

their PCEs; (c) that the designation would place a burden on landowners to refute the presumption that specific lands within critical habitat boundaries possess the PCEs of the species; (d) that we had incorrectly stated in the proposed rule that we would only designate areas containing the PCEs of the species; (e) that there was no biological justification for using a landscape-scale approach when more detailed information is available; and (f) that the designation, as proposed, was not in keeping with the requirement of the Act to "narrowly define critical habitat."

*Our Response:* As we have discussed in our response to Comment 21, we are required to define and delimit critical habitat "by specific limits using reference points and lines as found on standard topographic maps of the area" (50 CFR 424.12(c)). We have delimited the boundaries of critical habitat boundaries in this rule based on a minimum mapping scale of 100 meters. This mapping scale was based on the availability and accuracy of aerial photography and GIS data layers used to develop the designation. In drawing our lines for the proposed rule, we attempt to exclude areas that do not contain essential occurrences of the vernal pool species and habitat as defined by the PCEs. On the basis of information obtained through public comments and updated imagery and GIS data layers, we have been able to refine the boundaries of critical habitat during the development of this final rule. However, due to the limitations of our mapping scale, we were not able to exclude all areas that do not contain the PCEs. We have determined that existing man-made features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas are not likely to contain one or more of the PCEs. Because activities in these areas are unlikely to affect PCEs (*i.e.*, essential habitat for the vernal pool species), a consultation under section 7 of the Act would not be required.

We disagree with the comment that private property will be adversely affected by the designation. Without any PCEs or presence of listed species, we regard that no adverse effects to private landowners will occur. If private landowners suspect or have listed vernal pool species and PCEs on their lands, those landowners may or may not choose to ascertain any biological information absent any fill of vernal pools that would require some consultation with us. We also disagree with the comment about our approach in designating critical habitat when

additional detailed information is available. We used the best scientific and commercial information available to us. We opened two comment periods to obtain as much current information that is available to assist us in developing this final rule.

*Comment 26:* A number of commenters identified specific areas that they thought should not be designated as critical habitat.

*Our Response:* Where site-specific documentation was submitted to us providing a rationale as to why an area should not be designated critical habitat, we evaluated that information in accordance with the definition of critical habitat pursuant to section 3 (5)(A) of the Act and the provisions of section 4(b)(2) of the Act. Following our evaluation of the parcels we made a determination as to whether modifications to the proposal were warranted. In the preparation of the final rule, we further examined the area proposed and refined the critical habitat boundaries to exclude, where possible within the limitations of our minimum mapping scale, those areas that did not, or were not likely to, contain the PCEs for the 15 vernal pool species. We also excluded lands from the final designation that may contain vernal pool habitat, the vernal pool species, and the PCEs, but that we determined to not be essential to the conservation of the vernal pool crustaceans and vernal pool plants. Please refer to the Summary of Changes from the Proposed Rule section of this final rule for a more detailed discussion of changes and exclusion from the proposed rule.

*Comment 27:* Several commenters had specific concerns relating to the upland component of the PCEs. One commenter indicated that the upland component was not well defined and would result in additional costs and regulatory burdens.

*Our Response:* Upland areas adjacent to vernal pools are function as part of the localized watershed and are essential to maintaining the hydrological and ecological processes essential to the conservation of the listed vernal pool species. Upland areas buffer the effects of varying rainfall patterns and establish patterns of overland and groundwater flow which help determine the timing and duration of ponding and drying. Listed vernal pool species depend on intermittent periods of ponding and drying to prevent the establishment of strictly terrestrial or aquatic competitors. The timing and duration of such ponding and drying periods affects seed germination, and production of vernal pool plants, as well as the hatching and

growth of vernal pool crustaceans. Upland areas also provide a major source of food, in the form of detritus, for vernal pool crustaceans; support pollinator populations for vernal pool plants; improve pond water quality by filtering sediment and contaminants; and moderate pond water temperature (*see* Background and Primary Constituent Elements sections).

We determined the extent of essential upland areas using the best available data, as required by the Act. Such data include topological and land use features useful for identifying natural watershed boundaries, (as shown by USGS Digital Orthorectified Quarter Quadrangles (DOQQs) and other aerial photography), information provided during the comment period, watershed boundaries identified in CALWATER (CALWATER 2.2), and information on the ecology and life history of the 15 vernal pool species (*see* Background section).

*Comment 28:* Several commenters suggested that the area being proposed as critical habitat for the vernal pool crustaceans and vernal pool plants represents the entire range of all the species, and that this broad of a designation is in violation of the Act. Other commenters stated that we have failed to provide adequate justification for why we determined that all areas proposed as critical habitat for the 15 vernal pool species are essential to their conservation. Further, it was also suggested that there was a lack of species occurrence information for the proposed, bring into question our justification for including these areas into our designation.

*Our Response:* In developing our proposal of critical habitat for the 15 vernal pool species, we identified those areas that, based on the scientific and commercial data available, we have determined contain essential occurrences of each of the species and/or are defined by the physical and biological features essential to their conservation. We used a number of criteria in defining critical habitat including, but not limited to, the known species occurrence and distribution data, habitat types, degree of habitat fragmentation, soil and landform relationships, connectivity and dispersal factors, and conservation biology principles. We did not include all vernal pool landscapes within each species' range even though surveys in these area may result in the detection of other occurrences. In developing the final rule, all the critical habitat units were reviewed and, where appropriate, further refined to ensure that nonessential habitat and areas not