

APPENDIX M

RESPONSE TO PEER REVIEW COMMENTS

Note: This is only intended as a summary of comments and responses. The November 16, 2004 Draft Conservation Strategy for Peer Review, the peer review questions, the full set of peer review comments, and the Final Draft Conservation Strategy should be reviewed to obtain a comprehensive understanding of peer review comments, and how those comments were addressed.

Question Number	Issue	Summary/Response
1	Size of preserves	<p>Peer reviewers generally found the preserve size(s) adequate; however, fragmentation is an issue. One reviewer noted that determining the size of a preserve is as “much art as science”. Where habitat is unfragmented, a few hundred acres, or fewer, might be sufficient to sustain a population. Another reviewer noted that “the piecemeal way in which lands are to be added to the conservation areas under the plan [makes] it is highly unlikely that the conserved lands will be aggregated in large-radius unfragmented areas around breeding sites. Just as important as total acreage is habitat quality, location, and distance with respect to breeding ponds.” It was stated that smaller preserves require higher levels of management. It was also stated that swale systems are important for listed plants.</p> <p>Response: The overall goal of 3,150 to 3,800 acres is biologically supportable. As described in the Conservation Strategy this acreage must be distributed throughout the conservation areas and meet the preserve selection criteria. The proposal of 350 contiguous acres within conservation areas addresses the expressed need for unfragmented lands that are not assembled using a “piecemeal” approach.</p> <p>If 350 contiguous acres cannot be secured within a conservation area, than a minimum of 450 non-contiguous acres will be secured. Equally important to total acreage is the quality of habitat. The conservation areas identified are within 2,200 feet to 1.3 miles radii of known breeding sites. With the exception of two designated areas, conservation will occur outside the Urban Growth Boundaries of locally affected jurisdictions.</p> <p>Using the preserve selection criteria and adaptive management, appropriate monitoring of the lands will ensure procurement of high quality habitat that provides for CTS persistence, as well as a. landscape of maintained swales for plant persistence.</p> <p>Smaller preserves will require a more intensive management strategy.</p>

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2	Smaller preserves	<p>Peer reviewers stated that generally larger preserves are better than smaller ones, but smaller preserves could work depending on configuration and breeding habitat. One Peer reviewer noted that an experimental approach, utilizing large, productive breeding pools in semi-rural settings would allow flexibility, but require more intense management. Another reviewer noted that the minimum preserve size should be 450 acres for a combined Kelly/Wright conservation area. The current practice of irrigation in this area is questioned if long-term sustainability of the CTS is the goal. Specific to plants, a reviewer noted that preserves with numerous pools on 100+/- acres are most likely to be successful with minimal management. Preserves of lesser size tend to degrade absent intensive management practices. An additional reviewer noted that some smaller preserves “(~200-300 acres) that are intact and functioning are preferable to fragmented systems.” It was also stated that connectivity between preserves is important.</p> <p>Response: With the exception of the SW Santa Rosa Preserve and the Stony Point Conservation Area, the minimum preserve recommended is 350 contiguous acres. This provides an ecologically balanced approach to the preservation of all federally protected species on the Santa Rosa Plain.</p> <p>Studies indicate that the Kelly Farm site west of Santa Rosa is contiguous to a breeding pool and serves a CTS upland habitat. Some of these lands are irrigated. Adjustments to irrigation practices will be required if the lands are to be considered part of a preserve.</p> <p>In areas such as Stony Point where large blocks of land are difficult to secure, 10-30 acre blocks with up to 100 acres (total) could be established and maintained via adaptive management. Stony Point utilizes the development of satellite preserves in 100 acre blocks. The SW Santa Rosa Preserve is recognized as highly valuable. This area has some of the most productive pools for CTS and plants. Due to its fragmentation, a smaller preserve system will be maintained and intensely managed.</p>
3	20% outside conservation areas	<p>Peer reviewers have significant concerns about fragmentation, but generally note that the 20% outside conservation area approach is potentially viable if these lands are “linked” to the 350 contiguous acres inside conservation areas. Two reviewers note that 20% outside conservation areas may be acceptable if developed through a comprehensive planning process.</p>

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		<p>Response: The creation of preserves outside of designated conservation areas is specifically identified and constrained as described in the Conservation Strategy. and will be monitored through the Adaptive Management Team.</p>
4	Design of SWSR conservation area; corridor width	<p>Peer reviewers' generally note that corridors for CTS are experimental and little research exists to support or refute their value, regardless of configuration. In areas where the habitat is fragmented, there is a potential gain if corridor width is calculated relative to its length and protected from predation. In terms of plants, various successful methods of dispersal exist, including human intervention. Corridors should be as wide as possible, but five hundred foot wide corridors should be adequate. Corridors should contain breeding pools.</p> <p>Response: Corridor widths will be related to corridor lengths, and the configuration site specific. An established corridor will, when necessary, provide protection from potential predation factors, and where appropriate breeding pools will be created to promote CTS use. The Conservation Strategy incorporated a minimum width of 500 feet for CTS movement corridors. Creation of breeding pools are also incorporated into corridors.</p> <p>Sufficient methods for transportation of plants exist under existing management practices.</p>
5	Bisection by roads, streams, etc	<p>Peer reviewers' generally note that the strategy does not adequately address roads and streams that act as impediments to dispersal. Where possible new roads should be avoided. Translocation in areas with proposed intensive development warrants consideration.</p> <p>Response: CTS need open spaces free of impediments to successfully disperse. In areas such as SWSR, where unimpeded dispersal is difficult, value can be derived from establishing synthetic links to other breeding and upland sites.</p> <p>Where possible, conservation areas have been designated to minimize these impacts, and are generally free of these barriers. In areas where these impacts cannot be successfully mitigated, translocation will be considered in the management of the species.</p>
6	SWSR sufficient size & configuration for viable preserve	<p>Peer reviewers' generally note that the Southwest Santa Rosa Preserve is highly fragmented, and the likelihood for long-term viability of CTS is questionable. One reviewer encourages</p>

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		<p>“trade” for a larger more sustainable site.</p> <p>Response: The long-term viability of this area is questionable. However, it is an area that remains valuable due to its concentration of CTS and Sebastopol meadowfoam. As suggested earlier, specific to this area value can be derived from establishing synthetic links to other breeding and upland sites. In addition, the Strategy identifies this as a preserve system versus a conservation area. This recognizes the value of preservation but also address fragmentation concerns.</p> <p>Through adaptive management, success of this area will be monitored.</p>
7	Migration within the corridors	<p>Peer reviewers’ generally note that corridors for CTS are experimental and little research exists to support or refute their value. One reviewer dismisses the value of corridors, but suggests linking “core” areas with habitat is a better approach.</p> <p>Response: Although it is difficult to assess value of corridors, in the most impacted areas, it is an experiment worth pursuing. Where possible a breeding pond will be established within the confines of the corridor.</p> <p>Through adaptive management, success of these dispersal corridors will be monitored</p>
8	Different migration patterns among populations	<p>Peer reviewers’ generally note that dispersal patterns are random and highly dependent upon landscape features.</p> <p>Response: The term dispersal has been substituted for migration in the document. Random patterns for CTS dispersal have been documented. The Strategy recognizes that impediments to dispersal should be minimized. The focus on contiguous preserves of 350 acres attempts to assure that suitable dispersal habitat is available around breeding pools.</p> <p>The 350 contiguous acres or the 450 +/- non-contiguous acres per conservation area adequately addresses this random dispersal pattern. Additionally, existing rural land use(s) in the identified conservation areas generally provide some habitat value for CTS and allow for dispersal.</p>
9	Preserve management actions sufficient	<p>Peer reviewers’ generally note that the strategy recommendations are not adequate: lacking in sufficient detail. The need to develop a detailed adaptive management plan is crucial to the success of the preserves.</p>

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		<p>Response: The Strategy recommends monitoring (of specific preserves, as well as monitoring to ensure preserves are adequately developed throughout the conservation areas) as a major component of adaptive management. For all federally listed species this includes monitoring the effectiveness of corridors and the success rate of introduced populations, where appropriate.</p> <p>With the exception of the SW Santa Rosa Conservation area, the minimum preserve recommended is 350 contiguous acres. These preserves are of adequate size to maintain viable populations of the listed plants as well as the California tiger salamander (CTS). It also minimizes the need for intensive management activity.</p> <p>In areas similar to Stony Point where large blocks of land are difficult to secure, 10-30 acre preserves with breeding pools are proposed to be established and maintained within the existing rural matrix of land uses. As previously described, these would form satellite preserves within this Conservation Area. More intensive monitoring and management would be required to assure their viability . Adaptive management will be critical in assuring that these sites function property to support the listed species..</p> <p>The Adaptive Management Team will be formed that will help to guide monitoring, preserve management and scientific research.</p>
10	Suitability criteria adequate	<p>Peer reviewers' generally note the suitability of criteria for a preserve is adequate. There needs to be a relationship to breeding habitat. How the preserves are implemented is important.</p> <p>Response: A key component to ensuring suitability is the dispersal habitat available within 2,200 feet of a known, or created breeding site. Existing preserves such as Hale, Carinalli Toad Road, Wright, Alton Lane and the Haroutunian Open Space Parcel have documented CTS. Securing additional uplands, dispersal habitat and/or creating additional breeding pools in these areas is highly desirable and beneficial to the success of the overall strategy.</p> <p>Through adaptive management, where appropriate, modifications to these criteria can be made.</p>
11	Plant translocation criteria	<p>Peer reviewers' generally note the need for plant communities,</p>

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		<p>not just isolated populations.</p> <p>Response: One of the key components to the strategy has been to identify lands that will function ecologically to support all protected species.</p> <p>The strategy emphasizes the need to preserve/create reserves that are large and contiguous in nature. Although an inter-related complex (salamander/plant) is ecologically preferable, the strategy recognizes that some pool hydrologies and locations will not always be compatible for cooperative plant and CTS persistence.</p> <p>Through adaptive management, where appropriate, modifications to these criteria can be made.</p>
12	CTS translocation criteria	<p>Peer reviewers' generally note that the criterion for CTS translocation is appropriate, but needs monitoring to ensure repopulation success. Translocation should be to areas as close as possible to the locations from which the CTS are taken.</p> <p>Response: There are examples of CTS translocation and repopulation success on the Santa Rosa Plain, including the Alton Lane Preserve. To maximize the future success of translocation, criteria specific to establishment is provided in the Conservation Strategy. .</p> <p>Through adaptive management, where appropriate, modifications to these criteria can be made.</p>
13	Figure 2 methodology	<p>Peer reviewers' generally note that the methodology used is adequate, however additional maps are needed to judge the strategy's ultimate success.</p> <p>Response: Additional mapping has occurred since the methodology was presented to peer reviewers. In the future, mapping of additional information will be a key component to adaptive management decisions relative to conservation areas.</p>
14	Conservation areas sufficient	<p>Peer reviewers generally found that the conservation areas were sufficient. Important to success is habitat quality, location, connectivity, and distance with respect to breeding ponds. Adaptive management will be key to determining the future adequacy of the proposed conservation areas.</p> <p>Response: The strategy emphasizes the need for conservation areas that are contiguous, and high quality dispersal habitat within 2,200 feet of known/created breeding sites.</p> <p>In addition, the proposal of 350 contiguous acres per preserve</p>

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		<p>addresses the expressed need for unfragmented lands that are not assembled using a “piecemeal” approach. If 350 contiguous acres cannot be secured within a conservation area, then a minimum of 450 non-contiguous acres will be secured.</p> <p>Monitoring and subsequent adjustments to measure the adequacy of the proposed preserve areas will be achieved through adaptive management.</p>
15	Strategy sufficient for CTS preservation	<p>Peer reviewers generally note that there is a need to focus attention on creation of additional breeding pools. Large blocks of contiguous habitat are preferred. However, in areas where populations are threatened due to fragmentation and/or extirpation, core preserves need to be the focus. Attention to these will enhance the future success of the strategy. Preserves should be established for Stony Point and NW Cotati as soon as possible.</p> <p>Response: In SW Santa Rosa, populations should be encouraged to persist. While the mix of preserves and existing and proposed land uses are not optimal, there is value to sustaining populations in this area. Relative to the Stony Point Conservation area, the land is highly fragmented due more to ownership of parcels than to man-made impediments. In this area large blocks of land are difficult to secure; therefore, the strategy recommends securing and maintaining satellite preserves. In Cotati, known breeding sites have been lost. In areas where CTS have been extirpated, reintroduction of the species via translocation, and the creation of breeding ponds are recommended.</p> <p>With the exception of the SW Santa Rosa Preserve and the Stony Point Conservation Area, the minimum preserve recommended is 350 contiguous acres. This provides for ecologically functional preserves for the protected species on the Santa Rosa Plain.</p> <p>Using adaptive management, appropriate monitoring of preserve lands will ensure protection and maintenance of high quality habitat that provides for CTS and plant persistence.</p>
16	Conversion of uplands to wetlands	<p>Peer reviewers’ generally note that conversion of uplands to wetlands is a concern. Newly created wetlands should not act as an impediment to dispersal. One peer reviewer noted that there are limits as to distance that CTS travel from breeding sites. Additional successful breeding sites will expand the range of available uplands. High quality uplands should not be converted to wetlands.</p>

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		<p>Response: Future banks for CTS will follow a general rule of 30% wetland densities. This means 30% wetlands to 70% uplands. This addresses the major concerns expressed by the peer reviewers.</p> <p>Monitoring and subsequent adjustments for success can be best achieved through adaptive management.</p>