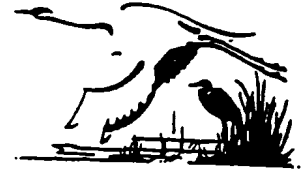
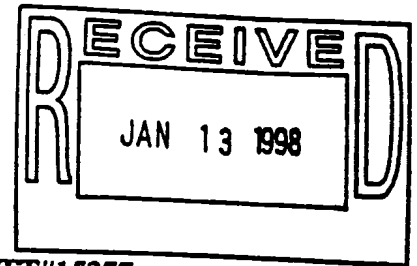


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December 17, 1997

Jayna Morgan
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Subject: Verification/Update of Wetland Determinations for TT#15377

Dear Ms. Morgan,

This letter is an evaluation of the wetland determinations conducted for the Shea Homes property (TT # 15377) (Site) in Huntington Beach, California. This parcel is approximately 45 acres and is situated between the Wintersburg Flood Control Channel to the south, Graham Street on the east, and an existing residential development (tract # 5792) to the north. I have reviewed the previous Jurisdictional Delineations, and visited the site on November 20, 1997. The field visit included sample soil pits. The following is a discussion of the prior delineations, my findings in the field, and conclusions regarding the wetland status of the site as determined using the U.S. Fish and Wildlife Service's definition.

The Environmental Protection Agency (EPA) completed a jurisdictional determination for Bolsa Chica. EPA contracted Terry Huffman, and other wetland experts to conduct the investigation. This report is titled "A determination of the geographical extent of waters of the United States at Bolsa Chica, Orange County, California". This report is dated February 1989. The EPA delineated 8.3 acres of wetlands on the Site. This delineation was based upon the multi parameter approach. The multi parameter approach used the presence of hydrophytic vegetation, hydric soils, and a hydrological regime that inundates a site for a long duration during the growing season. The Site was in agricultural production during the time of the surveys, therefore it was considered an "atypical" condition. This allowed EPA to conduct its jurisdiction determination using soils and hydrology only. The soils on site exhibited low chroma and were determined to be "Aquents". Aquents are soils which developed under hydric conditions. The hydrological determination was partially based upon the data provided by Mr. Tom Billhorn, which concluded there is a sufficiently high ground water table following a rain event. This coupled with strong capillary rise action between 11 and 17 inches will saturate the soils within the root zone for a long duration. Other hydrological information was based upon historic data for mean high tides, and flood areas.

The site was also delineated by Dana Sanders who completed a "Determination of Waters of the United States, including wetlands, at Bolsa Chica, California" in June 1987. This determination was conducted as an independent study to confirm the findings of the EPA delineation. The primary difference between Sanders determination and EPA's was the use of historical data. Sanders used current site conditions. He attempted to disregard superficial hydrologic evidence

such as indicators left by the 100 year type storms of 1978 and 1983 because wetland hydrology is based upon annual Storm events. Sanders concludes there were no wetlands on the Site. However he also states if the farming activities were to cease there would "probably" be 7.6 acres of wetlands on the Site. This conclusion seems to be based upon the Site's topography. Sanders states, "The only source of sufficient water to saturate the soil in a major portion of the root zone in this subunit is from surface water runoff following significant rainfall events. Only depressional areas would be saturated sufficiently to support the growth of hydrophytic vegetation."

In October 1991 Dana Sanders updated his original designation of the 7.6 acres of wetlands to no wetlands occurring on the Site. His rationale for the change was based upon the following factors. 1) During his original review he had not designated any wetlands on the site. He knew the soils had been hydric at some time (ie they formed during hydric conditions) yet, he felt they had been drained. 2) He decided to include the 7.6 acres that appeared to have hydric soils (ie those he thought had been drained in #1 above) because the hydrologic data from Tom Billhorn which depicted a high ground water table which meant they were not drained. 3) Sanders later found out the hydrologic data observing a saturated condition and high ground water was taken in 1983. 1983 recorded the second highest rainfall ever, and did not represent the average year. Therefore, in 1991 Sanders revisited the site and modified his report based upon this additional information.

Sanders noted from the 1987 Corps Jurisdictional Wetland Delineation Manual that soils developed in hydric conditions can retain physical characteristics such as low chroma and mottles for several years and even decades after the hydrologic influence has been removed. Such soils may be classified as "sufficiently drained" soils, and not wetland soils.

The U.S. Army Corps of Engineers, using the three parameter approach, has already determined the site to be a "Prior Converted Cropland" and not a "Farmed wetland". On November 20, 1997, I visited the site with Frank Hovore, the biological consultant for EDAW. The field survey was primarily a ground-truthing of previously completed Corps/EPA determinations and an attempt to observe at least one of the parameters typically associated with wetlands as described by the U.S. Fish and Wildlife Service (Service). Since the Site is no longer in active agricultural production, it would be expected to begin exhibiting wetland characteristics if, in fact, the Site currently has one or more indicators. The field survey included digging sample soil pits. The pits had low chromas which are indicative of hydric soils, however, there was no evidence of the site undergoing a reducing condition recently. The soils that were formed in hydric conditions, and have been secondarily drained may retain the low chroma for decades. The soils on the site are not frequently flooded for long durations. Therefore, the result of the field survey was that no field indicators were observed.

The Service defines wetlands as "the areas between upland and water where the water table is usually at or near the surface or the land is covered by shallow water. For the purpose of this classification, wetlands must have one or more of the following three attributes:

- I At least periodically, the land supports predominantly hydrophytes

- II The substrate is predominantly undrained hydric soil
- III the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

The following is the results of the field review as the data relates to the above three "attributes".

I. **Hydrophytic vegetation:** The vegetation on the site is predominantly weedy species associated with open lots and disturbed soils. The dominant species is tumble weed (*Salsola spinosus*), Cheese-weed, *Amaranthus albus*, *Cynodon dactlyn*, and *Lipidium latifolium*. Although some of these species are facultative wetland species and are found in wetlands approximately 60% to 99% of the time, the dominant cover of the plant species are upland and facultative upland species and are found in wetlands between 1% and 30% of the time. Therefore, the land does not support predominantly hydrophytes.

II. **Undrained hydric soils:** California Department of Fish and Game defines "Drained Hydric Soils as those soils that are now incapable of supporting hydrophytes because of a change in water regime are not considered wetland." According to Sanders and Billhorn the site no longer receives sufficient flows or groundwater rise to support hydrophytes. Additionally, hydrology data was provided by Pacific Soils in the form of a ground water study and geotechnical borings. They completed the groundwater study in March of 1997, and the geotechnical borings were taken in February 1997. Their data shows an average depth of ground water to be 10.2 feet with a range from 3 feet to 19.5 feet. These data were taken during the winter wet period, and would be expected to represent a wetter than average condition. The Site is not sufficiently wet within the root zone. Therefore the site has drained hydric soils.

III. **Nonsoil substrate saturated or covered by shallow water:** This attribute appears to be describing a mudflat. A mudflat is characterized by having non-soils, i.e. a substrate, and is unvegetated. This attribute is probably reflective of the fact that the Service does not categorize "special aquatic sites" as EPA and the Corps does. The EPA and Corps considers "mudflats" as special aquatic sites, but not wetland. The Site has soils and does not appear to be periodically flooded or saturated. Therefore the Site does not have attribute number III.

Based upon the U.S. Fish and Wildlife Services wetland definition, the Site is not wetland.

The Coastal Commission defines' wetlands as areas that are "under the influence of water (covered) at least "periodically". Using this definition, California Department of Fish and Game defined periodic to be "often enough to support a dominance of plant and animal species which are either typically adapted to inundation or tolerant to inundation. As in the EPA/Corps' and the Service' definition the basic underlying definition of a wetland is a dominance of hydrophytes.

In conclusion it is my opinion based upon the data presented in the above referenced determinations, and a site visit which included digging soil pits, and reviewing the groundwater data that this Site no longer has the hydrologic component to support wetlands. The creation of the Wintersburg Channel removed any tidal influence both above and below ground. This combined with the adjacent development capturing any flow that may have historically crossed the Site prevents the site from being saturated at or near the surface for any length of time following a typical storm event. The Site does not meet wetland criteria under EPA/Corps, Service, California Department of Fish and Game, or Coastal Commission's definitions.

Thank you for the opportunity to help you in this matter. If you have any questions regarding the above information or would like any additional information, please call me.

Sincerely,

Lisa M. Kegarice
Ecologist

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