of plants, at the same time process of absorption of substances plants increases. A condition of toxic loading in fruits of *Hippophae Rhamnoidesh L.* minimum. Thus, in case of regular environmental monitoring on content of pollyutant in fruits of a sea-buckthorn it is more reliable to prepare them for dietary food in natural sea-buckthorn (remoteness of fitotsenoz from urbanosisty, showing about low contact with different types of pollutants) and artificial fitotsenoza of a sea-buckthorn, in concentration are lower than maximum concentration limit. The exception was constituted by cadmium, concentration artificial fitotsenoza (observance of technology of cultivation of sortoobrazts, without violation of engineering procedures). The radiological analysis on content of isotope substances in fruits of a sea-buckthorn can draw the following conclusions that radionuclides:

1) are found in the minimum quantities;

2) do not exceed admissible level;

3) in fruits of a sea-buckthorn does not accumulate isotopes.

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ANALYSIS OF ENVIRONMENTAL STATUS OF THE KECHUT ARTIFICIAL RESERVOIR

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For evaluation of water contamination degree the comprehensive indicators are used which take possible to evaluate the contamination of water at the same time on a wide range of quality indicators. The study of ecological status of Republic Armenia Rivers is importance both for evaluation of water quality of that objects and for their further rational use. Development of water quality assessment methods using conventional indicators comprehensively taking into account various properties of surface water is an important issue. It must be noted that most developed complex characteristics of water object in one way or another connected with the existing maximum permissible concentration (MPC).

In the last years we suggest Entropic water guality index (EWQI) and Armenian water guality index (AWQI) for evaluation surface water quality [1].

The aim of presented paper is evaluation of Kechut Artificial Reservoir by Armenian Water Quality Index.

The following computational algorithm is used for determination EWQI and AWQI values:

1. Determines the number of cases of MPC excess of i-substance or indicator of water – *n.*

2. Estimates the total amount of cases the maximum permissible concentration (*N*) – $N = \sum n$.

3. Computes $\log_2 N$, $n\log_2 n$ and $\sum n \log_2 n$.

4. Determines geoecological syntropy (I) [1] and Shannon entropy (*H*):

$$H = \log_2 N - \sum n \log_2 n/N;$$

$$I = \sum n \log_2 n/N;$$

$$H = \log_2 N - I.$$

5. Then EWQI is determined: $G = H/I$.

6. Further, the total amount multiplicity MAC exceedances is estimated (*M*) –

7. Computes $\log_2 M$.

8. Armenian Water Quality Index was obtained:

$$AWQI = G + 0{,}1 \cdot \log_2 M.$$

Kechut Artificial Reservoir on the Arpa River, 3,5 km south of the resort town of Jermuk. Reservoir with an area of 145 hectares, the total amount – 23 million cubic meters, the average depth – 20 m, coastline length – 8,5 km [3]. Kechut Artificial Reservoir has one monitoring post: number 114. It was established that the Kechut Artificial Reservoir water of the regularly exceeded the value of contaminated by some metals. Thus, in the Reservoir water is regularly increased MPC of copper, vanadium, aluminum, chrom, manganese and selenium.

For example, in the 2012 year of Kechut Artificial Reservoir V, Al, Cu, Cr, Mn and Se number of MPC increasing cases is 9, 5, 5, 4, 5 and 2 times, respectively. The amount of excess cases of MPC –

$$N = 30; \quad \sum n \log_2 n = 73,3;$$

$$I = 73,3/30 = 2,44;$$

$$H = \log_2 30 - 2,44 = 4,9 - 2,44 = 2,46;$$

$$G = 2,46/2,44 = 1,0.$$

The total amount of the multiplicity of MPC exceedances –

$$M = \sum m = 14,1;$$

$$\log_2 M = 2,82;$$

$$AWQI = 1,008 + 0,282 = 1,290.$$

Entropic and Armenian water quality indexes for Kechut Artificial Reservoir

Year	EWQI	AWGI
2009	0,301	0,575
2010	0,530	0,885
2011	0,350	0,822
2012	1,008	1,290

Analysis of obtained data indicate that AWQI has liner dependence with EWQI:

$$AWQI = (0,410 \pm 0,112) + (0,882 \pm 0,183) \cdot EWQI;$$

$$R = 0,95956; \; N = 4$$

Thus, for the first time using AWQI the quality of Kechut Artificial Reservoir water evaluate. It was shown that the quality of water of the Reservoir from the first to the second class of pollution.

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ANALYSIS OF ENVIRONMENTAL STATUS OF THE RIVERS SISIAN AND GORIS WITH ARMENIAN INDEX OF WATER QUALITY

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Water Contamination Index (WCI), Canadian Water Quality Index (CWQI) and Specific-combinatorial Water Quality Index (SCWQI) are used for evaluation surface water quality in Republic of Armenia. It must be noted, that most developed complex characteristics of water object in one way or another connected with the existing maximum permissible concentration (MPC). In the last years we suggest Entropic Water Quality Index (EWQI) and Armenian Water Quality Index (AWQI) for evaluation surface water quality [1]. The aim of presented paper is evaluation of Rivers Sisian and Goris by Armenian Water Quality Index.

River Sisian – right tributary of the Vorotan. The river is 33 km. On Sisian river located positions: number 103 – 0,5 km above the Arevis and number 104 – at the mouth of the river. River Goris leght tributary of the Vorotan. Goris is 29 km long. Two monitoring posts located on the river Goris: number 106 – 3,0 km above the city of Goris, number 107 – 1.5 km below the city of Goris. It was established that the water of the Rivers Sisian and Goris regularly exceeded the value of BOD_5 and concentrations of nitrite and ammonium ions, due to water pollution by domestic wastewater. It was shown that water of Rivers Sisian and Goris is also contaminated by some metals. Thus, in the river water is regularly increased MPC of copper, vanadium, aluminum, cobalt, manganese and selenium. For example, in the position № 107 of River Goris BOD_5, NH_4^+, NO_2^-, V, Cu, Al, Cr and Se number of MPC increasing cases is 4, 12, 12, 12, 11, 4, 5 and 1 times, respectively. The amount of excess cases of MPC –

$$N = 61; \quad \sum n \log_2 n = 194,6;$$

$$I = 194,6/61 = 3,19;$$

$$H = \log_2 61 - 3,19 = 2,74, \; G = 2,74/3,19 = 0,86.$$

The total amount of the multiplicity of MPC exceedances –

$$M = \sum m = 39,2; \quad \log_2 M = 5,37;$$

$$AWQI = 0,86 + 0,537 = 1,397.$$

Analysis of obtained data indicate that AWQI has liner dependence with WCI, SCWQI, EWQI and an inverse dependence with CWQI:

$$AWQI = (0,838 \pm 0,215) + (0,079 \pm 0,065) \cdot WCI;$$

$$R = 0,65178; \; N = 4;$$