

**LOWER RIO GRANDE CITIZENS FORUM**  
**USIBWC FIELD OFFICE**  
**Mercedes, TX**  
**Nov 13, 2019**

\*Tentative Meeting Notes

**Citizens Forum Board Members in attendance:**

5 Board members

**USIBWC Staff in attendance:**

3 Staff members

**Members of the public in attendance:**

19 Public members

**Opening Remarks:**

Melisa Gonzalez, Citizens Forum Co-chair, convened USIBWC Mercedes Lower Rio Grande Field Office Quarterly Citizens Forum. Ms. Gonzalez began with a short welcome and allowed attending board members and those in attendance to introduce themselves. She introduced the first guest speaker, Dr. Andrew Ernest.

**River & Estuary Observation Network Rio Grande Valley**

Dr. Ernest began the presentation by informing us he is the President and C.E.O. of a non-profit corporation called Research, Applied Technology, Education & Services otherwise known as RATES. He stated he would be giving us some background on RATES and the technology then how it impacts the Rio Grande Valley. RATES mission is to make knowledge-based policy and decision making possible regarding water resource management. They also develop tools to aid in the knowledge-based decision making. RATES was established in 2005 in College Station, Texas by his former PhD advisor and is a 501(c)(3) nonprofit with a 5-member board of directors and 10 employees split between Texas and New York. They have a loosely defined finance administration, operations and research group. RATES is a research company first and could be thought of as a back office that stands behind universities and academic institutions that gets the work or heavy lifting done while professors do all the heavy thinking. In the early 70's students would try to collect data by traveling out to the field in the bitter cold of upstate New York. The idea of remote and real-time monitoring was seeded and in the late 90's. In Corpus Christi Bay, a robotic arm lowering one of the original Sea-Birds CTDs was about a quarter of a million dollars per station. We were working with PhD students to develop new sensor technology to reduce the capital cost of collecting data utilizing in-house developed sensors. River and Estuary Observatory Network (REON) 1, was a platform deployed in the Hudson River built in 2009 for \$100,000. The current one, known as REON 2, is less than 10% the cost of previous deployment. Combined with coastal measurements, it can be used to build three-dimensional models to understand storm surge and water quality impacts.

There is a saying that 99% of change occurs in 1% of time. This results in missing events when there are only quarterly grab samples. If an impactful event is not seen, it did not happen, and management decisions cannot be made. REON allows for better monitoring, collecting, and sharing of data especially with augmented mobile platforms that have real-time instruments. RATES have 8 HF radars they are looking to deploy in the Rio Grande Valley. This would allow benefits in navigation such as by ship captains making better navigation decisions when entering ports, as well as developing databases for bay modeling and ecological modeling. Currently there is no HF radar coverage in the Rio Grande Valley

(RGV). RATES is in the process of requesting funding to deploy offshore units for understanding storm surge.

The goal of RATES is democratization of water intelligence, by making data freely available to everybody. This way they can educate and empower individuals and local government officials to make sound management decisions based on the data either by converting the knowledge to a format that can be understood or educating them to utilize that information for best possible use. Current-day sensor platforms are about \$35,000 with annual upkeep of about \$15,000 to \$20,000. By focusing on the reduction of sensor cost, the overall cost can be reduced, while maintaining comparable performance to commercial off-the-shelf sensors. Even the central brain of real-time hydrologic stations uses low cost readily available Raspberry Pi computers with custom chips to integrate the sensors, solar panel and a Verizon cellular stick. The programmability of the Raspberry Pi allows for adaptive responses, such as a request by Saint Regis Mohawk Tribe in upstate New York, that was in need of a flash flood warning. During the spring thaw, they often would be hit with flash flood when a blockage of water flow would lead to a surge. With a few modifications the REON was programmed to send out an emergency SMS at the detection of water level surge allowing for a few hours warning. Another aspect of cost reduction is improving the duty cycle, in some cases up to a year in between maintenance without any degradation of service.

The River & Estuary Observatory Network consists of a series of 60 land-based sensor nodes coupled with deployable floating profiling platforms. Roughly about 56 are located in upstate New York and 3 in South Texas with upcoming deployment in Alabama. RATES also has come up with a top down plan of deploying about 15 sensors throughout the Rio Grande Valley to understand discharge in the five main drainage pathways in the valley and their contributions both in water quantity and quality perspective. However, REONs cost effectiveness also allows for a bottom up plan for local deployment in strategic locations. REON RGV has a goal to completely instrument the waterways as the water in the lower Rio Grande falls anywhere and doesn't know where to go, so in order for us to understand water quality and flooding we need to understand how it flows.

### **The Legislature and the Flood Infrastructure Fund, Alex Dominguez State Representative**

Our biggest concern in the entire state is water, in every single form we get it. Sometimes it's providing water to communities or making sure that water rights are being adhered to. Although there are existing flood programs, after Hurricane Harvey we realized we needed to do more. The Flood Infrastructure Fund (FIF) is the first step of what we are going to be doing.

Programs such as Flood Mitigation Assistance Grant, which are under FEMA and provide 100% federal funds, help mitigate flood damage. The Flood Protection Grant provides up to 50% state financial assistance for studies for planning of early warning systems or a flood response plan. However, sometimes local governments, such as counties, city, river or water districts need funds to get projects off the ground, that is what was tackled in this last legislature. They realized that working with partners, universities, and even some nonprofits we could provide expertise at the local level, but the lesson of Hurricane Harvey showed us we needed to go a little further.

Hurricane Harvey was devastating with \$125 billion in damage. It has been the second most costly hurricane since 1900. This brought a new way of thinking on the state level and helped pass this legislation. The state flood plan will focus on evaluating existing flood infrastructure, proposed flood control, and mitigation projects and strategies. The Flood Infrastructure Fund could provide low-cost loans for drainage, flood mitigation, and flood control projects. The voters approved a transfer from the Economic Stabilization Fund, also known as the Rainy-Day Fund, a transfer of \$793 million. Those funds will be for the projects that are designated and voted on by the Texas Water Development Board. Currently they are working on establishing the rules to rank them and vote on them, as funding could be

available as early as the first quarter of 2020. Once the new rules are adopted early next year, they will start deciding with programs will start getting funding. If you have a project, your go to agency is the Texas Water Development Board, or if you have an idea or need guidance for a project you can contact State Representative Alex Dominguez.

**Question:**

Do the rules for assistance involve getting loans or match requirements?

**Answer:**

Alex Dominguez replied: Depending on how the project ranks, some will be getting low cost loans, matching grants, some projects might be fully funded 100%.

**Question:**

What is the amount of funds that will be made available and is this a one time or reoccurring?

**Answer:**

Alex Dominguez replied: We anticipate replenishing the funds, its initial will be \$793 million. In 2024 the state will have its state flooding plan and we will be changing that as we go every 5 years.

**Question:**

Can this money be integrated into federal lands or is it just state lands?

**Answer:**

Alex Dominguez replied: So, we, the Texas Water Development Board and IBWC have had some meetings and we are discussing that. We think there is some possible interplay, but it also involves our neighbors to the south and we'll be looking into that.

**Question:**

How do you feel about the border wall that is going in in Starr County that is in a flood zone?

**Answer:**

Alex Dominguez replied: I'll say two things. One, I am not a proponent of any wall and second, if it in any way is going to endanger people of Starr County or further down the river... it's not a good thing.

**Question:**

Are there any concerns?

**Answer:**

Alex Dominguez replied: We have a ton of concerns, and we raised a whole bunch of them in Austin. There are certain sections here in Hidalgo County where there has been some cooperation and a border wall could come up if they also improved the levee system. It's one of those balancing acts, that as policy makers we must take into account.

**Question:**

With respect to these projects you are soliciting, are we talking about flooding from hurricane, tropical storms, rainfall events, storm surges, sea level rise?

**Answer:**

Sky is the limit, and we do look at issues of rising ocean levels and how that impacts. Right now, we are still in the study phase to see how much it has impacted, clearly storm surge is one that is important. So easily any one of the coastal communities can be applying for this and not just South Padre Island.

**Question:**

We have heard in other locations that projects started before this funding would not be eligible.

**Answer:**

Alex Dominguez replied: We have been talking about that, because the rules are still being formulated.

Now would be the time to pitch your ideas to the Texas Water and Development Board, that you have these projects that you would like to be eligible. When we were having our community meetings before we passed the bill, we took that into account and we were generally in favor of existing projects taking advantage of funding, but the rules are still being created.

**Future Agenda Items**

Asked State representative to return to give update.

Update about Raymondville drain how it ties into Hidalgo and floodway.

Head of Mexican Section to address opinion of border wall in floodplain.

Ask Dr. Benavides to talk about the desalination project.

Meeting adjourned at 4:29 p.m.

\*\* Meeting notes are tentative and summarize in draft the contents and discussion of Citizen Forum meetings.

While these notes are intended to provide a general overview of Citizens Forum Meetings, they may not necessarily be accurate or complete, and may not be representative of USIBWC policy or positions.