CITIZENS COMMITTEE TO COMPLETE THE REFUGE

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Comment Letter sent via email to: William.W.Ness@usace.army.mil on 12-6-2016

U.S. Army Corps of Engineers
Regulatory Division
ATTN: William W. Ness
1325 J Street, Room 1350
Sacramento, California 95814-2922

Re: Draft Vernal Pool Mitigation and Monitoring Guidelines for U.S. Army Corps of Engineers South Pacific Division

Dear Mr. Ness,

This responds to the Draft Vernal Pool Mitigation and Monitoring Guidelines (DVPGL) for the U.S. Army Corps of Engineers South Pacific Division (Corps). The Citizens Committee to Complete the Refuge thanks you for the opportunity to provide comments. The Citizens Committee to Complete the Refuge (CCCR), consisting of 2,000 members, has an ongoing history of interest in wetland protection, wetland restoration and wetland acquisition. As such, CCCR has taken an active interest in Clean Water Act (CWA) regulations, policies, implementation and enforcement. We have established a record of providing information regarding possible CWA violations to both the Corps and EPA. We regularly respond to Corps public notices, and inform the public of important local CWA issues and have commented on public notices involving the placement of fill in Bay Area vernal pools and proposed vernal pool mitigation banks. These actions demonstrate our ongoing commitment to wetland issues, toward protecting the public interest in wetlands, and in Section 404 of the CWA.

Significant losses of vernal pool habitat to urbanization and agriculture have been well documented in California. Holland[1] estimated there were approximately 1,033,000 acres of vernal pool habitat (vernal pools plus their surrounding uplands) in the 1976-1995 baseline mapping he prepared for California Department of Fish and Game. In 1997, that acreage had been reduced to 995,000 acres and in 2005 there was a further reduction to 896,000 acres, representing a 13% reduction in the remaining vernal pool habitat. In December 2005, the U.S. Fish and Wildlife Service finalized its *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon.* The recovery plan features 33 species of plants and animals that occur exclusively within vernal pool ecosystems in California and Oregon. 20 of the species are federally listed including ten endangered plants, 5 threatened plants, 3 endangered animals, and 2 threatened animals. There are an additional 13 species of concern including 10 plant species and 3 animal species. The "over-arching recovery strategy for the species [featured] in the recovery plan is habitat protection and management."

Witham et al.[2] revisited the analysis of Holland, to document the changes in the extent and condition of vernal pool habitat in California's Great Valley, for the period between 2005 and 2012. An additional net loss of 42,952 acres occurred during that period of time. The report concluded "In the seven years since the Recovery Plan was adopted, some 6,758 acres per year on average [of vernal pool habitat – e.g. vernal pools and their surrounding uplands] have

[1] Holland, Robert F. 2009. California's Great Valley Vernal Pool Habitat Status and Loss: Rephotorevised 2005. Prepared for Placer Land Trust. Available on-line at: *http://www.vernalpools.org/vpreports/Great%20Valley%20Vernal%20Pool%20Distribution_Final.pdf*

[2] Witham, C.W., R.F. Holland and J. E. Vollmar. 2014. Changes in the Distribution of Great Valley Vernal Pool Habitats from 2005 to 2012. Sacramento, CA. Report prepared for the U.S. Fish and Wildlife Service and Bureau of Reclamation CVPIA Habitat Restoration Program under Grant Agreement No. F11AP00169 with the USFWS.

been lost. These losses have stemmed from permitted fill of vernal pool habitat and from unauthorized filling or conversions of vernal pool habitat.

When Clean Water Act, Section 404 permits are issued authorizing fill or conversions of vernal pool habitat, compensatory mitigation is required as a means of replacing lost functions and values. To date, the compensatory mitigation meant to off-set the loss of vernal pool habitat to development has, in large part, been unsuccessful.

Wacker and Kelly[3] observed that vernal pool losses have continued despite the requirement for compensatory mitigation:

> The end result of the mitigation process has been a net loss in vernal pool acreage due to poorly sited and constructed mitigation efforts that, in many cases, fail to meet the landscape functional equivalence of the original wetland ecosystems (Race and Fonseca 1996; Leidy and White 1998; Brown and Lant 1999; Gwin et al. 1999).

Calhoun et al.[4] conducted a literature review of vernal pool creation focusing on northeastern vernal pool ecosystems as they pertain to amphibian use and the conclusions they reached mirror assessments of failed vernal pool creation in California. Calhoun et al. observed:

> Our review of the literature indicates that vernal pool creation is an imperfect science and should be used as a last resort after exhausting more reliable protective methods.

Our main concern with the Draft Vernal Pool Mitigation and Monitoring Guidelines (Guidelines) is that they are inadequate to ensure vernal pool mitigation will be successful, and that the language of the Guidelines may actually contribute to the continued degradation of existing natural vernal pool habitat.

DVPGL [page 1]:
"Compensatory mitigation ratios will be determined by the Corps on a case-by-case basis, through use of the SPD Standard Operating Procedure for Determination of Mitigation Ratios. In general, the goal of compensatory mitigation under the Clean Water Act is to establish highly functional wetlands, including vernal pools."

While the "goal of compensatory mitigation under the Clean Water Act is to establish highly functional wetlands, including vernal pools," scientific review of vernal pool compensatory mitigation demonstrates this is a goal unlikely to be attained. To date there is very little evidence that compensatory mitigation for vernal pools is replacing lost functions and values. The emphasis of the Regulatory Program should be to discourage filling of vernal pool habitat. The emphasis must be on avoidance of impacts, rather than compensatory mitigation. Mitigation ratios for losses of vernal pools, when permitted, should be very high due to the high risk of failure.

B. Site Selection – The language of this section is contradictory and will result in significant and adverse impacts to vernal pool habitat. On the one hand, the DVPGL states "Vernal pool mitigation efforts should target mitigation sites *that formerly supported vernal pool complexes*." [emphasis added] In general, we are supportive of this approach.

However, just a few sentences later, the DVPGL states "Mitigation sites must be large enough *to accommodate mitigation* and *existing vernal pools*, density and buffer requirements." [emphasis added]

We strongly object to the incorporation of any language in the Guidelines that supports the creation of new vernal pools within existing natural vernal pool complexes. [See also Section D. Design Considerations, E. Construction Techniques 4 and 6, C. Duration and Schedule of Monitoring (2) "adjacent vernal pools"] Any proposal to create new vernal pools

[3] Wacker, Matt and Nina M. Kelly. 2004. *Changes in vernal pool edaphic settings through mitigation at the project and landscape scale. Wetlands Ecology and Management* 12: 165-178

[4] Calhoun, A.J.K., J. Arrigoni, R.P. Brooks, M.L. Hunter, S.C. Richter. 2014. *Creating Successful Vernal Pools: a Literature Review and Advice for Practitioners. Wetlands* 34 (5): 1027-1038

within existing natural vernal pool complexes should be considered an adverse impact rather than compensatory mitigation.

In his analysis of the effects of an unpredictable precipitation regime (i.e. the regime that exists in California) on vernal pool hydrology, Bauder[5] made the following observation:

> Changes in climate, the mound-and-depression landscape or pool microtopography *could have profound impacts on the hydrology of individual pools as well as the array of hydrological conditions in the system*. Given the individualistic responses of the numerous endemic species supported by vernal pools, any of these environmental changes *could diminish their sustainability and increase the risk of species extinction*. Conservation, restoration and management decisions should take these factors into account. [emphasis added]

Similar conclusions have been reached in other studies. Leidy and White[6] point to another significant reason why creation of vernal pools in existing natural vernal pool complexes must be avoided – the adverse impacts to surrounding uplands:

> Creation of vernal pools adjacent to existing pools *truncates watersheds*, *destroys uplands important to the overall health of the ecosystem*, allows for the creation of smaller preserves in terms of acreage, and may *ultimately result in decreased functions* for created and existing vernal pools.

Creation of mitigation vernal pools in existing natural vernal pool habitat should be prohibited by the draft Guidelines as landform alterations and deleterious impacts to the hydrological regime of an existing vernal pool complex could occur through construction activities alone, e.g. compaction of soils, subtle changes in topographic elevation, etc. These adverse changes to the hydrological regime would be further compounded through the construction of additional pools. There is no evidence to support the assumption that the creation of new vernal pools within existing habitat replaces lost functions and values, but much evidence to support the conclusion that this should not be considered mitigation at all, instead, it should be considered a significant and adverse impact to existing natural vernal pool habitat.

V.E. (5) Construction Techniques:

"Provide and maintain a *buffer of at least 100 feet* around all vernal pool preserves and mitigation sites. Buffers will consist of native vegetation or regionally characteristic annual grassland without cut or fill as a result of adjacent development, developed recreation facilities, roads, trails, fire breaks, or other intrusive development. *The appropriate buffer width will depend on adjacent land uses and resource values that need to be maintained in the preserve, in consideration of the topographic and hydrologic conditions*."

This guidance appears to pertain to the post-construction condition of the site. If so, we are concerned with the suggestion that a 100 foot buffer would provide adequate protection for the vernal pool preserves under any circumstances. In fact, we cannot think of any situation where a 100 foot buffer would provide adequate protection to the hydrological regime or the resource values of a vernal pool complex from adjacent or intrusive development. As an example, and from a resource value perspective, California tiger salamanders are known to migrate up to a mile from their aestivation habitat to breeding ponds. The identification of a numeric minimum limit sets unrealistic expectations for those responsible for undertaking compensatory mitigation. If the goal of the Guidelines is truly to ensure protection of vernal pool mitigation sites, a more realistic language regarding a protective buffer must be proposed.

[5] Bauder, E.T. 2005. *The effects of an unpredictable precipitation regime on vernal pool hydrology. Freshwater Biology* (2005) 50: 2129-2135.

[6] Leidy, Robert A. and Elizabeth G. White. 1996. *Toward an Ecosystem Approach to Vernal Pool Compensation and Conservation. in:* C.W. Witham, E.T. Bauder, D. Belk, W.R. Ferren Jr., and R. Ornduff (Editors). Ecology, Conservation, and Management of Vernal Pool Ecosystems – Proceedings from a 1996 Conference. California Native Plant Society, Sacramento, CA. Pages 263-273.

VI (a)(5) – Projected Numerical Performance Standards:

"When the Corps determines that reference pools are not available and that the mitigation site is otherwise appropriate, *baseline monitoring of impacted vernal pools or regionally available data may be used to develop numerical performance standards. Such standards must be based on attributes which are objective, verifiable, and utilize the best available science that can be measured or assessed in a practicable manner*."

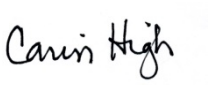
The language of this section is inadequate to ensure lost functions and values of vernal pools will be replaced.

- Under what conditions would reference pools not be available and if they are not, is the proposed mitigation site really appropriate?
- Baseline monitoring is not reflective of fluctuating changes in environmental condition, it is one snapshot in time.
- Monitoring of impacted vernal pools may not be representative at all of conditions that exist or could be achieved on a proposed mitigation site, unless the proposed mitigation site is within the same watershed, has exactly the same hydrological regime, soils, landforms, and potential for the development of similar vegetative and wildlife communities.
- Who determines whether the "regionally available data" is appropriate for use and what happens if such data is unavailable?
- Who determines whether a proposed numerical performance standard is acceptable?
- We question the suitability of a proposed mitigation site for which no reference pools exist, that being said, any substitution for the use of reference pools must be thoroughly vetted by the scientific community.

Conclusion:
We appreciate the fact that the Corps is attempting to provide additional guidance and requiring the submittal of additional information for vernal pool habitat mitigation and monitoring plans. We remain concerned that compensatory mitigation is not effective in replacing the functions and values that are lost when vernal pools are filled. For that reason, there should be a strong regulatory focus on avoidance and minimization of impacts to this habitat. Mitigation ratios for permanent and temporary fills of vernal pools should be high due to the likelihood that functions and values will not be fully recovered. Vernal pool mitigation should focus, where conditions allow (e.g. adequate hydrology, soils, seed bank, etc.) on the recovery of historic vernal pool complexes. We urge the Corps to abandon the practice of accepting creation of new vernal pools in existing natural vernal pool complexes. We urge the Corps to strike the proposed numeric minimum buffer of 100 feet around vernal pools complexes, and focus instead on the buffer required to protect the hydrological regime of a vernal pool complex, or the biological needs of the species that inhabit the vernal pools.

Thank you for the opportunity to provide comments. We request that we be kept informed of any additional opportunities to provide comments.

Regards,



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