Good Neighbor Environmental Board (GNEB)
Meeting

Ringgold Civic Pavilion
501 E Ringgold Street
Brownsville, TX 78520

February 10–11, 2016

MEETING SUMMARY

Wednesday, February 10

Welcome, Introductions and Overview of Agenda
Ann-Marie Gantner, Acting GNEB Designated Federal Officer (DFO), Office of Diversity, Advisory Committee Management and Outreach (ODACMO), U.S. Environmental Protection Agency (EPA); Paul Ganster, Chair, GNEB; Honorable Anthony "Tony" Martinez, Mayor, City of Brownsville; Charlie Cabler, City Manager, City of Brownsville; Ruth Osuna, Assistant City Manager, City of Brownsville

Ms. Ann-Marie Gantner, Acting GNEB DFO, welcomed the participants and thanked them for attending. She expressed her gratitude to the City of Brownsville, Texas, especially the Mayor, for hosting the Board. She also thanked the City of Brownsville for arranging site visits on the previous day to highlight for the Board members key sustainability initiatives being undertaken by the city. Ms. Gantner reviewed the agenda and the goals of the meeting, which were to provide context for and begin the process of drafting the GNEB's report on climate resilience in the border region. She then introduced Dr. Paul Ganster, Chair of the GNEB.

Dr. Ganster greeted the meeting participants and expressed his gratitude to the City of Brownsville. He praised the previous day's site visits, which included an introduction to the city's Resaca Restoration Program. Dr. Ganster recognized Commissioner John Wood, a former member of the GNEB, who is Commissioner of the Port of Brownsville. Dr. Ganster welcomed the opportunity afforded the Board to meet in Brownsville and observe firsthand conditions in the border region related to the GNEB's mission. The purpose of the Board is to advise the President and Congress of the United States on good neighbor practices along the U.S. border with Mexico. Its recommendations are focused on environmental infrastructure needs within the U.S. states contiguous to Mexico. The GNEB has been charged to report to the President and Congress on resiliency to climate change in the border region. The Board membership includes representatives from state, local and tribal governments; nongovernmental organizations; and academia, as well as representatives from appropriate federal agencies. The ultimate aim of the Board is to contribute to improving the quality of life for people living in the border region. Dr. Ganster then introduced the Hon. Anthony "Tony" Martinez, Mayor of the City of Brownsville.

Mayor Martinez thanked the Board members for choosing to hold their meeting in Brownsville. Brownsville is an exciting community that is embarking on a period of tremendous growth and creativity, embracing the challenges and opportunities of the future. The Mayor attributed his strong commitment to caring for the people of Brownsville community and the planet to his strong religious values, which are shared by many of the city residents. The sites visited by the Board on the previous day demonstrate how

the city is meeting the challenges posed by climate change. Mayor Martinez thanked all the city personnel who helped tell Brownsville's story of resiliency. Binational projects had been discussed. The Mayor advocated for the Board to include Brownsville's sister city, Matamoros, Mexico, in its considerations, and he thanked the representatives from Matamoros who were taking the time to attend the meeting. Mayor Martinez concluded by extending an official welcome to the Board members to Brownsville and the state of Texas.

Mr. Charlie Cabler, City Manager of Brownsville, also welcomed the Board members to Brownsville and the border region. He had enjoyed the opportunity to speak with many of the Board members individually on the previous day. He valued the GNEB members' understanding of border concerns. Mr. Cabler expressed his appreciation for being able to engage in joint projects with his colleagues from Matamoros.

Ms. Ruth Osuna, Assistant City Manager of Brownsville, thanked the GNEB for coming to Brownsville. She noted that Brownsville is striving to build resiliency in a binational, bicultural context, which poses many challenges.

The Board members then introduced themselves, as did the Board alternates, who are non-Board members supporting their organization's participation; Mr. Mark Joyce, Associate Director, ODACMO, EPA; Mr. Ron Curry, Regional Administrator of EPA Region 6; Mr. Arturo Blanco, Director, Office of Environmental Justice, Tribal and International Affairs, EPA Region 6; Ms. Laura Gomez, EPA Office of International and Tribal Affairs (OITA), who is serving as Team Lead-Brownsville for the White House Council on Strong Cities, Strong Communities Initiative; Ms. Osuna; Mr. Cabler; Mayor Martinez; Mr. Jesús González Macías, Federal Delegate in the State of Tamaulipas for the Secretaría del Medio Ambiente y Recursos Naturales (SEMARNAT); Commissioner Wood; Ms. Maria Elena Giner, General Manager, Border Environment Cooperation Commission (BECC); City of Brownsville officials; EPA regional office contacts; speakers; and members of the public. A list of participants is provided in Appendix A, and the meeting agenda is included in Appendix B.

Dr. Ganster invited Regional Administrator Curry to provide opening remarks for the meeting.

Opening Remarks
Ron Curry, Regional Administrator, EPA Region 6

Regional Administrator Curry noted that on February 9, the Supreme Court had temporarily blocked EPA's efforts to enforce cleaner power plants. He stated that EPA will continue to work with its partners on this issue and have conversations with the states and industry about it.

Regional Administrator Curry welcomed being given the opportunity to visit the City of Brownsville, including visiting with Mayor Martinez. He mentioned that the visit reminded him of his environmental efforts as City Manager of Santa Fe, New Mexico. Regional Administrator Curry observed that when individuals try to effect environmental change, the ultimate goal is to have a positive impact on public health.

Regional Administrator Curry commented on large differences between the headwaters of the Rio Grande and the river when it reaches the border region. He recognized the importance of the river to the border region.

Recently, Ms. Jane Nishida, Principal Deputy Assistant Administrator, OITA, EPA, and her staff had toured El Paso, Texas. Regional Administrator Curry observed that the complexities of the border region, both in Mexico and the United States, are not widely appreciated. Regional Administrator Curry advocated for U.S. investments of funds and effort on both sides of the border because the two sides are

"family." The border's environmental issues, in particular, are very complex. He characterized the border, however, as being a dynamic and positive place to live. Part of the role of EPA Region 6 is to draw attention to the benefits that the border region brings to the United States; therefore, Region 6 is committed to supporting the work of the GNEB. Regional Administrator Curry thanked the Board members for their efforts.

Resilience in Mid-Size Cities: Brownsville, Texas, and Matamoros, Mexico
Ruth Osuna, Assistant City Manager, City of Brownsville; Rene Mariscal, Water Resource Manager, Brownsville Public Utilities Board; Mauricio Ibarra, Director of Municipal Planning, City of Matamoros

Brownsville, Texas

Ms. Osuna stated that building resiliency in a binational context presents challenges and opportunities. During the City of Brownsville's Roadmap to Resilience event, more than 150 people spoke about building resilience in Brownsville, focusing on five areas: (1) poor health, including the high rate of diabetes among Brownsville residents; (2) weather, including the threat posed by hurricanes; (3) poor infrastructure, particularly related to flooding; (4) high poverty, especially the high rate of children living in poverty; and (5) development of the regional economy, including providing public services.

The work being performed by the Board is important to Brownsville. The GNEB provides a voice to convey to leaders in Washington, D.C., that the region needs help. Brownsville is engaging community stakeholders to address the five areas of focus to increase resilience. The partnerships being formed through the Strong Cities, Strong Communities Initiative are leading to new programs to increase resilience.

Mr. Rene Mariscal provided an update on two water-related resilience efforts in Brownsville: the Resaca Restoration Program and the Southmost Regional Water Authority (SRWA). Resacas are distributaries of the Rio Grande that are isolated from natural flow by levees, requiring water to be pumped into them to maintain water levels. Brownsville's resacas encompass 3,500 acres, and these features are managed by entities that include irrigation districts and the Brownsville Public Utilities Board. Restoration efforts have focused on three resacas owned by the town. The resacas have filled with silt, and restoration efforts involve sediment removal. Restoration project benefits include increased stormwater capacity, increased raw water storage capacity for treatment plants to use in times of drought, improved water quality, habitat restoration and improved aesthetics.

The project began by gathering data on the condition of the resacas to assess candidate dredging sites. Criteria included the amount of sediment that needed to be removed, ownership issues, the existence of sufficient water for the dredge to operate and the ease of dredging spoils disposal. Phase I sites were selected within the town's resaca system. Mr. Mariscal showed a video depicting the operation of the type of dredge used in the project, which employs a hydraulic pump to pipe the dredged material to a dewatering site. At the dewatering site, large debris and sand are separated out, a coagulant is added, and sediments are collected. The water storage capacity gained in Phase I was 23.3 million gallons. The projected capacity gain from dredging all city resacas is 727 million gallons.

Erosion was significant along the resaca banks, requiring bank improvement. Improvements to the Cemetery Resaca include installing stormwater management areas to capture sediments and trash before they enter the resaca. EPA and Brownsville Community Improvement Corporation grants funded the Cemetery Resaca project. The U.S. Army Corps of Engineers (USACE) has been assisting the restoration by conducting feasibility studies of improvements to bank stabilization, habitats and water quality. The

total Resaca Restoration Project cost is estimated at $1.7 million for all three systems, and the timeframe for restoring all of Brownsville's resacas is estimated to be on the order of 50 years.

The newest project of the SRWA is the SRWA Brackish Groundwater Treatment Facility, which uses reverse osmosis technology to treat brackish ground water. Brownsville has municipal water rights to water from the Rio Grande and has a permit to use surplus water, which is intermittently available depending on river flows, to maintain resaca levels. The original plant capacity of the SRWA Brackish Groundwater Treatment Facility is 7.5 million gallons per day (MGD), but the facility has space to expand capacity. The benefits of treating brackish ground water to produce drinking water include that it is independent of the Rio Grande and results in water rights savings; challenges include higher operating costs, the need to monitor discharges and the requirement for specialized training of personnel. Currently, the Brownsville public water supply relies on surface water for approximately 75 percent of its supply, but after expansion of the ground water treatment plant, surface water plants are projected to contribute only 54 percent. Brownsville's long-term water supply strategy is diversification, including purchasing additional surface water rights, increasing the storage capacity in resacas, expanding brackish ground water desalination, piloting seawater desalination, and implementing water reuse from wastewater treatment.

Q&A and Discussion

Commissioner Edward Drusina asked about the projected lifespan of the current water system based on population growth. Ms. Judy Adams responded that population growth likely will require adoption of new technologies. Commission Drusina asked Ms. Adams to elaborate on planned approaches to meet demand. Mr. Mariscal replied that a dam to capture water along the river has been planned.

Dr. Jeff Payne asked Mr. Mariscal to provide a broad picture of the resacas' role in water management and flood control. Mr. Mariscal answered that most rainwater flows into the resacas, but additional capacity, which will be provided by dredging, is needed to capture runoff and resolve flooding problems.

Dr. Keith Pezzoli commented that the 58-year timeframe for dredging the resacas is long and asked how the federal government might expedite the project. Mr. Mariscal replied that the rate of resaca restoration is limited by funding availability, but the city is seeking financial assistance for the project. Commissioner Wood added that limited funding, as well as the time required to secure permits, are two issues that are slowing the restoration efforts.

Ms. Lisa LaRocque asked if the city has estimated the costs that might ensue from infrastructure that is insufficient to protect the region in the event of a hurricane. Mr. Mariscal responded that such estimates have not been made. Ms. LaRocque pointed out that the cost of restoring the resacas now is likely to be significantly less than the cost associated with repairing the damage incurred by a hurricane or other event if they are not restored.

Matamoros, Mexico

Mr. Mauricio Ibarra thanked the Board members for visiting the region. He praised the positive efforts that Brownsville has made to restore the resaca system. He noted that agriculture has led to modifications of the land on both sides of the Rio Grande.

Matamoros' municipal plan contains multiple priorities, among them is making Matamoros competitive and sustainable. To achieve this objective, 16 lines of action have been identified, each with associated projects. Protecting the ecology and the environment is one of the 16 lines of action. One project related to environmental protection was to build a classroom from recycled soda bottles. The project reduced

construction costs and raised awareness of the pollution generated from plastic bottles. A planned project is to replace trash collection trucks with more efficient vehicles that generate fewer emissions. Reducing the methane produced by decomposing trash is another planned project. Matamoros also is using new light emitting diode (LED) technology to light the city.

Another line of action is to increase the resources devoted to nonmotorized transportation. Matamoros is developing a system of bicycle paths and promoting commuting to work by bicycle. Diabetes and depression are two health problems that would be improved by promoting physical activity through increased use of nonmotorized transportation.

Matamoros has suffered from flooding as a consequence of development, and the city is striving to conserve and maintain its public spaces. Citizen participation is key in this effort, which to date has met with mixed success. Restoration of a park that includes a large lake, similar to the resacas, is a specific project related to this line of action.

A new bridge is being built to connect Brownsville and Matamoros. It is an international project that includes cultural attractions, sports areas and bicycle paths. Promoting tourism by developing more significant cultural institutions, such as museums, is a goal for both Brownsville and Matamoros.

In September 2015, Matamoros signed a letter of intent committing to the five activities of the Plan de Acción Climática Municipal (PACMUN). The five activities include (1) conducting an inventory of energy and emissions; (2) aiming to reduce emissions; (3) creating a municipal climate action plan; (4) implementing the plan; and (5) monitoring and evaluating the results. Public policies related to PACMUN include installing energy-efficient lighting, bringing infrastructure up to date, restoring ecosystems, mitigating floods, improving trash disposal and preserving green spaces. The government of Matamoros is meeting regularly with activists, students and factory employees to garner support for its initiatives. Pollution awareness is a problem in Matamoros. In general, the conditions in Matamoros are much more serious than in Brownsville, and Mr. Ibarra expressed hope that conditions in Matamoros might someday equal those in Brownsville.

Q&A and Discussion

Dr. David Eaton asked Mr. Ibarra what investments would enhance the ability of communities like Matamoros and Brownsville to work together to improve their climate change resilience. Mr. Ibarra replied that the new bridge for bicycle and pedestrian traffic, converted from a railroad bridge, is an example of communities in the United States and Mexico working together to decrease vehicular traffic, increase physical activity and provide an option to cross the border without using a car.

Dr. Rebecca Palacios inquired about the extent to which the community is involved in planning resiliency projects. Mr. Ibarra responded that the public was surveyed, and creating more public and cultural spaces was identified as a priority. Improving public safety to increase tourism also was a priority.

Ms. Edna Mendoza asked how the municipal government maintains momentum given the 3-year term of administrations. Mr. Ibarra stated that members of the planning department do not have 3-year terms.

Climate Effects/Natural Disasters in the Border Region

John Wood, Commissioner, Port of Brownsville; Jesús González Macías, Federal Delegate in the State of Tamaulipas, SEMARNAT; Sam Coleman, Deputy Administrator, EPA Region 6; David Brown, National Oceanic and Atmospheric Administration (NOAA), Regional Climate Services Director, Southern Region

Port of Brownsville and Bahia Grande Restoration Project

Commissioner Wood shared a video describing the Port of Brownsville. The port is the only deep-water port on the U.S.-Mexico border. Its world-class facilities include a range of services for shipping dry and bulk cargo via multiple modes, including truck, rail and ship. The port also owns 40,000 acres of land that are well suited for industrial development.

The American Association of Port Authorities is actively exploring potential effects of climate change on the shipping industry. More than 80 percent of world trade is transported by ship, and climate change has the potential to affect the shipping industry significantly as a result of a wide range of effects, including sea-level rise, increasing numbers of large storms such as hurricanes, diluted salinity, coastal flooding, increased energy consumption from air conditioning and hotter working conditions for stevedores.

The Bahia Grande comprises more than 20,000 acres of habitat owned by the U.S. Fish and Wildlife Service that was cut off from tidal inputs in the 1930s, resulting in the basin's becoming a barren dust bowl. Dust from the Bahia Grande was causing health, environmental, economic and safety problems. A 2,300-foot-long pilot channel was dug to reconnect the dry basins of the Bahia Grande with the Laguna Madre through the Brownsville Ship Channel, flooding the main basin and eliminating the persistent dust problem. Coastal Impact Assistance Program funds were awarded to Cameron County to widen the pilot channel, and a permit was granted to construct a permanent channel, the completion of which is projected for October 2016.

Q&A and Discussion

Mr. Tom Davis asked whether an electrification plant or the export of natural gas is planned for the Port of Brownsville. Commissioner Wood replied that bonds have been sold for a new liquid-cargo dock and leases for liquefied natural gas plants are being considered, pending permitting approval.

Mr. Jose Angel inquired about the salinity of the water in the basin. Commissioner Wood responded that although the input water has the same salinity as the Gulf of Mexico, the water in the basin is hypersaline.

Dr. Payne asked Commissioner Wood to describe in greater detail the ways in which the port interfaces with the internal transport system. Commissioner Wood explained that much of the transport to and from Mexico is by truck, including overweight trucking that allows direct trucking of such materials as heavy steel into Mexico via the overweight corridor. In addition, pipelines transport such materials as diesel fuel into northern Mexico.

Dr. Cyrus Reed stated that the organization he represents, the Sierra Club, opposes construction of liquefied natural gas plants at the port.

Dr. Reed asked whether efforts are being made to modernize the fleet of drayage trucks to reduce emissions. Commissioner Wood replied that the truckers are contractors, and the port has no direct control over them. Dr. Reed cited a state program in Houston to reduce emissions from drayage trucks and inquired whether Commissioner Wood was aware of similar federal efforts. Commissioner Wood responded that drayage truck emissions currently are not a major issue in the Brownsville area, but emissions are being monitored.

Climate Change Policies and Strategies in Mexico

Mr. González Macías surveyed policies and strategies of the Mexican government related to climate change. The natural greenhouse effect by which sunlight warms the atmosphere is being exacerbated by the high levels of anthropogenic greenhouse gases. The 2014 report of the Intergovernmental Panel on Climate Change (IPCC), which involved scientists from all over the world, presents the latest scientific evidence on the physical scientific basis, effects and possible mitigation actions related to climate change. From 1901 to 2012, the global average temperature increased by 0.85 degrees Celsius. In 2012, Mexico contributed only 1.37 percent to the global emissions of carbon dioxide from fossil fuels. Within Latin America, Mexico was second to Brazil in its carbon dioxide emissions in 2012. From 1960 to 2010, average temperatures in Mexico increased by 0.85 degrees Celsius, and summer temperatures averaged 1.3 degrees Celsius higher.

Mexico is particularly vulnerable to climate change because of its geographic location, which renders it susceptible to meteorological events, and the high levels of poverty in its population. Natural disasters associated with climate change include drought, heat waves, flooding and hurricanes. Other factors that influence Mexico's vulnerability to climate change include urbanization, migration from rural areas and economic disparities. In 2014, the Instituto Nacional de Ecología y Cambio Climático (INECC) determined that 319 municipalities in Mexico were highly vulnerable to the effects of climate change. Since 2012, Mexico has responded to the threat of climate change by actions that include passing legislation, establishing a climate change council, taxing fossil fuel, establishing a national program of emissions and committing to compromises for 2020 to 2030. The objectives of Mexico's general climate change law, enacted in 2012, are to decrease carbon emissions, increase resiliency and foster political inclusiveness.

Mexico's actions to address climate change revolve around the national system to address climate change. Mexico's national strategy to address climate change is established on six main pillars. These pillars include measures to adapt to climate change and decrease emissions by developing policies that are coordinated and inclusive, developing technology, promoting cultural education, verifying and monitoring climate change, and promoting a strategic approach across all levels of government. Decreasing vulnerability involves increasing reliance on clean energy and decreasing energy consumption, which will benefit the health and well-being of the Mexican population. The 2014 to 2018 climate change program has the goals of decreasing greenhouse gas emissions by 30 percent and increasing clean energy generation by 35 percent. Mexico also is addressing climate change at the state level through state laws, programs and greenhouse gas emission inventories. Mexico's national policy on climate change includes objectives to decrease vulnerability, protect ecosystems, reduce greenhouse gas emissions in the short term, reduce the emission of short-lived climate contaminants and consolidate national policies to fight climate change.

Mexico has pledged to adhere to climate change targets and priorities to address climate change established in its 2012 general climate change law. Mexico proposes to decrease greenhouse gas emissions, increase clean electricity generation, reduce black carbon emissions and increase resiliency of vulnerable municipalities. Accelerating the mechanisms for the transfer of financial and technological support from the nations with the highest greenhouse gas emissions to developing nations will allow Mexico to increase its reductions in black carbon and greenhouse gas emissions beyond its current targets. Adaptation to climate change in Mexico entails investing in strategic infrastructure and protecting biodiverse ecosystems, as well as strengthening the adaptive capacity of the most vulnerable municipalities, establishing early alert systems and stopping deforestation.

Q&A and Discussion

In response to a question from Dr. Pezzoli about the meaning of "co-beneficiaries of health," Mr. González Macías explained that the effects of climate change include illness, drought and flood, which lead to serious health consequences for the average Mexican.

Ms. Lauren Baldwin asked whether Mexico is collaborating with the 100 Resilient Cities initiative. Mr. González Macías replied in the affirmative, stating that the Mexican government is working with the 160 cities in the country that are most vulnerable to natural disasters, as well as working to increase resilience at the federal and state levels. Ms. Gomez added that the cities of Brownsville and Matamoros are considering filing a joint application for the initiative, as have El Paso and Juárez, Mexico.

Dr. Ganster inquired whether the vulnerable cities lie only in northern Mexico. Mr. González Macías explained that vulnerable cities are spread throughout Mexico.

Dr. Reed noted the lack of consensus on climate change among U.S. political parties and asked whether a consensus on climate change exists among Mexican political parties. Mr. González Macías replied that Mexican action on climate change began under the previous administration of President Felipe Calderón, a member of the National Action Party, and continues under that of President Enrique Peña Nieto, a member of the Institutional Revolutionary Party.

In response to a question from Mr. Luis Olmedo regarding Mexico's plan to achieve targets on generating clean energy and decreasing greenhouse gas emissions, Mr. González Macías responded that Mexico plans to decrease emissions by turning to clean energy sources, an endeavor in which the government plans to partner with industry. Mr. Olmedo asked whether Mexico plans to collaborate with U.S. border cities to reduce greenhouse gas emissions. Mr. González Macías replied that Mexico is interested in working with the United States to decrease emissions, but the goals he cited are for Mexico.

Regional Climate Services in the U.S.-Mexico Border Region

Dr. David Brown described regional climate services in the border region. Recent regional climate extremes include the Texas drought of September 2011 and the May 2015 floods in Texas and Oklahoma. Even more recently, a strong El Niño event has affected the regional climate, bringing wetter than normal weather to Brownsville. Dr. Brown emphasized that climate extremes and climate variability are as important to consider as climate change, and he requested that the Board consider climate variability as well as climate change in its report. Climate variability resilience requires early warning systems, response planning, and tools and products to meet the resultant challenges.

Dr. Brown stated that water management, heat health impacts and ecosystem impacts are examples of climate challenges along the border. He asked the Board to consider what priorities should be established for climate services in the border region. Evaluation metrics and criteria are needed to assess how well climate service providers are meeting climate challenges along the U.S.-Mexico border, and the GNEB could provide guidance on the criteria that could be used. Dr. Brown further asked the Board what its role might be in reporting on the implementation of services by describing good examples of climate resilience.

Q&A and Discussion

Dr. Eaton asked Dr. Brown what actions he would consider priorities if higher levels of funding were available. Dr. Brown replied that early warning systems, such as those for predicting El Niño events or hurricane season severity, are critical and provide immense benefits.

Dr. Ganster inquired about coordinating climate services with Mexico. Dr. Brown responded that such organizations as the Commission for Environmental Cooperation are critical for coordination of services and suggested that the Board explore what transboundary organizations and initiatives already are in place.

Dr. Eaton commented on the challenges of performing long-term forecasts correctly and asked Dr. Brown for examples of investments that resulted in dramatic improvements in forecasting ability. Dr. Brown cited drought forecasting administered by NOAA.

Mr. Olmedo pointed out the importance of in-person meetings and field trips for Board members from different states to learn about other areas of the border and build consensus. Dr. Brown agreed, noting the broad public participation at the meeting.

Border 2020

Deputy Regional Administrator Coleman described Border 2020, the fourth in a series of binational plans under the 1983 La Paz Agreement between the United States and Mexico. The border region, as defined under the La Paz agreement, extends 100 kilometers on either side of the U.S.-Mexico border and includes the jurisdictions of 26 federally recognized tribes and 10 U.S. and Mexican states. In implementing Border 2020, 2-year action plans are formulated to document efforts, track progress and account for shifts in resources and/or priorities as necessary. The five goals of Border 2020 are to (1) reduce air pollution; (2) improve access to clean and safe water; (3) provide materials management and clean sites; (4) enhance joint preparedness for emergency response; and (5) enhance compliance assurance and environmental stewardship. The fundamental strategies of Border 2020 address the following cross-cutting goals: improve children's health; build climate change resiliency; protect disadvantaged and underserved communities; promote environmental awareness; promote environmental health; and strengthen tribal, state, federal and international partnerships.

Deputy Regional Administrator Coleman outlined ongoing and planned actions under the current 2-year plan for the goals and fundamental strategies of Border 2020. For Goal 1, planned actions focus on monitoring and addressing the problem of particulate matter. For Goal 2, actions are planned to improve access to wastewater treatment and address issues related to stormwater and flooding. For Goal 3, waste management issues, such as electronic waste (e-waste) and the cleanup of contaminated sites, will be addressed. For Goal 4, joint U.S.-Mexico emergency response training will be conducted and grants provided for equipment for Mexico. For Goal 5, actions will be taken to ensure effective enforcement at the ports-of-entry, support will be provided for best management practices on such materials as tires and e-waste, and cross-border toxic releases will be documented. For the fundamental strategy of improving children's health, two symposia were convened and efforts are ongoing to increase asthma awareness in the border region. For the strategy of building climate change resiliency, greenhouse gas emissions will be reduced by increasing energy efficiency and the adoption of renewable energy technologies. Key partners in funding the projects to achieve Border 2020's goals and strategies are the North American Development Bank (NADBank), which funds projects on water and wastewater infrastructure through the Border Environmental Infrastructure Fund, and the BECC, which administers grants funded by EPA, as well as facilitates coordination with state and local programs.

Notable accomplishments under Border 2020 include eliminating more than 350 MGD of untreated sewage entering binational rivers; removing more than 20 million scrap tires from clandestine dump sites; removing more than 2,200 tons of trash from the Tijuana and New Rivers; developing emission inventories and climate action plans for the six Mexican border states; conducting a green infrastructure forum; conducting energy and water audits of U.S. and Mexico water utilities; and removing 73 tons of pesticides from rural areas. Challenges that remain include the exceedance of health-based standards in

binational airsheds, population growth, climate change and illegal dumping—all of which affect human health.

Q&A and Discussion

Mr. Olmedo highlighted the issue that communities and organizations do not always have the expertise to compete for funding for projects under Border 2020. He expressed concern about Border 2020's not being effective in building local capacity. Deputy Regional Administrator Coleman replied that efforts are ongoing to address this problem, including holding grant-writing workshops and providing grant-writing assistance to local entities, but Congress mandates that grants be awarded on a competitive basis, and there are budgetary limits on the number of projects that can be funded.

Mr. Jack Monger asked for information about which states have developed climate action plans. Deputy Regional Administrator Coleman responded that by statute, Mexico requires its states to develop climate action plans; although some U.S. border states do not recognize climate change, all are actively addressing issues of climate change such as decreasing greenhouse gas emissions and increasing renewable energy use. Border 2020 works with states on appropriate activities and strives to be respectful of political differences.

Ms. Mendoza recognized Border 2020's record in funding pilot projects, but commented that the program was less successful in funding larger scale projects. She gave examples of pilot projects that might benefit their communities if expanded, including converting waste restaurant oil to biodiesel and manufacturing packing material from waste paper products.

Mr. John Parada inquired about the tribes' response to Border 2020. Deputy Regional Administrator Coleman answered that Border 2020 had been highly successful in partnering with the tribes and the tribes are represented in the coordinating and organizing body of Border 2020. Tribal representatives also participate and hold leadership roles in the four regional workgroups of Border 2020.

Mr. Parada asked about air quality projects that the tribes might pursue. Deputy Regional Administrator Coleman replied that the BECC might fund such projects.

Public Comments

The floor was opened for public comments.

Ms. Giner thanked the GNEB for recognizing in its 2015 advice letter the efforts of the BECC to support green infrastructure in the border region. Regarding climate change, Border 2020 supported the greenhouse gas inventories conducted by the six Mexican states in the border region. A new model for funding private entity retrofits in energy efficiency and renewable energy is the property-assessed clean energy (PACE) model, for which Texas, New Mexico and California have enabling legislation. This model allows the debt for the retrofit to be associated with the property and allows companies to leverage capital for retrofits. The PACE model can be used to fund investments in water efficiency, energy efficiency and renewable energy. More counties need to enact enabling legislation for PACE. Mr. Scott Storment responded that he has experience with PACE. For residential properties, the model is not working well. For commercial and institution properties, however, the PACE model has the potential to have a large positive impact on air quality and greenhouse gas emissions because the largest consumers of energy can make improvements without incurring out-of-pocket expenses. When the property is sold, the debt conveys with the property. Dr. Reed added that in counties with enabling legislation, such loans can be made by private entities and the NADBank does not need to be involved.

Mr. Joe Hinojosa urged the GNEB to consider irrigation issues. Improving irrigation infrastructure would reduce water losses, which are significant. He also asked for the Board's support in the pursuit of a national estuary designation for the Bahia Grande, which would increase funding opportunities. Dr. Reed asked Mr. Hinojosa to draft a letter describing his request, to which Mr. Hinojosa agreed.

Dr. Osbert Haro Rodriguez thanked the Board for coming to Brownsville. He observed that climate change is a very important problem, especially for the poorest of the poor. He suggested that agriculture should be one of the top priorities in addressing climate change resiliency, given possible effects of greenhouse gases and climate change on rainfall.

Vulnerable Populations and Health

Colonias

Jesse Miller, buildingcommunityWORKSHOP (bcWORKSHOP); Nick Mitchell Bennett, Executive Director, Community Development Corporation of Brownsville (CDCB)

Mr. Nick Mitchell Bennett stated that for 41 years, the CDCB has been building affordable housing, mainly in Brownsville. The CDCB has six major lines of business: single family homes; La Puerta; rental housing; the RGV multibank, which provides an alternative to payday loans; YouthBuild; and community equity. Mr. Jesse Miller explained that bcWORKSHOP is a design firm that engages the public in design decisions, following the *promotores* model. Brownsville is flat and prone to flooding, particularly in the colonias, which lack infrastructure. Mr. Bennett indicated that the CDCB realized that it was creating properties without considering stormwater control. The CDCB traditionally had offered its clients limited choice and streamlined systems because of the need to build more than 100 houses per year at low cost. To implement a rapid and inexpensive client-led design process as an alternative to this model, the CDCB decided to partner with bcWORKSHOP. The CDCB, through its YouthBuild program, and bcWORKSHOP designed and built the first Leadership in Energy and Environmental Design (LEED)-certified home south of San Antonio, Texas. Using client-led design, the CDCB and bcWORKSHOP have built a second LEED-certified home in Brownsville.

Mr. Miller described Colonia Neighborhood Planning, a participatory planning initiative. Designers met with residents where they lived, listened to their needs, helped identify and prioritize issues, compared local issues to regional concerns, and developed a series of plans. The two main priorities were housing and flooding. To address flooding, the designers started with a map of drainage and asked residents to delineate where floods occurred in their neighborhoods. The Colonia Drainage Study is an initiative led by the state of Texas. Relying on satellite data to determine where to install drainage ditches is not as accurate, however, as using local knowledge of flooding patterns.

Mr. Bennett described La Hacienda Casitas multifamily development, a site that originally was developed in the 1940s and featured some of the largest trees in the area. To control stormwater but avoid installing a detention pond, bioswales were created that ran around the entire property. Water collected in the bioswales is pumped into a city-owned drainage ditch. The development won both a design and drainage award. The project is an example of how designers can improve people's everyday lives when design is carried out through community engagement.

Q&A and Discussion

Dr. Payne asked Mr. Bennett and Mr. Miller to describe their perspectives on opportunities to increase resilience through community engagement. Mr. Bennett replied that given sufficient resources, communities will choose resiliency. Developers and state officials need to be educated, however, that the least expensive approach is not always best or most cost effective.

Dr. Palacios noted that colonias have very poor infrastructure and asked Mr. Bennett and Mr. Miller about the applicability of their model to such a community. Mr. Bennett responded that the colonias in the examples that were shown did not have infrastructure a decade ago; in some respects, it is easier to start without infrastructure than to retrofit communities with existing infrastructure. Dr. Palacios asked about the source of the funding to build infrastructure. Commissioner Wood answered that as County Commissioner, he had overseen $18 million in state funding of infrastructure installation in colonias. Dr. Reed affirmed that Texas had made a very large effort to improve the infrastructure of colonias.

Dr. Reed asked about challenges that the CDBC had encountered in meeting land-use development codes. Mr. Bennett responded that Brownsville has not enacted land-use codes.

Housing County/City
Carla Mancha, Chief Executive Officer, Housing Authority City of Brownsville (HACB)

Ms. Carla Mancha reviewed the HACB's efforts to promote community gardens, the impact that the HACB has on families and the role of the HACB in combating global warming. The goals of HACB's strategic plan for 2015 to 2020 are to promote affordable housing by increasing units, increase the number of people served, create resilient communities through collaborative initiatives and leveraging resources, create an organizational culture of excellence by investing in its employees, and build capacity for a holistic approach to property development. The organization of the HACB reflects its strategic plan, with its employees divided into teams.

The HACB is promoting community gardens through a partnership with the Brownsville Wellness Coalition. This partnership has led to the development of the La Esperanza Garden and the designation of land for another community garden. Hanging gardens are being planned for existing sites without sufficient open green space, and gardening amenities will be incorporated in the design of new developments. The community has named and taken ownership of the La Esperanza Garden. The garden has affected families by fostering a sense of community between nearby homeowners and HACB tenants; reinforcing classroom learning; and providing food, a sense of purpose and economic opportunities through selling surplus produce. Gardeners gather regularly at the site for socializing.

Community gardens have a role in combating global warming. Seventy percent of American households engage in gardening every year for a variety of purposes, including producing flowers, fresh fruits and vegetables, and grass, as well as for the peaceful environment and connection to nature. Gardening practices can help combat global warming by storing carbon in vegetation, soil, compost and plant residues. Recent studies have shown that urban green spaces have the potential to capture carbon dioxide and store it over time. Gardening practices that maximize carbon storage include crop rotation, cover crops, tree planting, and low-impact lawn and garden maintenance. Ms. Mancha observed that gardening is part of a bigger effort that will reduce global warming, and practices by home gardeners can be duplicated on a larger scale on farms and ranches.

Climate change stressors that affect quality of life include economic, social, environmental, health and housing effects. By addressing these stressors, the HACB is fulfilling its role in the community not just to build affordable housing, but also to assist with any project that will improve the quality of life for all residents of Brownsville. Ms. Mancha shared examples of such projects, including building affordable housing at Bella Terra, designing and building Resaca Village, empowering families through the Family Self-Sufficiency Program, expanding opportunities for home ownership, investing in youth through the HACB Reading Program, partnering with elementary schools, promoting healthy life activities, and partnering in applications for neighborhood planning grants. Achieving the goal of addressing the stressors of climate change requires local leadership, public understanding of the stressors, engagement of

communities by the federal government, and partnerships between the HACB and entities beyond city and county government.

Q&A and Discussion

Dr. Pezzoli suggested additional ways that municipalities can address climate change, including food composting, creating a "food forest" in urban areas and caring for soil.

In response to Dr. Pezzoli's question about whether HACB's efforts to incorporate green infrastructure had been initiated by its leadership or community pressure, Ms. Mancha replied that members of the Board of Directors had envisioned how dedicating land for a community garden might help unite members of the community and connect tenants with homeowners.

Ms. Baldwin asked for more information about how the HACB had established a partnership with the Brownsville Wellness Coalition. Ms. Mancha responded that she had been new to the position and had been approached by a representative of the coalition as potentially receptive to new approaches. Mr. Bennett added that the culture of Brownsville is changing as the city seeks to overcome its reputation as being the U.S. city with the highest poverty rate.

Health
Bethany Bolling, M.S., Ph.D., Texas Department of State Health Services (DSHS)

Dr. Bethany Bolling provided an overview of arbovirus surveillance in Texas, including the role of the Texas DSHS Arbovirus Laboratory, as well as challenges and future directions. Because mosquitos are hematophagus insects, they are potential pathways for transmitting malaria and viral diseases. There are three families of arboviruses, which is an abbreviation for arthropod-borne viruses. The most common arboviruses in Texas are West Nile virus, St. Louis encephalitis, Eastern equine encephalitis and Western equine encephalitis. Zika and chikungunya viruses are arboviruses of emerging concern. Mosquito testing for arbovirus surveillance is needed because of the lack of vaccines and antiviral drugs, making vector control the best way to reduce human health risks from arboviruses.

The role of the DSHS Arbovirus Laboratory is to identify mosquito species, as well as detect and track arboviruses in the mosquito population. Mosquitos are collected using different types of traps, which are biased toward different species, and are shipped live to the laboratory so that viruses can be cultured. Texas is home to 85 species of mosquitos, but only certain species are important for transmission of the most important viruses. The laboratory identifies these target species and determines whether they test positive for a panel of the most common viruses. In 2015, arbovirus-positive mosquito pools were detected across Texas, but the true extent of infection is unknown because only a limited number of counties conduct mosquito surveillance. The human and chicken data on West Nile virus showed a much broader distribution of infection. West Nile was first detected in Texas in 2002, and now is the primary arbovirus in the state.

Challenges in arbovirus surveillance in Texas include the lack of geographically representative submissions; the long incubation period of the testing technique; and new arbovirus threats, such as the dengue, West Nile, chikungunya and Zika viruses. Future directions for arbovirus surveillance include increasing county participation and switching to molecular testing to increase capacity and decrease turnaround time.

Q&A and Discussion

Mr. Davis asked whether any new pesticides for vector control exist that are as effective as DDT, and if not, whether any consideration is being given to reintroducing DDT. Dr. Bolling replied that mosquitos develop resistance to pesticides. Deputy Regional Administrator Coleman added that because wide application is necessary, care must be taken to use the appropriate pesticide so as not to kill pollinators.

To expand the mosquito surveillance program, Dr. Eaton suggested involving schoolchildren in a new type of citizen science project. Dr. Bolling responded that her laboratory is not involved directly in education, but larvae collection might be a possible project for schoolchildren.

Dr. Palacios inquired about physician training initiatives. Dr. Bolling answered that the control branch of the DSHS educates physicians about the symptoms of the different arboviruses.

Mr. Monger asked what effects climate change might have on mosquitos in Texas and the workload of the laboratory. Dr. Bolling replied that climate change likely will alter mosquito species distribution and therefore change disease incidence. Temperature also affects the virus replication rate in mosquitos.

Mr. Parada asked about possible effects of wet and dry seasons on West Nile virus outbreaks. Dr. Bolling commented that this would be an interesting topic for investigation but did not think any such studies have been conducted.

In response to a question from Dr. Ganster, Dr. Bolling stated that her laboratory does not communicate directly with any laboratories outside of Texas, including Mexico.

Strong Cities, Strong Communities Initiative

Ms. Gomez stated that Brownsville was chosen in the second cohort to participate in the White House's Strong Cities, Strong Communities Initiative and is the only border city in the initiative. Ms. Gomez works directly with city officials on efforts to increase the city's resilience using the collective impact model. Through the initiative, cities can communicate with each other on approaches to overcoming challenges. Each city participates in the initiative for 2 years. Under the initiative, Brownsville is developing a work plan to increase the city's resilience.

Q&A and Discussion

Mr. Russell Frisbie asked about the extent to which Ms. Gomez engages in collaborations across the Mexican border. Ms. Gomez replied that she is very interested in cross-border collaborations and works actively with the Mexican consulate.

In response to a question from Dr. Ganster, Ms. Gomez listed some of the other cities chosen for the Strong Cities, Strong Communities Initiative, which include Flint, Michigan; Gary, Indiana; and Macon, Georgia.

Commissioner Wood asked whether Brownsville continues to support mosquito control efforts in Mexico by providing insecticide and equipment. Ms. Gomez suggested that he query Brownsville city officials about the current status of such collaborations. She noted that fostering collaborations between the Department of Health and Human Services, as well as the Centers for Disease Control and Prevention, and their Mexican counterparts has been a topic of conversation.

Discussion of Report to the President on Climate Change Resilience in the U.S.-Mexico Border Region

Dr. Ganster indicated that the rest of the meeting would be devoted to a discussion of how the Board will make progress on developing its next report. He stated that a discussion of logistics, including deadlines and writing assignments, was scheduled for the second day of the meeting. Prior to the meeting, Dr. Eaton had prepared a draft outline that had been circulated to the Board members via email. The draft outline, as amended at the meeting, is included in Appendix C. Dr. Eaton explained that he had prepared the draft outline by reorganizing the content of the Board's 2015 advice letter into the format used in previous reports.

Dr. Ganster stated that EPA recently received the Council on Environmental Quality's (CEQ) response to the 2015 advice letter. He indicated that Ms. Gantner will distribute the response to the Board members via email after the end of today's meeting.

The Board discussed additions to the content of the outline. Dr. Eaton stated that some members had provided feedback on the outline, particularly on the importance of public health. Mr. Jose Luis Velasco suggested that the report provide a general picture of the federal, state and local programs that are performing best at capacity building. He proposed adding a section describing the border region, including the nature of the relationships of U.S.-Mexican sister cities. Mr. Olmedo suggested that Chapter One include data gaps and recommendations on data gaps; Chapter Three include maps identifying vulnerable communities by geographic location and be broadened to include "disadvantaged communities," which has a broader meaning than "vulnerable communities"; and Chapter Four include health risks from decreased water flows. Dr. Palacios observed that public health too often is neglected when considering the effects of climate change; she advocated for a separate chapter on public health rather than integrating information on public health effects throughout the report. Dr. Pezzoli agreed with consolidating information about public health rather than dispersing it in the report. Mr. Angel also agreed with placing a strong emphasis on public health. Mr. Parada noted that for tribal communities, securing funding for projects depends on providing justification on a health basis. Ms. Mendoza noted that the meeting's presentations had emphasized the different economic levels of people in the border region and this point should be developed more in the report. She proposed discussing the importance and uniqueness of the border region in Chapter One so that the report would have a more profound impact on decision makers. Mr. Davis suggested that the GNEB consider changing the report title.

A general reorganization of the report was proposed. Dr. Pezzoli advocated for a more integrated structure, particularly addressing human health in each chapter rather than in a separate chapter. He suggested that a structure based on the climate-human-nature nexus would reflect a more cutting-edge approach. He argued that the resilience of people and ecosystems cannot be thought of separately. Mr. Davis proposed combining Chapter One with Chapter Three and possibly Chapter Four as well. Chapters Two and Four could become Chapter One.

Ms. Mendoza raised the issue of the broadness of the scope of the report. She cautioned against too broad a scope, which might result in a "watered down" report. Dr. Ganster responded that the GNEB needs to decide how much material should be included in the report and how to select good, meaningful examples. Dr. Reed expressed concern as well that the Board was taking on too large a task in the report and suggested that the report be more focused. He proposed that in the report the Board take the approach of identifying what could be done at the federal level to enable border communities to accomplish what Brownsville has achieved. Ms. Jennifer Hass proposed a multiyear approach in which the GNEB would address the issues presented in its 2015 advice letter in the first year and address other aspects of climate change in the second year. Mr. Joyce replied that under a new administration, the GNEB might be given a different charge and, therefore, the Board could not rely on having a second year to address issues of

climate resiliency. Dr. Payne noted that at its meeting in San Diego, California, the GNEB had discussed preparing a report that would have an impact in the last year of President Barack Obama's administration. Dr. Payne thought that the advice letter had been too far-reaching. Regarding the report, Dr. Payne was of the opinion that to have an impact, it needed to be more focused. Dr. Ganster noted that the members of the Board represent a wide range of constituencies, leading to challenges in focusing and prioritizing issues in the report. He suggested looking to the example of Border 2020, a multi-agency effort that has achieved significant results with a limited budget. Mr. Frisbie also recommended that the Board not "cast its net too widely."

The Board discussed the recommendations section of the report. Dr. Eaton noted that the 2015 advice letter only included short-term recommendations, whereas the report provides the opportunity for including more ambitious recommendations. He advocated for the Board's being more ambitious than it has been in past reports by considering a "blue-sky approach." Ms. Mariel Nanasi agreed with the need for the Board to be forward-thinking, proposing that renewable energy be discussed in the report. Mr. Joyce noted that the recommendations in Chapters Four and Five of the outline could be combined into one chapter because the Board provides advice to the President and Congress, not directly to federal agencies. He suggested that the greater the specificity of the recommendations, the more useful they will be, and including near-, medium- and long-term recommendations is appropriate. Mr. Velasco proposed adding a recommendation to collect data on climate resilience at the community level. Dr. Pezzoli observed that the federal government is becoming more involved in data collection and that a cyberinfrastructure is needed to provide better access to data, including at the community level. Ms. Nanasi emphasized that planning for climate resiliency should be among the Board's recommendations. She also suggested that fostering communication among agencies to achieve common goals is important. Dr. Reed suggested the need to organize the recommendations by topic, as well as to include cross-cutting recommendations.

Mr. Jonathan Andrew raised the issue of inconsistent use of the term "climate change" in the report. Mr. Olmedo expressed a preference for the term "climate change" over "climate risk." Mr. Storment noted that some border states, such as Texas, take the position that there is insufficient scientific evidence to support that human activity is changing the global climate, hence the use of the term "climate risk." He advocated, however, for the use of the most widely accepted scientific term. Mr. Angel maintained that because the Board was asked to give advice on climate change, it should use that terminology. Ms. Mendoza responded that the Board's charge uses the term "climate resiliency," not "climate change." Dr. Payne observed that as the GNEB had discussed in San Diego, the goal of the report is to describe climate impacts and risk; the report need not provide details as to whether the cause of climate change is anthropogenic or natural. He did not think the report would be weakened by excluding the term "climate change." Dr. Eaton agreed with Dr. Payne's approach to start from technical issues associated with temperature changes and their effects and then proceed to responses to those changes. He suggested that instead of focusing on choosing words to describe the temperature changes, the Board should focus on the actions that will make a difference in resilience.

Mr. Angel characterized emphasizing resilience in the recommendations as favoring a reactive approach; he stated that recommendations are needed that address the causes of climate change. Mr. Olmedo also took issue with the concept of resilience as a response to climate change; he stated that what is needed is infrastructure that will withstand climate change.

Dr. Ganster emphasized producing a report that will stand on its own. Some readers of the report might not understand the context of the border region. A broad treatment of the region and its issues is needed. The report will be most effective if the GNEB chooses to emphasize a few ideas.

Mr. Olmedo noted that the border region has its own unique challenges. The Board has the ability to elevate the voice of the community. He expressed his opinion that in the past, the GNEB has not always provided such a service to the border community. He stated that it is important that the border communities and their unique challenges be described and that the recommendations and solutions to those challenges be actionable.

Ms. LaRocque commented on some of the themes that had emerged from the day's presentations. The cross-cutting nature of climate change issues present challenges. These challenges can be addressed by fostering cross-coordination, empowering local communities in the long term, establishing early warning systems, and developing solutions for the long term.

Dr. Eaton proposed that each of the members brainstorm several case studies that might be used to help develop the narrative. He thought that starting with a set of case studies and the recommendations might be helpful for organizing the report. Deputy Regional Administrator Coleman approved of Dr. Eaton's approach of starting with case studies and recommendations, which will form the basis for the actions that federal agencies will take. He noted that many of the people who will initiate those actions actually were present at the meeting as representatives of the federal agencies. He suggested that a useful filter would be for those individuals to ask themselves the questions, "What has to get done?" and "What are we willing to do?"

In preparation for the second day of the meeting, Dr. Ganster suggested re-reading the advice letter and reviewing the CEQ's response, taking note of the recommendations to which the CEQ had responded. Dr. Ganster also emphasized the importance of developing case studies for the report. He suggested that during the second day of the meeting the Board edit the draft outline as needed and identify writing teams.

Adjournment

The meeting was adjourned for the day at 5:30 p.m.

Tuesday, February 11, 2016

Discussion of Next Meetings and Other Business

Ms. Gantner opened the discussion of the Board's next meetings in 2016, which will occur via teleconference. Scheduling meetings for May, August and early October would allow the Board to discuss draft material and approve the report in time to transmit it to the CEQ in December 2016. After the Board approves the report, revisions agreed upon by the Board members will be incorporated, and the report will be copyedited and desktop-published by EPA's contractor, The Scientific Consulting Group, Inc. The Board discussed dates for the upcoming meetings and arrived at a tentative schedule of meetings on May 20, August 26 and October 14 from 12:00 p.m. to 4:00 p.m. Eastern Time. Mr. Joyce noted that a quorum will be necessary on October 14 to approve the report. Ms. Gantner will send save-the-date reminders of the upcoming meetings to the Board members via email.

Dr. Ganster asked Ms. Gantner to review the timing for completing drafts of portions of the report. Ms. Gantner indicated that all drafts should be sent to her by 2 weeks prior to the meeting in which they will be discussed. She will distribute them to Board members for their review. Mr. Joyce and Ms. Gantner suggested that working drafts of all chapters be completed in time for the May meeting and revised drafts

of all chapters be completed in time for the August meeting. This timetable would allow sufficient time to prepare the complete draft report for discussion and approval at the October meeting.

Ms. Gantner noted that gathering case studies, photographs and other graphical material, and data for the report is a time-consuming process. Typically, the Board forms working groups that meet to produce drafts and subsequent revisions of chapters.

Continued Work on Development of the 17th GNEB Report

Dr. Ganster suggested that the GNEB proceed by discussing the draft outline that Dr. Eaton had prepared. The bulleted items in the outline describe points of emphasis. Volunteers are needed to chair the writing of each section of the report. An editorial group could be formed to compile the sections and ensure that they are balanced in length and tone.

The Board members discussed which types of recommendations would be most effective in terms of specificity, scope and time scale. Dr. Ganster asked for feedback on whether recommendations should be focused and actionable or "blue-sky" and broader in scope. The Board also could consider offering longer term as well as near-term recommendations. Board members supported establishing a distinction between short- and long-term recommendations or perhaps even among short-, middle- and long-term recommendations. Ms. Nanasi advocated for making the Board's recommendations aspirational in scope, going beyond existing policies. She suggested that the recommendations emphasize planning and coordination. Mr. Joyce stated that in the past, the most effective recommendations had been those that were most useable and broadly applicable.

Dr. Reed observed that the CEQ's response to the Board's advice letter included a list of ongoing actions. Ms. Nanasi characterized the CEQ's response as conveying the impression that all of the Board's recommendations already are being addressed. Mr. Olmedo proposed that the Board formulate its recommendations by evaluating which programs are having the greatest success.

Dr. Reed suggested that the title of the report reflect the need for communities to be resilient, defining "resiliency" in the sense of being powerful, rather than having the ability to recover.

The Board discussed the timing of the report relative to the federal budget process. Dr. Payne noted that for longer term recommendations, federal agencies may be able to consider the Board's recommendations in allocating resources. The Board could coordinate the timing of offering its recommendations with the timetable of the budget process. Mr. Joyce provided a reminder that the GNEB's role is advisory, and federal agencies are not mandated to implement the Board's recommendations.

The allocation of resources to the border region was discussed. The issue of the states not prioritizing funding for the border region was raised. Ms. Mendoza noted that funding for border programs—such as Border 2020, the NADBank and the BECC—has become much more limited. Dr. Eaton agreed that to achieve the goals outlined in the side agreement to the North American Free Trade Agreement (NAFTA) that created the NADBank and BECC, more funding is needed. Dr. Reed suggested including a history of NAFTA and related federal programs in the border region to provide a historical context for the new administration.

Public Comments

The floor was opened for public comments.

Ms. Brooke Lyssy, who works for A Resource in Serving Equality (ARISE), described the lack of resources and infrastructure that has affected and continues to affect people living in colonias. Her organization collaborated with EPA and the Texas Commission on Environmental Quality to address these problems and increase preparedness for natural disasters. She emphasized the importance of sustainable solutions and advocating for sustainability with local officials. Members of the Board asked Ms. Lyssy to provide a description of her organization's successes to consider for a case study in the report.

Continued Work on Development of the 17th GNEB Report

Dr. Payne agreed with the need to include a historical context in the report. He viewed the upcoming change in administration as an opportunity for the Board. Mr. Joyce concurred that the report will be well timed to provide advice to the new administration on how best to allocate resources.

The Board discussed approaches to prioritizing its recommendations. Health, economics and equity were suggested as possible prioritization criteria. Mr. Olmedo noted that smaller communities are hard pressed to compete with cities for funding from grants programs. Dr. Pezzoli proposed that the Board include in the report recommendations that address the issue of inequity in ability to compete for grant funding that arises because rural areas lack the knowledge base of larger communities. Ms. Nanasi stated that the role of the Board is to act as a bridge between the community and federal government. In this role, the Board should highlight examples of good work being performed in the community to foster connections with federal agencies. Ms. Baldwin added that the Board also acts to translate such social issues as equity into actionable recommendations for federal agencies. Ms. Mendoza thought that highlighting possible economic benefits of recommendations in the report would strengthen the impact of the Board's message.

The Board members discussed possible case studies to include in the report. Mr. Olmedo advocated for featuring activities that are occurring on the ground in border communities. Dr. Eaton proposed three case studies describing (1) the scope of the investment that would enable Brownsville-Matamoros to be more resilient; (2) the scope of the investment required to improve water quantity and quality during droughts; and (3) the primary points of conflict between the United States and Mexico (e.g., over water storage). Mr. Storment proposed taking a state-by-state approach when selecting case studies and then looking for common themes. Ms. Mendoza suggested that case studies from the Board's previous report on ecological restoration might be applicable in the current report. Regarding Dr. Eaton's proposed case studies, Mr. Frisbie emphasized the importance of taking a binational approach to resilience in the border region. Mr. Andrew observed that ecological effects of climate change had not yet been discussed. He proposed including a case study on at-risk species that will be more at risk because of climate change and what can be planned to mitigate the risk (e.g., protect aquatic habitats).

Possible titles for the report were discussed by the Board members. Dr. Ganster suggested that the report take a positive approach to climate resilience. The title could reflect an emphasis on what the federal government can do to foster resiliency and sustainability. Dr. Payne proposed the title "Building Community Resilience to a Changing Climate Along the U.S.-Mexican Border." The title reflects that community engagement in identifying risks and building resilience is critical. Dr. Palacios proposed that the title incorporate prevention.

Mr. Davis suggested that the Board re-examine the CEQ's letter to determine which of the Board's recommendations from the advice letter are not being addressed by current programs. If the recommendation is not being addressed, the Board could ask whether a current program could be changed slightly or funding could be allocated differently to address the recommendation.

Outreach was identified as an important issue for climate resilience. Mr. Parada noted that tribal communities often lack funding to attend outreach events that are not local. Mr. Monger provided an example of manufacturers' not filing the required paperwork in response to a new stormwater standard implemented in California because outreach was not effective.

The importance of local engagement was stressed. Mr. Monger highlighted the value of gathering local knowledge of which resiliency solutions are applicable and effective to determine whether federal investments in programs are providing benefits to the communities they are designed to serve. Deputy Regional Administrator Coleman cited the need for more participation at the state and local levels, such as distributing federal funding to local jurisdictions for developing drinking water infrastructure, which sometimes has met resistance on the grounds of concern about federal interference with local governance. To enhance its impact, Deputy Regional Administrator Coleman suggested the report should be distributed at the state and local levels. Ms. Gomez agreed with the need for more emphasis on outreach at the local level. She cited significant differences in culture between federal agencies and local government. Local officials can benefit from guidance on how best to communicate with federal officials, as well as help connecting with nongovernmental agencies and university researchers.

Public Comments

Mr. Art Rodriguez, Brownsville Public Health Department, stated that Brownsville's population is growing and approaching 200,000, creating a demand for new infrastructure. Mr. Rodriguez advocated for communities, such as Brownsville, that are located in the border region being granted special consideration when awarding infrastructure development grants because border communities lack many of the resources of communities further from the border.

Mr. Bill Berg of Save the Rio Grande Valley From Liquefied Natural Gas expressed his opposition to establishing liquefied natural gas plants on Port of Brownsville property, citing its proximity to the national wildlife refuge. Mr. Berg stated that only approximately one-third of the jobs created by constructing the plants will be local, with many of those jobs paying only minimum wage.

Dr. Reed asked Mr. Berg what role the federal government has played in assessing the potential impacts of the liquefied natural gas plants. Mr. Berg replied that the Federal Energy Regulatory Commission is in the process of determining whether the plants will meet all applicable regulations, and EPA and the U.S. Fish and Wildlife Service are submitting comments on the plants' applications.

Continued Work on Development of the 17th GNEB Report

Ms. Mendoza suggested that the Board reach out to such groups as the U.S.-Mexico Border Mayors Association. Dr. Ganster indicated that it would be appropriate for individual Board members to make such contacts.

The Board discussed including a focus in the report on vulnerable communities in the border region. Mr. Parada cited tribal communities as having significant needs for housing, infrastructure, water and wastewater, rendering them among the most vulnerable and disadvantaged communities in the border region. Mr. Angel suggested that the Board recommend creation of grant programs targeting disadvantaged communities. Mr. Olmedo added that providing resources to help disadvantaged communities compete for funding against private entities is an environmental justice issue that is starting to be addressed through such legislation as amendments to the California Global Warming Solutions Act of 2006. He emphasized the need to prioritize funding communities directly, as opposed to funding research and pilot projects.

The Board continued its discussion of case studies for the report. In the past, case studies have been presented as sidebars within the report. As a potential case study for the report, Dr. Eaton suggested the work of AmeriCorps in the Rio Grande Valley. For the case studies, Dr. Pezzoli proposed an emphasis on including community knowledge.

The GNEB discussed the structure of the report in the context of the draft outline, provided in Appendix C, recognizing that the outline will be edited and additions will be made to it during the writing process. Dr. Payne suggested adding a section to the report on applicable grants, financial and technical assistance, and training that currently are available from federal agencies. Federal members could provide information about such opportunities available from their respective agencies. Efforts also will need to be made to gather information from federal agencies without a representative on the Board, such as the U.S. Department of Housing and Urban Development and the U.S. Department of Health and Human Services. Requesting support from the CEQ for this effort was discussed.

The interpretation of the term "resiliency" in the context of different disciplines was discussed. Mr. Parada expressed concern that for the tribes, resilience might be interpreted as requiring adaptation to climate change rather than providing support so that adaptation will not be needed. Dr. Payne noted that in its report on disaster resilience, the National Academy of Sciences defines resilience as "the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events." Dr. Palacios responded that resilience is defined differently in the field of public health.

Addressing in the report the prevention of climate change was raised as a possibility. Dr. Palacios noted that the border region is a major source of carbon pollution. The issue of whether climate change prevention should be addressed primarily through national and state policies or whether effective actions can be taken at the local and regional policy levels was discussed. Dr. Ganster noted that the Climate Change Action Plans implemented by the Mexican border states emphasize inventorying and reducing greenhouse gas emissions, rather than planning how communities can react to the negative effects of climate change. Adopting green infrastructure was discussed as a possible preventive measure. Ms. Hass responded that adopting green infrastructure also can increase resiliency by allowing continued function during natural disasters.

The wide cultural and economic diversity of communities in the border region was noted by Mr. Olmedo. Solutions that are applicable to one region might be ineffective in another. Dr. Ganster responded that a principal goal in drafting the report is to consider the diversity of the border region.

Alternatives to the outline for organizing the report were discussed. Ms. LaRocque proposed that instead of organizing the report by topic (e.g., air, water, land use), the Board approach the report by asking the questions, "What do we need to know?" "How do we build capacity?" and "What are the infrastructure needs?" Dr. Payne suggested that such a question about building capacity would correspond to the Board's recommendations about allocating resources. He noted that infrastructure needs was a common theme of the presentations of the first day of the meeting. Dr. Eaton suggested that the report answer the questions, "What do we know?" "What do we need to know?" and "How do we get the resources?" Mr. Olmedo emphasized the importance of addressing the issues of disadvantaged communities, advocating for a bottom-up approach.

The process of developing an outline for the report and forming working groups was discussed. Mr. Olmedo suggested that it might be useful to employ a facilitator to keep a record of the ideas being presented at the meeting by Board members to help develop an outline for the report. Ms. Gantner replied that the discussion in this meeting had been structured according to the established process of the Board. Dr. Eaton recognized Dr. Ganster's role as chair in ensuring that all Board members' views are heard and in facilitating the discussion. Dr. Ganster proposed that the Board incorporate the new ideas discussed

into the draft outline. He suggested that the Board members volunteer to write on the topics in the outline about which they feel most strongly. He proposed that for each topic, the working groups address the questions, "What do we know?" "What do we need to know?" and "How do we get the resources?"

The issue of creating a narrative framework for the report was raised. Dr. Pezzoli expressed concern that the report as outlined will be encyclopedic and lack a narrative structure. Ms. LaRoque stated that the first question she had suggested would provide an environmental context for the report, which could be framed in terms of the energy-water nexus. The second would address what can be done through capacity building. The third question would allow discussion of needed resources (e.g., infrastructure, economic). The introduction could address vulnerable populations and be written by a dedicated working group. The logic of this organization would reflect the resilience strategies that had been described in the presentations.

Whether sufficient time remained in the meeting to develop a new outline based on Ms. LaRoque's questions was discussed. Mr. Parada noted that time was limited and indicated that he was comfortable with the structure of the draft outline with the proviso that human health effects be addressed for each topic. Economic issues also would be applicable for each topic. Mr. Parada observed that additional topics could be added to the outline at the next meeting of the GNEB.

In response, Dr. Eaton suggested revisions to the existing outline, including adding material based on the CEQ's response to Chapter Two and providing information for each of the topics in Chapter Three regarding (1) existing information and/or data (i.e., What do we know?); (2) monitoring needs (i.e., What would we like to know?); (3) infrastructure (i.e., What can we do?); and (4) personnel and funding needs (i.e., How do we obtain the needed resources?). Health will be added as a focus. Mr. Joyce confirmed that Dr. Eaton's approach is consistent with what had been discussed with the CEQ: The Board would prepare its report using a two-stage process, first developing an advice letter outlining the major issues and then building on the advice letter to develop a full report. Dr. Ganster added that more emphasis should be placed on disadvantaged communities throughout the report. Mr. Angel made a motion that the Board use the draft outline to structure the report, and Mr. Parada seconded the motion.

Additions to the outline were suggested. Ms. Mendoza proposed moving background material from Chapter Three to Chapter One. Mr. Andrew suggested addressing ecological impacts in Chapter Three. Dr. Palacios proposed that Chapter Three, Part D, become a separate chapter.

Next steps were discussed. Dr. Eaton volunteered to add material from the advice letter to the framework of the outline, creating an initial draft of the chapters of the report by March 1, 2016. Board members volunteered to write sections of the outline, as recorded in Appendix C. Ms. Gantner indicated that she will distribute the outline with the writing assignments to the Board members by February 17, 2016. She asked Board members to respond by February 22, 2016, with any changes or additions.

Recommendations were discussed by the Board. Mr. Monger suggested that the Board include a recommendation about funding outreach, particularly to disadvantaged communities. Dr. Ganster responded that simply recommending increased funding was unlikely to be effective. Mr. Joyce stated that the Board had been charged with offering recommendations regarding activities that the federal government could engage in with state, local and tribal partners. He suggested that the GNEB frame each recommendation by describing the need, rather than a particular funding amount, and indicating which federal agency(ies) will be most appropriate to carry out the recommendation. Dr. Payne commented that including suggestions of state, local and tribal governments, as well as nongovernmental agencies, with which federal agencies might partner will strengthen the Board's recommendations. Mr. Joyce observed that actionable recommendations are well received by the federal agencies.

Dr. Eaton requested that Board members send to him any material they developed for the advice letter that was not included for space reasons, and he will add it to the draft report.

Adjournment

Dr. Ganster suggested that in the time remaining, working groups meet to discuss their chapters. The formal meeting was adjourned at 1:49 p.m.

Action Items

- ✧ In 2016, the GNEB will meet on May 20, August 26 and October 14 from 12:00 p.m. to 4:00 p.m. Eastern Time.
- ✧ Ms. Gantner will send save-the-date reminders of the upcoming meetings to the Board members via email.
- ✧ Ms. Gantner will distribute the draft report outline with the writing assignments to the Board members by February 17.
- ✧ Board members will respond to Ms. Gantner by February 22 with any changes or additions to the writing assignments.
- ✧ Board members will send to Dr. Eaton any material they developed for the advice letter that was not included for space reasons, and he will add it to the draft report.
- ✧ Dr. Eaton will add material from the advice letter, as well as material from Board members, to the framework of the outline, creating an initial draft of the chapters of the report by March 1.

Appendix A: Meeting Participants—Draft List

Good Neighbor Environmental Board

Chair

Paul Ganster, Ph.D.
Director
Institute for Regional Studies of the Californias
San Diego State University
San Diego, CA

Designated Federal Officer

Ann-Marie Gantner
Acting Designated Federal Officer
Good Neighbor Environmental Board
U.S. Environmental Protection Agency
Washington, D.C.

Nonfederal, State, Local and Tribal Members

Jose Angel
Interim Executive Officer
State Water Resources Control Board
California Regional Water Quality Control Board
Palm Desert, CA

Lauren Baldwin, LEED-GA
Sustainability Program Specialist
City Manager's Department
Office of Resilience and Sustainability
City of El Paso
El Paso, TX

Tom W. Davis
General Manager
Yuma County Water Users' Association
Yuma, AZ

David J. Eaton, Ph.D.
Bess Harris Jones Centennial Professor
LBJ School of Public Affairs
The University of Texas at Austin
Austin, TX

Lisa LaRocque
Sustainability Officer
Public Works Department
City of Las Cruces
Las Cruces, NM

Edna A. Mendoza
Director
Office of Border Environmental Protection
Arizona Department of Environmental Quality
Tucson, AZ

Jack Monger
Executive Director
Industrial Environmental Association
San Diego, CA

Mariel Nanasi
Executive Director
New Energy Economy
Santa Fe, NM

Luis Olmedo
Executive Director
Comite Civico Del Valle, Inc.
Brawley, CA

Rebecca L. Palacios, Ph.D.
Associate Professor
Public Health Sciences
New Mexico State University
Las Cruces, NM

John C. Parada
Tribal Environmental Programs Director
Los Coyotes Band of Cahuilla and Cupeño Indians
Warner Springs, CA

Keith Pezzoli, Ph.D.
Teaching Professor, Department of Communication
Director, Urban Studies and Planning Program
University of California, San Diego
La Jolla, CA

Cyrus B. H. Reed, Ph.D.
Conservation Director
Sierra Club, Lone Star Chapter
Austin, TX

Scott D. Storment
Principal
Green Hub Advisors, LLC
San Antonio, TX

Federal Members

Department of Commerce—National Oceanic and Atmospheric Administration
Jeff Payne, Ph.D.
Acting Director
Office for Coastal Management
National Oceanic and Atmospheric Administration
U.S. Department of Commerce
Mount Pleasant, SC

Department of Health and Human Services
Jose Luis Velasco
Executive Director
U.S. Section, U.S.-México Border Health Commission
Office of the Americas
U.S. Department of Health and Human Services
El Paso, TX

Department of the Interior
Jonathan Andrew
Interagency Borderlands Coordinator
Office of the Secretary
Department of Interior
Washington, D.C.

Environmental Protection Agency
Samuel Coleman, P.E.
Deputy Regional Administrator
Region 6
U.S. Environmental Protection Agency
Dallas, TX

International Boundary and Water Commission
Edward Drusina
Commissioner
United States Section
International Boundary and Water Commission
El Paso, TX

Nonfederal Alternates

Claudia Lozano
Texas Commission on Environmental Quality
Harlingen, TX

David A. Ramirez
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Field Operations Border and Permian Basin
Texas Commission on Environmental Quality
Harlingen, TX

Federal Alternates

Department of Agriculture
Sonny Vela
Program Liaison
Natural Resources Conservation Service
U.S. Department of Agriculture
Corpus Christi, TX

Department of Homeland Security
Jennifer Hass, J.D.
Program Manager
U.S. Department of Homeland Security
Washington, D.C.

International Boundary and Water Commission
Russell Frisbie
Special Assistant
International Boundary and Water Commission, U.S. Section
Liaison
Office of Mexican Affairs
U.S. Department of State
Washington, D.C.

U.S. Environmental Protection Agency Regional Office Participants

Region 6

Arturo Blanco
Director
Office of Environmental Justice, Tribal and International Affairs
Region 6
U.S. Environmental Protection Agency
Dallas, TX

Ron Curry
Regional Administrator
Region 6
U.S. Environmental Protection Agency
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Dallas, TX

Jenna Manheimer
Region 6
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Kevin Shade
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U.S. Environmental Protection Agency Headquarters Participants

Laura Gomez
Office of International and Tribal Affairs
U.S. Environmental Protection Agency
Washington, D.C.

Mark Joyce
Associate Director
Office of Diversity, Advisory Committee Management and Outreach
U.S. Environmental Protection Agency
Washington, D.C.

Other Participants

Gerardo Acevedo Danache
Revista Vertical
Matamoros, Mexico

Judy K. Adams
Vice President
Brownsville Public Utilities Board
Brownsville, TX

Laura Alvarez
Periódico Expreso
Matamoros, TX

Nick Mitchell Bennett
Executive Director
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Brownsville, TX

Bill Berg
Save the Rio Grande Valley From Liquefied Natural Gas
Sierra Club Rio Grande Valley

Bethany Bolling, M.S., Ph.D.
Microbiologist
Arbovirus Laboratory
Texas Department of State Health Services
Austin, TX

David P. Brown, Ph.D.
NOAA Regional Climate Services Director, Southern Region
National Centers for Environmental Information
National Oceanic and Atmospheric Administration
Fort Worth, TX

Yudith Caballero
Secretaría Desarrollo Económico y Fomento al Empleo Matamoros
Matamoros, Mexico

Veronica Camacho
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Brownsville, TX

Ramona Casas
A Resource in Serving Equality
Alamo, TX

Charlie Cabler
City Manager
City of Brownsville
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Irma Flores
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Border Environment Cooperation Commission
San Antonio, TX

Maria Elena Giner, P.E.
General Manager
Border Environment Cooperation Commission
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Albert Gomez, Jr.
Brownsville Public Utilities Board
Brownsville, TX

Diana Gonzalez
Consulate of Mexico
Brownsville, TX

Jesús González Macías
Federal Delegate in the State of Tamaulipas
Secretaría del Medio Ambiente y Recursos Naturales
Matamoros, Mexico

Raul Gonzalez, Jr.
Communities Unlimited
Fayetteville, AR

Alicia Gracia
Brownsville Public Utilities Board
Brownsville, TX

Emily Hall
Department of Health and Human Services
Dallas County
Dallas, TX

Osbert Haro Rodriguez, Ph.D.
Chief Executive Officer
CEO Global Ventures
Brownsville, TX

Joe A. Hinojosa
General Manager
Santa Cruz Irrigation District No. 15
Edinburg, TX

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City of Matamoros
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TLC Engineering, Inc.
Sugar Land, TX

Leonel Lopez

Brooke Lyssy
A Resource in Serving Equality
McAllen, TX

Carla Mancha
Executive Director
Brownsville Housing Authority
Brownsville, TX

Rene Mariscal
Water Resource Manager
Brownsville Public Utilities Board
City of Brownsville
Brownsville, TX

Anthony "Tony" Martinez
Mayor
City of Brownsville
Brownsville, TX

Jesse Miller
Associate Director
Rio Grande Valley
buildingcommunityWORKSHOP
Brownsville, TX

Carlos Monárrez
Valdez & Monárrez PLLC
McAllen, TX

Lupita Ortega
Ombudsperson
Texas Office of the Secretary of State
Harlingen, TX

Ruth Osuna
Assistant City Manager
City of Brownsville
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Brownsville, TX, Weather Forecast Office
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John Wood
Commissioner
Port of Brownsville
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Master Licensed Court Interpreter
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Jennifer Clowery
Spanish Interpreter
Phoenix, AZ

Jennifer Lee, Ph.D.
Science Writer/Editor
The Scientific Consulting Group, Inc.
Gaithersburg, MD

Appendix B: Meeting Agenda

Good Neighbor Environmental Board

Ringgold Civic Pavilion
501 E Ringgold Street
Brownsville, TX 78520

February 10 – 11, 2016

AGENDA

Meeting Day 1

Wednesday, February 10

8:30 a.m.	**Registration**
9:00 – 9:45 a.m.	**Welcome, Introductions and Overview of Agenda** • **Ann-Marie Gantner,** Acting Designated Federal Officer, Office of Diversity, Advisory Committee Management and Outreach • **Paul Ganster,** Chair, Good Neighbor Environmental Board • **Anthony "Tony" Martinez,** Mayor, City of Brownsville • **Charlie Cabler,** City Manager, City of Brownsville • **Board Introductions**
9:45 – 10:05 a.m.	**Ron Curry,** Regional Administrator, EPA Region 6
10:05 – 10:50 a.m.	**Resilience in Mid-Size Cities: Brownsville, Texas, and Matamoros, Mexico** • **Ruth Osuna,** Assistant City Manager, City of Brownsville, and **Rene Mariscal,** Water Resource Manager, Brownsville Public Utilities Board • **Mauricio Ibarra,** Director of Municipal Planning, City of Matamoros • **Q&A and Discussion**
10:50 – 11:00 a.m.	**Break**
11:00 a.m. – 12:20 p.m.	**Climate Effects/Natural Disasters in the Border Region** • **John Wood,** Commissioner, Port of Brownsville

- **Jesús González Macías,** Federal Delegate in the State of Tamaulipas, SEMARNAT
- **Sam Coleman,** Deputy Regional Administrator, EPA Region 6
- **David Brown,** NOAA Regional Climate Services Director, Southern Region
- **Q&A and Discussion**

12:20 – 12:35 p.m. **Public Comments**

12:35 – 2:00 p.m. **Lunch** (working)

2:00 – 3:15 p.m. **Vulnerable Populations and Health**

- **Colonias**
  - **Jesse Miller,** buildingcommunityWORKSHOP
  - **Nick Mitchell Bennett,** Executive Director, Community Development Corporation of Brownsville
- **Housing County/City**
  - **Carla Mancha,** Executive Director, Brownsville Housing Authority
- **Health**
  - **Bethany Bolling,** Texas Department of State Health Services

Q&A and Discussion

3:15 – 3:30 p.m. **Break**

3:30 – 5:30 p.m. **Discussion of Report to the President on Climate Change Resilience in the U.S.-Mexico Border Region**

5:30 p.m. **Adjournment**

Meeting Day 2

Thursday, February 11

8:00 a.m.	**Registration**
8:30 – 9:30 a.m.	**Discussion of Next Meetings and Other Business**
9:30 – 9:45 a.m.	**Public Comments**
9:45 – 11:45 a.m.	**Continued Work on Development of the 17th Report**
11:45 a.m. – 12:00 p.m.	**Break**
12:00 – 2:00 p.m.	**Continued Work on Development of the 17th Report**
2:00 p.m.	**Adjournment**

Appendix C: Draft Report Outline With Preliminary Writing Group Assignments

PREVENTING AND MITIGATING ENVIRONMENTAL IMPACTS FROM CLIMATE RISKS ALONG THE U.S.-MEXICO BORDER

(a possible draft outline for the 2016 Good Neighbor Environmental Board Report)

Compiling targeted agency assistance resources—*Ms. Jennifer Hass, Dr. Jeff Payne*
Adding text from the 2015 advice letter to the 2016 Draft Report outline—*Dr. David Eaton*

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Executive Summary

Chapter One: Climate Issues Along the U.S.-Mexico Border—*Dr. Payne (Chair), Deputy Regional Administrator Samuel Coleman, Ms. Edna Mendoza*
(This chapter will provide evidence to document potential problems that could be associated with climate change along the U.S.-Mexico border.)

- Background information on the U.S.-Mexico border region—*Mr. Jose Luis Velasco*
- Climate risks
  - Air, land and ocean temperature increases
  - Decreased precipitation and extreme weather events
  - Sea-level rise and tropical storm surges
- Potential consequences of climate risks along U.S.-Mexico border
- Importance of responding to the climate risks—*Ms. Lauren Baldwin*

Chapter Two: Existing Federal Programs and Resources—*Deputy Regional Administrator Coleman (Chair), Mr. Velasco, a representative from the U.S. Department of Agriculture (USDA)*
(Each federal agency representative who participates within the GNEB will be asked to describe his or her agency's current programs related to climate issues along the U.S.-Mexico border region.)

- U.S. federal agency programs related to climate change risks along the U.S.-Mexico border region
- U.S.-Mexico border region trans-boundary cooperation through the La Paz Agreement
- U.S.-Mexico border region trans-boundary cooperation through the Border Environment Cooperation Commission (BECC)
- U.S.-Mexico border region trans-boundary cooperation through the North American Development Bank (NADB)—*Mr. Scott Storment*
- U.S.-Mexico border region trans-boundary cooperation through the International Boundary and Water Commission (IBWC)

Chapter Three: Case Studies of U.S.-Mexico Border Environmental Impacts From Climate Risks
(This chapter will detail climate-related risks described within the 2015 GNEB letter.)—*Deputy Regional Administrator Coleman, a representative from the USDA*

A. Water Risks—*Mr. Jose Angel, Ms. Baldwin, Mr. Tom Davis, Mr. Russell Frisbie, Ms. Hass, Mr. Jack Monger*

- Vulnerability of border communities to flooding, storm events, sedimentation and saltwater intrusion
- Potential consequences of drought for community water supplies and irrigation
- Water quality risks
- Role of green infrastructure and water harvesting in border communities—*Ms. Lisa LaRocque*
- Reservoir and aquifer stress and water supply management challenge

B. Air Risks—*Mr. Angel, Dr. Cyrus Reed*
    - Frequency and severity of wildfires
    - Transportation and trade risks

C. Land Use Risks—*Mr. Jonathan Andrew (ecological risks), Mr. Davis*
    - Reduced agricultural productivity
    - Wildlife-related risks
    - Valuation of the impact of sprawl—*Ms. Baldwin*

D. Community Stability and Vulnerability Risks—*Dr. Rebecca Palacios (Chair), Ms. Baldwin, Ms. Hass, Dr. Keith Pezzoli, Mr. Velasco*
    - Vulnerability of tribes and tribal communities along the U.S.-Mexico border
    - Vulnerability of low-income rural and urban residents of border communities
    - Health risks and infectious disease risks
    - Socio-economic risks—*Ms. LaRocque*
    - Energy-related risks—*Ms. LaRocque*
    - Emergency response risks

Chapter Four: Recommendations for Federal Agency Actions
(Each federal agency representative will report on her/his agency's "wish list," i.e., what the agency could do with more money, personnel, time and authorizations.)
- Water supply and actions for water quality
- Watershed management
- Best practices and information sharing
- Rainwater harvesting, ground water recharge and ecological flows
- Flood prevention and flood mitigation
- Health and vector-borne diseases
- Transportation and air quality—*Ms. Hass, Dr. Reed, Mr. Storment*
- Energy—*Ms. Hass, Dr. Reed, Mr. Storment*
- Emergency response and community resilience

Chapter Five: Recommendations to the President
(In this chapter, the GNEB presents a set of proposed priority actions for the President for 2017.)

Appendices
(The appendices will contain any additional documentation needed to justify the recommendations.)

These minutes are an accurate description of the matters discussed during this meeting.

04/05/2016
Date

Paul Ganster
Chair
Good Neighbor Environmental Board

The Good Neighbor Environmental Board was created by the Enterprise for the Americas Initiative Act of 1992. The board is responsible for providing advice to the President and Congress on environmental and infrastructure issues and needs within the states contiguous to Mexico. The findings and recommendations of the Board do not represent the views of the Agency, and this document does not represent information approved or disseminated by the Environmental Protection Agency.

Gantner, Ann-Marie

From: Paul Ganster <pganster@mail.sdsu.edu>
Sent: Monday, April 04, 2016 2:46 PM
To: Gantner, Ann-Marie
Subject: Brownsville Meeting Summary, Approval

Hi Ann-Marie,
I have read the summary meeting notes from the February 10–11, 2016, Brownsville meetings. I approve them.
Thank you very much,
Paul

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Dr. Paul Ganster
Director, Institute for Regional Studies of the Californias
Director, Field Stations Program
Associate Director, Office of International Programs
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