FAXed to L. Tranyham for review 11-14-01

FINAL
Exhibit B
L Tranyham approved 11-15-01

Conservation Reserve Enhancement Program
Perpetual Wetland Easement
DRAFT
Management Plan

Tranyham Ranch

The following is a site-specific management plan for the 227-acre portion of the Tranyham Ranch subject to the State's perpetual wetland easement element of the Conservation Reserve Enhancement Program. This plan, intended to provide wetland habitat diversity and productivity on the property, identifies the measures that will be needed to restore the property to a mixture of wetlands and uplands, and the type of habitat management that will be required by the State after the property is restored. Proper implementation of these strategies should enhance the wetland habitat value of the property.

Tranyham Ranch offers good potential for the development of a diversity of wetland, upland and riparian habitat types. This management plan focuses on developing productive seasonal wetlands, semi-permanent wetlands, and upland nesting habitat in fields formerly used for agricultural production. Habitat conditions may dictate that management practices be altered periodically. Modifications to the management plan will be made as necessary at the mutual consent of the landowner and the State to ensure that wetlands remain dynamic.

Management practices described in the PRINCIPLES OF CENTRAL VALLEY MARSH MANAGEMENT section of Exhibit B shall generally be followed for the entire property. The PRINCIPLES OF CENTRAL VALLEY MARSH MANAGEMENT and the WETLAND HABITAT MANAGEMENT GUIDES contain "how-to" information about drawdowns, discing, and irrigations. The habitat management requirements specified in this Site Specific Management Plan shall, in the case of conflicts, supersede the generalized habitat management practices described in the attached Wetland Habitat Management Guides.

WETLAND RESTORATION

Wetland restoration on the Tranyham Ranch requires conversion of approximately 225 acres of the former agricultural fields to seasonal and semi-permanent wetlands, which involves the following:

1) re-constructing existing permanent levees in a meandering fashion such that all interior and exterior levees are 3 feet high and contain at least 5:1 side slopes (except where a levee borders a ditch, in which case the slope on the ditch side shall be 2:1),

2) constructing permanent interior levees (maximum 3 feet high, minimum 5:1 side slopes) to replace small rice dikes such that permanent interior levees are present at maximum intervals of every 12" of elevational drop within each field,

3) developing or improving ditches as necessary to facilitate independent flooding and drainage of wetland units,

4) installing "flashboard riser" water control structures (18-24" diameter pipe, 36-48" spill width) to allow the timely flooding/drainage of wetland units and precise control of wetland water depths,

5) constructing channels or "swales" (30-80 feet wide, 12-24" of excavation) that meander from the inlet to outlet structures, utilizing the resultant spoil to restore variable pond bottom topography by constructing underwater berms and hummocks,

6) developing small linear "loafing bars" (20-60 feet long, 10-30 feet wide, minimum 5:1 side slopes, 0-12" above the water level) and possibly some higher mounds for duck blinds,

7) planting isolated clumps of hardstem bulrush (tules) throughout the wetland area.

8) planting native willows and cottonwoods in areas that can be irrigated for the first two years.

The wetland restoration project shall be constructed in accordance with the design and engineering plans developed by the California Waterfowl Association (CWA) that were included in their grant request to the Wildlife Conservation Board. The specific location of islands, loafing bars, and tule and tree transplanting sites will be determined during the construction phase of the restoration project.

Cost-Sharing, Timeline, and Permits

Wetland restoration shall be initiated in 2002 and be completed prior to December 31, 2003. Cost-sharing for the wetland restoration project is scheduled to be provided by the Wildlife Conservation Board's Inland Wetlands Conservation Program and the California Waterfowl Association. As such, the funds required to construct the project are scheduled to be provided, in approximate terms, as follows: WCB 50%, CWA 40%, and the landowner 10%. All survey and design work must be approved by the State prior to initiation of construction. The **Grantor (landowner)** shall be responsible for obtaining all necessary local, State, and Federal permits as may be required to complete wetland restoration and to conduct the management practices prescribed in this management plan, including water quality certifications, grading ordinances, prescribed burning, and other required permits.

HABITAT MANAGEMENT

The management requirements described below are based on preliminary estimates that 145 acres will be restored into wetlands with the remaining 80 acres restored into uplands. The actual acreages of wetlands and uplands restored will likely deviate slightly from these estimates, but the State's flooding requirements will be based on the target of 145 acres of wetlands and will follow the relative percentages of wetland habitat identified for various management practices.

Following the completion of wetland restoration activities the Grantor shall conduct habitat management as follows:

Fall Flooding

At least 130 acres of the restored wetlands shall be flooded to depths of at least 4" by December 1 each year. Of this acreage, at least 80 acres shall be flooded to depths of at least 4" by October 15. The 15-acre brood pond may be flooded during the winter or be left dry until March 15 (see

"Brood Ponds" section below).

Spring Drawdowns
Approximately 130 acres of the restored wetlands shall undergo drawdown in accordance with WETLAND HABITAT MANAGEMENT GUIDE #1 (smartweed), which, in the Lower Colusa Basin, involves a slow drawdown in early April, **or** WETLAND HABITAT MANAGEMENT GUIDE #3 (watergrass), which, involves a slow drawdown in late April or May. The location of smartweed and watergrass habitats within the property is at the sole discretion of the Grantor. The balance of the restored wetlands (approximately 15 acres) shall be managed in accordance with WETLAND HABITAT MANAGEMENT GUIDE #5 (brood pond).

Spring/Summer Irrigations
Each year, the entire seasonal wetland acreage (approximately 130 acres) shall receive at least one "flash" irrigation, which involves flooding the majority of a given unit 3-6" deep for a period of 7-14 days to encourage smartweed and/or watergrass seed production in accordance with WETLAND HABITAT MANAGEMENT GUIDE #1 (smartweed) or WETLAND HABITAT MANAGEMENT GUIDE #3 (watergrass). Typically, excellent smartweed production can be achieved by providing an irrigation (10-14 days in duration) in June. However, the State may, in any given year, require a second irrigation (7-10 days in duration) in July if necessary to achieve optimum seed production of desired waterfowl food plants.

Semi-permanent Wetlands (Brood Ponds)
Approximately 15 acres (typically, Field 1 or Field 2) shall be flooded continuously during the spring and summer (from at least March 15 through July 15) each year to meet the needs of duck broods and other wetland-dependent wildlife. The location of brood ponds is at the sole discretion of the Grantor. However, the State recommends alternating brood pond flooding between Field 1 and Field 2 with a maximum of two consecutive years of brood pond flooding in a given pond. This type of "habitat rotation"will keep the ponds productive and allow for vegetation control as necessary. It will also likely result in optimal aquatic invertebrate production and vegetation composition. Managing the same wetland units as brood ponds every year can result in climax wetland conditions characterized by reduced invertebrate abundance, dense stands of cattails and other perennial vegetation, and reduced use by duck broods and most other waterbirds. The water regime for the brood ponds may follow any of the following:

- WETLAND HABITAT MANAGEMENT GUIDE #5 (brood pond): Continuous flooding from October 15 through July 15,

- WETLAND HABITAT MANAGEMENT GUIDE #4 (permanent marsh): Year-round flooding,

- Reverse-Cycle Wetlands: A special water regime recently developed by the State and implemented on numerous State wildlife areas that involves continuous flooding from March 15 through July 15. Reverse-cycle wetlands are intentionally left dry during the fall and winter to promote the growth of annual grasses and forbs such as ryegrass, dock, and rabbitsfoot grass. These upland plants decompose readily when flooded during the growing season, thereby providing breeding ducks and other waterbirds with high invertebrate populations during the late spring and early summer.

Water Management Costs
The State fully recognizes that water management could become costly in drought years if surface water is not available from the current sources in sufficient quantities to flood the property in accordance with this management plan. However, the flooding requirements described herein are necessary to achieve the wildlife benefits for which acquisition of the subject easement was intended. While certain concessions have been made by the State herein (e.g. the delayed fall flooding provisions in the "Fall Flooding" section above), the Grantor is responsible for judiciously carrying out the management practices described in this management plan annually. The only foreseeable exception to the State's flooding requirements would be in the event of a severe, multi-year drought that caused surface water acquisition and/or groundwater pumping costs to escalate to unreasonable levels. In such an instance, the State would shift habitat management requirements into discing or other activities during the drought period.

Discing
Discing is commonly used throughout the Central Valley to reduce undesirable wetland vegetation such as river bulrush, jointgrass, and cattails while encouraging seed producing waterfowl food plants such as smartweed, watergrass, and sprangletop. The State will require discing as necessary for these purposes. Due to the robust nature of most undesirable wetland plants, a large tractor (120+ HP) and stubble disc (at least 28" blades) will typically be needed to meet the State's discing requirement. A smaller "finish disc" and/or a ring-roller can subsequently be used to smooth out dirt clods and make walking easier under flooded conditions. The State may also require light discing of strips, lanes, and potholes in dense watergrass or smartweed fields prior to fall flooding. Discing should typically be conducted during the months of July, August, or September. This practice is often necessary to "open up" holes in the dense habitat, thereby encouraging early season waterfowl use. The State's total discing requirements shall not exceed 1/3 of the wetland acreage in any given year.

Grazing
Grazing is not allowed.

Upland Habitat
The uplands (Field 3 and Field 7) shall be managed as high-quality nesting habitat. Active management will likely be necessary to maintain suitable nesting habitat for mallards, pheasants, gadwall, cinnamon teal, northern harriers, and American bitterns. Mallards, which comprise over 90% of the locally nesting ducks in the Sacramento Valley, prefer to nest in dense vegetation consisting mainly of grasses, legumes, or cereal grains. The vegetation must be at least 18" in height by mid-March. However, rank vegetation such as star thistle is typically avoided by nesting mallards. For these reasons the upland portions of the property shall be established and then rejuvenated as determined necessary by the State, likely every 3-5 years, by discing, burning, or planting a fall cover crop such as barley/vetch. Some hen pheasants may still be on the nest until early August, thus upland rejuvenation projects (discing, planting cover crops) shall not be initiated until at least August 15 each year. Irrigation of upland areas can also be extremely beneficial to pheasants in that the increased moisture results in more insects and a better food supply for pheasant chicks. The State encourages the temporary flooding of a portion of the uplands (e.g. Field 7) for 4-6 weeks in January and February before the nesting season to build soil moisture, decompose rank vegetation, and provide pair water for breeding ducks. Furthermore, a brief, tightly controlled, shallow (1-2" deep) "flash" irrigation in May can be very beneficial, but care should be taken to avoid flooding duck nests. The landowner is encouraged to discuss upland irrigation strategies with the State prior to implementation.

The Contractor may also annually plant up to 11 acres of food plots such as safflower, milo, millet, or sudan to provide habitat for pheasants, doves, and other upland wildlife. These plots shall not be harvested as a commercial crop.

Wetland management is an art, not a science, and the State encourages the Grantor to keep accurate records of habitat manipulations. These records will help the State and the Grantor cooperatively refine management techniques that are successful on Tranyham Ranch. Questions regarding habitat management and/or wetland plant identification should be directed to Mr. Dave Smith, Wetland Habitat Biologist (916-653-5284) or Mr. Dean Kwasny, Wetland Habitat Biologist (916-651-8175).