Advancing and integrating science to better observe and predict biodiversity and ecosystem change

bioDISCOVERY

Background & Objectives

Biodiversity at all levels is impacted by global-scale drivers (e.g. habitat degradation and loss, overexploitation and climate change), these pressures are likely to increase in future. In addition, feedbacks exists between the response of biodiversity and ecosystems with the drivers of change. Factors such as a lack of consistent monitoring or an underuse of projections of future biodiversity dynamics impede the use of observations and models in decision-making intended to slow biodiversity loss.

bioDISCOVERY seeks to mobilise the scientific community to advance research on monitoring, observation and modelling of biodiversity and ecosystems in order to improve our understanding of how biodiversity and ecosystems respond to environmental change, and to overcome the barriers that impede the use of observations and modelling in management and decision-making.

bioDISCOVERY's ultimate goal is to develop innovative perspectives on biodiversity and ecosystem services based on high-quality data, observation methodologies and mechanistic models of bio-diversity and ecosystems, and present them for use at the science-policy interface.

Activities are structured under **3 components – monitoring and observation**, **models and scenarios**, and **supporting assessment bodies** (Fig 1).

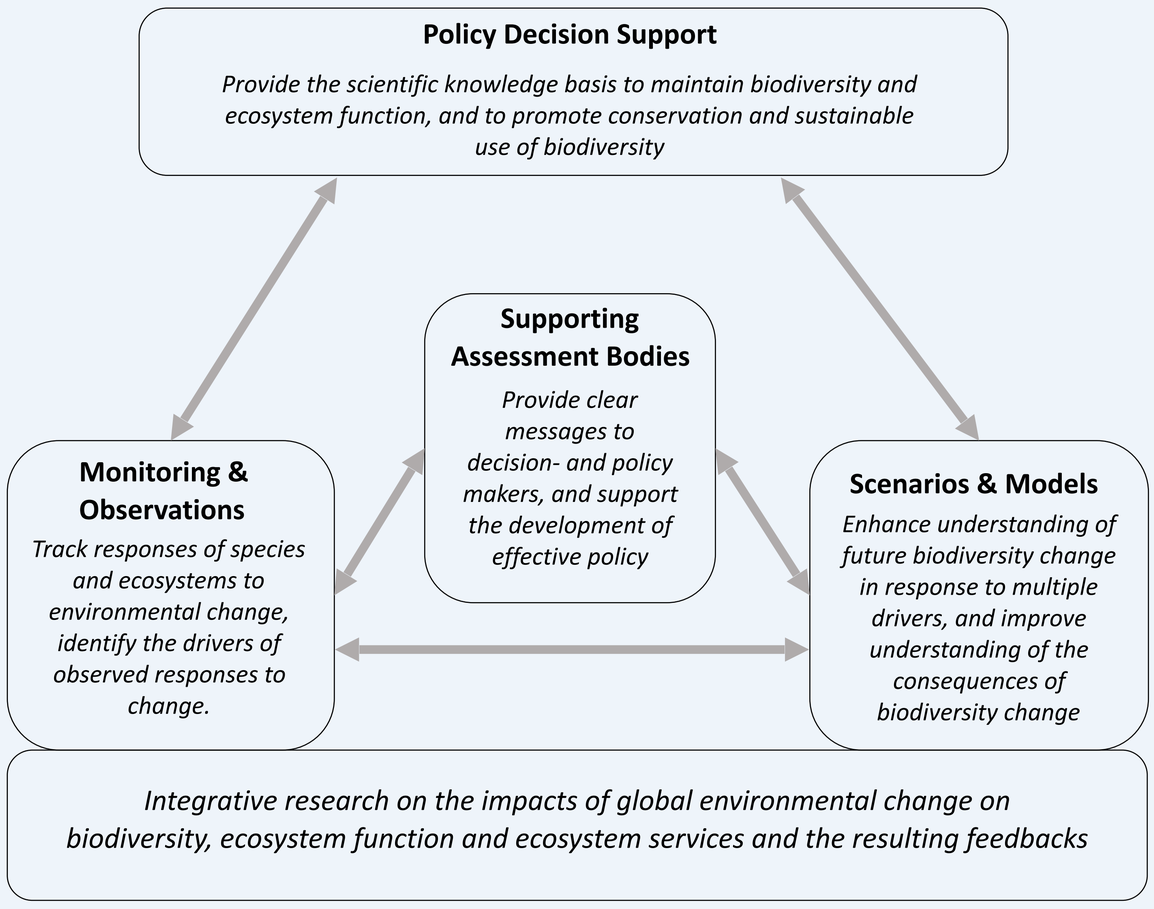

Fig 1: Structure of the bioDISCOVERY science plan with its three components and their relationship to policy and decision support. Integrative scientific activities form the basis for the activities within the components. Arrows indicate the flow of information.

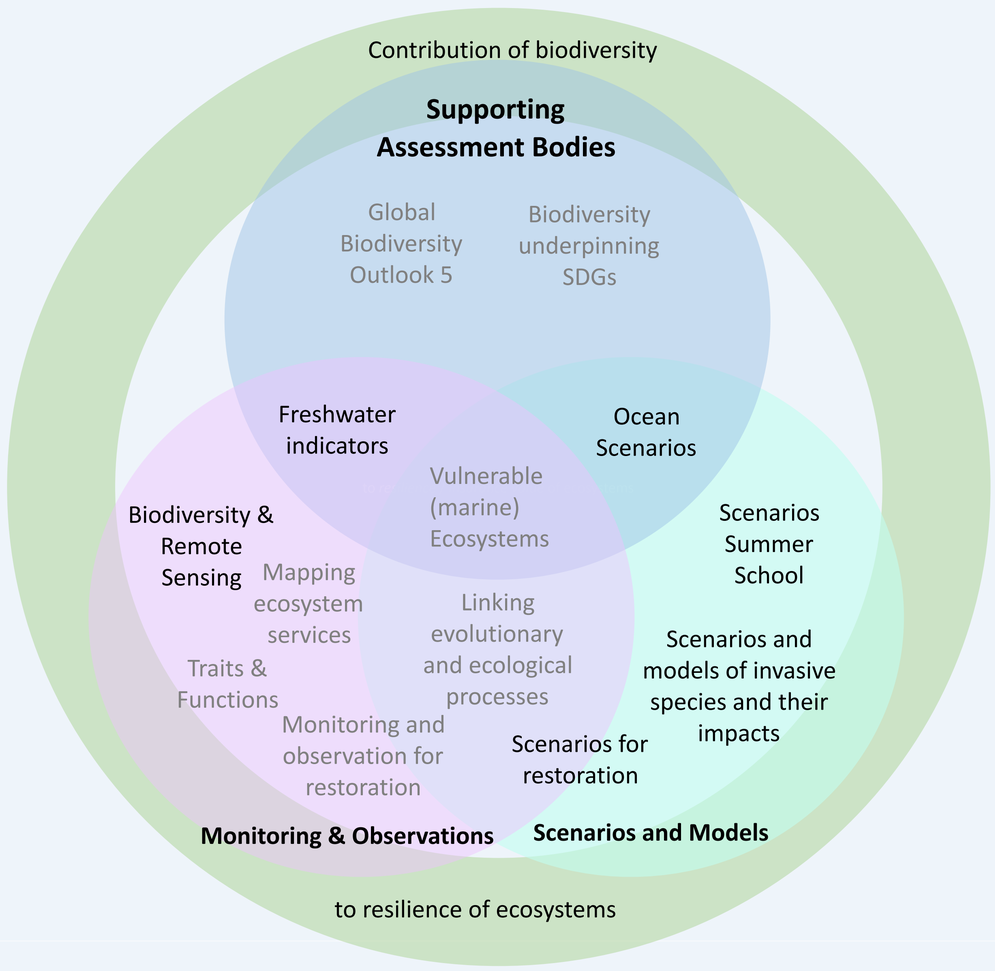

Fig 2: bioDISCOVERY activities and their contributions to the key components of bioDISCOVERY (monitoring and observations, scenarios and models and supporting assessment bodies). Activities in dark font are ready to go ahead in 2018 – 2020, activities in light font will follow 2020 – 2022.

Activities are geared towards achieving **synthesis of existing science**, leading to e.g. development of new indicators or scenarios; and **catalysis of new knowledge**, leading to the development of new approaches and methodologies.

This is done through the **creation of a scientific network** and the **coordination** of research; by **connecting researchers** and **integrating methodologies**, thus **adding value** to existing research.

Planned and envisaged **Activities** for the period 2018 – 2022:

Scientific Conference "The Future of Biodiversity" – 23 – 28 February 2020, Davos Conference Centre, Switzerland

Workshop Series "Models of Spread and Impact of Invasive Species" in collaboration with IPBES TSU on Scenarios

Workshop Series "Contribution of Biodiversity and Ecosystem Function to Ecosystem Resilience"

Workshop "Synthesis of Biodiversity for the Remote Sensing Community"

Working Group "Freshwater Indicators" – Development of indicators for freshwater assessments, learning from marine realm

Working Group "Impacts of multiple drivers on biodiversity and ecosystem services of oceans" – Development of indicators for the assessment of impacts on the ocean, and the development of scenarios for ocean ecosystems.

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