

Santa Fe Community Foundation Grant  
2017-2018  
Youth engagement in Gallinas River Park Revitalization (Las Vegas, NM)  
Final Report

## **Introduction**

To engage the youth of Las Vegas, NM in the process to revitalize the Gallinas River Park, the Hermit's Peak Watershed Alliance (HPWA) assembled a team of students to help with the ecological restoration of the wetland in the park that is adjacent to the West Las Vegas High School with support from the Santa Fe Community Foundation (SFCF). Restoration specialists, New Mexico Highlands University (NMHU) faculty and students, and Las Vegas Citizens' Committee for Historic Preservation (CCHP) members worked with these students to identify degraded conditions and design restoration activities. Furthermore, students considered and contributed ideas for design amenities for a revitalized and more integrated river park. The culmination of this effort was to achieve a student based design for two interpretive signs that have been installed in the Gallinas River Park (GRP) near their school and in the most heavily used area of the park.

Students worked to design, build and install two interpretive signs for the Gallinas River Park: one explaining wetland ecology and the other illuminating the cultural significance of the Gallinas River in Las Vegas. Student involvement has endeared a sense of ownership and deepened their understanding of wetland ecology, restoration techniques and cultural significance. One science teacher (Ms. Erika Guaba) and one art teacher (Mrs. McKaila Weldon) were chosen to help to select a group of students with interest in scientific and artistic pursuits to best engage with this project.

During the timeframe of this project, other activities by HPWA developed in parallel to this student based project. The group of students support by the SFCF grant found themselves in a prime position to extend their experience beyond this project. In 2018, HPWA was awarded by the National Endowment for the Arts program Citizen's Institute for Rural Design (CIRD) to carry out a community design workshop. The purpose of this workshop was to achieve a community driven conceptual design for the GRP in the region where the river flows through the Las Vegas city limits. The teachers and several of these students participated and proved to be valuable contributors at the workshop. The conceptual design developed by the community contains many elements, including a dozen or so interpretive signs connected by a meandering path. Also, the heart of the community conceptual design demonstrates and celebrates a restored and healthy river. HPWA is in the process of completing a project funded by the NM Environment Department to do river and wetland restoration work in the Gallinas River Park but those funds don't cover educational programs.

The involvement of the West Las Vegas High School students in this project has inspired the community of Las Vegas, helping to give momentum to the bigger river park revitalization effort. This group's participation has also increased opportunities for HPWA to secure funding in the future to carry out actual improvements to this particular wetland. The restored wetland would result in improved downstream water quality, more diverse and abundant fish and wildlife populations and the Gallinas River in town would be more resilient to floods and drought. These student participants now have a better understanding of wetland ecology and restoration and feel empowered to care for and contribute to a healthier river and wetland. The interpretive signs allow the public to understand the value and

ecology of the wetland and to appreciate the cultural significance of the Gallinas River in Las Vegas they pass by on their walks.

### **Learning Activities**

The original list of learning activities planned for the students was significantly longer, but several events had to be canceled due to scheduling conflicts between the school calendar and availability of presenters. Ultimately, the students had the opportunity to engage with the following learning activities:

- ✓ Introduction to wetlands and motivation for river restoration work with Lea Knutson, ED of HPWA
- ✓ Stormwater treatment and harvesting with Aaron Kauffman, Southwest Urban Hydrology
- ✓ Wwater quality and monitoring with faculty, graduate and undergraduate students from the Conservation Club at NMHU
- ✓ The Functions and Benefits of Wetlands with Water Science (FOR 433) class from NMHU
- ✓ Acequia History with Mr. Ernest Quintana, CCHP member

The students were introduced the basic concept of a watershed and motivations for river restoration work with Lea Knutson, CEO of the HPWA. They had the opportunity to apply these concepts specifically to the Gallinas River in the city of Las Vegas, near their high school.



Aaron Kauffman of Southwest Urban Hydrology introduced the students to urban stormwater treatment and storage techniques. They learned about rain gardens and their function to treat stormwater. Mr. Kauffman led the students through calculations about the specific rain gardens that were installed during the timeframe of this project in the high school parking lots. These students now have an intimate understanding of rain gardens and will participate in the planting activity for their high school's rain gardens this Spring.



The NMHU Conservation Club (consisting of faculty and graduate and undergraduate students at NMHU) engaged the students in a wide variety of activities to learn about water quality. They learned about indicators of water quality, including the types of macroinvertebrates present, the characteristics of vegetation and water chemistry.



The Water Science class at NMHU taught by Dr. Julie Tsatsaro presented a lesson on the Functions and Benefits of Wetlands, where the students learned about the functions of healthy wetlands in the context of a watershed. They used the details of this presentation to develop the content for their design of the wetlands interpretive sign.

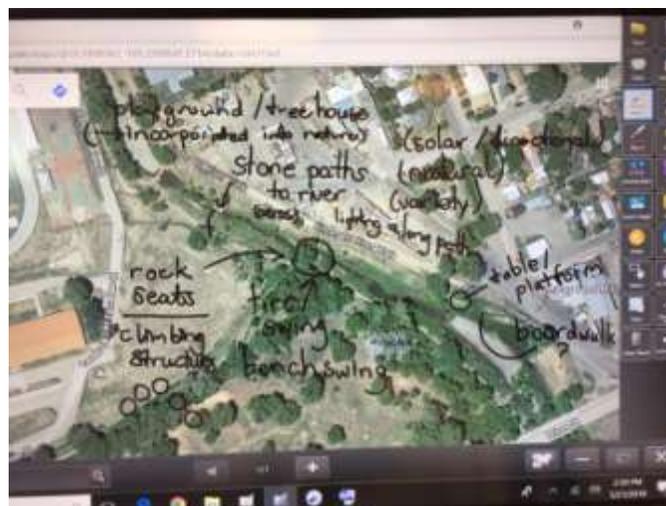
## FROM WATERSHED TO WETLANDS: THE IMPORTANCE OF WETLANDS ON AN AQUATIC ECOSYSTEM ~GALLINAS RIVER REHABILITATION~

FOR 433- Water Science  
Larissa Padilla, James Boyle and Taylor Herrera  
April 17, 2018  
Dr. Julie Tsatsaros  
New Mexico Highlands University

Ernie Quintana from the Las Vegas CCHP gave an overview of the history of Las Vegas and focused on the acequia culture developed by Spanish colonies in the Americas.

### **Student based Gallinas River Park revitalization design ideas**

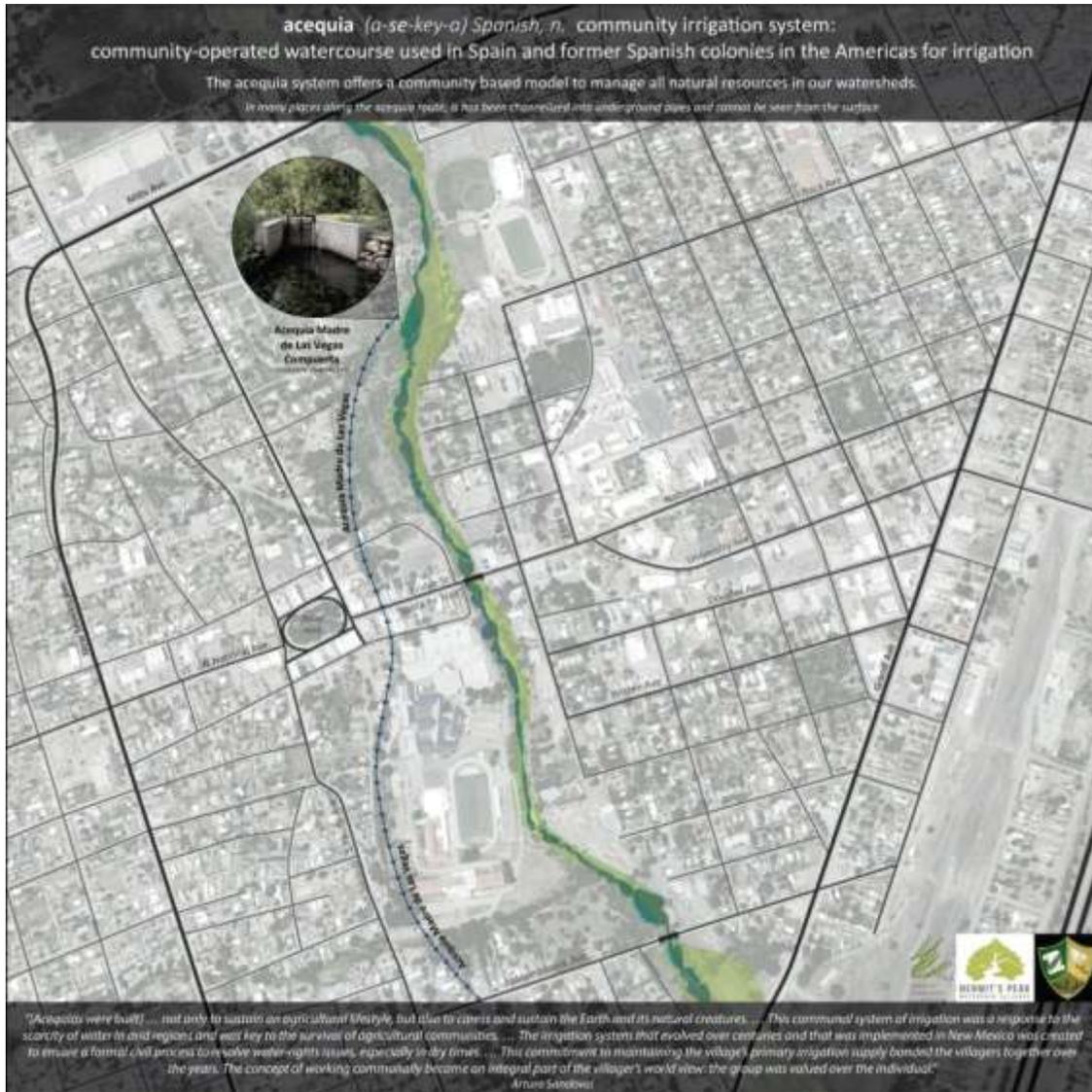
Students from both art and science classes pooled their ideas for park amenities that would help to revitalize the GRP. They introduced ideas for places to make music, as well as places to make drawing and painting in the river park. They encouraged including playful elements in the river park, such as bench and tire swings, tree houses and boulders to climb and sit on. They liked the idea of making small walking trails in the park that would encourage people to approach the banks of the river and even jump across at appropriate locations. They included tables and benches, as well as energy efficient lighting along the path. They deliberated about whether it would be healthy for the wetlands to introduce a boardwalk into the wetlands.



Having already put some thought into what a revitalized river park could entail, some of these students attended the Community Design Workshop in October 2018 and contributed to the complex conversation with interest and confidence.



The acequia history sign simply accentuates the Gallinas River on a map of Las Vegas, NM. On the map, the Acequia Madre de Las Vegas diversion and path are illustrated in the manner that the state engineers use to denote acequia paths. The definition of acequia is clearly shown and some key aspects of acequia history are listed.



Once the students finalized their designs by laying them out on paper, a graphic designer (Elizabeth Caldwell) was enlisted to help translate the images to electronic form. The signs were printed on aluminum and bolted to the steel bases. The bases for each sign were designed by Aaron Juarros using the image of cottonwood leaf from HPWA's logo and constructed from steel.



### **Unveiling ceremony**

There was huge support from community to honor the student's work. Government officials, WLV school superintendent and WLVS Principal were in attendance. The students selected one of their peers to give an oral presentation about each sign.





### **Conclusion**

In the context of the ongoing community driven revitalization efforts for the Gallinas River Park, the participation of our youth has been crucial. Their influence gives the process roots in our community and credibility as a community driven project, not one that is imposed from outside the community. These youth have not only gained important experience and insight by participating, but have set high standards for this huge revitalization effort. Their influence lends massive momentum to the process.