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Assessing public preferences for a wildfire mitigation policy in Crete, Greece

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Abstract

The increased frequency and severity of wildfires in the Mediterranean region generates significant damages in ecosystems and landscapes while harming human populations. Institutional complexities, along with socioeconomic and demographic changes encouraging development into the wildland-urban interface, rural abandonment, and focus on fire suppression, are increasing the vulnerability and flammability of Mediterranean ecosystems. Developing effective strategies for managing wildfire incidence and its aftermath requires understanding of the public preferences for wildfire policy characteristics. Here we elicit public preferences for wildfire mitigation policies employing a stated choice experiment applied in Crete, Greece. A region with typical Mediterranean landscape experiencing significant development and rural-to-urban migration that disrupts existing fire regimes. We estimate conditional logit, mixed logit and latent class models to study the general public's preferences and willingness to pay for limiting wildfire frequency and agricultural land burnt, maintaining landscape features, and managing post-wildfire recovery. Results of our study show that measures to manage post-wildfire damage are consistently valued as the most positive among the sampled respondents, achieving values that range between €25.92 in conditional logit model to €46 in one of the latent classes identified. Improving the landscape quality follows in importance, although it shows more heterogeneity in the responses. The latent class approach allowed to identify that those associated with either the agricultural or the tourism sector of the sampled individuals, displayed significantly different preferences for the proposed attributes. Overall, our findings indicate that there is a strong preference amongst the general public to shift current policies based on suppression towards more integrated approaches dealing both with prevention and post-fire management. The outcomes of this study serve to guide decision makers on targeted

management plans based on their audience.