



INFORMATION ITEM

Delta Residents Survey Update

Summary

In the Sacramento-San Joaquin Delta, there are numerous agencies and decades of programs dedicated to monitoring the ecological health and change of the estuary; however, much less attention has been directed toward understanding and monitoring the social health and well-being of the region. A collaborative research effort funded by the Delta Stewardship Council's (Council) Delta Science Program has led to the development of the Delta Residents Survey research project, a first effort of its kind in the Delta to develop a rigorous survey research approach to begin to assess important social indicators of Delta residents' well-being, including community members' sense of place, quality of life, experiences and attitudes toward environmental and climate change, and civic engagement. The information gathered through this collaborative effort can inform the decision-making in the Delta to better respond to residents' perspectives and needs, and develop effective and equitable approaches to advancing the State's coequal goals for the Delta. A summary of key survey results will be presented to the Council today; a report including the full summary of results will be available to the public and posted on the Delta Science Program Social Science webpage by late 2023.

Overview of Survey Effort

The Delta Reform Act (Wat. Code, § 85000, et seq.) requires the complex balancing of competing needs in the Delta estuary in the achievement of the coequal goals of "providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem ... [to] be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place" (Wat. Code, § 85054). While decades of research and monitoring have supported a better understanding of the biophysical and ecological components contributing to the coequal goals, the social and human dimensions of the Delta have been vastly understudied to date in comparison

(Delta Independent Science Board Monitoring Enterprise (*available here: <https://bit.ly/3tx4uWg>*) and Delta as an Evolving Place Reviews (*available here: <https://bit.ly/46Uc5wD>*); Delta Social Science Task Force Strategy Report (*available here: <https://bit.ly/3tytb4C>*)).

In contexts like the Delta, where people deeply impact and are impacted by the state of the natural system, understanding the people who live, work, play, and depend on the environment is essential to developing effective and equitable management approaches. Furthermore, understanding and tracking changes in the human dimensions of the estuary– such as residents’ opinions on regional priorities and concerns, stewardship behaviors, and experiences– will be essential to achieving the coequal goals.

The development of the 2023 Delta Residents Survey (DRS) aims to begin to further measure and understand important human dimensions of the Delta and is one of multiple recent efforts supported by the Council’s Social Science Integration Team and the Bay-Delta Social Science Community of Practice. The DRS was designed by a team of social science researchers working closely with Council staff, other state and local agency partners, and community members and organizations.

The DRS had four primary research aims: (1) Characterize and track the Delta as an evolving place; (2) Assess the quality of life of a diverse and evolving population living in the region; (3) Understand residents’ experiences and perceptions of social and environmental changes across the estuary; and (4) Evaluate residents’ civic engagement and perceptions of governance in the region.

Survey invitations were sent in early 2023 to a random sample of approximately 80,000 households across the rural, suburban, and urban Delta. The survey was available online and in print, in both English and Spanish. The survey included 43 multiple choice and short response questions, based on well-tested survey questions with input from a survey advisory group and Delta community members to ensure questions were appropriately locally tailored.

Over 2,200 survey responses were received from a geographically and demographically diverse sample of the Delta population. Rigorous survey methodology and the response rates provide a margin of error of +/- 2.1%, given a

95% confidence interval, meaning survey results can be considered representative of the full Delta population with a high degree of confidence. Survey analyses are based on weighted data to ensure results reflect demographically-representative sentiments. All details on the methodology for the survey design, distribution, data weighting, and analysis can be found in the full DRS Summary Report. The DRS Summary Report also provides complete summaries from all survey questions and reports when significant differences were found in survey responses between respondents from different demographic groups or geographic regions of the Delta. Anonymized DRS data will be made publicly available in early 2024. Links to the datasets, interactive data viewing tools, and all reports will be shared on the Delta Science Program's social science integration webpage.

Summary of Survey Results

The DRS results improve our understanding of Delta residents' sense of place, well-being, values, priorities and concerns for the region, experiences and attitudes regarding environmental and climate change, civic engagement, and perceptions of good governance. Importantly, the DRS helps to better understand where there are dominant shared opinions and perspectives across Delta residents, and where there is a diversity or multiplicity of opinions and perspectives that vary across geography, demographics, and other socio-behavioral characteristics of residents. For example, the DRS illuminates that a high proportion of all Delta residents have a shared understanding of the Delta's importance and appreciate the Delta for its recreational value and scenic beauty. However, sense of place and particularly feelings of attachment, pride, and identifying with the Delta were significantly higher among rural residents, as well as respondents identifying as men, older, White, higher income, higher education, or homeowners. This has important implications, as the commonly referenced perspectives on the Delta may not necessarily reflect the opinions and values of the majority of the present population in the region, which live in urban and suburban areas, and are younger in age, people of color, lower income, lower education, renters, or women. It will be important for Delta decision-makers to understand and embrace other place meanings that are held by the wide diversity of residents across the Delta, in order to equitably and effectively communicate in ways that resonate with a larger

proportion of residents' values and make decisions that address the majority of residents' needs.

When it comes to regional concerns, a majority of residents share concerns about aging infrastructure in the region, including the levees, bridges, and roads. Rural residents express significantly greater concerns for the Delta Conveyance/ Tunnel Project and access to high-speed internet, while urban residents express greater concern for traffic and transportation options. Social inequality in the Delta is evident in the survey results and important to recognize as various Delta policy options are considered. More than one-quarter of respondents indicate affordability of basic needs (housing, food, transit, healthcare) as a major challenge to their quality of life; residents of color report this challenge at significantly higher rates than White residents.

The DRS also helped to better understand how residents across the Delta are experiencing environmental and climate changes. The vast majority of residents (>75%) are concerned or very concerned with the potential for climate change impacts to negatively impact the Delta in the next 25 years and are supportive of the government taking additional action to prepare for more extreme events and take adaptation measures, including supporting more sustainable agriculture and restoring land for habitat. The diversity of residents in the Delta also means there is a variety of preparedness among residents to face climate change impacts. For example, low-income and residents of color have significantly less access to important resources for climate resilience, such as climate-controlled environments, mobile devices with internet, and emergency financial resources. By evaluating responses on sense of place, regional values and concerns, and climate change opinions together, the DRS can inform more effective climate change communication strategies for the Delta, including identifying high-priority communities where climate change outreach and adaptation support should be focused, and how to frame climate change conversations in ways that most resonate with different communities.

Additionally, the DRS illuminated some trends in community and civic engagement, and residents' opinions on governance in the region. Delta residents are not highly connected to community groups or organizations throughout the region. Current research across the U.S. concurs that social connectivity is lower at present than

historically, meaning Delta residents are not unique in this way. Regardless, low social connectivity in the Delta region can have multiple adverse implications, including lower social capital to support residents' resiliency in times of hardship and greater challenges to reaching community members through trusted information sources on issues that will affect them. Additionally, residents report that they place higher trust in scientific experts, community advisory groups, and local residents, as compared to local, state, or federal policy makers, to make decisions in the best interest of the Delta; this suggests that decision-making processes seeking residents' input and trust should integrate and partner with the aforementioned entities, as well as the specific groups nominated by respondents as trusted entities (see full report). Increasing residents' participation in governance in the Delta will also require addressing reported barriers to engagement, including being too busy with other obligations to engage, not feeling like one's input will actually influence decisions, not knowing how to engage, and not feeling informed on the issues.

By the numbers...

- Survey respondents' average residence time in the Delta is 24 years (maximum 84 years).
- Respondents' average sense of place index score is 4 out of 12 (0 being lowest, 12 being highest).
- Place dependence, a component of sense of place referring to how much one depends on or is attached to a place, was low across most respondents, with less than 25% of respondents selecting any factors for which they depend or rely on the Delta; however place dependence was significantly higher among respondents identifying as younger, Hispanic/ Latino, multilingual, or men.
- A majority (53%) of respondents associate strong recreational value as central to the Delta's identity & two-thirds of respondents report enjoying land-based recreational activities.
- About 60% of respondents say they are satisfied or very satisfied with their quality of life. Life satisfaction was significantly higher among rural residents, than urban and suburban residents.

- On average, respondents report having experienced 2 out of 7 environmental and climate change impacts, most commonly extreme heat and worsening air quality.
- >75% of respondents are concerned or very concerned with the potential for climate change impacts to negatively impact the Delta in the next 25 years and are supportive of the government taking additional action to prepare for more extreme events and take adaptation measures, including more action on drought, support for sustainable agriculture, and restoring land for habitat.
- Less than 20% of respondents report having flood insurance.
- 55% of respondents report no membership in any community groups.
- The majority of respondents said they were very likely or likely to vote in an election (87%) or sign a petition (75%). For all other civic or policy engagement activities, a small minority of respondents said they were likely or very likely to engage.
- Top barriers to engagement included not having enough time, feeling like one's input will not affect decision-making, and not knowing how to engage.

Conclusions

The research effort was successful in achieving many of its stated objectives including:

- Developing a reproducible methodology that aimed to reach a demographically and geographically representative sample of Delta residents.
- Achieving a strong response rate to have confidence that the survey's results are reliable and representative of the full population of Delta residents.
- Establishing baseline measures of characteristics of interest of Delta residents (sense of place, well-being, values, concerns, environmental and climate change experiences and attitudes, civic engagement, and perceptions of good governance).

Furthermore, the DRS research effort effectively engaged a diverse array of community-based organizations across the rural and urban Delta and served as a convening project to bring together social scientists and practitioners from many

different agencies, organizations, and research institutions to collaborate on advancing understandings of the human dimensions of the Delta.

The DRS illustrates what can be gained by better understanding Delta residents. Notably, the survey reveals where residents across the region align in their attitudes, values, and priorities, and where there are important differences based on differences in residents' geography or walk of life. Understanding these similarities and differences across the region are important for developing appropriately tailored management and policy approaches, and evaluating how management approaches will affect community members differently. There is a strong need across the estuary to continue investing in understanding the human dimensions of the geographically, demographically, and sociologically diverse region. Future research should integrate a variety of quantitative and qualitative approaches to develop breadth, depth, and interdisciplinary perspectives on social-ecological change over time.

Fiscal Information

Not applicable.

List of Attachments

Attachment 1: 2023 Delta Residents Survey Summary Report (available here: <https://ktomari.github.io/DeltaResidentsSurvey/>)

Contact

Dr. Jessica Rudnick

Social Science Extension Specialist in California Delta

Phone: (916) 902-6596