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Committee G Environment –

Case studies involving planning, construction and operation of dams demonstrating environmental and social benefits

Biodiversity, Eel and hydropower in Sweden

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Introduction

- The European Eel (*Anguilla anguilla*) is on the IUCN redlist and considered Critically Endangered (CR)
- The eel regulation (EC No 1100/2007) on the recovery of the stock of European eel has been implemented in Sweden
- The target for each EU Member State is that at least 40% of the migrating eel are likely to reach the ocean, compared to the best estimate of background levels if no human activity had affected the stock
- A National Eel Management Plan has been prepared to reach the target for Sweden
- Turbine mortality from hydro power is listed in the plan as an important factor, impacting eel migration from freshwater to ocean



The program "Krafttag ål"

Joint project involving the Swedish Agency for Marine and Water Management and a number of hydropower companies, consisting of

- protective measures
- research and development



Objectives of the program

The overarching objectives of the program is to:

- increase the knowledge of the interactions of hydropower and eel,
- reduce the impact of hydropower on the Swedish eel population,
- increase the migration of silver eel from Swedish inland waters



Timeline of the program

Stage 1 (2011-2014):

- 8 R&D projects

Stage 2 (2015-2017):

- 7 R&D projects
- Practical measures



Past 2017 the program has been continued in one-year periods

For 2021 the target was to transport at least 15 000 silver eels past hydropower plants in four rivers



Conclusions of the Swedish case study

- New knowledge of the behaviour of eel and the need for integrating biodiversity concerns in hydropower operation has been gained
- There is a difficulty to evaluate the long-term effects of the measures taken due to a long-life cycle. Other factors that might impact on the eel migration and population are not considered, such as climate change, ocean currents, pollution, toxic substances or other changes in the environment
- There is a recent positive trend for eel recruitment. However, even though the trend is positive, it is still an increase from a very low level and the efforts needs continuation

