UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

June 8, 2009

Mr. Scott Richardson
Tucson Suboffice
U.S. Fish and Wildlife Service
201 N. Bonita Ave, Suite 141
Tucson, AZ 85745

Subject: Draft Environmental Impact Statement (DEIS) for the Town of Marana Habitat Conservation Plan, Pima County, AZ, (CEQ # 20090125)

Dear Mr. Richardson:

The U.S. Environmental Protection Agency (EPA) has reviewed the DEIS for the Town of Marana Habitat Conservation Plan (HCP) pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our comments were also prepared under the authority of, and in accordance with, the provisions of the Federal Guidelines (Guidelines) promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA). Our detailed comments are enclosed.

The EPA supports the intent of the Town of Marana (Town) and the U.S. Fish and Wildlife Service (Service) to develop an HCP in response to the Town's application for an incidental take permit (ITP) for the thirteen proposed covered species. We recognize the accelerated rate of growth that the Town has experienced and expects to experience over the 25-year life of the proposed HCP, and agree that a holistic, regional approach to conservation of the covered species and their habitats is generally preferable to piece-meal, project-by-project permitting.

The above notwithstanding, we have rated the DEIS EO-2, Environmental Objections – Insufficient Information (see attached "Summary of the EPA Rating System") due to the inclusion of incidental take coverage of bank stabilization activities for all 728 acres of remaining unmodified banks of the Santa Cruz River in the Town. We recommend the FEIS clarify what portion of these banks would require permits from the U.S. Army Corps of Engineers under CWA Section 404 and what portion could be modified under the HCP. We recommend the FEIS further assess impacts to aquatic and riparian habitats and listed species from these activities and include biotechnical bank stabilization methods as an HCP conservation measure to avoid and minimize these impacts. We also recommend the FEIS and HCP ensure consistency with riparian protection and restoration activities in the Santa Cruz River, including efforts funded by the EPA.

We recognize efforts of the HCP to conserve covered species habitats but we have concerns regarding the proposed Conservation Zones. We ask that the FEIS describe efforts to work with other parties to create a contiguous riparian Conservation Zone 1 on the Santa Cruz River; describe why a reserve area in Conservation Zone 2 has not been designated in advance of future development to avoid habitat fragmentation; and establish criteria that favor full width of wildlife corridors, given the full extent of proposed development in Conservation Zone 4. We also recommend the FEIS and HCP expand Conservation Zone 1 to include, at a minimum, all of the Important Riparian Areas identified in Figure 2.5 of the DEIS.

With regard to mitigation, we recommend that the FEIS and HCP commit to replacing all native riparian vegetation, not just the species on the Protected Native Plants list proposed in Title 17 of the Town's Land Development Code, and apply the proposed riparian habitat mitigation approach in Table 2.2 of the DEIS to all riparian impacts, regardless of the acreage.

We request that the Service explain the rationale for considering Alternative C (the Town's proposed HCP) to have less than significant impacts to western burrowing owl considering the potential impacts to 78 percent of their habitat in the covered area and the incidental take of a potentially sizeable percentage of the covered area population.

Finally, we are concerned with the potential impacts that discontinued effluent discharge in the Santa Cruz River could have on the efficacy of HCP conservation measures and on future riparian restoration efforts described in the DEIS. We recommend additional information be included in the FEIS to describe how this likely change in flow regime will impact these efforts.

We appreciated the opportunity to review this DEIS and to discuss our preliminary comments with the Service on June 4, 2009. We will contact the Service to schedule a follow up meeting to discuss our concerns. When the FEIS is published, please send one hard copy to us at the address above (Mail Code: CED-2). If you have any questions, please contact Kathleen Goforth, Environmental Review Office Manager at 415-972-3521, or contact Paul Amato, the lead reviewer for this project. Paul can be reached at 415-972-3847 or amato.paul@epa.gov.

Sincerely,

/ S /

Enrique Manzanilla, Director
Communities and Ecosystems Division

Enclosures: Summary of EPA Rating System
EPA's Detailed Comments

cc:
Ms. Sherry Barrett, Assistant Field Supervisor, USFWS, Tucson Field Office
Ms. Jennifer Christelman, Town of Marana
Ms. Janine Spencer, Town of Marana
Ms. Marjorie Blaine, U.S. Army Corps of Engineers, Tucson Project Office

Waters of the U.S.

The approval of incidental take from stabilization activities on the remaining natural banks of the Santa Cruz River in the Town of Marana would cause significant environmental impacts that should be avoided in order to fully protect the environment. According to the DEIS Section 3.5.3, Flood Control, "future development in the Town will likely require bank protection along the remainder of the Santa Cruz River", resulting in impacts to approximately 728 acres of river bank. On May 29, 2009, the EPA confirmed with the Service that the HCP would approve incidental take for these activities.[1] The DEIS indicates that some reaches are already stabilized, including a 1.3 mile section of bank that the Town armored with soil cement in 2007. As described in the DEIS, future bank protection measures covered by the HCP include dynamic compaction, soil-cement, geotextiles, gabions, rip-rap, and shotcrete. We consider all of these methods, with the possible exception of properly installed and vegetated geotextiles, to have significant long-term direct and indirect adverse impacts to channel habitat and function, and we recommend the FEIS consider, and the HCP require consideration of, alternative biotechnical methods as a conservation measure. Armoring channel banks results in degradation of channel habitat and function, including but not limited to loss of native riparian vegetation, channel confinement, and potential downstream erosion due to increased flood flow velocities. In addition, armoring channel banks and riparian forest could result in impacts to several of the HCP covered species, including the federally endangered southwestern willow flycatcher (Empidonax traillii extimus) and lesser long-nosed bat (Leptonycteris curasoae yerbabuenae). The extent of these impacts is not sufficiently described in the DEIS.

The EPA has confirmed with the U.S. Army Corps of Engineers (Corps) that the Santa Cruz River is designated a traditional navigable water through the Town of Marana and is a jurisdictional water of the U.S. (waters) under Section 404 of the CWA.[2] The DEIS fails to delineate the extent of those waters in relation to the activities that would be covered by the HCP; therefore, it is unclear whether or not all of the areas subject to potential bank stabilization are within waters.

Any future proposals for bank protection in waters would require a Clean Water Act (CWA) Section 404 permit from the Corps and a CWA Section 401 water quality certification from the Arizona Department of Environmental Quality (ADEQ). Before issuing a 404 permit, the Corps would have to comply with Section 7 of the Endangered Species Act, which could necessitate consultation with the Service to ensure that any take from their authorized activities would be avoided and/or mitigated. As part of the 404 permitting process, applicants must comply with the 404(b)(1) Guidelines (Guidelines) by demonstrating impact avoidance, and selection of the least environmentally damaging practicable alternative (LEDPA) (40 CFR 230.10). Applicants must also demonstrate that unavoidable impacts are mitigated consistent with the EPA/Corps 2008 Mitigation Rule (33 CFR Parts 325 and 332, and 40 CFR Part 230). Under CWA Section 404,

[1] Personal communication with Sherry Barrett, Assistant Field Supervisor, USFWS Tucson, Arizona Office.
[2] Personal communication with Marjorie Blaine, Corps Tucson Project Office

the EPA reviews Corps public notices for permit applications to discharge dredged or fill material into waters, including bank stabilization activities. If a proposed project does not comply with the Guidelines, EPA works with the Corps, other agencies, and the permit applicant to bring the project into compliance. If the project, even with extensive modification, does not comply with the Guidelines, EPA can object to the permit, and the Corps cannot authorize the project. EPA is concerned with potential adverse impacts that could result from future Town of Marana proposals to armor the banks of the Santa Cruz River. Direct or indirect impact to waters along the Santa Cruz River may result in significant degradation. The Guidelines prohibit granting a permit for a project that causes or contributes to significant degradation of aquatic resources (40 CFR 230.10(c)

Given the DEIS' lack of clarity regarding the geographic boundaries of jurisdictional waters, the EPA is also concerned that there may be non-jurisdictional channel banks and vegetation that would be even more vulnerable to bank stabilization than those in jurisdictional waters because they would be fully covered for incidental take under the HCP with no further environmental review. During our communications with the Corps, they reported that the Town does not intend to stabilize the banks of the Santa Cruz River at this time and decided to include this as a covered activity in case it was deemed necessary during the 25-year life of the HCP. Regardless of this reported lack of intent, the analysis in the DEIS includes coverage for take from impacts to 728 acres of channel bank. Within these 728 acres, the DEIS does not distinguish the amount and condition of jurisdictional waters -- in which bank stabilization would be subject to 404 permitting requirements and further environmental review -- from non-jurisdictional banks for which stabilization activities would be fully covered under the HCP. The DEIS also lacks sufficient information regarding the likelihood that these bank protection activities would occur during the life of the HCP.

EPA Region 9 has designated the Santa Cruz River watershed a priority watershed, and has provided almost $1 million for a range of activities including health assessments, and riparian mapping and enhancement activities. Of this funding, $700,000 has been awarded to the Sonoran Institute, through our Targeted Watersheds Grant Program, to fund the Santa Cruz River Civic-Science Conservation Initiative, a program that recognizes the critical importance of protecting and enhancing riparian forest habitat. We would consider the continued armoring of Santa Cruz River banks within the Town of Marana to be inconsistent with these efforts unless it was adequately determined that hardscape methods have been determined to be the LEDPA. Including armoring of all the remaining Santa Cruz River banks in the Town also appears to be inconsistent with the stated HCP target of 95 percent protection of riparian areas in Conservation Zone 1 along the River. In summary, EPA would object to the Service including bank protection on all banks of the Santa Cruz River in the Town of Marana as a covered activity in the HCP.

Recommendations:

The FEIS discussion of bank stabilization should clarify that incidental take from bank stabilization activities in waters would not be approved under the HCP and that separate Section 7 consultation would be required as part of the CWA Section 404 permit process.

This discussion should describe how much of the 728 acres of channel banks are jurisdictional and how much would be covered under the HCP, including a description of the banks that are covered under the HCP. The FEIS should clarify the likelihood that the Town would implement bank protection activities under the HCP, and the likely aerial extent of such activities.

The FEIS should provide a detailed discussion of potential impacts to aquatic and riparian habitats and to listed species that could result from bank stabilization activities covered under the HCP.

The HCP should include criteria for authorizing incidental take for bank protection activities covered under the HCP. At a minimum, the Town and private land owners should be required to adequately demonstrate that channel bank and riparian habitats have been avoided and mitigated to the maximum extent practicable. Biotechnical bank stabilization methods that maximize use of native materials and vegetation should be required and hardscape methods should be avoided. Adequately sized riparian and floodplain setbacks should be required to prevent channel confinement and protect waters while providing flood protection for the Town.

The FEIS should describe riparian protection and restoration activities in the Santa Cruz River watershed, outside of the area covered by the HCP, and revise the HCP to ensure consistency with these efforts.

Biological Resources

The FEIS should explain whether gaps in Conservation Zone 1 for riparian areas were considered for inclusion in the HCP, and efforts should be made to close these gaps. As shown in Figure 2.4, "HCP Conservation Zones and Linkages", areas along the Santa Cruz River not within the Town of Marana have resulted in gaps in Conservation Zone 1 for riparian areas. This is especially evident in the Town of Rillito. It is unclear from the DEIS to what extent the Town or the Service considered including other municipalities, such as the Town of Rillito, in the HCP in an effort to maintain a contiguous area of riparian protection along the River. Based on our June 4, 2009 phone call with the Service, it is our understanding that these portions of the Santa Cruz River could benefit from conservation measures similar to those being included in the Pima County Multi-Species Conservation Plan and the City of Tucson HCP, both currently under development.

Recommendation:
The FEIS should further describe any efforts to include additional areas of the Santa Cruz River under this HCP or other HCPs that would create a more contiguous conservation zone for riparian areas. Coordination efforts with other HCPs should be discussed in Section 1.10, *Relationships to Other Plans, Regulations, and Laws* in the FEIS.

The FEIS should explain why a reserve area in Conservation Zone 2 has not been designated as part of the HCP. Conservation Zone 2 includes Arizona Upland Subdivision and Sonoran Desertscrub Biome on the Tortolita Fan. According to the DEIS, under the HCP, Arizona State

Lands Department parcels sold for development would need to be 80 percent preserved if a permanent reserve cannot be developed or until such a reserve is developed. It is not clear why a reserve area cannot or has not been designated as part of the HCP. EPA is concerned that land development in the absence of a designated conservation area could lead to habitat fragmentation, despite the best efforts of the Service and the Town to conserve highest habitat values. We understand from our June 4, 2009 call that current efforts to identify a land reserve include state lands reform and federal legislation to expand nearby federally protected lands.

> *Recommendation:*
> Explain in the FEIS why a reserve area has not been identified in Zone 2 as an initial component of the HCP conservation measures to avoid habitat fragmentation. Include a description of existing or potential efforts to identify reserve lands.

The amount of conservation area in Zone 2 is not clear based on conflicting information in the DEIS. In all, 10,606 to 12,076 acres of the 21,723 undeveloped acres in Conservation Zone 2 would be subject to impacts, leaving 11,117 to 9,647 acres of Naturally Undisturbed Open Space (NUOS) for conservation. The DEIS states that of the 26,064 acres in this zone, 4,431 acres are already developed, but fails to include this condition when reporting what appear to be inflated NUOS numbers of 13,988 to 15,458 acres.

> *Recommendation:*
> Correct or clarify the proposed amounts of NUOS for Conservation Zone 2 in the FEIS.

Protection of wildlife linkage corridors in Conservation Zone 4 should be clarified. The DEIS describes wildlife corridor linkages in Zone 4, with target widths of 1000 feet, that are intended to allow north/south wildlife migration. The remainder of Zone 4 would be planned for 100 percent full development. These linkages would be preserved as NUOS, but the DEIS states that the boundaries of these linkages "…would be established such that all parcels would retain opportunities for allowed land use. It is unclear what criteria will be used to determine whether these linkages will reach the 1000-foot width target or whether proposed land use will result in narrower linkages.

> *Recommendation:*
> The FEIS should clarify what criteria will be used to determine whether wildlife linkage corridor width targets will be met or not. The EPA encourages the Town and Service to establish criteria that favor full width of 1000 feet or greater, given the proposed 100 percent full development in the remainder of Zone 4.

The FEIS should commit to protecting the Santa Cruz River riparian areas identified in Figure 2.5. The DEIS identifies Conservation Zone 1 along the Santa Cruz River in Figure 2.4 and designates it a 95 percent conservation target area. Figure 2.5, Town of Marana Riparian Habitat, designates a riparian area along the Santa Cruz River that is larger than Conservation Zone 1 and includes several riparian areas throughout the Town. Most of these riparian areas are identified as "Important Riparian Areas." It is unclear why Zone 1 does not, at a minimum, include all the important riparian areas identified along the Santa Cruz River and extend the 95 percent conservation target accordingly.

Recommendation:
The FEIS and HCP should expand Conservation Zone 1 to include, at a minimum, all of the Important Riparian Areas identified in Figure 2.5. Criteria used to identify Important Riparian Areas should be discussed in the FEIS and HCP.

The FEIS and HCP should commit to mitigating all native riparian vegetation species, and adopt minimum mitigation ratios in Table 2.2 for all riparian impacts. The DEIS states that, if proposed revisions to Title 17 (Environmental Resource Protection, Native Plant Protection, Landscape Requirements) of the Town of Marana LDC are adopted, impacts to mapped riparian areas less than 1 acre may be mitigated through the appropriate replacement of plants consistent with the existing native plant mitigation sections of Title 17. Title 17 includes a list of Protected Native Plants (Section 17-2-15) that would be replaced by plants of the same genus and species if they are damaged or destroyed during development. This list fails to include Fremont cottonwood (Populus fremontii), Gooding willow (Salix goodingii) or seepwillow (Bacharis salicifolia), which are all identified in the DEIS as being common xeroriparian species. The DEIS also states in Section 3.3.1.2 that "the current hydro-riparian vegetation of the Santa Cruz River floodway is dominated by cottonwood-willow habitat, the rarest habitat in the southwest U.S. (Krueper 1996)."

Furthermore, Title 17 Preservation and Mitigation Requirements (Section 17.02.11(D)) states that "the Native Plant Preservation Plan shall detail the size and value of replacement plants to demonstrate that the monetary value of replacement plants shall be equal to the monetary value of each genus and species of Protected Native Plant which is removed from the site, damaged, or destroyed." The EPA is concerned that riparian mitigation would be based on arbitrary monetary estimates of damaged or lost vegetation and not lost functions and habitat values.

Recommendations:
Commit in the FEIS and the HCP to replacing all native riparian vegetation, beyond the Protected Native Plants list in Title 17 of the Town's LDC.

Commit in the FEIS to mitigation ratios in the proposed Title 17 Mitigation Requirements for Impacts to Mapped Riparian Habitat in Table 2.2 of the DEIS. If adopted, these mitigation ratios are proposed for riparian impacts greater than one acre. Table 2.2 mitigation requirements should be adopted as a conservation measure for all riparian impacts, regardless of acreage.

Clarify how Alternative C would have a less than significant impact to western burrowing owls (Athene cunicularia). Chapter 4 of the DEIS, Environmental Consequences, states that Alternative C would result in impacts to 9,220 acres (78 percent) of modeled burrowing owl habitat and take of up to five burrowing owl individuals from covered activities. The DEIS reports that fewer than 10 occupied burrowing owl sites have been identified in the covered area. The DEIS concludes that Alternative C would have a less than significant impact. A DEIS criterion for determining significance says that impacts would be significant if the action would "have a substantial adverse effect, either directly or through habitat modifications, on any covered species…" The EPA is concerned that the loss of 78 percent of the modeled habitat and

a potentially sizeable percentage of the known population could result in a significant impact to burrowing owl in the Town of Marana.[3]

Recommendation:
The FEIS should clearly explain why Alternative C would result in only less than significant impacts to burrowing owl given the projected amount of habitat impacts and permitted take of individuals.

The FEIS should clarify why three endangered species that could occur in the covered area are not included in the HCP. Section 3.3.4 of the DEIS describes the Gila chub (Gila intermedia), Gila topminnow (Poeciliopsis occidentatalis), and the Huachuca water umbel (Lilaeoopsis schaffneriana recurva) as federally listed endangered species that have potential to occur within the Town. It is not clear from the DEIS why these species are not covered for incidental take under the HCP. We understand, based on our discussion on June 4, that these species are not expected to occur in the covered area during the life of the HCP.

Recommendation:
The FEIS should clarify that the Gila chub, Gila topminnow, and Huachuca water umbel are not proposed for coverage under the HCP because they are not expected to occur in the covered area during the life of the HCP. Support for this expectation should be provided.

Table 4.1, Land Development Categories in Relation to Vegetation Communities, should be revised for Alternative A and duplicated for Alternatives B and C. Table 4.1 in the DEIS depicts potential impacts to vegetation from different land use categories under Alternative A, No Action. This table provides a useful summary of potential vegetation impacts by land use category and should be repeated for Alternatives B and C. As reported, the Capital Improvement Project (CIP) and HCP Discretionary Lands categories would impact 17 acres and 12 acres, respectively, of Cottonwood-willow community; however the subtotal impact area reported is 91 acres. This appears to be an error. Also, it is unclear why impacts from a third land use category, Private-Potential for Voluntary Inclusion, occur for all vegetation communities other than Cottonwood-willow.

Recommendations:
Duplicate Table 4.1 for Alternatives B and C in the FEIS. Include an additional column that would show acres of vegetation community that would be conserved by land use category for each alternative.

Correct the subtotal for Cottonwood-willow vegetation community impacts in Table 4.1.

[3] USFWS, 2003 *Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States* (BTP-R6001-2003) estimated that burrowing owls in New Mexico successfully produced 1.05 ± 1.23 nestlings in natural habitats. Assuming 2 breeding adults + an average 1.05 nestlings x 10 occupied nesting sites = 30.5 individuals in the covered area. Take of 5 individuals could equal 16 percent of the known population.

Correct the amount of impacts to the Cottonwood-willow vegetation community from Private-Potential for Voluntary Inclusion or add a footnote explaining why there would be zero acres of impact as reported in Table 4.1.

The FEIS should explain why no plant species are covered under the HCP. The DEIS does not provide any explanation why there are no plant species proposed for coverage under the HCP. According to the *Endangered Species HCP Handbook* (1996), "the Services recommend that permit applicants consider listed plants in HCPs."

Recommendation:
The FEIS should explain whether there are any listed plant species in the covered area and if so, why they were not considered for coverage under the HCP.

Water Resources

The FEIS should discuss how the likely discontinuation of effluent into the Santa Cruz River will impact covered species. Section 3.2.2.3 of the DEIS reports recent effluent discharge quantities to the Santa Cruz River from local waste water treatment facilities, and explains that future water demands will increase the value of effluent and, potentially, end these releases during the life of the HCP. Based on the DEIS and HCP, it remains unclear to what extent the aquatic and riparian resources in the Town of Marana reach of the Santa Cruz River will be degraded or even fail to exist as a result. The EPA understands that this effluent is not under the control of the Town and that future use is beyond their immediate control; however we remain concerned that reduced effluent will result in impacts to the Santa Cruz River, specifically to riparian and aquatic habitats and the species that depend on them. We are also concerned that changes in the flow regime in this reach of the River could undermine the efficacy of the conservation measures and efforts such as future river restoration that could come out of the Tres Rios del Norte Feasibility Study described in Section 3.3.1.2 of the DEIS.

Recommendation:
The FEIS should describe the potential impacts that would occur to aquatic and riparian habitats, and the covered species that depend on them, if effluent were no longer discharged due to increased water demands. The discussion should include potential effects to the efficacy of HCP conservation measures as well as future river restoration efforts such as the Tres Rios del Norte Feasibility Study.

Socioeconomics

The FEIS incorrectly reports ethnic diversity values in Table 3.11. Table 3.11 includes percentages of different ethnic groups in the Town. The total percentages add up to 119.6 percent.

Recommendation:
Correct or clarify the ethnic diversity values in the FEIS.

DEIS Format

An executive summary would improve the DEIS for purposes of disclosure. Section 1502.12 of the Council on Environmental Quality (CEQ) NEPA Regulations (40 CFR Parts 1500-1508) states that "each environmental impact statement shall contain a summary which adequately and accurately summarizes the statement." This summary should stress major conclusions, areas of controversy, and issues to be resolved. We note the inclusion of Table 4.16, *Summary Comparison of Impacts Under Each Alternative*, in Section 4.11 of the DEIS, and the scoping comments in Appendix D, but find the lack of an adequate and accurate summary of the DEIS. The addition of an executive summary consistent with the CEQ NEPA Regulations would improve disclosure by providing a concise summary of the alternatives, impacts, areas of controversy, unresolved issues, and any other key points of interest up front in the document.

> *Recommendation:*
> Include an executive summary in the FEIS consistent with the CEQ NEPA Regulations.

Explain why the DEIS and the HCP were prepared separately, contrary to Service policy. Chapter 5, Section 4(B) of the *Endangered Species HCP Handbook* (1996) states that, "the Service's policy is to combine the HCP and NEPA analysis into a single document" integrating the analysis into one document that meets the requirements of both NEPA and the ESA. While we see the potential benefits of separate documents (for use by the permittee) and a combined document (for use by interested parties) we encourage the Service and the Town to consider an integrated analysis consistent with the Service's policy. Separating the DEIS and HCP complicates the ability of interested parties to readily identify and understand the potential impacts, both positive and negative, of the incidental take permit, the covered activities, and the conservation measures unless the DEIS provides a comprehensive analysis of these components. In this case, the DEIS is dependant on the HCP for an adequate explanation of these analyses.

> *Recommendation:*
> The FEIS should explain why the DEIS and the HCP were prepared separately and the Service and Town should consider an integrated analysis consistent with Service Policy.