Delta Adapts:
Creating a Climate Resilient Future

DEC 2020
Agenda

- Review Remaining Key Findings
- Provide Overview of Stakeholder Work Group Meeting
- Questions for Discussion
Organization of Key Findings

- Climate Stressors and Hazards
- **Delta as an Evolving Place**
  - People
  - Places
  - Agriculture
  - Recreation
  - Infrastructure
- Ecosystems
- Water Supply Reliability
- **Economic exposure** (asset value and economic activity)
Economics Analysis

- Exposure to Flooding and Water supply Vulnerabilities
- Assets and Economic Activity
  - Agricultural activity and property
  - Residential property
  - Commercial activity and property
  - Infrastructure – critical facilities; communications; transportation; water, energy, utilities; recreation and culture
Flood exposure indicates the Delta-wide people, assets, and resources exposed to flooding by levee overtopping during an event with a 1% annual chance of occurrence given climate conditions at each planning horizon.
Flood Exposure

<table>
<thead>
<tr>
<th>Annual Chance</th>
<th>Return Period</th>
<th>Chance over 10 years</th>
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</thead>
<tbody>
<tr>
<td>10%</td>
<td>less than 10 years</td>
<td>greater than 65%</td>
</tr>
<tr>
<td>2-10%</td>
<td>10 to 50 years</td>
<td>18% to 65%</td>
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<tr>
<td>1-2%</td>
<td>50 to 100 years</td>
<td>10% to 18%</td>
</tr>
<tr>
<td>.5-1%</td>
<td>100 to 200 years</td>
<td>5% to 10%</td>
</tr>
<tr>
<td>&lt;.5%</td>
<td>greater than 200 years</td>
<td>less than 5%</td>
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<tr>
<td></td>
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<td>High sensitivity to SJR inflow assumptions</td>
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<tr>
<td></td>
<td></td>
<td>Not Modeled</td>
</tr>
</tbody>
</table>

Map showing flood exposure risk across different counties, with varying colors indicating the annual chance and return period.
DELTA ADAPTS
2050 Projections

PEOPLE

65,880
Delta residents exposed (10% of Delta population)

65% of exposed population live in areas with high social vulnerability

FLOODING

EXTREME HEAT

25+ extreme heat days in urban areas of Stockton and Tracy

Increase in unhealthy ozone days, affecting air quality

WILDFIRE

Increase in size and severity of remote wildfires will increase frequency and duration of poor air quality days
PLACES

FLOODING

- Cultural Resources exposed
  - 4 Historic Sites
  - 2 Legacy Towns
- Critical Facilities exposed
  - 11 Fire Stations
  - 19 K-12 Schools
  - 11 Wastewater Treatment Plants

Parcels exposed
- 16,990 Residential Parcels valued at $2.7B
- 2,025 commercial and industrial parcels valued at $1.1B

EXTREME HEAT

Increased emergency response calls and hospital admissions due to heat-related injuries and illness

Increased cooling costs for homes and buildings
AGRICULTURE

DELTA ADAPTS
2050 Projections

**Flooding**
- 148,000 acres of agricultural lands exposed
- $72M in assets and $79M in annual economic activity
- Largest acreage of crops exposed includes corn, alfalfa, and pasture lands

**Extreme Heat**
- Increased heat stress will decrease some crop yields and quality
- Projected decrease in tule fog days and winter chill hours

**Drought**
- Negative impacts to water supply and quality, crop germination, growth rate, and reproduction
**RECREATION**

**DELTA ADAPTS**
**2050 Projections**

- **Flooding**
  - 32 parks exposed
  - 13 campgrounds exposed
  - 45 miles of trails
  - 10 miles of scenic highways
  - Most exposed parks and campgrounds are operated by cities in San Joaquin County

- **Extreme Heat**
  - May affect visitor patterns with more shaded parks increasing in popularity
  - Increased stress on park vegetation

- **Drought**
  - More frequent and severe low flows may impact the Delta's water-based recreational activities (fishing and boating)
### Infrastructures

**Energy Assets exposed**
- $800M Value of Energy Assets

**Transportation Assets exposed**
- $1.1B Value of roads
- $83M Value of rail
- Port of Stockton terminals

**Solid/Hazardous Waste Assets exposed**
- 26 Solid Waste Sites
- 26 Contaminated Sites
- 4 Hazardous Waste Facilities

**Water Supply Assets exposed**
- 31 state and local points of diversion
- 16 Miles of the Mokelumne Aqueduct

### Extremes

**Loss of power supply due to overloaded electrical grid**

**Damage to roadway and rail infrastructure**

**Reduced performance and useful life of electrical components**
Stakeholder Work Group Meeting
Next Steps

- Public Draft Vulnerability Assessment in January with 30-day public comment period
- Present Final Vulnerability Assessment to Council
- Begin Adaptation Strategy
Questions for Discussion

- Which of these findings are the most important and who should we communicate them to?
- What effective adaptation strategies are you aware of that staff should start to investigate for applicability to the Delta?
Thank you

Web: deltacouncil.ca.gov/delta-plan/climate-change
Twitter: @DeltaCouncil