Social-Ecological Systems influence Ecosystem Service perceptions: A PECS approach

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Facing the challenges of environmental and social changes, sustainable management of water-related ecosystem services is a worldwide priority in regions experiencing water scarcity and governance issues. The Program for Ecosystem Change and Society (PECS) provides a unique opportunity for promoting transdisciplinary placed-based comparative research for social-ecological systems (SES) management. As part of the PECS project "water scarcity and governance across social-ecological systems, WaterSES", we used four place-based SES research sites to analyze patterns, perceptions and preferences regarding ecosystem services (ES).

PECS APPROACH

4 place-based research sites
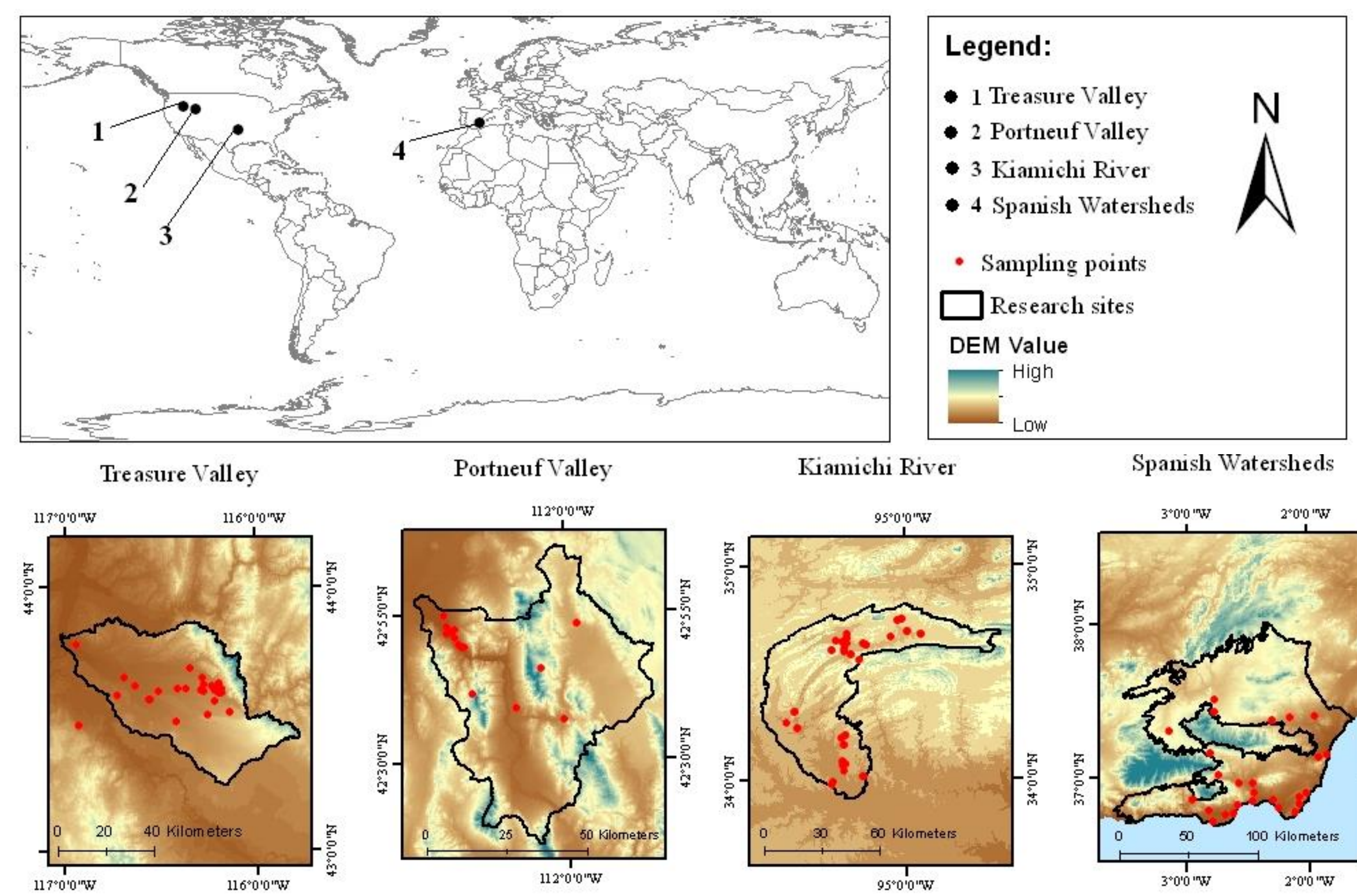
METHODS

Social sampling: Over **1,500 face-to-face surveys** were conducted.

Utilizing a **free-listing technique,** we asked respondents to name all of the possible benefits provided by the ecosystems in the study area.

Socio-demographic data was collected from each survey respondent. Environmental variables were estimated using spatial information from land use-land cover data, and we used the global climate dataset "*WorldClim*" to estimate climate variables.
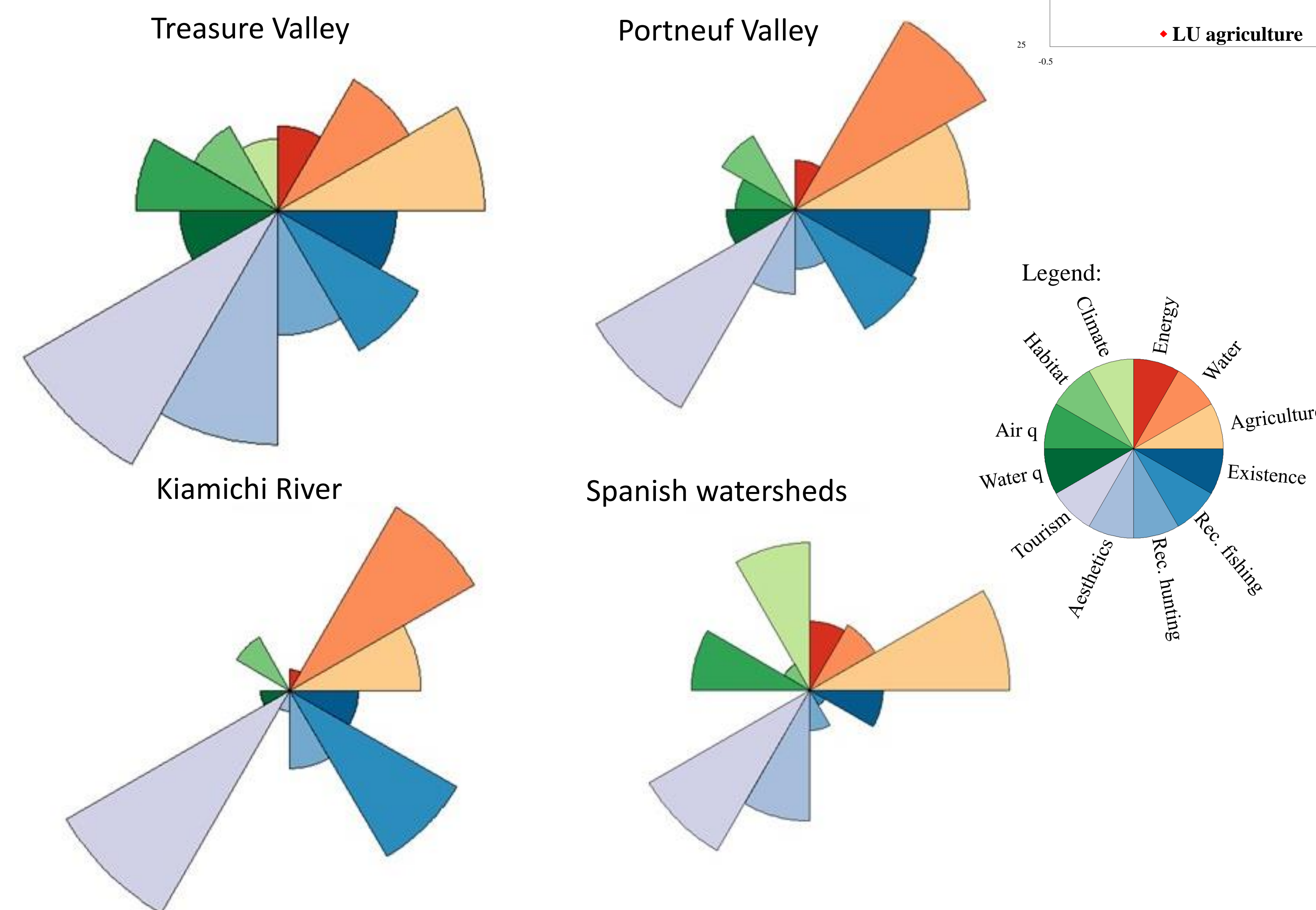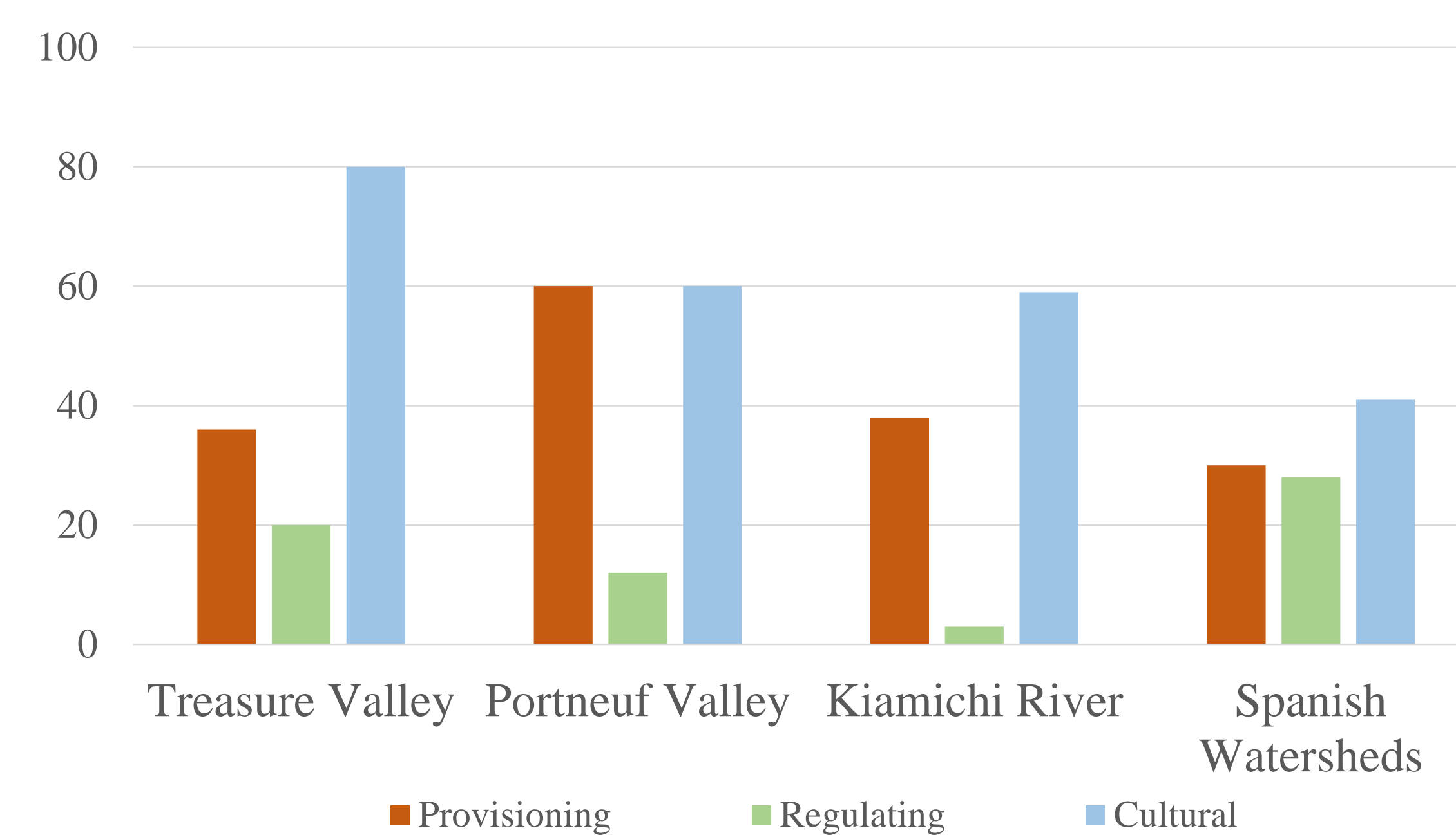
GOALS

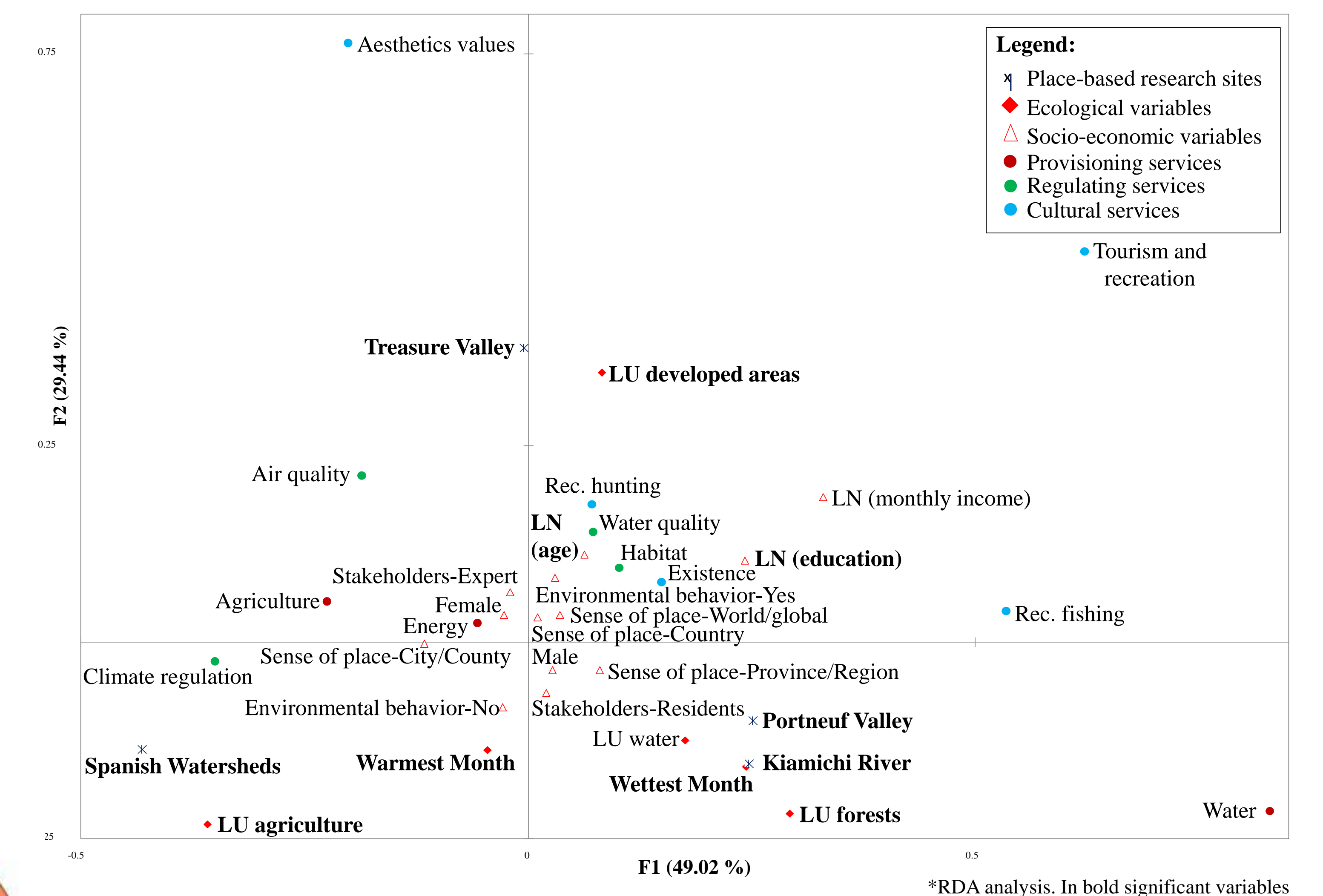**How different social-ecological contexts influence people's perceptions of ES?**

1. Describe and compare ecosystem service perceptions within and across SES sites.

2. Evaluate the overall relationship between SES and ES perceptions.

RESULTS AND DISCUSSION

Social perceptions toward ES

Relationship between SES characteristics and ES perceptions

CONCLUSIONS

Our findings suggest the need of acknowledging the complexity in the relationship between people's perception and the SES to foster more effective and inclusive landscape management strategies.

In addition, the PECS approach is an optimal pathway to understand ecosystem services importance across SES contexts, which is key for crafting policy about ES management.

ACKNOWLEDGEMENTS