

# Cropland Idling

## Issue No. 7 - DRAFT Rice Straw Decomposition Water

### Background

#### Issue

Landowners in Water Districts have asked the California Department of Water Resources and the Bureau of Reclamation (the Projects) to consider approving transfers of water made available by not flooding harvested rice fields that would have otherwise been flooded for rice straw decomposition.

#### Discussion

Diversions in the fall and winter months for rice straw decomposition result in substantial depletions in surface water supplies (October through November). Rice straw decomposition accelerates with higher temperature therefore; early flood-up is desirable. However, consumptive use of this water is low and the water is diverted outside the current transfer window of July through September, therefore if the transfer water is to be exported in the year it would have been diverted, the Projects would have to “front” the water for transfer during the July to September transfer window. Releasing this water earlier in the season may also affect management of the cold water pools in the Project reservoirs. Water diverted for rice straw decomposition is typically discharged from the rice fields in early winter when there is a greater likelihood that the Delta will be in excess conditions and the Projects cannot recapture the additional discharges.

Allowing transfer of water made available from fields that would have been part of a rice decomposition program deviates from transfers based on the evapotranspiration pattern of applied water (consumptive use) to transfers based on reduced diversions. The consumptive use of rice straw decomposition is unknown but we anticipate consumptive use to be low.

Water transfers are evaluated to ensure the transfer will not result in harm to other legal users of water, including the Projects, or the environment. If the Projects agree to deliver the Transfer Water within the transfer season preceding the floodup season, they would assume the primary risk for rice straw decomposition water transfers unless the approval contained a provision that the Projects be paid back for water that ultimately would have been available in the absence of the transfer due to hydrologic conditions the following winter. The concept behind the transfer of rice straw decomposition water being based on diversions rather than consumptive use is that the water is diverted during balanced conditions resulting in an impact to Project storage and it is returned to the surface water system at times when the Delta is often in excess conditions and the Projects cannot store or export the releases. However, it

is not possible to project what conditions will exist in the following late winter/early spring period when the flows would have been released. If the Projects have the ability to pump the water released from the rice fields the following winter, in effect, Project water is being sold. If the Projects cannot pump the released water, it moves out of the system with no benefit to the Projects and the reduction in diversions for fall floodup could have some benefit to Project storage. In order to assess the risks of transferring rice straw decomposition water, the Projects must consider many things including:

- Since there is no quantifiable consumptive use for rice straw decomposition, the only measure is reduced diversions. How do we determine the transferable amount of flood-up water?
- Separating rice straw decomposition water from “duck” water is difficult if not impossible. Does the water use matter for water transfer?
- Diversion usually occurs in early fall and releases usually occur in late winter. What are the risks to the Projects delivering the transfer water in the summer preceding the fall floodup period?
- Do rice straw decomposition water transfers provide a benefit to or harm the Projects? Is there value of rice straw decomposition water on Project water storage?
- What risks do the potential for reservoir spill and Delta balance issues pose?
- The Projects will only consider water applied before a natural rainfall event as transferable.
- Only fields that would not have been part of burn rotation can be included in a rice straw decomposition water transfer.

## **Recommendation for 2010**

Explore the potential of using groundwater substitution for rice straw decomposition water or using mechanized removal methods, leaving more water in Project reservoirs. Continue to answer as many of the above questions as possible. Determine if rice straw decomposition transfers can be included in 2010 water transfers by June 15, 2010.

## **Future Discussions for the Long-Term Program**

Continue exploring the potential of rice straw decomposition/“duck” water for future water transfers.