Session C2: How Migrating Fish Survives Between Law, Politics, and Permits for Hydropower

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How migrating fish survives between law, politics, and permits for hydropower

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Dilemma: do we allow development of new hydropower plants?

- Request of a permit for new hydropower plant
- At planned plant site migrating fish will be killed/injured when passing
- Which decision do we take?
  Yes or no powerplant?
It is a Yes! We need more hydropower

• Promotes sustainable development
• Contributes to the national renewable energy objective in 2020, 20% renewable energy
• In line with EU directive on sustainable energy
• Stakeholders / Companies are ready for it
• Hydropower has a green image amongst the general public
It is a No! We need to improve fish migration

- EU Eel Regulation is aiming at restoration of eel population till 40% of its natural size (now <1%)
- WFD sets clear objectives for migrating organisms, mitigation measures are obliged, compensation if WFD measures are taken
- Water managers in the NLs are spending millions of euros in restoration of fish habitats and migration routes
- Stakeholders e.g. sport fishery are keen on restoration of fish populations
Call for a guideline

- A number of court cases
- National program for subsidizing hydropower
- Different regional competent authorities
- A lot of questions in the national Parlement (earlier in favor for ‘yes’, later more balancing between ‘yes’ and ‘no’) after permits and court cases

- Provides politicians a ‘principle’ for making decision in the dilemma ‘yes’ or ‘no’

- From law and policies to concrete numbers of fish mortality
Content of the guideline

- In two main trajects cumulative fish mortality should be lower than 10% of the potential passing fish for both eel and salmon as test species
- If this level is already exceeded new projects are only allowed when <0.1% is ensured
- Other water bodies important for fish migration <0.1% mortality
- Best Available Techniques are needed
- Intensive cooperation between ecologists, lawyers, policy makers and included a consultation process amongst stakeholders
And what are the consequences?

EXISTING PLANTS (c.10MW plant):

- All present large plants cause more than 10% cumulative mortality for both eel and salmon in the trajectories
- High effort is paid to reduce mortality via new techniques (new developments in turbines)

NEW PLANTS (c.2MW and at existing weirs):

- Several plants have a (draft) permit with 0.1% mortality rate
  - Small part of the river discharge
  - Screen protection
  - Side channels, low velocity etc.
Conclusions

• Large gap between policies and law on the one hand, and decision on permits on the other hand
• Guidelines make policies and laws transparent and clear

• In this conference more about migration of fish and the role of hydropower and other pressures in sessions:
  A.W. Breukelaar; Downstream migration of 2+ salmon smolts (Salmo salar) in the river Meuse in the Netherlands with special attention to the effects of passing hydro power stations and the loss of fish by predation 14.45 Sturgeon Room
  F.T. Vriese; Downstream migration of silver eel (Anguilla anguilla) in the river Meuse in the Netherlands 2008 – 2012, Tuesday 14.15 Happy Fish Room
  And presentations about River Rhine...
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