

**LOWER RIO GRANDE CITIZENS FORUM
USIBWC FIELD OFFICE
Mercedes, TX
February 8, 2017
* Tentative Meeting Notes**

Board Members in attendance:

Lawrence Drake, Drake Farms, San Benito
Bill Lewis, Civil Environmental Engineer, Half Associates, (Retired)
Rick Cavazos, Mayor, City of Los Indios
Henry Leo, Agent in Charge – Harlingen Border Patrol Station
John Goolsby, USDA Research Entomologist -Edinburg
Joel Espinosa, Board Member
Ricardo Garcia, Mercedes City Manager
Omar Rios, City of Harlingen, Environmental Services Division
Ricardo Garcia, Mercedes City Manager

USIBWC Staff in attendance:

Juan Uribe, USIBWC Mercedes Lower Rio Grande Area Operations Manager
Frank Martinez, USIBWC Mercedes Lower Rio Grande Assistant Area Operations Manager
Rafael Rubalcaba, USIBWC Engineering Department – El Paso, TX
Liliana Maya, USIBWC Mercedes Lower Rio Grande Secretary
Estepan Martinez, Regional Security Officer, USIBWC

Members of the public in attendance:

Carl Boyd, National Association of Retired Federal Employees
Joe Tucker, Citizen
Ing. David Negrete, Mexican Section of the International Boundary and Water Commission
Ing. Alfonso Carmona, Mexican Section of the International Boundary and Water Commission
Jorge E Alcalá, Dannenbaum Engineering
Hugo Gonzalez, ICE-Engineering and Construction
Robert Santos, Interpreter, Davila & Associates
Kirk Lowery, Arcadis
Bill Friend, City of La Feria
Ernesto Reyes, US Fish and Wildlife Service
Anna Anguiano, KRGV News Reporter
Carlos Mendoza, KRGV News Cameraman
Patty Alexander
Christina Barker, Department of Homeland Security, Customs and Border Protection
Aaron Wendt, TSSWBC
S.A. Merrill, Sierra Club
Joe Martinez, SWCD Carrizo
Victor Gutierrez, TWRI

Opening Remarks:

At 3:00pm Citizens Forum Co-Chair Larry Drake, convened the Lower Rio Grande Citizens Forum quarterly public meeting. Mr. Drake began with a short welcome and allowed attending board members and those people in attendance to introduce themselves. He then introduced Mr. Rafael Rubalcaba, the first presenter in the agenda to begin his presentation on the Remediation Design of the Upper Brownsville Levee.

Presentation One: Remediation Design of the Upper Brownsville Levee

Mr. Rafael Rubalcaba began his presentation on the Remediation Design of the Upper Brownsville Levee. In Spring 2014, cracks appeared in the USIBWC flood control levee in Brownsville, Texas located downstream of Gateway International Bridge. USIBWC has been closely monitoring the levee and identifying remediation alternatives. The levee is located 700ft directly behind Brownsville's Port of Entry. Mr. Rubalcaba continued by introducing Mr. Kirk Lowery, Engineer with Arcadis Group who proceeded to discuss the issues on the levee and suggestions for remediation.

Kirk Lowery, Geotechnical Engineer from Arcadis Group, worked with Dannenbaum Engineering, and they entered into an agreement with the US Army Corps of Engineers (USACE) to look at what caused the cracks on the levee. It was determined that the cracks occurred soon after the levee was raised and widened to meet Federal Emergency Management Agency (FEMA) accreditation standards. Other contributing circumstances include fluctuation and rapid changes in water levels in the Rio Grande, higher elevation of Lake Brown relative to the river, and soft soil. It is located on the U.S. side of the Rio Grande between Gateway International Bridge and Lake Brown. The slide/mapping of the cracks showed a superficial crack that was showing on top of the levee.

Mr. Lowery stated that the slope was moving faster with deeper elevation. USACE determined that the slope could not be repaired. Inclinerometers were installed to measure ground movement/shifting. One initial suggestion was to replace the levee with a wall and perhaps move it back towards the Port of Entry. Geo-Global statistic-wise, it was determined that would not solve the problem.

Mr. Bill Lewis, Halff Associates (Ret) posed the question: Kirk, have you ever thought about using Sheet Piles?

Mr. Lowery answered: We would have to use King Pile at best which would be very costly. Part of the problem is that water is seeping in from Lake Brown. If you cut that water off with King Pile, what would it do? It would make the problem worse.

Mr. Lowery then continued his presentation of the suggested remediation alternatives.

The three suggested alternatives for remediation are as follows:

Remediation Alternative 1 (Deep Soil Mixing): To arrest the soil movement, deep soil mix columns would be installed to a depth below the deep failure Plane (approximately 45 feet in depth) in panels or continuous columns perpendicular to the levee. These columns would be installed by rotating augers and injecting cement to bind the mixture.

Remediation Alternative 2 (Stone Columns):

Stone Columns Alternative 2 – For this assessment, 36in diameter stone columns would be installed, paced at 6ft apart. It was determined that in order to maintain the required stability, 12 rows of columns are necessary at the levee and 9 rows are necessary at the toe of the levee, to a depth of 47ft and 25ft.

Remediation Alternative 3 (Deep Soil Mixing and Stone Columns): This alternative is a combination of both deep soil mixing and stone columns.

In addition to the above alternatives, armoring the bank of the Rio Grande to help protect against erosion is recommended.

The presentation ended with questions and comments.

Question: The City of Brownsville is dredging the resacas. How will the dredging of the resacas affect the levee failure?

Answer: The soil conditions should not affect a whole lot. Lake Brown is far away where it wouldn't affect it unless they dug outward toward the river put a water bearing layer down there that just feeds straight into the river. Which in the soil borings I didn't see anything like that.

Question: It's a unique Resaca because it has a layer of cow manure. You know that peninsula where the Fort Brown Hotel is where the horses and mules used to be kept.

Question: Do the water levels in 2010 have anything to do with it?

Answer: The water has been going up and down in this area for a long time and this has never been an issue before and then magically right after this raise (levee) it happened six months later. That to me tends to say this helped push this along.

Question: If concrete cracks with time, isn't that why the same thing (cracks in the levee); it cracks because it's settling, it's cracking, the levee?

Answer: No, because you have a rotation going on. I have an instrument here and an instrument here and an instrument here and an instrument here and all (readings) are moving towards the river where you can actually see it.

Presenter Kurt Lowery proceeded to ask if there were any more questions from the audience. No more questions were presented.

Mr. Larry Drake introduced the second presenter.

Presentation Two—Biological Control of Salt Cedar Using Leaf Beetles: Dr. Goolsby

Dr. Goolsby, USDA presented as Mr. Knutson was unable to attend due to a personal emergency. This was Mr. Knutson's research although Dr. Goolsby is quite familiar with the subject.

Extensive Stands of Salt Cedar, an invasive shrub imported to the US, has negatively impacted water resources, wildlife habitat and land use. Three species of leaf beetles have been imported into Texas for the biological control of Salt Cedar.

You go back to the origin of the weed and you look at what insects occur, that are specialists, that only feed on that one plant. Long regulatory process includes US, Mexico and Canada. All three countries have to be in agreement. It's a lengthy process that took place in the 80s and 90s when this beetle was brought in from Eurasia.

The intent is to reestablish balance. To set up a system of check and balance on an invasive species. In this case an invasive weed. Once it's established then it is an ongoing process. Species has fluctuated from really high to really low.

Leaf Beetles are used for Biological Control of Weeds:

- Use of a living organism (a natural enemy) to reduce the economic loss resulting from a pest species.
- Re-establishes the “balance of nature” when exotic pests arrive without their natural enemies. Once established, the natural enemy is usually “self-sustaining” not eradicated.

Beetles impact Salt Cedar Trees by:

- Larvae consume leaves and tender bark
- Salt Cedar produce 3 – 5 generations of beetles per year.
- Stored carbohydrates are depleted due to lack of leaves and regrowth of leaves
- Stress results in branch die back. Salt Cedars produce no flowers.
- Trees slowly starve to death. (Defoliate)

Benefits of Defoliation by Leaf Beetles:

- Few or no blooms mean fewer seeds
- Less water use due to lack of leaves
- More sunlight allows other vegetation to recover
- With repeated defoliation, some salt cedar trees die due to starvation after 4 – 5 years.

As of 2013, salt cedar beetle populations are well established and defoliating salt cedar at sites in all the watersheds of West Texas. Leaf beetles are present on an estimated 40% of the salt cedar acreage in Texas. Flower is greatly reduced, limiting re-invasion, branch dieback and canopy reduction is recurring, and tree death is anticipated. International effort needed to initiate releases in Lower Rio Grande. Conditions are pretty favorable for the beetle in this warm climate.

Question: How fast do they multiply?

Answer: Tens of thousands to millions in a couple of years.

Question: Are there any drawbacks to having these beetles?

Answer: No, not for the environment. Only on Salt Cedar species and on specific species of alpinos. No problems for horticulture.

Question: Do the beetles have any enemies? Known predators?

Answer: There are some insects that eat their eggs; spiders, land crabs eat their pupae in the soil. Mostly in the Brownsville/South Padre area is where you will see more land crabs that dig into the soil and eat their larvae/pupae.

Suggested Future Agenda Items:

- Colorado River / Treaty Update - Suggested by Mr. William (Bill) Lewis, Dr. Goolsby, Larry Drake.
- Should IBWC have a new Commissioner appointed by the President, the board members would like an update - Suggested by Mr. John Goolsby
- Update / Presentation on how IBWC preps for hurricane season - Suggested by Mr. Omar Rios
- How does Border Fence affect IBWC maintenance update - Suggested by Mr. Joel Espinosa
- Has a hydraulic study been done that will not affect the public? - Suggested by Ms. Patty Alexander
- Update with Morillo Drain - Salinity - Suggested by Mr. Joel Espinosa, William (Bill) Lewis, Dr. Goolsby, and Larry Drake
- Climate change – presentation by Barry Goldsman, Weather forecaster National Weather Service - Suggested by Mr. Larry Drake and Ms. Patty Alexander

*Meeting notes are tentative and summarize in draft the contents and discussion of Citizens 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.