

Table 1– Characteristics of impact of dredging operations on the content of nutrients in the Chilia delta water

Parameters		Measuring unit	NH ₄	NO ₂	NO ₃	Nmin.	Norg.	Ntot.	PO ₄	Porg.	Ptot.	
Background	average concentration in water (1993-1996) ²	mg/dm ³	0,13	0,074	1,18	1,38	3,74	5,12	0,091	0,096	0,187	
	(1997-1998) ²	mg/dm ³	0,05	0,016	0,56	0,63	6,97	7,6	0,078	0,048	0,126	
	average content in bottom sediments ²	mg/g	1,2						2,6			
MAC limit for fishery water use		mg/dm ³	0,5	0,08	40				0,17			
Estimation	Input into water during dredging	g/s							12,7	27,7		
	Increase in concentration in Chilia Branch water due to dredging											
	at discharge 850 m ³ /s	mcg/dm ³							15	32,5		
	at discharge 1350 m ³ /s	mcg/dm ³							9,6	20,4		
	at discharge 1350 m ³ /s	%							0,12	16,2		

Table 2 – Characteristics of impact of dredging operations on the content of metal in Chilia delta water

Parameters		Measuring unit	Fe	Mn	Zn	Cu	Pb	Ni	Co	Cd	Cr	
Background	average concentration in water (IX-X 1990) ¹ :											
	soluble form	mcg/dm ³	76,0	8,0	55,0	15,0	4,1	5,2	1,5	1,0		
	suspended form	mcg/dm ³	394,0	25,4	20,8	2,9	100	10,6	3,1	1,0		
	total form	mcg/dm ³	470,0	33,4	75,8	17,9	104,1	15,8	4,6	2,0		
average concentration in water ⁷	soluble form	mcg/dm ³	25,3		30,3	30,7	7,0				34,0	
	suspended form	mcg/dm ³	92,0		29,5	17,2	23,8				52,0	
	total form	mcg/dm ³	117,3		59,8	47,9	30,8				86,0	
average content in bottom sediments ²	mcg/g	1770		225	128	108				3,3	176	
MAC limit for fishery water use		mcg/dm ³	10		10	1	100	10	10	10	1,0	
Estimation	Input into water during dredging	g/s	18,3		2,4	1,4	1,2				0,032	1,9
	Increase in concentration in Chilia Branch water due to dredging											
	at discharge 850 m ³ /s	mcg/dm ³	21,7		27,4	1,6	1,38				0,04	2,2
	at discharge 1350 m ³ /s	mcg/dm ³	13,5		17,1	1,0	0,84				0,02	1,4
	at discharge 1350 m ³ /s	%	11,5		2,9	2,1	2,7				1,0	1,6

Table 3 – Characteristics of impact of dredging operations on the content of organic products in the Chilia delta water

Parameters		Размер- ность	Oil products	BOD ₅	COD	Corg	PAC	DDT	GCCG
Background	average concentration in Chilia Branch water (1988) ³	mcg/dm ³	10						0,183
	march 1988 ⁴	mcg/dm ³						0,051	0,170
	september 1990 ⁵	mcg/dm ³						0,505	0,0075
	autumn 1989 ⁵	mcg/dm ³					0,37		
	IX-X 1990 ¹	mcg/dm ³	75						
	1993-1997 ⁶	mcg/dm ³	80						
	concentration in the Bazarchuk lagoon water, 13-14.08.02 ⁷	mg/dm ³			10,0	20			
concentration in Vilково section, below Bazarchuk lagoon, 13-14.08.02 ⁷	mg/dm ³			10,0	40,0				
concentration in water Bystre, input, 13-14.08.02 ⁷	mg/dm ³			10,0	20,0				
concentration in water Bystre, output, 13-14.08.02 ⁷	mg/dm ³			10,0	40,0				
average content in bottom sediments ²	mg/g		0,92			23,9	1·10⁻³	3,2·10⁻⁵	1,0·10⁻⁵
MAC limit for fishery water use	mg/dm ³		0,05	3-6			отсутствие	отсутствие	отсутствие
Estimation	Input into water during dredging	g/s	9,6			255	1,08·10 ⁻²	3,42·10 ⁻⁴	1,08·10 ⁻⁴
	Increase in concentration in Chilia Branch water due to dredging								
	at discharge 850 m ³ /s	mcg/dm ³	11,4	900*	1800**	300	1,27·10 ⁻²	4,02·10 ⁻⁴	1,26·10 ⁻⁴
	at discharge 1350 m ³ /s	mcg/dm ³	7,2	567*	1134**	189	0,80·10 ⁻²	2,52·10 ⁻⁴	1,14·10 ⁻⁴
at discharge 1350 m ³ /s	%		9	5,7	5,7		2,2	0,5	0,07

Примечания: 1 according materials of Second international expedition "Blue Danube".

² according institute of south seas biology Ukrainian NAS (Odessa).

³ in book «Гидроэкология украинского участка дельты Дуная и сопредельных водоемов.»- Киев: Наукова думка, 1993.- p. 190-193.

⁴ according materials of First international expedition "Blue Danube".

⁵ Journ. «Водные ресурсы.» – 1993, т. 20, № 4.– pp. 462-468.

⁶ in book «Экосистема взморья украинской дельты Дуная.» – Одесса, Астропринт, 1998. – pp. 63-111.

⁷ according institute of hydrobiology Ukrainian NAS.

* BOD₅ / C_{org} = 3;

** COD / C_{org} = 6.

Background water quality parameters used in the estimates are typed in bold.