City of Santa Fe Water & Santa Fe County Utilities
Water Resources Planning Webinar
October 19 & 20, 2020

City Council Districts map for poll question

County Districts map for poll question

See also: https://www.santafenm.gov/district_maps
See also: https://santafecountynm.maps.arcgis.com/home/index.html
Introduction of Panelists

- Jesse Roach : City of Santa Fe Water
- Lucy Moore : Moderator/Facilitator
- Virginie Pointeau : Moderator/Facilitator
- Anjali Bean : County Utilities
- Bill Schneider : City of Santa Fe Water
Webinar Purpose

• This webinar is designed to provide background information.
  – Overview of history of water resources planning and development
  – Current City and County initiatives
  – Proposed planning cycle

• There will be Q&A to provide opportunity for clarifying this background information.
Opportunities for feedback:

- Breakout sessions next week
  - Sunday 10/25 3:30 pm - 5:30 pm
  - Monday 10/26 10 am - noon
  - Thursday 10/29 5:30 pm – 7:30 pm

  Zoom info: [https://santafenm-gov.zoom.us/j/8352202097](https://santafenm-gov.zoom.us/j/8352202097)

  Or dial in: 1 346 248 7799 Meeting ID: 835 220 2097

  Info at [https://www.santafenm.gov/water_division](https://www.santafenm.gov/water_division)

- Online survey (more on this later).
  [https://forms.gle/8DxJ3aCAzzXmpArw5](https://forms.gle/8DxJ3aCAzzXmpArw5)
  or [https://www.santafenm.gov/water_division](https://www.santafenm.gov/water_division)
  or [https://www.santafecountynm.gov/public_works/utilities/wrp](https://www.santafecountynm.gov/public_works/utilities/wrp)
Planning Cycle: Key outcomes desired

1. Planning Approach
2. Scenario Development
   a) Supply Scenarios
   b) Demand Scenarios
3. Preferred Projects & Initiatives
<table>
<thead>
<tr>
<th>Year</th>
<th>Objective</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
<th>Winter</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>Define Process</td>
<td>Draft 5-Year Planning Process</td>
<td>Public workshops on process</td>
<td>Final 5 Year Planning Process</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>Supply &amp; Demand Scenarios</td>
<td>Public workshops on supply and demand</td>
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<td>Evaluate Adaptation Strategies</td>
<td>Public workshop on adaptation strategies</td>
<td>Draft Ranked Project List</td>
<td>Public Comment</td>
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<tr>
<td>2024</td>
<td>Develop Plan</td>
<td>Draft 80 Year Water Plan</td>
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</table>

**Color Key:**
- Public Input
- Public Engagement
- Draft Deliverable
- Final Deliverable
Year 1: Define the process

Specific Information Desired in Year 1

- Feedback on proposed planning process and opportunities for public engagement in that process.

- What aspect of water planning is of most the interest?
  - Projected climate change impacts to water supply
  - Natural variability of water supply
  - Projected growth in the community
  - Adaptation strategies

- Relative importance of water bill, water in the upper Santa Fe River, water in the lower Santa Fe River, aquifer levels, energy use, customer service, water system resiliency.

These will be discussed in breakout sessions. Topics of interest and relative importance questions in survey also.
Year 2: Scenario Development

Supply Scenario Development

Temperature & Precipitation Scenarios -> 2100

Global Climate Models (GCMs)

Regional Hydrology (VIC, PRMS) & Operations (URGWOM) Models

U.S. Bureau of Reclamation

Santa Fe River, Rio Grande, & San Juan Chama Supply Scenarios -> 2100

Long Term Hydrologic Data

Public Engagement
1. Incorporation of Climate Change
2. Supply disruption scenarios
Year 2: Scenario Development

Demand Scenario Development

- Census Data (every 10 years)
- Zoning
- Conservation Section & Committees
- Public Engagement

Population Scenarios -> 2100 (spatially distributed ~20 years out)

Per Capita Use Scenarios (every 5 years)

Santa Fe Demand Scenarios -> 2100 (spatially distributed ~20 years out)
Year 2: Scenario Development

Specific Information Desired from Public Interaction in Year 2

- Relative value of different water uses
  - Outdoor water use
  - Indoor water use
- Sustainability of Water Supply
  - Perceived likelihood of supply disruptions
Year 3&4: Shortage Evaluation & Adaptation Strategies

Supply Scenario Development

Demand Scenario Development

Quantitative Assessment

Water Planning Model
(Current development partially funded through Federal Grant)
(Will be updated during public engagement periods)

Public Engagement

• Supply Scenarios
• Demand Scenarios
• Ranked Projects & Initiatives

Water Resource Management Plan(s) to 2100
Specific Information Desired from Public Interaction Year 3-4

- Relative importance of water bill, water in the upper Santa Fe River, water in the lower Santa Fe River, aquifer levels, energy use, customer service, water data availability.

- Non-market values of water in the community
  - Relative Weights for Triple Bottom Line Analysis

- Independent ranking of projects on ranked project list.
Year 5: Develop Long Range Water Supply Plans

Supply Scenario Development
- Temperature & Precipitation Scenarios -> 2100 (every 5 years)
- Regional Hydrology (VIC, PRMS) & Operations (URGWOM) Models
- Santa Fe River, Rio Grande, & San Juan Chama Supply Scenarios -> 2100
- Public Engagement
  1. Select climate change scenarios
  2. Develop supply disruption scenarios

U.S. Bureau of Reclamation

Demand Scenario Development
- Census Data (every 10 years)
- Zoning
- Conservation Section & Committees
- Public Engagement
- Population Scenarios -> 2100 (spatially distributed ~20 years out)
- Per Capita Use Scenarios (every 5 years)
- Santa Fe Demand Scenarios -> 2100 (spatially distributed ~20 years out)

Quantitative Assessment
- Water Planning Model (Current development partially funded through Federal Grant)
  (Will be updated during public engagement periods)
- Public Engagement
- Shortages Approximate costs

Future Supply

Future Demand

Key
- Supply Scenarios
- Demand Scenarios
- Ranked Projects & Initiatives

Quantitative Products
- 40 Year Plan
- 80 Year Plan
Year 5: Develop Long Range Water Supply Plans

Specific Information Desired from Public Input Year 5

- Feedback on overall process and product
# Planning Cycle: Proposed Schedule

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**Color Key:**
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Questions?

- Post your questions with the Q&A feature

- If you want to ask your question verbally, raise your hand

- Q&A questions will be answered first and verbal questions as time allows
Online Survey

• Intended to gather information on personal values around water and water planning

• 47 questions.
  – 41 multiple choice or check
  – 6 short answer

• 20 – 30 minutes to fill out

Bar code:  

https://forms.gle/8DxJ3aCAzzXmpArw5

or from  
https://www.santafenm.gov/water_division

or  
https://www.santafecountynm.gov/public_works/utilities/wrp
Online Survey

• 6 potentially confusing questions

What we wanted:

How we got there w survey tool:

Please rank the following topics from 1 (most important to you) to 6 (least)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cost of water (bill amount)</td>
</tr>
<tr>
<td></td>
<td>Flow in upper SF river (in town)</td>
</tr>
<tr>
<td></td>
<td>Flow in lower SF river (below WWTP)</td>
</tr>
<tr>
<td></td>
<td>GW levels in greater SF area</td>
</tr>
<tr>
<td></td>
<td>Utility customer service</td>
</tr>
<tr>
<td></td>
<td>Water resiliency</td>
</tr>
</tbody>
</table>

6 separate questions like this:

3a. (First of six similar questions) Assign a relative rank to each of the following issues: cost of water (bill amount), flow in the upper Santa Fe River (in town), flow in the lower Santa Fe River (below sewage treatment plant), groundwater levels in the greater Santa Fe area, customer service from Water Utility, long term water supply resiliency. Use each number 1-6 only once in these six questions. In this one rank COST OF WATER (BILL AMOUNT)

```
1 2 3 4 5 6
Most important
```

3b. (Second of six similar questions) Assign a relative rank to each of the following issues: cost of water (bill amount), flow in the upper Santa Fe River (in town), flow in the lower Santa Fe River (below sewage treatment plant), groundwater levels in the greater Santa Fe area, customer service from Water Utility, long term water supply resiliency. Use each number 1-6 only once in these six questions. In this one rank FLOW IN THE UPPER SANTA FE RIVER (IN

```
1 2 3 4 5 6
Most important
```
Online Survey

• 6 more potentially confusing questions

What we wanted:

With limited water in what order would you provide water for the following outdoor uses? (1 first to 6 last)

<table>
<thead>
<tr>
<th>Order</th>
<th>Outdoor Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Private landscaping</td>
</tr>
<tr>
<td></td>
<td>Private gardens</td>
</tr>
<tr>
<td></td>
<td>Public landscaping</td>
</tr>
<tr>
<td></td>
<td>Public/community gardens</td>
</tr>
<tr>
<td></td>
<td>Public parks</td>
</tr>
<tr>
<td></td>
<td>Golf courses</td>
</tr>
</tbody>
</table>

How we got there with survey tool:

6 separate questions like this:

7e. (Fifth of six similar questions) If you had limited potable water, provide the order in which you would provide that water to the following outdoor uses: irrigation of private landscaping, irrigation of private fruit/vegetable gardens, irrigation of public landscaping, irrigation of community fruit/vegetable gardens, irrigation of public parks, irrigation of golf courses. Use each number 1-6 only once in these six questions. In this one rank IRRIGATION OF PUBLIC PARKS

<table>
<thead>
<tr>
<th>Water first</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Water last</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
</tbody>
</table>

7f. (Last of six similar questions) If you had limited potable water, provide the order in which you would provide that water to the following outdoor uses: irrigation of private landscaping, irrigation of private fruit/vegetable gardens, irrigation of public landscaping, irrigation of community fruit/vegetable gardens, irrigation of public parks, irrigation of golf courses. Use each number 1-6 only once in these six questions. In this one rank IRRIGATION OF GOLF COURSES

<table>
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<tr>
<th>Water first</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>Water last</th>
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<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
</tbody>
</table>
Select Online Survey results so far

• 190 responses

Average Rank of Issues (190 responses)

- Resiliency: 1.8
- Groundwater: 2.5
- Upper SF River: 3.4
- Water Bill: 3.6
- Lower SF River: 3.9
- Customer Service: 3.9
Select Online Survey results so far

- 190 responses

**Average Rank of Outdoor Use of Potable Water**

<table>
<thead>
<tr>
<th>Category</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Food Gardens</td>
<td>2.7</td>
</tr>
<tr>
<td>Private Food Gardens</td>
<td>2.9</td>
</tr>
<tr>
<td>Public Parks</td>
<td>2.9</td>
</tr>
<tr>
<td>Public Landscaping</td>
<td>3.6</td>
</tr>
<tr>
<td>Private Landscaping</td>
<td>3.9</td>
</tr>
<tr>
<td>Golf Courses</td>
<td>5.5</td>
</tr>
</tbody>
</table>

190 Responses
Demographics so far

• ~80% 50 or older
Demographics so far

• ~44% > 90k household income

18. What is your annual household income?
162 responses
Online Survey

https://forms.gle/8DxJ3aCAzzXmpArw5

or from
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