Ecological site group 16-3
Ecological Site Group 3

Last updated: 05/10/2025
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Key Characteristics

None specified

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Climate

this model is comprised of four states, with the first and second states having two community phases each, and the third and fourth states having a single community phase each. this group is comprised solely of R016XA004CA.

Vegetation dynamics

this model is comprised of four states, with the first and second states having two community phases each, and the third and fourth states having a single community phase each. this group is comprised solely of R016XA004CA.

Major Land Resource Area

MLRA 016X
California Delta

Stage

Provisional

Contributors

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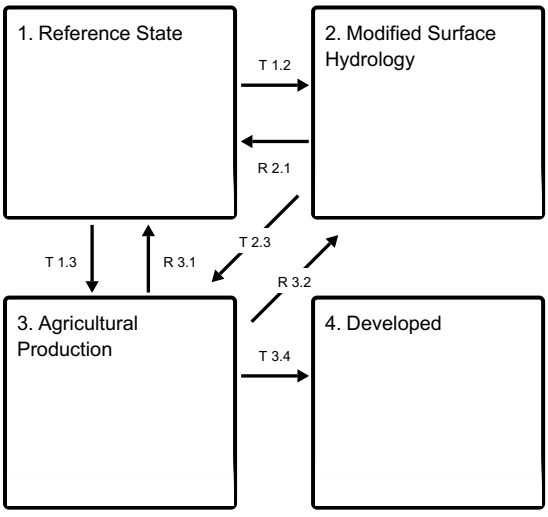
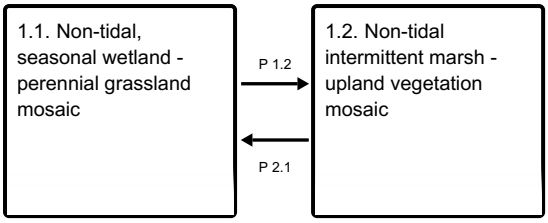
State and transition model

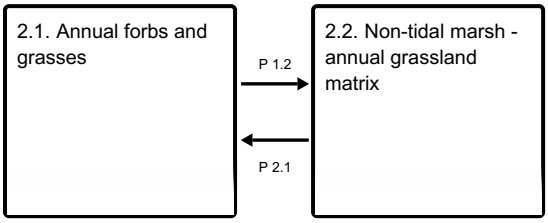
Ecosystem states



State 1 submodel, plant communities



State 2 submodel, plant communities



State 1
Reference State

Saltgrass, coyote brush, salt fat hen, poison oak and bush lupine typically dominate upland areas whereas the intergrade between histic 016XA001 and this site includes some groundwater fed wetland species, primarily Eleocharis and Juncus species. Wetland vegetation may expand upslope somewhat during very wet years and then contract to the lower elevation during years of poor rainfall. Some amount of organic matter accumulation within this zone is likely, but not to the extent demonstrated in 016XA001.

Community 1.1
Non-tidal, seasonal wetland - perennial grassland mosaic

Saltgrass, coyote brush, poison oak and bush lupine; meadow barley, spike rushes and Juncus species in concavities.

Community 1.2
Non-tidal intermittent marsh - upland vegetation mosaic

California meadow barley, spike rushes and Juncus species dominate with expanded range of occurence; bush lupine and coyote brush sparse or in patches with saltgrass restricting recruitment of young shrubs.

Pathway P 1.2
Community 1.1 to 1.2

Two or more wetter than normal climate years facilitating the expansion of wetland vegetation upslope from the community’s previous location.

Pathway P 2.1
Community 1.2 to 1.1

Prolonged drought causing reduction in wetland obligate species along the upper elevations of seasonal wetlands.

State 2
Modified Surface Hydrology

This state is most likely to occur in the form of small exclusions in odd field corners and other unmanaged areas. Following reclamation and the introduction of disturbance favored, grazing-adapted annual species, most of the drier portions of the ecological site would come to be dominated by such species with decreasing amounts of saltgrass in areas left ungrazed. Shrub species would be mostly reduced to trace amounts in such areas due to active control. At the lower elevation of this ecological site, facultative annual wetland species would likely compete

heavily at the drying fringe, reducing the extent of dominance by historic species, but not excluding them altogether.

Community 2.1
Annual forbs and grasses

Ripgut brome, farmer's foxtail, annual fescue, field bindweed, smooth cats ear, and to a lesser degree, saltgrass, poison hemlock and black mustard.

Community 2.2
Non-tidal marsh - annual grassland matrix

California meadow barley, spike rush, Juncus species, Mediterranean barley, scarlet pimpernel and saltgrass.

Pathway P 1.2
Community 2.1 to 2.2

Vegetation control such as mowing and grazing decreases competition for light and nutrients allowing the expansion of saltgrass and species adapted to moist to wet soil conditions such as meadow barley and spike rushes.

Pathway P 2.1
Community 2.2 to 2.1

Removal of vegetation controls such as grazing and mowing increases the composition of introduced annual species thereby displacing wetland species along the wetter portions of the ecological site and reducing the success of saltgrass in drier areas.

State 3
Agricultural Production

Active agricultural use, primarily for Bermuda grass production. The current typical grass crop is likely following previous annual wheat and other small grain cultivation.

State 4
Developed

Developed with structures and attending infrastructure. While restoration is conceptually possible, it has not been demonstrated economically feasible. Compared to other ecological sites within the LRU, this ecological site presents fewer immediate hazards to structures and lesser likelihood of full restoration and therefore are less likely to be targeted for restoration.

Transition T 1.2
State 1 to 2

Levee installation, land levelling, burning, and cultivation; introduction of grazing-adapted annual vegetation species and brush control.

Transition T 1.3
State 1 to 3

Levee installation, land levelling, burning, and annual cultivation; introduction of grazing-adapted annual vegetation species and brush control.

Restoration pathway R 2.1
State 2 to 1

Restoration of natural hydrology, reintroduction of native species and control of competing non-native vegetation.

Transition T 2.3
State 2 to 3

Levee installation, land levelling, burning, and annual cultivation; introduction of grazing-adapted annual vegetation species and brush control. Primary difference between T2 and T3 is the degree of surface disturbance and loss of soil organic matter resulting from annual tillage.

Restoration pathway R 3.1
State 3 to 1

Removal of cultivation practices, restoration of natural hydrology, reintroduction of native species and control of competing non-native vegetation.

Restoration pathway R 3.2
State 3 to 2

Removal of cultivation practices.

Transition T 3.4
State 3 to 4

Conversion to urban land use.

Citations