Draft Functional Correspondence between Past and Present Key Habitats

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Reviewed by
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The RMG recognizes that the present ecosystem includes some kinds of habitats that might not have existed in the past, and that the past ecosystem might have included some kinds of habitats that do not exist now. It is further recognized that some of the past and present kinds of habitats might be functionally equivalent to each other, at least with regard to some Key Species. SFEI has therefore constructed a Habitat Correspondence Matrix, based upon original historical research, as reported in the SFEI documentation for the Bay Area EcoAtlas.

There are a number of important assumptions that are reflected in the Habitat Correspondence Matrix, as listed below. The Habitat Correspondence Matrix has not been reviewed by the RMG or the Focus Teams.

- The past and present ecological functions have not significantly changed for any natural Key Habitat, meaning a Key Habitat that is mainly controlled by natural tides (i.e., tides that are not muted by man-made control structures) or fluvial processes (i.e., river or creek flow). For example, it is assumed that the functions of past and present mudflats are essentially the same, that the past and present tidal marshlands are essentially the same, the natural levees of past and present tidal marshlands are essentially the same, .and that the past and present riparian zones and tidal reaches of rivers and creeks are essentially the same, with regard to the Key Species, given similar hydrologic and salinity regimes.

- Functional correspondence between Key Habitats that did not exist in the historical past, and habitats that no longer exist, can be inferred based upon their similar hydro-geomorphology and plant community composition, including salinity regime, hydro-period or tidal regime, depth of water, soil or sediment type, and plant species.

- Functional correspondence can be used to infer what might be the future distribution of recently introduced species, where they could have been supported in the past if they had existed here, and what could be the future distribution of expurgated species that are re-introduced, or rare species that are recovered.

Given the assumptions listed above, then the main purpose of the Habitat Correspondence Matrix is to show which, if any, of the existing habitats that are not natural correspond functionally to natural habitats of the historical past. The basic question is: what were the natural analogues for diked baylands, based upon the habitat requirements for the Key Species? The Habitat Correspondence Matrix provides a possible answer, as summarized in the following table.

Table of functional Correspondence between present-day diked and the past habitats, based upon the Habitat Correspondence Matrix. Key Habitats are shown in capitalized bold italics. The component minor habitats are listed below the Key Habitats. Unless otherwise noted, the minor types of the present diked habitats correspond to the same minor types of the past. For example, as indicated at the top of the Table, the channel bottoms of the Muted Tidal Marsh functionally correspond to channel bottoms of past tidal marsh with naturally obstructed tidal flow.

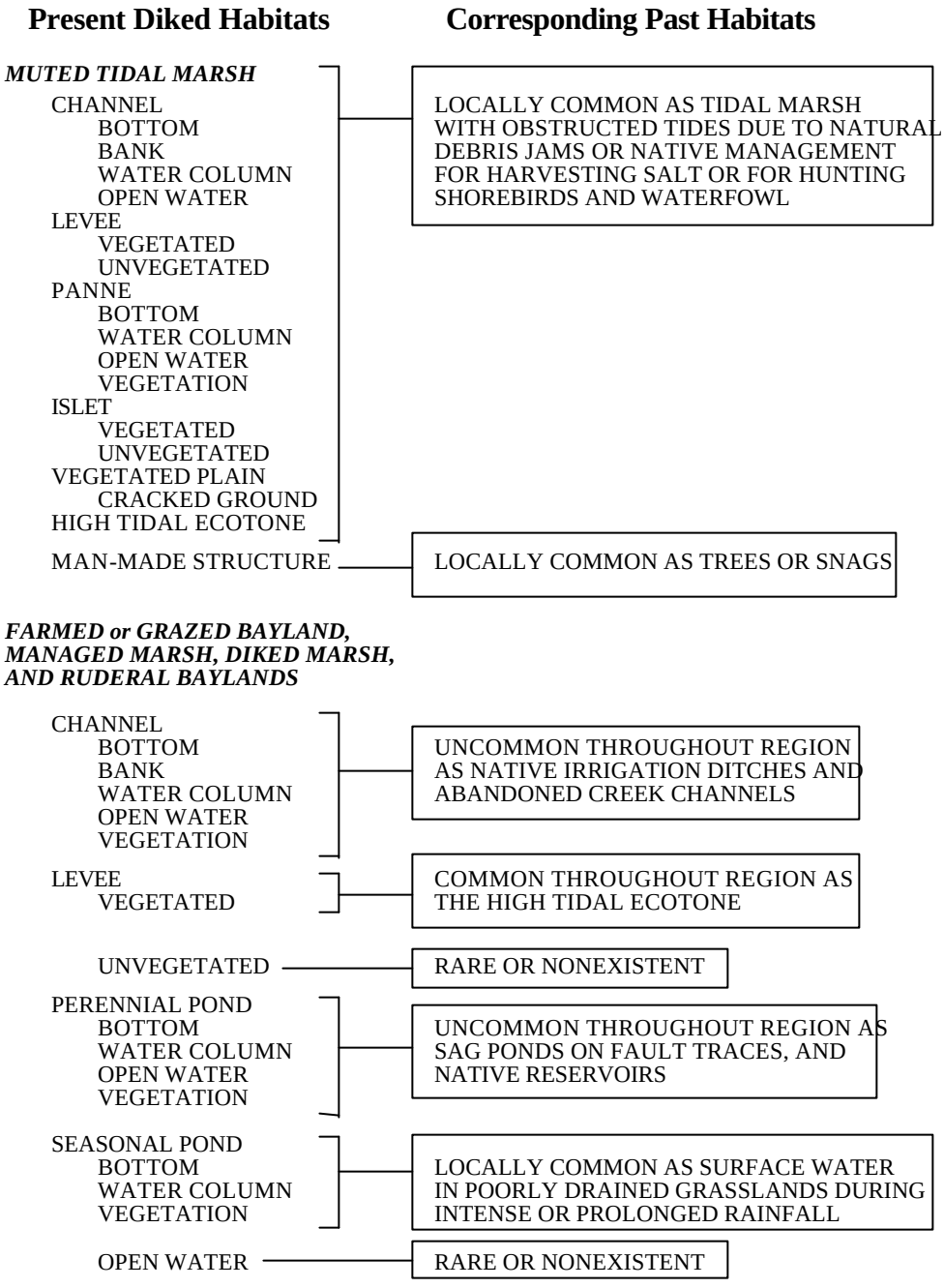


Table of Functional Correspondence between Present Diked and Past Natural Habitats.
FARMED or GRAZED BAYLAND, MANAGED WETLAND, DIKED MARSH, AND RUDERAL BAYLANDS (CONTINUED)

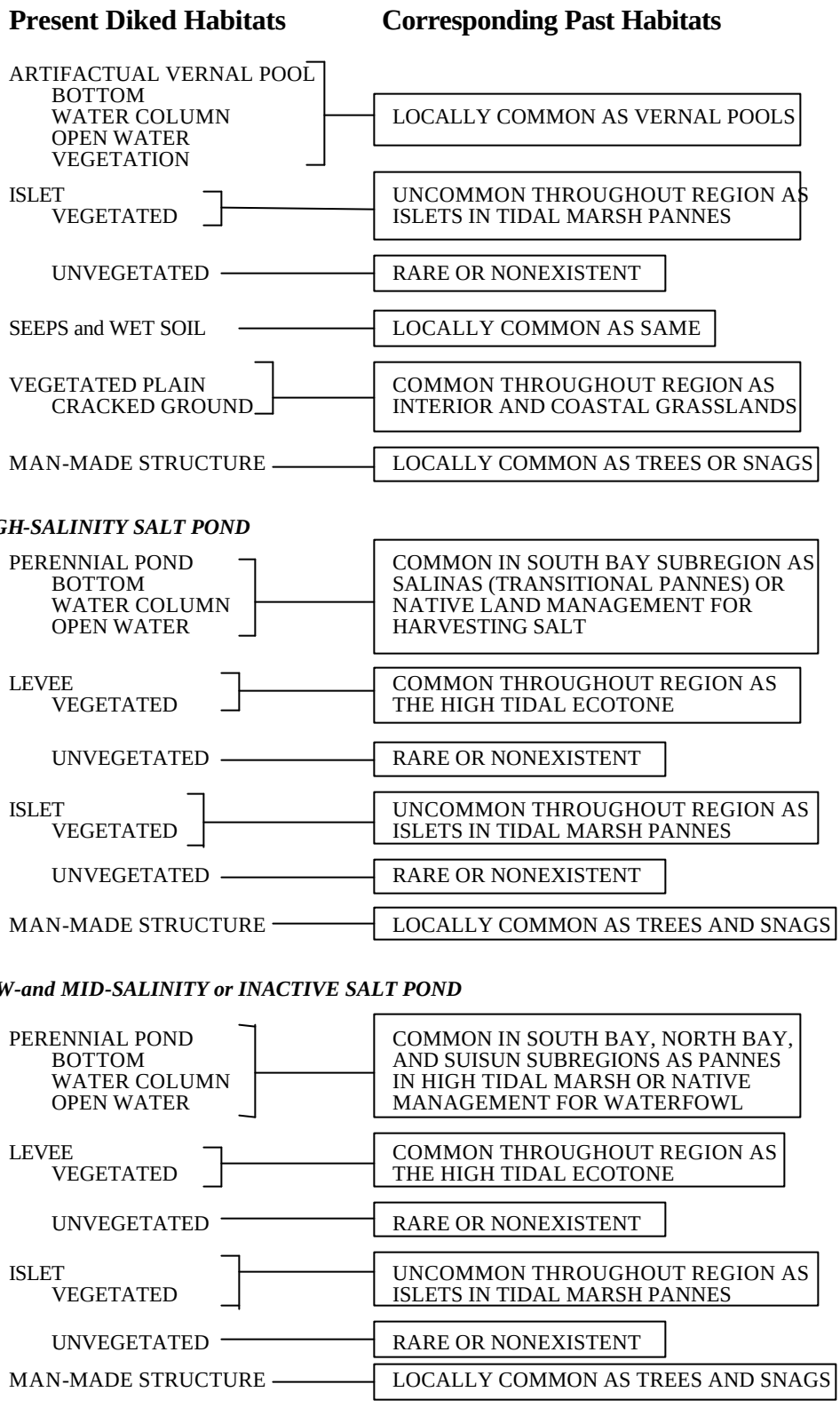
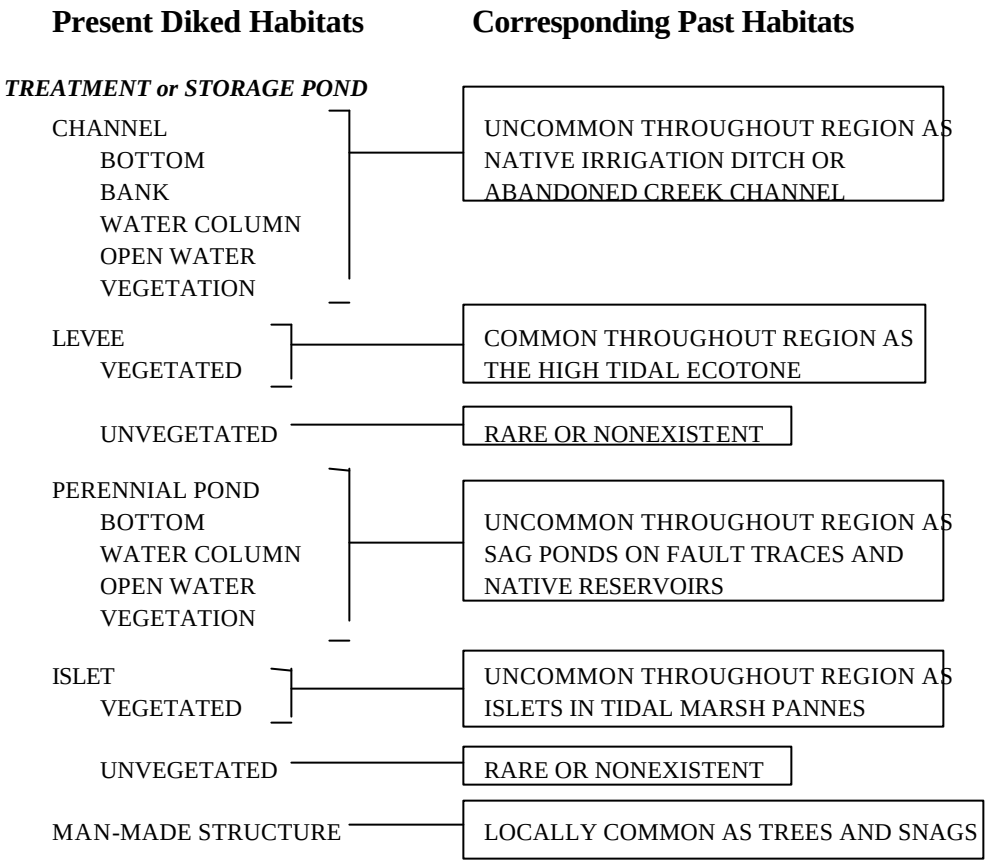


Table of Functional Correspondence between Present Diked and Past Natural Habitats.



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