

Project „Cultural landscapes of mountain and highland river valleys”
supported by a grant from Norway
through the Norwegian Financial Mechanism
in the framework of Polish-Norwegian Research Fund



Artificial waterbodies in strongly regulated rivers. Effects on fish and invertebrates

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Synthesis:

During 1975 – 2002, a series of projects aiming to give a better understanding of the effects of constructing small weirs in heavily regulated rivers were performed

Our main research localities were located in the neighbouring rivers Ekso and Teigdalselva in western Norway

The projects aimed to investigate the effects on brown trout and invertebrates and the interaction between these two elements of the food chain

A series of papers have been published, of which the following gives a synthesis of the projects:

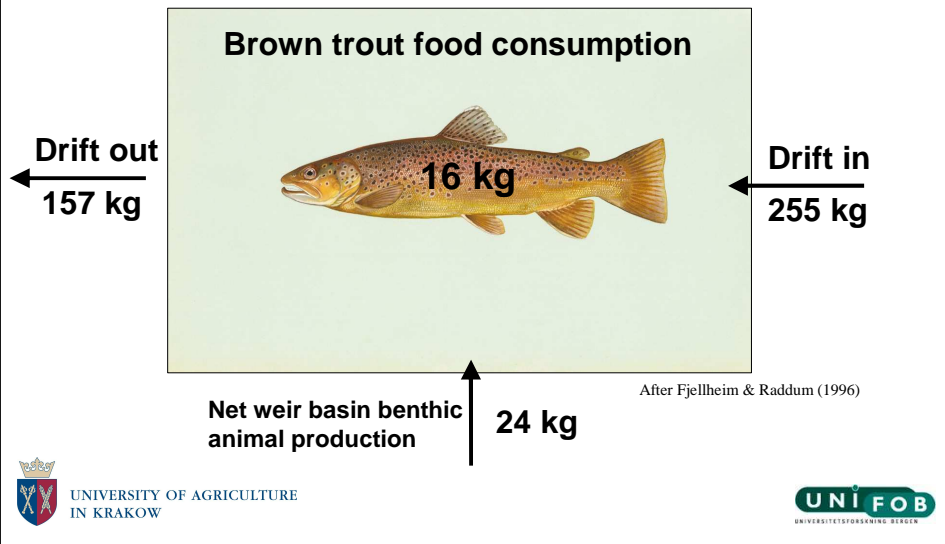
Fjellheim, A. & Raddum, G. G. 1996. Weir-building in a regulated West Norwegian river: Long term dynamics on invertebrates and fish. - Regulated Rivers: Research and management 12: 501-508

Fjellheim, A., Barlaup, B. T., Gabrielsen, S. E and Raddum, G. G. 2003. Restoring fish habitat as an alternative to stocking in a river with strongly reduced flow. – Ecohydrology and Hydrobiology 3: 17-26.



Yearly energy budget of a weir basin in river Ekso (kg dw yr⁻¹)

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Conclusions:

- Weir basins normally increases standing crop of fish in rivers of low discharge
- Riffles represent an important habitat for production of fish food
- The benthic fauna in weir basins is dominated by animals of a more lentic character
- Weir basins reduces negative interactions between small and larger fish
- When planning habitat restoration it is important to secure reasonable alterations between riffles and pools
- Such alterations of habitats are not only of benefit to fish production, but also increases benthic animal diversity

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