Agricultural Impacts Analysis of the Proposed Yolo Bypass Conservation Measure: Updated Crop Maps, Prices and Yields

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Outline

- Yolo Bypass subregions
- Updated Yolo Bypass crop maps
- 2005-2009 crop prices
- Estimated crop yields
- Next steps
Agricultural Subregion Map

• Criteria used to develop subregion map
  – Meteorology
  – Topography
  – Soils
  – Drainage characteristics
  – Parcel boundaries
  – Input from farmers

• Also includes Study Area boundary, the portion of the Yolo Bypass covered by the analysis
Major Land Uses in Yolo Bypass Study Area

Major Land Uses in the Yolo Bypass

<table>
<thead>
<tr>
<th>Year</th>
<th>Cropland</th>
<th>Fallow</th>
<th>Wetland</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2006</td>
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<td>2007</td>
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<td></td>
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<tr>
<td>2008</td>
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<td></td>
<td></td>
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<tr>
<td>2009</td>
<td></td>
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</tbody>
</table>
Yolo Bypass Crops: 2005-2009

- Substantially more crop information integrated into current maps
- When data unavailable in study area, fields identified as fallow
- Crop data originated from:
  - Pesticide Use Reports
  - Consultation with landowners/farmers
  - Consultation with SACOG and Mosquito Dist.
Crop Categories

- Alfalfa
- Corn
- Pasture
- Rice
- Safflower
- Sunflower
- Tidal marsh
- Tomato
- Vine Seed
- Wetland
- Wheat
- Other field crops
- Fallow
Yolo Bypass Crops - 2008
Crop Data: Preliminary Results

- Rice and processing tomatoes highest acreage, as well as highest value crops
- Fallow land decreases significantly in years there is no flooding
- Significant wetlands acreage
- Significant pasture acreage
Crop Prices: Overview

- Price data from Yolo County Agricultural Commissioner reports
- Prices identified over 5 Years for almost all crops
- Adjusted to 2008 $ for comparison
- Wide variability in crop prices
Sample Crop Prices

- **Tomatoes**
  - Low $63.90 per ton (2005)
  - High $90.40 per ton (2009)
  - Average $73.22 per ton

- **Rice**
  - Low $266.70 per ton (2005)
  - High $513.11 per ton (2008)
  - Average $357.40 per ton
<table>
<thead>
<tr>
<th>CROP</th>
<th>2005</th>
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<th>2008</th>
<th>2009</th>
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<tr>
<td>Alfalfa</td>
<td>$162.40</td>
<td>$142.60</td>
<td>$154.60</td>
<td>$189.20</td>
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<td>Corn</td>
<td>131.40</td>
<td>150.60</td>
<td>151.40</td>
<td>152.20</td>
<td>181.30</td>
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<td>Melons</td>
<td>315.10</td>
<td>384.50</td>
<td>323.30</td>
<td>296.10</td>
<td>321.00</td>
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<td>Pasture dry</td>
<td>49.20</td>
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<td>Tomato process.</td>
<td>63.90</td>
<td>75.60</td>
<td>67.40</td>
<td>68.80</td>
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<td>Rice</td>
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<td>282.90</td>
<td>292.60</td>
<td>513.11</td>
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<td>Safflower</td>
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<td>Sunflower</td>
<td>-</td>
<td>1,019.90</td>
<td>1,164.80</td>
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<td>Wheat</td>
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<td>206.70</td>
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<td>Wild rice</td>
<td>1,705.10</td>
<td>1,233.50</td>
<td>1,842.80</td>
<td>1,684.20</td>
<td>1,023.70</td>
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Rice Yield By Planting Date and Subregion - 2005

Rice - Year 2005 - Region 1

Rice - Year 2005 - Region 2

Rice - Year 2005 - Region 3

Rice - Year 2005 - Region 4
Rice Yield By Planting Date and Subregion - 2005
Rice Yield By Planting Date and Subregion - 2009
Rice Yield By Planting Date and Subregion - 2009
Rice Yield Comparison
2005 vs. 2009 in Subregion 1
Yield Data Preliminary Results

- Yields along east side of Bypass equivalent or greater than west side without flooding
- Crop yields decrease as Fremont Weir overtopping date extends past Feb 15
- Yields decrease most along east side of Bypass with extended flooding because of longer drainage times
- Variability in yield among years
Next Steps and Timeline

Next steps:
• Secure HEC-RAS GIS information
• Run model analysis
• Continue stakeholder outreach
• Estimate impacts
• Prepare report

Timeline:
• Run analysis (late-November)
• Preliminary results (end of November)
• Public draft (mid-December)
• Comment period (mid-December to January 31)
• Final draft (mid-February)
Questions?