## Agriculture

A major land use in the project area is agriculture (Figure 4.20-1). The Delta's rich soil and abundant water availability makes it a major contributor to the nation's food supply and a wide variety of crops are grown year-round. Agricultural chemicals, including pesticides, herbicides, fertilizers, and crop-specific additives have been used in the Delta for decades. Agricultural chemicals, including pesticides, herbicides, fertilizers, and crop-specific additive chemicals, have been used in the Delta for decades. Although most agricultural chemicals are designed to break down in soil, some reside in soil longer, and may break down into residual products that can form toxic residue. Other agricultural chemicals, although they are banned from use today, may be found in trace amounts in sediments. According to the United States Geological Survey (USGS) National Water Quality Assessment Program, National Pesticide Synthesis, the most common pesticides found in sediments are organochlorine pesticides. These include the pesticides DDT, DDD, dieldrin, aldrin, chlordane, and heptachlor, and the fungicides hexachlorobenzene and pentachlorophenol (Gilliom *et al.* 2007). Most uses of these pesticides were discontinued by the mid 1980s or before. Specific pesticides, herbicides, fungicides, and crop-specific additive chemicals may be classified and ranked according to their relative risk to human health and the environment. In the National Pesticide Synthesis Project, aquatic-life benchmarks in agricultural streams were exceeded most often by individual compounds in the DDT group or by total DDT (28 percent of sites) and by dieldrin (8 percent). Each crop has specific chemical use associated with it.

**Figure 4.20-1. Agricultural Fields**

## Pesticide/Herbicide/Fertilizer Batch Plants and Supply Companies

Pesticide/herbicide/fertilizer batch plants and supply companies including facilities that sell, store, concentrate, dilute, or distribute agricultural chemicals are present throughout the Delta. These facilities may be large-volume supply businesses that have large tanks with thousands of gallons of these chemicals, which are sold to farmers or distributors for local use. An example of a major crop production facility is shown in Figure 4.20-2.

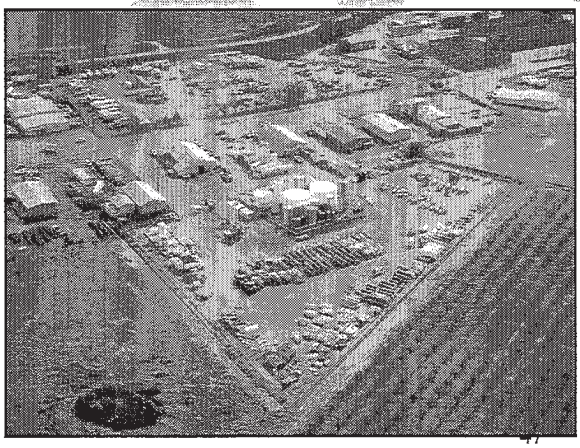

**Figure 4.20-2. Crop Production Services Walnut Grove**

These facilities may also be farm-level batch plants, which take the raw material from a supply yard or tanker and temporarily store the material prior to loading into distribution equipment. The main difference between a supply business and a batch plant is the volume and duration of storage. Another important distinction is that supply businesses often have extensive spill-containment equipment and specially trained staff, while a batching operation is oftentimes less sophisticated regarding spill containment, and the farmer may or may not have specific training for handling these chemicals.

Crop dusting operations, consisting of an air strip with accompanying pesticide storage and rinsing areas, are expected to be common throughout the Delta. Historically, many farming operations used aerial crop dusting to efficiently distribute pesticides to