



## Historical Aerial Photographs



### Aerial photo 1927

The location of the original weir and the old course of the river Lippe can be seen.



### Aerial photo 2008

The photo shows the location of the weir built in 1937 situated directly on the southern arm of the Lippe.



### Flooding 2007

Large areas of the inundated floodplain are clearly visible due to the high turbidity of the summer flood.





## Condition of the weir before the reconstruction in 2010



The weir was generally in bad condition. This was one of the reasons why it was decided in 2010 to rebuild the entire complex for the benefit of people and nature.



### View from upstream

Only one buoy-chain serves to direct boaters. As a result, water sports enthusiasts easily got into the impassable sections of the weir.



### View from downstream

The left section of the weir has a boating lane and fish pass. The middle and right sections are impassable.





## Reasons for the redesign of the weir



### The great need for renovation

The old weir was in need of major refurbishment especially with regard to the steel hydraulics. The weir had not been used for water impoundment for a long time.



### Fish must be able to swim freely

The European Water Framework Directive emphasizes continuity for aquatic organisms: reconstruction of the weir was necessary so that migratory species could pass along the river unhindered.



### Accident black spot

The dangerous formation of rolling waves had in the past led to several accidents involving water sportsmen. This was another good reason for the reconstruction.





## Description of the construction site



### A basic protection measure

In order to save as much as possible of the fish stock, electro-fishing was carried out to remove fishes that were trapped in the construction area.



The fish were recorded according to species and size. Not only was the fish population saved but catching them provided a rare opportunity to assess the total stock in this section of the Lippe.



### Saving rarities

The numbers of burbot (*Lota lota*) were recorded. The burbot is considered highly endangered in Germany and this was a valuable measure for the protection of this species, the only gadiform (cod-like) freshwater fish.





## Demolition of the old weir system



The bridge of the weir after removal of the steel components.



Removal of the weir threshold to the pre-planned level.



Preparation for the installation of the stone crossbars in the drained riverbed.





## Construction of the bypass channel



The opening to the bypass channel was built to include the possible installation of a weir gate in case of flooding.



Outlet of the bypass channel with massive rock rubble to protect against scour.



Bypass channel shortly after commissioning.



Bypass channel with scouring after two weeks.



Soil in-filling of the bypass channel after the river had been returned to its original course.



## Assembling the stone crossbars



Stone crossbar made from fracture-blasted blocks with frictional bonding.



Precisely-calibrated installation of the individual blocks.



Finished crossbars in situ on the riverbed.





## Constructing the new bridge



Renovation and adaptation of bridge abutments.



Fitting the new bridge superstructure.







## Commissioning of the new watercourse



In August 2010 the time had finally come. The construction work was largely completed, the protective barriers could be cleared away and the river returned to its normal course.



These and other engineering works ensure that the River Lippe becomes a green ribbon from Wesel on the Lower Rhine to its source in Bad Lippspringe.





# Official Inauguration of the Reconstructed Weir 1 near Lippstadt-Esbeck on 27th June 2012 by District President Dr. Gerd Bollermann

## Programme

- 3: 30pm** The District President travels by boat  
from Lippstadt-Hörste
- 4:00pm** Arrival at Weir I
- Welcome and Presentation  
Ulrich Detering (District Government, Arnsberg)
- Welcoming address from the Mayor of Lippstadt  
Christof Sommer
- Speech and official inauguration of the facility by the  
President of the District Government of Arnsberg  
Dr. Gerd Bollermann
- 4:25pm** Navigation of the remodelled weir system  
by canoeists of the WSC Lippstadt
- 4:45pm** Demonstration of electro-fishing in the Lippe and  
explanation of fish stocks by members of the  
ABU e.V., the ASV Lippstadt and Dr. Bernd Stemmer  
of the Arnsberg District Government
- 5:15pm** Nationally-endangered fish species:  
The Burbot (*Lota lota*)  
Presentation by Siegfried Kuss  
followed by restocking into the Lippe to support fish stocks
- Accompanying exhibition:
- Fish species in aquariums and fish feeding
  - Posters illustrating the weir removal
  - UNICEF stall : 'Water Works'

