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# The Aral Sea

The Devastation and Partial  
Rehabilitation of a Great Lake

PRAXIS

 Springer

Philip Micklin (Chief Editor) •  
N.V. Aladin (Associate Editor) •  
Igor Plotnikov (Associate Editor)

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# Acknowledgements

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## Chapter 14

# The Biological Future of the Aral Sea

Igor S. Plotnikov and Nikolay V. Aladin

**Abstract** The Aral Sea in 2012 consisted of four residual water bodies with different hydrological regimes. The Kok-Aral dam raised and stabilized the level of the Small Aral Sea. Growth of salinity has stopped and a process of gradual salinity reduction is in progress. By the autumn 2011 water salinity in the open part of the Small Sea dropped to 8 g/l. The future of its biota depends on future salinity. If the current regime will remain, then the decrease in salinity will continue and the Small Aral will turn from a brackish to a nearly freshwater body. This freshening will cause substantial changes in the fauna as a result of the disappearance of marine and brackish species and reintroduction of freshwater forms. Currently two variants of further rehabilitation of the Small Aral are under consideration. The first one involves an additional dam at the entrance to Saryshaganak Gulf to create a reservoir out of it and the filling of this water body via a canal from the Syr Darya. The Small Sea under this plan would then have both freshwater and brackish water parts. The second variant is to increase the level and area of the Small Aral Sea by raising the height of the Kok-Aral dam. In this case, all the Small Sea remains brackish except the existing freshened zone in front of the Syr Darya Delta. Both these variants would avoid further strong freshening of the Small Aral Sea and associated with this adverse changes in the fauna. The expected future of the biota of the residual hyperhaline water bodies of the Large Aral is quite different. In this case, there is no possibility of reducing their salinity leading to recovery of fauna represented by marine and widely euryhaline species. On the contrary, even stronger salinization is likely. The East Large Aral Sea could dry out completely, and the West Big Aral could turn into a lifeless water body akin to the Dead Sea.

**Keywords** Aral Sea • Fauna • Residual water bodies

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