

**HABITAT CONSERVATION PLAN**  
**Technical Advisory Committee**  
**March 21, 2006. 9:00 – 11:00 am**  
**Arizona Game and Fish Department Conference Room**  
**555 North Greasewood Road**  
**Tucson, Arizona 85745-3612**

**MEETING SUMMARY**

Attendees: Rich Glinski, Guy McPherson, Ann Phillips, Trevor Hare, Marit Alanen and Mima Falk (USFWS), Linwood Smith, Ralph Marra (City of Tucson – Tucson Water Department), Kathryn Mauz (University of Arizona), Michael Wyneken (City of Tucson – Urban Planning and Design), Leslie Liberti (City of Tucson – City Manager's Office), Jessica Lee (SWCA)

**1) Update on Recent TAC Meetings/Upcoming Meetings**

a. *Recent/Scheduled SAC Meetings:*

- **March 15, 3-5 pm, @ AGFD.**
- **April 19, 3-5 pm, @ AGFD.**

b. *Scheduled TAC Meetings:*

- **April 4, 9-11 am, @ AGFD.**
- **First and Third Tuesdays, 9:00 – 11:00 AM @ AGFD.**

Leslie reviewed the discussions from the March 15 SAC meeting. She said that the SAC members discussed the buffelgrass management protocol and that they seemed fairly comfortable with the plan. Trevor asked if anyone from the SAC had questions related to herbicide spraying. Leslie said that the members of the SAC had several general questions, but that the SAC spent most of the time talking about the details of the revegetation plan. She noted that the *Tucson Weekly* is planning an article on the buffelgrass management plan in an April issue. Rich noted the scientific value of monitoring the western burrowing owl throughout the buffelgrass management plan, and asked if the herbicide would be measured as it is sprayed. Leslie explained that Travis Bean (University of Arizona Desert Lab) has done test plots in Saguaro National Park, evaluating a varied concentration of herbicide and application types. She said that the City plans to follow the herbicide application program that he recommends. Mima noted that the Roundup label advises using a 2 percent solution. Trevor asked if Travis had tried a 1 percent solution, but no one was sure if he had. Ann added that Tucson Water did finish blading a buffer around the homes in Avra Valley, and that Arizona Game and Fish Department (AGFD) personnel had pre-checked the area for burrowing owls and had monitored the blading. Leslie said that the City would receive partial funding for the buffelgrass management plan from the USFWS Partner with Fish and Wildlife grant. She explained that a USFWS contamination expert would be doing the Environmental Assessment (EA) for the buffelgrass management plan, and that the City would conduct the public outreach component of the EA. Ann asked if the timing of the EA would affect herbicide spraying when buffelgrass greens up. Mima noted that USFWS is beginning the EA as soon as possible. Guy noted that it is conceivable that buffelgrass could green up soon after the recent rain. Leslie noted that she has not heard anything from Travis about a green up. Ann noted that no one is prepared to begin spraying anyway. Rich asked about the timeframe for the EA. Leslie said that the purpose of the EA was related

to the use of federal money, so City funds could be used as needed before the formal EA could be completed. Mima noted that the buffelgrass management plan suggests spraying at the end of the monsoon season.

Leslie explained that the ordinance to create the Resource Planning Advisory Committee (RPAC) went before Mayor and Council on March 7, but that it did not go to vote because the Council requested some changes. There was an interest to rewrite the ordinance to specify organizations as members, rather than specific individuals. She said that the ordinance is currently being revised.

Leslie noted that the Preliminary Draft HCP is up on the website. She said that the City presented the HCP to Mayor and Council on March 7, and that the Council seemed very interested and asked lots of questions. She noted that the Council would approve the map of the expanded planning area once it is finalized.

She explained that while the Preliminary Draft was written to satisfy deliverable requirements for the grant, it would provide a good opportunity to solicit public comment. The members of the SAC would discuss a public outreach strategy at the next meeting, which would include how to approach other stakeholders in the community. Mima asked if the City is currently soliciting public comment. Leslie responded that the City has not yet asked for comments, aside from USFWS, AGFD, and the HCP committees. Ralph suggested that the release date (March 7, 2006) be added to the document when the City prints more copies [so that it would not be confused with subsequent drafts](#). Leslie noted that one of the deliverables required in Segment 2 involves the City responding to public comments to the Preliminary Draft HCP in December 2006. She clarified that anyone could comment at this point, but that the comments would not be addressed until Segment 2. The other deliverable includes producing the revised Preliminary Draft HCP for the Southlands and Santa Cruz River planning sub-areas, and the Final Administrative Draft HCP for the Avra Valley planning sub-area, which would be an internal draft. Then in the Segment 3 grant application, the NEPA process would be initiated for the Avra Valley HCP, the draft Avra Valley HCP finalized, and the draft EIS developed.

Leslie noted that there would be several updates to other local planning efforts in the next year. Arizona State Land Department (ASLD) would complete the first phase of the Conceptual Land Use plan for the Southlands, which involves refining their suitability analysis. The Lee Moore Watershed Basin Management Study would be a year into the project. The U.S. Army Corps of Engineers (USACE) Tres Rios restoration project should have a Final Feasibility Report completed, and that alternatives for El Rio Medio would be developed. She noted that the HCP committees would have to figure out how to integrate these restoration plans into the HCP. She also noted that by expanding the Southlands, the TAC members would have to revisit the baseline information, covered species list, and habitat models.

Ralph noted that the SAVSARP project is undergoing Section 7 ESA consultation separately, and that the HCP would deal with future Tucson Water development projects. Trevor asked, in reference to future water development projects, how take and impact analysis could be completed in the HCP when the potential development footprints are so vague. Leslie responded that in the Preliminary Draft HCP, it was assumed that there would be 100 percent loss or take by the current habitat models as there currently is not a clear picture of where the development would occur. Trevor

asked if that meant 100 percent off-site mitigation. Leslie said no, that would only measure the impact without taking into consideration the conservation measures in the HCP. She said that the conservation measures discuss minimizing and avoiding impacts, and if they cannot be implemented then the mitigation measures would be needed. She said that in Avra Valley, for example, the idea is that development would be avoided within those areas that were mapped as high priority areas because they have existing habitat. She explained that all of the City CIP projects that need ESA coverage could be added into the expanded HCP planning area. Leslie noted that the Segment 2 IGA is not in place yet, so we cannot talk about the Southlands currently. She noted that the IGA is scheduled to go before Mayor and Council on April 4.

## 2) Old Business

### a. *Meeting Minutes – February 21, 2006*

Leslie noted that Guy and Westland Resources had provided comments to the meeting minutes, and asked the TAC members if they had any comments or edits to the minutes. The TAC approved the meeting minutes. Leslie said that Westland Resources would return to the TAC in the future, and that they are currently still reworking development plans with CXM and Barclay. She noted that City staff received comments from the TAC regarding the proposed Parque de Santa Cruz development. USACE has not yet provided comments regarding the development's Clean Water Act 404 permit.

### b. *Santa Cruz River Planning Sub-Area: Existing conditions, other planning efforts, and discussion (Continued)*

Leslie mentioned that the bulk of this meeting was to continue discussions on the Santa Cruz River planning sub-area. Phil Rosen (University of Arizona) and Julia Fonseca (Pima County Flood Control District) were both out of town, and thus, not available to attend today's meeting, however, she hoped that they would be able to attend the next meeting. She passed out copies of the AGFD Heritage Data Management System (HDMS) list of special-status species within three miles of the Santa Cruz River planning sub-area. Specific species locations were not provided.

Jessica passed out copies of the annotated bibliography SWCA put together, listing scientific and historic anecdotal information about the Santa Cruz River. She noted that she attempted to sift through the large volume of documents to find information relevant to the TAC's discussion of restoration along the planning sub-area. It is a working draft, largely composed of documents suggested by Ann, Ralph, and those sources found on the Internet. She also passed out a packet of selected passages about the historic and current conditions of the Santa Cruz River.

Trevor asked if the groundwater table is rising. Ralph said that the primary place where the table is rising is ~~the Central well field~~ in an area within the Central Well Field, which has had the largest historical water level declines. This well field is located within the bounds of metropolitan Tucson and significant subsidence has been documented in that area. Subsistence was occurring, thus the pumping has been largely cut back. Pumping in this area has been reduced by implementing CAVSARP (recharge and recovery) in Avra Valley. He said that the City does not actually pump very heavily along portions of the Santa Cruz River, except within the ~~Southern Southside well field~~ Well Field. He

noted that many private parties, including the [copper, sand and gravel mines, FICO \(Duval & Farmers Investment Co.\)](#), and the San Xavier District, [have pumped groundwater](#) to the south as well. He noted that Tucson Water has historic water level data from G.E.D Smith (1910, University of Arizona). He [also](#) noted that there also is a set of historic depth to water level data cards [\(collected and compiled by staff at the University of Arizona\)](#), ~~available in the collected papers of provided by~~ H. C. Schwalen in the University of Arizona Special Collections Library.

Leslie introduced Kathryn Mauz, a graduate student at the University of Arizona who did her dissertation research on riparian plant biodiversity in the Santa Cruz River and Rillito Creek bottomlands in the Tucson Basin during the time frame from 1855 to 1920. She suggested that Kathryn might be able to assist the TAC in identifying biologically rich areas of the Santa Cruz River that could be recommended for preservation during the USACE restoration projects. Kathryn provided more details about her research, and noted that she assisted Phil Rosen on his research on the West Branch a couple of years ago. For that work, she provided information regarding the modern flora of the West Branch, and then compared the modern flora with historic flora Herbarium collections and observations provided in historic literature. She provided a handout, "State of Riparian Floristic Knowledge in the Tucson Basin," which contained a table illustrating the number of herbarium specimens and species known to be represented in herbaria from the valleys of the Tucson Basin, and listed some considerations to keep in mind when assessing historic floristic data. She noted that the University of Arizona Herbarium has a good collection of specimens from the 20<sup>th</sup> century, but pre-1900 specimens had to be found at other institutions. A number of wetland species that were historically observed in the Tucson Basin are not present any more, due to the loss of riparian and cienega-type settings. She said that the nearest present locations of many of these species (and their seed source) are in the San Pedro River basin or near Arivaca. She explained that we have many data indicating what species were present historically, but limited information regarding where those species were found in the Basin. For the historic observations, she explained that the location data was often listed in a general manner, for example, "near Tucson" or "in Santa Cruz River." She explained that from ecology studies and from all species' current presence, we know where the Huachuca water umbel is found today, thus we might speculate where it was located historically even though the historic specimen itself was not labeled with a detailed location. The presence of 385 species exemplifies that the Tucson Basin has a very rich flora, reflecting its heterogeneous character and presence of unique microhabitats. She provided a list showing the floristic documentation in the Santa Cruz and Rillito River valleys. Mima asked Kathryn if she could make any comparisons from what she found in the West Branch recently, and what could have been historically there. Kathryn said that she was unsure because the location of historic collections is so general; however, she did compare her flora findings to Thornberg's plant lists from the West Branch. She noted that a man named Joseph James came through the area in the 1880s working with the railroad and left a detailed plant account "near Warner's Lake." Trevor asked Kathryn if she thought there was a good seed bank within the effluent-dominated reach of the Santa Cruz. Kathryn explained that the area does not contain that much plant diversity, and that there are invasive species present. Trevor thought that because of the scouring nature of floods, that there would not be much of a seed bank. Leslie pointed out that the report, "Biological Values of the West Branch of the Santa Cruz River, with an Outline for a Potential Reserve: Sonoran Desert Conservation Plan," has a list of the plants Kathryn found along the West Branch.

Leslie noted that her main concern involves how much local input the City could have in the USACE restoration projects with regards to revegetation and preservation suggestions, since the agency is only classifying the river into four main plant communities. Ann stressed that “restoration” is really ecological enhancement, because it is not possible to restore the river to what it looked like more than 100 years ago. She asked Kathryn if it would be possible to increase plant diversity within the river corridor using resources already there. Kathryn said that she was not sure. Rich noted that the San Pedro River is similar to the Santa Cruz River, and perhaps there are lessons learned from the San Pedro River that could be applied to the planning sub-area, and pointed specifically to locations near Redington and San Manuel. Ann suggested that if human disturbances could be minimized along the river (off-road vehicles, invasive species, grazing), then the natural recovery could be considered a baseline. She noted that the National Park Service has been compiling flora and fauna observations at Tumacácori National Historical Park. Ann asked Kathryn if she knew if those plants might be found in the Tucson area. Kathryn noted that the Tucson elevation is often at the low end of the elevational range of many plant species, so it is possible that many plant species near Tucson would be found at higher elevations. Leslie asked if drip irrigation would be sufficient to support these plants that are no longer found in the Tucson reach of the River. Kathryn noted that surface water is not the only component needed, but that many plants depend on other characteristics such as soil moisture and a fluctuating groundwater table, for example. She noted that there was a limited study done on the Babocomari ranch comparing vegetation monitoring with groundwater data. Mima suggested that it is not helpful to compare the current Santa Cruz River with cienegas, because the river would never be restored to its historic conditions. The river channel is primarily for flood control, and that would continue to be the focus with USACE. She suggested that “restoration” is more like a grand gardening experiment. Trevor said that he would like full river restoration to be kept as an option in the long run. Leslie said that, given what is known about USACE, it should be possible for the TAC to come up with a set of guidelines, suggestions, and requirements for restoration. For example, the TAC could suggest areas that should not be disturbed for restoration purposes or could suggest plant composition and structure. These types of recommendations would be helpful in the USACE process and are necessary for completion of the HCP. Ann agreed, noting that she cannot separate plants from the entire ecosystem that they are a part of.

Ann asked, from a HCP perspective, if a mitigation measure could be to turn off some City wells near the river. Ralph noted that the Tres Rios project has a groundwater model, and that it might be possible to [use it to simulate projections](#) ~~run models on it~~ to see what ~~would~~ might happen if groundwater pumping were decreased, and how the water table might rise over time. Rich noted that the hydrologic soils present in cienega environments have long ago been washed away in the Santa Cruz River. Trevor suggested focusing restoration on mesquite bosques located on terraced benches in order to provide an improved corridor through the planning sub-area for HCP species. Ann pointed out that the top of the riverbank is considered an uplands plant community, while the river bottom is different. She suggested that restoration within the river channel has potential. She emphasized that restoration work should be focused on what could be supported solely off of rainfall. She noted that the San Xavier District of the Tohono O’odham Nation developed a riparian habitat restoration plan for an area south of Martinez Hill that includes reconstructed wetlands fed with CAP water on a terrace opposite a cut bank. She noted that it might be valuable to invite Mark Briggs (formally

with the Sonoran Institute) to a TAC meeting, and suggested a field trip to the restoration area. Ann noted that it would be helpful to bring geologists/hydrologists into the conversation so we know where the perched clay layers are. Mima noted that the energy of the river is in the river bottom, unlike the historic channel.

Leslie suggested that the TAC focus on identifying areas for restoration and preservation by looking at plant species occurrences and hydrologic models for perched layers. Ralph explained that ~~the best one~~ approach to gaining a better understanding about the occurrence of perched water along the Santa Cruz River river geology would be to speak with long-time Tucson Water employees who have ~~institutional knowledge from some idea given their many~~ years of observations in the field. He suggested that vegetation observations, such as the presence of cottonwoods and other vegetation, in areas where the depth to water should be too deep for them to exist, could indicate perched ~~water layers~~ as well. For instance, hHe noted that a Sonoran Desert Conservation Plan (SDCP) study found significant habitat benefits from perched water tables in the Tanque Verde River Valley. Trevor asked Ralph if he could also ask these employees for vegetation information, for example, where the last cottonwoods and mesquite bosques were located. Leslie asked Ralph to look into the potential presence of perched water that for future TAC meetings: her said he would work with staff to pull information together and bring it back to the TAC. Ann noted the USGS subsidence report based on Steve Anderson's study. ~~Ralph said that he would pull together a meeting with Tucson Water staff.~~ Leslie said that Phil Rosen and Julia Fonseca would be invited to attend the next TAC meeting. She also suggested scheduling field trips in the future. Mima said that she would ask Mark Briggs if it would be possible for the TAC to look at the O'odham restoration project. Trevor asked if anyone had accessed the historic fish database from ASU and the AGFD frog database. No one said that they had.

### **3) New Business**

- a. *None*

### **4) Call to the Public**

No members of the public spoke up.

### **5) Next Steps/ Future Meetings**

Leslie noted that the next TAC meeting is set for April 4, 2006 from 9-11am at USFWS. The next SAC meeting is scheduled for April 19, 3-5pm.