Stakeholder engagement within probabilistic risk assessment for synthetic gene drives

Abstract

Synthetic gene drives may be a cost-effective way to control or eradicate agricultural pests, vector-borne diseases and invasive species. The US National Academy of Sciences recommends that the immediate and long-term benefits and harms of this new technology are addressed with robust, probabilistic risk assessment, and further recommends that research institutions (amongst others) develop clear policies for how public engagement will factor into ecological risk assessment. This presentation discusses ways to conduct probabilistic risk assessment for synthetic gene drives, and highlights mechanisms to promote stakeholder participation within the process, and the challenges that participation may present. It addresses fundamental issues such as the definition of risk, the types of uncertainty that are manifest within a risk-based decision making framework and the tools that will help enable stakeholders with diverse backgrounds participate in a robust risk assessment.