



BINATIONAL BORDER WATER RESOURCES SUMMIT PAST, PRESENT AND FUTURE



CUMBRE BINACIONAL DE RECURSOS HÍDRICOS EN LA FRONTERA PASADO, PRESENTE Y FUTURO

GENERAL RECOMMENDATIONS

WATERSHED PLANNING

- **Objective**
 - *The objective of this track is to establish criteria that permit comprehensive watershed planning for the international rivers to the benefit of users on both sides of the border based on the best practices available in this sector, while taking into consideration the legal limitations, as well as greater public participation.*
- **Recommendations and Conclusions**
 - Planning for the use of water resources, decision making, and the conservation of shared water resources require participation of the governments and society as well as the academic and scientific community.
 - In order to improve dialogue and cooperation between both countries, it is necessary to establish sustainable arrangements and structures such as binational watershed forums for transboundary watersheds. These forums should include, among others, the public sector, the private sector, citizens groups, and a scientific advisory group.
 - Establish and maintain a clearing house for binational watershed scientific, technical, socio-economic, historical, and other data and information to support research, the work of the public groups, and sound policy decisions. A priority of this effort is to advance harmonization and sharing of U.S. and Mexican water data.
 - Support and facilitate research in the following areas:
 - Watershed planning and management research should integrate conservation of species and ecosystems as a priority component.
 - Effective watershed and water management needs better water modeling (Mesilla Bolson) and funding continuance for the critical Transboundary Aquifer Assessment Program (TAAP), a cooperative Mexican-U.S. research project.
 - Significantly more climate change research and analysis are key components of watershed analysis and planning
 - Research and analysis of possible and best case practices of adaptive management and mitigation strategies will support sound policy decisions
 - Long term planning and forecasts based on scientific research are needed to inform and provide alternatives for policy decisions regarding adaptation.
 - Data relating to binational watershed and water management should be shared and harmonized. Research questions, methodologies, analysis, and data production should be coordinated across the international boundary.
 - Develop new approaches to integral watershed analysis and management across the border that should include, among others, the following criteria
 - Water availability, water use, and water balance
 - Water quality
 - Ecosystem health and conservation of species and habitats
 - Short, medium, and long term planning
 - Land cover changes and management.
 - Population characteristics and change
 - Legal, political, and social aspects of watershed planning and management.



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- It is necessary to continue supporting investment in water infrastructure in the border regions, especially projects with mutual benefits for neighboring cities and transborder watersheds.
- Given water scarcity, public policy for demand management of water use should be developed and incorporated into planning and management of shared water resources.

WATER QUALITY AND ENVIRONMENT WORKTABLE

- **Objective**
 - *This track's objective is to consider water quality in transboundary rivers and aquifers, the changing regulatory framework, highly variable precipitation due to climate change, water quality monitoring practices, and opportunities to improve water quality and restore the environment.*
- **Recommendations and Conclusions**
 - The discussion centered on two main topics: assessment of **water quality in streams**, and the current state and impacts of preserving **in-stream flows**.
 - The assessment of **water quality in streams** was illustrated by three excellent presentations: a project to apply Water Quality Indices (ICA, in Spanish), particularly the one adopted by Mexico's CONAGUA, in the Río Conchos, by Sergio Saúl Solís (UACJ); groundwater quantity and quality assessment effort through digital piezometers that monitor water quality as well in the Paso del Norte Region, shared by Alfredo Granados Oliva (UACJ); and the efforts of the Texas Clean Rivers Program (CRP) along the Rio Grande presented by Leslie Grijalva.
 - The major conclusions and recommendations on the subject of **instream water quality** include:
 - The need to concurrently monitor hydrologic variables from different land uses and environments throughout the watershed
 - To maintain a complete and updated census of water users and perform water mass balances in several spots throughout the watershed
 - Complement water quality studies with dye trace dispersion studies to determine dispersion coefficients so to develop flow and transport models.
 - Consider spatial and temporal variability of water quality measures of each site measured, as well as the differences in the sources of nutrients and pollutants
 - The need to correlate groundwater quality with quantity and issues of overdraft in aquifers, as well as with surface soils and water quality
 - How to jointly map aquifers in both countries and standardize spatial scales. The need for proper data warrants in-depth studies that call for substantial financial resources
 - Substantial benefits may be derived from unifying stream water quality criteria and a unifying water quality indices
 - The issue of providing **instream flows for environmental enhancement and**



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protecting ecosystem integrity was emphasized in three presentations by Mark Briggs (WWF), Hudson DeYoe (UTPA), and Hector Arias (IGICH). Recommendations based on these presentations and related discussion includes:

- Greater information sharing and communication between both governments and societies on what type of river we want to see
 - Issues of instream flows involve changes to sensitive habitat, impacts to the health of ecosystems, as well as narrowing of stream beds due to sediment deposit which in turn represent risks to communities along the streams and flood plains.
 - The issue of instream flows requires a solid scientific base regarding environmental and ecosystem health as well as an assessment of habitat value
 - Legislation in both countries must advance so to consolidate the legal standing to make environmental flows enforceable through government regulations. Proper economic valuation of benefits can become the basis for making funds available for securing in-stream flows, as well as promoting water conservation and greater efficiencies in agricultural areas and cities.
- In general, there is a concern for securing funding to provide continuity to monitoring programs and for enabling a sharing of information across the basin so to prevent “institutional vulnerability” and provide security for long term water governance. There is also a need for raising awareness among the public and environmental education, especially regarding economic benefits associated with environmental values.

INNOVATION AND WATER TECHNOLOGY

- **Objective**
 - *The objective of this track is to share information about innovative water management practices, including water rights exchanges, and new technologies, including green technologies, that enable us to conserve, reuse, or desalinate water in order to augment water availability or to manage water more effectively.*
- **Recommendations and Conclusions**
 - The importance of diversifying the municipal water utility’s supply portfolio to take advantage of less costly and resilient alternatives. Desalination is a viable alternative to treat brackish groundwater. Conservation is important, too.
 - There are non-linearities to climate change impacts. Temperature has an important impact on surface water flows. Adverse impacts will occur sooner rather than later.
 - New technologies will assist in reducing costs and environmental impacts of desalination efforts and increase their productivity. Universities have a role to play in broad collaborative efforts to improve technology.
 - The IBWC-CILA should, where appropriate, play an active role in desalination and reuse efforts along the border region.
 - The IBWC-CILA should be proactive in working along the border to develop strategies to cope with the impacts of climate change, which could occur sooner rather than later (2025).



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- **Recommendations and Conclusions**
 - To achieve proper planning of shared water resources requires the participation of governments, the public and the academic and scientific communities.
 - In order to improve dialogue and cooperation between both countries, it is necessary to establish sustainable arrangements and structures such as binational watershed forums for transboundary watersheds; the organizations should include:
 - Public sector
 - Private sector
 - Citizens groups
 - Scientific advisory group
 - Establish and maintain a clearing house for binational watershed scientific, technical, socio-economic historical and other data and information to support research, the work of the public groups, and sound policy decisions. Advance in the harmonization and sharing of U.S. and Mexican water data is a priority.
 - Support and facilitate research in the following areas:
 - The watershed planning and management should integrate conservation of species and ecosystems as a priority component
 - Effective watershed and water management needs expanded research effort, including better water modeling (Mesilla Bolson) and continuance of the critical Transboundary Aquifer Assessment Program (TAAP), a cooperative Mexican-U.S. research project
 - Significantly more climate change research and analysis are key components of watershed analysis and planning
 - Research and analysis of possible and best case practices of adaptive management and mitigation strategies will support sound policy decisions
 - Long term planning and forecasts based on scientific research are needed to inform and provide alternatives for policy decisions regarding adaptation.
 - Data relating to binational watershed and water management should be shared and harmonized, as well, research questions, methodologies, analysis, and data production should be coordinated across the international boundary.
 - Develop new approaches to integral watershed analysis and management across the border that should include, among others, the following criteria:
 - Water availability, water use, and water balance
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 - Short, medium, and long term planning
 - Land cover changes and management



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GENERAL RECOMMENDATIONS

- Population characteristics and change
- Legal, social and political aspects
- We must continue to encourage infrastructure investments in boundary area, especially mutually beneficial projects in neighboring cities and transboundary basins.
- In considering the condition of natural resources in transboundary basins, it is necessary to promote public policies to management water demand and incorporate this aspect in planning, and management of shared water resources.