Arcata Future of Wastewater in-person Workshp Notes – 11/14/24

On November 14, 2024, the City of Arcata hosted an in-person workshop at the D Street Neighborhood Center. The meeting was attended by 31 residents and facilitated by RCAC, GHD and the City of Arcata.

The workshop had the following goals:

- **Inform** the community on the multiple efforts the City is leading to address Sea Level Risk and Hazard Mitigation as it relates to the wastewater treatment facility and the treatment marshes.
- **Discuss and solicit input** from the community on the following topics
    - Wastewater disposal infrastructure alternatives
    - Importance of wastewater discharge continuing to have a beneficial reuse in the environment
    - Priorities and wastewater system considerations

The workshop consisted of a presentation, supporting posters, and facilitated breakout sessions after the presentation to solicit input directly from the community.

The presentation discussed the following projects and had accompanying posters located throughout the room:

- Local Coastal Program
- Arcata Sea Level Rise Risk Assessment
- Wastewater Treatment Facility Levee Augmentation Project
- Wastewater Treatment Facility Long-Range Feasibility Project (This project)

There were three breakout tables that each tackled the following topics and would rotate after 10 minutes. The topics were facilitated by City or GHD staff and a notetaker was assigned to each table to document the input received.

- **Wastewater Disposal Infrastructure**
    - **Goal**: Receive public acceptance on alternatives mentioned in the presentation and discuss potential concerns to address in the study.
- **Wastewater Effluent in the Environment**
    - **Goal:** Community to identify the importance of wastewater discharge and that it continues to have a beneficial reuse in the environment. Additionally, to identify new ideas, and weigh the benefits and costs of beneficial reuse.
- **Decision Making Criteria (Values) and Wastewater System Considerations**
    - **Goal:** Identify community priorities and weigh criteria that will be used against each alternative under evaluation.

Below are summaries of the discussions held for each table.

Topic: Beneficial Reuse

General Overview:

The breakout sessions aimed to explore community perspectives on beneficial reuse of wastewater effluent, weighing the benefits and costs associated with different treatment and discharge methods. The focus was on how community identity is tied to these reuse

opportunities, especially those that contribute to the environment, and identifying new ideas or enhancements to existing systems.

Innovative Solutions and Ideas:

1. Enhancement and Protection of Marshes:
    - Strong support for the Marsh enhancement at Humboldt Bay. There's a deep community connection to these areas, with people valuing the ability to walk in the marshes and the ecological importance of this habitat.
    - Raising dikes around the marshes was considered a worthwhile investment to protect the marshes from sea-level rise (SLR) and maintain their role in enhancing the local environment.
    - Participants expressed interest in wetland refuge creation, furthering the idea of using marshlands as part of a broader environmental protection strategy.
    - There was concern over whether the marshes would be overtopped by sea-level rise (SLR), with a question raised about potentially needing to move the marshes in the future.
    - Participants also emphasized the economic value of the marshlands, including their role in attracting tourists and generating local revenue.
2. Land Application for Recycled Water:
    - The potential for land application of recycled water was discussed, especially as a way to avoid discharging effluent into the bay. Concerns about SLR driving this consideration were mentioned, with some seeing it as a viable solution for water management without harming the bay.
    - Participants questioned whether land application could raise groundwater levels and how this might affect the surrounding environment.
    - Land application was noted as a defined beneficial reuse, especially for seasonal use in specific areas, with some participants seeing it as a more sustainable option.
3. Exploring Groundwater Models and Permits:
    - The SLRVA Project is looking into groundwater models to assess the potential impact of effluent discharge on groundwater systems.
    - There was a suggestion to explore permits for raising levees around the marshes, potentially to protect them from SLR and maintain their ecological value.
    - The group also wanted to explore state regulations that would allow for levee increases to provide more robust protection for the marshes.
4. Ocean Discharge Option (Fairhaven):

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- Some participants wondered whether Fairhaven's ocean discharge could accommodate the city's wastewater discharge. This potential solution is under consideration and may be explored further.

5. Decentralized Treatment Systems:
    - Participants discussed the possibility of decentralizing wastewater treatment and incorporating wetlands as a key component. This could reduce the load on centralized treatment systems while enhancing local ecosystems.

Concerns Raised:

1. Protection of Marshlands:
    - There were concerns about whether existing marshes could continue to be protected as sea levels rise and whether they could be preserved in place.
    - Saltwater intrusion and SLR could affect the ability to maintain and protect the marshes, with questions raised about how effective current protections are.
    - The value of the marshes as an economic generator (through tourism and recreation) was emphasized, and there was a call to expand the project description to reflect the local and global benefits of the marshes.
2. Community Impact:
    - Questions were raised about the impact of marsh protections on nearby homes and businesses. Would marsh protections help safeguard the surrounding community from flooding or other environmental impacts?
    - The city is considering protecting S and G streets in the short term and planning for measured retreat over time, with efforts aligned with the Local Coastal Program (LCP).
3. Downsides of Land Treatment:
    - There were concerns about the downsides of land treatment, including:
        - Odors from land application.
        - Availability of land for treatment purposes.
        - Values associated with land use (e.g., agricultural land vs. urban development).
4. Regulatory Concerns:
    - A question was raised about Section 404 requirements (likely related to the Clean Water Act), which might affect land use for wastewater discharge or marsh enhancements.

Values and Community Benefits:

1. Importance of Ancillary Benefits:

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    - Ancillary benefits such as wildlife sanctuaries and tourism were emphasized. Participants valued the positive community aspects of the marshlands and how they contribute to both local identity and global ecological health.
    - Participants felt that the community's values regarding the beneficial reuse of wastewater should drive planning efforts.
2. Community Engagement and Education:
    - A suggestion was made to develop a task force that could help the city make decisions, educate the community, and pull in experts to help guide the process and foster public understanding of wastewater reuse.
3. Global and Local Examples:
    - There was interest in exploring other community examples of successful wastewater management or marsh enhancement projects, both locally and globally. This could provide valuable insights for similar efforts in Humboldt Bay.

Key Takeaways:

- There is strong community attachment to Humboldt Bay marshes, with support for enhancing and protecting these areas, particularly through levee raising and wetland creation.
- Land application of recycled water was seen as a possible solution for reducing effluent discharge into the bay, but concerns about groundwater levels and available land were noted.
- There is significant concern about SLR and its impact on marshlands and surrounding areas, with calls for measured retreat and improved protection strategies.
- Decentralized treatment systems and global examples of similar efforts were discussed as potential avenues for further exploration.
- The community values the ancillary benefits of wastewater management, such as tourism, wildlife habitat, and local identity, and suggests that these should guide future planning decisions**.**

Beneficial Reuse Group 1:

- I value walking at the Marsh.
- Question - How is this factored into the decision? Enhancement would need to be demonstrated.
- Is a plan in place to protect the existing enhancements marshes? It may not be able to protect in place.
- Any downside to land treatment?
    - Values

  - Smell
  - Available land
- Could Fairhaven's Ocean discharge accommodate our city discharge?
  - Looking into this option.
- Protection of saltwater intrusion into the collection system.
- SLRVA Project is looking at groundwater models

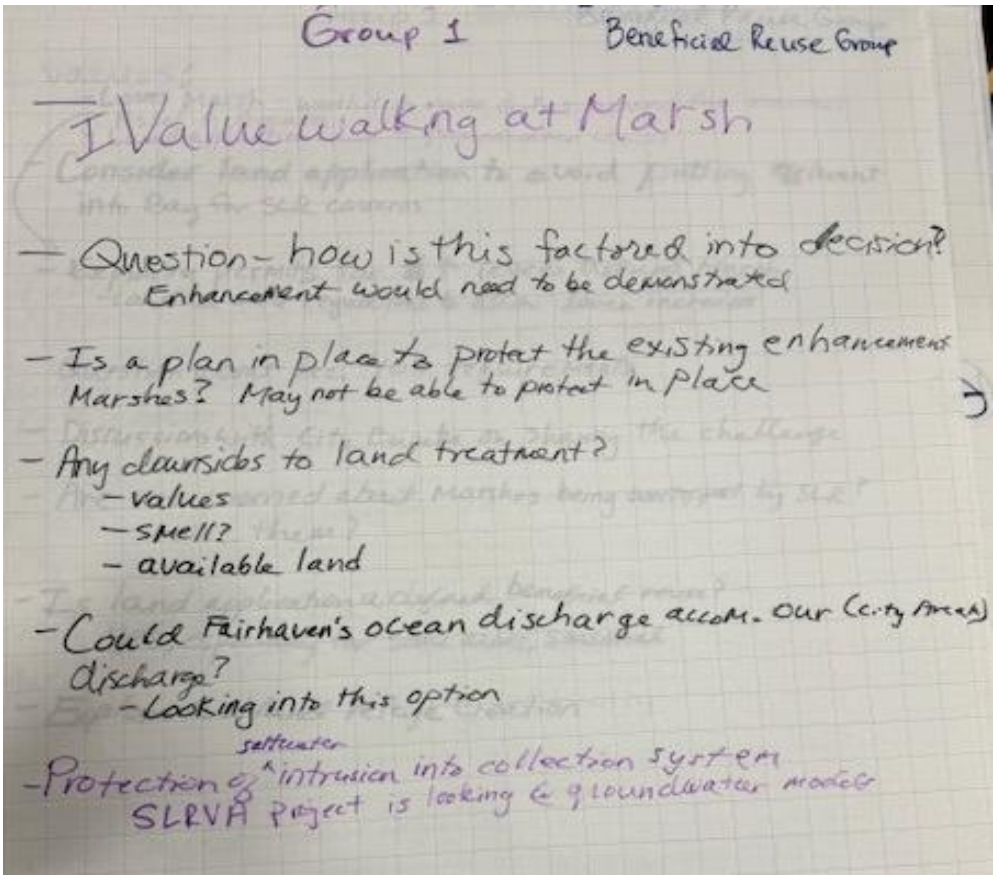

Figure 1 Table 2 - Group 1 Beneficial Reuse Questions and Comments.

Beneficial Reuse Group 2:

- Values:
  - Loves Marsh- raising the dikes around the marshes is worth it.
  - Asset of Arcata
  - Land application could raise groundwater levels.
- Consider land application to avoid putting effluent into the bay for SLR concerns.
- Exploring permits for raising levees around the marsh.
  - Consider state regulations to allow levee increase.
- Question about Sec.404 requirements.
- Discussions with City of Eureka on sharing the challenge
- Are we worried about the marshes being overtopped by SLR?

    - Move them?
- Is land application a defined beneficial reuse?
    - Yes, especially for some areas, seasonal
- Explore wetland refuge creation

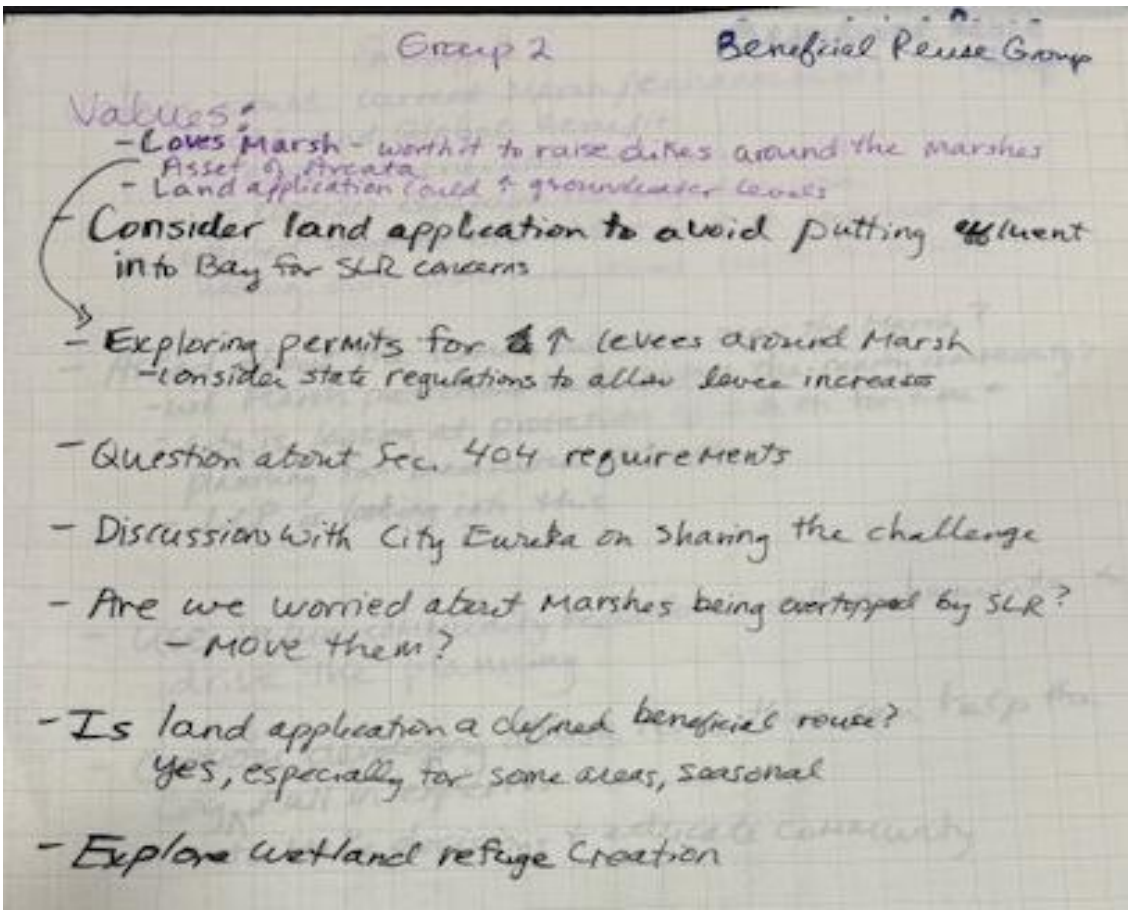

Figure 2 Table 2 - Group 2 Beneficial Reuse Questions and Comments.

Beneficial Reuse Group 3:

- Values around current Marsh/enhancements
    - Local and global benefit.
        - Economic generator-tourist, visitors.
        - Consider expanding the project description.
    - Worried about SLR and concerned about holding onto something that needs change
- Asked about the homes and businesses near the marsh?
    - Will marsh protections help protect the nearby community?
    - City is considering protecting S, G street for time and planning for measured retreat.
    - LCP is looking into this.
- Use the value the community feels from ancillary benefits to drive planning.

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- Consider developing a task force that help the City to make decisions and education the community and pull in experts.
- Wildlife sanctuary.
- Economic aspect-Godwill days.
- Are there any other community examples of a similar effort?
    - Globally?
    - Global examples?
- Decentralize treatment with wetlands as a component.

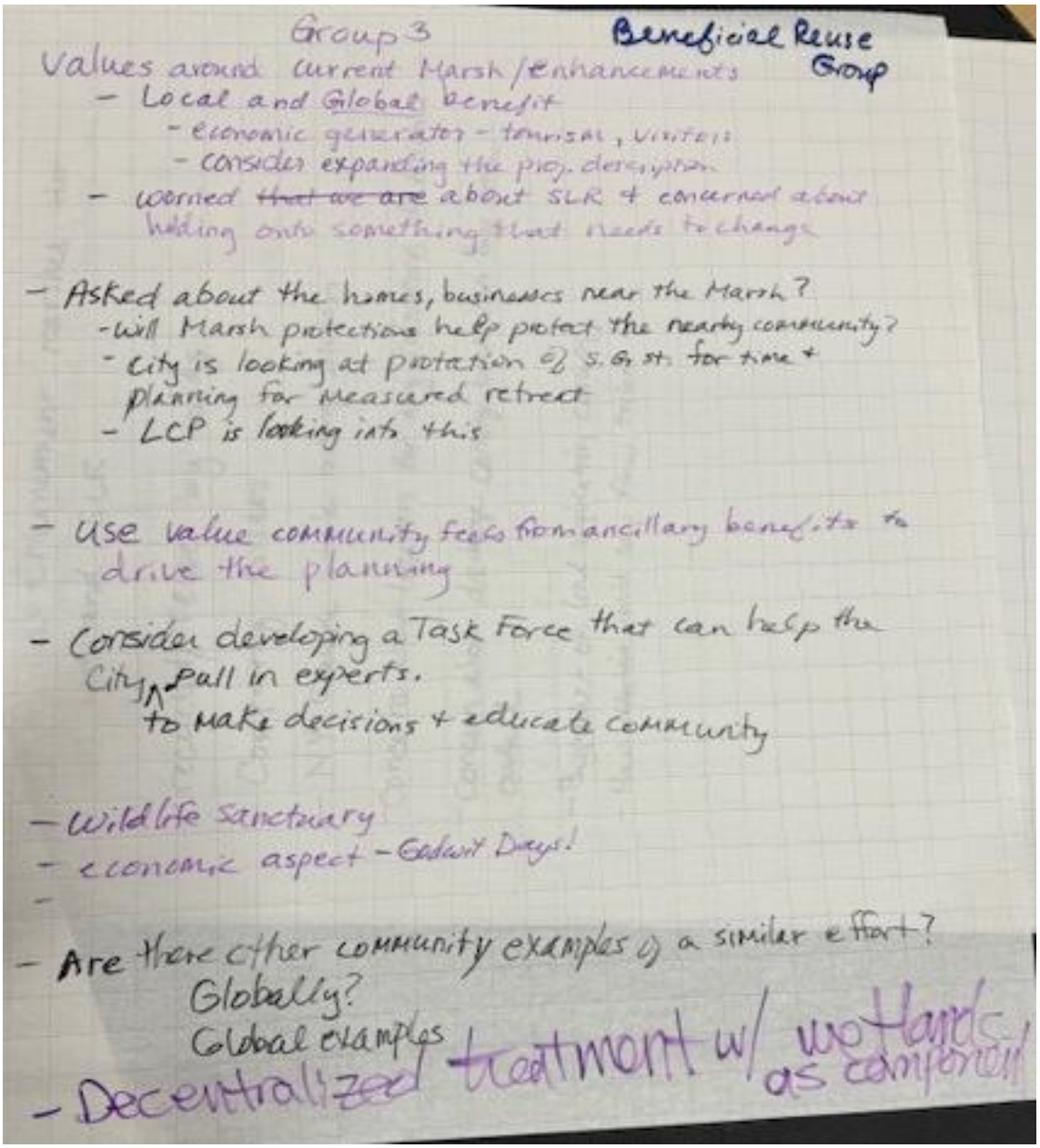

Figure 3 Table 2 - Group 3 Beneficial Reuse Questions and Comments

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Topic: Wastewater Disposal Alternatives Discussion

General Overview:

The activity involved breakout discussions with 8-10 attendees per table, with the goal of gathering public input on acceptance and concerns regarding various disposal methods being considered in the feasibility study. The participants were asked to address specific disposal types, potential alternatives, and innovative technologies that could be explored.

Innovative Solutions and Ideas:

1. Building New Enhancement Marshes:
    - There was strong support for building enhancement marshes that can withstand sea-level rise (SLR). These marshes could provide environmental benefits while protecting coastal areas from flooding.
    - The idea of using marshlands as a natural conveyance system was also highlighted, with participants proud of the existing marshlands.
2. Recycle/Reuse by Building:
    - A suggestion was made to incorporate recycling and reuse into construction practices, using waste products in the building process for sustainability.
3. Composting Toilets:
    - Composting toilets were proposed as an alternative for reducing wastewater and solid waste. There was also mention of a voucher program to incentivize their use.
4. NY Example Whole Building Solution:
    - A reference to a whole building solution inspired by practices in New York, possibly involving integrated, sustainable waste management and water treatment systems in buildings.
5. Eco-Levees:
    - The viability of eco-levees was raised as a potential solution, combining flood protection with environmental enhancement, such as creating habitats or supporting biodiversity.

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6. Arcata Bottom Land Option for Agricultural Irrigation:
    - The idea of utilizing Arcata bottom land for agricultural irrigation was mentioned as a potential beneficial reuse option.
7. Baylands Property Option for AG Irrigation or New Marshes:
    - Baylands property, a city-owned land area, was proposed for either agricultural irrigation or the creation of new marshes.
8. Diversifying Discharge Options/Treatment:
    - Participants suggested diversifying discharge options and treatment methods to minimize environmental risks and increase flexibility in managing waste.
9. Small Decentralized Systems:
    - The potential of small decentralized systems for waste management was discussed. These could allow more localized control over waste treatment and disposal.

Concerns Raised:

1. Location of Facility Relocation:
    - Concerns were raised about the location of any facilities that might need to be relocated. Attendees were cautious about the potential impacts on surrounding communities and the environment.
2. Discharge Returning to the Bay:
    - There was concern about discharge coming back into the bay from an outfall, raising questions about contamination and the long-term health of the ecosystem.
3. Byproducts of Land Application:
    - Participants were wary of the byproducts of land application methods, particularly the potential for soil and groundwater contamination.
4. Groundwater Injection:
    - There was significant resistance to groundwater injection, with many expressing skepticism about the risks of contaminating drinking water supplies and damaging underground ecosystems.
5. Ocean Outfall:
    - A strong negative stance was expressed regarding the use of an ocean outfall for disposal, largely due to concerns about ocean pollution, marine life harm, and environmental sustainability.
6. Land Application Suitability:

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    - Skepticism was expressed about the suitability of land application depending on location, with some participants questioning whether certain areas would be appropriate for this method.

7. Saltwater Intrusion in Butcher Slough:
    - A specific example was provided regarding saltwater intrusion in Butcher Slough, which participants feared could exacerbate environmental damage and limit the effectiveness of certain methods like marsh creation or land application.

Additional Ideas/Innovations:

- Top Priority: Protect Enhancement Marshlands:
    - Participants emphasized the top priority of protecting existing enhancement marshlands and suggested further research on their beneficial uses. They also proposed integrating levees to protect these marshes from environmental threats.

Key Takeaways:

- Sustainability and Environmental Protection were central themes, with strong support for using marshlands, eco-levees, and agricultural reuse.
- Decentralized Systems and diversified discharge methods were favored to minimize risks and improve flexibility.
- There were significant concerns about the environmental impact of ocean outfalls, groundwater injection, and the byproducts of land application.
- Participants showed an interest in innovative technologies like composting toilets and small-scale, decentralized solutions, but emphasized the need for careful consideration of location and environmental suitability for each method.

Wastewater Disposal Alternatives Group 1 Notes:

- Building new enhancement marshes that can withstand SLR.
- Recycle/reuse by building.
- Composting toilets.
- NY example whole building solution.
- Concerns about location for any relocation of facilities.
- Concern about discharge coming back into the bay from the outfall.
- Byproduct of land application concern.
- How effective could low-flow toilets be?

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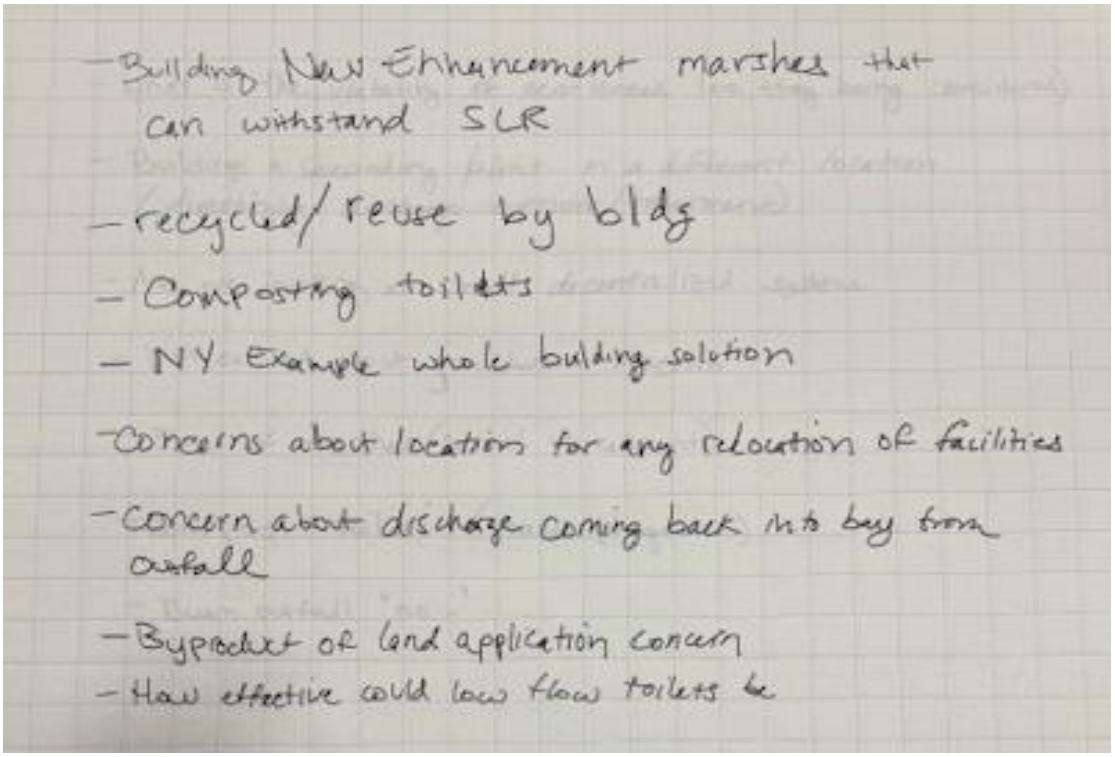

Figure 4 Table 3 – Group 1 - Wastewater Disposal Alternatives Discussion Notes

Wastewater Disposal Alternatives Group 2 Notes:

- What is the viability of eco-levees (are they being considered)?
- Building a second plant in a different location.
- Diversifying discharge options/treatment.
- Are we looking at small decentralized systems?
- Not excited about groundwater injection.
- Proud of Marshes (natural and?)
- Compost toilets (voucher)
- Ocean outfall, No?

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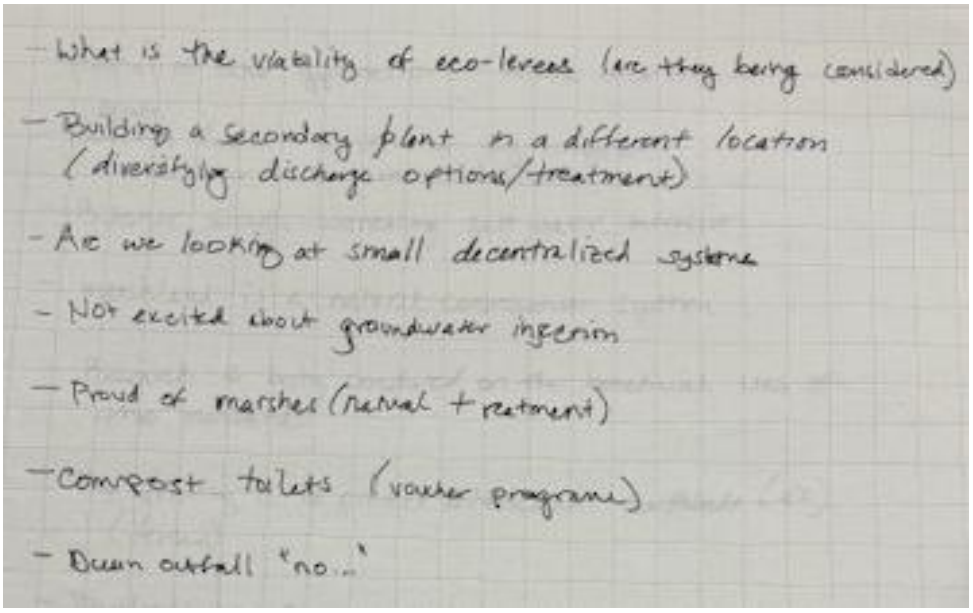

Figure 5 Table 3 – Group 2 - Wastewater Disposal Alternatives Discussion Notes

Wastewater Disposal Alternatives Group 3 Notes:

- Skeptical of land application-suitable location.
- Arcata bottom land option for AG irrigation.
- Want to see more of a?
- Butcher slough-witnessing saltwater intrusion.
- Marshland is a natural conveyance system.
- Research is being conducted on the beneficial uses of the marshlands.
- Top priority is to protect enhancement Marshland (X2) (levees)
- Baylands property option for AG irrigation or creating new marshes. (city owned land)

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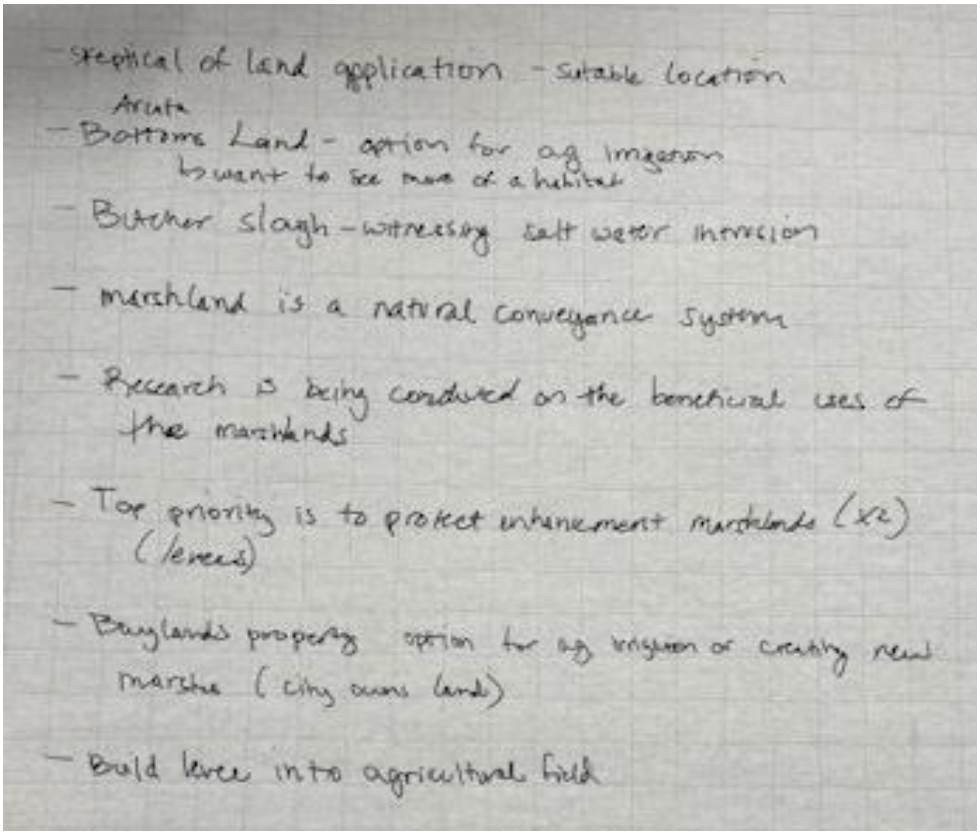

Figure 6. Table 3 – Group 3 - Wastewater Disposal Alternatives Discussion Notes

Topic: Project Decision Making Criteria

Groups 1-3: See Figure 7

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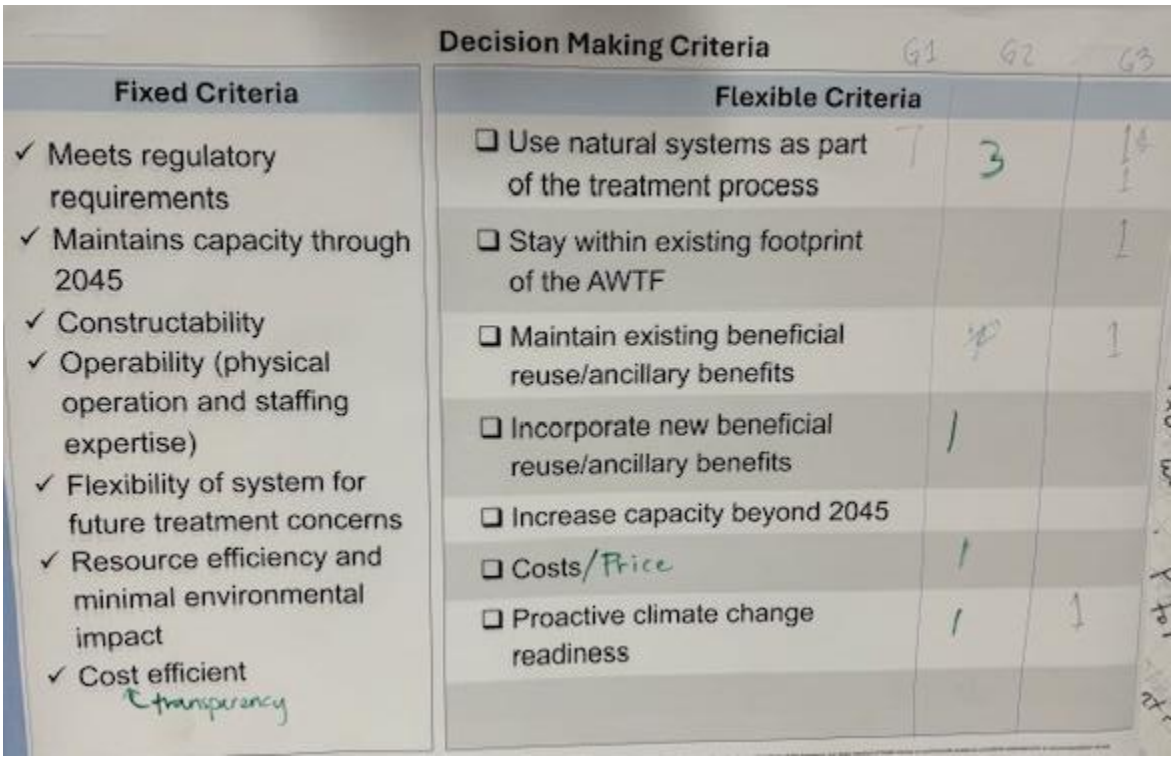

Figure 7 Table 1 Groups 1- 3 Decision Making Criteria Notes

City of Arcata: Future of Wastewater Workshop – 08/28/2025

Workshop Background and Overview

On August 28, 2025, the City of Arcata hosted an in-person workshop at the D Street Neighborhood Center. The meeting was attended by 34 residents and facilitated by RCAC, GHD and the City of Arcata.

The workshop had the following goals:

- **Inform** the community on the Arcata Wastewater Treatment Feasibility Study background and updates.
- **Present** decision-making criteria and values developed at the November 2024 workshop.
- **Discuss and solicit input** from the community on adaptation strategies through envisioning future wastewater retreat and protection scenarios.

The workshop consisted of a presentation, supporting posters, and facilitated breakout sessions after the presentation to solicit input directly from the community. The presentation and supporting posters discussed the Wastewater Treatment Facility Long-range Feasibility Study including the following topics:

- Vulnerability and Risk Assessment of Wastewater Infrastructure to Sea Level Rise and Flooding
- Wastewater Discharge Case Studies
- Adaptation Strategies
- Wastewater Facility and Discharge Alternatives Prioritization

A video recording of the presentation is available here: Arcata Wastewater Treatment Facility Feasibility Study.

Discussion Prompts and Summary

Following the presentation, attendees were randomly divided into three smaller breakout stations for a 45-minute discussion facilitated by the City or GHD. A technical expert and a notetaker were assigned to each table to answer questions and document the input received. The facilitator used the following prompts to engage participants in envisioning the future of wastewater in Arcata. A summary of the community discussion for each prompt is provided.

Introduction – Imagining 2055 (5m)

Prompt:

> Thinking 30, 50, or 100 years ahead can feel abstract and challenging—so today we want to flip the script - instead of predicting the future, let's step into it. Imagine we're already living 30 years in the future, the date is August 28, 2055. Flying cars still don't exist for general transit but airplane technology has improved so you can now land at ACV in any amount of fog! *Who wants to share what else they imagine is happening in 2055?*

City of Arcata: Future of Wastewater Workshop – 08/28/2025

From this vantage point, we'll explore two distinct future scenarios. For each scenario, we'll spend about 20 minutes discussing and reflecting on a few key questions.

Summary of Discussion:

Common themes for the vision of 2055 among the discussion groups included environmental considerations such as multimodal transportation options, restored wetlands and tidal energy. Discussions also included the impacts of population growth and potential catastrophic events such as~~including~~ tsunamis and fires on transportation and wastewater infrastructure.

Retreat (20m; ~10m/question)

Prompt:

Thirty years ago, in 2025, the City Council made the decision to focus on relocating the treatment facility and disposal systems. The facilities are now at a different location.

Questions and Summary of Discussion:

Looking back from 2055 and the decision to relocate, what do you wish had been prioritized or thoughtfully considered in 2025 to set up the community's success and well-being?

Common discussion points among the breakout stations included:

- Importance of considering the impact and outcome of the existing enhancement marshes due to their ecological and recreational benefits. There was a shared sense of maintaining these community benefits with no net loss.
- Land banking for a new wastewater treatment facility and careful attention to the future site characteristics and aesthetics.
- Planning and design that accounts for future population growth and climate change.
- Regional collaboration that involves local/state government, tribal and regulatory partners.
- Attention to cost-effectiveness leveraging project phasing, grants, and potential consolidation opportunities to reduce impact on rate payers.

What do you see as potential pros and cons of that decision? (Political, Environmental, Social, Technology, Legal, Economic)

Pros:

- Opportunity to design new treatment facility that accommodates sea level rise, population growth, and utilizes improved technology.

Cons:

- Potential loss of existing marsh and associated benefits.
- Undetermined cost.

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Protect (20m; ~10m/question)

Prompt:

> In an alternate reality from the first scenario, the date is again August 28, 2055. Thirty years ago, in 2025, the City Council made the decision to protect the wastewater facilities in place for as long as possible. The treatment facility and marshes have been protected with levee enhancements and/or living shorelines and other strategies.
>
> These features are expected to protect the whole system for another four to five decades, after which if we don't do anything, the AWTF will be flooded more frequently (contributing to water quality and service issues), the marshes will lose their enhancement benefits, and potential secondary community benefits, such as the marsh trails may be lost. So, the City will have to consider their options again in the future. But for now, everything is fine and working as it should.

Questions and Summary of Discussion:

> Looking back from 2055 and the decision to stay in place, what do you wish had been prioritized or thoughtfully considered in 2025 to set up the community's success and well-being?
>
> Common discussion points among the breakout stations included:
>
> - Design coordinates with larger protection strategy and other projects that includes protection of other low-lying areas such as South G Street, 225 / 101 between Arcata and Eureka, and agricultural land.
> - Cost analysis includes phasing options, energy considerations, and equity impacts of protecting private property.
> - Maintaining the ecological and other benefits of the marsh integral to Arcata's culture and values. Design that includes natural components and considers levee heigh risk factors.
> - Phased approach that continues assessing land options and technology advancements for future relocation.
>
> What do you see as potential pros and cons of that decision? (Political, Environmental, Social, Technology, Legal, Economic)
>
> Pros:
>
> - Preserves marsh habitat and community benefits.
> - Reuses existing infrastructure and allows for phased approach for relocation.
> - Opportunity to coordinate with other protection projects and areas.
>
> Cons:
>
> - Potential to still need retreat strategy and associated costs.

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Other Station Question Ideas and Summary

Prompt**:**

> Based on these conversions, collectively as a group, which scenario would you choose and why?
>
> Group 2 Summary of Discussion:
>
> - Relocate the treatment facility to account for long-term SLR and population growth while maintaining benefits of marsh or wetland enhancement treatment.

Key Takeaways

The following provides a summary of key takeaways based on the breakout discussions. Complete workshop notes from the event are provided below.

- Maintain the ecological, recreational, and community benefits of the existing marsh and future wastewater alternatives which closely tie to the city's identity and values.
- Opportunity to use new technologies to plan and design a relocated treatment facility which accounts for long-term sea level rise and population growth.
- Explore incremental relocation strategies supported by a cost-benefit evaluation.
- Desire to plan for land acquisition, site design, and integration into broader climate change and sea level rise protection strategies.
- Collaborate with partner government agencies, regional stakeholders, and regulatory agencies to align efforts and maximize opportunities.

Workshop Photos

Figure 1 - Poster Session

Figure 2 – Presentation

Figure 3 - Breakout Group 1

Figure 4 - Breakout Group 2

Figure 5 - Breakout Group 3

City of Arcata: Future of Wastewater Workshop – 08/28/2025

Workshop Notes

Introduction - Imagining 2055

Group 1-

- Freeway closures along Highway 101 corridor and maybe other roads due to king tides or Highway 101 corridor around Humboldt Bay was rerouted inland
- A catastrophic event may have occurred and we are recovering from ~~Recovered from a~~ massive tsunami (2051) and have largely clean slate to plan – treatment plant wiped out
- ~~A catastrophic event may have occurred~~
- Building the freeway cap with a park and other community amenities
- ~~Rerouted 101~~

Group 2 –

- Green cemeteries
- Open traditional wetlands including tidal influence
- Financial struggles with retreat
- Utilize tidal energy and consider fish passage
- Revised transportation with pedestrian and bicycle options

Group 3 –

- MCSD combined with Arcata
- Humbolt County population rise; more fire…
- Bicycle Buses

Retreat – What do you hope has been prioritized/considered?

Group 1-

- Continue to maintain ~~treatment ponds~~Arcata Marsh Area for active recreation, trails, and wildlife areas
- Maintain benefits we have now – no reduction
- Work~~s~~ with Eureka and think collectively on a solution
- Relocate the marsh treatment and enhancement systems and have the secondary benefits in new location (also keep existing trails and wildlife benefits for as long as possible)
- Phased relocation~~ing~~ of secondary benefits
- Consider cost efficiency of c~~C~~hanging discharge method
- Secondary benefits are of primary importance and enhancement marshes need to be kept
- Consider discharging into Mad River gravel bed – recycling system
- Site characteristics for relocating treatment marshes including land efficient option
- Marshes were made possible by the current site, ~~if~~ reproducing them ~~ed it~~at a different location may not make sense
- Locate in a place that would not be impacted by future SLR from the Bay or Mad River

Group 2 –

- Aesthetics fit with the surrounding environment
- Cost effectiveness
- Lots of grants to protect rate payers
- No net loss of enhancement benefits including public trails
- Consider collective / regional considerations surrounding the bay but act locally
- Communication with other local partners
- Consideration and clear understanding of Coastal Commission requirements and comments
- No negative effect on groundwater
- Concerns with land applications including microplastics and pharmaceuticals
- Highest and best use of existing infrastructure including location of existing treatment facility
- Land banked for space to implement retreat options

Group 3 –

- If the City retreats, there is loss of coastal resources without the Marshes.
- Should the City have considered innovative solutions, such as floating platforms on the bay to allow for flooding?
- The City should have protected Ag land as part of the retreat.
- Did the City transition the marshes to retain wildlife habitat?
- Hope that the City restored the Bay to pre-development conditions.
- Hope the City planned for future population increases – leaving space for future housing development and considering increased treatment capacity.
- Concerned climate change happened faster than expected and the treatment facilities should have been moved further upland.
- Concerned changes in the Mad River could affect ability to discharge.
- Did the City consider water availability as well as wastewater?
- Wish the City had allowed legal grey water systems.
- Wish the City had looked more at consolidation to pool regional resources to save customer costs.
- Expanding to accommodate population growth and protect the wetlands
- Sustainable agriculture systems
- What the “old” marches will become and protecting the habitat
- Restore wetlands to precolonial state of being
- Spend funds and project resources over time versus all at once
- Water conservation – reduce the amount of wastewater and legality of grey water
- Meet the need through regional collaboration
- Consider the highway and other at-risk infrastructure
- Project impacts more than wastewater – protect facilities in the short term
- Combine protection and relocation concepts
- Anticipate state and local relationships
- Proper protection of wetlands, ground water, and water ways
- Tribal and 1st Nations involvement

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- Don't define "highest and best use" based on current or historical understandings

Retreat – Pros (+) /Cons (-)

Group 1-

- New d~~D~~ischarge location such as ocean outfall could have environmental or system capacity benefits (+)
- If relocated, secondary benefits ~~still~~ could be maintained~~possible~~ at old site (+)
- Can use as little land as possible (+)
- Keep social benefits at marsh (+)
- SLR is inevitable (+)
- Could accommodate population growth easier (+)
- Newer technology can be used (+)
- Marsh is a proved technology (+)
- Loss of old marsh trails (-)
- Loss of the innovative system the community worked hard to implement (-)

Group 2 –

- Focused on Misc discussion below.

Group 3 –

- Protected facility from SLR (+)
- Newer facility that meets population growth (+)
- Leads the way for others (+)
- Improved technology (+)
- The need to continue moving (-)
- Pressure on other water bodies (-)
- Higher costs (-)

Protect – What do you hope has been prioritized/considered?

Group 1-

- Consider expansion of entire bay size
- Provides the opportunity to also protect the houses on South G Street and other assets
- ~~Other assets that need to be protected~~
- Levee heights – how high do we go and what happens if a disaster occurs
- Looking for potential relocation options~~—~~ (location, land, area, etc.) ahead of the need to relocate
- Cost to protect is very high and subsidizes landowners in the South G and H Street peninsula area (consider other methods like buying out homeowners / property owners)
- Look at incremental relocation plans keeping mechanical treatment and consider treatment/enhancement elsewhere
- Oxidation ditch idea
- Cost benefit of a phased approach (can some parts be relocated in phases?)

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- If discharge can be relocated (ocean outfall), does that reduce pressure on treatment ponds?
- City purchasing and designating land for future relocation of WWTP
- Future population growth, climate change, and political reasons
- Assumption that we meet EBEP and that EBEP requirements haven't changed
- Educating on ecological advantages of bio-treatments
- Eminent domain legal consideration
- Cheaper to armor present facility (until it's not)
- Incremental protection while piecemeal retreating
- Will the size accommodate population growth without expanding footprint ~~(-)~~
-

Group 2 –

- Economics of the energy to pump water due to SLR
- Design accounts for concerns with infiltration
- Impacts on South G Street
- Wetland species, economic and other benefits of the marsh
- Decentralized treatment policies
- Physical access to the bay
- Cost benefit analysis
- Value and outcome of Ag land
- Consider big dreams and ideas
- Social/economic/environmental impacts
- Natural design components in levees as opposed to hard armoring
- Utilized a physical model for the community to look at and understand to guide decision making
- How to manage and harvest biomass buildup including vegetation

Group 3 –

- Wished the City considered the larger protection strategy and made treatment/ discharge protection compatible with protection of low-lying areas (including 255 and 101 between Arcata and Eureka).
- Glad the community protected the marshes and treatment plant as long as possible.
- Maintenance of facilities is a responsible action.
- Wish the City had invested minimal dollars now and put more dollars towards a more resilient future option.
- Wished the City had stayed on the cutting edge of technology – should continue to monitor new technologies.
- Did the City consider how other protection projects would impact the City?
- Stay on the cutting edge of technology – let it work for us to ensure sustainability
- Cost differential – the worth of technology and infrastructure
- Relocate first to allow for new technology to develop
- Zoning considerations

- Coordinate with Eureka
- Adaptability of solutions
- Ecological components are integral to Arcata culture and values (If the treatment plant were to retreat, would it still use marsh/wetlands/natural systems for processing?)

Protect - Pros (+) /Cons (-)

Group 1-

- Recognize our uniqueness (+)
- Other assets to protect (+)
- Cheaper (+)
- Pipes are great at moving wastewater (+)
- More mechanical can increase treatment capacity – consider this to handle population growth (+)
- Subsidizing protection to few residents / businesses (-)
- Another decision and investment will have to be made in the future (-)
- Reduction in options (-)
- Costs could be a major factor – cost to protect are very high – who will pay these costs? (-)
- ~~Will the size accommodate population growth without expanding footprint (-)~~
- The bigger the levees the bigger the disaster when they break (-)

Group 2 –

- Wetland habitat (+)
- Reuse of existing infrastructure (+)

Group 3 –

- A successful project that leverages other protective projects (+)
- Flood protection – expanding natural protection and dissipate force of water rise (+)
- Buys time and more affordable (+)
- Keeps current wetlands and natural wastewater processes (+)
- Insufficient solution for infrastructure, both wastewater and beyond for the long term (-)

Misc. / Closing Comments

Group 2 – What do you hope happens?

- Council takes retreat seriously
- Retreat due to SLR
- Economic analysis supports retreat
- Retreat works and is designed for a long time
- Retreat but keep marsh
- Pair wastewater retreat with wetland environments

Group 3 –

- Act now to protect for the near term (next 30-40 years), and keep looking at alternate options for the long term

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- Coordination with state and federal agencies on the larger strategies should be a priority.
- City should focus on adaptability in both infrastructure and in the planning framework.
- Protection retains natural process
- If the system is relocated, want to retain natural systems as part of treatment

Poster Session

- Are we collaborating with other plants?
- Decentralized seems out of place in an urban setting
- Concerns that a catastrophic event has/could significantly change conditions
- Retreating to higher ground is better than levee investment

Comments received Via Email after Workshop:

- Received 8/29/25 from Alex Stillman:
  I was thinking about from west end rd to mad river of sending that wastewater to McKinleyville treatment facility. Therefore, reducing the load on Arcata's. I was speaking with another person from yesterday and at a different table. Are we involved in a pipeline with McKinleyville? Does that allow for beginning discussions?

- Received 8/29/25 from Martha Jain:
  It seems like retreat of the sewage treatment facility to some land west of Arcata (on the Arcata Bottoms) is inevitable. It strikes me that our agland/ green open space is a part of our identity and that it enriches our sense of place and this is under threat of vanishing with the higher water and development. I could foresee a sewage treatment facility on the bottoms that is land and marsh dependent. This would allow the treated sewage to have a place to go while maintaining a cherished landscape. I think the goal should be an advanced water treatment facility that removes micro plastics and pharmaceuticals as well as pathogens so that we are not harming the soil, the birds and the waters. A secondary thought is Arcata is counting on Hwy 255, an artificial barrier to limit the sea level inundation of parts of Arcata. If we are willing to buy into that, then there's no reason that we wouldn't try to envision some portion of the marshes to continue as both animal habitat and a recreational area close to downtown. This edge does not have to be an asphalt highway. Maybe being open to some commercial food related use (oyster farming for instance) will become compatible to these other uses as well. Also, maybe you have read this article below? I'd love to know more about how the facilities that are cleaning the water and what they do with that waste. I looked up Emmi, the owner's of Cypress Grove, and they are based in Lucerne, along Lake Geneva. Probably not a connection that will yield anything but interesting!
  From Sewage and Scum to Swimming in 'Blue Gold': how Switzerland Transformed Its Rivers (The Guardian, 3-17-2025)
  https://www.theguardian.com/environment/2025/mar/17/from-sewage-and-scum-to-swimming-in-blue