

**CITY OF TUCSON
HABITAT CONSERVATION PLAN
Technical Advisory Committee
June 7, 2005 1:00 – 4:00pm
U.S. Fish and Wildlife Service Conference Room
201 North Bonita Ave.**

Meeting Minutes

Attendees: Michael Wyneken (City of Tucson – Planning), Marit Alanen, Guy McPherson, Mima Falk, Trevor Hare, Linwood Smith, Rich Glinski, Ann Phillips, Leslie Liberti (SWCA), Jessica Lee (SWCA), Ken Kertell (SWCA)

1) Update on Recent TAC Meetings/Upcoming Meetings

a. *Scheduled SAC Meetings:*

- **June 22**, 1-4pm @ AGFD. Joint Meeting with TAC. Tentative Topics: (1) Introductions, (2) Biological stressors and threats, (3) Initial conservation strategy thoughts, (4) Presentation on Pima County's species-specific mitigation strategies.
- **July 13**, 3-5 pm, @ AGFD. Tentative Topics: Conservation measures for Southlands species and implementation options.
- **July 27**, 3-5 pm, @ AGFD. Tentative Topics: see previous meeting.
- **August 17**, 3-5 pm, @ AGFD. Tentative Topics: Conservation measures for Avra Valley species and implementation options.
- **August 31**, 3-5 pm, @ AGFD. Tentative Topics: Conservation measures for Santa Cruz River species and implementation options.

b. *Scheduled TAC Meetings:*

- **June 22**, 1-4pm @ AGFD. Joint Meeting with TAC. See above.
- **July 12**, 1-4 pm, @ AGFD. Tentative Topics: Conservation measures for Southlands species. Possible presentation from Catherine, Arizona State Land Department
- **July 26**, 1-4 pm, @ AGFD. Tentative Topics: Biological goals, objectives, and initial conservation measures for Avra Valley species. Possible presentation on Tucson Water 50-year plan.
- **August 9**, 1-4 pm, @ **USFWS**. Tentative Topics: see previous meeting.
- **August 23**, 1-4 pm, @ AGFD. Tentative Topics: Biological goals, objectives, and conservation measures for Santa Cruz River species.

2) Old Business

a. *Meeting Minutes – Discussion and Approval of May 3, May 24, and May 27, 2005 Minutes*

Many TAC members had problems opening the email file with the May 27 meeting minutes. Of the three sets of meeting minutes the only ones that people have had a chance to review are from May 3. Michael noted that that the May 3 meeting minutes were not addressed at the May 27 meeting because only a few TAC members were absent. The consensus was that the May 3 meeting minutes were fine as written. Rich

asked if the discussion on CFPO the April 11 meeting minutes had been resolved. Leslie said that revised April 11 minutes, with all of Dennis' comments included, had been sent out to the TAC. Leslie suggested that all the meeting minutes be resent separately so there won't be a problem with people opening the email file. Linwood caught a few errors in the May 3 meeting minutes. Leslie will make the changes and resend the minutes.

Trevor asked if the presentation that Catherine Balzano was going to give on May 3 will be rescheduled. Michael said he is working on rescheduling it, possibly for the July 12 meeting. Mima asked Leslie about scheduling the Tucson Water presentation. Michael suggested having it at the July 26 meeting since the topic of that meeting is the Avra Valley properties.

b. Action Items from Previous Meeting

Leslie said Trevor had asked for a citation for the information she had given on predation of pale Townsend's big-eared bat. The citation is "Idaho State Conservation Effort: Habitat Conservation Assessment and Conservation Strategy for the Pale Townsend's Big-eared Bat." This is a draft plan and since it has not been released, Leslie has been unable to get a copy.

Trevor said he talked to Phil and Cecil about the toad assemblages. He is waiting to hear back from them.

c. Topics Held Over from Previous Meeting

No topics were held over from previous meeting.

3) New Business

a. Summary of May 27 TAC meeting

- Yellow-billed Cuckoo (YBC)

Leslie summarized the major points from Ann's presentation on yellow-billed cuckoo (YBC) threats and stressors from the May 27 meeting. The subcommittee that developed the stressors and threats matrix involved Troy Corman (AGFD), Brian Wooldridge (USFWS) Ann, Leslie and Ken Kingsley.

Leslie said that one of the more interesting topics discussed was the potential for Tucson Water basins doubling as habitat for the cuckoo and other species, either with trees planted adjacent to them or by creating smaller supplemental basins that can be fully vegetated. Leslie said the Gilbert Water Ranch, a water recharge facility, was brought up at the meeting because they have integrated recharge and habitat enhancement on their site. It was suggested that the TAC and Tucson Water take a field trip up there to see how it was done. Leslie said that she would try to schedule a trip sometime this summer. Trevor thought this would be a good idea because, when TAC was out on the field trip in Avra Valley, he asked Ralph Marra about planting trees adjacent to the recharge basins and Ralph did not think it was possible. Ann said she talked to Bruce Johnson and others at Tucson Water and they are open to a dialogue about planting trees. Ken Kertell noted that mesquite trees, non-water intensive trees, have been planted between the

basins at CAVSARP as part of the Section 7 consultation for pygmy-owls. Trevor pointed out that cottonwood/willow plantings would be needed to support YBC. Ann thinks that Tucson Water is open to considering a multi-use recharge basin design and thinks it is a conversation worth having with them. She also noted Tucson Water is open to talking to Pima County about lands the County wants to acquire in Avra Valley. Ann feels that this HCP is a good opportunity for Tucson Water to expand into more creative approaches to recharge. Leslie added that this conversation is important because the subcommittee felt that, not only does the Santa Cruz River corridor have suitable YBC dispersal habitat, but that the Altar/Brawley Wash could also be a viable YBC corridor. She pointed out that YBC have been documented nesting in Altar Valley in mesquite trees. Leslie noted that because of the monsoon season, there would be enough humidity for YBC to nest in mesquite bosques in southeastern Arizona, which seems to be a critical factor in nesting success.

Trevor asked if YBC is found in Cienega Creek Preserve. Leslie noted that Ken Kingsley had said they are found along the upper Cienega Creek upstream of the dam and along the San Pedro. Ann said she has seen YBC near the Avra Valley Treatment Plant and in the Sweetwater Reserve. Leslie thought that it might be useful to catalog sightings and then map them to see spatially where corridors might be in the Tucson area. Trevor asked if there have been any sightings in the middle of town, such as at Reid Park, or at Agua Caliente State Park. Linwood said he goes out to Agua Caliente a lot and has never seen or heard them. Leslie said that YBC move at night and can make large hops at a time. When it starts to get light they look for a patch of green and that is where they'll spend the day. She said that, because of this dispersal pattern, fragmentation of habitat might not be as much of a problem. Ken said that YBC were found in Picacho Reservoir before they drained it. Rich had pointed out that they were breeding near Tubac and Rio Rico.

Rich felt that there are viable migration corridors, as an alternate to the Santa Cruz River. He noted the potential corridor of Sopori Wash to Aravaca Creek to the Altar Wash, and then the Altar/Brawley Wash all the way to Marana. Rich noted that there are ranchers in the area, who are part of the Altar Valley Conservation Alliance, and are currently doing habitat conservation work. Rich also stressed the potential importance of the Tucson Water properties. Ann pointed out that Pima County just bought a parcel (the King 98 Ranch) south of Ajo Road adjacent to a Tucson Water property (the Duval-Penzoil Farm).

Ann noted that YBC eat Mexican elderberry, which grows in Avra Valley. Leslie emphasized that the local YBC habitat is migratory rather than being breeding habitat. She said that, since water and funds for restoration are limited, she asked Brian and Troy if they had to make a choice between restoring one or a few blocks of hydro-riparian habitat suitable for breeding or restoring a larger area of smaller patches to enhance this area as a corridor, which they would chose. Leslie said that they felt protecting or enhancing connectivity is more important because there is good breeding habitat on the Gila River and further north. Brian and Troy seemed skeptical that it would be possible to create and maintain adequate breeding habitat in this area. Rich pointed out that, by creating dispersal habitat, in good years it could serve as marginal breeding habitat. Trevor asked if her question to Troy and Brian also included the Santa Cruz corridor, and Leslie said yes. According to Troy and Brian, dispersal habitat doesn't have

to be continuous cottonwood/willow, but could consist of small patches of cottonwood/willow connected by mesquite.

Leslie said the other important topic discussed was mortality, including road kill on bridges and cowbirds' nest parasitism. There was consensus at the last meeting that, because riparian corridors are so narrow, there is little that can be done to stop the cowbirds from parasitizing cuckoo nests. Trevor asked about controlling cowbirds. Leslie said it is possible, that they can be trapped and gassed, but it is costly and has to be done indefinitely.

Leslie passed out corrected ground snake stressor/threats matrix, meeting summary and stressor/threats matrix for YBC, the burrowing owl meeting discussion and stressor/threats matrix. Leslie said that the burrowing owl stressor/threats matrix has been revised to reflect the concerns TAC members had over potential insensitivity in the reference to undocumented immigrants and fire threats.

- Burrowing Owl

Leslie gave a summary of the burrowing owl discussion. She said the subcommittee met in early May and was comprised of Marit Alanen, Mike Ingraldi (AGFD), Marc Ogonowski who is a graduate student of Courtney Conway and Wendy Burroughs (Pima County Parks and Recreation).

Leslie said that the decline in burrowing owls across Arizona is due to the extirpation of prairie dogs. But, prairie dogs were not native to Tucson; so historical habitat was probably only along the major washes such as the Santa Cruz. With the introduction of agriculture, it created good, but artificial habitat that led to an influx of owls. Now there is probably a larger population of burrowing owls here than there would have been historically. The largest concern with Avra Valley is whether or not there is a sufficient prey base to support the population. Avra Valley appears to be good habitat, but there are few owls known to occur there. Leslie said that both translocation of owls and artificial burrows have been used to support owl populations, but no long-term studies are being done to evaluate the success of those efforts. Trevor asked if the work Phil Rosen is proposing for the snakes could inform us on prey base, burrow availability, and soil structure. Leslie said yes, and Phil's proposal was on the agenda for later in this meeting.

Leslie said that the subcommittee seemed to be worried, not about the area of habitat being lost, but rather on the lack of suitable aspects of the existing potential habitat. Leslie noted that what was emphasized as most important is the availability of a prey base and burrows. At the last meeting, the burrowing owl discussion turned to the adaptive/monitoring part of HCPs and Leslie thought this was also an important topic to touch on again. She said that this is a key part of an HCP. The monitoring program evaluates both compliance with and effectiveness of the conservation program. She said that part of an adaptive management plan is having an identified protocol with success criteria and benchmark goals. This provides a way to evaluate whether the City is meeting the biological goals and objectives of the plan. Leslie also pointed out that this is how we can deal with uncertainties and gaps in our understanding of what these species need. Leslie noted that it is best to first use less intense/invasive ways to achieve the goals, but then go to more intensive methods of these fail to achieve the goals of the

conservation program. Ultimately, you want to have a toolbox of options to implement. She said that Pima County is working with USFWS to create a regional adaptive management toolbox. Leslie suggested that this could be an excellent resource for TAC and a good area for coordination between the City and Pima County and Marana. Linwood talked about his experience trapping/banding burrowing owls on Luke Air Force Base on the main runways a decade ago. He said they were trapping in burrows and that, around each burrow, they found 1-6 Great Plains toad and Couch's spadefoot toad bodies. Ann asked if Marana is proposing to do in their HCP for burrowing owls. Leslie said that Marana is proposing to set aside mapped breeding/foraging habitat, which occurs in the Santa Cruz River floodway, and create several adjacent BOMAs (burrowing owl management areas) where artificial burrows would be located and more intensive management could be implemented to protect the owls. The Town is also proposing to educate the community, especially nearby residents and school children, and require pre-construction surveys in areas that have potential for owls. If owls are found in an area that is to be developed, they would be removed through passive eviction, which seems to be the most successful way to relocate owls, and it is hoped that they would then move into the established BOMAs. Trevor said that the Marana technical committee talked about getting Audubon Society involved to be stewards of the BOMAs. Trevor asked if there had been any movement on California's efforts to list the burrowing owl on state endangered species list. Leslie said she didn't think that the proposal has gone anywhere, but she also felt that it was not off the table because 80 percent of their known owls live only in two valleys in California, both of which are being rapidly developed.

b. Report from Species Subcommittees

- Pima pineapple cactus (PPC)

Leslie passed out the meeting summary of the PPC subcommittee meeting that included Mima, Marit, Marc Baker (and his field assistant) and Leslie. Leslie said that Marc sent an email saying he didn't have comments/edits to the meeting summary.

Mima provided an overview of the PPC subcommittee discussion. The primary threat to the populations is the loss of habitat from urban development as well as some from mining operations. Mima stressed that we have to consider the fact that suitable habitat goes beyond just where the cacti are today. Even in areas that currently do not have individuals, if the habitat is suitable, cacti could have been there in the past and may be there in the future. Mima said not much is known about the minimum habitat size needed to maintain an individual cactus or a population. The subcommittee talked about whether it would be possible to use soil characteristics, elevation, distance to nearest known or historic population, and presence of other cactus species to try to rate areas for suitability. Marc thought that this was something scientists are getting close to being able to do, but there is not any clear idea of how to do it right now. Mima said she talked to Paul Fromer, a consultant for the County HCP, and he has a more recent data set and thinks he can map the distribution based on elevation and other characteristics, such as using the County's geologic layer (landform). Mima said the latest (revised) Priority Conservation Area (PCA) for the PPC is large, and she wouldn't be surprised if Paul's model ends up looking like the PCA. She noted that there seems to be some relationship between high PPC densities and reddish/oxidized soils near Corona del Tucson, but it is

not consistent across the species' range. Mima said there are large patches of red soils with no PPCs.

Marc felt that, based on his survey work in the Southlands, a high percentage of cacti in that area is found only in about 1/3 of planning area. According to Marc, he didn't find any PPC in the central portions of the Southlands. Mima said that Marc proposed doing more survey work to try and confirm this theory. Marc would first use aerials and existing data to map out where he thinks densities are higher and where they are lower. He would then do additional survey transects inside and just outside of the potentially higher density areas to test his mapping results. Mima said she doesn't know what differences in habitat would cause differences in densities. Mima said that the Southlands, including Corona de Tucson, is one of the three existing populations for the PPC; the other two being the Altar Valley and the area along Highway 86 on the way out towards Three Points. Mima noted that there were a lot of PPC along I-19 corridor, but the habitat has now been fragmented due to development. There is no official database for PPC in Sahuarita.

The subcommittee also talked about density factors in New Mexico and Texas; sometimes you can find high densities of PPC one year and the next year they all have disappeared. Researchers are not quite sure why this happens. Mima said much of the information is based on what people have observed in areas, not on solid research. She pointed out that the PPC has a sparse distribution, and that cacti share pollinators with other cacti species. Mima said that 1 km is the average distance bees will travel between plants. Mima noted that it will be important to maintain some sort of gene flow across the range, so we want to be careful not to isolate populations. Mima said there are speculations that the three different population centers might have slight gene differences, thus we need to be careful about moving cacti. Trevor asked if translocation between three population is it really a big concern. Mima said she always is more conservative when she doesn't have enough information. Mima said that cactus genetic work is difficult and very little is known currently. Trevor asked about closely related species to the PPC and if they were just the *Coryphanthas* or if there were some landscaping plants that people could out in their yards that would contaminate the gene pool. Mima replied that the subcommittee was just talking the three closely related populations, so she didn't know. Mima said that as far as she knows, the cacti nurseries in town that have PPC have only used local seeds.

According to Mima, we know enough right now about the range of PPC that we may be able to do decent conservation. She said that work was done at the Arizona-Sonora Desert Museum that showed that cacti have a high amount of seeds and germination rates, although mortality is also high in young plants. Very few people have ever seen young plants in the field. Mima noted that, aside from habitat destruction, there is also habitat alteration and disturbance including non-native grasses (Lehman's love grass in southern part of Altar Valley and buffleggrass in north Avra Valley). Mima mentioned that other anthropocentric actions could affect the cacti including changes in hydrology where the cacti get too much water, people spraying pesticides that harm pollinators, herbicides that kill cactus, and off-road vehicles that crush PPC and bring in seeds of non-native plants. Mima said there is likely some unauthorized movement of plants and/or illegal collection. She added that she has seen some evidence that livestock have stepped on some plants. Trevor asked Mima about how she evaluates impacts in grazing Biological Opinions in regards to PPC, and if she puts "no effect." Mima said she

usually puts “adversely effects” and lists things that could potentially happen. But, she says they don’t have a lot of direct evidence.

Trevor asked about the Buenos Aires National Wildlife Refuge burn program and whether it is killing cacti. Mima said fire kills PPC, but it is a question of the density of fuel. On the Refuge, they haven’t monitored effects of fire on PPC in the past. She said that now the Refuge protects every single PPC and removes the fuel around each one. Last year, however, high winds caused some cacti to get burned up. She said this year they had set up an experiment to quantify the amount of fuel before and after a fire, but the study has been postponed. Ken Kertell asked if USFWS has any long-term plots set up to monitor PPC. Mima replied that demographic plots were put up two years ago and Marc Baker will monitor them for next three years; there is only one year of data so far.

Marc had noted during the subcommittee meeting that PPC are fairly adaptable and that it has been found along highway medians and in detention basins in mines. Mima added that she doesn’t want to put out the idea that they can easily adapt in disturbed areas because it takes a while after a land has been disturbed before cacti are seen. Ann asked how long it takes from seed to become a small plant. Mima said she didn’t know, but they grow fast in nursery. Ann asked whether young PPC need nurse plants. Mima replied that young PPC are usually found close to main stem. Ann asked about pups. Mima said that the one time she got to dig one up, the pups were connected to the central stem, but she thought that at some point they disconnect from the main plant.

Leslie asked about NPPO compliance and whether USFWS has any information on the results of developers raising young PPC on site to supplement from plants they destroyed/moved. Mima said that there is little data, but she actively discourages people from doing this mitigation option because no one knows how many seeds one would have to put out to replace those plants. Mima said developers only want to monitor for three years, and it takes longer than three years to grow a PPC. Rich asked if the PPC reproduce vegetatively and Mima said yes. Rich wanted to know if PPC grow in clusters. Mima said that sometimes you can find cactus that have more than one central stem. Linwood wondered if the asexually produced pups create a larger sexually productive surface area. Mima noted that she does not know how old the plants are when they flower.

Ann wanted to know if anyone had done any studies on the PPC. Mima said one master’s student looked at general habitat characteristics and some pollination issues. A second student is currently focusing on pollination and previous land use activities, looking at where cacti occurs today and correlating historical land use with current densities. Mima said they have been hard to study because it took a while to find where the populations actually were. Mima also noted there are a lot of endangered cacti that germinate episodically. Mima said there are only a few plots in Arizona that have been monitored for more than five years. Guy mentioned that PPC was only listed 10 years ago. Mima stressed that it is difficult to find people, time and money to go out and monitor.

Leslie asked Mima how the status review of the PPC listing was going. Mima responded that the review period is closed and that USFWS received 13 peer review comment letters from the 18 requested. Right now no other new information has come in. Currently USFWS is focusing on reviewing the letters and the addressing the issue of

the validity of the taxon. So far, letters are primarily in support of Marc Baker's work. Ann asked why transplant success is not well documented. Mima said that either the transplantings were not well monitored and/or the transplant efforts didn't work. She said that she has seen hundreds of plants die. Ann asked whether USFWS requires further mitigation if some die. Mima replied there no further mitigation required. Ann wanted to know why Sahuarita is not on the USFWS radar screen. Mima noted that most projects require federal permits, and right now, the only federal nexus that remains is the 404 permit. This has the reduced number of permits that require consultation for PPC. She said that when U.S. Environmental Protect Agency was in charge of the 402 permits, much more development had to consult. When that program was transferred to the state, there was no longer an obligation to conform to the ESA because there is no corresponding legislation on the state level. Mima thinks that much of what they do in Sahuarita does not need a 404 permit. Ann wanted to know if a developer needed a 404 permit anywhere on the project, whether that subjects the entire project area or just the 404 area to consultation. Mima said the US Army Corp of Engineers would take jurisdiction of uplands if cacti were present. Ken said it used to be impossible to avoid getting a 402 permit because it involved grading as little as five acres. It is a lot easier to avoid the 404 permit if you can stay out of the washes somehow. Ken believes that some people just get rid of the cacti before they even apply for a 404 permit.

- Needle-spined pineapple cactus

Leslie said that the cacti subcommittee didn't go through the stressor/threats matrix for needle-spined pineapple cactus (NSPC), but it was generally discussed. Mima said same stressors/threats for PPC would probably apply, but the main difference is that this species has a reduced range. Rich asked if the NSPC produce vegetatively also. Mima said she is not as familiar with NSPC, but she has seen large clusters. Linwood noted that he has been in areas where he has seen clusters. Ann asked if this plant is on the NPPO list. Ken Kertell said he doesn't think it gets the highest protection, but it is on the list. Trevor said that, according to the NPPO handout provided at a previous meeting, 30 percent of the NSPC have to be preserved-in-place (PPP) in the city. Mima talked about how landowners can agree to set aside portions of land, but then there is a debate over whether the landowners have to set aside the land where the cacti are located or just any portion of the property. She said with a few projects, for example, the landowner said they would set aside the washes, and then they said they would relocate the cacti into the washes. But, she added, that action literally does meet the requirements of the law. Leslie said that the options are to preserve the cacti in place, transplant them on site, get replacement plants from a nursery, or grow new plants from seed on site. Leslie noted that very little is known on the NSPC, citing that she could only find three references on the species. Leslie felt that, because of this lack of knowledge, this cactus would be hard to deal with if it is actually found in planning area.

c. Proposed species/habitat surveys

There are three surveys that are being proposed: a cacti study, a snake study, and a burrowing owl study. Leslie passed out copies of the cacti and snake proposed species/habitat surveys. She did not have a proposal for the burrowing owls yet, but noted that it is past the breeding season for the owl, so surveys wouldn't involve playing taped calls, but rather focus on visual sightings of owls and an assessment of burrow availability and prey base. Leslie said that the difficulty would be that there is a strict

budget for this process and there is not enough money available to fully fund all three projects.

- Cacti Study Proposal

Leslie handed out copies of Marc Baker's proposal, titled "Geographic Distribution of *Coryphantha robustispina* ssp. *robustispina* (Pima Pineapple Cactus) and *Echinomastus erectocentrus* var. *erectocentrus* (Needle-spined Cactus) within the City of Tucson HCP planning area." Marc's total funding request is \$6,450. Marc's survey proposal has two components. The first component involves identifying areas with a high density of cacti, which could help prioritize the value of habitat and potential set aside areas. Marc proposes using photo-orthoquads with an overlay of known occurrences of the cacti to draw polygons of potential occurrences, based on similarity of habitat, topographic features and substrate color. Once he has determined from the maps the high potential areas, Marc will then survey those areas to verify if his models were accurate. Leslie said he wants to do transects within the high potential polygons then just outside them to see if there are differences in densities. He is proposing an additional 80 transects in the Southlands. Mima said that TAC needs to remember that his hypothesis might be wrong, and in the end we might not know anymore from this work. But, she said that even if his model isn't supported, it would still give TAC more data. Leslie said the second component of Baker's study assess whether there are any needle-spine pineapple cacti in the planning area. She said they would be using the Pima County SDCP models, and there is less than 1,500 acres of moderate potential NSPC habitat in the northeast and southeast corners of the Southlands. The second part of survey proposal would be to look in this area and see if there is any NSPC individuals or evidence this is habitat for this species.

Trevor said that Marc should talk to Paul Fromer, since Paul thinks he has a better habitat model for the PPC. Mima said it might not have relevance because Paul was looking across the entire range, thus parameters may be different. Leslie thought that it might be interesting to see what they find independent of each other

- Snake Habitat Suitability in Avra Valley

Leslie handed out copies of Phil's proposal, titled "Biological Reconnaissance for Key Habitat Quality Conditions: Survey of City of Tucson Lands in Avra Valley." The proposed budget is \$12,500. Leslie said that this proposal came from the discussion in the snakes subcommittee. She said that Phil wants to make the survey broader than just studying habitat potential for the snake because the Avra Valley lands could affect the CFPO and burrowing owl. Leslie said he is focusing along the Brawley/Blanco Washes. Phil will be looking at three indicators: plant community (disturbed vs. native), insect and invertebrate communities, and small mammal communities. Phil wants to see if native vegetation is coming back in disturbed areas. He wants to observe the insects and invertebrates because they are the food base for the ground and Tucson shovel-nose snakes, and maybe the burrowing owl. Studying the occurrence of small mammals will also give a sense of the prey base and potential for burrow.

Leslie said that, between the two cacti and Avra Valley habitat proposals, there are sufficient funds for both of them; however, that only leaves about \$8,500 to do the burrowing owl study. She said that Mike Ingraldi has not submitted his burrowing owl

study proposal yet. Leslie asked if TAC wanted to approve the two current proposals and then see what can be done for burrowing owls with the left over money or whether they wanted to wait until Mike Ingraldi had submitted a proposal to decide how to allocate the money. Rich suggested that, since less is known about the cacti and snakes, these two proposals are important and should be approved them now.

Trevor suggested Courtney's grad students go out with Phil. Leslie said that might be a good idea. She originally thought Marit would be the perfect person to help because she is one of the only people who have done both burrowing owl and snake surveys. Trevor said that we should ask if Mike and Phil are both going to look at parcels 6-23. Leslie said the focus for the owls would likely be a little broader of an area, especially since the area around the washes isn't necessarily the best habitat for the owl. Leslie said that Rosen wants to sit down with the photo-orthoquads for Avra Valley before he goes into the field and she suggested that a larger discussion could be organized to see how Mike's and Phil's work could be coordinated. Ann asked if Leslie had a map showing parcels 6-23 on City land. Leslie said that includes most of the Avra Valley properties, except the Simpson and Santa Cruz Farms parcels and the Buckelew and Duval-Penzoil Farms. Ann wants to know why he is cutting off these areas from the survey. Trevor replied that they are out of the range of the snakes.

d. Goals and Objectives for Target Species

Leslie passed out the draft goals and objectives for YBC and burrowing owl. This discussion was referred until later in order to have time to discuss agenda item (3e).

e. Approach for Developing Conservation Strategies

Leslie wants input from the TAC on how they wish to move forward with the development of conservation strategies. Leslie said that the goals and objectives handout shows the basic conservation program framework that is used in HCPs. She also noted that some ideas/concerns have come up regarding the single-species focus and the fact that this is a myopic approach, and the TAC has indicated that they want to look more broadly. Leslie said that, if this is the case, then now would be the time to switch gears.

One option is that the TAC could start going through goals and objectives handouts, deciding what actions can help achieve those goals, and start putting in specific details, such as locations and numbers. Or does the group want to start from a broader perspective? And if so, how does the TAC want to proceed? Leslie said, based on earlier discussions, the plan was to start with the Southlands planning area. Trevor felt that the TAC should start by looking at the specific planning areas to identify constraints and opportunities, as well as take a holistic look across the planning areas. He said that the TAC should be thinking about what can be done in the Southlands, including protecting the washes, open space around washes, making sure connections to the Santa Cruz River are natural, making sure that road systems consider habitat connectivity, and developing a better understanding of what critters are found there.

Leslie asked what format the group wanted to use for this discussion, because some sort of structure would be needed to make most efficient use of everyone's time. Trevor said his proposal is the inefficient way to do things, but he doesn't know the best way.

Leslie suggested that one idea would be to print out large maps of the Southlands (photo-orthoquads, landownership, PCAs, washes, etc.), get plastic overlays, and go through goals/objectives drawing constraints and opportunities on the maps as we go through all of the potential conservation measures for each HCP target species in that area. She thought that this approach might help the group to start building a sense of how the specific measures all contribute to the big picture.

Ann wants to see larger area maps including Pima County, the Santa Ritas, etc. to get a bigger context. She also would like to start stacking species functions to find overlay areas. Ann said that likely the hottest spots will be where the habitat type changes and there is more than one species that occurs there. Ann noted it would also take care of animals not on list.

Trevor said he is comfortable with what Pima County is doing right now with the PPC with respect to the new priority conservation area. He noted that it now covers a large chunk of the Southlands. He said that the TAC could concentrate on that area for priority conservation. Ann thought, in terms of the surrounding land use between the Southlands and the Santa Cruz River, it would be nice to get more information on land use/density. Trevor added it would also be nice to know what Sahuarita's long-term plans are in the area between the Southlands and the Coronado National Forest. Rich asked about Canoa Ranch and what their plans are. Trevor responded that the ranch might be too far south. Michael said Canoa Ranch has their set asides established, and they just submitted an RFQ for a master plan. Leslie noted that the Town Manager of Sahuarita had expressed an interest in talking about an HCP last November, but they don't seem very interested in the topic right now. Michael said that the Town of Sahuarita is talking to the Arizona State Land Department (ASLD) about annexation. He noted that, depending on how much land want to annex, they might not be aware they could immediately get into a problem of not being about to provide mitigation for PPC. Leslie added that coordination in this area will be important since the Southlands, Sahuarita and adjacent County lands comprise one of the three PPC population centers. There is room for coordinated efforts so that mitigation costs could be shared. Ann asked if they have species in Sahuarita that the City does not. Leslie said they have similar species, except they may have a few more riparian-type species.

Michael explained that ASLD wants to bring Sahuarita in for a conversation on participating in a joint land use and conservation plan with the City, the County, PAG, ASLD and Sahuarita, covering from I-19 to Highway 83 and from I-10 to the Santa Rita Experimental Range. Michael said that this broader group would try to work out all the issues, including how to deal with HCPs and annexation. They would need to define how far the City of Tucson and Sahuarita will annex in the future and set up HCPs are complimentary, so we know how they will be implemented regardless of any changes in jurisdiction. Michael added that this broader discussion has been set up as part of the City's Segment Two HCP grant application. Part of what the City and other jurisdictions need to do over the next year is to work out a scope for this planning effort and figure out what it will mean. Michael said that the City talked to ASLD recently, and ASLD thinks this larger planning effort it is a really good idea. Michael also noted that Andy Gunning (Pima Association of Governments) and Arlan Colton (Planning Official for Pima County) are on board also.

Michael noted that the USFWS wants to know how the City will impact individual species, but it is our job to present this discussion in a broader context. Trevor said that USFWS will want to see the broad context, but it really comes down to a consideration of individual species. Leslie added that there is conflict between the philosophy of the Endangered Species Act and the regulatory requirements. She said the philosophy at USFWS says to think broad, but the Section 10 permit requires that an assessment be based on impacts to individual species. Trevor said that some of the broad vision comes through in the monitoring and adaptive plan.

Michael noted that one of the difficulties the TAC faces is that there is no real plan from the City for the Southlands in terms of development. Michael asked if there was a way to move into the HCP “backwards,” by developing a conservation strategy first and seeing what it preserves out of the Southlands, and then work something out with USFWS. Michael was concerned that the timing isn’t working out with respect to developing the HCP and when development planning will actually occur for the Southlands. Trevor pointed out that levels of take can be modeled. Leslie said we don’t necessarily need precise locations, but at minimum, we have to be able to specify acreages of development and loss of habitat. Leslie also noted that mitigation requirements can be phased to happen as the development occurs. That way the City isn’t mitigating for 100 percent of the development up-front. Michael added that there is currently development along all sides of the Southlands, and it could be any one of those developments that could cause the development explosion into the planning area. Trevor wanted to know if the HCP could be amended. Leslie replied that it could, but every time the HCP is amended, the City would have to go through the NEPA process again, which is a huge cost. Ken suggested that the City might have to set up planning scenarios, like Tucson Water has done for their 50-year water plan. Michael explained that takes a couple of years to put something like that together. He also noted that the City has to work with ASLD because they own much of the future areas of development in Tucson. Michael said that to do this type of planning, the City would need to get the basics down such as roadways. He pointed out that the County is doing a basin management study for that area right now. Leslie suggested that the what the TAC can do is help identify what we know now and what we think we will need to do for conservation, and then identify critical questions that will have to be answered as part of a larger planning effort in order to finalize the HCP. She noted that the City only has to have a draft HCP done this year, but we can at least get a good enough grasp on what the conservation program could or should look like, so that when these other planning process come up, there is good information to guide them.

As a map exercise, Trevor said he would like to put the Southeast arterial system over the wash maps plus guesstimate the number of acres of development that will happen in the area, then see how many acres we’d like to see as open space, what percentages of open space could be achieved within individual parcels. Michael responded that this approach wouldn’t work for the City. Trevor asked if that meant that the entire open space in Southlands will be predicated on community open space and not individual set-asides. Michael replied that this was the case. He said that TAC should look across the landscape and set up best-case scenarios for conservation/open space, trying to get linkages to capture and connect the best areas, and then the City could work with the Parks Department to plan a few large regional parks. Michael explained that conserving open space wouldn’t be a parcel-by-parcel basis. Michael suggested that TAC take an urban approach to conservation. Trevor felt that the City would have to preserve PPC in-

place in the Southlands because of the potential genetic distinction between the three populations. Ken said that USFWS wouldn't recognize potential genetic differences in a consultation. Leslie added that, at the Pima County meeting someone had asked what the ramifications were if a whole PPC population center (i.e., the one between I-10 and the Santa Rita range) was lost. Leslie said there was no conclusion on this at the meeting. Mima suggested that we might have to write of that population if we can mitigate by protecting another. Ann asked if the idea was to sacrifice the PPC in the Southlands in exchange for preserving land in another area. Leslie replied that this was one approach to mitigating for PPC; the City could acquire a mitigation bank and maybe charge an impact fee for development in the Southlands to recover the cost and to manage the area. Leslie noted that this is what Marana has proposed to do since an environmental impact fee can be levied if it is for the purposes of implementing an approved HCP. Trevor added that it is an acre-by-acre fee. Michael said that typically money has to be spent for a specified purpose, there has to be an identified benefit area, and people who pay the fee have to receive the benefits. He thought there might be some other approach, such as a conservation utility or conservation district, which is similar to an impact fee, that could work. Leslie said these are the issues that SAC will be dealing with.

4) Call to the Public

No members of the public were present.

5) Next steps/Future Meetings

A joint TAC-SAC will be held June 22. There will be two presentations: Ann Phillips will give a presentation on dry land restoration and Julia Fonseca will give a presentation on Pima County's species-specific mitigation strategies.

Leslie said she would put together goals and objectives for PPC for review at the July 12 TAC meeting.