Waters Passage Program of Saxony

BACKGROUND

The Free State of Saxonia is responsible for stocktaking of the WRRL conversion in the working area Mulde-Elbe-Schwarze Elster (MES) of the river basin unit, Elbe.

The final stocktaking of 2005 determined that the main problems of Saxonian surface waters are ecological deficits in fish conditions.

The most significant cause of these ecological deficits is the migration handicap applied by a large number of weirs and dams. On average, there is such a building at every 3.5 km stretch of running waters in Saxonia. Many of these buildings are not passable for the majority of fish types.

Weirs and dams in Saxonian river catchment areas (02/2006)

River catchment area	weirs, dams		
	entirely	passable	not passable
Saale	1	1	0
Weiße Elster	232	84	148
Eger (Ohre)	0	0	0
Vereinigte Mulde	63	27	36
Zwickauer Mulde	372	159	213
Freiberger Mulde	522	251	271
Elbe	410	142	268
Schwarze Elster	264	77	187
Spree	254	71	183
Laußitzer Neiße	111	39	72
Polzen (Ploucnice)	0	0	0
entirely	2229	581	1378

Source: Saxonian national office of agriculture (LfL)

PROBLEMS

Since the beginning of Saxonian industrialisation, weirs and dams have been installed in running waters to provide water supply for:

- industry
- fish farming
- mills
- energy production.

In recent decades, further buildings were installed along the rivers to provide, among other things:

- potable water supply
- flood protection.

This has resulted in the installation of approximately 2230 weirs and dams in nearly all Saxonian running waters. Structures of rivers change, so that a measure for ecological passage is not given. Mobile fish types e.g. salmon, sea trout and brown trout cannot migrate into their spawn areas, the species compositions are thus limited and a minimum flowing off is not ensured. 60 % of the weirs and dams in Saxony are ecologically not passable.

Hydroelectric power plant at the Zwickauer Mulde
(Picture: http://www.fliessgewaesserschutz.de)

SOLUTIONS

In order to work against these problems the Free State Saxonia initiated the "Waters Passage Program" in 2002, in order to re-establish and secure the re-naturalisation of running waters and to make them ecological passable.

For first analyses, all factors of influence (ecologically, geographically, legally and technically) were examined. In addition the water structure, quality, land use and type were determined, and data collected from the appropriate weirs and dams. Measures were continuously developed on this basis for improving the water conditions – descriptions may be found in sequentially updated measure plans.

It is intended that execution of these measures will be complete within a period of 15 years (2003-2018) and with an estimated financial cost of 35-45 million Euro.

Fish ascent assistance, Zwickauer Mulde
(Picture: UBG - http://www.umwelt.sachsen.de)

BENEFITS

With this program a the following measures were realised:

- retrenchment of weirs and dams
- building of fish ascent assistances:
  - in nature near building method (e.g. evasion-coagulate, sole ramps/slides, fish ramps)
  - in technical building method (e.g. basin passports, fish elevators)
  - structure-improving measures (substrate, sole)
- definition of minimum flowing off

Evasion-coagulate of hydro-electric power plant at the river Zschopau
(Picture: Peters/Signer,www.umwelt.sachsen.de)

Further information:
http://www.umwelt.sachsen.de/de/wu/umwelt/lfug/lfug-internet/wasser_11749.html

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