

## **Modeled Agricultural Lands**

Modeled agricultural habitat is based on DWR 2007 Land Use survey data. The following are cover types and uses in the database that are applicable to the planning area.

- Grain and Hay Crops
  - Barley
  - Wheat
  - Oats
  - Miscellaneous and mixed grain and hay
- Rice
- Field Crops
  - Safflower
  - Sugar beets
  - Corn
  - Grain sorghum
  - Sudan
  - Beans
  - Miscellaneous field
  - Sunflowers
- Pasture
  - Alfalfa and alfalfa mixtures
  - Clover
  - Mixed pasture
  - Native pasture
  - Induced high water table native pasture
  - Miscellaneous grasses
- Truck, Nursery and Berry Crops
  - Asparagus
  - Beans
  - Onions and garlic
  - Tomatoes
  - Peppers
- Orchards
  - Deciduous Fruits and Nuts (mostly pears, almonds, and walnuts)
  - Citrus and Subtropical
- Vineyards
- Idle
  - Land not cropped the current or previous crop season, but cropped within the past three years.
  - New lands being prepped for crop production
- Semiagricultural & Incidental to Agriculture

- Livestock feed lots
- Dairies

Each cover type has a different habitat value to most agriculture-associated Covered Species. For those types that are perennial or semi-perennial, that value can be reasonably modeled since the land use undergoes infrequent or minimal change over at least a period of several years. Those types include:

- Orchard – long-term perennial
- Vineyards – long-term perennial
- Pasture – long term perennial
- Rice – moderate-to-long-term perennial (although cultivated and replanted each year)
- Asparagus – moderate perennial – 5 to 15 years
- Alfalfa – moderate perennial – 3 to 7 years

All other types are seasonally or annually rotated and thus cannot be effectively modeled as individual cover types. Crop rotation occurs within and between the Grain and Hay; Field; and Truck, Nursery, and Berry Crop categories. Because they are seasonally or annually rotated, the value of the individual fields changes each year. In addition, lands that are farmed to rotated irrigated crops generally have periods – usually during the fall post-harvest and winter months, when the fields are disked or bedded and support no vegetation. Therefore, for purposes of modeling habitat value, these crop types are not differentiated based on their individual seasonal value but are instead combined into a category of seasonally rotated croplands. As a result, because many of the individual crop types within this category differ in value, the models that include seasonally rotated cropland as suitable habitat overestimate the extent of available agricultural habitat in any given year.

For example, greater sandhill crane – a species that is only in the planning area during the winter months, primarily uses harvested corn fields, newly planted winter wheat fields, alfalfa fields, and pasturelands as foraging habitat. While corn is traditionally one of the most common crop types in the Delta, a corn field in 2007 may be rotated to safflower, sunflower, tomatoes, or a variety of other less suitable crop types. However, because the field may rotate back to corn, winter wheat, or alfalfa, it eventually regains its value to cranes. Because of this dynamic environment, it would seem prudent to avoid discounting habitat value on the basis of a low value rotational crop type, and instead account for all lands that have potential value.