Session 4 – Socioeconomic impacts of invasions

SOCIAL-ECOLOGICAL NETWORKS AND BIOLOGICAL INVASIONS: A CASE STUDY OF THE INVASIVE AMERICAN MINK IN ICELAND

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Most problems we face in the Anthropocene are caused directly or indirectly by humans, including invasive species. Studying invasive species and specifically mitigating their impacts should, therefore, consider humans and the surrounding social and ecological system. Social-ecological networks (SENs) can be used to map the different social and ecological actors affected by invasive species as well as the interactions between them. Here, we will use the invasive American mink (*Neogale vison*) in Iceland as a case study to demonstrate how SENs can be applied to understand direct and indirect impacts and what opportunities they present in mitigating these. Based on published literature and semi-structured stakeholder interviews, we created a multilayer network of the Icelandic social-ecological system focusing on the invasive mink. Trophic interactions of species that are either ecologically or social-economically relevant to the mink or Iceland at large are included in the ecological network. The social network consists of relevant stakeholders affected by the mink or involved with its management, as well as the interactions between these. These two networks are linked by social-ecological interactions between stakeholders and species, such as the removal of matter from the ecosystem via hunting or the emotional wellbeing that birdwatchers derive from seeing certain species. Modelling how humans and nature interact gives insights into the functioning of social-ecological systems and allows for management options that consider multiple perspectives and contexts.