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# Public Perceptions and Knowledge of Aquatic Invertebrates in Devereux Slough

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## Introduction

- Many estuaries on the West Coast of the United States have experienced significant degradation.
- The North Campus Open Space (NCOS) restoration initiative transformed the upper arms of Devereux Slough from a golf course into habitat for many organisms, including aquatic invertebrates<sup>2</sup>.
- This restoration site also serves as a place for recreation.
- However, the perceptions and knowledge of the visitors of the existence and importance of aquatic invertebrates in these areas is unknown, despite their ecological importance.
- Understanding these perceptions and gaps in knowledge can help increase public awareness and support for future wetland restoration efforts.
- This study aims to address the question: What are the perceptions and knowledge of visitors of Devereux Slough?



Site image used for Venoco Bridge in the survey

## Methods

### Survey Creation and Distribution

- A 15 question survey intended to take 10 minutes was developed based on previous public opinion studies<sup>1</sup>. It was created and approved under IRB protocol 1-26-0145.
- The survey assessed the knowledge and opinions on aquatic invertebrates, the site, and the demographic of visitors of Devereux Slough over the age of 18. It was distributed virtually through NCOS newsletters and posters with QR codes around the North Campus Open space.
- Data was collected using Qualtrics from March 11, 2026 to April 30, 2026.

### Respondent Characteristics

- There were 85 total respondents.
- Survey respondents represented a broad age range, from 18 to 75+ years old, with the largest group being ages 18-24 (18.8%). About 31.4% of respondents reported visiting Devereux Slough weekly or daily. Educational backgrounds also varied, though most respondents reported holding a Bachelor's degree, Master's Degree, or a PhD.

## Results

### Invertebrate Recognition

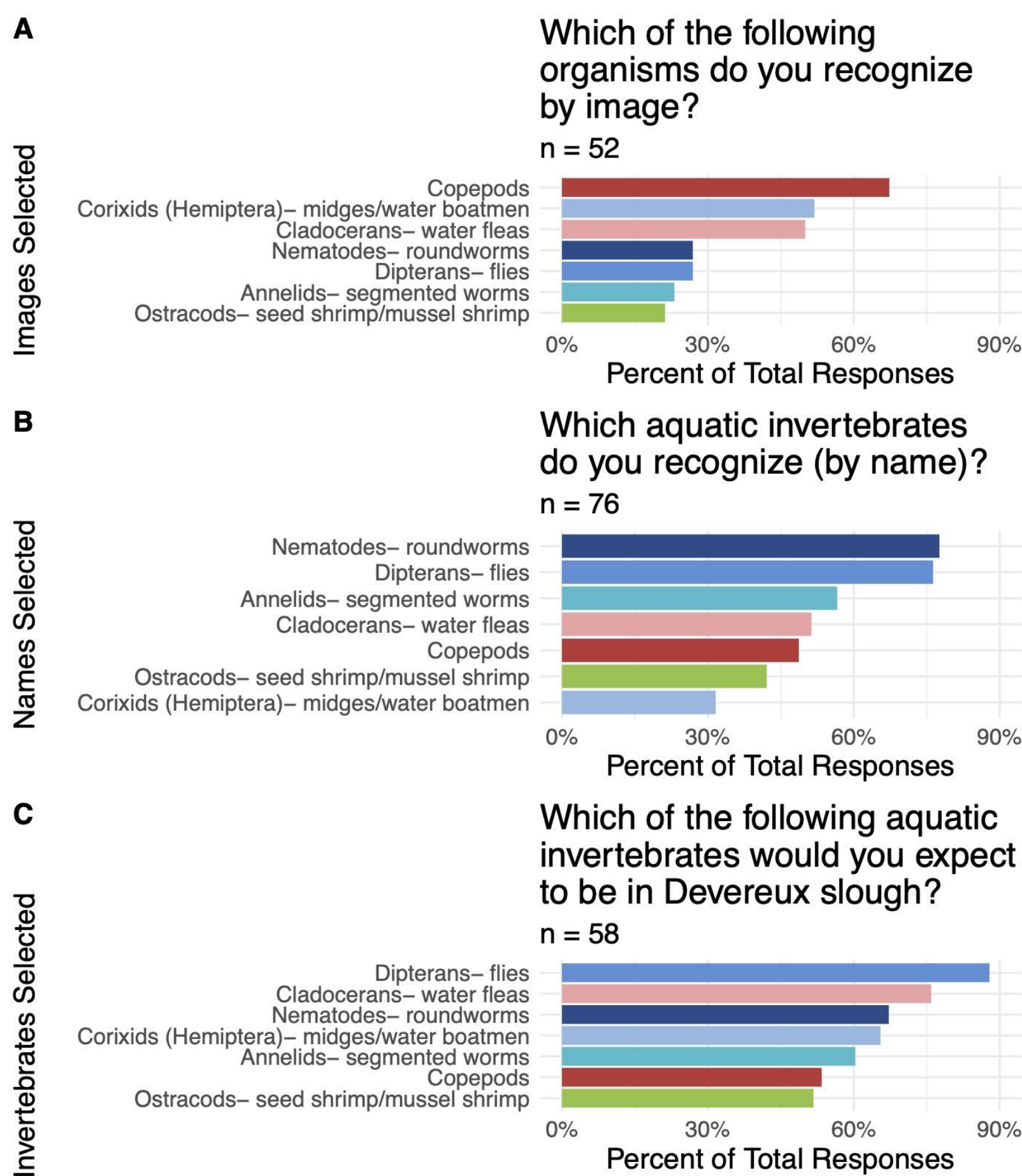


Figure 1: Visitor recognition of invertebrate taxa by image (a), name (b) and expectations of occurrence at Devereux Slough (c).

- Copepods were the most frequently recognized group by image, while nematodes were most commonly recognized by name. Dipterans, cladocerans, and nematodes were most often expected to be in Devereux Slough.

### Visitor Perceptions

- 97% of 56 respondents thought aquatic invertebrates were either extremely or very important to estuary restoration.
- Similarly, 46% of 56 respondents believed that Devereux Slough was a healthy restored site, while the rest of the respondents selected maybe.
- 78.6% of 56 respondents were able to identify that the New Zealand mud snail was found in Devereux Slough.
- When asked about site protection, 54 respondents, on average, thought all of the sites (Venoco Bridge, Vernal Pools, Phelps Creek, Phelps Bridge, Phelps Creek Upstream from the bridge, Northwest and Devereux Creek, Seasonal Pond, CCBER Overlook, and Dilling's Link Bridge) should be protected. Similarly, there was no strong preference when asked to rank each site.
- When asked about the basis for their site protection rankings, visitors strongly preferred view and aesthetics (Figure 2).

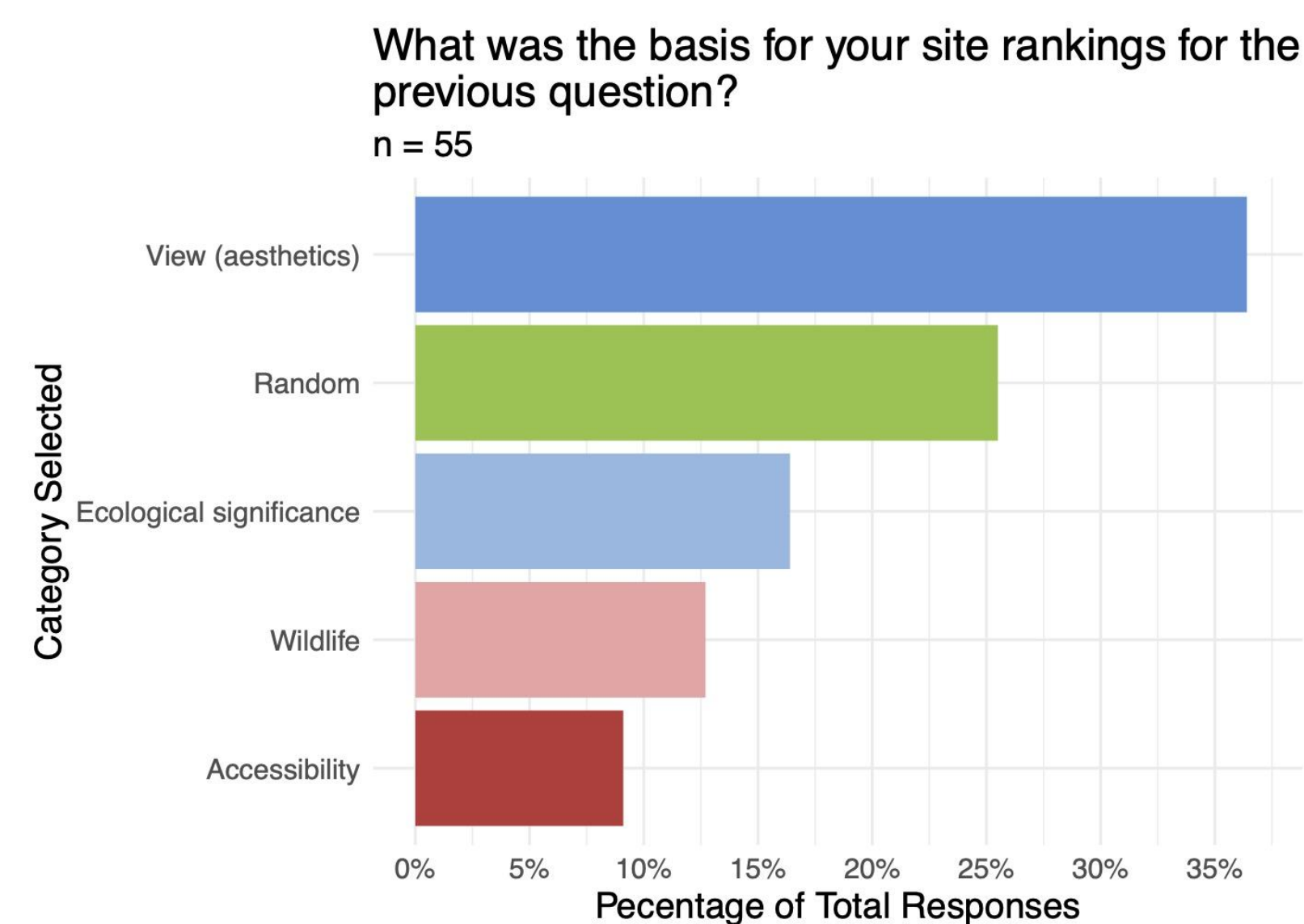


Figure 2: Basis for visitor site rankings.

## Discussion

*Mismatch between name and image recognition of taxa:*

- Differences in invertebrate recognition by image, name, and presence in the slough suggest a knowledge gap in visitor understanding of aquatic life stages.
- For example, Dipteran (fly) images showed aquatic Chironomidae (midge) larvae and were only selected in just under 27% of total responses, despite Dipterans being among the most recognized by name (76%) and expected presence (88%). Copepoda were most recognized by image at just over 67%, while name and slough recognition were around 50%.
- These patterns suggest that visitors may recognize certain invertebrates in one form, but not across their life stages, names, or presence.



Chironomidae larvae and chironomidae adult

*Visitor Values:*

- Additionally, survey respondents on average have a positive view of the upper arms of Devereux Slough with a preference for view and aesthetics, indicating that there is a shared value of the space among visitors.

*Next Steps:*

- The information collected in this study will be used to create an educational infographic to be displayed around NCOS.

## References

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- Senesac, S. (2022). *Aquatic Invertebrates of the Devereux Slough 2018-19*.

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