) with an earthen dam and gate controlled overflow runoff system. The pond offers a very nice body of water for our cattle and horses, however over time it has gotten very shallow with thick mud (sediment) which is its purpose; however without any attention over time (like dredging) is very flood prone.

In all 3 cases this past year, water level has flooded out my horse pasture and my cattle handling facility causing disruptions to my operation which in turn have resulted in cattle death.

It would be more prudent to not only build the ponds, but to maintain them so there exist adequate water capability and adequate drainage for high water - neither of which exist currently.

Thank you for your consideration and interest in protecting us from flood conditions.

--
Martin Mollat

Mindy Conyers

From: Michael Simmons <>
Sent: Tuesday, October 02, 2018 9:28 AM
To: PUBLIC-COMMENT
Subject: RE: Public Comment Period Open for Draft State Flood Assessment

Here are my comments for the Draft State Flood Assessment:

1. Non-structural flood mitigation activities should include low impact development, or state techniques that aim to maintain or return to the predevelopment hydrology.
2. I agree that there should be watershed scale planning efforts to recognize impacts from development downstream and across watersheds.

Michael Simmons
Graduate Engineer

WALTER P MOORE

Mindy Conyers

From: Pat Baugh <>
Sent: Monday, October 01, 2018 2:13 PM
To: PUBLIC-COMMENT
Subject: draft State Flood Assessment comment

I would like to extend appreciation for initiating the creation of this document - thank you!

1. The draft is 'spot on' regarding how the numerous floodplain managers express opinions of how to improve conditions.
2. Texas should have a uniform set of standards and methods to effectively manage development and mitigation of flood prone areas.
3. This is a natural next step in creating an environment that recognizes the entire cycle of water in Texas.
4. Well documented and recognized in the document: Storm water is expensive to manage and expenditures are most effective if used prior to the rainfall event.

Regards,
PBB

Patrick B. Baugh
Community Development Director
City of University Park

State Flood Assessment Public Comments

Texas Water Development Board

1700 N. Congress Ave., P.O. Box 13231

Austin, Texas 78711

Gentlemen,

Thank you for the opportunity to comment on your important task of assessing the impact of and mitigation for flooding in Texas. Cypress Creek Association – Stop the Flooding is a community group of home owners and business owners in northwest Harris County principally along Cypress Creek, the largest watershed in Harris County. We are one of several citizens' groups which formed after the catastrophic flooding of Hurricane Harvey. The citizens felt the necessity of banding together due to the perceived unresponsiveness of local and state government to the threat to life and safety in the area due to flooding.

While it is true that the flooding of Harvey caused over 10,000 homes and businesses in our immediate area to be damaged or lost and over $135,000,000 in damage sustained, this was not our only concern. One year previously the 'Tax Day Flood' had overwhelmed thousands of homes and businesses and closed 10 of the 13 bridges in our area. One year previous to that catastrophe the 'Memorial Day Flood' had flooded homes across the area. As the County Judge stated "…we appear to have had three 500-year floods in three years". Clearly an untenable situation.

Unfortunately, it was only after the third unmitigated disaster that Harris County decided to act. We find this lack of planning and lack of response to disaster clearly unsatisfactory. While unincorporated, the Cypress Creek watershed is highly urbanized and has a population greater than that of the cities of Corpus Christi or Amarillo. As an unincorporated area we are forced to rely principally on Harris County Commissioners' Court for oversight and planning, an obsolete and ineffective methodology of governance for an area of this size. As a result, we found Cypress Creek had received over the last 20 years or so only two percent of monies spent on flood mitigation around Harris County. Cypress Creek is characterized by Rice University scientists as a 'rural' creek trying to do the job of an urban stream. Unsuccessfully.

Therefore, we would like to submit the following comments for your consideration:

1. Mitigation efforts must be focused on a regional solution as the various watersheds impact each other. For instance, when Cypress Creek overtops the overflow burdens flood mitigation to the south, such as the Addicks Dam area, exacerbating flooding in that

watershed. Additionally, the regional solutions must include some ability to govern or act in the general interest of safety and security for the community. Surprisingly even after unmitigated disaster there are vocal parties who place 'economic prosperity' and 'development' above the necessity for flood mitigation.

2. Education is essential. As you recite in your draft document, there is a lack of education for government officials regarding the problem and solutions. The situation is worse for the taxpayers and voters. When Harris County proposed its $2.5 billion flood bond program it asked citizens to review the proposal and make comments. Citizens were completely unfamiliar with flood causes or mitigation and unable to cogently comment on the efficacy of any of the proposals. It was only after citizens' groups began organizing and holding educational seminars that the voters in this area were able to feel confident about commenting and recommending remediation.
3. Educational opportunities need to utilize all modern methods to reach voters and taxpayers. While this organization held group meetings, it also produced video available for citizens to watch at their convenience, thereby reaching more voters. Our four-hour 'Fight Flooding' seminar had only 75 people in actual attendance due to its mid-day venue but 450 people watched the live Facebook stream on John Wesley UMC's Facebook page. Currently over 940 people have watched the video. Additionally the website set up by the Kingwood citizens' group, www.reduceflooding.com, and our website, www.cycreekstoptheflooding.com, have had several thousand visitors as people are hungry for information on flooding from creditable sources and unable to find it elsewhere. For the record, both of these websites were set up as citizen initiatives and received no government funding or support.
4. There must be transparency in government's efforts to control flooding. In our modern world of connectiveness there is no reason government cannot timely detail flood mitigation work planned and ongoing. Not only does this serve to ensure oversight of government promises but serves to assuage the fears of thousands of citizens who now fear the skies.

Thank you for the opportunity of commenting on your draft assessment. If we may provide further input please contact either myself at <email> or George Peckham at <email>.

Sincerely,

Paul Eschenfelder

Cypress Creek Association – Stop the Flooding

Mindy Conyers

From: Patsy Gillham <>
Sent: Friday, September 21, 2018 8:04 PM
To: PUBLIC-COMMENT
Cc:
Subject: Use of Rain Barrels/Cisterns CHEAP LOCAL STORM WATER RETENTION SYSTEM

https://www.tceq.texas.gov/assets/public/comm_exec/pubs/gi/gi-383.pd
■ Rainwater harvesting can help reduce flow to storm water drains and reduce stream pollution

http://www.twdb.texas.gov/publications/brochures/conservation/doc/RainwaterHarvestingManual_3rdedition.pdf

https://poly-mart.com/texas-rain-barrels/

How much rainwater falls on your roof?
Each inch of rainfall drops 1,240 gallons on a 2000 square foot roof. To approximate the amount of rainwater falling on your roof, multiply the square footage of your roof footprint(including porches and garage) by .62 to get your gallons per inch of rain. Tip: if you don't know the square footage of your roof footprint, substitute your house square footage.

They are a great introduction to rainwater harvesting and they can bring awareness to the need for stormwater management and to the opportunity for water conservation.

https://www.epa.gov/soakuptherain/soak-rain-rain-barrels

http://ctenvironment.wixsite.com/reduce-runoff/rain-barrels

Thank you for this opportunity . I hope you will seriously consider investing in public education regarding rainbarrels. Developers could be mandated to include in all future development both commercial and residential.

Patsy Gillham

My Name is Lloyd Russell Freeman. I am a retired professional engineer and have been a Registered Investment Advisor. While I live in Colorado, I have significant experience in working in Texas, both as a federal employee and more recently as a consultant on military impacts, water issues and other issues. At the request of a local colleague, I reviewed the Draft State Flood Assessment and I am pleased to submit the following comments and recommendations for your consideration. I have include copy of draft testimony I recently provided to a local official for his presentation to a committee of the State Legislature.

Observations from the Draft:

One: The report states that:

- Anticipated statewide flood mitigation costs over the next 10 years are estimated to be more than $31.5 billion and costs are likely to be significantly understated due to growing population. I would add, and to increasingly serious impacts of global warming.
- Stakeholders requested as their number one priority the need to provide additional financial assistance ***for implementation of flood mitigation activities***.
- Sec 8.5 p 58, regarding flood mitigation projects, the report notes that mitigation activity saves far more money and provides more benefits related to damage prevention than the cost to implement them. In fact, studies have shown that mitigation strategies for riverine flooding save $7 for every $1 spent.

In spite of this clearly expressed need and the expression of need from stakeholders, the study summary states:

> "This report --- does not seek to fund specific strategies or projects related to flood planning, mitigation, warning, or recovery."

Comment Number One: What is needed, is a clear call for action on the part of State Leadership. In particular, I have provided testimony for presentation to the Legislature by others, to the effect that a conservative funding approach for state participation would be to provide a financial guarantee for local or river basin authority bonds. That would enable requisite local governments to reach out to the private capital markets for necessary funding.

Observation Number Two:

- Stakeholder Priority 3 - Encourage watershed-based flood planning: Stakeholders consistently expressed a preference for a regional approach to flood planning, whereby watershed boundaries define the planning areas. This sentiment is consistent with stakeholder calls for increased collaboration, coordination, and leadership among all entities with flood responsibilities. Further, state and federal agencies indicated that a regional process would increase the potential for greater interagency collaboration.
- While there has traditionally been a tendency to rely on the federal government for flood prevention related activity and investment, priorities have changed to the extent that the federal role is increasing focused more on reaction to flood events and to investment in other priorities. This means that the State needs to step up to a much stronger leadership role.
- Texas is unique in the extent to which it has created river basin authorities with broad powers to plan for water development and management, including power production.

Comment Number Two: It would be logical to assign a leadership role to the River Basin Authorities to provide comprehensive flood control plans and programs within each of their

cognizant jurisdictions. As with the State Water Plan, these authorities could provide leadership, within a framework of State priorities to pull together the diverse interests, define strategies, the need for works, and the priorities for action within the watersheds which define their river basins. In this regard, it is logical that one prime source of additional water would be scavenging and conserving flood flows for use during times of drought.

Recommendation: The plan should recommend action to address needs identified. The action should be in the form of a two part recommendation to the State Legislature.

Part One: Recommend the development of an addition to the State Water Plan to include a a Statewide Flood Management Element. The State River Basin Authorities should take the lead in providing draft plans for their watersheds, which plans should be developed in cooperation with Stakeholders as was done with the State Water Plan. A requirement should be consideration in that plan of maximizing synergism between water supply and flood control.

Part Two: Recommend expansion of the SWIFT program or creation of a separate fund to address implementation of flood prevention and control works. My previous suggestion has been to provide funding support in the form participation supported by of a repayment assurance program. This would provide significant leveraging of state credit, reducing the cost to the State Taxpayers. The foundation for such a program is recognition of the value of such investment as outlined in the report: “mitigation saves $7 for every $1 spent”.

Below is an extract from draft testimony I recently provided for a local official to present to the Legislature in response to a request for his testimony on needs for assistance in flood protection:

Flood Protection: Flood Protection has generally been a federal function, provided by the U. S. Army Corps of Engineers Civil Division and other federal agencies. In general, federal water programs require a demonstration that benefits exceed costs. This should be an easy case to make. However, in this case, there is also a challenge of estimating how much the economy will be impacted and then translating that into a benefit to offset the cost. That benefit must then be shown to exceed the cost of necessary protection works. A classic issue, of course, is that benefits of flood protection accrue to those whose life, property and livelihood would be protected, while costs accrue to the general taxpayer. Where there is a disaster, the general public is willing to step in and help. However, where there is just a risk of a possible future disaster, the public and their elected representatives are not so willing to make such a commitment in the face of the numerous competing demands for tax dollars. Thus, it has been increasingly difficult to get congressional authorization and appropriations for flood control works. This has resulted in an increasing backlog of need for such works.

There is a somewhat different approach which would rely more on State government to take the lead in protecting their territory. The logic is much like that of tax anticipation financing. Consider economic value in the flood prone region as well as that which was anticipated as a result of future growth. Then consider how much that present and anticipated economic development would be impacted by a major flood. In addition, consider the cost of responding to the flood and the loss of service to others. For example, what is the cost to the national economy of the loss of Gulf Coast refining capacity for even a short period? An analysis should clearly show that it is more cost

effective to prevent floods than to have them. A second consideration is that – a prime way to prevent floods is to catch and store the water, thus making it available for future use. Such consideration can then be translated into a financeable investment - if the state and Federal government would agree to: (1) be responsible for the Statewide and Nationwide impacts; and (2) to provide a revenue guarantee for the local entity share of financing based on local flood impacts.

What A Flood Protection Initiative Needs From the State:

- Recognition and help to establish flood protection efforts in Wharton County as a Model by:
    - Work with local interests to establish a flood protection district and to demonstrate the organizational, legal financial basis for local-initiative planning, financing and implementation of flood protection works. (see note below)
    - Recognize the Flood Protection District's need for functionality and financial capability as required to plan, site, build and operate major flood works.
    - Upon approval of the District Organization and the Financial Structure, provide State financial participation in terms of funding to offset impacts on the State economy and on functions recognized as critical to the State.
    - Provide insurance, in the form of a repayment guarantee to investors who provide flood works financing. This will be necessary for two reasons. First, the new District will have no track record and second, the source of repayment will be new and not well understood by the market place.
    - Work with the Federal government to participate in terms of funding to offset impacts on the National Economy and to provide a backup to the State repayment assurance efforts (similar to seeking a reinsurance commitment)

Note: This suggested process would be facilitated if the LCRA would step up to take the lead in planning, managing construction and financial administration on behalf of the Wharton area. This is logical, since a principal factor in regional flooding is the Colorado River, both as a source of floodwater and as a principal drain for moving floodwater away from that region.

Respectfully submitted by:
L. Russell (Russ) Freeman

Mindy Conyers

From:
Sent: Tuesday, September 18, 2018 9:29 AM
To: PUBLIC-COMMENT
Cc:
Subject: DRAFT State Flood Assessment Comments

Importance: High

This email contains my comments relating to the DRAFT State Flood Assessment which should be considered in updating the Assessment. My comments are as follows:

1. The FEMA Flood Plain Models are purposely skewed on various lakes, specifically on Lake Houston and Lake Conroe where the FEMA Flood Insurance Rate maps show level water surfaces for miles upstream of the lake dams. The Hydraulic Models contain commands (typically X5 commands) which specifies that the Hydraulic Model revert to the elevations specified in the program commands. This artificially lowers the elevation for the FIRM Panels depicting a lower elevation than calculated. As a result, the flood elevations are lower than they realistically should be for miles upstream. I believe the excessive flooding around Lake Houston in the Kingwood community is a result of allowing development within the real flood zones which are incorrectly shown on the legally adopted Flood Insurance Rate Maps. This erroneous information costs the State and Federal Governments along with private individuals and companies millions if not billions of dollars in damages.
2. River Authorities must have a mechanism to keep construction out of their flowage easements which are acquired around lakes during the land condemnation process when acquiring such lake property. The Flood Plains are lower than the Flowage Easements in many instances if not all.
3. Permitting Agencies allow regional lakes to be used for storm water detention facilities when in reality those lakeside developments negatively impact the storage volumes and flows through the lake which increases the flooding around each lake. Provisions need to be adopted which ave3rts such negative impacts.
4. Storm design durations should be increased, particularly along the Gulf Coast for tropical systems which “sit” in those areas for days.
5. Rainfall data is outdated and needs to include ongoing rainfall events to update such totals and rainfall intensities. This can be done through TWDB using links between meteorological stations throughout the State and a central TWDB computer via internet.

Thank you for the opportunity to comment during this period for Public Comments.

RON SAIKOWSKI, PE LEED AP CFM

Mindy Conyers

From: Scott Brooks <>
Sent: Wednesday, September 26, 2018 3:23 PM
To: PUBLIC-COMMENT
Subject: Comments on the Draft State Flood Assessment

As a licensed civil engineer and certified flood plain manager who has performed and/or overseen many hydrologic and hydraulic studies within the state of Texas over the last 10 years, here are my comments/thoughts, in no particular order:

- It seems that no one is considering the "big picture" regarding flood recovery costs. It seems to be assumed that it should be the job of government to "make people whole" when it comes to flood damage repairs. I can think of no other type of private property loss where the government is expected to do that. For instance, if my home burns down after a lightning strike, the government has no role in financing the reconstruction of my home. If I have paid for home insurance, and it covers lightning strikes, my insurance company will cover my costs. If I have not purchased insurance, than I'm on my own. If I'm on my own, some private charities may step forward and help. Or not. In no case, is it expected that the government will assist me. Why, then is it expected that when there is a flood, the government should rebuild my home?
- It seems to be seldom mentioned that the NFIP came about because private insurers decided long ago that insuring for flood loss is an unsustainable business practice. It is impossible for an insurance company to stay in business when covering loss due to flooding. Why, then is it expected that the federal government can run an insurance program (NFIP) that will not require constant bailing out by other taxpayer funds? Flood insurance is simply an unsustainable enterprise. Private insurers found it to be so, and the unsustainability is confirmed by the fact that the NFIP has suffered losses exceeding income over its lifetime, and recent studies have concluded that rates would need to be raised an order of magnitude or more in order for income to cover expenditures every year.
- On one hand of the economic equation, we have flood losses, and on the other hand we have NFIP premiums. What is generally left out of the equation is the cost in private dollars of dealing with regulations that result from a community's participation in NFIP. If the new regulations raise the total cost of the all new homes more than the cost of flood loss, how is this saving money? Has this been considered? Those are "hidden" costs that are seldom mentioned.
- How much of the flood losses that occur are the result of storms that exceed the 1% chance ("100 year") storm? For example, Hurricane Harvey rainfall totals far exceeded the 1% chance storm, and therefore, it should be expected that losses will be extraordinarily high. We engineers can't practically design for Hurricane Harvey. If we did so, the cost of housing would be astronomical and out of reach for most people.
- Much of the Draft Assessment talks about updating FIRMs for the entire state. The problem with FISs and FIRMs is that they are a snapshot in time. In high-growth areas, which is where flood damage is highest (vacant land that floods usually recovers with minor damage repair costs), a FIRM is actually out-of-date by the time it makes its way through the FEMA approval process. Managing using FIRMs is not very effective due to this restriction. Maps based on models revised in real-time by local governments as development is occurring is the only way for maps to really have an effect on flooding, and the costs for such a program would be enormous!
- FEMA's management of flood data is horrible. As I said above, I've performed many hydrologic and hydraulic studies over the years, and I can't think of one FIS that was approved by FEMA that didn't have serious errors in it. From outdated topographic data, to missing drainage structures like culverts, to incorrect rainfall data used, I've seen just about every major error you could think of. In fact, when the Map Mod FIRMs were about to be released in this area (Bell/McLennan/Coryell/Lampasas counties), I attended a roll-out meeting sponsored by TWDB in Waco with a hydrologist friend of mine. It was mainly attended by municipal and county flood plain administrators, but there were a few of us engineers in attendance. The overwhelming feedback given by the audience was that there were serious inaccuracies in every community's new maps, and in many cases, the

floodplain admins said that they had provided written comments during the comment period describing these errors, and not a single error was addressed before releasing the new maps. Also, over the years, I've made many requests to the FEMA Engineering Library for current effective flood plain models, and it's rare that I get a complete, current model from them. Usually, I get an incomplete model, or I get a model that is not current. Again, the data needs to be controlled by local government to be effective, but local government can't afford to do so.

Thanks,
Scott A. Brooks, P.E., C.F.M.

Mindy Conyers

From: Shannon Brown <>
Sent: Wednesday, September 26, 2018 11:50 AM
To: PUBLIC-COMMENT
Subject: Flooding Comment

Hi,

I would like to say that as a citizen in Hays County I am very concerned about flooding and how it can be mitigated. I have taken professional development trainings about green stormwater infrastructure (aka low impact development) and want to see more of these strategies being used to protect Texans from flooding. I am aware that San Antonio (especially the San Antonio River Authority) and Austin (particularly their Watersged Protection Department) are leading the way on implementing, incentivising and promoting these type of projects. Rain gardens should be in almost every suburban lot to catch the roof runoff that floods our rivers. We need more constructed wetlands and prairies. The soil acts as a sponge in these ecosystems and therefore they provide excellent flood control services. I saw this where I grew up in Houston. After a parking lot was made where a wetland once was our house almost flooded in a normal rain and the water district had to come put in a pipe to protect our home (I bet that was more expensive than keeping the wetland... which was free.. aside from the church parking lots opportunity cost.) Please require developers to follow best management practices for permanently mitigating their stormwater runoff so the rest of your citizens don't have to pay an astronomically high price, losing homes, lives and loved ones to flooding. I urge you to invest as much in green stormwater infrastructure as you do in "grey infrastructure" (roads, pipes, etc). Confluence park in San Antonio is an excellent example of how this can be done to protect against the liability of flooding. We have all the techniques we need to significantly mitigate flooding, make our conmunities more resilient, and harvest rainwater to become not a flooding liability, but, instead, a groundwater asset, storing water in the healthy soil, which acts as a sponge, or in the giant limestines cisterns that are the hills of the hill country.

An NRCS statistic about the soil as a sponge: for every 1% increase in soil organic carbon, we gain a water storage capacity of (on average) 20,000 gallons per acre!

Therefore, farmland is an important part of this too. We needfarms to have healthy soil so that they store water, rather than letting it run off. It makes farming more profitable, with healthier and more robust crops, and it mitigated flooding on large acreage. Please find a way to help farmers increase their soil organic carbon.

Thank you for your time and consideration,
Shannon Brown

Mindy Conyers

From: Steven Lloyd <>
Sent: Wednesday, October 03, 2018 2:47 PM
To: PUBLIC-COMMENT
Subject: SMALL TOWNS TEXAS

My comment is planning and financial assistance.
As reflected in my survey responses; my assessment is that small municipalities do not have the resources to address storm water drainage in the comprehensive way.
Many small municipalities rely on the private sector for growth and viability.
My community in particular has a major interstate passing through it, within 90 miles of downtown Dallas (we already get spill over from the DFW Metro-Plex); and the people keep coming. The majority of our water shed impacts TXDOT significantly in several locations. We will not be small forever and our impervious areas shrink daily.

I am glad that my opinions were reflected in the executive summary. Thank you for all your hard work. If I can be of assistance please feel free to contact me.

Sincerely
Steven Lloyd
Director of Planning and Development
City of Lindale TX

Mindy Conyers

From: ACECTexas <>
Sent: Wednesday, October 03, 2018 9:48 AM
To: PUBLIC-COMMENT
Cc:
Subject: Flood plan comments

The American Council of Engineering Companies (ACEC Texas) is the business association of engineering firms in the state, representing over 450 member companies with over 800 offices and 15,000 employees practicing in a variety of disciplines around Texas. Many of our firms are actively involved in drainage issues for local governments and private entities.

We commend Governor Abbott and the TWDB for undertaking this effort. The assessment is an essential first step in responding to citizens needs for enhanced protection from flood events.

Our primary recommendation is that the assessment should include more information about the specific mitigation projects for which good planning information exists. On page 54 in Section 8.2, the report appropriately points out that no central repository of planned flood mitigation projects or activities exists. However, the report goes on to note that medium sized and large cities and some districts have robust plans with reliable cost data. It would be helpful if the report could provide more specific information about currently identified projects and strategies that are ready to go forward but that are held up because of financial or other considerations.

Any state response to flood mitigation must proceed on two fronts. While better planning and data collection is clearly required in some areas, in other areas there are identified projects that are implementable. It would assist the policy-makers response if a cross section of these ready-to-go projects around the state were identified, along with institutional or financial obstacles to their implementation.

Second, although the report rightly focuses on watershed-based planning and execution, this process should keep in mind that many of the most advanced existing planning efforts - and the entities most capable of implementing projects - are not necessarily watershed-based. The examples of the Harris County Flood Control District and the City of Houston come to mind. It is important that state planning and project efforts recognize and incorporate these entities.

Thank you for the opportunity to comment.

Steve Stagner
President & CEO
American Council of Engineering Companies of Texans

Mindy Conyers

From: Sandra Suarez <>
Sent: Tuesday, October 02, 2018 1:34 PM
To: PUBLIC-COMMENT
Subject: ACTION NOW COMMITTEE ROMA,TX

Action Now is requesting the assistance of your board with constant flooding issues. Action Now is a committee made up of community members affected by flooding in the Starr County area. We are requesting funding assistance for engineering,property acquisition, and drainage project construction. If this not the proper areas to request this type of assistance could you please guide us with the right agency or person.

Sincerly,
Action Now

Mindy Conyers

From: Judge Boultinghouse <>
Sent: Monday, October 01, 2018 4:46 PM
To: Mindy Conyers
Subject: State Flood Assessment

Will this report come out in a final form later? This draft is one of the most comprehensive reports detailing what every CFM needs to know. I would like to print it for my use, but if it will be in final form I will wait until then. Being county judge I wear many hats, being flood plain mgr. is only one. A document like this one would be invaluable for my use in helping get the NFIP message across to my constituents. Thank you for your efforts.

Wayne L Boultinghouse
Lampasas County Judge

Mindy Conyers

From: Paul Crowson
Sent: Monday, September 24, 2018 8:21 PM
To: PUBLIC-COMMENT
Subject: Public Comment About Flooding Private Citizen
Attachments: Frog Pond.pdf

Dear TWDB,
I live in Montgomery County, Texas
My county does not use this map attached called "Frog Pond" to look at considerations for new buildings, new developments, permits to build , permits for sewer systems.
Just within this map attached I can point out to you 4 landowners that have sued each other over building something over a delineation of recognized drainage on this map, and the county has issued building permits to the landowners giving them permission to do so, yet the neighbors sued each other , and the county would not get involved in this situation to remedy or resolve it.
About 300 of my neighbors and I live in the area of the map attached to this email called "Frog Pond".
We have flooded 3 times in the last 3 years , but never ever before in last 50 years like this.
We aren't in a flood plain as you can see from the map, most of us live within about a mile of the Allendale Subdivision.
The reason we are flooding is because people are allowed by the county to build over or cover up natural drainage areas that are recognized historically as a creek, swale, tributary , etc.
Montgomery County uses a map for permits that is not topographical or delineates natural drainage areas like the one attached.
THIS IS THE PROBLEM FOR I WOULD WAGER ABOUT 50% OF THE PEOPLE WHO FLOOD IN MONTGOMERY COUNTY, HARRIS COUNTY, AND BEYOND.
Not using a map that acknowledges where historical drainage exists must be changed immediately. This practice creates a lot of problems for honest people, unsuspecting people...and it allows unscrupulous developers and builders to do things that cause flooding to the surrounding neighborhoods and existing homes and businesss.

I would be happy to speak in person to this committee if my schedule allows.

Thanks
Sincerely Paul Crowson

--

Mindy Conyers

From: Debby McManus
Sent: Saturday, September 29, 2018 9:24 AM
To: PUBLIC-COMMENT
Subject: Please Stop The Flooding ...

Dear friends and neighbors, here is something you can do if you want to help prevent the flooding around us, send an email to this address- PUBLIC-COMMENT@twdb.texas.gov , and tell them your story, you can copy and paste mine and tweak it for yourself, probably you didn't know some of what is in this letter of mine, that it is factual , unbelievable but yes factual!
Before you read the letter below let me tell you quickly what is going on as briefly as I possibly can...The Texas Water Development Board (TWDB) is taking public comments about flooding issues all around the state, problems and solutions, to make recommendations I believe to the State Legislature, which could streamline some positive action sooner rather than later for giving us needed relief. Dear friends please stop and do it now, they are only taking public comments for a few days, please do it now, it will help others as well, thanks!

Dear TWDB,
We have lived in Montgomery County, Texas for 24 years My county does not use this map attached called "Frog Pond" to look at considerations for new buildings, new developments, permits to build , permits for sewer systems.
Just within this map attached I can point out to you 4 landowners that have sued each other over building something over a delineation of recognized drainage on this map, and the county has issued building permits to the landowners giving them permission to do so, yet the neighbors sued each other , and the county would not get involved in this situation to remedy or resolve it.
About 300 of Our neighbors and I live in the area of the map attached to this email called "Frog Pond".
We have flooded 3 times in the last 3 years , but never ever before in last 50 years like this.
We aren't in a flood plain as you can see from the map, most of us live within about a mile of the Allendale Subdivision.
The reason we are flooding is because people are allowed by the county to build over or cover up natural drainage areas that are recognized historically as a creek, swale, tributary , etc.
Montgomery County uses a map for permits that is not topographical or delineates natural drainage areas like the one attached.
THIS IS THE PROBLEM FOR I WOULD WAGER ABOUT 50% OF THE PEOPLE WHO FLOOD IN MONTGOMERY COUNTY, HARRIS COUNTY, AND BEYOND.
Not using a map that acknowledges where historical drainage exists must be changed immediately. This practice creates a lot of problems for honest people, unsuspecting people...and it allows unscrupulous developers and builders to do things that cause flooding to the surrounding neighborhoods and existing homes and businesss. The Past 5 Years we have Seen nothing but New Building & Road Construction with No thought to Proper Drainage, We Have Come Close To Having Our Home Flooded(within a few feet), Some Of Our Neighbors Have Been Flooded. It’s Tome To Stop The Flooding ...

Thanks
Sincerely Donald & Debby McManus

Mindy Conyers

From: Susan p
Sent: Monday, October 01, 2018 10:10 AM
To: PUBLIC-COMMENT
Subject: Flooding

Dear TWDB,
I live in Montgomery County, Texas
My county does not use this map attached called "Frog Pond" to look at considerations for new buildings, new developments, permits to build , permits for sewer systems.
Just within this map attached I can point out to you 4 landowners that have sued each other over building something over a delineation of recognized drainage on this map, and the county has issued building permits to the landowners giving them permission to do so, yet the neighbors sued each other , and the county would not get involved in this situation to remedy or resolve it.
About 300 of my neighbors and I live in the area of the map attached to this email called "Frog Pond".
We have flooded 3 times in the last 3 years , but never ever before in last 50 years like this.
We aren't in a flood plain as you can see from the map, most of us live within about a mile of the Allendale Subdivision.
The reason we are flooding is because people are allowed by the county to build over or cover up natural drainage areas that are recognized historically as a creek, swale, tributary , etc.
Montgomery County uses a map for permits that is not topographical or delineates natural drainage areas like the one attached.
THIS IS THE PROBLEM FOR I WOULD WAGER ABOUT 50% OF THE PEOPLE WHO FLOOD IN MONTGOMERY COUNTY, HARRIS COUNTY, AND BEYOND.
Not using a map that acknowledges where historical drainage exists must be changed immediately. This practice creates a lot of problems for honest people, unsuspecting people...and it allows unscrupulous developers and builders to do things that cause flooding to the surrounding neighborhoods and existing homes and businesss.
My husband died due to the results of the flood in 2016. He was 58yrs old. Please help with the drainage in our area

Thanks
Sincerely Susan page

Mindy Conyers

From: mindy wright
Sent: Wednesday, October 03, 2018 11:36 AM
To: PUBLIC-COMMENT
Subject: Flooding Issues in Cumberland, Porter Texas
Attachments: image1.jpeg; image2.jpeg; image3.jpeg; image4.jpeg

Dear TWDB,
>

> I live in the Cumberland subdivision, located at FM1314 and Cumberland
> Blvd. I have lived here since October of 2013.
>Since the completion of the Grand Parkway, September of 2015, we have
> seen major flooding issues. In April of 2016, our home flooded during
> the “Tax Day Flood.” We had 8”
> of water in the first floor of our home. Then during Harvey, we had
> 14” of water in our home.
>
This subdivision has never experienced flooding of this magnitude
> until the highway was created. Attached you will find pictures from
> the floods as well as pictures of the pond that TXDOT maintains, and
> appears to be the problem.
>My children, (4 of them), are scared every time a storms
> comes for fear of our home flooding again.
> Although it’s easy for some people to sell and relocate, we are not
> financially able to move nor can we continue to stay and repair our
> home over and over again. Please help us, or forward us to someone
> who can help? Our calls to TXDOT are not being taken seriously and
either is the county offering assistance. >
> 87 of 302 homes have flooded.
>
> Thanks,
>
> Mindy Roper
>

Mindy Conyers

From: Cheri Hamlett
Sent: Wednesday, October 03, 2018 12:05 PM
To: PUBLIC-COMMENT
Subject: Flooding issues caused by irresponsible development

I purchased a house in the Cumberland subdivision in 2010. This subdivision had been in existence for approximately 20 years and had never flooded. That all changed once the Grand Parkway was built.

My house flooded in the Tax Day Flood in April 2016, largely due to the inadequacy of the retention ponds TXDOT created for the Grand Parkway. They simply are not deep enough and quickly overflowed into the drainage system in our subdivision, overwhelming it and causing a number of houses to flood.

During Hurricane Harvey the houses that flooded in 2016 did so again, mine included, plus many houses that hadn't flooded previously were impacted as well. Again in large part due to the poor design and execution of the retention ponds for the Grand Parkway.

Additionally ground has been broken to build an HEB right next door to our subdivision plus there are plans to build a 10k home community and golf course directly behind our community. It is my belief that not enough will be done when this development is realized to prevent additional flooding to the area.

I have lost significant value in my house due to it flooding twice in less than 1.5 years. If my house floods again my flood insurance will increase exponentially. None of this is my fault.

I am not against growth in the county - it needs to be managed and controlled better than in the past. The county takes a huge hit when these disasters hit - loss in tax revenue, costs incurred by remediation afterwards, etc. - and I don't believe that this is taken seriously enough on the front end of development.

As the courts are loathe to hold developers responsible for the impact their designs have on the community, the county needs to step up their oversight and ensure that enough is being done in the planning and execution stages to mitigate the impact the development has in terms of drainage. The watershed needs to have somewhere to go other than into our homes and businesses.

Cheryl L. Hamlett
Porter, TX

Mindy Conyers

From: Adolph Pavlicek
Sent: Wednesday, October 03, 2018 12:26 PM
To: PUBLIC-COMMENT
Subject: Flooding Problem

Dear Twdb,

I know it is hard for one person to make a difference in this world. The U.S Army Corps of Engineers funding 5 billion dollars is a great thing for the State of Texas to help resolve our flooding problem in South East Texas. But for the small communities like ours The Cumberland Community in Porter Texas. We have to deal with fear of another heavy rain fall flooding our homes, after 20 years with hurricanes and tropical storms with no flooding issues. Now the development of new subdivisions and major roadways we are draining the natural water systems into the drainage ditches. This is very unfair to the long term residents of East Montgomery County. We have paid our taxes for over 22 years in this community. There are a lot citizens 50 years of age In this community it's taking a drain on our savings. There needs to be some regulations and studies on the development of these subdivisions and road ways, so we are protecting the existing people in the communities. Future development is going to happen there's no doubt but it shouldn't be at the expense of long term residents. It's seems the Texas Department of Transportation and the County doesn't care about our problems. We are Texans we are going to stand-up and be heard. This is why I keep sending this message to the TXDOT our County Commissioner Jim Clark. They continually turn a death ear on the citizens that have to deal with the problems. There are plans to build another 20,000 homes on 5,500 acres in our area with Wilkerson development and Cheng development. We have one drainage ditch that runs behind our neighborhood with a 7 acre retention pond that TXDOT put in place for the drainage of Grand Parkway 99. The drainage ditch was built for the drainage of our neighborhood not for this massive roadway. Now our homes have flooded two time in two years the Tax Day flood and Harvey. We need the studies done before any more development is done. Our homes have lost their value and we are out of all our savings trying rebuilding our homes. The developers are in it to make millions of dollars they don't care about the lives they are effecting of the current people who have homes there. Wilkerson profited on the building the Grand Parkway. This hold deal needs to be looked into there is massive land erosion occurring from these action. People are now losing the property from the land erosion. We have an immediate concern on our hands in this area. I can only hope that some other people have express their concerns on this issue.
Respectfully,
AdolphPavlicek

Adolph Pavlicek

Start Everyday With Safety !

Mindy Conyers

From: Debbie Hillman
Sent: Wednesday, October 03, 2018 10:32 PM
To: PUBLIC-COMMENT
Subject: Flooding

My home flooded last year after Hurricane Harvey. Other homes in my neighborhood flooded two and three times in the last two years. Our homes are not in a flood plain or near a river or creek. After the construction of the Grand Parkway highway 99 in our area the flooding began. Originally drainage ditches were built around our subdivision. Now there is a huge retention pond for the Grand Parkway which overflows into our ditches and floods our neighborhood. Please something needs to be done, changes need to be made. We all worry now anytime there is a heavy rain. Debbie Hillman. Porter, Texas 77365

Mindy Conyers

From: Mark Gibson
Sent: Thursday, October 04, 2018 7:40 PM
To: PUBLIC-COMMENT
Subject: Flooding in Montgomery county Texas

When Txdot widened fm1314 they raised the ditch levels over a foot. Now the water from Westwood estates lays stagnant year round. This new subdivision being built to the north is going to direct thousands of acres of water across our from yards. This is a public safety and nuisance issue. Ever the wastewater from the wastewater plant for the San jaconto elementary school goes across our from yards. The developer for the subdivision is supposed to be putting in a ditch to the river, but they are being allowed to begin the ditch at the subdivision and not at the river side. This is backwards and will insure major flooding in. The Westwood estates subdivision. On the maps that the developer is providing, the Westwood estates subdivision is now considered txdot drainage basin, if the state want to use our land, I think they should pay for it, perhaps those living there might be able to relocate and be rid of health issues and safety problems.
Any relief would be appreciated
Thank you
Mark gibson

Mindy Conyers

From: drbendix
Sent: Thursday, October 04, 2018 9:09 PM
To: PUBLIC-COMMENT
Subject: Flood control

Hello,
I live in the Cumberland subdivision near the Grand Parkway and FM 1314. We have lived at this address since October of 2011. Before we purchased this property we checked with residents of this neighborhood that had lived here when it was first developed in the 90's. We were told there were no flooding issues in the past. Then the Grand Parkway was constructed with a retention pond that was attached to our drainage system. A month after the Grand Parkway opened in our area our subdivision flooded. Our drainage system was not designed to take the additional rain water from the Grand Parkway. When we spoke to our MUD about this, we were told they were told they could not refuse to allow the Grand Parkway to attach it's retention pond to our system.

Recently more land was cleared for the construction of a HEB grocery and the water that would have been held in the soil in that area will also flow into our system. There are also plans for more subdivisions nearby.

I want to know why new construction is allowed to displace their water onto existing residential and commercial properties. Fill is added to bring up the elevation of new subdivisions and over time our subdivision will be the lowest elevation as the new subdivisions that are built will cause that water to be diverted into our subdivision. Also the San Jacinto river is already overtaxed as are all of the tributaries that drain the water to the Gulf.

When our house flooded it was very emotional and we are considering moving out of the Houston area since there doesn't seem to be a plan in place to increase the flow of water to the Gulf.

Thanks for your consideration
Delroy and Sandy Bendix

Mindy Conyers

From: Anthony Ruffino
Sent: Tuesday, October 02, 2018 5:54 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live in the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

Here's an example of a sand bar that largely formed during Harvey, blocks the San Jacinto West Fork where it meets Lake Houston. This giant bar elevated flood levels throughout the highly populated Humble/Kingwood corridor where more than 3300 businesses and 16,000 homes were damaged or destroyed.

Sadly, a large part of the sediment we received during Harvey was preventable. It came from sand mines upstream from us on both the East and West Forks of the San Jacinto. While this sand didn't cause the flood, it exacerbated the flood.

Moving sand mines out of the floodway would be a simple way to reduce sedimentation and flood risk. Many states have minimum setback requirements in their permitting procedures and best practice guides. Texas has no such requirement. Neither does Texas require sand mines to:

- Reclaim land when a mine is played out.
- Slope banks to reduce erosion and strengthen dikes.
- Avoid clearing land until it is ready to mine.
- Post performance bonds to cover the cost of damage they cause.

Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping from sand mines during floods.

Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.

For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

It's a pattern. In 53 out of 53 Montgomery County sand mine properties the ReduceFlooding.com examined, not one was appraised as a sand mine! More than 90% were appraised as vacant land or ag/timber even though they were not vacant and they had no trees. So, my suggestions are to:

- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.

Sincerely,

Anthony Ruffino

Mindy Conyers

From: Alan Wilson
Sent: Tuesday, October 02, 2018 7:35 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

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Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.

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- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.

Sincerely,

Alan Wilson

Mindy Conyers

From: Brad Adcock
Sent: Tuesday, October 02, 2018 5:26 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

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- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.

Sincerely,

Brad Adcock

Mindy Conyers

From: Christopher Etter
Sent: Wednesday, October 03, 2018 6:06 AM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live in Kingwood, in a house which was flooded after Harvey. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

Here's an example of a sand bar that largely formed during Harvey, blocks the San Jacinto West Fork where it meets Lake Houston. This giant bar elevated flood levels throughout the highly populated Humble/Kingwood corridor where more than 3300 businesses and 16,000 homes were damaged or destroyed.

Sadly, a large part of the sediment we received during Harvey was preventable. It came from sand mines upstream from us on both the East and West Forks of the San Jacinto. While this sand didn't cause the flood, it exacerbated the flood.

Moving sand mines out of the floodway would be a simple way to reduce sedimentation and flood risk. Many states have minimum setback requirements in their permitting procedures and best practice guides. Texas has no such requirement. Neither does Texas require sand mines to:

- Reclaim land when a mine is played out.
- Slope banks to reduce erosion and strengthen dikes.
- Avoid clearing land until it is ready to mine.
- Post performance bonds to cover the cost of damage they cause.

Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping from sand mines during floods.

Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.

For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

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- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.

Sincerely,

Christopher Etter

Mindy Conyers

From: Hilary Toma
Sent: Wednesday, October 03, 2018 10:01 AM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live in Kingwood in the San Jacinto River watershed and my home flooded during Hurricane Harvey. Sedimentation was and still is a major contributing factor to the flooding here and more action is needed. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

Here's an example of a sand bar that largely formed during Harvey, blocks the San Jacinto West Fork where it meets Lake Houston. This giant bar elevated flood levels throughout the highly populated Humble/Kingwood corridor where more than 3,300 businesses and 16,000 homes were damaged or destroyed.

Sadly, a large part of the sediment we received during Harvey was preventable. It came from sand mines upstream from us on both the East and West Forks of the San Jacinto. While this sand didn't cause the flood, it exacerbated the flood.

Moving sand mines out of the floodway would be a simple way to reduce sedimentation and flood risk. Many states have minimum setback requirements in their permitting procedures and best practice guides. Texas has no such requirement. Neither does Texas require sand mines to:

- Reclaim land when a mine is played out.
- Slope banks to reduce erosion and strengthen dikes.
- Avoid clearing land until it is ready to mine.
- Post performance bonds to cover the cost of damage they cause.

Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping from sand mines during floods.

Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for. For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

It's a pattern. In 53 out of 53 Montgomery County sand mine properties the ReduceFlooding.com team examined, not one was appraised as a sand mine. More than 90% were appraised as vacant land or ag/timber even though they were not vacant and they had no trees. So, my suggestions are to:

- Recognize the contribution of sedimentation to flooding;
- Document sources of sedimentation; and
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.

Sincerely,

Hilary Toma

Mindy Conyers

From: Jeff Adams
Sent: Wednesday, October 03, 2018 9:25 AM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

I live n the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

Here's an example of a sand bar that largely formed during Harvey, blocks the San Jacinto West Fork where it meets Lake Houston. This giant bar elevated flood levels throughout the highly populated Humble/Kingwood corridor where more than 3300 businesses and 16,000 homes were damaged or destroyed. My home was one of those properties, receiving 5 feet of water through our house.

Sadly, a large part of the sediment we received during Harvey was preventable. It came from sand mines upstream from us on both the East and West Forks of the San Jacinto. While this sand didn't cause the flood, it exacerbated the flood.

Moving sand mines out of the floodway would be a simple way to reduce sedimentation and flood risk. Many states have minimum setback requirements in their permitting procedures and best practice guides. Texas has no such requirement. Neither does Texas require sand mines to:

- Reclaim land when a mine is played out.
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For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

It's a pattern. In 53 out of 53 Montgomery County sand mine properties the ReduceFlooding.com examined, not one was appraised as a sand mine! More than 90% were appraised as vacant land or ag/timber even though they were not vacant and they had no trees. So, my suggestions are to:

- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.

Sincerely,

Jeff Adams

Mindy Conyers

From: Jannie Bangs
Sent: Sunday, September 30, 2018 7:47 PM
To: PUBLIC-COMMENT
Subject: Fw: Flood Mediation - near Lake Houston

Dear Sir:

As a homeowner in Kingwood, we did not have our home flooded, but experienced the disaster of Harvey caused by record breaking rainfall, sediment relocation, and water release from the Lake Conroe Dam by the SJRA. The impact on lives in this community has been catastrophic and will continue to be so for some time to come.

The San Jacinto River flooded in 1994 and a detailed and expensive study and report was completed, but ignored by all the parties who requested the study. It is my hope that this mistake will not happen again or much more serious flooding will result.

The current status of the San Jacinto River sand sediment is overwhelming to the ability of the river to flow properly to the Gulf. FEMA is funding the dredging, to only pre-Harvey levels 1.2 miles of the river. This does not touch large NEW sandbars and the greatly reduced capacity of the river and Lake Houston itself. **Dredging is desperately needed.... immediately to correct the sediment build up over years of neglect (based on warning in the 1994 report) and for maintenance purposes to insure water flow in the future.**

Additional gates on the Lake Houston Dam are years away, but still needed.

Please, please **serious consideration to the funding of these areas as literally thousands of homes and businesses are are risk. Much of this is a made man problem due to the dam for purposes of water supply and the operation of the sand mines upriver in Montgomery and Harris County. Any recommendations to the Texas Legislature about sand mining practices is another need, although not within your scope.**

Realizing you are responsible to the entire state of Texas, I would just remind you that much of the water that flooded our community so severely, was runoff from a vast land area. Studies are important and expensive, but we need action to avoid a repeat of the Harvey devastation.

Thank you for your time and consideration,
sincerely,
Jannie Bangs

Mindy Conyers

From: Jeff Bayless
Sent: Wednesday, October 03, 2018 12:39 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation in our streams, bayous and rivers.

I live in the Humble/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches and there is no regular maintenance programs to keep them cleaned out.

Here's an example of a sand bar that largely formed during Harvey, blocks the San Jacinto West Fork where it meets Lake Houston. This giant bar elevated flood levels throughout the highly populated Humble/Kingwood corridor where more than 3300 businesses and 16,000 homes were damaged or destroyed.

Sadly, a large part of the sediment we received during Harvey was preventable. It came from sand mines upstream from us on both the East and West Forks of the San Jacinto. While this sand didn't cause the flood, it exacerbated the flood.

Moving sand mines out of the floodway would be a simple way to reduce sedimentation and flood risk. Many states have minimum setback requirements in their permitting procedures and best practice guides. Texas has no such requirement. Neither does Texas require sand mines to:

- Reclaim land when a mine is played out.
- Slope banks to reduce erosion and strengthen dikes.
- Avoid clearing land until it is ready to mine.
- Post performance bonds to cover the cost of damage they cause.

Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping from sand mines during floods.

Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.

For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

It's a pattern. In 53 out of 53 Montgomery County sand mine properties the ReduceFlooding.com examined, not one was appraised as a sand mine! More than 90% were appraised as vacant land or ag/timber even though they were not vacant and they had no trees. So, my suggestions are to:

- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.
- Create periodic and regular maintenance programs to clean out sedimentation and vegetation overgrowth in our waterways that function as primary drainage systems.

Thanks.

Sincerely,

Jeffrey Bayless

Mindy Conyers

From: Jane B. Wise
Sent: Wednesday, October 03, 2018 8:08 AM
To: PUBLIC-COMMENT
Subject: FW: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live in the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

There is a gigantic sand bar that largely formed during Harvey, blocks the San Jacinto West Fork where it meets Lake Houston. This giant bar(referred to by geologists as a "mouth bar") elevated flood levels throughout the highly populated Humble/Kingwood corridor where more than 3300 businesses and 16,000 homes were damaged or destroyed. It is acting as a breakwater so that water is pushed toward homes more dramatically than before Harvey.

Sadly, a large part of the sediment we received during Harvey was preventable. It came from sand mines upstream from us on both the East and West Forks of the San Jacinto. While this sand didn't cause the flood, it exacerbated the flood.

Moving sand mines out of the floodway would be a simple way to reduce sedimentation and flood risk. Many states have minimum setback requirements in their permitting procedures and best practice guides. Texas has no such requirement. Neither does Texas require sand mines to:

*Reclaim land when a mine is played out.

*Slope banks to reduce erosion and strengthen dikes.

*Avoid clearing land until it is ready to mine.

- REQUIRE sand miners to post performance bonds to cover the cost of damage they cause.

*Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping from sand mines during floods.

*Require sand miners to execute on the remediation plan they file to get the mining permit when they abandon the property

Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.
For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!
It's a pattern. In 53 out of 53 Montgomery County sand mine properties the ReduceFlooding.com examined, not one was appraised as a sand mine! More than 90% were appraised as vacant land or ag/timber even though they were not vacant and they had no trees. So, my suggestions are to:

*Recognize the contribution of sedimentation to flooding

*Document sources of sedimentation

*Encourage legislation that reduces sedimentation from the sources we can control.

Yours truly:
Jane B. Wise

Mindy Conyers

From: Joel Johnston
Sent: Tuesday, October 02, 2018 5:35 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live in the Humble/Kingwood/Lake Houston area and am a geologist with 25 years experience. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

Here's an example of a sand bar that largely formed during Harvey, blocks the San Jacinto West Fork where it meets Lake Houston. This giant bar elevated flood levels throughout the highly populated Humble/Kingwood corridor where more than 3300 businesses and 16,000 homes were damaged or destroyed.

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For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

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- Recognize the contribution of sedimentation to flooding
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Sincerely,

Joel Johnston

Mindy Conyers

From: June LEDET
Sent: Tuesday, October 02, 2018 5:36 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live n the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

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- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.

Sincerely,

June B Ledet

Mindy Conyers

From: Liz and John Lindberg
Sent: Tuesday, October 02, 2018 9:07 PM
To: PUBLIC-COMMENT
Subject: Public comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live n the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

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Recognize the contribution of sedimentation to flooding Document sources of sedimentation Encourage legislation that reduces sedimentation from the sources we can control.
Thanks. Sincerely,
John and Elizabeth Lindberg

Mindy Conyers

From: Jim P. Wise
Sent: Wednesday, October 03, 2018 7:53 AM
To: PUBLIC-COMMENT
Cc: 'Jim P. Wise'
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.
I live in the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

There is a gigantic sand bar that largely formed during Harvey, blocks the San Jacinto West Fork where it meets Lake Houston. This giant bar(referred to by geologists as a "mouth bar") elevated flood levels throughout the highly populated Humble/Kingwood corridor where more than 3300 businesses and 16,000 homes were damaged or destroyed. It is acting as a breakwater so that water is pushed toward homes more dramatically than before Harvey.

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- REQUIRE sand miners to post performance bonds to cover the cost of damage they cause.

*Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping from sand mines during floods.

*Require sand miners to execute on the remediation plan they file to get the mining permit when they abandon the property

Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.
For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!
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*Recognize the contribution of sedimentation to flooding

*Document sources of sedimentation

*Encourage legislation that reduces sedimentation from the sources we can control.

In His Service,
Jim P. Wise

Mindy Conyers

From: Judy
Sent: Sunday, September 30, 2018 4:47 PM
To: PUBLIC-COMMENT
Subject: Statewide Flood Assessment Public Comment

What about sand mining and sedimentation? Glaring omission, as these items MUST BE addressed.
Thank you,
Judy Thigpen

Mindy Conyers

From: Kristin Duane
Sent: Tuesday, October 02, 2018 9:33 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live in the Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

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- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
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Thanks.

Sincerely,

Kristin Duane

Mindy Conyers

From: larry
Sent: Wednesday, October 03, 2018 2:31 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

Thank you for your recent report on the Flood Assessment- Extremely well done, organized, and informative.

However, the "concern of sedimentation" is a very serious issue as I live in the Kingwood-Lake Houston area where major flooding took place, 5 feet of water in our home-have lived there for 36 years no problem until last August. The sand mining that is present on the East and West Forks of the San Jacinto river contributed heavily to issues we all suffered. What is going to be done to fix this issue ?? -much of the mining activities are being carried out illegally and the remaining have little, if any supervision. I am told the State of Texas is sorely lacking -compared to other states , in the supervision of Sand Mining. Right now there is a dredging operation underway on 2 1/2 miles of the San Jacinto river, 6 moths to complete at a cost of $69 million. That is probably 10% of the length of the River that needs desperate attention and dredging.

This a critical issue and hopefully be a part of your assessment-on an on-going basis.

Thank-You,

Larry Shryock

Mindy Conyers

From: Mike Bangs
Sent: Wednesday, October 03, 2018 7:13 AM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live n the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

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Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.

For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

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- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.

Sincerely,

Michael C Bangs

Mindy Conyers

From: Martha Morris
Sent: Wednesday, October 03, 2018 12:26 PM
To: PUBLIC-COMMENT
Subject: Fwd: Subject: Public Comment on State Flood Assessment

Subject: Public Comment on State Flood Assessment
To: <PUBLIC-COMMENT@twdb.texas.gov>

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live n the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

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Thanks.

Sincerely,

Mindy Conyers

From: Marshall Schaffer
Sent: Tuesday, October 02, 2018 11:07 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

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Thank you,

Marshall Schaffer

Mindy Conyers

From: Olga Tanamachi
Sent: Wednesday, October 03, 2018 12:19 PM
To: PUBLIC-COMMENT
Subject: Subject: Public Comment on State Flood Assessme

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live n the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

Here's an example of a sand bar that largely formed during Harvey, blocks the San Jacinto West Fork where it meets Lake Houston. This giant bar elevated flood levels throughout the highly populated Humble/Kingwood corridor where more than 3300 businesses and 16,000 homes were damaged or destroyed.

Sadly, a large part of the sediment we received during Harvey was preventable. It came from sand mines upstream from us on both the East and West Forks of the San Jacinto. While this sand didn't cause the flood, it exacerbated the flood.

Moving sand mines out of the floodway would be a simple way to reduce sedimentation and flood risk. Many states have minimum setback requirements in their permitting procedures and best practice guides. Texas has no such requirement. Neither does Texas require sand mines to:

- Reclaim land when a mine is played out.
- Slope banks to reduce erosion and strengthen dikes.
- Avoid clearing land until it is ready to mine.
- Post performance bonds to cover the cost of damage they cause.

Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping from sand mines during floods.

Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.

For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

It's a pattern. In 53 out of 53 Montgomery County sand mine properties the ReduceFlooding.comexamined, not one was appraised as a sand mine! More than 90% were appraised as vacant land or ag/timber even though they were not vacant and they had no trees. So, my suggestions are to:

- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.

Sincerely,

Olga Tanamachi

Mindy Conyers

From: Paula Peters <
Sent: Tuesday, October 02, 2018 9:06 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

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Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.

For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

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Thanks.

Sincerely,

Paula Peters

Mindy Conyers

From: Randy Braud
Sent: Tuesday, October 02, 2018 10:10 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

Thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live in the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

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- Reclaim land when a mine is played out.
- Slope banks to reduce erosion and strengthen dikes.
- Avoid clearing land until it is ready to mine.
- Post performance bonds to cover the cost of damage they cause.

Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping from sand mines during floods.

Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.

For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

It's a pattern. In 53 out of 53 Montgomery County sand mine properties the ReduceFlooding.com examined, not one was appraised as a sand mine! More than 90% were appraised as vacant land or ag/timber even though they were not vacant and they had no trees. So, my suggestions are to:

- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.

Sincerely,

Randy Braud

Mindy Conyers

From: Richard Clayden
Sent: Tuesday, October 02, 2018 7:49 PM
To: PUBLIC-COMMENT
Cc:
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live n the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

Here's an example of a sand bar that largely formed during Harvey, blocks the San Jacinto West Fork where it meets Lake Houston. This giant bar elevated flood levels throughout the highly populated Humble/Kingwood corridor where more than 3300 businesses and 16,000 homes were damaged or destroyed. Sadly, a large part of the sediment we received during Harvey was preventable. It came from sand mines upstream from us on both the East and West Forks of the San Jacinto. While this sand didn't cause the flood, it exacerbated the flood.

Moving sand mines out of the floodway would be a simple way to reduce sedimentation and flood risk. Many states have minimum setback requirements in their permitting procedures and best practice guides. Texas has no such requirement. Neither does Texas require sand mines to:

§ Reclaim land when a mine is played out.
§ Slope banks to reduce erosion and strengthen dikes.
§ Avoid clearing land until it is ready to mine.
§ Post performance bonds to cover the cost of damage they cause.

Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping from sand mines during floods.

Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.

For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

It's a pattern. In 53 out of 53 Montgomery County sand mine properties the ReduceFlooding.com examined, not one was appraised as a sand mine! More than 90% were appraised as vacant land or ag/timber even though they were not vacant and they had no trees. So, my suggestions are to:

Recognize the contribution of sedimentation to flooding
Document sources of sedimentation
Encourage legislation that reduces sedimentation from the sources we can control.

Thanks.
Sincerely,
Richard M Clayden

Mindy Conyers

From: Robert Harrell
Sent: Wednesday, October 03, 2018 9:29 AM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

Thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: Sedimentation.
Robert Harrell

Mindy Conyers

From: Robert Rehak
Sent: Tuesday, October 02, 2018 3:23 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

First, thank you for an excellent report. I support all of your findings, but am concerned about a critical omission: sedimentation.

I run a website called ReduceFlooding.com that is dedicated to identifying and mitigating the causes of flooding along the San Jacinto.
In the Humble/Kingwood area, sedimentation was and still is a major contributing factor to flooding. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars to remove much of it through dredging.

Sadly, a large part of the sediment we received during Harvey was preventable. It came from sand mines upstream from us on both the East and West Forks of the San Jacinto. While this sand didn't cause the flood, it exacerbated the flood. If you review my website, you'll find hundreds of pictures, presentations, and articles that support this assertion.

Moving sand mines out of the floodway would be a simple way to reduce flood risk. Many states have minimum setback requirements in their permitting procedures and best practice guides. Texas has no such requirement. Neither does Texas require sand mines to:
- Reclaim land when a mine is played out.
- Slope banks to reduce erosion and strengthen dikes.
- Avoid clearing land until it is ready to mine.
- Post performance bonds to cover the cost of damage they cause.

Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping sand mines.

Additionally, I would point out that some counties (like Montgomery) seem to encourage sand mining by giving miners timber exemptions that they don't qualify for.
For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!
It's a pattern. In 53 out of 53 Montgomery County sand mine properties that I examined, not one was appraised as a sand mine! 90% were appraised as vacant land or ag/timber even though they had no trees. See:

http://reduceflooding.com/2018/09/24/east-fork-sand-mine-in-montgomery-county-appraised-as-ag-timber-land/
http://reduceflooding.com/2018/09/27/inconsistencies-in-montgomery-county-sand-mine-real-estate-tax-appraisals/
http://reduceflooding.com/2018/10/01/montgomery-county-says-it-will-re-evaluate-sand-mine-appraisals/

So, my suggestions are to:
- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thanks for your consideration.

Bob Rehak

Mindy Conyers

From: Tom Edwards
Sent: Wednesday, October 03, 2018 4:16 PM
To: PUBLIC-COMMENT
Subject: San Jacinto River Flooding

First, thank you for an excellent report. I support all of your findings, but am concerned about one critical omission: sedimentation.

I live n the Humble/Kingwood/Lake Houston area. Sedimentation was and still is a major contributing factor to flooding here. The Army Corps of Engineers agrees. As a result, as taxpayers, we're about to spend hundreds of millions of dollars on dredging. It could take a year or more to unclog our river and drainage ditches.

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Moving sand mines out of the floodway would be a simple way to reduce sedimentation and flood risk. Many states have minimum setback requirements in their permitting procedures and best practice guides. Texas has no such requirement. Neither does Texas require sand mines to:

- Reclaim land when a mine is played out.
- Slope banks to reduce erosion and strengthen dikes.
- Avoid clearing land until it is ready to mine.
- Post performance bonds to cover the cost of damage they cause.
- develop a plan for the state to regularly dredge the massive sediment sent downstream from these mining operations.

Simply observing common-sense best management practices used in other states and countries could radically reduce the sediment escaping from sand mines during floods.

Additionally, I would point out that some counties (like Montgomery) may unwittingly encourage sand mining by giving miners timber exemptions on their real estate tax that they don't qualify for.

For instance, one Montgomery County mine on the East Fork pays $288 a year in tax on 218 acres! All because of a timber exemption that hasn't been valid for more than a decade!

It's a pattern. In 53 out of 53 Montgomery County sand mine properties the ReduceFlooding.com examined, **not one was appraised as a sand mine**! More than 90% were appraised as vacant land or ag/timber even though they were not vacant and they had no trees. So, my suggestions are to:

- Recognize the contribution of sedimentation to flooding
- Document sources of sedimentation
- Encourage legislation that reduces sedimentation from the sources we can control.

Thank you for taking up this important and serious matter .

Sincerely,

Chaplain Tom Edwards

Mindy Conyers

From: William H. Chapman
Sent: Tuesday, October 02, 2018 6:10 PM
To: PUBLIC-COMMENT
Subject: Public Comment on State Flood Assessment

Thank you for letting the public comment on the State Flood Assessment report. I am a retired geologist from Exxonmobil and live in Forest Cove, adjacent to Kingwood. While I give your report high marks, you are missing or downplaying a major component - sedimentation. The amount of sand and silt scoured out of sand mines along the San Jacinto River tributary system and deposited in the river is emense. Without dredging this sediment (seen in massive sand bars all along river and Lake Houston after hurricane Harvey), the river's capacity to handle runoff is significantly impaired, and will cause more flooding with even less severe storms. I believe that dredging is imperitive and needs to be included in any planned action. Also, better controls and regulations are needed to bring sand mining operations to national best practices, and new building should be prohibited in at least the "500 year" flood zones. The municipalities and land owners/developers build in these areas knowing what is eventually going to happen, but when it does, they are long gone and only the people living in these areas are left holding the bag (and suffering). Thank you.