

HABITAT CONSERVATION PLAN
Technical Advisory Committee
August 15, 2006. 9:00 – 11:00 am
Arizona Game and Fish Department Conference Room
555 North Greasewood Road
Tucson, Arizona 85745-3612

MEETING SUMMARY

Attendees: Guy McPherson, Trevor Hare, Rich Glinski, Linwood Smith, Ann Phillips, Lori Anderson (Coalition for Sonoran Desert Protection), Ries Lindley (Tucson Water Department), Cathy Crawford and John Windes (AGFD), Sonya Kazaros (Arizona State Land Department), Courtney Conway (University of Arizona/U.S. Geological Survey), Michael Wyneken and Leslie Liberti (City of Tucson – Office of Conservation and Sustainable Development), Jessica Lee and Geoff Soroka (SWCA)

1) Upcoming TAC Meetings

a. *Scheduled TAC Meetings:*

- **September 5 and 19, 2006, 9:00 – 11:00 AM @ AGFD.**
- **First and Third Tuesdays, 9:00 – 11:00 AM @ AGFD.**

2) Old Business

a. *July 18 and August 1, 2006 Meeting Minutes*

Leslie explained that the July 18 and August 1 meeting minutes were not available at this time. She said that drafts of these two meeting summaries would be sent by email soon.

b. *Resource Planning Advisory Committee (RPAC) Update*

Leslie noted that Mayor and Council approved the RPAC at the August 8 City Council Meeting. She explained that the next step in forming the committee is to fill the last four remaining seats. She further explained that every member of the HCP Stakeholder Advisory Committee (SAC) received an automatic seat on the RPAC, that four additional seats were created to broaden the expertise of the committee, and that the City Manager would make formal recommendations to Mayor and Council to fill these four seats. Once these seats are filled, the RPAC would begin scheduling meetings.

c. *Survey Update*

Leslie distributed Marc Baker's revised proposed cacti surveys for the expanded Southlands planning sub-area and Phil Rosen's revised herpetological surveys (discussed under New Business). She also handed out a table detailing the estimated survey costs for the fiscal year 2006-07 Segment 2 grant. A total of \$56,587 (of the \$97,000 earmarked for research) has already been allocated by the TAC to fund the

herpetological surveys, seed bank analysis, buffelgrass monitoring, cacti surveys, and for Avra Valley vegetation monitoring. A potential lesser long-nosed bat foraging study and Travis Bean's (University of Arizona Desert Lab) proposed seed trapping study were not included in this total. This left \$40,413 remaining in the research budget.

d. Buffelgrass Management Effort Update

Leslie noted that the Finding of No Significant Impact (FONSI) was released by USFWS regarding the buffelgrass eradication program on Tumamoc Hill and "A" Mountain. Travis Bean and Julio Betancourt (University of Arizona Desert Lab) are working with Tucson Parks and Recreation on the request for proposal (RFP) in order to get the eradication program going.

e. Expanded Southlands Update

Geoff provided an update on his coordination with the subcommittees for the various target species. He said that the cactus ferruginous pygmy-owl subcommittee members generally want to defer to Scott Richardson (USFWS). He then noted that the burrowing owl (BUOW) subcommittee members do not believe that there have been surveys conducted in the expanded Southlands planning sub-area. Cathy noted that Mike Ingraldi (AGFD) would be helping her finish the BUOW modeling in the original Southlands area. Geoff continued, noting that the yellow-billed cuckoo subcommittee members indicated that surveys have been conducted along Pantano Wash, Tanque Verde Creek, and Cienega Creek. Ann noted that due to the massive flooding at the Simpson Farm a few weeks ago, additional cuckoo surveys were not completed. The lowland leopard frog and Mexican garter snake subcommittee members noted that both species have been found in the Cienega Creek Natural Preserve, and that frogs have been observed near Marsh Station Road, within the expanded planning area. For the Mesquite mouse, Geoff noted that Phil Rosen (University of Arizona) stressed that the results of his latest trapping endeavor appear to be interesting and unexpected. Four of Phil's DNA samples sent to Brett Riddle's lab in Nevada, expected to be cactus mouse (*Peromyscus eremicus*) since they were trapped in upland areas, were determined by the lab to be Mesquite mouse. There is some confusion about the results and whether these are actually two separate species. Phil suggested that additional trapping and lab analysis should be done, and proposed a \$9,000-\$13,000 study. The TAC requested that Geoff try to contact a few more people who might be knowledgeable about the species, including Ronnie Sidner (University of Arizona) and any graduate students.

Trevor provided an update on his meeting with Cecil Schwalbe (University of Arizona) regarding the desert tortoise. He noted that the areas around Tanque Verde Creek, Rincon Valley, and south to the Coronado National Forest contain good tortoise habitat, explaining that tortoises prefer Sonoran Desert habitat. He noted that when 80 acres of the Del Lago development (near Vail) was cleared, 22 tortoises were removed. Leslie said that evidence of breeding was also observed in that area. Cecil is especially concerned about conserving land that provides connectivity between high-density tortoise populations, in order to preserve genetic transfer, specifically referring to the famous path that "Thelma" took two years ago. Trevor noted that Pima County is interested in constructing ramps over the train tracks. Trevor also mentioned that Don

Swann (Saguaro National Park, SNP) noted that the Park might construct a fence to prevent tortoises from leaving the park and getting hit by cars. Cecil had noted that due to barriers and high mortalities from vehicle strikes, trucking tortoises between population centers might have to be an option, because at least one individual per generation needs to cross breed in order to maintain healthy genetic diversity. Trevor suggested that SNP, the City, and Pima County get together to discuss the tortoise. Guy expressed concern about fencing in the tortoises at SNP, because individuals might need to migrate out of the area due to the area being at its carrying capacity.

Leslie asked Trevor why the Sonoran Desert Conservation Plan (SDCP) Science and Technical Advisory Team (STAT) had added the species to the plan. He explained that it was due to a petition to list the species that was proposed by Forest Guardians in New Mexico, and that a revised petition is currently being written. He explained that the STAT has not prepared specific habitat models because everywhere is potential habitat, and the consensus was that the Conservation Land System (CLS) would protect the tortoises. He noted that the models would likely label high verses low potential habitat. He said that the entire Southlands sub-area would likely be considered low to medium potential habitat. Leslie noted that the TAC would need to prioritize high quality habitat in order to distinguish conservation areas. Trevor noted that Christina Jones (AGFD – Phoenix Office) is also working on desert tortoise issues. He noted that connectivity for this species has not yet been mapped, however, the route Thelma took was documented by GPS. He suggested that Thelma’s path, with a buffer around it, could be considered the connectivity corridor for that particular area. Cathy volunteered to schedule a meeting with local land management agencies and tortoise experts.

Leslie noted that, when the TAC switches back to discussing the Southlands, she would extend invitations to all local land management agencies. Rich suggested that Rick Gerhart (USFWS) be invited to attend. Trevor also suggested that someone from the natural resource department with the Arizona State Land Department be invited as well.

3) New Business

a. Avra Valley Discussion: Develop HCP mitigation strategies

Leslie distributed a table detailing information for the Avra Valley planning sub-area, listed by the parcel or farm name. She explained that the information primarily came from the City, Phil Rosen, and Tucson Audubon Society. She also said that the table correlates with the map showing conservation priorities. She said that the disturbed acreage column was derived from records of irrigated acreage. She also pointed out that a few of the parcels (Martin Farm, Trust No. 205) are listed on the table because they have been selected as potential sales. However, portions of Martin Farm contain mitigation areas that would likely not be sold. The City is engaged in discussions with the Town of Marana regarding sale of that property. Trevor requested that the City recommend a buffer for the mitigation area if the parcel is sold. Leslie explained that additional information could be entered into the table, including BUOW information (from upcoming AGFD report for Avra Valley), Merriam’s mouse trapping locations, and ground snake habitat. She noted that the table lists the “most probably proposed

activities,” which means that these covered activities may occur, but at this point there is no way to guarantee the type and location of future Tucson Water developments. Trevor asked if there was a way to prioritize and/or establish a timeline for the developments. Ries said that at this point, the community has not yet made any decisions regarding the quality of water, thus, no additional information could be provided. He did note that both the Central Avra Valley Storage and Recharge Project (CAVSARP) and the Southern Avra Valley Storage and Recharge Project (SAVSARP) are the prominent well fields in the area, and that it would be preferable for future evaporation ponds to be located downstream from these areas. He explained that any future treatment plants should be located nearby. He said that, until the public decides what level of total dissolved solids (TDS) it would prefer, Tucson Water would not know their exact plans or timelines for development.

Ann stressed that it would be really helpful to the HCP process if Tucson Water could provide more details at this point. She suggested that the TAC prioritize Avra Valley lands by habitat and connectivity value. Leslie proposed that the TAC try to look at Avra Valley by the factors that Tucson Water would consider (e.g. floodplains, soils, washes), as a way of anticipating where some future infrastructure might be proposed for development. Ries noted that there are some important conservation areas, such as washes, that Tucson Water is not interested in developing. As for developmental timelines, he stressed that they can vary. For example, the SAVSARP project took off ahead of schedule when Tucson Water was alerted that Tucson might lose some of the Colorado River allocation as a result of the water “not being used.” Rich supported the strategy of the TAC prioritizing important conservation areas, rather than worrying about what Tucson Water might do, because there are too many unknowns at this point. This information could then be presented to Tucson Water as a data layer, used to evaluate future development. Trevor supported this approach, and asked Ries to provide the “worst case scenario.” Ries pointed to page 18 of the Preliminary Draft HCP where this information is detailed. In summary, he noted that under this scenario, approximately 5,600 acres would be needed for brine disposal and related landfill activities, 100 acres for treatment plants, 600 acres for well fields, and 1,000 acres for recharge facilities. The Avra Valley planning sub-area contains a total of 21,596 acres.

Leslie noted that the description of covered activities in the Preliminary Draft HCP was broadly defined. Leslie asked Ries if Tucson Water could provide more specific factors and/or constraints used when evaluating sites for development. If this information could be provided, then the TAC could evaluate the biological value of the land. Rich disagreed with this approach, instead supporting the idea of ignoring what Tucson Water may want to do, rather focusing on prioritizing conservation areas, then providing that information to the department. Community decisions and changes in future technology make anticipating Tucson Water development difficult. Cathy suggested that the TAC look at conservation the way USFWS does when evaluating take, which unless detailed, is calculated based on the worse case scenario. Leslie said that the goal for the TAC is to determine the mitigation requirements on a parcel-by-parcel basis, so Tucson Water would be able to quantify their impacts. Obviously, the preferred action is for Tucson Water to completely avoid all priority habitats, but it is unlikely that this would be possible. There are two types of areas in Avra Valley, undisturbed and disturbed. Undisturbed land primarily includes riparian areas, which Tucson Water is not interested

in developing. Disturbed lands include previously farmed and grazed uplands. She noted that there are two ways of looking at this. One is that Tucson Water is going to benefit from the flexibility of knowing what the mitigation requirements would be for any potential activities, without having to specify scale or location covered in the HCP. However, the more flexibility in the plan, the more conservatively the mitigation strategies would have to be outlined. She noted that Tucson Water is beginning to engage in public outreach regarding water quality taste tests, and that preliminary results indicate that expert taste testers cannot tell between a TDS of 450 milligrams/milliliter and 650 milligrams/milliliter, the level that the water would be at without treatment to regulate the amount of salts. Ries noted that, at some point in the future, salts would have to be managed either on the potable end, or on the effluent end. Effluent usually runs 300 milligrams/milliliter higher than potable water. He noted that future technology improvements would likely drop the costs of these treatments.

Leslie asked the TAC what additional information they would like to see in the table or on the map. Trevor asked to see the information placed on aerial photographs. Ann noted that the report on Avra Valley parcels for the City should be completed by the end of the summer. Leslie noted that there are three features that should be illustrated on the map, including the mapped migration corridors, riparian habitat, and high quality ground snake habitat. Riparian habitat would capture cactus ferruginous pygmy-owl, Merriam's mouse, and yellow-billed cuckoo habitats. Leslie noted that BUOW information would be added to the map when Mike Ingraldi finishes his report. Geoff suggested adding yellow-billed cuckoo to the "% Habitat Protected" column of the map as well. The TAC discussed including floodways on the map and Ann suggested the floodway for Black Wash might be important to consider. Ann also noted that the mapped riparian area does not cover the actual floodplain for the Simpson Farm. Leslie noted that mapped floodplains do not always include information on wash channelization. She suggested producing a second map showing just the floodplains. Ann suggested considering parcels adjacent to protected lands for open space.

b. Phil Rosen Proposal: Follow-up from August 1, 2006 Discussion

Leslie explained that Phil expanded upon the initial proposals that the TAC supported at the last meeting, in an attempt to budget the research within the suggested limits. The TAC approved all of Phil's proposals, amounting to \$14,492.

c. Burrowing Owl Proposal: Follow-up from August 1, 2006 Discussion

Courtney Conway discussed his proposal, "Roundup applications to control buffelgrass in Pima County: effects on burrowing owls." He explained why he suggested designing a field study instead of a lab study. It takes time to obtain federal permits to handle birds in a lab. Also, it is difficult to conduct toxicological studies on wild animals because there are so many factors that could influence their health. He noted that BUOWs are very tied to their burrows, and thus, it is very common to find dead owls in or near their burrows. The presence of these dead birds allows a lab study to be conducted in the field. He explained that spraying Roundup could cause other factors that might affect the owls, including eliminating grass cover and prey base. He suggested banding owls, observing whether or not the owls in the spray zone leave the area, and then comparing their

behavior to other owls in the Tucson Basin. He noted that he has been studying local owl populations for five years, has located more than 100 active nests, and has color-marked all of the adults. From these studies, there exists strong baseline data for this area, including reproductive parameters, nesting growth rates, and hatch rates. This would allow us to observe whether Roundup treatments affect those parameters.

Ann asked Courtney to clarify the morphological and demographic traits that he plans to study. He noted that he has been taking blood samples from more than 2,000 owls throughout western North America as part of a genetics study. He said that the study would be designed to look at direct demographic consequences as a result of the Roundup spraying, including direct mortality, deformities, offspring growth rate, hatching success, juvenile recruitment rate, migration, etc. He also said that they would collect other information, such as prey remains and the presence of owl pellets. He noted that toxins have been found to exhibit more serious effects on individuals during developmental stages. Ann asked if there was a way for his study to distinguish between the direct effects of Roundup on the individual owl, versus the indirect effects on the owls from the expected decrease in grass and prey base. He noted that there is one indirect way to study this, which is to note if the owls migrate out of the spray zone after spraying occurs. These observations could then be compared to the baseline demographic data for owls in the Tucson Basin. Courtney also noted that Geoff had a good idea to design a control area where Roundup is not sprayed, but rather the grass around a burrow is mechanically removed, and then BUOW data within this area could be compared to the sprayed area. Courtney noted that this type of study might be outside of this proposal, but that he might pursue this with other grants. Ann expressed concern about the timeline of the study (one year), and worried that there might not be enough Roundup spraying events to study. Courtney said that he initially lacked the necessary information regarding where and how the area would be sprayed. Ann explained that Tucson Water has already flagged the burrows (and a 5-meter buffer) in the spray zone, and that this area would be hand-sprayed. She volunteered to take Courtney to Avra Valley in order to help finalize the details of the study. The TAC stressed the importance of obtaining background data in Avra Valley before the spraying. Ann noted that she would talk with Tucson Water to figure out the spraying timeline.

The TAC discussed the research budget, and how Courtney's study might be funded, as there is not enough money in Segment 2 to completely fund his proposed study. The TAC discussed splitting the funding of the grant between Segment 2 and the next grant.

4) Call to the Public

No members of the public were present.

5) Next Steps/ Future Meetings

Leslie said that the TAC would continue discussions on finalizing the Avra Valley conservation strategy. She said that the City would update the Avra Valley informational

table with Merriam's mouse trapping locations, burrowing owl data, and additional details on covered activities provided by Tucson Water. The City would also update the Avra Valley map, so that the TAC could discuss the area parcel-by-parcel and begin finalizing the location and configuration of priority conservation areas. At that point, the TAC could discuss which target species might be impacted and begin to develop mitigation strategies.