

Additional Staff Responses to Comments from the District's Management Advisory Committee (MAC) on the Draft HCP (Supplement to RTC Table For MAC and Board Review)

June 6, 2014

Highlighted text denotes staff-suggested revisions in response to MAC comments

Highlighted text denotes revisions that have already been approved preliminarily by the Board

Response to Comment A: Potentially Simplifying the Take Estimate Methodology and Altering Component Parts of the Spreadsheet

A number of commenters, especially including but not limited to the City of Austin's salamander biologists, provided comments on the method that the District used to estimate take in the HCP. Generally these related to lack of inclusion of specifics about the salamanders' life history, requirements, behavior, and life strategies. Some of those same comments also suggested that the District should find a simpler, more straight-forward method to estimate take. We agree with this conclusion and have devised a different, less complex approach to estimating the take that is associated with the District's Covered Activities.

Before we discuss the new method, it is important for commenters to keep in mind a few facts that provide a context for what the District must consider in this regard.

1. At the end of the day, and despite all the uncertainties and complications of the natural systems we are addressing, the USFWS requires the District to express take as the number of individual organisms that are taken over a specified time period, and also cumulatively over the term of the ITP. This implies required use of surrogate measures, reasonable assumptions, and statistical relationships for these largely cryptic (hidden and un-countable) species.
2. Take is not synonymous with all adverse effects and consequences on the Covered Species for all factors that affect the Covered Species by all stressors; rather, take is a measure of the number of organisms experiencing those adverse effect(s) produced *solely and specifically* by those things the District can control as a Covered Activity, viz., pumping and groundwater management. There are many other adverse impacts arising from both biotic and abiotic factors that affect the habitat and the number of organisms supported by the habitat at any one time, some of which may be determinative of the population size and health at that time. However, these are not related to the existence or amount of groundwater pumping and are not controlled or controllable by the District and are therefore not take.
3. Both of the Covered Species are generally considered more opportunistic-strategists than more equilibrium-strategists, meaning that rather than characterized by having a maximum population size that is defined by the "carrying capacity" of its resources, they are characterized by - *and adapted to* - cyclic changes in population size and composition owing to density-independent, even catastrophic changes in availability of resources (Pianka, 2000). Typically,

they put more energy into reproduction frequency and develop larger numbers of individuals to accommodate the next down-cycle, rather than a longer-term strategy that attempts to develop to become the best competitor in a more resource-consistent environment. There is a continuum between these two species-strategy ends, but the resilience of the Covered Species through time that has involved many severe droughts provides evidence of its opportunistic nature; it also suggests the difficulty of referring to an average population size. Generally speaking, opportunistic species may accommodate larger adverse impacts, including those produced by take, without jeopardizing the species than could equilibrium species. However, that is not to say that some large stochastic event couldn't extirpate the population.

4. While the Covered Species may have been studied as much if not more than the typical listed species, there is still a great deal of uncertainty and many unknowns about the populations, and as such it is difficult to construct an actual quantitative population model of either of the Covered Species that would be necessary to more rigorously evaluate the amount of take caused expressly by the Covered Activities. We don't know enough about all the factors that affect the salamander to be able to isolate the effects of a change in DO due to lower groundwater discharges relative to other things that affect the DO, or the relationship between DO and springflow at the very low springflows of most interest, or the salamander's behavioral response to such changes, like migration to areas of higher DO for stress relief or its natality, recruitment, and (other) mortality. The state of knowledge has simply prevented building a complete numerical population model to quantitatively determine take, so far. That notwithstanding, it is very common for HCPs to utilize estimates of contributing parameters and to specify assumptions in the absence of data or analyses to support them, as long as they are clearly identified as such and may be better characterized, tested, and adjusted over time.

After consultation with the MAC members and District consultants, the District made a number of changes to improve and to simplify the spreadsheet expressly for these take estimates:

- a. taking advantage of newly available datasets and statistical analyses of paired DO-springflow for 2007-2014, including additional severe drought periods, and new regression equations that update the basis of DO calculations to represent best data now available (discussed further in RTC B immediately below);
- b. extending the period of time for calculating take to include the entire 7-year period of the 1950s DOR and an equivalent-length, more recent drought period that represents a more typical severe-drought scenario during the ITP term;
- c. stipulating for purposes of the take estimate that the ABS and BSS salamanders' stressor-response in the laboratory are *both* approximated by the laboratory response of the San Marcos salamander, i.e., we have removed any difference in calculating lethal DO concentrations among the three, as there are no data to gauge such differences;
- d. stipulating that for purposes of the take estimate, no natality or recruitment occur during the entire seven years used for assessing take, even though some currently indeterminate and unquantifiable amount of reproduction and survival to reproductive age during the 7-year period will occur with these opportunistic species. This stipulation

alone converts the methodology to simply a means to allow a comparison to be made, with other, less well-known biotic and abiotic factors equal, and arrive at a metric that approximates the amount of take from alternate groundwater management scenarios, rather than “population-modeled results;” and

- e. stipulating that for purposes of the take analysis, no migration of the Covered Species away from the spring outlets, for relieving stress from depressed DO, occurs at any time. This makes the analysis more of a worse-case scenario, because it is more unrealistic to expect all individuals to stay at the outlets when migration paths to higher DO environments, either in the surface and/or in subterranean environments, are clearly available, especially after the City completes its habitat restoration improvements that are expressly designed to increase re-aeration as one of its benefits.

Taken together, these changes simplify the take estimate, a MAC recommendation, and are intended to address the adequacy of the take estimate methodology with respect to accommodating the unknown and/or un-quantified terms that would otherwise be part of an accurate numerical simulation of the salamander populations over time. The approach - by design - does not attempt to account for all stressor sources, most of which the District has no control. Examples could be the small changes in spring water temperature, which are more meteorologically controlled and that groundwater pumping will not substantively affect, and antagonistic effects of pollutants introduced into the Aquifer by actions not associated with the Covered Activities. With these opportunistic populations, which cyclically range considerably above and below an “average” population size (and, in fact, average population has little meaning, other than the temporal trends in cyclic range), the overall sustainability of the population and the basis for jeopardy determination by the USFWS may be best expressed by considering the lethal take reductions applied monthly as producing an upper bound on take. Because of the laboratory basis for the lethal concentration relationships, actual mortality in the wild may be overstated.

But by the same token, lethal response is just one form of take, and some indeterminate fraction of the surviving organisms also variably suffer non-lethal physiological-based take, ranging from annoyance to harassment to harm, from both physiological responses by individual organisms and from the somewhat accelerated timing of habitat loss attributable to groundwater withdrawal separately from the underlying drought conditions. The proportion of the population affected by non-lethal take probably increases with decreased springflow, but there are no data to specify that increase quantitatively. For now, the District presumes that the amount of non-lethal take of the surviving cohort of the population is equivalent to the overstatement of mortality in the wild, and the estimate of physiological-based take at the individual spring outlets by the spreadsheet includes both lethal and non-lethal take in the population. We know of no other way to evaluate take by these Covered Activities that would garner consensus of all professionals.

Response to Comment B: Updating Dissolved Oxygen (DO)-Springflow Data and Regression Relationships

Until mid-May 2014, the only published on-point information available to the District concerning DO-springflow relationships under low-flow conditions was the data and analyses in the City of Austin's Martha Turner's 2007 report, which was used in the current analysis. However, as a direct result of the MAC II meeting, the City volunteered to provide the District with new, not previously available data and analyses that updated Martha's report with additional data from 2007 to early 2014, a period that incorporated additional severe (but not extreme) drought periods. The new data was used by the City to generate new regression equations that are based on more data than the equations used in the previous take analysis, and also included additional statistical analyses on confidence regions for the new regression equations; this information was presented in a technical report by the City's Abel Porras (Porras, 2014); subsequently Porras also provided a statistically based analysis of the efficacy of using correlations between combined total Barton Springs flows and flows at individual spring outlets (Porras, email communications, May 2014).

The new information, as expected, supported Martha's earlier work but the additional data did allow a family of regression equation coefficients to be generated, all of which were statistically equally valid. In effect, the equations suggest predicted DO concentrations that are ± 0.2 mg/L about a mid-point, which approximated Martha's coefficients. Because of the simplifying stipulations made in the newly revised approach to the take estimates (described in RTC A above), which by design tended to produce conservatively smaller DO concentrations than would actually be experienced by the organisms (for example, because of lack of migration to less stressful environments), the District replaced the equations previously used in favor of the new regression coefficients provided by the City at the upper bound of the valid region in associating DO and springflows in the take estimate. The difference in the predicted DO-related effects between any two groundwater management scenarios that is based on these new regression equations is considered the best information available for estimating take.

A couple of comments asserted that the District needed to use "site-specific discharges" (meaning the flows at individual spring outlets) as the index basis for estimating DO, rather than the combined Barton Springs discharge. While the District understands the point that is being made by these commenters, we did not incorporate that suggestion for two reasons. First, and probably most importantly, the City's Abel Porras investigated this possibility and determined that no statistically valid relationship between discharges at individual spring outlets and combined discharges could be reliably established. Such a complicating relationship would need to be used to address the effects of alternative groundwater management scenarios, which affect the entire Aquifer and all outlets. Second, the District's groundwater management plan does not call for discharge measurements at individual outlets as part of its drought management program, rather only the combined springflows. It seems doubtful that the City would allow the District to make such individual outlet measurements routinely as would be needed in managing the Aquifer based on DO relationships defined for individual outlet discharges. The District is confident that using the combined discharge for gauging DO effects at individual outlets, as is currently included in the take estimate, provides a reliable and statistically valid relationship.

Response to Comment C: Specifying Take as to Type of Expression and Time Period

The District considers two types of take in the HCP: non-lethal take that comprises “annoying,” “harassing,” and “harming” the Covered Species specifically by the Covered Activities; and lethal take, which extends the degree of harm to result in death of an increasing number of organisms on a spectrum. Take is a result of both habitat loss, particularly the loss of the habitat at the non-perennial Upper Barton Springs, and habitat modification, which comprises physiological effects from changes in water chemistry, particularly DO concentrations, as a result of the incremental reduction in water levels in the Aquifer accompanying groundwater pumping. Take accrues to individual organisms, and take is to be expressed in the ITP as the number of individual organisms that are taken in both a specified time period and cumulatively over the term of the permit. Take from the Covered Activities is not necessarily measurable in any designated time periods, because take generally occurs episodically as a result of non-periodic drought. So it has not yet been established by USFWS as to what is the appropriate time period for gauging the amount of take actually experienced. Dependent on starting and ending Aquifer levels, some years will have no take, and other years may have a variable amount of take occurring. The District considers it more appropriate to specify authorized periodic take in the ITP on a declared drought-period basis, rather than, say, annually; this is what is proposed in the HCP.

Response to Comment D: Linking Drought Stage Thresholds Specifically to Take Considerations

The Drought Trigger Methodology (DTM) was developed as a groundwater management tool to provide both the benefit of preserving water supplies in groundwater wells and preserving springflows which provides the related benefit of maintaining DO levels and habitat. Drought triggers (Barton Springs and the Lovelady Well) were developed and are correlated to impacts to water-supply wells and to springflow during drought conditions (see the DTM report in the appendix of the HCP). The Drought Triggers were developed to be simple, implemented quickly, and representative of aquifer-wide conditions. Linking the drought thresholds directly to take considerations would essentially require developing a DO threshold into the DTM and is problematic as described in RTC G. That said, the selected drought thresholds not coincidentally already roughly approximate the onset of non-lethal take, the onset of physiological effects of reduced DO, and the loss of habitat at one of the perennial springs, and the historical minimum springflow observed.

The thresholds for each of the triggers at Barton Springs or the Lovelady well can be adjusted, and have been in the past. Adjusting thresholds for the early drought stages (Alarm) will have minimal impact as the rate of decline is faster than the frequency of Board meetings. Thus, adjusting the threshold from 38 to 40 cfs will have minimal impact in terms of preserving springflows. The lower thresholds are likely adequately spaced to achieve their desired impact for water management and habitat protection. In the District’s opinion, the most influence on the magnitude of springflow comes from the amount of pumpage reduction associated with the drought declaration, rather than the exact timing of the trigger.

Accordingly, the District, as a result of working on the HCP, has increased reductions to 50% of 2013 authorized withdrawals under the worst drought conditions.

We can presently estimate the impact to salamanders for any given springflow, and therefore drought stages, on the basis of the corresponding calculated DO level, and the corresponding lethality numbers defined in the study of Poteet and Woods (2007). This is what was used in the take estimates.

Response to Comment E: Realistically Achieving 50% Curtailments

The District rule requiring 50% curtailment was adopted with a 3-year delayed effective date to allow permittees time to make arrangements to comply with these more stringent ERP requirements. These arrangements may involve efforts to reduce line loss, approve conservation-oriented rate structures, develop ordinances, deploy education/outreach programs, secure alternative water supplies (Trinity wells, ASR projects, surface water interconnects, etc.) or some suite of any or all of these to facilitate compliance with the increased level of curtailment. The 3-year advance-preparation period will expire in October 2015, which may or may not occur before the ITP is issued. It is possible that not every permittee will be able to meet that level of extreme curtailment, but the District believes that, in aggregate, the set of permittees will be able to do so. Similarly, for any one PWS utility permittee, not every end-user will meet that amount of curtailment, but in aggregate the set of end-user connections for that utility can and (eventually) will. The District monitors *actual* water use via monthly self-reporting by permittees in comparison to *authorized* curtailed monthly use amounts in each permit, and the enforcement penalties for failure to achieve curtailments are not insignificant.

The multi-dimensioned rationale for this belief has been added to Section 4.1.2.1, Evolution of the Regulatory Program. It includes: 1) ongoing efforts to encourage the retirement of currently permitted historical production; 2) application and enforcement of the new rules requiring higher levels of curtailment if a DOR-level drought should recur; 3) new rules incentivizing higher curtailments during extreme drought in exchange for proportional increases in permitted production during non-drought; 4) historical experience with some permittees that voluntarily substitute available alternative supplies for authorized Aquifer production during severe drought; 5) right-sizing provisions; 6) as available and warranted, utilization of improved aquifer modeling to account better for all recharge sources, including urban recharge; and 7) the District's and permittees' continuing efforts to develop and extend alternative supplies to historical-production permittees. Some of these factors are already operating and are the reasons why all permittees already pump, in aggregate, less than the total authorized pumpage amounts, even during severe droughts.

It is also important to note that the current rules allow the 50% reduction to be relaxed by Board Order if firm yield Historical permits are retired in the future and that same level of total maximum authorized withdrawals (MAG) is achievable with a lesser level of curtailment. As this maximum curtailment level is relaxed in response to permit retirement, the lesser curtailment levels will also be more achievable by more permittees.

Response to Comment F: Choosing to Apply for an Individual ITP Rather Than One with Multiple Implementing Entities

The City of Austin has its own, individual complementary HCP for activities that affect the same two Covered Species as the District HCP, generally dealing with habitat modification and disruption from Barton Springs Pool operation and maintenance. The District is the only entity that has the authority to manage the groundwater withdrawals that contribute to changes in water chemistry that in turn produce take on those Covered Species. The District seeks to focus the ITP protections and the HCP conservation measures specifically on those groundwater withdrawals under District permits. That said, the District acknowledges that there are other activities over which it has no control that also affect the water chemistry at Barton Springs, and those activities are within the purview of other jurisdictions.

Many of the jurisdictions that would notionally be implementation partners and entities in such an endeavor are in fact District permittees, and as such their groundwater uses are covered by the individual District HCP and they participate in making the proposed conservation measures effective. But unlike the situation with the Edwards Aquifer Recovery Implementation Plan's HCP, there is no need nor statutory mandate here for multiple implementing entities to work together to avoid, minimize, and mitigate take *from multiple types of other covered activities affecting a diverse set of listed species of plants and animals*. Absent such legislative mandates, the political will of all those prospective partnering entities to agree to subject other types of activities to USFWS requirements as part of the District HCP is speculative and would at the least create continuing delays if not roadblocks to getting the proposed conservation measures in place. The District believes it has the charge and wherewithal to effectively prosecute a timely, successful HCP on its own. That notwithstanding, it proposes to use a multi-stakeholder Management Advisory Committee to help evaluate and improve the District HCP during the course of the ITP term.

Response to Comment G: Incorporating Dissolved Oxygen (DO) Explicitly Into Drought Triggers

There is some flexibility to consider DO in the current rules since the Board can consider "other" information when making drought declarations. The District is proposing to explicitly put DO in the HCP and therefore in our rules as one of the factors for the Board to consider when presented with hydrologic data regarding drought, its impacts, and declarations.

Changing the DTM, or certain water level or springflow thresholds merely takes a change to the District's rules—not an overly difficult task. The District has tweaked the current thresholds several times over the past few years. However, a hard DO threshold would be very problematic to implement with the DTM. The DTM is primarily a water-supply management tool meant to keep wells across the District from going dry and the springs flowing. Thus, the triggers are Barton Springs flow and water levels in the Lovelady Well—and the thresholds are based upon historic water levels and springflows that correlate

with one another. There are many factors that affect DO and the range of historic DO values for a given flow is very broad; setting triggers based on DO concentrations would be very imprecise and not useful as a stand-alone drought trigger. Considering DO among the other hydrologic data, as proposed in the HCP, would be a more prudent approach.

Response to Comment H: Pursuing ILAs with Entities outside the District's Jurisdiction

The District is pursuing an ILA with the City of Austin because the City's HCP and the District's HCP are complementary and involve required cooperation and collaboration between those entities in 1) prosecuting several indirect conservation measures addressing research and mitigation projects, and 2) monitoring and reporting to USFWS in specified ways. No other entities are identified in the HCP that require such specified routine collaboration. If another governmental entity developed its own HCP to exempt other Covered Activities for the same Covered Species, and the District could reasonably offer complementary support and receive complementary benefit from that HCP, then an ILA with that entity might be useful and pursued under an amendment to the District HCP. But no such plans are currently known. The fact that no other ILAs are proposed in the District HCP does not preclude the District and some other governmental entity from cooperating under other ILAs to benefit other mutual interests not involving HCP requirements.

Response to Comment I: Accounting for Impacts on Take of Development Projects in Recharge Zone

Generally speaking, there is no scientifically established method to gauge or even estimate the effects of a particular type and amount of a proposed land use in the Recharge Zone on the water quality of, and/or effects on, the Covered Species at Barton Springs. The Recharge Zone is nearly 100 square miles (about 63,000 acres) in size, and there are many hundreds, if not thousands, of discrete recharge features; it is likely that only a fraction of these discrete recharge features are known and located. While sensitive and variably vulnerable, nearly all of them are now afforded some degree of protection by either preserves and/or various regulatory-based controls on release of pollutants that affect water quality that apply to the entire Recharge Zone. The Aquifer is also somewhat protected naturally by the soil zone and the hydrologically unsaturated vadose zone before pollutants from the land surface actually enter the groundwater system. In aggregate, the consequential impacts of a single land-development project, if well located and engineered, on the Aquifer are likely relatively small; the larger concern is the cumulative impact. If such cumulative impacts substantially affected the Aquifer's quality or quantity, that would more likely be considered an Unforeseen Circumstance, since such impacts, while not unimaginable, are not really foreseeable in the 20-year term of the ITP.

Regardless, the District has no authority to control land use anywhere in or outside its jurisdiction. So, where its support is feasible and useful, the District is committed to work in concert with other regulatory entities and with other affected stakeholders to ensure that the groundwater system is

protected from pollutants arising from land development to the maximum extent feasible. A new mitigation measure is being proposed and has been conditionally approved by the Board to memorialize this commitment; this extends and is in lieu of a former direct measure, which the District alone was unable to ensure occurred in all instances. That new mitigation measure states:

Aquifer Protection Initiatives: Throughout the term of the ITP, the District commits to provide leadership and technical assistance to other government entities, organizations, and individuals when prospective land-use and groundwater management activities in those entities' purview will have, in the District's assessment, significant effects on the quantity or quality of groundwater from the Aquifer, to include responding actively and appropriately to legislative initiatives or projects that affect Aquifer characteristics, provided such actions are not inconsistent with established District rules, ongoing initiatives, or existing agreements.

Examples include advocating for a prohibition on transport of hazardous materials on state or county roads that cross the recharge zone of the Aquifer, contesting unsustainable wastewater management projected to adversely affect the Aquifer, and providing technical support to GMA 9 and other GCDs whose practices may affect the Aquifer.

Response to Comment J: Including Other Specified Changes as Changed Circumstances (Requiring Response by District)

Several comments suggested additions to the set of Changed Circumstances. In the vernacular of USFWS, Changed Circumstances refer to changes that are reasonably foreseeable to occur during the term of the ITP, AND for which the District can have some substantive response that adversely affects the likelihood, type, and amount of take associated with that change in circumstance. There were two specific suggestions for additional Changed Circumstances that, in the District's view, are not readily foreseen or, if foreseeable, are not able to be directly affected by the District's authorities and actions. They include:

1. Consider non-abiotic factors (predation, competition) in addition to DO & TDS; and
2. Consider increase in wastewater discharge, further decline in water quality in Contributing Zone in relation to DO, flow relationship.

However, both of these circumstances are being proposed to be monitored and reported to USFWS routinely, and if they did occur, they would be subject to the District's proposed methodology to determine in consultation with the USFWS whether such a change is substantively adverse and, if so, whether it is a Changed or Unforeseen Circumstance and what District actions, if any, could ameliorate its impact, as described in Section 7.1. Language has been added to Section 7.2.2.4 that identifies both of them as potential changes that would trigger such an assessment, although no structured response by the District for either of them is being proposed in the HCP.

See also RTC I.

Response to Comment K: Avoidance and Minimization Measures Are Inadequate

As a GCD authorized by Ch. 36 of the Texas Water Code and Ch. 8802 of the Special Districts Local Laws Code, the District's primary purpose and authority is to manage its groundwater resources through permitting and regulating pumping from nonexempt wells which also describes the requested covered activity of this HCP. The implementation of this authority is reflected in the objectives and performance standards of the District's 2013 Management Plan (MP) which are also described as the Direct Conservation measures in Section 6.2.1 of the draft HCP. The District has committed to these measures based on the operating premise that curtailment of pumping, especially during extreme drought, minimizes the effect of pumping on springflow and therefore minimizes the effect on dissolved oxygen and take of the covered species. The two most effective tools the District has to protect the Aquifer water levels and springflow are reflected in aggressive curtailment schedules for existing permits and the restriction that any new Edwards permits do not include drought-time pumping allowances. Those were put into place after extensive stakeholder and permittee input processes associated with the HCP development, including a systematic series of changes made to the District's Rules and Bylaws from 2006 to 2012. The District is the groundwater management authority for the ITP Area and considers the proposed direct conservation measures in the HCP as stringent a set of minimization measures as can exist legally and practicably.

In summary, the District believes it has minimized those adverse effects that are attributable solely to Aquifer water withdrawals, and has mitigated the residual impacts, which are the requirements of the HCP. **Table 6-1 and its accompanying introductory narrative have been modified to reference each HCP Conservation Measure to the pertinent performance standards from the District's 2013 MP to better illustrate the direct connection between the two plans.**

Response to Comment L: Development of Alternative Water Supplies to Substitute for Aquifer Water

One of the common comment themes was related to the prospect of developing new water supplies to substitute or supplement freshwater Edwards pumping. As described in Section 9.1.2, the District does not have the authority or the regulatory tools in place to unilaterally mandate development of alternative water supplies or the substitution of Aquifer water for other alternative water supplies. Further, such measures, if authorized, could test the limits of groundwater regulation relative to private property rights and potential takings claims. Given these limitations and the practical and economical impediments, the District has chosen to commit to *encourage, not mandate* the development of alternative supplies through efforts to educate, demonstrate, and incentivize such actions as a drought accommodation strategy, and to provide for future unmet demand.

Encouraging the development of alternative water supplies requires a commitment to evaluate the availability and feasibility of regional alternative water supplies to assess where there are opportunities for District permittees to diversify their water supplies and to foster arrangements between permittees and available water suppliers to allow for substitution of Aquifer water, particularly during drought. The commitment has been realized through ongoing efforts to characterize the Trinity and Saline Edwards

Aquifers and other water supply strategies such as conservation, Aquifer Storage and Recovery (ASR), and the appropriate use of reclaimed water. The District has also adopted rules to allow the purchase of Historical permits for permanent retirement (District Rule 3-1.22.E) and to allow Historical permit holders with available alternative supplies to increase non-drought pumping in exchange for a commitment to greater curtailments during drought when pumping reductions are most beneficial (District Rule 3-7.6.B.5). These measures were developed under the District's 2013 MP which is the basis of the Direct Conservation Measures of the draft HCP.

Commitments to continue the evaluation of such opportunities are included as a prospective cooperative measure in a proposed ILA with the City of Austin (See also RTC H) as a potential alternative water supplier. The ILA would be the vehicle under both entities' HCPs, as described further in HCP Section 6.5.3, to formalize the commitment to work together to supplement permittees water supplies where feasible. Similarly, HCP measures 3-1 and 3-2 which relate to PS-5-1 of the 2013 District Management Plan, demonstrate the District commitment to performing such evaluations and fostering such arrangements where possible.

Response to Comment M: HCP/ITP Application Review Process and Timeline.

Once the District applies for the ITP and provides the Draft HCP in support of that application, the process then goes into a rather prescribed multi-level federal agency and public review and comment period, a NEPA review and documentation process, and ultimately a USFWS-internal documentation cycle as to issuing a Biological Opinion and Record of Decision by USFWS, before the Final HCP is approved and the ITP is issued. There are some mandatory minimum time periods associated with the federal review and documentation, which connotes that the earliest ITP issuance could be March-April 2015. However, as a practical matter, USFWS is swamped and it will more likely be no earlier than Summer 2015 before the ITP is issued, even if no issues arise.

District operations could also be influenced externally by legal rulings and/or legislative changes that could impact the District's MP and mandate changes in how groundwater within the District is regulated. However, at this time there is no way to account for such unpredictability, and the pace of completion will be driven by the process outlined above.

Further, if there are drastic changes to the populations or habitat of the Covered Species, the USFWS may have an opportunity to accelerate the schedule somewhat, but again, without knowing the specifics of such a situation, it is impractical to modify the process timeline to accommodate these unforeseen circumstances.