



**STATE AGENCY AND ELECTED OFFICIALS COMMENTS AND RESPONSES**

Code	Comment Document
	<div><div></div><div><p>THE STATE OF ARIZONA</p><p><b>GAME AND FISH DEPARTMENT</b></p><p>5000 W. CAREFREE HIGHWAY PHOENIX, AZ 85086-5000 (602) 942-3000 • WWW.AZGFD.GOV</p></div><div><p>GOVERNOR JANICE K. BREWER</p><p>COMMISSIONERS VICE CHAIRMAN, J.W. HARRIS, TUCSON ROBERT E. MANSELL, WINSLOW KURT R. DAVIS, PHOENIX EDWARD "PAT" MADDEN, FLAGSTAFF</p><p>DIRECTOR LARRY D. VOYLES</p><p>DEPUTY DIRECTOR TY E. GRAY</p></div></div> <div><p>December 29, 2014</p></div> <div><p>South Mountain Study Team Arizona Department of Transportation 1655 West Jackson Street, MD 126F Phoenix, Arizona 85007</p><p>RE: South Mountain (Loop 202) Freeway Final Environmental Impact Statement</p></div> <div><p>Dear Study Team,</p><p>The Arizona Game and Fish Department (Department) has reviewed the Final Environmental Impact Statement (FEIS) for the South Mountain Freeway (Loop 202) and Section 4(f) Evaluation and recent errata. The Department has public trust responsibility and jurisdictional authority under Arizona Revised Statute, Title 17 (§17-102 codifies state ownership of wildlife) to manage and regulate take of fish and wildlife within the state of Arizona irrespective of landownership, excepting those wildlife existing on tribal trust-status lands. We continue to express interest in land planning initiatives that may affect management of the State's fish and wildlife resources and/or wildlife related recreation. In addition, the Department maintains authorities under the Federal Fish and Wildlife Coordination Act (FWCA) to provide federal agencies recommendations to minimize impacts to fish and wildlife and their habitats that may result from federal projects that relate to water. The FWCA is applicable to this project, due to the proposed road crossing the Salt River and numerous other washes. While the Endangered Species Act mandates certain considerations for federally protected species, the FWCA mandates that consideration is given to all other fish and wildlife species. The Department would like to provide further comments and clarification in regards to the Arizona Department of Transportation's (ADOT) responses to the Department's comments within the FEIS.</p><p>The Department requests ADOT work closely and consistently with state and local agencies, and the tribal entities, on projects early and throughout the process. We appreciate the invitation extended by ADOT regarding the development of design and mitigation, as stated in the FEIS, and we are committed to participating in that process. The following comments address concerns of the Department moving into that process.</p><p>The FEIS at B65 states:</p><p><i>"The comments on the Draft Environmental Impact Statement contradict previous communication with the Arizona Game and Fish Department for the project. The last</i></p></div> <div><p>AN EQUAL OPPORTUNITY REASONABLE ACCOMMODATIONS AGENCY</p></div>

Code	Issue	Response

Code	Comment Document
	<p>South Mountain FEIS December 29, 2014</p> <p>2</p> <p><i>formal communication received from the Arizona Game and Fish Department in 2006 (see page A139 in Appendix 1-1 of the Final Environmental Impact Statement) stated that the movement corridor between the South Mountains and the Sierra Estrella is degraded by the 51st Avenue travel corridor as well as by planned development in that area. Data presented in the Draft and Final Environmental Impact Statements corroborate this statement (see the sidebar, “Existing versus planned land use,” on page 4-3 of both documents); a large percentage of the land in the Study Area is projected to be converted to nonagricultural uses in the foreseeable future. The above-referenced 2006 letter from the Arizona Game and Fish Department also stated that mule deer are believed to have been extirpated from the area. There was no mention of concerns regarding bighorn sheep.”</i></p> <p>1</p> <p>The Department has provided formal comments on this project from 2001 to present. The FEIS fails to incorporate updated, relevant information, related to wildlife connectivity that the Department has provided since the 2006 letter that is cited in the response above. Our comments have reflected changing concerns over time as more information and data have become available regarding climate, urban development, infrastructure, statewide wildlife linkage information (ADOT, et. al 2006) Maricopa County wildlife linkage information (AGFD 2012), surveys and data from other projects. The Department recognizes the need and responsibility of ADOT to maintain all of the records related to this project, however, requests the most recent, validated, and high quality information that we provided be incorporated into the analysis, design and development of mitigations. Furthermore, the Department requests that indirect and cumulative impacts be included when considering appropriate mitigation.</p> <p>The FEIS at B66 states:</p> <p><i>“Wildlife connectivity across the proposed project corridor is a concern, and multifunctional crossing structures are planned at locations where natural movement corridors occur along major drainages...</i></p> <p><i>In the case of the South Mountains, communication from the Arizona Game and Fish Department in 2006 (see page A139 in Appendix 1-1 of the Final Environmental Impact Statement) states that mule deer are believed to have been extirpated from the area; bighorn sheep are not mentioned and are known to not occur in Phoenix South Mountain Park/Preserve. Further, historic habitat has already been adversely affected in the area; therefore, the current state of habitat limits the baseline condition under consideration.”</i></p> <p>2</p> <p>The conditions on the landscape including ecosystems and wildlife habitat have changed during the decade long planning process. The Department requests ADOT further develop alternatives within the FEIS to reflect the current baseline conditions, consideration of cumulative impacts, and utilize the most current information available we provided. This information must be incorporated when analyzing project impacts and informing project design. The Department understands the implications of planned development in the area. As such, the Department acknowledges and appreciates the incorporation of wildlife connectivity mitigations into the design process for the highway. However, the Department feels that the repeated assertion in the FEIS of future development plans for the area seeks to minimize the perceived effects of this project, when it will be this proposed action which poses a substantial obstacle to wildlife movement. Recognizing that planned land use may include the development of surrounding</p>

Code	Issue	Response
1	Biology, Plants, and Wildlife	<p>The information provided by the Arizona Game and Fish Department was reviewed and considered in the analysis presented in the section, <i>Biological Resources</i>, in Chapter 4 the Final Environmental Impact Statement. An example includes the addition of movement areas to Figure 4-38 on page 4-126 of the Final Environmental Impact Statement. The updated information provided by the Arizona Game and Fish Department did not change the conclusions for biological resources. We thank the Arizona Game and Fish Department for its comments; changes were included in the Final Environmental Impact Statement to provide clarification.</p> <p>The analysis of secondary and cumulative impacts, including such impacts on biological resources, is discussed beginning on page 4-179 of the Final Environmental Impact Statement. Representative project-specific mitigation measures that address secondary and cumulative impacts are discussed on page 4-189. These commitments are confirmed in the Record of Decision in Table 3, beginning on page 38.</p>
2	Biology, Plants, and Wildlife	<p>In accordance with the National Environmental Policy Act, a range of reasonable action alternatives to carry forward for further analysis was determined through application of multidisciplinary criteria in a logical, step-wise progression. Alternatives were not disposed of or dismissed without a thorough evaluation using the multidisciplinary criteria outlined in the alternatives development and screening process presented in Chapter 3 of the Draft Environmental Impact Statement. This process, which occurred early in the environmental impact statement process, was revisited and validated in the Final Environmental Impact Statement (see Figure 3-2 on page 3-4).</p> <p>The information provided by the Arizona Game and Fish Department was reviewed and considered in the analysis presented in the section, <i>Biological Resources</i>, in Chapter 4 of the Final Environmental Impact Statement and in the Biological Evaluation. The Biological Evaluation includes up-to-date information on vegetative communities and results from available survey information; additional species surveys will be conducted prior to project initiation (see Table 3, beginning on page 38, of the Record of Decision).</p>

Code	Comment Document
3	<p>South Mountain FEIS December 29, 2014</p> <p>3</p> <p>habitat, there remains the potential to maintain wildlife movement corridors as part of the project design, by working with local leaders, developers and Gila River Indian Community (GRIC). These partners can provide critical data and insight into the functionality of current corridors, as well as creative solutions to maintain wildlife movement. Furthermore, this project is likely to promote the future conversion of much of the surrounding habitat. Such development projects are likely in turn to reference the fragmented state of the landscape, as imposed by the newly constructed freeway, as grounds for dismissing wildlife connectivity considerations. Current project language in the FEIS passively accepts the loss of these movement corridors to future development and carries an implied endorsement of development without mitigation.</p> <p>The Department requests project language that not only incorporates wildlife connectivity mitigations into the design process for the highway, but also promotes connectivity mitigations in subsequent development projects.</p> <p>The FEIS at B35 states the following:</p> <p><i>“The National Environmental Policy Act does not require the proposed action to improve the baseline condition. In correspondence, the Arizona Game and Fish Department (see page A139 in Appendix 1-1 of the Final Environmental Impact Statement) stated that the movement corridor between the South Mountains and the Sierra Estrella is degraded by the 51st Avenue travel corridor and that future planned development in the areas affected (supported by data presented in the sidebar, “Existing versus planned land use”, on page 4-3 of the Final Environmental Impact Statement, showing the projected conversion of land in the Study Area to nonagricultural uses) will continue to inhibit movement between the South Mountains and the Sierra Estrella. Further, the comment requests enhancement of movement corridors, which indicates the historic habitat has already been adversely affected. Therefore, the current state of habitat limits is the baseline condition under consideration. It is not the obligation of the proposed action to mitigate impacts caused by other unrelated actions”.</i></p> <p>Changes in land use patterns, growth or decline, in a given locale are attributable to many circumstances, events, and activities including Federal, non-Federal, and private actions. While transportation projects are not the only or primary factor in land use changes, the potential for certain transportation proposals such as this one, to influence land use is <i>undeniable</i>.</p> <p>The Department realizes this project has no compliance obligation to address habitat impairments resulting from existing infrastructure such as the 51<sup>st</sup> Avenue travel corridor; rather, this should be seen as an opportunity to gain support from potential detractors by contributing to habitat improvements and/or enhancements that could restore sustainable populations of wildlife species to a highly visible parcel. While it is not the obligation of the proposed action to mitigate for impacts caused by other unrelated actions, it is ADOT’s responsibility under NEPA to provide an analysis and potential mitigation measures from indirect effects (40 CFR § 1508.8) and/or cumulative effects (40 CFR § 1508.7) depending on whether effects are caused by the action later in time, or if the action results in incremental effects when added to those <i>past, present and reasonably foreseeable future</i> actions. Indirect effects "may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR § 1508.8).</p>

Code	Issue	Response
3	Biology, Plants, and Wildlife	<p>Example measures cited by the Arizona Game and Fish Department such as freeway overcrossings and 51st Avenue enhancements, while not necessary or required, are actions the Arizona Department of Transportation and Federal Highway Administration would consider integrating into the project during later design if such improvements were funded by others and did not affect the freeway’s operational characteristics. This is not dissimilar to looking for transit enhancement opportunities as noted in the Final Environmental Impact Statement. Similarly, the Arizona Department of Transportation and Federal Highway Administration have committed to continued coordination with the U.S. Fish and Wildlife Service and Arizona Game and Fish Department on mitigation cited in the Final Environmental Impact Statement.</p> <p>The Arizona Department of Transportation’s mitigation strategy is robust in terms of the provision of multiple wildlife crossings, fencing strategies, collision avoidance measures, and native plant protection. The Arizona Department of Transportation has committed to designing the wildlife crossings to standards for mule deer and designing additional wash crossings for wildlife passage in cooperation with the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, U.S. Army Corps of Engineers, and City of Phoenix.</p>

Code	Comment Document
	<div>South Mountain FEIS December 29, 2014</div> <div>3</div> <div>habitat, there remains the potential to maintain wildlife movement corridors as part of the project design, by working with local leaders, developers and Gila River Indian Community (GRIC). These partners can provide critical data and insight into the functionality of current corridors, as well as creative solutions to maintain wildlife movement. Furthermore, this project is likely to promote the future conversion of much of the surrounding habitat. Such development projects are likely in turn to reference the fragmented state of the landscape, as imposed by the newly constructed freeway, as grounds for dismissing wildlife connectivity considerations. Current project language in the FEIS passively accepts the loss of these movement corridors to future development and carries an implied endorsement of development without mitigation.</div> <div>4</div> <div>The Department requests project language that not only incorporates wildlife connectivity mitigations into the design process for the highway, but also promotes connectivity mitigations in subsequent development projects.</div> <div>4</div> <div>The FEIS at B35 states the following:<div><div>“The National Environmental Policy Act does not require the proposed action to improve the baseline condition. In correspondence, the Arizona Game and Fish Department (see page A139 in Appendix 1-1 of the Final Environmental Impact Statement) stated that the movement corridor between the South Mountains and the Sierra Estrella is degraded by the 51st Avenue travel corridor and that future planned development in the areas affected (supported by data presented in the sidebar, “Existing versus planned land use”, on page 4-3 of the Final Environmental Impact Statement, showing the projected conversion of land in the Study Area to nonagricultural uses) will continue to inhibit movement between the South Mountains and the Sierra Estrella. Further, the comment requests enhancement of movement corridors, which indicates the historic habitat has already been adversely affected. Therefore, the current state of habitat limits is the baseline condition under consideration. It is not the obligation of the proposed action to mitigate impacts caused by other unrelated actions”.</div></div></div> <div>4</div> <div>Changes in land use patterns, growth or decline, in a given locale are attributable to many circumstances, events, and activities including Federal, non-Federal, and private actions. While transportation projects are not the only or primary factor in land use changes, the potential for certain transportation proposals such as this one, to influence land use is <i>undeniable</i>.</div> <div>5</div> <div>The Department realizes this project has no compliance obligation to address habitat impairments resulting from existing infrastructure such as the 51<sup>st</sup> Avenue travel corridor; rather, this should be seen as an opportunity to gain support from potential detractors by contributing to habitat improvements and/or enhancements that could restore sustainable populations of wildlife species to a highly visible parcel. While it is not the obligation of the proposed action to mitigate for impacts caused by other unrelated actions, it is ADOT’s responsibility under NEPA to provide an analysis and potential mitigation measures from indirect effects (40 CFR § 1508.8) and/or cumulative effects (40 CFR § 1508.7) depending on whether effects are caused by the action later in time, or if the action results in incremental effects when added to those <i>past, present and reasonably foreseeable future</i> actions. Indirect effects "may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR § 1508.8).</div>

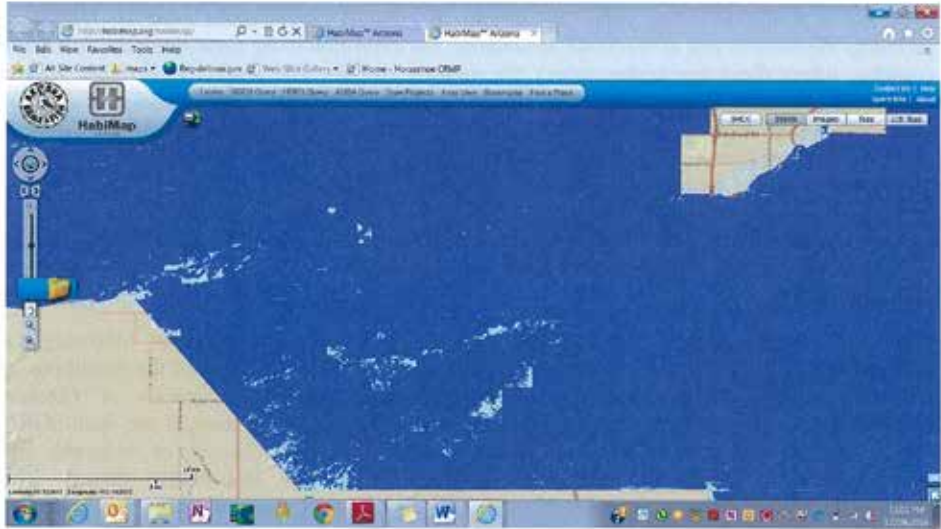
Code	Issue	Response
4	Biology, Plants, and Wildlife	While both the Arizona Game and Fish Department and U.S. Environmental Protection Agency note that the designated corridor is important (and is recognized as such in the section, <i>Biological Resources</i> , beginning on page 4-125 of the Final Environmental Impact Statement), the baseline condition of the resource is not pristine. The Arizona Game and Fish Department points out that the movement corridor between the South Mountains and the Sierra Estrella is degraded by the 51st Avenue travel corridor and that future planned development independent of the project in the areas affected will continue to inhibit wildlife movement between the South Mountains and the Sierra Estrella. To date, most of the land in the Study Area has already been developed in accordance with the City of Phoenix’s <i>General Plan</i> and zoning ordinance. It is assumed that such development would not be torn down to restore habitat to previous historical conditions. As documented in the section, <i>Land Use</i> , in Chapter 4 of the Final Environmental Impact Statement, agricultural (22 percent) and open space (11 percent) land uses in the Study Area represent only 33 percent of land area (it should be noted that the 11 percent of open space is mostly not developable because of topographic challenges and floodplain constraints), while the remainder of the area is in some form of “built” land use. Distribution of zoning further supports the conclusion: 12 percent of the Study Area is zoned for agricultural and open space uses while 88 percent is zoned for other more intensive land uses. The sections, <i>Induced Travel</i> and <i>Induced Growth</i> , beginning on pages 4-179 and page 4-182, respectively, of the Final Environmental Impact Statement, establish that the project will have little contribution to indirect effects on surrounding land use conditions.
5	Secondary and Cumulative Impacts	See response code 3 related to potential wildlife corridor enhancements. The analysis of secondary and cumulative impacts, including such impacts on biological resources, is discussed beginning on page 4-179 of the Final Environmental Impact Statement. Representative project-specific mitigation measures that address secondary and cumulative impacts are discussed on page 4-189. These commitments are confirmed in the Record of Decision in Table 3, beginning on page 38.

Code	Comment Document
	<p>South Mountain FEIS December 29, 2014</p> <p>4</p>
6	<p>The Department remains concerned with wildlife connectivity opportunities between South Mountain, the Sierra Estrella Mountains, and maintaining and enhancing the crossing at the Salt River. The implementation of this freeway would create an island effect, cutting off the last remaining connection for wildlife to move between South Mountain Park, GRIC, agricultural lands and the Sierra Estrella Mountains, not just through the Gila River corridor as referred to in the FEIS. We recognize the current habitat conditions include pockets of sparse development; however, the habitat continues to be conducive to movement of ungulates and other wildlife from the Sierra Estrella Mountains to South Mountain. It remains highly likely that areas on the southeastern sides of South Mountain function as a seasonal travel corridor for a population of mule deer (see the below discussion of multi-functional crossings).</p> <p>The FEIS at B78 dismisses impacts to water sources;</p> <p><i>“No stock tanks have been identified near the action alternative corridors; therefore, none would be removed nor would access to stock tanks be affected by the proposed action. The Draft Environmental Impact Statement addressed the Pee Posh eagles, although not by name, on page 4-124. A Biological Evaluation was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and the Gila River Indian Community Department of Environmental Quality that addressed threatened and endangered species. The U.S. Fish and Wildlife Service concurred with the species determinations in the Biological Evaluation (see Appendix 1-1 of the Final Environmental Impact Statement). The Biological Evaluation also addressed the breeding eagles in the Pee Posh wetlands in conformance to the Bald and Golden Eagle Protection Act. The concrete-lined irrigation canals in the Study Area are typically narrow and steep-sided and contain water for only short periods during field irrigation. The water velocity, steep sides, and short duration of water delivery in the concrete lined canals do not constitute a reliable or appropriate water source for wildlife compared with unlined canals or standing water sources that may be available. The steep canal sides and velocities can be a danger to wildlife. This was clarified in the Final Environmental Impact Statement on page 4-127.”</i></p>
6	<p>The Department would like to clarify that while there may not be direct impacts to water sources in the immediate area, there are impacts to wildlife’s ability to access these water sources. There are water sources in the area on the adjacent GRIC that attract wildlife to the area, especially those with year round water. While not a direct travel corridor, the irrigation canals contribute to those areas maintaining year round water. In addition, the Department maintains a wildlife water catchment on the eastern end of South Mountain Park. Therefore, the proposed project continues to be of concern in limiting access of wildlife to water sources in the area.</p>
7	<p>The Department appreciates the addition of the Arizona’s Species of Greatest Conservation Need (SGCN) to the FEIS. The Department would like to provide some clarity and background on the SGCN and Habimap™. The FEIS at B65 and B73 states:</p> <p><i>“The section, General Impacts on Vegetation, Wildlife, and Wildlife Habitat, beginning on page 4-136 of the Final Environmental Impact Statement, explains that the project would result in a decrease in resources for species that occur in and adjacent to the Study Area. It also describes additional short-term impacts related to construction. The analysis generally describes the effects on species of greatest conservation need that may occur in the vicinity. Most of the Study</i></p>

Code	Issue	Response
6	Biology, Plants, and Wildlife	<p>The Arizona Department of Transportation must prioritize the use of limited transportation project funding. When considering the use of transportation funding to construct additional structures beyond those needed to convey drainage or cross roads, canals, trails, etc., the Arizona Department of Transportation weighs factors such as potential effects on driver safety, regulatory status of species, wildlife linkage priority, the size of wildlife populations in an area, and whether crossings of the roadway are likely to occur frequently or seasonally. Using State transportation funding to provide wildlife overcrossings beyond those needed in the project design is not a priority of the project. The Arizona Department of Transportation and Federal Highway Administration have committed to enhancing the needed bridges and drainage structures to allow wildlife connectivity and providing fencing to guide wildlife to use the crossing structures at the southwest end of the South Mountains.</p> <p>The Arizona Department of Transportation is willing to partner with other stakeholders to enhance connectivity. For example, a project to construct a wildlife overpass within a priority wildlife priority linkage on State Route 77 is being undertaken in conjunction with the Regional Transportation Authority and the Pima Association of Governments. The Regional Transportation Authority initiated and funded the addition of the wildlife crossing structures and fencing to an Arizona Department of Transportation widening project for the highway.</p> <p>The project will not prevent wildlife from accessing the water sources identified in the comment. The Arizona Department of Transportation has committed to wildlife crossings and fencing designed for mule deer at the southwestern end of Phoenix South Mountain Park/Preserve, which will allow access to the Arizona Game and Fish Department’s water catchment. Design of drainage structures for smaller wildlife connectivity along the Pecos Road section of the freeway will allow for north-to-south movement across the freeway in those washes. The Arizona Department of Transportation has committed to discuss design of the crossings and additional mitigation that may be needed during final design (see Table 3, beginning on page 38, of the Record of Decision).</p>
7		Comment noted.

Code	Comment Document
8	<p>South Mountain FEIS December 29, 2014</p> <p>5</p> <p><i>Area has a moderate-to-low value for species of greatest conservation need on HabiMap, including the western end of the South Mountains. The exception is the area along the Salt River corridor, where there are higher values for riparian species. The project is designed with a bridge over the Salt River to minimize effects on riparian habitat. Those species of greatest conservation need that have the potential to occur in the Study Area have been added to Table 4-43 that begins on page 4-129 of the Final Environmental Impact Statement. These species were also addressed in a Biological Evaluation that was submitted to the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and Gila River Indian Community's Department of Environmental Quality. The U.S. Fish and Wildlife Service concurred with the species determinations in the Biological Evaluation (see Appendix 1-1 of the Final Environmental Impact Statement).</i></p> <p>The State Wildlife Action Plan (SWAP) was developed by the Department following the requirements of Congress and contains a comprehensive statewide analysis of the conditions of Arizona's wildlife and habitats. The SWAP identifies Arizona's Species of Greatest Conservation Need (SGCN). The Department appreciates the consideration of the state SGCN list in the FEIS, and requests inclusion of the Department's SERI (Species of Economic and Recreational Importance) as well (see representation through HabiMap™ below). The Department agrees with the assessment that a large portion of the study area and preferred alignment is represented in HabiMap™ SGCN layer with moderate level scores. However, the SGCN layer represents weighted richness of SGCN species across the landscape. A moderate score indicates a fewer number of species may be present than an area with higher scores. It does not indicate that there are no biological values associated with the area. Investigation of the modeled distributions of SGCN and SERI species in HabiMap™ reveals potential habitat for at least six tier 1a SGCN species in the western end of South Mountain that appears to have been dismissed in the comment response and FEIS. More importantly, the SWAP layers are intended to inform at a state-wide scale, and are not to be used as a sole source of information at site-specific evaluation. This is made clear in the 'terms of use', agreed to by users and clearly outlined throughout the tool and within the metadata contained in the developed models and model layers. We realize that not all of these species may be present across the modeled habitat extents, but suggest giving separate consideration of each species (both tier 1a and tier 1b) on the list and the potential for impacts by the project as potential habitat exists either within, adjacent or in the vicinity of the project. Alternatively, the Department would encourage the inclusion of language that clarifies the valuation of the SGCN and SERI layers as a weighted quantification of the number of SGCN and SERI species present, rather than a qualification of the relative importance of these lands to the individual species represented on the list.</p> <p>Species of Economic and Recreational Importance graphic represented through HabiMap™</p>

Code	Issue	Response
8	Biology, Plants, and Wildlife	<p>The HabiMap layer for Species of Economic and Recreational Importance is based on 13 Arizona game species and the demand and revenue generated by those species. The intent, as described in HabiMap for this layer, is to show the relative importance of that area based on variables pertaining to hunting. Because hunting is not permitted in the Phoenix metropolitan area, the Species of Economic and Recreational Importance layer does not provide specific relevant or substantial information that would have a bearing on the analysis or conclusions in the Final Environmental Impact Statement.</p> <p>Tier 1a species of greatest conservation need were evaluated for likelihood of presence in the project area in the Final Environmental Impact Statement (page 4-129) and in the Biological Evaluation (page A-4 in the appendix). The HabiMap layer for Species of Greatest Conservation Need indicates the greatest potential for species richness along the western end of the South Mountains, and in proximity to the E1 Alternative, is within a small rural residential area. As the Arizona Game and Fish Department recognizes, this modeled information is at a statewide scale and, therefore, does not indicate specific verified species richness including the potential for Tier 1a species to occur in any given area identified on the layer. Threatened and endangered species and other sensitive species were addressed in the Final Environmental Impact Statement, and the species richness information as shown on the Species of Greatest Conservation Need layer would not have any affect on the conclusions in the Final Environmental Impact Statement.</p> <p>The analysis presented in the <i>Biological Resources</i> section of Chapter 4 of the Final Environmental Impact Statement and the Biological Evaluation completed in 2014 contains an appropriate analysis of existing conditions and potential impacts based on field surveys and available literature. No further analysis is required.</p>

Code	Comment Document
	<div><div>South Mountain FEIS December 29, 2014</div><div>6</div><div></div><div><p>The FEIS at B80 notes:</p><p><i>"...the proposed freeway would be lined with right-of-way fencing that would prevent vehicular collisions with wild horses and burros."</i></p><p>The Department requests ADOT utilize wildlife friendly fencing within the right-of-way.</p><p>The FEIS at B66, B82, B86, B87, and B89 states:</p><p><i>"he intended uses of the multifunctional crossings would vary by location within the Study Area. If the crossings were near existing recreational features or trails, more human use would be expected. However, multifunctional crossings in remote areas through the South Mountains would allow limited use by people. Use of the crossings by people in this area is proposed solely to accommodate those members of the Gila River Indian Community who wish to gain access to areas of the South Mountains for ceremonies important for their culture (see Final Environmental Impact Statement page 4-151). A right-of-way fence would limit access to these areas by freeway users, but would allow Gila River Indian Community members to gain access to the area (see page 5-27 of the Final Environmental Impact Statement). The underpasses would not be associated with trailheads into the park and would not be designated as such for pedestrian, equestrian, off-highway vehicle, or bicyclist use. Other use of the underpasses by humans would be neither actively promoted nor encouraged through the signs posted." FEIS B66, B82, B86, B87, and B89.</i></p><p>The FEIS at B67 states:</p><p><i>"We do not dispute the potential benefit of conducting a "multi-year" study to locate wildlife mitigation measures. However, it is also important to recognize that such studies</i></p></div></div>

9


Code	Issue	Response
9	Design	<p>The freeway will be lined with right-of-way fencing to restrict wildlife from entering the travel lanes of the freeway. The Arizona Department of Transportation has made the commitment to consider wildlife in the design of crossings and fencing (see page 4-138 of the Final Environmental Impact Statement). The fencing and crossing design will occur hand-in-hand, and determinations will be made in coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service during final design. These commitments are confirmed in the Record of Decision in Table 3, beginning on page 38.</p>

Code	Comment Document
	<div>South Mountain FEIS December 29, 2014</div> <div>7</div> <div><p><i>need to be conducted in areas exhibiting priority wildlife-related highway safety and connectivity issues; the section of the highway corridor proposed parallel to Pecos Road was not identified as a linkage zone within the 2006 Arizona Wildlife Linkages Assessment or the 2012 Maricopa County Wildlife Connectivity Assessment. It would likely exhibit relatively low wildlife vehicle collision incidence in the future given the low wildlife densities found within this portion of the corridor. The 2012 Maricopa County Wildlife Connectivity Assessment did identify a movement corridor at the southwestern end of Phoenix South Mountain Park/Preserve. Multifunctional crossing structures proposed in this area would allow continued wildlife connectivity in this area. Wildlife species in the Study Area (including mule deer, mountain lion, and javelina) are commonly found in the urban interface. They are generally not reluctant to use structures crossing beneath roadways; this is partially attributable to the fact that the most common times of use for humans and wildlife tend to occur at different times of the day. The proposed crossings would be located at washes, which are the most likely wildlife movement corridors given topography and resources. In addition to these larger crossings, culverts at smaller washes would serve as connection points for smaller wildlife. Culverts would generally be placed in natural drainage areas that are not heavily used by humans. Some past research indicates that human use of wildlife passages may affect wildlife use to varying degrees. The most well-known example of this research focused on crossings of the Trans-Canada Highway in Banff National Park. The results of the extensive research on the Trans-Canada Highway did not show that human use has a dramatic impact on wildlife use of the Banff structures, which has been substantial and continues to increase. In Arizona, research by the Arizona Game and Fish Department along State Route 260 found highly compatible use of a dual-use (multifunctional) underpass that linked the communities of Christopher Creek and Hunter Creek. This particular underpass exhibited some of the most diverse and substantial wildlife use of the underpasses monitored during the long-term project (Dodd et al. 2012). Along State Route 77, a Wildlife Technical Advisory Committee closely scrutinized this issue for the two planned wildlife passages that will be built within a similar urban-influenced landscape in and adjacent to Oro Valley. The Wildlife Technical Advisory Committee evaluated all available information and determined that the temporal patterns of human (daytime) versus wildlife (crepuscular and nocturnal) use are not expected to result in a significant degree of incompatibility. Furthermore, such dual-use, multifunctional structures situated within urban-influenced landscapes, in this instance adjacent to Phoenix South Mountain Park/Preserve with its extensive trail network, offer effective and efficient use of limited taxpayer funds.”</i></p><div>10</div><p>The Department continues to support placing crossing underpasses within the drainage areas (washes, etc.). However data indicates that wildlife show reluctance to move through multi-functional underpass crossing structures (i.e. US260), often displaying reluctance and stalling at the mouth of the underpass (pers. comm. Jeff Gagnon 2014). Thus the Department requests some underpasses be dedicated specifically to wildlife crossings and not be multi-functional. In addition, the Department, requests commitment for funnel fencing leading up to the crossings to increase the success rate for use at the crossing. We request a buffer of 200ft. or more to any multi-functional use trail. The Department appreciates the invitation and opportunity to participate on the design of the project.</p></div>

Code	Issue	Response
10	Design	<p>In Figure 16 on page 28 of the Record of Decision, multiuse crossing 4 is identified as being aligned with a Maricopa County trail. The remaining four locations will serve wildlife movement with limited use by Gila River Indian Community members to access the South Mountains.</p> <p>The Arizona Department of Transportation and Arizona Game and Fish Department are in agreement that designing crossings for use by wildlife with limited use for Gila River Indian Community members to access the South Mountains is an acceptable way to proceed (see Arizona Game and Fish Department comment at top of next page).</p> <p>The Arizona Department of Transportation has committed to include fencing along with the crossing structures to be designed in coordination with the Arizona Game and Fish Department, Gila River Indian Community Department of Environmental Quality, and U.S. Fish and Wildlife Service. These commitments are confirmed in the Record of Decision in Table 3, beginning on page 38.</p>

Code	Comment Document
	<p>South Mountain FEIS December 29, 2014</p> <p>8</p>
11	<p>The Department’s primary concern with the concept of multi-use crossing structures is the proximity to the densely Phoenix metropolitan area. With the neighboring urban center, there is real potential for increased human use at much greater levels than the State Route 260 underpass referenced in the EIS response. With the clarification that these structures will not be accessible from the roadway (or from transportation interchanges), and will not be incorporated into the park’s trail system, the Department agrees that levels of human use associated with the cultural access by the Gila River Indian Community are not likely to preclude functionality as wildlife connectivity mitigation structures. The Department requests ‘limiting human use’ (excepting the GRIC cultural access) be identified as a priority and carried forward in the design of infrastructure surrounding all underpasses designated for use by wildlife.</p>
12	<p>The Department continues to request overpasses where the proposed alignment intersects with the major ridgelines of South Mountain to allow for movement of larger ungulates and other wildlife species, while decreasing risk to public safety. While there is minimal documented road mortality data provided for Pecos Road, it is known that there are high numbers of coyotes, tortoise, small mammals, etc. The Department recommends survey work be conducted to better understand the numbers and to further inform the placement of underpasses. The Department has provided several examples previously of where this has been successful for both deer and bighorn sheep and more effective than multi-functional crossing. In order to design the overpass appropriately, the Department again recommends game surveys be conducted to gain a better understanding of the movement areas and numbers potentially utilizing the area. The Department provides the following discussion to inform, clarify and support the comments provided previously. Historical data supports the use of the area by bighorn sheep and mule deer. In 1997, a bighorn sheep ram mortality was recorded on the east side of the Sierra Estrella Mountains. According to Department data, 25 bighorn sheep were observed during survey efforts between the Estrella’s, North and South Maricopa Mountains. This population of bighorn sheep is low and at risk of extirpation. In 2010, the Department conducted a standard aerial survey of the Sierra Estrella Mountains in which 8 bighorn sheep were observed and classified (4 on BLM and 4 on GRIC) resulting in an estimated population based on the observation rate for the Estrella Mountains to be a minimum of 8 bighorn sheep on the GRIC and a minimum of 8 bighorn sheep on adjacent BLM property totaling 16 estimated. This location of the mortality demonstrates the importance of maintaining connectivity of mountain ranges in this area (Buckeye Hills and Sierra Estrellas). Local radio telemetry data obtained from collared bighorn sheep in the Buckeye Hills documents that the expansive range sheep travel between mountain ranges may expand to areas of vast distances between locales. Assumptions could be made from this data that bighorn sheep within the Sierra Estrellas would travel similar distances between mountain ranges, utilizing important travel corridors. Further research and evaluation is needed. The Department has previously had and continues to have discussions of augmenting the population of bighorn sheep in the Sierra Estrella Mountains with the continued development pressures in Rainbow Valley. As such, wildlife connectivity and travel corridors will continue to be vital in enhancing and sustaining the bighorn sheep population within this area into the foreseeable future.</p> <p>The Sierra Estrellas are also known to contain mule deer in low numbers and the Maricopa Mountains contain a larger population. Mule deer are known to occur on the bajadas of the Sierra Estrella Mountains in low densities on the north and east sides (pers. comm. Dave Conrad, AGFD 2014). Communications with South Mountain Park staff (pers. comm. 2014), evidence of mule deer over the years has been found within the park. In 2011, a mule deer mortality was</p>

Code	Issue	Response
11	Design	The Arizona Department of Transportation has made the commitment to limit human use of the crossings as noted in the comment.
12	Design	<p>Example measures cited by the Arizona Game and Fish Department such as freeway overcrossings and 51st Avenue enhancements, while not necessary or required, are actions the Arizona Department of Transportation and Federal Highway Administration would consider integrating into the project during later design if such improvements were funded by others and did not affect the freeway’s operational characteristics. This is not dissimilar to looking for transit enhancement opportunities as noted in the Final Environmental Impact Statement. Similarly, the Arizona Department of Transportation and Federal Highway Administration have committed to continued coordination with the U.S. Fish and Wildlife Service and Arizona Game and Fish Department on mitigation cited in the Final Environmental Impact Statement.</p> <p>The Arizona Department of Transportation has committed to conduct additional surveys to better understand the types of crossings to implement during final design to ensure the greatest benefit to wildlife. The Arizona Department of Transportation and Federal Highway Administration have also committed to enhancing the planned bridges and drainage structures to allow wildlife connectivity and providing fencing to guide wildlife to use the crossing structures.</p> <p>The Arizona Department of Transportation appreciates the additional data provided on occurrence of bighorn and mule deer in the Sierra Estrella and mule deer in Phoenix South Mountain Park/Preserve and on Gila River Indian Community land south of the project area.</p>

Code	Comment Document
	<p>South Mountain FEIS December 29, 2014</p> <p>9</p> <p>observed by Kelly Wolff-Krauter (AGFD) at Pecos Road/Loop 202/I-10; origin was believed to be from the agricultural fields along Pecos Road, due to the water sources and available forage. This information suggests mule deer movement between the Maricopa Mountains and the Sierra Estrellas. Communications with the GRIC support the Department's belief that there is a bighorn sheep population in the Estrella Mountains and a mule deer population in the vicinity of South Mountain. In the area where the project corridor traverses the park, there are sources of year round water and evidence suggests mule deer persist in the area as communicated by the GRIC. Based on this information, the Department continues to support that habitat is likely being used by mule deer in unknown numbers and frequency. Surveys would provide more information to inform the mitigations necessary for providing and designing appropriate crossing structures.</p> <p>The FEIS at B81 states:</p> <p><i>"The Sonoran Desert toad was added to the list of species occurring in the Study Area in the Biological Evaluation. Table 4-44 of the Draft Environmental Impact Statement indicates that these bat species may occur throughout the Study Area; this was updated to "may occur" in the Final Environmental Impact Statement (see Table 4-43 on pages 4-129 to 4-132). Surveys to determine the presence and distribution of the wide range of species, including bat species, is beyond the scope of the proposed project. Designing bridges for bat habitat is not a standard accommodation that the Arizona Department of Transportation currently provides."</i></p> <p>13 The Department believes the previous request to survey for bats and provide suitable roosting structures where appropriate is not an unreasonable request (please see the language contained in the FEIS response) and recommends providing bat day-roost design characteristics on the wildlife crossing structures and bridges. Surveys prior to design must be performed to inform the final design.</p> <p>The Department appreciates the opportunity to provide comment on the FEIS. We look forward to working closely with the project team on the project design for further development of the mitigation and design plans for the crossing structures necessary to facilitate connectivity and permeability for wildlife. If you have questions about this letter, please contact Kelly Wolff-Krauter @ 480-324-3550 or <a href="mailto:kwolff-krauter@azgfd.gov">kwolff-krauter@azgfd.gov</a>.</p> <p>Sincerely,</p> <p> Joyce Francis Habitat Branch Chief</p> <p>Cc: Clifton Meek, Environmental Review Specialist, US EPA</p> <p>M13-04265313</p>

Code	Issue	Response
13	Biology, Plants, and Wildlife	The Arizona Department of Transportation has committed to conducting surveys for the Sonoran desert tortoise and other species as determined by the Arizona Department of Transportation and Federal Highway Administration to be necessary and to continuing coordination with the Arizona Game and Fish Department (see Table 3 in the Record of Decision, beginning on page 38). The surveys for Sonoran desert tortoise are already underway and are being conducted by the Arizona Game and Fish Department. The resulting documentation will include recordings of all species observed. If other species are determined to exist in the project area and will be affected by the project, additional coordination with the Arizona Game and Fish Department will occur. Designing bridges for bat habitat is not a standard accommodation that the Arizona Department of Transportation currently provides.