

**Technical Advisory Committee Meeting Summary**  
**February 28, 2005 1:00 – 4:00 pm**  
**Arizona Game and Fish Department conference room**

Attendees: Trevor Hare, Rich Glinski, Guy McPherson, Marit Alanen, Ann Phillips, Dennis Abbate, Mima Falk, Linwood Smith, Michael Wyneken (City of Tucson – Planning), Eric ??? (City of Tucson – Planning), Clint Chiavarini (City of Tucson – Planning), Leslie Liberti (SWCA), Ken Kingsley (SWCA), Lori Lustig (SAHBA)

**1. Habitat Modeling Updates**

- Needle-spined pineapple cactus

Leslie handed out maps of potential needle-spined pineapple cactus habitat in the Tucson HCP planning area. The SDCP models were used for this species, and both moderate and high potential habitat were included on the map.

- Ground snake

Leslie handed out maps of potential ground snake habitat in the Tucson HCP planning area. The models that Phil Rosen developed for the Marana HCP were used for this species. Leslie explained that Phil wanted to distinguish between potential habitat along Blanco Wash, which is the sole area in Avra Valley where this species has been found, and the remainder of model potential habitat where there have been no documented records.

Trevor asked if there had been other areas that had been thoroughly surveyed. Leslie replied that, according to one of the reports that Phil prepared for Marana, Mile Wide Road has been fairly extensively surveyed, with no ground snake or Tucson shovel-nosed snake detections. Ken added that Avra Valley Road is also a major local snake survey route.

- Tucson shovel-nosed snake

Maps were not yet finished for this species, but would be provided at the next meeting.

- Lesser long-nosed bat

At one of the last meetings, Mima suggested that, since the lesser long-nosed bat would be foraging primarily on agaves in the Southlands, that she, Leslie, and Ken take a look around that area, especially the southeastern corner, to see if there were any agaves. After a trip to the site, Mima had concluded that there was no potential foraging habitat within the Southlands. Leslie explained that, since there would be no impact to the species, that it no longer met the criteria for inclusion in the HCP. Trevor noted that there might not be natural foraging habitat, but the bat is drawn to hummingbird feeders and landscaping saguaros and agave. Leslie said that these types of concerns could be addressed in a Safe Harbor Agreement. She added that Southlands was the primary concern with respect to encouraging lesser long-nosed bats to forage in developed environments.

Rich noted that this species was currently under a status review. Comments are due to USFWS by May 3, 2005. He asked what was likely to happen as a result of the status review. Trevor thought that a delisting was likely given the controversy over the bat's status when it was proposed for listing. Mima clarified that the status review would not directly result in a delisting. After the conclusion of the review period, USFWS would make a recommendation regarding the listing of the bat. If USFWS felt that delisting was warranted, it would have to be done in a separate process, which could take years. Rich asked if a delisting would move quicker if there were a petition to delist. Mima replied that this was the case. Trevor added that he had heard a rumor that a petition to delist was going to be filed.

Rich added that the Pima pineapple cactus was also undergoing a status review. Mima said there were taxonomic questions regarding the subspecies.

- Pygmy-owl

Leslie said that Scott Richardson had a couple of comments on the potential habitat for the pygmy-owl. There was one area of potential habitat that had not been included on the map. In addition, there are some patches of suitable habitat around Corona de Tucson and Scott wanted to take a look at potential connections between these patches and areas of potential habitat in the Southlands. Leslie and Clint would meet with Scott and have a finalized potential habitat map at the next meeting.

- Burrowing owl

Leslie said that she and Ken had met with Marit and Mike Ingraldi and the field tech that had conducted burrowing owl surveys for AGFD. The group looked over detailed orthophotos and identified locations where burrowing owls and active nest burrows had been found. Using this information and the habitat preferences of the species, the AGFD staff identified potential breeding habitat for burrowing owl in the Tucson HCP planning area. Leslie explained that they had not tried to map dispersal habitat because data was starting to show that the owl used a wide variety of habitats, with the essential requirement seeming to be the presence of a burrow or some other feature that would provide shelter. Without knowing exactly where potential burrows/shelters exist, most areas around Tucson, including the entire HCP planning area, could serve as dispersal stopovers. AGFD had found that dispersing or migrating birds only stayed at a single location for several days to a couple of weeks.

According to Mike Ingraldi, the entire Santa Cruz River corridor in the City is high potential habitat. Leslie added that this is supported by Courtney Conway's 2004 report which looked at reproductive success of burrowing owls in three areas: (1) along agricultural field near Eloy and Casa Grande, (2) on the Davis-Monthan Base, and (3) along the Santa Cruz River and other washes in Tucson. Courtney concluded that breeding habitat along washes was better for the owls.

Mike Ingraldi suggested that, for owls in the Tucson area, burrow availability was the limiting factor, although this has not been systematically examined. The Avra Valley properties, according to Mike, have suitable soils, vegetation density, and prey base; the question is whether there are any reasonable densities of potential burrows on these parcels. Leslie asked the TAC how they thought these areas should be considered. She asked if they wanted to consider it potential habitat regardless of whether or not there were many burrows on the properties or if they thought a survey of burrow densities was needed. Rich didn't think that a

lack of burrows prevented this area from being considered potential habitat, especially since artificial burrows can be easily installed to create breeding opportunities.

Ann felt that the TAC was not looking at landscape issues. In previous meetings, Leslie had focused on the minimum legal requirements for HCPs and Ann was concerned that broader issues would not be considered in the plan. Leslie explained that time and monetary constraints were the issue, rather than “doing the minimum.” She said that there are particular requirements that have to met for an HCP and the City needed to make sure that these were met within the budget and time allotted. This, however, did not preclude consideration of landscape-scale concerns. Rich pointed out that, in the Marana process, the technical team considered the burrowing owl management areas (BOMAs) from a broader perspective. In an HCP, viability of species is considered individually, but management of the species over the long-term is a broader consideration. Leslie added that the take analysis is the most “narrow” portion of developing an HCP because take has to be quantified as number of individuals or acres of habitat impacted. The development of conservation strategies and a monitoring and adaptive management plan allow a much broader look at conservation, not necessarily just species-specific. Rich felt that Marana technical team was being proactive with the species strategies considered.

Trevor said that he was disappointed with the Marana process because the development of the draft plan ended abruptly and the technical team never came back together to consider larger-scale issues. He emphasized that, at the end of the process, the TAC needs to look at the big picture and identify any gaps in the cumulative conservation program. Leslie explained that Marana had extended their IGA deadline three times and needed to pull an administrative draft plan together so that they could fulfill the terms of the grant. The stopping point was arbitrary and the draft plan still needed quite a bit more work. The intent was always to bring the technical team back together to finalize the plan, but the Town first has to address some major hurdles to the implementation of their preferred approach (the Tortolita Preserve expansion). The Town has to wait until this issue, which relies on cooperation by the Arizona State Land Department, is settled before moving forward with the development of their draft HCP.

Ann was still concerned that the TAC would not have the time or opportunity to take this broader look at the conservation program. She asked if the TAC needed to meet more often to make sure that this broader consideration actually happens in the Tucson HCP planning process. Rich agreed and said that if the TAC was not able to take a broader look, there was no point in being involved in the plan development. Leslie said that there were a couple of considerations. First, the TAC would not stop meeting once a conservation program was developed and had gone to the SAC for development of implementation options. The SAC would be considering questions such as which ordinances needed to be revised or written to accomplish the measures proposed in the plan, potential land acquisitions, and funding sources. At the same time, the TAC’s consideration of landscape-scale issues was just another aspect of ensuring effective implementation of an HCP. Once a conservation program was developed, there would need to be a good flow of information between the SAC and TAC and, in fact, it might be necessary to have joint meetings with the two committees. The City also intends to apply for a second year grant from USFWS. This next phase of the process would allow additional time to work on the draft plan, and larger-scale considerations in particular. Michael added that he had always assumed that there would be a great deal of interaction, and possible joint meetings, between the two committees once draft conservation strategies had been developed.

Leslie asked whether the TAC was saying that all of the land in Avra Valley should be considered burrowing owl habitat. Ken added that it was really potential habitat as the occurrence of owls and actual habitat suitability (evaluated by presence/density of burrows) on these lands would not be evaluated.

Trevor asked whether hacking sites around Tucson for burrowing owls were limited. Ann said that Greg Clark at Wild at Heart was putting in 64 burrows along the Santa Cruz River, but he is also very interested in putting owls in Avra Valley. Ann asked if the City had a standard operating procedure for the maintenance of washes. She knew that some owl burrows had been impacted by maintenance activities. Ken responded that it was the County, not the City, that had been involved and it had happened only once. The County now has guidelines to minimize conflicts. Michael added that the City was also considering similar guidelines.

Leslie explained that the only records of burrowing owls in the Southlands were for dispersing birds. Game and Fish had tracked a number of owls last year and the few that stopped in the Southlands (all along the northern edge) stayed only a week or so. After the discussion of potential burrowing owl habitat last week, Leslie, Ken, Marit, Mike Ingraldi, and the AGFD burrowing owl surveyor went out to the Southlands to check out the sites where dispersing birds had been detected to see if this information could be used to differentiate potential breeding habitat from the areas that were not suitable for burrowing owl breeding. The burrows that had been used by these dispersing owls are located on a ridge that is significantly higher than the surrounding lands. Mike hypothesized that burrows were more likely to be found on this and other ridges in the Southlands because these higher areas were not subject to sheet flooding like the lower areas. Mike thought that there would be higher densities of burrows in the ridges (more breeding opportunities for burrowing owls) and these burrows were less likely to be flooded (and more suitable for use as a nest site). During the trip, lower areas were also checked for burrows and other habitat characteristics. Mike concluded that the lower areas (areas other than the ridges) were not suitable as burrowing owl breeding habitat due to some combination of factors such as: vegetation that is too dense, few/no mammal burrows, evidence of regular inundation due to sheet flooding, and soils that are poor substrate for burrowing.

Trevor noted that he had been down in Puerto Peñasco and saw burrowing owls using areas with very dense vegetation. Ken asked if they were wintering owls. Trevor replied that he had seen them about 3 weeks ago (early February). Rich said that he felt that the Southlands was all dispersal habitat. Leslie agreed that most of the area was potential dispersal habitat, but the ridges that Mike Ingraldi identified did have potential as breeding habitat.

Clint showed initial results of a digital elevation model (DEM) for the Southlands. It looked that there might be sufficient resolution to identify ridges. Limitations of the data meant that field verification would be needed to confirm and/or refine the output of the DEM.

- Pale Townsend's big-eared bat

Several meetings ago, Linwood had recommended that the SDCP layer of Arizona Upland vegetation communities be used as the basis for the pale Townsend's big-eared bat habitat model. The City had printed large maps of the planning area showing these communities and Leslie asked for feedback on how well the mapped areas seemed to capture potential foraging habitat for this species.

Trevor asked for information on the life history of the bat. Linwood and Ken said that

- the bat is never found in large numbers in a roost site
- it has been documented to roost in buildings
- few systematic surveys for the species have been done; surveyed areas include Helvetia and Mt. Fagan/Whetstones
- the bat is found, one or two at a time, in Kartchner Cavern, which is the best surveyed location

According to the County vegetation layer, most of the Southlands is Arizona Uplands (specifically paloverde-mixed cacti), except for riparian habitat that threads through the area and the extreme northwestern corner and a sizeable area in the southeastern corner. Ken said that the northwest area had been impacted by sand and gravel operations and low-density development, which is probably why it was excluded from the uplands layer. Linwood thought that the southeastern corner was likely omitted because it was mapped as a scrub-grassland habitat. Leslie asked if grassland habitats provided suitable foraging habitat for the bat. Linwood said that they did. The consensus was that the upland vegetation layer, plus the scrub-grassland vegetation community, was a good predictor of potential foraging habitat for this species.

Trevor noted that there were a few City-owned parcels in Avra Valley that showed up as having uplands vegetation. He thought this was consistent with the fact that some of the properties were never farmed. Leslie said that Tucson Water had a data layer showing which portions of the properties had been irrigated and which had not. This information could be used to refine the map of potential habitat within the Avra Valley planning area.

- Yellow-billed cuckoo

Leslie noted that, at the last TAC meeting, there was discussion of which floodway of two layers better captured potential cuckoo habitat in the planning area. The two layers have a number of differences that needed to be reviewed and evaluated by the TAC.

Ann thought that the two layers should be combined to capture all of the potential for future cuckoo habitat. Ken noted that the best habitat along the Santa Cruz River, in and around Tucson, is at the pecan grove next the Tucson Ready Mix sand and gravel pit north of the City limits. Trevor also pointed out that there are cuckoos at Cienega Creek Preserve.

- Pima pineapple cactus

Mima provided an overview of the efforts to create a model of potential PPC habitat in the City planning area. Last month, she and others had made a trip to the Southlands to try and develop a method to identify areas that were or were not suitable habitat or areas that were better quality, versus lower quality, habitat. The group that attended (including Mima, Linwood, Marc Baker, Leslie, and Ken) identified a range of ideas, from random sampling over the entire Southlands area to no sampling. According to Mima, all of the Southlands looks suitable at some level. Pima pineapple cactus can be found anywhere in uplands, except where water ponds. The group decided that sampling would be too expensive and not provide much new information. The alternative was to use the Harris riparian layer to model the areas where PPC typically aren't found, specifically washes and areas of sheet flow.

Looking at the maps of Harris riparian vegetation in the Southlands and the map of upland vegetation from the SDCP, Mima noted that they seemed to have some differences. The Harris layer appeared to show more riparian habitat than the SDCP vegetation layer. Mima asked what the differences were between the two. Ken said that the Harris layer was newer. He said that he had more confidence in the Harris data and Linwood agreed. Mima suggested that the Harris layer then be used for both the PPC and the pale Townsend's big-eared bat. Mima was concerned about one of the mapped riparian types (the blue area) that seemed to cover a very large area but not correspond to any riparian features. Ken suggested that, since it was located between two large washes, it was an area that would flood on rare occasions. Mima did not think that the blue area should be included. Clint noted that this polygon had no BLP classification associated with it. Leslie suggested removing the blue area and then overlaying the Harris and SDCP layers and spot-checking any areas where Harris said that there was riparian habitat, but the SDCP layer did not. Rich was concerned that the Harris layer reflected a political agenda and was too liberal, which would work against the PPC. Trevor disagreed.

Ann asked whether the tendency for PPC to be found in uplands meant that these areas would be preserved at the expense of riparian areas. Mima replied that riparian areas are typically what is preserved in a development, so this just served to put some focus on the uplands, which normally were not considered for preservation.

Trevor asked about the Lee Moore watershed study and whether that study would inform the HCP. Michael said that the opposite was true. The Lee Moore study had not yet begun. The study would look at how to capture and manage sheet flow and he hoped that the conservation strategies developed as part of the HCP could be used as part of the 'existing conditions' for the Lee Moore study.

Trevor asked about whether the potential for unique populations of PPC figured into the discussion of conservation approaches. Mima responded that there seemed to be 3 population centers along a horseshoe-shaped distribution: central Altar Valley, along the southwest fringe of Tucson in southern Avra Valley, and in the Southlands and south to Sahuarita. Trevor said that he had heard that there were areas between which there was no gene flow. Mima replied that, ideally, portions of all three populations would be protected. Ken noted that there was no real information on gene flow since most of the range of the PPC had not been surveyed. Rich asked about the elevation limit of the species. Mima said that PPC do not occur above 4,000 feet. The species also likes flat areas and seems to have a 10% maximum slope tolerance.

Rich had asked at a prior meeting about plants and the ESA. Mima provided a brief discussion of how plants are treated under the Act. She said that Section 9 (prohibition on take) does not apply to plants. Plants can be included in an HCP; they just do not get "take coverage." However, Section 7 requires that activities not jeopardize listed plants. Since USFWS must undertake an internal Section 7 consultation prior to issuing an incidental take permit, they must consider the impacts of the HCP on listed plants. One could not do an HCP just for a listed plant. Leslie asked whether the USFWS could approve a Safe Harbor Agreement for a listed plant. Mima said that they could.

## **2. Covered Activities**

Michael included a packet on information on the Southeast Arterial Study with the agenda. He explained that the City's approach to determining covered activities for the Southlands was to use the projections in this study. This was an infrastructure planning effort funded by PAG and

the Tucson Airport Authority. It was anticipated that the final document would be released in early March. Michael said that the consultants for the study used SDCP information, such as archeology and hydrology, to map environmental constraints. These constraints were a major basis of the study. Also, approximate two-thirds of the arterial study area is covered by the Lee Moore watershed basin study.

The City wanted to take an approach of planning for a smaller number of larger roads and get away from having a road every mile. The result is approximately 4 to 6 square-mile blocks between roads. The study output would provide the basis of the City's major streets and routes plan. The sections of broken line coincide with environmentally sensitive areas. The roads are curved to hit washes at a 90-degree angle and thus minimize impacts at wash crossings. Michael noted that there is room for additional environmental considerations in the final layout of the road system.

Mima asked if the arterial study area was bigger than just the Southlands. Michael said that it was and Clint brought up a map that showed the study area was much larger than the Southlands. Ann was concerned that the largest wash in the Southlands was located in the center of a web of roads. Leslie reiterated that, since there is room for additional considerations, the TAC recommendations could be integrated into the road plan.

Trevor asked if the City could provide a map with both the hydrology and streets overlain. Clint said they could do that, but the City had not yet gotten the layers used in the study. Michael noted that the study had also involved the State Land Department, the City of Tucson, Sahuarita, and Pima County. Pima County and the City were both looking to adopt the study as their respective roads and streets plans.

Trevor asked if Pima County had talked about their environmentally sensitive roadways manual. Michael did not know if there was a reference to the manual in the study report, but the City was considering their own version of the environmentally sensitive roadways guidelines. Trevor felt that adoption of this type of guidelines was something that the TAC should push with the City.

Michael discussed the anticipated land uses maps included in the packet. He noted that the 2030 time frame of the first map was fairly close to the anticipated take permit length, about 25 years. The City anticipates that development will be focused along Interstate 10, but there will not be much development over the next 25 years because of the 20-year build out anticipated for the Houghton Area Master Plan (HAMP). Michael said that the City wanted to do the HCP now, rather than waiting until development was imminent in the Southlands, was to get the conservation program "on the map" as part of the long-range planning and to be able to coordinate the HCP with other planning efforts.

Rich asked about constraints associated with the Air Force Base approach-departure zone. Michael said that it eliminates the possibility of new residential development; the only additional development will be that which is already platted. Industrial and commercial development, including mixed use, is planned for that area. Ken asked why there was not any high-density residential shown on the map. Michael explained that it is incorporated into the "mixed use" category and primarily shows up after 2030. Ken asked about the sliver of area labeled '18.' Clint said that it was the result of a mismatch between the study area boundary and the City limits and was actually part of the County Park.

Mima asked if, given the development pressure south of the Southlands, there is pressure to develop the southern portion of the Southlands. Michael replied that the land currently being developed in that area is private land. The State Land Department, which owns most of the Southlands, does not seem inclined to sell these lands anytime soon. Ann asked if the TAC could make recommendations regarding guidelines for the various anticipated land use classes. Michael said that the conservation strategies could be used to guide future land use plans. Mima asked how the City plans on dealing with the fact that most of the Southlands is owned by the State Land Department. Michael said that the City does have some permitting control over state trust land so the City was planning on covering all of these lands in the HCP. He felt that the State Land Department will be able to be more involved in local planning efforts after the Tucson office opens. He also noted that Catherine Balzano, who will be working in the Tucson office, is now on the SAC. Leslie emphasized that this is an important consideration and the TAC needs to be cognizant of what permitting authority the City does or does not have over these lands. Mima noted that the City would not be able to set up reserves using state trust land, but could only require mitigation from developers once the land had been purchased.

### **3. Species Accounts**

Leslie handed out the species accounts for the pygmy-owl, burrowing, owl, ground snake, and Tucson shovel-nosed snake. She explained that these accounts provide information on the species so that TAC members felt sufficiently informed regarding the species' needs to feel comfortable developing conservation strategies. She said that the TAC members were welcome to request additional information and asked for them to provide comments on the drafts.

Leslie was anticipating that the remaining accounts would be sent out to the TAC by email prior to the next meeting.

### **4. Next steps/Future meetings**

The next meetings are scheduled for March 22, 1-4 pm, and on April 11, 8-11 am, both at Game and Fish offices.