

DEC 2020

# Delta Adapts: Creating a Climate Resilient Future



**Delta  
Stewardship  
Council**

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# Agenda

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- 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)



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Public Review Draft



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# Economics Analysis

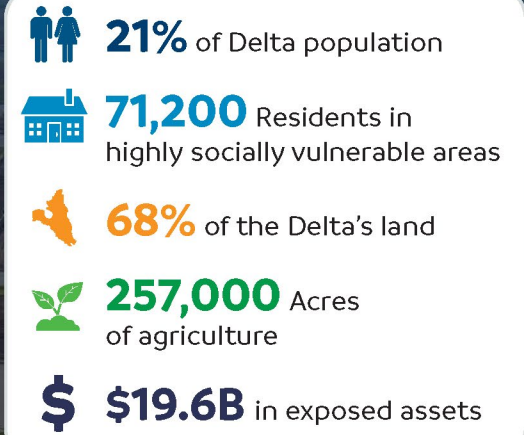
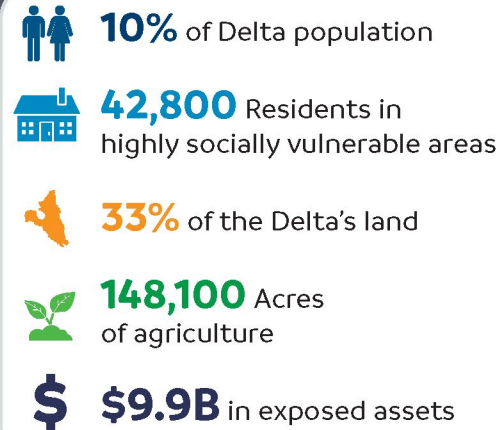
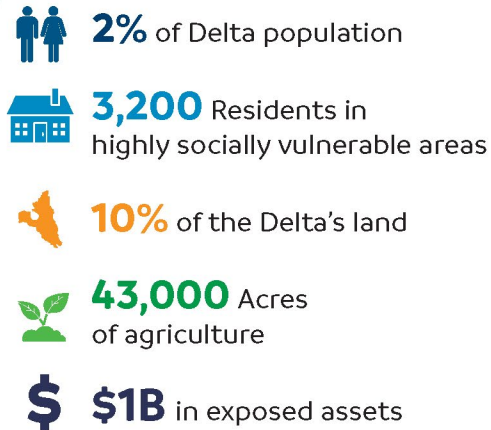
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- Exposure to Flooding and Water supply Vulnerabilities
- Assets and Economic Activity
  - Agricultural activity and property
  - Residential property
  - Commercial activity and property
  - Infrastructure – critical facilities; communications; transportation; water, energy, utilities; recreation and culture





# DELTA FLOOD EXPOSURE










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.

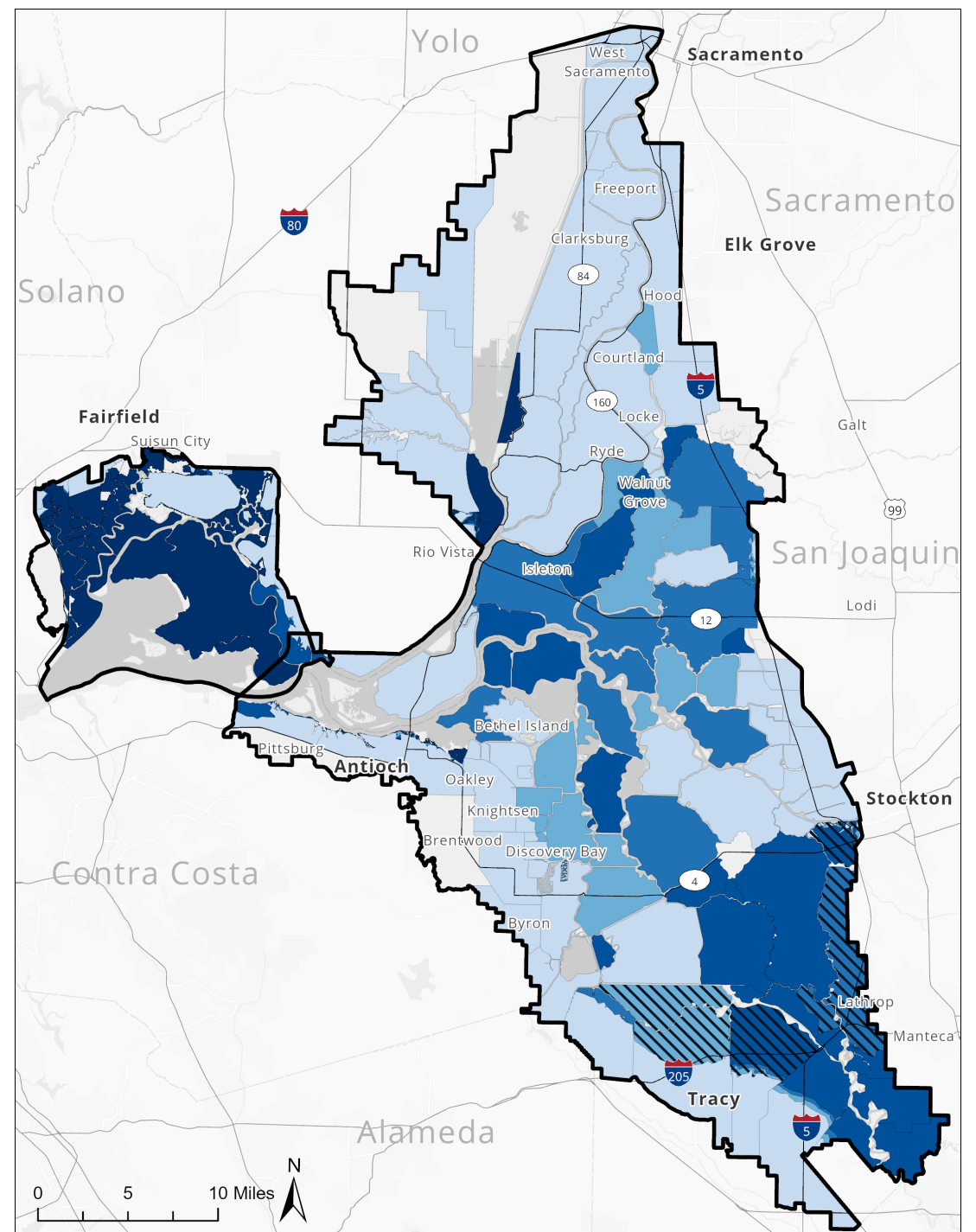


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# Flood Exposure

Annual Chance	Return Period	Chance over 10 years
	10%	less than 10 years   greater than 65%
	2-10%	10 to 50 years   18% to 65%
	1-2%	50 to 100 years   10% to 18%
	.5-1%	100 to 200 years   5% to 10%
	<.5%	greater than 200 years   less than 5%
	High sensitivity to SJR inflow assumptions	
	Not Modeled	








# PEOPLE

# DELTA ADAPTS




2050 Projections

**FLOODING**

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

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

**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

## DELTA ADAPTS



2050 Projections



### 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)





# INFRASTRUCTURE



### FLOODING

<p><b>Energy Assets exposed</b></p> <p><b>\$800M</b> Value of Energy Assets</p>	<p><b>Solid/Hazardous Waste Assets exposed</b></p> <p><b>26</b> Solid Waste Sites <b>26</b> Contaminated Sites <b>4</b> Hazardous Waste Facilities</p>	<p><b>Water Supply Assets exposed</b></p> <p><b>31</b> state and local points of diversion <b>16 Miles</b> of the Mokelumne Aqueduct</p>
<p><b>Transportation Assets exposed</b></p> <p><b>\$1.1B</b> Value of roads <b>\$83M</b> Value of rail Port of Stockton terminals</p>	<p><b>Flood Management Assets exposed</b></p> <p><b>1,300 miles</b> of levees</p>	

### EXTREME HEAT

<p><b>Loss of power supply</b> due to overloaded electrical grid</p>	<p><b>Damage</b> to roadway and rail infrastructure</p>	<p><b>Reduced performance</b> and useful life of electrical components</p>
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# Stakeholder Work Group Meeting


The image displays a grid of 49 video conference thumbnails, arranged in 7 rows and 7 columns. Each thumbnail shows a participant's video feed and a name label at the bottom. A red slash icon indicates that the participant's microphone is muted. The participants are:

(Webinar sup...	Kaylee Griffith...	(Facilitator) Ben G...	Tristan Osbor...	Harriet Ross, ...	Cory Copelan...	Andrew Schw...
Warner Chabo...	Molly Williams - ...	Osha Meserve...	dale crossley	Thomas Niesa...	Matt Holmes...	Daniel Consta...
Jeff Henderso...	Jody London, ...	Annika Keeley...	Justin Vandev...	Deirdre Des Ja...	Will Nelson, C...	Morgan Chow...
Julie Haas-Wajdo...	Rachael Harto...	Taylor Tharald...	Campbell Ingr...	Avery Livengo...	TMZ438885	Yair Chaver, B...
April Robinso...	Ryan Hernand...	Brenna Maho...	Dylan Chappl...	Paulina Benne...	Misty Kaltreid...	Erik Vink - Del...
Jennifer Nevill...	Will Anderson...	Ashley Goldlis...	Barbara Barrig...	Scott Petersen...	Nina Hawk, M...	<b>Glenn Gebhardt...</b>



# Next Steps


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



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# Questions for Discussion

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- 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](http://deltacouncil.ca.gov/delta-plan/climate-change)

Twitter: @DeltaCouncil



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