Small-Scale Restoration in the Colorado River Delta:

The Power of Restoration at the Community Level

Miriam Lara Flores *– Biologist, Pronatura Sonora and* ***Mark Briggs*** *– Restoration Ecologist*

At the end of the summer of 2002, Javier Mosqueda eagerly considered the results of a recently planted 25-acre parcel of family agricultural land that borders the Rio Hardy – a former branch of the Colorado River that drains much of the Mexicali agricultural valley in the Colorado River Delta, Baja California, Mexico. Prior to that summer, the land had been abandoned for more than eight years, offering little ecologic, economic, or aesthetic value to the Mosqueda family or the tourists that came to stay in the cabins the Mosqueda family operates to supplement incomes from traditional agriculture and aquaculture activities. What sparked Javier's emotion wasn't the sight of the newly-planted cotton and alfalfa but the small-scale restoration effort that reestablished hundreds of native mesquite trees (Prosopis glutinosa and P. pubescence). Smiling with enthusiasm, Javier noted "Este es solamente el inicio" (this is only the beginning).

The Colorado River Delta once encompassed several hundred thousand hectares of wetland, riparian, and intertidal habitat that supported an incredible diversity of flora and fauna. In his book "A Sand County Almanac," Aldo Leopold wrote about his trip to the Colorado River Delta in 1922:

> *On the map the Delta was bisected by the river, but in fact the river was nowhere and everywhere, for he could not decide which of a hundred green lagoons offered the most pleasant and least speedy path to the Gulf.*

Javier Mosqueda, Miriam Lara Flores, and Mark Briggs at Campo Mosqueda. (Photo: Elissa Ostergaard)

The green lagoons of Aldo Leopold's day are now a thing of the past. Dam construction and water diversion along the lower Colorado River and increasing pressures from agriculture and urbanization, as well as water regulations that neglect environmental considerations, have significantly altered and fragmented the once-lush Delta. Today, much of the Delta has been reduced to remnant systems of brackish mud flats and streamside locations dominated by non-native species such as salt cedar (Tamarix ramosissima).

Restoring the Delta

The decline of the Colorado River Delta has made it a conservation priority for many federal and state agencies, universities, and non-governmental organizations on both sides of the international border. During the past five years, a bi-national, collaborative effort has coalesced in the Delta, bringing together a diversity of personnel, not only from Mexican and United States agencies and universities, but also from non-governmental groups such as Pronatura, the Sonoran Institute, and the newly formed community-organization, Asociacion Ecologistas y Usuarios del Rio Hardy y Rio Colorado (AEURHYC). The overall goal of this bi-national, collaborative effort is to change the management of the Colorado River in a manner that will improve the Delta environment for both its people and its natural communities.

To achieve this goal, six major steps will be particularly important:

- Ecological investigations of the Delta must take place to set restoration goals and strategies that are grounded on a strong understanding of the region's current ecological condition and why it has changed.
- Work with residents of Delta communities should raise awareness of the changes that have occurred, an understanding of how those changes have affected the residents, and a path toward effective community participation in water policy decisions being made in Mexico and the United States.
- A bi-national, broadly supported restoration goal should be put forward to describe the restoration objective for each of the main Delta ecosystem types: wetland, riparian, and intertidal.
- The story of the Delta has to be better understood by the media, policy-makers, and the general public on both sides of the border.
- Policy analysis and reform need to be advanced so that the law of the river recognizes the Delta ecosystem as a legitimate user of Colorado River water.
- Site-specific restoration efforts need to be implemented to demonstrate the potential for restoration as well as to enhance the participation of Delta residents in local and regional conservation plans.

Background photo: New irrigation pipes provide water for riparian restoration on the Campo Mosqueda property. (Photo: Mark Briggs)

Campo Mosqueda Sets Restoration Example

From a broad perspective that considers the restoration of thousands of hectares and the combined efforts of governments, agencies, private organizations, and residents from both sides of the border, Mosqueda's restoration project appears relatively insignificant. However, the design and implementation of his project, sponsored by the North American Wetland Conservation Act, has required deep commitments of time, funds, and energy, involving more than 30 local residents, three community-based organizations, two universities, and assistance from federal agencies on both sides of the border.

The amount of work, time, and energy required for this effort convincingly demonstrates that the Delta cannot be restored by such small-scale efforts alone. Nevertheless, the successful completion of Mosqueda's initial restoration effort has created a positive force that goes well beyond the immediate footprint of the project. For example, during the two-year course of implementing the project, Mosqueda has become interested in additional restoration projects and, as President of the local community-based organization AEURHYC – whose mission unites residents in efforts to improve the ecological condition of the Colorado River Delta – Mosqueda has encouraged AEURHYC members to become actively involved in additional restoration efforts. As a result, and with additional funding secured from North American Wetland Conservation Act, AEURHYC is now involved in efforts to establish a chain of restored sites downstream of the Campo Mosqueda site. In addition, Mosqueda is participating in political meetings concerning the management of the Colorado River and has become one of the leading community voices in Mexico regarding the Delta's conservation and restoration.

Community Involvement Provides Momentum

The Campo Mosqueda effort provides scientists, conservationists, restoration practitioners, and agency personnel tangible evidence of the Delta's restoration potential. If restoration of abandoned Delta agricultural land – typically characterized by high soil salinity and low water availability – is possible, the restoration of riparian environments along the Colorado River mainstem, wetland areas, and inter-tidal zones is even more promising. The momentum from this effort has also helped to strengthen the involvement of numerous agencies and funders from both sides of the border.

Even more important is the awareness and involvement of the people who live and work in the Delta itself. Strong participation of Delta residents is absolutely essential to the effectiveness and long-term success of restoring the Delta to its natural habitat. This key ingredient for success cannot be overlooked, as these small-scale restoration efforts encourage the involvement of Delta residents in larger conservation issues.

See Small-Scale Restoration, page 27

Small Scale Restoration, continued from page 25

To attain the long-term involvement of community residents, small-scale restoration efforts should benefit both the environment and the people who live and work nearby. As part of the Campo Mosqueda effort, a picnic area was established to provide tourists with a place to visit and enjoy themselves. In addition, the site's aesthetic location and restoration history will provide a worthwhile stopping point for ecotourism groups that regularly pass through the Delta on their way to such coastal attractions as San Felipe and El Gulfo. Downstream restoration efforts will focus on improving fisheries habitat – an important consideration for local fisherman.

The stronger the link between the restoration efforts and the local communities, the more successful the project will be. With each small success comes greater community interest and involvement. And greater community involvement ensures the Delta restoration will benefit both the region's ecosystems and its people. Such a result would be the highest conservation triumph.

Contact Miriam Lara Flores at mjlara@lycos.com or Mark Briggs at mkbriggs@msn.com