Science Technical Advisory Team Ad-Hoc Subcommittee
Meeting Minutes of February 2, 2005

At the request of Chairman Bill Shaw, a subcommittee meeting was held. In attendance were Sherry Ruther, Mima Falk, Julia Fonseca, Christine Curtis, Robert Marshall, and Bill Roe, Diana Freshwater.

The purpose of the meeting was to consider an item which has been referred to STAT by the Conservation Acquisition Commission (CAC). The CAC may, from time to time, request from STAT a statement regarding the biological values associated with properties under consideration for acquisition, if the properties are not within the set of priorities defined by the 2004 Bond Ordinance.

Commissioner Rob Marshall explained the goals, criteria, and data sources that guided the acquisition priorities recommended by The Nature Conservancy and Arizona Open Land Trust for the Ordinance. SDCP data sources were heavily used, along with photographic review of landscape on a parcel level and consideration of connectivity and aggregate size. The Conservation Land System was the point of departure. Multiple-use land was excluded. Forest inholdings were not considered; certain BLM inholdings were. Top priority for state land was based on API. The intent of TNC/AOLT was that the prioritization guides not only 2004 bond acquisition, but all acquisitions under the MSCP (see attached handout).

Alternative methods of responding to the CAC discussed at the meeting included rejecting the role requested of the STAT, rejecting all parcels, or devising a process for considering the biological value of properties. Mr. Marshall said STAT has an opportunity to set the standard for new biological information needed to alter the priorities. Commission Chairman Roe said that STAT's recommendations need to be clearly justified, and comprehensible to the citizen.

Mima Falk, representing US Fish and Wildlife at this meeting, said that the prioritization may not reflect new data and the need of certain species under the permit. Julia Fonseca said that FWS has also indicated that the configuration of acquired fee lands needs consideration, independent of state lands.

Chairman Shaw said that the STAT's role is not to recommend whether to modify the ordinance, but to deal with new information that may come to light and consider whether there are better ways to achieve the CLS with acquisition choices.

Possible criteria: a property might have something that is unique (e.g. a new population of *Dalea tentaculoides*) or have it in equal or better abundance (e.g. Pima Pineapple Cactus or cottonwood forest) or condition (e.g. intact aquatic fauna) than elsewhere in the prioritized lands. And what about the configuration of the reserved lands?

Habitat Protection Priorities for Pima County's Section 10 HCP Permit

Arizona Open Land Trust & The Nature Conservancy

Project Objectives:

- Apply set of biologically-based goals and criteria to the Conservation Land System to identify the most important lands to protect first and to provide recommendations on the sequencing of land protection efforts; and design project so that it can be easily incorporated into an adaptive conservation management program.

Conservation Goals:

1. Maximize the benefit of existing protected areas by increasing their size *(increases species' viability and leverages the value of past public and private investment in conservation)*.
2. Emphasize protection of the rarest habitat types or "special elements" as per STAT *(cottonwood-willow riparian forest, mixed deciduous riparian forest, mesquite bosque, sacaton grassland)*.
3. Maintain a network of connected protected lands where native habitat and natural corridors remain *(increases viability of species that rely on dispersal as part of their life history)*.
4. Systematically evaluate lands throughout all of eastern Pima County so that priorities are identified in all of the County's biologically important areas.

Selection Criteria:

1. Lands from the most biologically important CLS categories including Biological Core, Important Riparian and Recovery Management Areas.
2. Private lands equal to or greater than 10 acres in size in vacant or agricultural status.
3. State Trust lands within the priority CLS categories emphasizing lands eligible for conservation under the Arizona Preserve Initiative.

Primary Data Types and Sources Used to Identify Habitat Protection Priorities.

Data Type	Source
Arizona Preserve Initiative Boundaries	Derived from ALRIS data
Current Conservation and Protected Areas	ALRIS, County, Derived
Federal Lands Identified for Disposal	BLM
Hydrology	ALRIS, Pima County
Land Management Status	ALRIS
Orthophoto Quads (disturbed or intact ?)	Pima County, USGS
Assessor's Parcel Data	Pima County
Pima County Park Boundaries & Expansion Areas	Pima County
Revised Riparian Classification	Pima County (Fonseca)
Roads	ALRIS
SDCP Conservation Land System	Pima County/STAT
Special Element Natural Vegetation Communities	Pima County/STAT
Species Occurrence Data	AZ Game & Fish Dept
Species Richness within Conservation Land System	Pima County/STAT
Priority Conservation Areas	Pima County/STAT
Species Richness within Riparian Areas	Pima County
Topography	USGS
Urban Boundaries	ALRIS/Pima County

Pima County Multi-Species Habitat Conservation Plan

Incidental Take and Species Proposed for Permit Coverage

Summary Information for STAT

February 10, 2005

Impacts on Conservation Lands System (CLS): Projected Development Acres

	Acres impacted in first 10 year Phase[1]	Acres Impacted at time of Buildout	Remaining Undeveloped Acres at time of Buildout
CLS lands within the Permit area	3,863	45,081	302,330
Non-CLS lands within the permit area	2,485	28,613	53,626
Total:	6,348	73,694	355,965

Impacts on Priority Vulnerable Species:

Proposed Covered species: 27

Within the Permit area, the STAT conservation goals for High & Medium potential habitat, Priority Conservation Areas (PCA's), or known locations can still be met at the time of Buildout.

- (1) meets/exceeds conservation goal for H&M habitat (Allen's big-eared bat)
- (20) meet PCA conservation goals
- (6) meet conservation goal for known locations (Pseudoscorpion +5 snails)

Proposed as *Provisionally* Covered species: 10

The STAT conservation goals for High & Medium potential habitat, Priority Conservation Areas (PCA's), or known locations are not met at the time of Buildout within the Permit Area, but ARE met within the.Planning Study Area. These could be covered under certain conditions.

- (6) meet PCA conservation goals within the Planning Study Area
- (2) meet conservation goal for H&M habitat (southern yellow bat & Tumamoc globeberry)
- (1) does not have modeled habitat or identified PCA's but would benefit from coverage (desert pupfish)
- (1) does not have modeled habitat or identified PCA's but its likely potential habitat is within an area not projected to be disturbed at buildout (Arizona shrew)

Not Proposed for Coverage: (18)

- (7) do not meet conservation goals for PCAs within the Permit Area or the Planning Study Area
- (2) do not have known distributions within the Permit Area (Acuna cactus and Gila topminnow) and their distributions are in areas that are projected to remain undisturbed at the time of Buildout
- (9) are talus snails that are either within the projected development footprint (may warrant provisional coverage), within an existing built area, outside the permit area, or outside the projected Buildout area

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[1] Separate discussion under PCMSCP Mitigation Section 3.3 demonstrates how existing and future acquisitions by Pima County (70,000+acres) are expected to exceed impact mitigation requirements anticipated during the first 10-year Phase of the Permit.

Table 2.11
Projected Acres of Future Development in Pima County Permit Area excluding State and Federal Lands

Inside CLS	Existing Built	0 to 10 years	10 to 20 years	20 years to Buildout	Un-developed at Buildout	Total
Biological Core	18,725	724	1,455	11,406	139,235	171,544
Multiple Use	39,964	2,829	6,563	18,184	156,621	224,160
Important Riparian Areas	12,602	227	1,019	2,415	-	16,263
Agriculture	335	84	171	6	6,474	7,070
CLS Total	71,626	3,863	9,208	32,010	302,330	419,037
Outside CLS	107,540	2,485	5,511	20,617	53,626	189,780
Total*	179,166	6,348	14,719	52,627	355,956	608,817
Percent within CLS	40	61	63	61	85	69
Percent of CLS	17	1	2	8	72	100

substantially lessened as a result of conservation and mitigation measures outlined in this PCMSCP. Therefore, the net impact of the PCMSCP is significantly less than what would be incurred without the permit and its requirements. The mitigation for the direct effects of permitting the above projections for land development is discussed in Sections 3 and 4. Although it is assumed that the mitigation required for the projected development during the first decade will be provided at the onset of the permit, the USFWS will require Pima County to revisit the growth projections for subsequent decades and adjust the up-front mitigation required at the end of Years 10 and 20, prior to permit renewal for those phases.

2.5.2 Direct Effects of PCMSCP on PVS

Overall, the CLS provides substantial coverage for the majority of the PVS whose modeled habitat contributed to its design. However, early in the development of the CLS, the STAT proposed conservation criteria expressed as a percentage goal for each of the PVS to be considered for their inclusion under the Incidental Take Permit (Table 2.12). Subsequently, the STAT developed a decision process for assessing the appropriateness for coverage based on these goals (Table 2.13). The decision process focuses primarily on the conservation of PCAs within the CLS for each species. The decision process segregates the species based on proportion of habitat within PCAs, modeled potential habitat, or location data.

Table 2.12
STAT Conservation Goals for PVS

Common Name	Scientific Name	STAT Conservation Goal
Abert's towhee	*Pipilo aberti*	75%
Acuna cactus	*Echinomastus erectocentrus var. acunensis*	95%
Allen's big-eared bat	*Idionycteris phyllotis*	75%
Arizona Shrew	*Sorex arizonae*	95%
Arkenstone cave pseudoscorpion	*Albiorix anopthalmus*	100%
Bell's vireo	*Vireo bellii*	75%
burrowing owl	*Athene cunicularia hypugaea*	75%
cactus ferruginous pygmy-owl	*Glaucidium brasilianum cactorum*	75%
California leaf-nosed bat	*Macrotus californicus*	75%
Chiricahua leopard frog	*Rana chiricahuensis*	95%
desert box turtle	*Terrapene ornata luteola*	75%
desert pupfish	*Cyprinodon macularius macularius*	100%
desert sucker	*Catostomus clarki*	95%
Gentry indigo bush	*Dalea tentaculoides*	100%
giant spotted whiptail	*Cnemidophorus burti stictogrammus*	75%
Gila chub	*Gila intermedia*	100%
Gila topminnow	*Poeciliopsis occidentalis occidentalis*	95%
ground snake	*Sonora semiannulata*	75%
Huachuca water umbel	*Lilaeopsis schaffneriana var. recurva*	75%
Kitt Peak talus snail	*Sonorella xanthenes*	100%
lesser long-nosed bat	*Leptonycteris curasoae yerbabuena*	95%
longfin dace	*Agosia chrysogaster*	75%
lowland leopard frog	*Rana yavapaiensis*	75%
Merriam's mouse	*Peromyscus merriami*	75%
Mexican garter snake	*Thamnophis eques megalops*	75%
Mexican long-tongued bat	*Choeronycteris mexicana*	100%
needle-spined pineapple cactus	*Echinomastus erectocentrus var. erectocentrus erectocentrus*	95%
Nichol Turk's head cactus	*Echinocactus horizonthalonius var. nicholii*	90%
organ pipe shovel-nosed snake	*Chionactis palarostris organica*	95%
pale Townsend's big-eared bat	*Plecotus townsendii pallescens*	75%
Pima pineapple cactus	*Coryphantha scheeri var. robustispina*	90%
red-backed whiptail	*Cnemidophorus burti xanthonotus*	90%
rufous-winged sparrow	*Aimophila carpalis*	75%
San Xavier talus snail	*Sonorella eremita*	100%
Sonora sucker	*Catostomus insignis*	95%
southern yellow bat	*Lasiurus xanthinus*	75%
southwestern willow flycatcher	*Empidonax traillii extimus*	75%
Swainson's hawk	*Buteo swainsoni*	75%
talus snail species	*Sonorella ambigua ambigua*	100%
talus snail species	*Sonorella baboquivarienis baboquivarienis*	100%
talus snail species	*Sonorella baboquivarienis berryi*	100%
talus snail species	*Sonorella baboquivarienis depressa*	100%
talus snail species	*Sonorella imperialis*	100%
talus snail species	*Sonorella imperatrix*	100%

Table 2.12
STAT Conservation Goals for PVS
(continued)

Common Name	Scientific Name	STAT Conservation Goal
talus snail species	*Sonorella magdalensis*	100%
talus snail species	*Sonorella meadi*	100%
talus snail species	*Sonorella pupela*	100%
talus snail species	*Sonorella rinconensis*	100%
talus snail species	*Sonorella sabinoenis buehmanensis*	100%
talus snail species	*Sonorella sabinoensis tucsonica*	100%
talus snail species	*Sonorella sitiens sitiens*	100%
talus snail species	*Sonorella tortillita*	100%
Tucson shovel-nosed snake	*Chionactis occipitalis klauberi*	75%
Tumamoc globeberry	*Tumamoca macdougalii*	75%
western red bat	*Lasiurus blossevillii*	75%
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	75%

Table 2.13
Decision Process for Species Coverage for Pima County MSCP

Step	Decision	If	Go to Step
1	PCA identified	yes	2
		no	7
2	Proportion of PCA in CLS in Permit Area at projected buildout meets STAT goal	yes	14
		no	3
3	Proportion of PCA in CLS in Permit Area at 20 years meets STAT goal	yes	Provisionally covered
		no	4
4	Proportion of PCA in CLS in Permit Area at 10 years meets STAT goal	yes	Provisionally covered
		no	5
5	Proportion of PCA in CLS in Permit Area currently meets STAT goal	yes	Provisionally covered
		no	Not covered
6	Proportion of PCA countywide in CLS at buildout meets STAT Goal	yes	14
		no	Not covered
7	Species with broad distribution in Pima County	yes	8
		no	13
8	Proportion of high/medium habitat in CLS in Permit Area at projected buildout meets STAT goal	yes	14
		no	9
9	Proportion of high/medium habitat in CLS in Permit Area at 20 years meets STAT goal	yes	Provisionally covered
		no	10
10	Proportion of high/medium habitat in CLS in Permit Area at 10 years meets STAT goal	yes	Provisionally covered
		no	
11	Proportion of high/medium habitat in CLS in Permit Area currently meets STAT goal	yes	Provisionally covered
		no	Not covered
12	Proportion of high/medium habitat countywide in CLS at buildout meets STAT Goal	yes	14
		no	Not Covered
13	Entire limited distribution within Permit Area in public ownership, conservation easement, controlled by land use regulations	yes	15
		no	Not covered
14	Projected conserved areas within Permit Area in public ownership, conservation easement, controlled by land use regulations	yes	15
		no	Not covered
15	Projected conserved areas within Permit Area in areas covered by monitoring/management plan	yes	covered
		no	Provisionally covered

The species are segregated as covered, provisionally covered, and not covered based upon meeting the STAT goals.

- Covered species are those that meet the STAT goals for conservation of the PCA, modeled high and medium potential habitat, or known locations within the CLS in the Permit Area at projected buildout assuming that these areas will be monitored and managed under the PCMSCP.

- Species are identified as provisionally covered if they do not meet the STAT goals for conservation within PCA, modeled high and medium potential habitat, or known locations within the CLS in the Permit Area at projected buildout, but do within the Planning Study Area. Coverage for provisionally covered species will be provisional, based on demonstration that ongoing land disturbing activities do not exceed the STAT conservation goal within the Permit Area.

- Species not meeting the STAT goals either within the Permit Area or the Planning Study Area are not proposed for coverage in the PCMSCP.

2.5.2.1 Proposed Covered Species

A total of 27 species meet STAT conservation goals within the Permit Area. Twenty species meet the STAT goals for conservation of identified PCAs within the Permit area (Table 2.14). Conservation of modeled high and medium potential habitat for Allen's big-eared bat (*Idionycteris phyllotis*) achieves the STAT conservation goal of 75 percent. Approximately 209,112 acres of the existing 259,689 of modeled habitat (80 percent) will remain within the CLS at buildout within the Permit Area and 93 percent will remain in the Planning Study Area.

Seven of the 15 invertebrate species included among the PVS occur within the Permit Area, based upon the available location data (Table 2.15). Four of these species (Arkenstone cave pseudoscorpion [*Albiorix anopthalmus*] and the talus snails [*Sonorella eremite*, *S. imperialis*, and *S. rinconensis*]) are identified only from locations within the permit area. These locations are also within the CLS and outside of the areas projected to be impacted at buildout. Two other talus snails (*S. ambigua ambigua* and *S. magdalensis*) are known from locations in Pima County both within and outside of the Permit Area. The locations within the Permit Area are in the CLS and outside of the areas projected to be impacted at buildout.

Table 2.14
Species Proposed for Coverage under Terms of PCMSCP based on Conservation of PCA within CLS in Permit Area

		Permit Area					Planning Study Area			
Common Name	STAT Conservation Goal	Total Existing Acres	Total Existing Acres in CLS	Total Acres in CLS at Buildout	CLS Conservation	Permit Area as % of Total	Total Existing Acres	Total Existing Acres in CLS	Total Acres in CLS at Buildout	CLS Conservation
Abert's towhee	75%	22,827	21,605	20,974	92%	42%	60,146	56,402	54,349	90%
Bell's vireo	75%	19,284	34,214	18,572	96%	38%	51,025	65,941	50,168	98%
cactus ferruginous pygmy-owl	75%	180,075	169,793	153,772	85%	17%	1,119,362	1,084,729	1,045,899	93%
Chiricahua leopard frog	95%	50,498	50,498	50,476	100%	13%	397,934	397,934	397,912	100%
desert box turtle	75%	24,735	22,142	20,974	85%	10%	265,449	256,096	253,550	96%
desert sucker	95%	1,337	1,337	1,337	100%	15%	8,655	8,655	8,655	100%
Gentry indigo bush	100%	22,720	22,720	22,720	100%	17%	132,722	132,722	132,722	100%
giant spotted whiptail	75%	30,054	25,061	24,337	81%	45%	82,877	71,405	66,789	81%
Gila chub	100%	2,449	2,449	2,449	100%	13%	19,062	19,061	19,061	100%
Huachuca water umbel	75%	7,087	6,384	5,976	84%	30%	28,643	25,301	23,773	83%
longfin dace	75%	6,215	6,160	6,010	97%	34%	18,655	18,592	18,415	99%
lowland leopard frog	75%	113,321	107,719	95,194	84%	26%	477,535	460,052	439,636	92%
Merriam's mouse	75%	20,405	19,543	17,146	84%	22%	102,928	98,614	92,592	90%
organ pipe shovel-nosed snake	95%	300	300	300	100%	0%	170,040	170,040	170,040	100%
pale Townsend's big-eared bat	75%	79,332	78,098	73,952	93%	28%	297,193	294,189	284,066	96%
rufous-winged sparrow	75%	167,410	154,811	127,704	76%	22%	841,016	816,477	753,741	90%
Sonora sucker	95%	1,413	1,413	1,413	100%	1%	178,642	178,642	178,642	100%
Swainson's hawk	75%	180,377	170,032	153,292	85%	21%	907,560	887,825	844,979	93%
western red bat	75%	92,558	88,685	88,503	96%	18%	507,167	501,960	502,557	99%
western yellow-billed cuckoo	75%	18,905	18,782	17,579	93%	44%	45,881	45,336	42,665	93%

Table 2.15
Invertebrates Locations within the Permit Area and Planning Study Area

		Not Impacted at Buildout					
Scientific Name	Impacted at Build-out	Bio-logical Core	Multiple Use	IRA	Within Permit Area	Outside Permit Area	Total
Albiorix anopthalmus		1			1		1
Sonorella ambigua ambigua				1	1	3	4
Sonorella eremita			1		1		1
Sonorella imperialis		1			1		1
Sonorella rinconensis		1			1		1
Sonorella baboquivarienis depressa	1	1			2	1	3
Sonorella magdalensis			2		2	2	4
Total	1	4	3	1	9	16	25

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2.5.2.2 Species Proposed as Provisionally Covered

A total of 10 species are proposed for provisional coverage in the PCMSCP. Six species do not met STAT goals for conservation of PCAs within the Permit Area, but do meet these goals in the Planning Study Area as a whole (Table 2.16). These species are proposed for provisional coverage under the PCMSCP. These species could be covered by the PCMSCP if the STAT goal can be achieved through adequate management and monitoring.

The modeled high and medium potential habitat remaining at buildout for the southern yellow bat *(Lasiurus xanthinus)* and Tumamoc globeberry *(Tumamoca macdougalii)* do not meet STAT goals within the Permit Area, but do meet them in the Planning Study Area.

Two species that did not have either modeled habitat or identified PCAs, desert pupfish *(Cyprinodon macularius macularius)* and Arizona shrew *(Sorex arizonae)* are nonetheless proposed for provisional coverage. The desert pupfish would benefit from potential habitat restoration and reintroduction programs for other native fish species. The likely potential habitat for the Arizona shrew, the Santa Rita Mountains, is within the CLS that is not projected to be disturbed at buildout.

Table 2.16
Species Proposed for Provisional Coverage under Terms of PCMSCP based on Conservation of PCA within CLS in Permit Area

		Permit Area					Planning Study Area			
Common Name	STAT Conserva-tion Goal	Total Existing Acres	Total Existing Acres in CLS	Total Acres in CLS at Buildout	CLS Conser-vation	Permit Area as % of Total	Total Existing Acres	Total Existing Acres in CLS	Total Acres in CLS at Buildout	CLS Conser-vation
California leaf-nosed bat	75%	37,982	31,330	27,522	72%	7%	528,610	519,153	514,458	97%
red-backed whiptail	90%	17,922	14,811	14,811	83%	5%	370,633	359,879	359,883	97%
Nichol Turk's head cactus	90%	2,109	1,698	1,698	81%	22%	9,861	9,438	9,438	96%
Pima pineapple cactus	90%	7,792	7,281	5,070	65%	11%	79,552	78,636	73,879	93%
Tucson shovel-nosed snake	75%	85,166	60,722	39,077	46%	33%	333,537	286,460	254,919	76%
Sonorella ambigua ambigua	100%	4,740	4,436	4,436	94%	4%	109,841	109,468	109,468	100%

2.5.2.3 Species Not Proposed for Coverage

A total of 18 of the PVS are not proposed for coverage in the PCMSCP at this time. Seven species do not meet STAT goals for conservation of PCAs within the Permit Area or within the Planning Study Area as a whole (Table 2.17).

Two species that do not have known distributions within the Permit Area, Acuna cactus (*Echinomastus erectocentrus* var. *acunensis*) and Gila topminnow (*Poeciliopsis occidentalis occidentalis*), are not proposed for coverage. The distribution of species are within the CLS that projected to remain at buildout in the Planning Study Area.

One of two known locations known to occur within the permit area of the talus snail (*Sonorella baboquivarienis depressa*) is within the area projected to be developed by buildout, therefore this species does not meet STAT criteria for coverage. If this location is afforded protection and management in the future, this species could be added to the permit.

The remaining 8 snail species on the PVS list occur within the Planning Study Area, but not within the Permit Area based on the known location data (Table 2.18).

The only known location for *Sonorella baboquivarienis berryi* is within the Tohono O'odum Nation. Two of the three locations of *Sonorella sitiens sitiens* are also within the Tohono O'odum Nation and the third is within the CLS, outside of the areas projected to be effected by future development.

The only known location of *Sonorella tortillita* is within the area identified as existing built environment within the City of Tucson.

The remaining five species, *Sonorella baboquivarienis baboquivarienis, Sonorella imperatrix, Sonorella meadi, Sonorella sabinoenis buehmanensis,* and *Sonorella sabinoensis tucsonica* occur in the CLS outside of the areas projected to affected by future development.

2.5.3 Indirect Effects of PCMSCP

Indirect effects resulting from the implementation of the PCMSCP are most likely to manifest themselves by certain levels of habitat fragmentation, particularly within the urbanizing areas. This is because the development of Pima County and private lands will

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Table 2.17
Species Not Proposed for Coverage under Terms of PCMSCP based on Conservation of PCA within CLS in Permit Area

		Permit Area					Planning Study Area			
Common Name	STAT Conserva-tion Goal	Total Existing Acres	Total Existing Acres in CLS	Total Acres in CLS at Buildout	CLS Conser-vation	Permit Area as % of Total	Total Existing Acres	Total Existing Acres in CLS	Total Acres in CLS at Buildout	CLS Conser-vation
needle-spined pineapple cactus	95%	11,718	11,261	8,910	76%	30%	41,80	41,302	39,448	94%
Mexican garter snake	75%	24,079	21,915	16,134	67%	40%	81,23	68,877	59,700	73%
lesser long-nosed bat	95%	250,120	231,380	209,156	84%	18%	1,530,03	1,446,022	1,395,704	91%
Mexican long-tongued bat	100%	122,423	118,107	108,635	89%	43%	301,61	295,336	285,864	95%
burrowing owl	75%	74,742	60,098	55,542	74%	73%	163,01	117,022	102,745	63%
southwestern willow flycatcher	75%	4,270	2,530	2,530	59%	72%	13,11	5,963	5,963	45%
ground snake	75%	10,552	7,317	6,131	58%	81%	40,10	18,428	13,009	32%

Table 2.18
Snail Species Occurring in Planning Study Area but Not within Permit Area

Scientific Name	Within Built	Biological Core	Multiple Use	Tohono	Total
Sonorella baboquivarienis baboquivarienis			1		1
Sonorella baboquivarienis berryi				1	1
Sonorella imperatrix		1			1
Sonorella meadi			1		1
Sonorella sabinoenis buehmanensis		1			1
Sonorella sabinoensis tucsonica			1		1
Sonorella sitiens sitiens			1	2	3
Sonorella tortillita	1				1
Total	2	4	7	3	16

continue to be lawful activities under the permit. However, the potential for habitat fragmentation on a landscape scale will be far less than it would be without the permit, due to the scale and connectivity of conservation areas identified and protected by the CLS. Indirect effects to PVS and conserved lands within CLS will also result from nearby allowed development. The indirect effects of associated lights, traffic and roads, noise, water use, air pollution, human activities, pets, and non-native species can be as detrimental as the direct effects of habitat loss, if not minimized and mitigated. These indirect effects will be addressed by development standards for projects and activities within or adjacent to CLS lands.

2.5.4 Cumulative Effects of Other Activities on Covered Species

Cumulative effects caused by other projects and activities not covered by the permit will be minimized by the efforts being undertaken by the Town of Marana and the City of Tucson in pursuit of their individual HCPs and Section 10(a)(1)(B) Permits. The total land area covered by the combination of permit areas under these two jurisdictions will constitute the major portion of land area in Pima County, with the exclusion of the Tohono O'odham Nation, Arizona State Trust Lands, and Federal lands. The cumulative effect of the PCMSCP and other HCPs will dramatically increase conservation efforts throughout Pima County and result in long-term gains in habitat protection for native plant and wildlife species.

The Federal signatories to the PCMSCP, who will be assisting in the implementation of conservation actions, will also minimize cumulative negative effects. The Coordination Agreements between Pima County and the cooperating agencies will establish the

PIMA COUNTY MAMMALS

Order	Family	Genus & Species	Common
ARTIODACTYLA	ANTILOCAPRIDAE	Antilocapra americana sonoriensis	Sonoran pronghorn
ARTIODACTYLA	BOVIDAE	Bos taurus	Domestic cow
ARTIODACTYLA	BOVIDAE	Ovis canadensis mexicana	Desert bighorn
ARTIODACTYLA	CERVIDAE	Odocoileus hemionus	Mule deer
ARTIODACTYLA	CERVIDAE	Odocoileus virginianus	Whitetail deer
ARTIODACTYLA	SUIDAE	Sus scrofa	Feral pig
ARTIODACTYLA	TAYASSUIDAE	Pecari tajacu	Collared peccary
CARNIVORA	CANIDAE	Canis familiaris	Feral dog
CARNIVORA	CANIDAE	Canis latrans	Coyote
CARNIVORA	CANIDAE	Canis lupus baileyi	Mexican gray wolf
CARNIVORA	CANIDAE	Urocyon cinereoargenteus	Gray fox
CARNIVORA	CANIDAE	Vulpes macrotis macrotis	Kit fox
CARNIVORA	FELIDAE	Felis concolor	Mountain lion
CARNIVORA	FELIDAE	Felis pardalis	Ocelot
CARNIVORA	FELIDAE	Felis spp.	House cat
CARNIVORA	FELIDAE	Lynx rufus	Bobcat
CARNIVORA	FELIDAE	Panthera onca	Jaguar
CARNIVORA	MEPHITIDAE	Conepatus mesoleucus	White-backed hog-nosed skunk
CARNIVORA	MEPHITIDAE	Mephitis macroura	Hooded skunk
CARNIVORA	MEPHITIDAE	Mephitis mephitis	Striped skunk
CARNIVORA	MEPHITIDAE	Spilogale gracilis	Western spotted skunk
CARNIVORA	MUSTELIDAE	Taxidea taxus	Badger
CARNIVORA	PROCYONIDAE	Bassariscus astutus	Ringtail cat
CARNIVORA	PROCYONIDAE	Nasua narica	Coati
CARNIVORA	PROCYONIDAE	Procyon lotor	Raccoon
CARNIVORA	URSIDAE	Ursus americanus	Black bear
CARNIVORA	URSIDAE	Ursus arctos	Grizzly bear
CHIROPTERA	MOLOSSIDAE	Eumops perotis californicus	Greater western mastiff bat
CHIROPTERA	MOLOSSIDAE	Eumops underwoodi	Underwood's mastiff bat
CHIROPTERA	MOLOSSIDAE	Nyctinomops femorosacca	Pocketed free-tailed bat
CHIROPTERA	MOLOSSIDAE	Tadarida brasiliensis	Brazilian free-tailed bat
CHIROPTERA	MOLOSSIDAE	Tadarida macrotis	Big free-tailed bat
CHIROPTERA	PHYLLOSTOMIDAE	Choeronycteris mexicana	Mexican long-tongued bat
CHIROPTERA	PHYLLOSTOMIDAE	Leptonycteris curasoae yerbabuena	Lesser long-nosed bat
CHIROPTERA	PHYLLOSTOMIDAE	Macrotus californicus	California leaf-nosed bat
CHIROPTERA	VESPERTILIONIDAE	Antrozous pallidus pallidus	Pallid bat
CHIROPTERA	VESPERTILIONIDAE	Eptesicus fuscus pallidus	Big brown bat

PIMA COUNTY MAMMALS

CHIROPTERA	VESPERTILIONIDAE	Lasionycteris noctivagans	Silver-haired bat
CHIROPTERA	VESPERTILIONIDAE	Lasiurus blossevillii	Western red bat
CHIROPTERA	VESPERTILIONIDAE	Lasiurus cinereus	Hoary bat
CHIROPTERA	VESPERTILIONIDAE	Lasiurus xanthinus = ega	Southern yellow bat
CHIROPTERA	VESPERTILIONIDAE	Myotis auriculus	Southwestern myotis
CHIROPTERA	VESPERTILIONIDAE	Myotis californicus stephensi	California myotis
CHIROPTERA	VESPERTILIONIDAE	Myotis ciliolabrum	Western small-footed myotis
CHIROPTERA	VESPERTILIONIDAE	Myotis lucifugus occultus	Occult little brown bat
CHIROPTERA	VESPERTILIONIDAE	Myotis thysanodes	Fringed myotis
CHIROPTERA	VESPERTILIONIDAE	Myotis velifer	Cave myotis
CHIROPTERA	VESPERTILIONIDAE	Myotis volans	Long-legged myotis
CHIROPTERA	VESPERTILIONIDAE	Myotis yumanensis	Yuma myotis
CHIROPTERA	VESPERTILIONIDAE	Pipistrellus hesperus hesperus	Wetern pipistrelle
CHIROPTERA	VESPERTILIONIDAE	Plecotus townsendii pallescens	Pale Townsend's big-eared bat
DIDELPHIMORPHIA	DIDELPHIDAE	Didelphis marupialis var. mexicana	Mexican opossum
DIDELPHIMORPHIA	DIDELPHIDAE	Didelphis virginiana	Virginia opossum
INSECTIVORA	SORICIDAE	Notiosorex crawfordi	Desert shrew
INSECTIVORA	SORICIDAE	Sorex arizonae	Arizona shrew
LAGOMORPHA	LEPORIDAE	Lepus alleni	Antelope jackrabbit
LAGOMORPHA	LEPORIDAE	Lepus californicus	Black-tailed jackrabbit
LAGOMORPHA	LEPORIDAE	Sylvilagus audubonii	Desert cottontail
RODENTIA	CASTORIDAE	Castor canadensis	Beaver
RODENTIA	ERETHIZODONTIDAE	Erethizon dorsatum	North American porcupine
RODENTIA	GEOMYIDAE	Thomomys bottae	Botta's pocket gopher
RODENTIA	HETEROMYIDAE	Chaetodipus baileyi	Bailey's pocket mouse
RODENTIA	HETEROMYIDAE	Chaetodipus intermedius	Rock pocket mouse
RODENTIA	HETEROMYIDAE	Chaetodipus penicillatus	Desert pocket mouse
RODENTIA	HETEROMYIDAE	Dipodomys merriami	Merriam's kangaroo rat
RODENTIA	HETEROMYIDAE	Dipodomys spectabilis	Banner-tailed kangaroo rat
RODENTIA	HETEROMYIDAE	Perognathus amplus	Arizona pocket mouse
RODENTIA	MURIDAE	Mus musculus	House mouse
RODENTIA	MURIDAE	Neotoma albigula	White-throated woodrat
RODENTIA	MURIDAE	Neotoma lepida auripila	Desert woodrat
RODENTIA	MURIDAE	Neotoma mexicana	Mexican woodrat
RODENTIA	MURIDAE	Ondatra zibethicus	Muskrat
RODENTIA	MURIDAE	Onychomys torridus torridus	Southern grasshopper mouse
RODENTIA	MURIDAE	Peromyscus boylii	Brush mouse
RODENTIA	MURIDAE	Peromyscus crinitus desparilis	Canyon mouse

PIMA COUNTY MAMMALS

RODENTIA	MURIDAE	Peromyscus difficilis	Rock mouse
RODENTIA	MURIDAE	Peromyscus eremicus	Cactus mouse
RODENTIA	MURIDAE	Peromyscus eremicus papagensis	Pinacate cactus mouse
RODENTIA	MURIDAE	Peromyscus maniculatus	Deer mouse
RODENTIA	MURIDAE	Peromyscus merriami	Merriam's mouse
RODENTIA	MURIDAE	Reithrodontomys fulvescens	Fulvous harvest mouse
RODENTIA	MURIDAE	Reithrodontomys megalotis	Western harvest mouse
RODENTIA	MURIDAE	Sigmodon arizonae	Arizona cotton rat
RODENTIA	MURIDAE	Sigmodon ochrognathus	Yellow-nosed cotton rat
RODENTIA	SCIURIDAE	Ammospermophilus harrisi	Harris' antelope ground squirrel
RODENTIA	SCIURIDAE	Neotamias dorsalis	Cliff chipmunk
RODENTIA	SCIURIDAE	Sciurus aberti	Abert's squirrel
RODENTIA	SCIURIDAE	Sciurus arizonensis	Arizona gray squirrel
RODENTIA	SCIURIDAE	Spermophilus tereticaudus neglectus	Round-tailed ground squirrel
RODENTIA	SCIURIDAE	Spermophilus variegatus	Rock squirrel

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
ANSERIFORMES	ANATIDAE	*Aix sponsa*	Wood duck
ANSERIFORMES	ANATIDAE	*Anas acuta*	Northern pintail
ANSERIFORMES	ANATIDAE	*Anas americana*	American widgeon
ANSERIFORMES	ANATIDAE	*Anas clypeata*	Northern shoveler
ANSERIFORMES	ANATIDAE	*Anas crecca*	Green-winged teal
ANSERIFORMES	ANATIDAE	*Anas cyanoptera*	Cinnamon teal
ANSERIFORMES	ANATIDAE	*Anas discors*	Blue-winged teal
ANSERIFORMES	ANATIDAE	*Anas penelope*	Eurasian widgeon
ANSERIFORMES	ANATIDAE	*Anas platyrhynchos*	Mallard
ANSERIFORMES	ANATIDAE	*Anas querquedula*	Garganey
ANSERIFORMES	ANATIDAE	*Anas strepera*	Gadwall
ANSERIFORMES	ANATIDAE	*Anser albifrons*	Greater white-fronted goose
ANSERIFORMES	ANATIDAE	*Aythya affinis*	Lesser scaup
ANSERIFORMES	ANATIDAE	*Aythya americana*	Redhead
ANSERIFORMES	ANATIDAE	*Aythya collaris*	Ring-necked duck
ANSERIFORMES	ANATIDAE	*Aythya marila*	Greater scaup
ANSERIFORMES	ANATIDAE	*Aythya valisineria*	Canvasback
ANSERIFORMES	ANATIDAE	*Branta bernicla*	Brant
ANSERIFORMES	ANATIDAE	*Branta canadensis*	Canada goose
ANSERIFORMES	ANATIDAE	*Bucephala albeola*	Bufflehead
ANSERIFORMES	ANATIDAE	*Bucephala clangula*	Common goldeneye
ANSERIFORMES	ANATIDAE	*Bucephala islandica*	Barrow's goldeneye
ANSERIFORMES	ANATIDAE	*Chen caerulescens*	Snow goose
ANSERIFORMES	ANATIDAE	*Chen rossii*	Ross's goose
ANSERIFORMES	ANATIDAE	*Clangula hyemalis*	Long-tailed duck
ANSERIFORMES	ANATIDAE	*Cygnus columbianus*	Tundra swan
ANSERIFORMES	ANATIDAE	*Dendrocygna autumnalis*	Black-bellied whistling-duck
ANSERIFORMES	ANATIDAE	*Dendrocygna bicolor*	Fulvous whistling-duck
ANSERIFORMES	ANATIDAE	*Histrionicus histrionicus*	Harlequin duck
ANSERIFORMES	ANATIDAE	*Lophodytes cucullatus*	Hooded merganser
ANSERIFORMES	ANATIDAE	*Melanitta fusca*	White-winged scoter
ANSERIFORMES	ANATIDAE	*Melanitta nigra*	Black scoter
ANSERIFORMES	ANATIDAE	*Melanitta perspicillata*	Surf scoter
ANSERIFORMES	ANATIDAE	*Mergus merganser*	Common merganser
ANSERIFORMES	ANATIDAE	*Mergus serrator*	Red-breasted merganser
ANSERIFORMES	ANATIDAE	*Oxyura jamaicensis*	Ruddy duck
APODIFORMES	APODIDAE	*Aeronautes sexatalis*	White-throated swift
APODIFORMES	APODIDAE	*Chaetura pelagica*	Chimney swift
APODIFORMES	APODIDAE	*Chaetura vauxi*	Vaux's swift
APODIFORMES	TROCHILIDAE	*Amazilla violiceps*	Violet-crowned hummingbird

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
APODIFORMES	TROCHILIDAE	*Archilochus alexandri*	Black-chinned hummingbird
APODIFORMES	TROCHILIDAE	*Archilochus colubris*	Ruby-throated hummingbird
APODIFORMES	TROCHILIDAE	*Calothorax lucifer*	Lucifer hummingbird
APODIFORMES	TROCHILIDAE	*Calypte anna*	Anna's hummingbird
APODIFORMES	TROCHILIDAE	*Calypte costae*	Costa's hummingbird
APODIFORMES	TROCHILIDAE	*Cynanthus latirostris*	Broad-billed hummingbird
APODIFORMES	TROCHILIDAE	*Eugenes fulgens*	Magnificent hummingbird
APODIFORMES	TROCHILIDAE	*Heliomaster constantii*	Plain-capped starthroat
APODIFORMES	TROCHILIDAE	*Hylocharis leucotis*	White-eared hummingbird
APODIFORMES	TROCHILIDAE	*Lampornis clemenciae*	Blue-throated hummingbird
APODIFORMES	TROCHILIDAE	*Selasphorus platycercus*	Broad-tailed hummingbird
APODIFORMES	TROCHILIDAE	*Selasphorus rufus*	Rufous hummingbird
APODIFORMES	TROCHILIDAE	*Selasphorus sasin*	Allen's hummingbird
APODIFORMES	TROCHILIDAE	*Stellula calliope*	Calliope hummingbird
CAPRIMULGIFORMES	CAPRIMULGIDAE	*Caprimulgus ridgwayi*	Buff-collared nightjar
CAPRIMULGIFORMES	CAPRIMULGIDAE	*Caprimulgus vociferus*	Whip-poor-will
CAPRIMULGIFORMES	CAPRIMULGIDAE	*Chordeiles acutepennis*	Lesser nighthawk
CAPRIMULGIFORMES	CAPRIMULGIDAE	*Chordeiles minor*	Common nighthawk
CAPRIMULGIFORMES	CAPRIMULGIDAE	*Phalaenoptilus nuttallii*	Common poorwill
CHARADRIIFORMES	CHARADRIIDAE	*Charadrius alexandrinus*	Snowy plover
CHARADRIIFORMES	CHARADRIIDAE	*Charadrius montanus*	Mountain plover
CHARADRIIFORMES	CHARADRIIDAE	*Charadrius semipalmatus*	Semipalmated plover
CHARADRIIFORMES	CHARADRIIDAE	*Charadrius vociferus*	Killdeer
CHARADRIIFORMES	CHARADRIIDAE	*Jacana spinosa*	Northern jacana
CHARADRIIFORMES	CHARADRIIDAE	*Pluvialis dominica*	American golden-plover
CHARADRIIFORMES	CHARADRIIDAE	*Pluvialis squatarola*	Black-bellied plover
CHARADRIIFORMES	LARIDAE	*Chlidonias niger*	Black tern
CHARADRIIFORMES	LARIDAE	*Larus argentatus*	Herring gull
CHARADRIIFORMES	LARIDAE	*Larus californicus*	California gull
CHARADRIIFORMES	LARIDAE	*Larus delawarensis*	Ring-billed gull
CHARADRIIFORMES	LARIDAE	*Larus heemanni*	Heemann's gull
CHARADRIIFORMES	LARIDAE	*Larus occidentalis*	Western gull
CHARADRIIFORMES	LARIDAE	*Larus philadelphia*	Bonaparte's gull
CHARADRIIFORMES	LARIDAE	*Larus pipixcan*	Franklin's gull
CHARADRIIFORMES	LARIDAE	*Rynchops niger*	Black skimmer
CHARADRIIFORMES	LARIDAE	*Stercorarius longicaudus*	Long-tailed jaeger
CHARADRIIFORMES	LARIDAE	*Sterna antillarum*	Least tern
CHARADRIIFORMES	LARIDAE	*Sterna caspia*	Caspian tern
CHARADRIIFORMES	LARIDAE	*Sterna elegans*	Elegant tern
CHARADRIIFORMES	LARIDAE	*Sterna forsteri*	Forster's tern

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
CHARADRIIFORMES	LARIDAE	*Sterna hirundo*	Common tern
CHARADRIIFORMES	LARIDAE	*Sterna paradisaea*	Arctic tern
CHARADRIIFORMES	LARIDAE	*Xema sabini*	Sabine's gull
CHARADRIIFORMES	RECURVIROSTRIDAE	*Himantopus mexicanus*	Black-necked stilt
CHARADRIIFORMES	RECURVIROSTRIDAE	*Recurvirostra americana*	American avocet
CHARADRIIFORMES	SCOLOPACIDAE	*Actitus macularia*	Spotted sandpiper
CHARADRIIFORMES	SCOLOPACIDAE	*Arenaria interpres*	Ruddy turnstone
CHARADRIIFORMES	SCOLOPACIDAE	*Bartramia longicauda*	Upland sandpiper
CHARADRIIFORMES	SCOLOPACIDAE	*Calidris alba*	Sanderling
CHARADRIIFORMES	SCOLOPACIDAE	*Calidris alpina*	Dunlin
CHARADRIIFORMES	SCOLOPACIDAE	*Calidris bairdii*	Baird's sandpiper
CHARADRIIFORMES	SCOLOPACIDAE	*Calidris canutus*	Red knot
CHARADRIIFORMES	SCOLOPACIDAE	*Calidris fuscicollis*	White-rumped sandpiper
CHARADRIIFORMES	SCOLOPACIDAE	*Calidris himantopus*	Stilt sandpiper
CHARADRIIFORMES	SCOLOPACIDAE	*Calidris malanotos*	Pectoral sandpiper
CHARADRIIFORMES	SCOLOPACIDAE	*Calidris mauri*	Western sandpiper
CHARADRIIFORMES	SCOLOPACIDAE	*Calidris minutilla*	Least sandpiper
CHARADRIIFORMES	SCOLOPACIDAE	*Calidris pusilla*	Semipalmated sandpiper
CHARADRIIFORMES	SCOLOPACIDAE	*Catoptrophorus semipalmatus*	Willet
CHARADRIIFORMES	SCOLOPACIDAE	*Gallinago delicata*	Wilson's snipe
CHARADRIIFORMES	SCOLOPACIDAE	*Heteroscelus incanus*	Wandering tattler
CHARADRIIFORMES	SCOLOPACIDAE	*Limnodromus griseus*	Short-billed dowitcher
CHARADRIIFORMES	SCOLOPACIDAE	*Limnodromus scolopaceus*	Long-billed dowitcher
CHARADRIIFORMES	SCOLOPACIDAE	*Limosa fedoa*	Marbled godwit
CHARADRIIFORMES	SCOLOPACIDAE	*Numenius americanus*	Long-billed curlew
CHARADRIIFORMES	SCOLOPACIDAE	*Numenius phaeopus*	Whimbrel
CHARADRIIFORMES	SCOLOPACIDAE	*Phalaropus fulicaria*	Red phalarope
CHARADRIIFORMES	SCOLOPACIDAE	*Phalaropus lobatus*	Red-necked phalarope
CHARADRIIFORMES	SCOLOPACIDAE	*Phalaropus tricolor*	Wilson's phalarope
CHARADRIIFORMES	SCOLOPACIDAE	*Tringa flavipes*	Lesser yellowlegs
CHARADRIIFORMES	SCOLOPACIDAE	*Tringa melanoleuca*	Greater yellowlegs
CHARADRIIFORMES	SCOLOPACIDAE	*Tringa solitaria*	Solitary sandpiper
CICONIIFORMES	ARDEIDAE	*Ardea alba*	Great egret
CICONIIFORMES	ARDEIDAE	*Ardea herodias*	Great blue heron
CICONIIFORMES	ARDEIDAE	*Botaurus lentiginosus*	American bittern
CICONIIFORMES	ARDEIDAE	*Bubulcus ibis*	Cattle egret
CICONIIFORMES	ARDEIDAE	*Butorides virescens*	Green heron
CICONIIFORMES	ARDEIDAE	*Egretta caerulea*	Little blue heron
CICONIIFORMES	ARDEIDAE	*Egretta rufescens*	Reddish egret
CICONIIFORMES	ARDEIDAE	*Egretta thula*	Snowy egret

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
CICONIIFORMES	ARDEIDAE	*Egretta tricolor*	Tricolored heron
CICONIIFORMES	ARDEIDAE	*Ixobrychus exilis*	Least bittern
CICONIIFORMES	ARDEIDAE	*Nyctanassa violacea*	Yellow-crowned night-heron
CICONIIFORMES	ARDEIDAE	*Nycticorax nycticorax*	Black-crowned night-heron
CICONIIFORMES	CATHARTIDAE	*Cathartes aura*	Turkey vulture
CICONIIFORMES	CATHARTIDAE	*Coragyps atratus*	Black vulture
CICONIIFORMES	CICONIIDAE	*Mycteria americana*	Wood stork
CICONIIFORMES	THRESKIORNITHIDAE	*Eudocimus albus*	White ibis
CICONIIFORMES	THRESKIORNITHIDAE	*Platalea ajaja*	Roseate spoonbill
CICONIIFORMES	THRESKIORNITHIDAE	*Plegadis chihi*	White-faced ibis
COLUMBIFORMES	COLUMBIDAE	*Columba fasciata*	Band-tailed pigeon
COLUMBIFORMES	COLUMBIDAE	*Columba livia*	Rock dove
COLUMBIFORMES	COLUMBIDAE	*Columbina inca*	Inca dove
COLUMBIFORMES	COLUMBIDAE	*Columbina passerina*	Common ground-dove
COLUMBIFORMES	COLUMBIDAE	*Columbina talpacoti*	Ruddy ground-dove
COLUMBIFORMES	COLUMBIDAE	*Streptopelia decaocto*	Eurasian collared-dove
COLUMBIFORMES	COLUMBIDAE	*Streptopelia resoria*	Ringed turtle-dove
COLUMBIFORMES	COLUMBIDAE	*Zenaida asiatica*	White-winged dove
COLUMBIFORMES	COLUMBIDAE	*Zenaida macroura*	Mourning dove
CORACIIFORMES	ALCEDINIDAE	*Ceryle alcyon*	Belted kingfisher
CORACIIFORMES	ALCEDINIDAE	*Chloroceryle americana*	Green kingfisher
CUCULIFORMES	CUCULIDAE	*Coccyzus americanus occidentalis*	Western yellow-billed cuckoo
CUCULIFORMES	CUCULIDAE	*Crotophaga sulcirostris*	Groove-billed ani
CUCULIFORMES	CUCULIDAE	*Geococcyx californianus*	Greater roadrunner
FALCONIFORMES	ACCIPITRIDAE	*Accipiter cooperii*	Cooper's hawk
FALCONIFORMES	ACCIPITRIDAE	*Accipiter gentilis*	Northern goshawk
FALCONIFORMES	ACCIPITRIDAE	*Accipiter striatus*	Sharp-shinned hawk
FALCONIFORMES	ACCIPITRIDAE	*Aquila chrysaetos*	Golden eagle
FALCONIFORMES	ACCIPITRIDAE	*Asturina nitida*	Gray hawk
FALCONIFORMES	ACCIPITRIDAE	*Buteo albonotatus*	Zone-tailed hawk
FALCONIFORMES	ACCIPITRIDAE	*Buteo jamaicensis*	Red-tailed hawk
FALCONIFORMES	ACCIPITRIDAE	*Buteo lagopus*	Rough-legged hawk
FALCONIFORMES	ACCIPITRIDAE	*Buteo lineatus*	Red-shouldered hawk
FALCONIFORMES	ACCIPITRIDAE	*Buteo platypterus*	Broad-winged hawk
FALCONIFORMES	ACCIPITRIDAE	*Buteo regalis*	Ferruginous hawk
FALCONIFORMES	ACCIPITRIDAE	*Buteo swainsoni*	Swainson's hawk
FALCONIFORMES	ACCIPITRIDAE	*Buteogallus anthracinus*	Common black-hawk
FALCONIFORMES	ACCIPITRIDAE	*Circus cyaneus*	Northern harrier
FALCONIFORMES	ACCIPITRIDAE	*Elanus leucurus*	White-tailed kite
FALCONIFORMES	ACCIPITRIDAE	*Haliaeetus leucocephalus*	Bald eagle

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
FALCONIFORMES	ACCIPITRIDAE	*Ictinia mississippiensis*	Mississippi kite
FALCONIFORMES	ACCIPITRIDAE	*Pandion haliaetus*	Osprey
FALCONIFORMES	ACCIPITRIDAE	*Parabuteo unicinctus*	Harris's hawk
FALCONIFORMES	FALCONIDAE	*Caracara plancus*	Crested caracara
FALCONIFORMES	FALCONIDAE	*Falco columbarius*	Merlin
FALCONIFORMES	FALCONIDAE	*Falco femoralis*	Aplomado falcon
FALCONIFORMES	FALCONIDAE	*Falco mexicanus*	Prairie falcon
FALCONIFORMES	FALCONIDAE	*Falco peregrinus*	Peregrine falcon
FALCONIFORMES	FALCONIDAE	*Falco sparverius*	American kestrel
GALLIFORMES	ODONTOPHORIDAE	*Callipepla gambelii*	Gambel's quail
GALLIFORMES	ODONTOPHORIDAE	*Callipepla squamata*	Scaled quail
GALLIFORMES	ODONTOPHORIDAE	*Colinus virginianus ridgwayi*	Masked bobwhite quail
GALLIFORMES	ODONTOPHORIDAE	*Cyrtonyx montezumae*	Montezuma quail
GALLIFORMES	PHASIANIDAE	*Meleagris gallopavo*	Wild turkey
GAVIIFORMES	GAVIIDAE	*Gavia immer*	Common loon
GAVIIFORMES	GAVIIDAE	*Gavia pacifica*	Pacific loon
GRUIFORMES	GRUIDAE	*Grus canadensis*	Sandhill crane
GRUIFORMES	RALLIDAE	*Fulica americana*	American coot
GRUIFORMES	RALLIDAE	*Gallinula chloropus*	Common moorhen
GRUIFORMES	RALLIDAE	*Porphyrio martinica*	Purple gallinule
GRUIFORMES	RALLIDAE	*Porzana carolina*	Sora
GRUIFORMES	RALLIDAE	*Rallus limicola*	Virginia rail
GRUIFORMES	RALLIDAE	*Rallus longirostris*	Clapper rail
PASSERFORMES	SITTIDAE	*Sitta carolinensis*	White-breasted nuthatch
PASSERIFORMES	AEGITHALIDAE	*Psaltriparus minimus*	Bushtit
PASSERIFORMES	ALAUDIDAE	*Eremophila alpestris*	Horned lark
PASSERIFORMES	BOMBYCILLIDAE	*Bombycilla cedrorum*	Cedar waxwing
PASSERIFORMES	BOMBYCILLIDAE	*Bombycilla garrulus*	Bohemian waxwing
PASSERIFORMES	CARDINALIDAE	*Cardinalis cardinalis*	Northern cardinal
PASSERIFORMES	CARDINALIDAE	*Cardinalis sinuatus*	Pyrrhuloxia
PASSERIFORMES	CARDINALIDAE	*Coccothraustes vespertinus*	Evening grosbeak
PASSERIFORMES	CARDINALIDAE	*Guiraca caerulea*	Blue grosbeak
PASSERIFORMES	CARDINALIDAE	*Passerina amoena*	Lazuli bunting
PASSERIFORMES	CARDINALIDAE	*Passerina ciris*	Painted bunting
PASSERIFORMES	CARDINALIDAE	*Passerina cyanea*	Indigo bunting
PASSERIFORMES	CARDINALIDAE	*Passerina versicolor*	Varied bunting
PASSERIFORMES	CARDINALIDAE	*Pheucticus chrysopeplus*	Yellow grosbeak
PASSERIFORMES	CARDINALIDAE	*Pheucticus ludovicianus*	Rose-breasted grosbeak
PASSERIFORMES	CARDINALIDAE	*Pheucticus melanocephalus*	Black-headed grosbeak
PASSERIFORMES	CARDINALIDAE	*Spiza americana*	Dickcissel

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
PASSERIFORMES	CERTHIIDAE	*Certhia americana*	Brown creeper
PASSERIFORMES	CINCLIDAE	*Cinclus mexicanus*	American dipper
PASSERIFORMES	CORVIDAE	*Aphelocoma californica*	Western scrub-jay
PASSERIFORMES	CORVIDAE	*Aphelocoma ultramarina*	Mexican jay
PASSERIFORMES	CORVIDAE	*Corvus brachyrhynchos*	American crow
PASSERIFORMES	CORVIDAE	*Corvus corax*	Common raven
PASSERIFORMES	CORVIDAE	*Corvus cryptoleucus*	Chihuahuan raven
PASSERIFORMES	CORVIDAE	*Cyanocitta stelleri*	Steller's jay
PASSERIFORMES	CORVIDAE	*Gymnorhius cyanocephalus*	Pinyon jay
PASSERIFORMES	CORVIDAE	*Nucifraga columbiana*	Clark's nutcracker
PASSERIFORMES	EMBERIZIDAE	*Aimophila botterii*	Botteri's sparrow
PASSERIFORMES	EMBERIZIDAE	*Aimophila carpalis*	Rufous-winged sparrow
PASSERIFORMES	EMBERIZIDAE	*Aimophila cassinii*	Cassin's sparrow
PASSERIFORMES	EMBERIZIDAE	*Aimophila quinquestriata*	Five-striped sparrow
PASSERIFORMES	EMBERIZIDAE	*Aimophila ruficeps*	Rufous-crowned sparrow
PASSERIFORMES	EMBERIZIDAE	*Ammodramus bairdii*	Baird's sparrow
PASSERIFORMES	EMBERIZIDAE	*Ammodramus lecontii*	Le Conte's sparrow
PASSERIFORMES	EMBERIZIDAE	*Ammodramus nelsoni*	Nelson's sharp-tailed sparrow
PASSERIFORMES	EMBERIZIDAE	*Ammodramus savannarum*	Grasshopper sparrow
PASSERIFORMES	EMBERIZIDAE	*Amphispiza belli*	Sage sparrow
PASSERIFORMES	EMBERIZIDAE	*Amphispiza bilineata*	Black-throated sparrow
PASSERIFORMES	EMBERIZIDAE	*Calamospiza melanocorys*	Lark bunting
PASSERIFORMES	EMBERIZIDAE	*Calcarius lapponicus*	Lapland longspur
PASSERIFORMES	EMBERIZIDAE	*Calcarius mccownii*	McCown's longspur
PASSERIFORMES	EMBERIZIDAE	*Calcarius ornatus*	Chestnut-collared longspur
PASSERIFORMES	EMBERIZIDAE	*Chondestes grammacus*	Lark sparrow
PASSERIFORMES	EMBERIZIDAE	*Junco hyemalis*	Dark-eyed junco
PASSERIFORMES	EMBERIZIDAE	*Junco phaeonotus*	Yellow-eyed junco
PASSERIFORMES	EMBERIZIDAE	*Melospiza georgiana*	Swamp sparrow
PASSERIFORMES	EMBERIZIDAE	*Melospiza lincolnii*	Lincoln's sparrow
PASSERIFORMES	EMBERIZIDAE	*Melospiza melodia*	Song sparrow
PASSERIFORMES	EMBERIZIDAE	*Passerculus sanwhichensis*	Savannah sparrow
PASSERIFORMES	EMBERIZIDAE	*Passerella iliaca*	Fox sparrow
PASSERIFORMES	EMBERIZIDAE	*Pipilo aberti*	Abert's towhee
PASSERIFORMES	EMBERIZIDAE	*Pipilo chlorurus*	Green-tailed towhee
PASSERIFORMES	EMBERIZIDAE	*Pipilo fuscus*	Canyon towhee
PASSERIFORMES	EMBERIZIDAE	*Pipilo maculatus*	Spotted towhee
PASSERIFORMES	EMBERIZIDAE	*Pooecetes gramineus*	Vesper sparrow
PASSERIFORMES	EMBERIZIDAE	*Spizella atrogularis*	Black-chinned sparrow
PASSERIFORMES	EMBERIZIDAE	*Spizella breweri*	Brewer's sparrow

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
PASSERIFORMES	EMBERIZIDAE	*Spizella pallida*	Clay-colored sparrow
PASSERIFORMES	EMBERIZIDAE	*Spizella passerina*	Chipping sparrow
PASSERIFORMES	EMBERIZIDAE	*Zonotrichia albicollis*	White-throated sparrow
PASSERIFORMES	EMBERIZIDAE	*Zonotrichia atricapilla*	Golden-crowned sparrow
PASSERIFORMES	EMBERIZIDAE	*Zonotrichia leucophrys*	White-crowned sparrow
PASSERIFORMES	EMBERIZIDAE	*Zonotrichia querula*	Harris's sparrow
PASSERIFORMES	FRINGILLIDAE	*Carduelis lawrenci*	Lawrence's goldfinch
PASSERIFORMES	FRINGILLIDAE	*Carduelis pinus*	Pine siskin
PASSERIFORMES	FRINGILLIDAE	*Carduelis psaltria*	Lesser goldfinch
PASSERIFORMES	FRINGILLIDAE	*Carduelis tristis*	American goldfinch
PASSERIFORMES	FRINGILLIDAE	*Carpodacus cassinii*	Cassin's finch
PASSERIFORMES	FRINGILLIDAE	*Carpodacus mexicanus*	House finch
PASSERIFORMES	FRINGILLIDAE	*Carpodacus purpureus*	Purple finch
PASSERIFORMES	FRINGILLIDAE	*Loxia curvirostra*	Red crossbill
PASSERIFORMES	FRINGILLIDAE	*Loxia cuvirostra*	Red crossbill
PASSERIFORMES	FRINGILLIDAE	*Penicola enucleator*	Pine grosbeak
PASSERIFORMES	HIRUNDINIDAE	*Hirundo rustica*	Barn swallow
PASSERIFORMES	HIRUNDINIDAE	*Petrochelidon pyrrhonota*	Cliff swallow
PASSERIFORMES	HIRUNDINIDAE	*Progne subis*	Purple martin
PASSERIFORMES	HIRUNDINIDAE	*Riparia riparia*	Bank swallow
PASSERIFORMES	HIRUNDINIDAE	*Stelgidopteryx serripennis*	Northern rough-winged swallow
PASSERIFORMES	HIRUNDINIDAE	*Tachycineta bicolor*	Tree swallow
PASSERIFORMES	HIRUNDINIDAE	*Tachycineta thalassina*	Violet-green swallow
PASSERIFORMES	ICTERIDAE	*Agelaius phoeniceus*	Red-winged blackbird
PASSERIFORMES	ICTERIDAE	*Dolichonyx oryzivorus*	Bobolink
PASSERIFORMES	ICTERIDAE	*Euphagus cyanocephalus*	Brewer's blackbird
PASSERIFORMES	ICTERIDAE	*Icterus bullockii*	Bullock's oriole
PASSERIFORMES	ICTERIDAE	*Icterus cucullatus*	Hooded oriole
PASSERIFORMES	ICTERIDAE	*Icterus galbula*	Baltimore oriole
PASSERIFORMES	ICTERIDAE	*Icterus parisorum*	Scott's oriole
PASSERIFORMES	ICTERIDAE	*Icterus pustulatus*	Streak-backed oriole
PASSERIFORMES	ICTERIDAE	*Icterus spurius*	Orchard oriole
PASSERIFORMES	ICTERIDAE	*Molothrus aeneus*	Bronzed cowbird
PASSERIFORMES	ICTERIDAE	*Molothrus ater*	Brown-headed cowbird
PASSERIFORMES	ICTERIDAE	*Quiscalus mexicanus*	Great-tailed grackle
PASSERIFORMES	ICTERIDAE	*Quiscalus quiscula*	Common grackle
PASSERIFORMES	ICTERIDAE	*Sturnella magna*	Eastern meadowlark
PASSERIFORMES	ICTERIDAE	*Sturnella neglecta*	Western meadowlark
PASSERIFORMES	ICTERIDAE	*Xanthocephalus xanthocephalus*	Yellow-headed blackbird
PASSERIFORMES	LANIIDAE	*Lanius ludovicianus*	Loggerhead shrike

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
PASSERIFORMES	MIMIDAE	*Dumetella carolinensis*	Gray catbird
PASSERIFORMES	MIMIDAE	*Mimus polyglottos*	Northern mockingbird
PASSERIFORMES	MIMIDAE	*Oreoscoptes montanus*	Sage thrasher
PASSERIFORMES	MIMIDAE	*Toxostoma bendirei*	Bendire's thrasher
PASSERIFORMES	MIMIDAE	*Toxostoma crissale*	Crissal thrasher
PASSERIFORMES	MIMIDAE	*Toxostoma curvisostre*	Curve-billed thrasher
PASSERIFORMES	MIMIDAE	*Toxostoma lecontei*	Le Conte's thrasher
PASSERIFORMES	MIMIDAE	*Toxostoma rufum*	Brown thrasher
PASSERIFORMES	MOTACILIDAE	*Anthus rubescens*	American pipit
PASSERIFORMES	MOTACILLIDAE	*Anthus cervinus*	Red-throated pipit
PASSERIFORMES	MOTACILLIDAE	*Anthus spragueii*	Sprague's pipit
PASSERIFORMES	PARIDAE	*Baeolophus griseus*	Juniper titmouse
PASSERIFORMES	PARIDAE	*Baeolophus wollweberi*	Bridled titmouse
PASSERIFORMES	PARIDAE	*Poecile gambeli*	Mountain chickadee
PASSERIFORMES	PARULIDAE	*Cardellina rubrifrons*	Red-faced warbler
PASSERIFORMES	PARULIDAE	*Dedroica pinus*	Pine warbler
PASSERIFORMES	PARULIDAE	*Dendroica caerulescens*	Black-throated blue warbler
PASSERIFORMES	PARULIDAE	*Dendroica castanea*	Bay-breasted warbler
PASSERIFORMES	PARULIDAE	*Dendroica cerulea*	Cerulean warbler
PASSERIFORMES	PARULIDAE	*Dendroica coronata*	Yellow-rumped warbler
PASSERIFORMES	PARULIDAE	*Dendroica discolor*	Prairie warbler
PASSERIFORMES	PARULIDAE	*Dendroica dominica*	Yellow-throated warbler
PASSERIFORMES	PARULIDAE	*Dendroica fusca*	Blackburnian warbler
PASSERIFORMES	PARULIDAE	*Dendroica graciae*	Grace's warbler
PASSERIFORMES	PARULIDAE	*Dendroica magnolia*	Magnolia warbler
PASSERIFORMES	PARULIDAE	*Dendroica nigrescens*	Black-throated gray warbler
PASSERIFORMES	PARULIDAE	*Dendroica occidentalis*	Hermit warbler
PASSERIFORMES	PARULIDAE	*Dendroica palmarum*	Palm warbler
PASSERIFORMES	PARULIDAE	*Dendroica pensylvanica*	Chestnut-sided warbler
PASSERIFORMES	PARULIDAE	*Dendroica petechia*	Yellow warbler
PASSERIFORMES	PARULIDAE	*Dendroica striata*	Blackpoll warbler
PASSERIFORMES	PARULIDAE	*Dendroica tigrina*	Cape May warbler
PASSERIFORMES	PARULIDAE	*Dendroica townsendi*	Townsend's warbler
PASSERIFORMES	PARULIDAE	*Dendroica virens*	Black-throated green warbler
PASSERIFORMES	PARULIDAE	*Geothlypis trichas*	Common yellowthroat
PASSERIFORMES	PARULIDAE	*Helmitheros vermivorum*	Worm-eating warbler
PASSERIFORMES	PARULIDAE	*Icteria virens*	Yellow-breasted chat
PASSERIFORMES	PARULIDAE	*Mniotilta varia*	Black-and-white warbler
PASSERIFORMES	PARULIDAE	*Myioborus miniatus*	Slate-throated redstart
PASSERIFORMES	PARULIDAE	*Myioborus pictus*	Painted redstart

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
PASSERIFORMES	PARULIDAE	*Oporornis agilis*	Connecticut warbler
PASSERIFORMES	PARULIDAE	*Oporornis formosus*	Kentucky warbler
PASSERIFORMES	PARULIDAE	*Oporornis tolmiei*	Macgillivray's warbler
PASSERIFORMES	PARULIDAE	*Protonotaria citrea*	Prothonotary warbler
PASSERIFORMES	PARULIDAE	*Seirus motacilla*	Lousianna waterthrush
PASSERIFORMES	PARULIDAE	*Seirus voveboracensis*	Northern waterthrush
PASSERIFORMES	PARULIDAE	*Seiurus aurocapilla*	Ovenbird
PASSERIFORMES	PARULIDAE	*Setophaga ruticella*	American redstart
PASSERIFORMES	PARULIDAE	*Vermivora celata*	Orange-crowned warbler
PASSERIFORMES	PARULIDAE	*Vermivora chrysoptera*	Golden-winged warbler
PASSERIFORMES	PARULIDAE	*Vermivora luciae*	Lucy's warbler
PASSERIFORMES	PARULIDAE	*Vermivora peregrina*	Tennessee warbler
PASSERIFORMES	PARULIDAE	*Vermivora pinus*	Blue-winged warbler
PASSERIFORMES	PARULIDAE	*Vermivora ruficapilla*	Nashville warbler
PASSERIFORMES	PARULIDAE	*Vermivora viginiae*	Virginia's warbler
PASSERIFORMES	PARULIDAE	*Wilsonia canadensis*	Canada warbler
PASSERIFORMES	PARULIDAE	*Wilsonia citrina*	Hooded warbler
PASSERIFORMES	PARULIDAE	*Wilsonia pusilla*	Wilson's warbler
PASSERIFORMES	PASSERIDAE	*Passer domesticus*	House sparrow
PASSERIFORMES	PEUCEDRAMIDAE	*Peucedramus taeniatus*	Olive warbler
PASSERIFORMES	PTILOGONATIDAE	*Phainopepla nitens*	Phainopepla
PASSERIFORMES	REGULIDAE	*Regulus calendula*	Ruby-crowned kinglet
PASSERIFORMES	REGULIDAE	*Regulus satrapa*	Golden-crowned kinglet
PASSERIFORMES	REMIZIDAE	*Auriparus flaviceps*	Verdin
PASSERIFORMES	SITTIDAE	*Sitta canadensis*	Red-breasted nuthatch
PASSERIFORMES	SITTIDAE	*Sitta pygmaea*	Pygmy nuthatch
PASSERIFORMES	STURNIDAE	*Sturnus vularis*	European starling
PASSERIFORMES	SYLVIIDAE	*Polioptila caerulea*	Blue-gray gnatcatcher
PASSERIFORMES	SYLVIIDAE	*Polioptila melanura*	Black-tailed gnatcatcher
PASSERIFORMES	SYLVIIDAE	*Polioptila nigriceps*	Black-capped gnatcatcher
PASSERIFORMES	THRAUPIDAE	*Piranga flava*	Hepatic tanager
PASSERIFORMES	THRAUPIDAE	*Piranga ludoviciana*	Western tanager
PASSERIFORMES	THRAUPIDAE	*Piranga olivacea*	Scarlet tanager
PASSERIFORMES	THRAUPIDAE	*Piranga rubra*	Summer tanager
PASSERIFORMES	TROGLODYTIDAE	*Campylorhynchus brunneicapillus*	Cactus wren
PASSERIFORMES	TROGLODYTIDAE	*Catherpes mexicanus*	Canyon wren
PASSERIFORMES	TROGLODYTIDAE	*Cistothorus palustris*	Marsh wren
PASSERIFORMES	TROGLODYTIDAE	*Salpinctes obsoletus*	Rock wren
PASSERIFORMES	TROGLODYTIDAE	*Thryomanes bewikii*	Bewick's wren
PASSERIFORMES	TROGLODYTIDAE	*Troglodytes aedon*	House wren

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
PASSERIFORMES	TROGLODYTIDAE	*Troglodytes troglodytes*	Winter wren
PASSERIFORMES	TURDIDAE	*Catharus guttatus*	Hermit thrush
PASSERIFORMES	TURDIDAE	*Catharus ustulatus*	Swainson's thrush
PASSERIFORMES	TURDIDAE	*Hylocichla mustelina*	Wood thrush
PASSERIFORMES	TURDIDAE	*Ixoreus naevius*	Varied thrush
PASSERIFORMES	TURDIDAE	*Myadestes townsendi*	Townsend's solitaire
PASSERIFORMES	TURDIDAE	*Oenanthe oenanthe*	Northern wheatear
PASSERIFORMES	TURDIDAE	*Sialia currucoides*	Mountain bluebird
PASSERIFORMES	TURDIDAE	*Sialia mexicana*	Western bluebird
PASSERIFORMES	TURDIDAE	*Sialia sialis*	Eastern bluebird
PASSERIFORMES	TURDIDAE	*Turdus migratorius*	American robin
PASSERIFORMES	TURDIDAE	*Turdus rufopalliatus*	Rufous-backed robin
PASSERIFORMES	TYRANNIDAE	*Camptostoma imberbe*	Northern beardless-tyrannulet
PASSERIFORMES	TYRANNIDAE	*Conotopus virens*	Eastern wood-pewee
PASSERIFORMES	TYRANNIDAE	*Contopus cooperi*	Olive-sided flycatcher
PASSERIFORMES	TYRANNIDAE	*Contopus pertinax*	Greater pewee
PASSERIFORMES	TYRANNIDAE	*Contopus sordidulus*	Western wood-pewee
PASSERIFORMES	TYRANNIDAE	*Empidonax difficilis*	Pacific-slope flycatcher
PASSERIFORMES	TYRANNIDAE	*Empidonax flaviventrus*	Yellow-bellied flycatcher
PASSERIFORMES	TYRANNIDAE	*Empidonax fulvifrons*	Buff-breasted flycatcher
PASSERIFORMES	TYRANNIDAE	*Empidonax hammondii*	Hammond's flycatcher
PASSERIFORMES	TYRANNIDAE	*Empidonax minimus*	Least flycatcher
PASSERIFORMES	TYRANNIDAE	*Empidonax oberholseri*	Dusky flycatcher
PASSERIFORMES	TYRANNIDAE	*Empidonax occidentalis*	Cordilleran flycatcher
PASSERIFORMES	TYRANNIDAE	*Empidonax traillii*	Willow flycatcher
PASSERIFORMES	TYRANNIDAE	*Empidonax virescens*	Acadian flycatcher
PASSERIFORMES	TYRANNIDAE	*Empidonax wrightii*	Gray flycatcher
PASSERIFORMES	TYRANNIDAE	*Myiarchus cinerascens*	Ash-throated flycatcher
PASSERIFORMES	TYRANNIDAE	*Myiarchus crinitus*	Great crested flycatcher
PASSERIFORMES	TYRANNIDAE	*Myiarchus tuberculifer*	Dusky-capped flycatcher
PASSERIFORMES	TYRANNIDAE	*Myiarchus tyrannulus*	Brown-crested flycatcher
PASSERIFORMES	TYRANNIDAE	*Myiodynastes luteventris*	Sulphur-bellied flycatcher
PASSERIFORMES	TYRANNIDAE	*Pachyramphus aglaiae*	Rose-throated becard
PASSERIFORMES	TYRANNIDAE	*Pitangus sulphuratus*	Great kiskadee
PASSERIFORMES	TYRANNIDAE	*Pyrocephalus rubinus*	Vermillion flycatcher
PASSERIFORMES	TYRANNIDAE	*Sayornis nigricans*	Black phoebe
PASSERIFORMES	TYRANNIDAE	*Sayornis phoebe*	Eastern phoebe
PASSERIFORMES	TYRANNIDAE	*Sayornis saya*	Say's phoebe
PASSERIFORMES	TYRANNIDAE	*Tyrannus crassirostris*	Thick-billed kingbird
PASSERIFORMES	TYRANNIDAE	*Tyrannus forficatus*	Scissor-tailed flycatcher

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
PASSERIFORMES	TYRANNIDAE	*Tyrannus melancholicus*	Tropical kingbird
PASSERIFORMES	TYRANNIDAE	*Tyrannus verticalis*	Western kingbird
PASSERIFORMES	TYRANNIDAE	*Tyrannus vociferans*	Cassin's kingbird
PASSERIFORMES	TYRANNIDAE	*Tyrranus tyrannus*	Eastern kingbird
PASSERIFORMES	VIREONIDAE	*Vireo bellii*	Bell's vireo
PASSERIFORMES	VIREONIDAE	*Vireo cassinii*	Cassin's vireo
PASSERIFORMES	VIREONIDAE	*Vireo flavifrons*	Yellow-throated vireo
PASSERIFORMES	VIREONIDAE	*Vireo gilvus*	Warbling vireo
PASSERIFORMES	VIREONIDAE	*Vireo griseus*	White-eyed vireo
PASSERIFORMES	VIREONIDAE	*Vireo huttoni*	Hutton's vireo
PASSERIFORMES	VIREONIDAE	*Vireo olivaceus*	Red-eyed vireo
PASSERIFORMES	VIREONIDAE	*Vireo philadephicus*	Philadelphia vireo
PASSERIFORMES	VIREONIDAE	*Vireo plumbeus*	Plubeous vireo
PASSERIFORMES	VIREONIDAE	*Vireo solitarius*	Blue-headed vireo
PASSERIFORMES	VIREONIDAE	*Vireo vicinior*	Gray vireo
PELECANIFORMES	ANHINGIDAE	*Anhinga anhinga*	Anhinga
PELECANIFORMES	FREGATIDAE	*Fregata magnificens*	Magnificent frigatebird
PELECANIFORMES	PELECANIDAE	*Pelecanus erythrorhynchus*	American white pelican
PELECANIFORMES	PELECANIDAE	*Pelecanus occidentalis*	Brown pelican
PELECANIFORMES	PHAETHONTIDAE	*Phaethon aethereus*	Red-billed tropicbird
PELECANIFORMES	PHALACROCORACIDAE	*Phalacrocorax auritus*	Double-crested cormorant
PELECANIFORMES	PHALACROCORACIDAE	*Phalacrocorax brasilianus*	Neotropic cormorant
PICIFORMES	PICIDAE	*Colaptes auratus*	Northern flicker
PICIFORMES	PICIDAE	*Colaptes chrysoides*	Gilded flicker
PICIFORMES	PICIDAE	*Malanerpes uropygialis*	Gila woodpecker
PICIFORMES	PICIDAE	*Melanerpes erythrocephalus*	Red-headed woodpecker
PICIFORMES	PICIDAE	*Melanerpes formicuvorus*	Acorn woodpecker
PICIFORMES	PICIDAE	*Melanerpes lewis*	Lewis's woodpecker
PICIFORMES	PICIDAE	*Picoides arizonae*	Arizona woodpecker
PICIFORMES	PICIDAE	*Picoides pubescens*	Downy woodpecker
PICIFORMES	PICIDAE	*Picoides scalaris*	Ladder-backed woodpecker
PICIFORMES	PICIDAE	*Picoides stricklandi*	Strickland's woodpecker
PICIFORMES	PICIDAE	*Picoides villosus*	Hairy woodpecker
PICIFORMES	PICIDAE	*Sphyrapicus nuchalis*	Red-naped sapsucker
PICIFORMES	PICIDAE	*Sphyrapicus ruber*	Red-breasted sapsucker
PICIFORMES	PICIDAE	*Sphyrapicus thyroideus*	Williamson's sapsucker
PICIFORMES	PICIDAE	*Sphyrapicus varius*	Yellow-bellied sapsucker
PODICIPEDIFORMES	PODICIPEDIDAE	*Aechmophorus clarkii*	Clark's grebe
PODICIPEDIFORMES	PODICIPEDIDAE	*Aechmophorus occidentalis*	Western grebe
PODICIPEDIFORMES	PODICIPEDIDAE	*Podiceps auritus*	Horned Grebe

PIMA COUNTY BIRDS

Order	Family	Genus & Species	Common
PODICIPEDIFORMES	PODICIPEDIDAE	*Podiceps nigricollis*	Eared grebe
PODICIPEDIFORMES	PODICIPEDIDAE	*Podilymbus podiceps*	Pied-billed grebe
PODICIPEDIFORMES	PODICIPEDIDAE	*Tachybaptus dominicus*	Least grebe
STRIGIFORMES	CAPRIMULGIDAE	*Chordeiles acutipennis*	Lesser nighthawk
STRIGIFORMES	STRIGIDAE	*Aegolius acadicus*	Northern saw-whet owl
STRIGIFORMES	STRIGIDAE	*Asio flammeus*	Short-eared owl
STRIGIFORMES	STRIGIDAE	*Asio otus*	Long-eared owl
STRIGIFORMES	STRIGIDAE	*Athene cunicularia hypugaea*	Burrowing owl
STRIGIFORMES	STRIGIDAE	*Bubo virginianus*	Great horned owl
STRIGIFORMES	STRIGIDAE	*Glaucidium brasilianum cactorum*	Cactus ferruginous pygmy-owl
STRIGIFORMES	STRIGIDAE	*Glaucidium gnoma*	Northern pygmy-owl
STRIGIFORMES	STRIGIDAE	*Micrathene whitneyi*	Elf owl
STRIGIFORMES	STRIGIDAE	*Otus flammeolus*	Flammulated owl
STRIGIFORMES	STRIGIDAE	*Otus kennicottii*	Western screech-owl
STRIGIFORMES	STRIGIDAE	*Otus trichopsis*	Whiskered screech-owl
STRIGIFORMES	STRIGIDAE	*Strix occidentalis mexicana*	Spotted owl
STRIGIFORMES	STRIGIDAE	*Strix occidentalis occidentalis*	Mexican spotted owl
STRIGIFORMES	TYTONIDAE	*Tyto alba*	Barn owl
TROGONIFORMES	TROGONIDAE	*Trogon elegans*	Elegant trogon

PIMA COUNTY REPTILES AND AMPHIBIANS

Order	Family	Genus & Species	Common
ANURA	BUFONIDAE	Bufo alvarius	Sonoran desert toad
ANURA	BUFONIDAE	Bufo cognatus	Great Plains toad
ANURA	BUFONIDAE	Bufo punctatus	Red-spotted toad
ANURA	BUFONIDAE	Bufo retiformis	Sonoran green toad
ANURA	HYLIDAE	Hyla arenicolor	Canyon treefrog
ANURA	MICROHYLIDAE	Gastrophryne olivacea	Great Plains narrow-mouthed toad
ANURA	PELOBATIDAE	Scaphiopus couchii	Couch's spadefoot
ANURA	PELOBATIDAE	Spea multiplicata	Mexican spadefoot
ANURA	RANIDAE	Rana catesbeiana	American Bullfrog
ANURA	RANIDAE	Rana chiricahuensis	Chiricahua leopard frog
ANURA	RANIDAE	Rana tarahumarae	Tarahumara frog
ANURA	RANIDAE	Rana yavapaiensis	Lowland leopard frog
CAUDATA	AMBYSTOMATIDAE	Ambystoma tigrinum	Tiger salamander
SQUAMATA	ANGUIDAE	Elgaria kingii	Madrean alligator lizard
SQUAMATA	BOIDAE	Charina trivirgata gracia	Desert rosy boa
SQUAMATA	BOIDAE	Charina trivirgata trivirgata	Mexican rosy boa
SQUAMATA	COLUBRIDAE	Arizona elegans	Glossy snake
SQUAMATA	COLUBRIDAE	Chilomeniscus cinctus	Banded sand snake
SQUAMATA	COLUBRIDAE	Chionactis occipitalis	Western shovel-nosed snake
SQUAMATA	COLUBRIDAE	Chionactis palarostris	Sonoran shovel-nosed snake
SQUAMATA	COLUBRIDAE	Diadophis punctatus	Ringneck snake
SQUAMATA	COLUBRIDAE	Elaphe triaspis	Green rat snake
SQUAMATA	COLUBRIDAE	Hypsiglena torquata	Night snake
SQUAMATA	COLUBRIDAE	Lampropeltis getula	Common kingsnake
SQUAMATA	COLUBRIDAE	Lampropeltis pyromelana	Sonoran mountain kingsnake
SQUAMATA	COLUBRIDAE	Masticophis bilineatus	Sonoran whipsnake
SQUAMATA	COLUBRIDAE	Masticophis flagellum	Coachwhip
SQUAMATA	COLUBRIDAE	Oxybelis aeneus	Brown vine snake
SQUAMATA	COLUBRIDAE	Phyllorhynchus browni	Saddled leafnose snake
SQUAMATA	COLUBRIDAE	Phyllorhynchus decurtatus	Spotted leafnose snake
SQUAMATA	COLUBRIDAE	Pituophis catenifer	Gopher snake
SQUAMATA	COLUBRIDAE	Rhinocheilus lecontei	Long-nosed snake
SQUAMATA	COLUBRIDAE	Salvadora grahamiae	Eastern patch-nosed snake
SQUAMATA	COLUBRIDAE	Salvadora hexalepis	Western patch-nosed snake
SQUAMATA	COLUBRIDAE	Senticolis triaspis	Green rat snake
SQUAMATA	COLUBRIDAE	Sonora semiannulata	Ground snake
SQUAMATA	COLUBRIDAE	Tantilla hobartsmithi	Southwestern black-headed snake

PIMA COUNTY REPTILES AND AMPHIBIANS

SQUAMATA	COLUBRIDAE	Thamnophis cyrtopsis	Black-necked garter snake
SQUAMATA	COLUBRIDAE	Thamnophis eques megalops	Mexican garter snake
SQUAMATA	COLUBRIDAE	Thamnophis marcianus	Checkered garter snake
SQUAMATA	COLUBRIDAE	Trimorphodon biscutatus	Lyre snake
SQUAMATA	CROTAPHYTIDAE	Crotaphytus collaris	Eastern collared lizard
SQUAMATA	CROTAPHYTIDAE	Gambelia wislizenii	Long-nosed leopard lizard
SQUAMATA	ELAPIDAE	Micruroides euryxanthus	Sonoran coralsnake
SQUAMATA	GEKKONIDAE	Coloenyx variegatus	Western banded gecko
SQUAMATA	GEKKONIDAE	Hemidactylus turcicus	Mediterranean house gecko
SQUAMATA	HELODERMATIDAE	Heloderma suspectum	Gila monster
SQUAMATA	IGUANIDAE	Crotaphytus nebrius	Sonoran collared lizard
SQUAMATA	IGUANIDAE	Ctenosaura pectinata	Spiny-tailed iguana
SQUAMATA	IGUANIDAE	Dispsosaurus dorsalis	Desert iguana
SQUAMATA	IGUANIDAE	Sauromalus ater	Chuckwalla
SQUAMATA	LEPTOTYPHLOPIDAE	Leptotyphlops humilis	Western threadsnake
SQUAMATA	PHRYNOSOMATIDAE	Callisaurus draconoides	Zebra-tailed lizard
SQUAMATA	PHRYNOSOMATIDAE	Cophosaurus texanus	Greater earless lizard
SQUAMATA	PHRYNOSOMATIDAE	Holbrookia maculata	Common lesser earless lizard
SQUAMATA	PHRYNOSOMATIDAE	Phrynosoma cornutum	Texas horned lizard
SQUAMATA	PHRYNOSOMATIDAE	Phrynosoma hernandesi	Greater short-horned lizard
SQUAMATA	PHRYNOSOMATIDAE	Phrynosoma platyrhinos	Desert horned lizard
SQUAMATA	PHRYNOSOMATIDAE	Phrynosoma solare	Regal horned lizard
SQUAMATA	PHRYNOSOMATIDAE	Sceloporus clarkii	Clark's spiny lizard
SQUAMATA	PHRYNOSOMATIDAE	Sceloporus magister	Desert spiny lizard
SQUAMATA	PHRYNOSOMATIDAE	Sceloporus undulatus	Eastern fence lizard
SQUAMATA	PHRYNOSOMATIDAE	Uma notata	Colorado desert fringe-toed lizard
SQUAMATA	PHRYNOSOMATIDAE	Uma notata refopunctata	Cowles fringe-toed lizard
SQUAMATA	PHRYNOSOMATIDAE	Urosaurus graciosus	Western brush lizard
SQUAMATA	PHRYNOSOMATIDAE	Urosaurus ornatus	Ornate tree lizard
SQUAMATA	PHRYNOSOMATIDAE	Uta stansburniana	Side-blotched lizard
SQUAMATA	SCINCIDAE	Eumeces callicephalus	Mountain skink
SQUAMATA	SCINCIDAE	Eumeces obsoletus	Great Plains skink
SQUAMATA	TEIIDAE	Aspidoscelis burti	Canyon spotted whiptail
SQUAMATA	TEIIDAE	Aspidoscelis burti stictogrammus	Giant spotted whiptail
SQUAMATA	TEIIDAE	Aspidoscelis burti xanathanotus	Red-backed whiptail lizard
SQUAMATA	TEIIDAE	Aspidoscelis flagellicauda	Gila spotted whiptail
SQUAMATA	TEIIDAE	Aspidoscelis sonorae	Sonoran spotted whiptail
SQUAMATA	TEIIDAE	Aspidoscelis tigris	Western whiptail lizard

PIMA COUNTY REPTILES AND AMPHIBIANS

SQUAMATA	VIPERIDAE	Crotalus atrox	Western diamondback rattlesnake
SQUAMATA	VIPERIDAE	Crotalus cerastes	Sidewinder
SQUAMATA	VIPERIDAE	Crotalus cerberus	Arizona black rattlesnake
SQUAMATA	VIPERIDAE	Crotalus mitchellii	Speckled rattlesnake
SQUAMATA	VIPERIDAE	Crotalus molussus	Black-tailed rattlesnake
SQUAMATA	VIPERIDAE	Crotalus oreganus	Western rattlesnake
SQUAMATA	VIPERIDAE	Crotalus scutulatus	Mojave rattlesnake
SQUAMATA	VIPERIDAE	Crotalus tigris	Tiger rattlesnake
SQUAMATA	VIPERIDAE	Crotalus viridis	Prairie rattlesnake
SQUAMATA	VIPERIDAE	Crotalus willardi	Ridge-nosed rattlesnake
TESTUDINES	EMYDIDAE	Terrapene ornata luteola	Desert box turtle
TESTUDINES	KINOSTERNIDAE	Kinosternon sonoriense	Sonoran mud turtle
TESTUDINES	KINOSTERNIDAE	Kinosternon sonoriense longifemorale	Rio Sonoyta mud turtle
TESTUDINES	TESTUDINIDAE	Gopherus agassizii	Desert tortoise

PIMA COUNTY FISH

Order	Family	Genus & Species	Common
CYPRINIFORMES	CATOSTOMIDAE	Catostomus clarkii	Desert sucker
CYPRINIFORMES	CATOSTOMIDAE	Catostomus insignus	Sonora sucker
CYPRINIFORMES	CATOSTOMIDAE	Xyrauchen texanus	Razorback sucker
CYPRINIFORMES	CYPRINIDAE	Agosia chrysogaster	Longfin dace
CYPRINIFORMES	CYPRINIDAE	Gila intermedia	Gila chub
CYPRINIFORMES	CYPRINIDAE	Rhynichthys osculus	Speckled dace
CYPRINIFORMES	CYPRINODONTIDAE	Cyprinodon eremus	Quitobaquito desert pupfish
CYPRINIFORMES	CYPRINODONTIDAE	Cyprinodon macularius macularius	Desert pupfish
CYPRINIFORMES	POECILIIDAE	Gambusia affinis affinis	Mosquitofish
CYPRINIFORMES	POECILIIDAE	Poeciliopsis occidentalis occidentalis	Gila topminnow
PERCIFORMES	CENTRARCHIDAE	Lepomis cyanellus	Green sunfish
PERCIFORMES	CENTRARCHIDAE	Lepomis macrochirus	Bluegill
PERCIFORMES	CENTRARCHIDAE	Lepomis microlophus	Redear sunfish
PERCIFORMES	CENTRARCHIDAE	Micropterus salmoides	Largemouth bass
SALMONIFORMES	SALMONIDAE	Salmo gairdneri	Rainbow trout
SILURIFORMES	ICTALURIDAE	Ameiurus cyanellus	Yellow bullhead
SILURIFORMES	ICTALURIDAE	Ameiurus melas	Black bullhead