

Masterplan for Hydropower in Austria

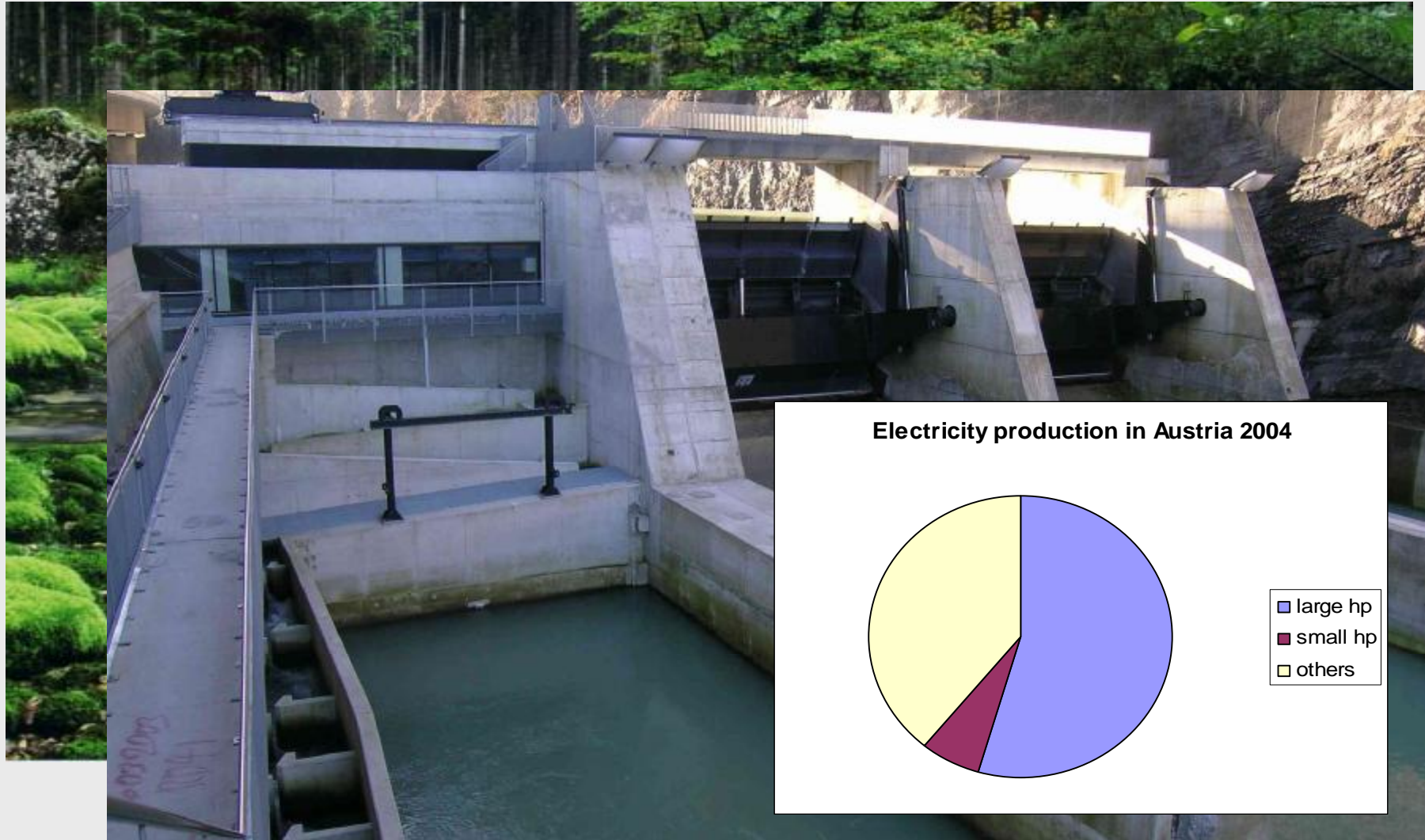
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- Previous attempts
- Intentions
- Ecological criteria

Preface, conflicts



Preface, conflicts

EU directives:

“Good ecological
quality”

WFD



“Increase in renewables
capacity”

Kyoto protocol,
Renewables Directive



Preface, conflicts

Activity paper „Hydromorphology and WFD“

(...) In order to minimize the need for new sites, the development of hydropower capacities could be supported first by the modernisation and the upgrading of existing infrastructures.

Pre-planning mechanisms, in which regions and municipalities allocate suitable and "no-go" areas for the development of hydropower is also recommended.



Previous attempts



Classification and superposition of
* economical feasibility
* ecological sensitivity (3 classes each)
Result: map



Compatibility with Hydropower (3 classes)
Result: rating scheme



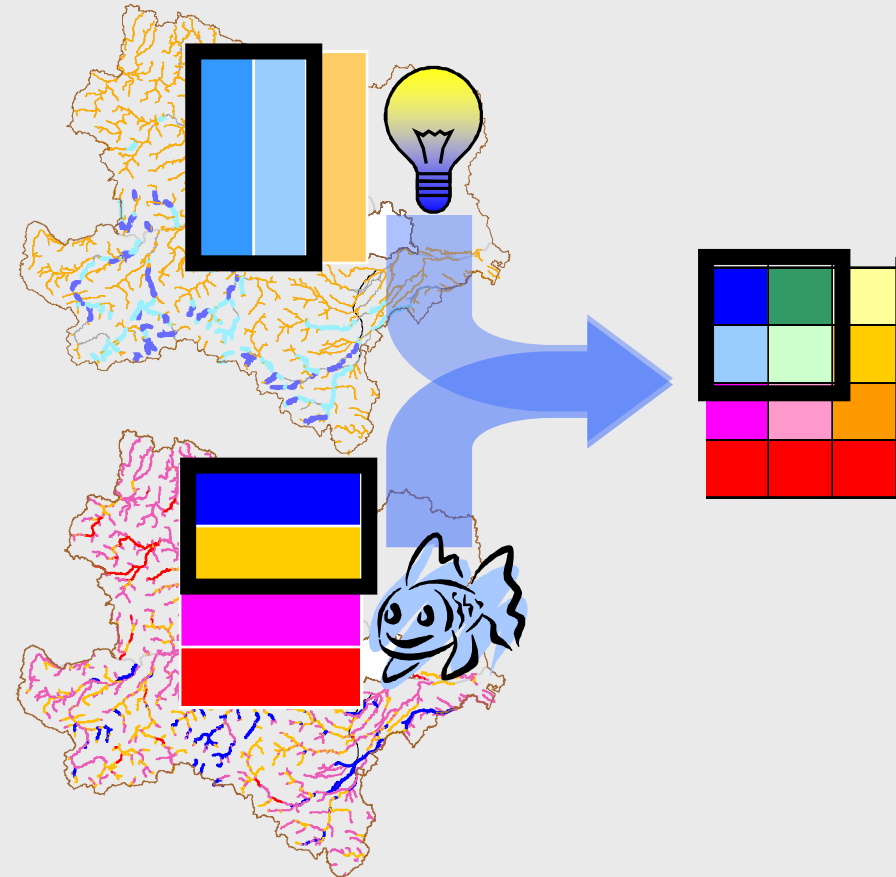
Nature conservation – High quality (yes/no)
Result: rating scheme



Nature conservation – Sensitivity (3 classes)
Result: map

General Intention

- Independent evaluation of
 - ü Hydropower potential, economical feasibility
 - ü Ecological sensitivity



- Superposition à balance sheet, base for decisions on future development

Present situation

- Independent evaluation of
 - ü Hydropower potential, economical feasibility
 - ü Ecological sensitivity
 - Ø Development of a harmonised criteria catalogue to assess the ecological sensitivity



Criteria - Requirements

- According to the ecological specifications of the WFD /WRG
- Concerted with federal countries
- General applicability, no restrictions due to river size, type of power plant etc.
- 3-stepped, worst-case assessment
- Highest sensitivity is not to be misunderstood as
 - a no-go-area
 - an anticipation of Art. 4 (7) WFD or § 104 WRG
- (no criteria concerning regional nature conservation à federal countries)

Criteria - Categories

- Invaluable attributes
- Pre-impacted sites
- National/Federal interests of nature conservation
- Hydropower type
- Other

Criteria - Categories

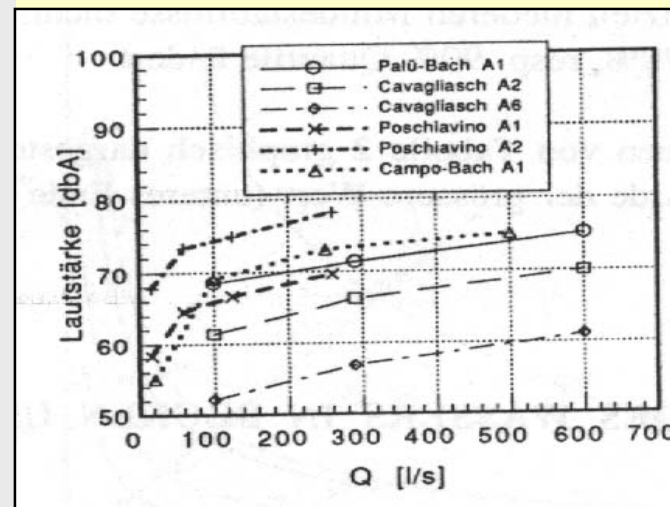
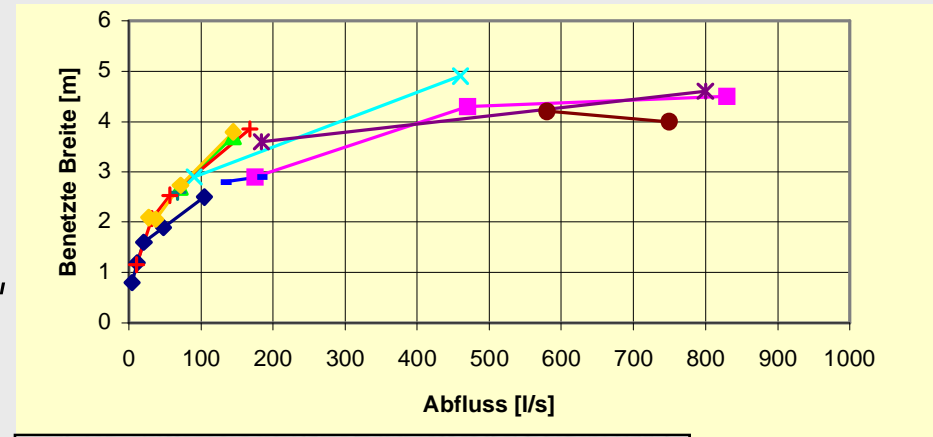
- Invaluable attributes
 - ü Ecomorphological quality
 - ü Supraregional sensitivity, rareness of river types



Criteria - Categories

● Invaluable attributes

- ü Ecomorphological quality
- ü Supraregional sensitivity, rareness of river types
- ü Size-dependent sensitivity, special protection of small brooks



Criteria - Categories

- Invaluable attributes
 - ü Ecomorphological quality
 - ü Supraregional sensitivity, rareness of river types
 - ü Size-dependent sensitivity, special protection of small brooks
 - ü Faunistic/floristic „specialties“



Freshwater pearl mussel

Criteria - Categories

- Invaluable attributes
 - ü Ecomorphological quality
 - ü Supraregional sensitivity, rareness of river types
 - ü Size-dependent sensitivity, special protection of small brooks
 - ü Faunistic/floristic „specialties“
 - ü Fish migration, special protection of estuaries



Criteria - Categories

- Invaluable attributes
- Pre-impacted sites
 - ü Impoundments, Preservation of free-flowing river stretches
 - ü Existing utilisation (residual flow, hydropeaking)
 - ü Water quality
 - ü Thermal impact



Criteria - Categories

- Invaluable attributes
- Pre-impacted sites
- National/Federal interests of nature conservation

ü International Protection Areas

- o National Park
- o UNESCO Biosphere reserve
- o Water-specific Natura2000 areas
- o RAMSAR



Biosphärenpark
Großes Walsertal



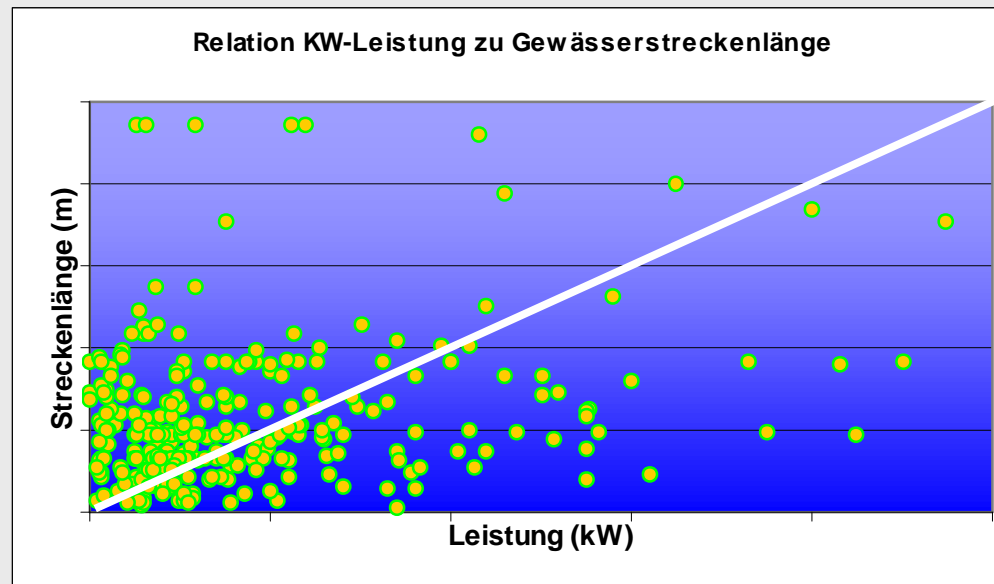
Criteria - Categories

- Invaluable attributes
- Pre-impacted sites
- National interests of nature conservation
- Type of hydropower plant
 - ü Storage PP (hydropeaking ...) – Run-of-river PP



Criteria - Categories

- Invaluable attributes
- Pre-impacted sites
- National interests of nature conservation
- Type of hydropower plant
 - ü Storage PP (hydropeaking ...) – Run-of-river PP
 - ü Efficiency



Criteria - Categories

- Invaluable attributes
- Pre-impacted sites
- National interests of nature conservation
- Type of hydropower plant
- Other
 - ü Reference/monitoring sites
 - ü „Sponsored“ river stretches
 - o LIFE-Projects
 - o Revitalisation stretches, nature-orientated flood protections (river widenings ...)



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Thank you for your attention !