

Economic effect of the better utilization of the waterways



III. Baja Grain Partnership

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Baja

Attila Bencsik

FLUVIUS Ltd.

Association of the
Hungarian Inland Water
Carriers

ERSTU

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Author: Attila Bencsik



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**Rheingau – „Mountain section”
500/528-565 rkm**





**Vilshofen – Straubing
2249 – 2318 rkm**





**„Vienna Danube”
1880-1920 rkm**





**Hungarian-Slovak
common section
1708 – 1811 rkm**



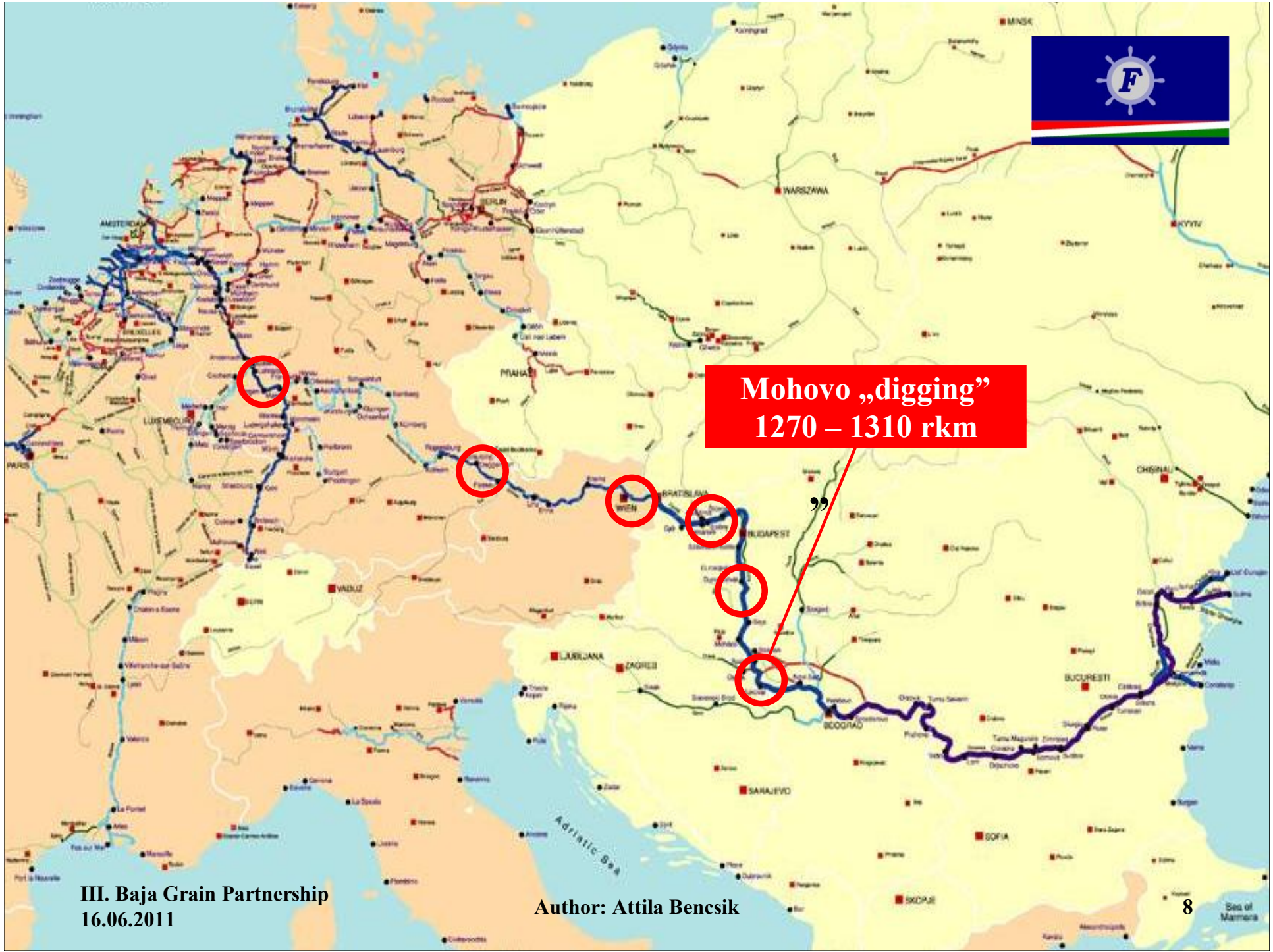


**Hungarian Central
Danube section
1561 – 1638 rkm**





**Mohovo „digging”
1270 – 1310 rkm**





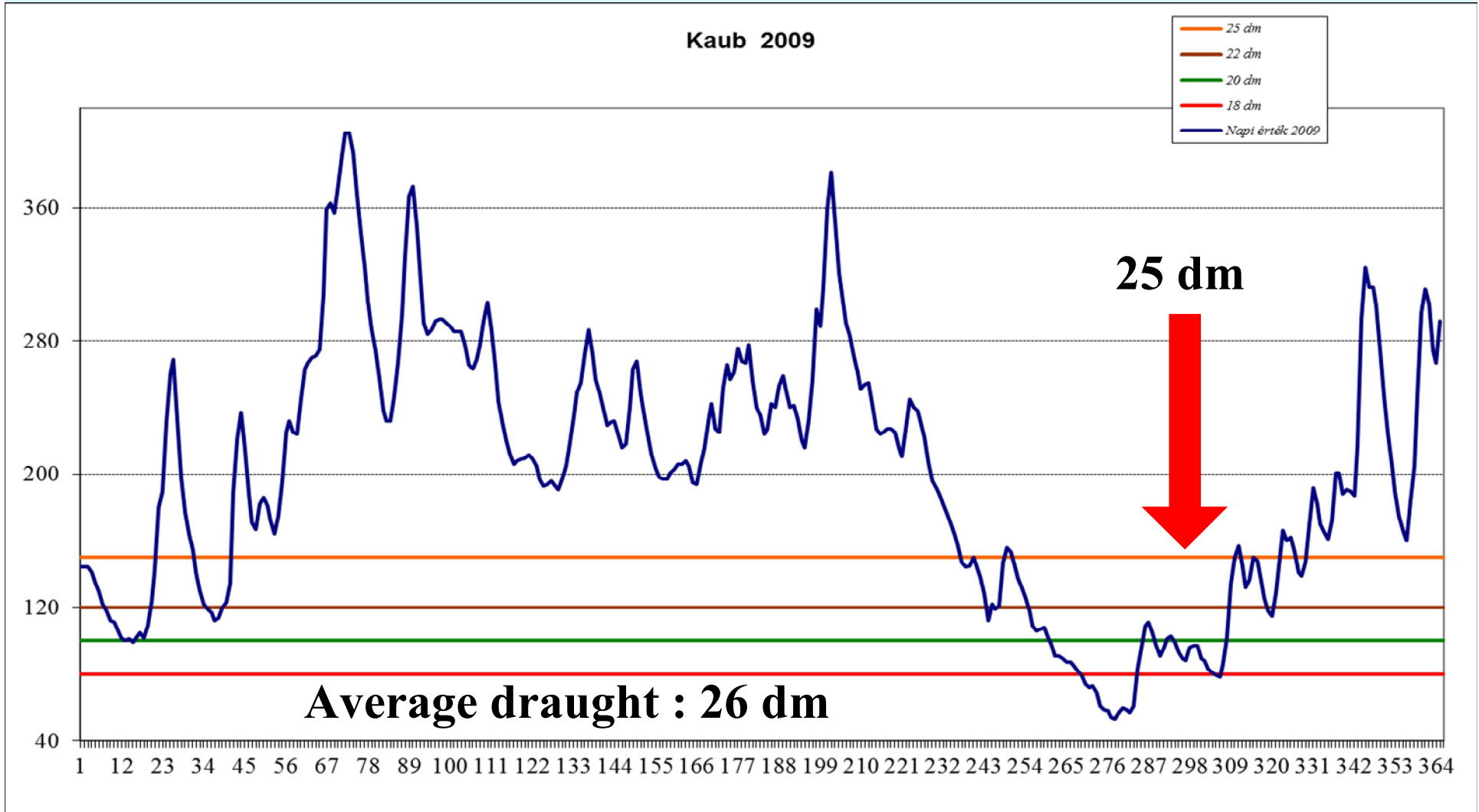
**Bulgarian – Romanian
common section
300 – 700 rkm**



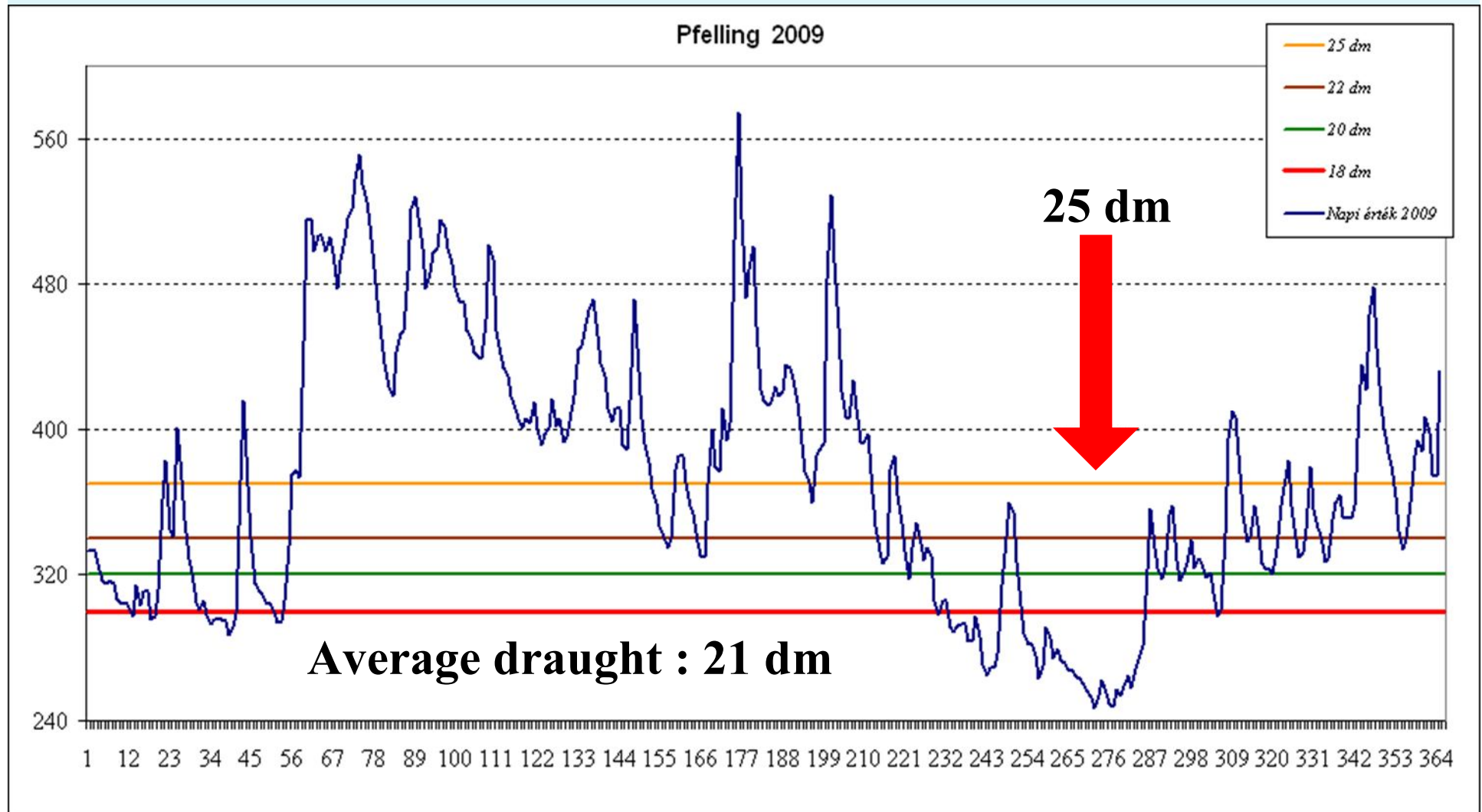
Examination of the economic effect of the better utilization of the navigable water ways for the exported – imported cargo delivered by Hungarian river vessels in 2009, which was an average year in nautical and commercial aspects



Water level diagram – Kaub 2009



Water level diagram – Pfelling 2009

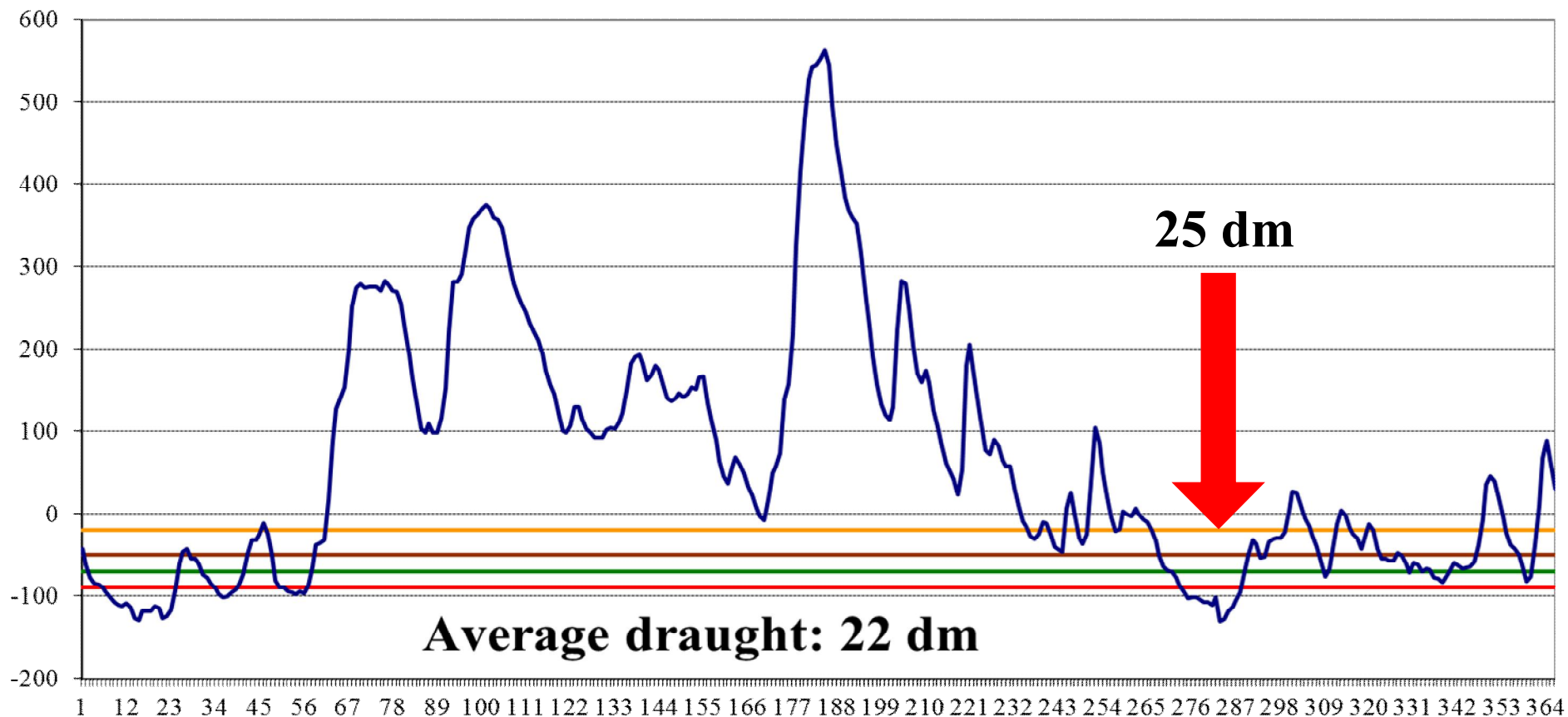


Water level diagram – Dunaföldvár 2009



Dunaföldvár 2009

25 dm 22 dm 20 dm 18 dm Napi érték 2009



Loaded and discharged cargo quantities in Hungarian ports in 2009



Ország (feladó/fogadó)	Rakodás (darab)		Rakodott tömeg (tonna)		Összes rakodott tömeg (tonna)
	Kirakodás	Berakodás	Kirakodás	Berakodás	
Al-dunai országok					
Horvátország	7	-	4 829,41	-	4 829,41
Szerbia	6	225	4 553,41	203 002,78	207 556,19
Összesen	13	225	9 382,82	203 002,78	212 385,60
Európai Unió országok					
Ausztria	378	348	371 681,78	306 304,08	677 985,85
Belgium	32	64	17 235,55	58 585,62	75 821,17
Bulgária	22	16	22 886,72	12 182,90	35 069,62
Franciaország	6	32	5 689,51	33 506,04	39 195,55
Hollandia	197	430	154 681,06	410 797,00	565 478,06
Németország	58	1 120	29 231,95	1 005 911,63	1 035 143,57
Románia	442	1 496	519 747,66	1 568 408,30	2 088 155,97
Szlovákia	1	1	1 100,22	997,02	2 097,24
Összesen	1136	3 507	1 122 254,45	3 396 692,59	4 518 947,03
Egyéb országok					
Svájc	-	5	-	6 378,18	6 378,18
Ukrajna	99	16	116 963,67	16 684,84	133 648,51
Ismeretlen	-	749	-	8 797,44	8 797,44
Összesen	99	770	116 963,67	31 860,46	148 824,13
Magyarország	2 559	189	848 280,64	57 595,37	905 876,01
Mindösszesen	3 807	4 691	2 096 881,59	3 689 151,19	5 786 032,77

Relations, nautical and commercial circumstances



Export-import (without inland and transit turnover): **4.880.155 tons**

- in Western relations (SK, A, D, NL, B, F, CH)
1.830.267 tons → 2667 vessels (686 tons/vessel)
- in Eastern relations (HR, SRB, BG, RO, UK)
3.049.888 tons → 2329 vessels (1309 tons/vessel)

Average draught:	on the Upper Danube	21 dm
	on the Lower Danube	22 dm
Average freight rate:	in Western relations	EUR 22,00 /tons
	in Eastern relations	EUR 14,00 /tons

Connection between draught and load capacity



The load capacity of the vessels increases by 80-110 tons by each 10 cm draught depending on the size of the vessels. Considering the average 95 tons at 2,5 m draught the vessels **could have loaded**

- in Western relations (4x95 tons) → **by 380 tons**
- in Eastern relations (3x95 tons) → **by 285 tons**

more cargo.

In other words, the **same quantity** could have been delivered:

- in Western relations instead of 2667 vessels → **by 1717 vessels**
- in Eastern relations instead of 2329 vessels → **by 1913 vessels**



Amount of the low water surcharge payable by the cargo owners

Low water surcharge is 10 % by each 10 cm under 2,3 m draught
(See: IVTB)

- in Western relations (20 cm = 20 %) :
(22,00 EUR/ton x 0,2 x 1.830.267 tons) → **8.053.175,- EUR**
- in Eastern relations (10 cm = 10 %):
(14,00 EUR/ton x 0,1 x 3.049.888 tons)
(285x14=3.990-916) → **4.269.843,- EUR**

Total: **12.323.018 ,- EUR**

Losses due to unused capacity payable by the ship owners



By each shipment:

considering 5 % operating cost increase:

- in Western relations **7.606,- EUR** (380x22=8.360-754)
- in Eastern relations **3.074,- EUR** (285x14=3.990-916)

Total losses due to restricted draught under 2,5 m:

(7.606,- EUR x 2667 vessels + 3.074,- EUR/ton x 2329 vessels)

27.444.548,- EUR



Losses due to unused capacity, corrected by low water surcharge

Total losses: **27.444.548,- EUR (5,60 EUR/ton)**



Cargo owners:
12.323.018 ,- EUR

Ship owners:
15.121.530,- EUR

73 % of the total quantity is export quantity, i.e. the inappropriate navigation circumstances damaged the competitiveness of the Hungarian export cargo by **20.034.520,-EUR** within a year, in other words it could have increased by this amount if the draught had been 2,5 m.

**The effect of the loading performance of
the ports on the economic efficiency of the
inland water transport**



The effect of the loading performance of the ports on the economic efficiency of the inland water transport



Costs have been calculated according to the stopping and running days. **Main costs** are as follows:

- Stopping day costs: **loading, discharge**, waiting days
- Running day costs: considering the costs of the operating days, type of operation and crew, without gas oil
- Bunker costs (gas oil and lubricant consumption according to the operating hour depending on the load)

Costs, surcharges, dues in connection with the exact route:

- Port charges (port dues, berth fees, pontoon fees etc.)
- Channel fees (MKA, Constanta etc.)
- Other costs (pilot, special insurance etc.)

Transport costs of a ship owner



(105 m long self-propelled vessel between Baja – Regensburg)

Stopping day costs: 945,- €/day, Gasoil 65,- €/ working hour

Loading: 1 day (according to deutsch Ges 94': 3 days!)

Running day costs: 5,3 days

Discharge: 2 days (according to deutsch Ges 94:' 3 days!)

Calculated waiting: 1 day (e.g. due to weekend)

Main engine working hour: 90 hours

Cost price

$9,3 \text{ days} \times 945 \text{ €/day} = 8.788,- \text{ €} + (90 \text{ h} \times 65 \text{ € /h} = 5.850,- \text{ €})$

Total: **14.638,- €**

If the quantity is 1050 tons $\rightarrow 14.638 / 1050 = \mathbf{13,94 \text{ €/to}}$ +



The effect of the loading performance of the ports on the economic efficiency of the inland water transport



Connection between the loading days and the cost price:

+ 1 loading day: $10,3 \times 945 \text{ €} = 9.733,- \text{ €} + 5.850 = 15.583,- \text{ €}$

Cost price: $15.583 / 1050 = 14,84 \text{ € / ton} \rightarrow + 0,90 \text{ €/ton} !$

+ 2 loading days: $11,3 \times 945 \text{ €} = 10.678,- \text{ €} + 5.850 = 16.528,- \text{ €}$

Cost price: $16.528 / 1050 = 15,74 \text{ € / ton} \rightarrow + 1,80 \text{ €/ton} !$

Freight rate between Baja – Regensburg: 16,00 €/ton, Cost price 13,94 €/ton



2 plus days: almost the same costs and income, keeping the terms of deutsch Ges. '94 (3-3 days) the transport shows a deficit!

This is why the ports (covered, if possible) with large loading capacity are so necessary!



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Thank you for your attention!

Attila Bencsik

Tel: +36 1 237 1102

Mobil: +36 30 990 5795

E-mail: a.bencsik@fluvius.hu

www.fluvius.hu

www.mbfsz.hu

www.erstu.com

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