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The Aral Sea

The Devastation and Partial Rehabilitation of a Great Lake

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Contents

Chapter 3
Biological Dynamics of the Aral Sea Before Its Modern Decline (1900–1960)

Igor S. Plotnikov, Nikolay V. Aladin, Zaualkhan K. Ermakhanov, and Lyubov V. Zhakova

Abstract Fauna of the Aral Sea has very poor species composition. Its poverty is connected to the geological history of the sea. Originally in the Aral Sea there were at least 180 species (without Protozoa) of free-living invertebrates. Their fauna had heterogeneous origins. Prior to the modern recession/salinization, species originating from freshwater, brackish-water and saline continental water bodies predominated. The remaining were representatives of Ponto-Caspian and marine Mediterranean-Atlantic faunas. Parasitic fauna had poor species composition: 201 species were indigenous and 21 were introduced together with fishes. It had a freshwater character. Ichthyofauna consisted of 20 aboriginal and 14 introduced species. The aboriginal fish fauna consisted of species whose reproduction typically occurs in fresh water. There was no fishery on the Aral Sea and local people caught a few of fish only from the rivers until in the mid 1870s Russians came here. After 1905, a newly built railway stimulated further development of commercial fishing, and the Aral Sea became an important fishing water body. The majority of fishes were commercial. Bream, carp and roach provided approximately two-thirds of commercial catch tonnage. In the twentieth century, there was an increase in species diversity. It was a result of intentional and accidental introductions of initially absent species. Though biodiversity grew by 14 species of fishes and 4 species of free-living invertebrates, only a few of them became commercially viable or valuable as food for fishes. A large number of vertebrate species inhabited the Aral Sea, its shore and islands, the Syr Darya and Amu Darya, and the deltas and lakes of these rivers in their lower reaches. The Aral Sea and its shores provided nesting sites for a large number of various floating and near shore birds. Tugay forests along the banks of the rivers constituted a type of oasis where many animal

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