

Ecosystems during Water Scarcity in the Aral Sea Basin: planning and management tools

Oygul Usmanova

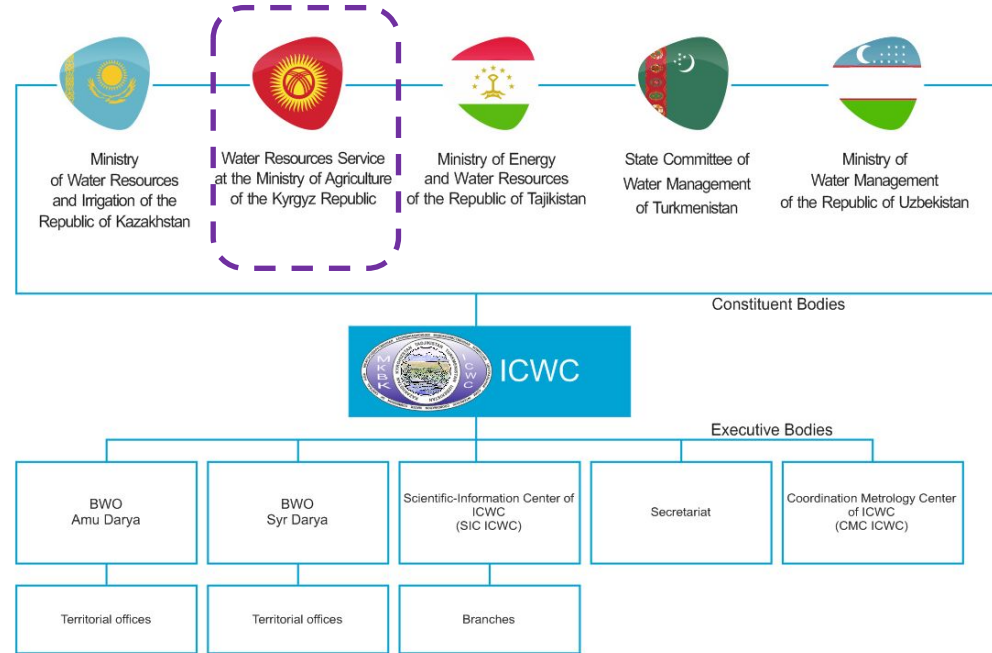
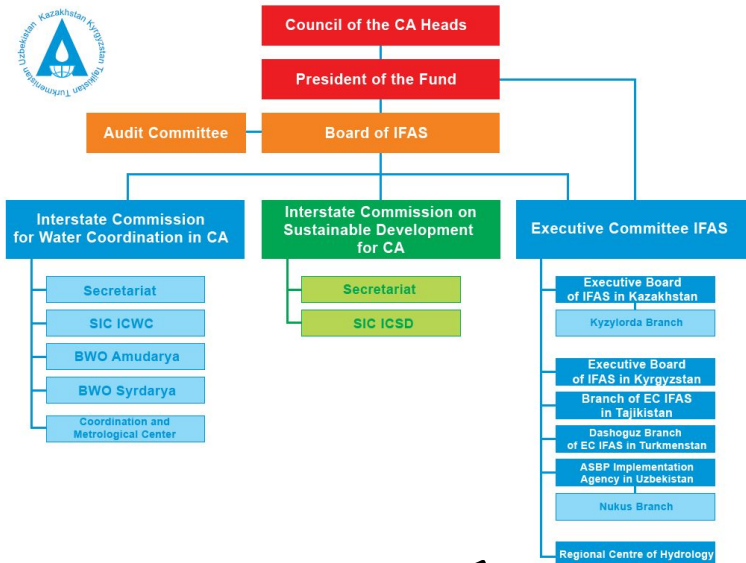
Head of International Communications Division, Scientific Information Centre
of

Interstate Commission for Water Coordination in Central Asia



Interstate Commission for Water Coordination in Central Asia: 1992-2024

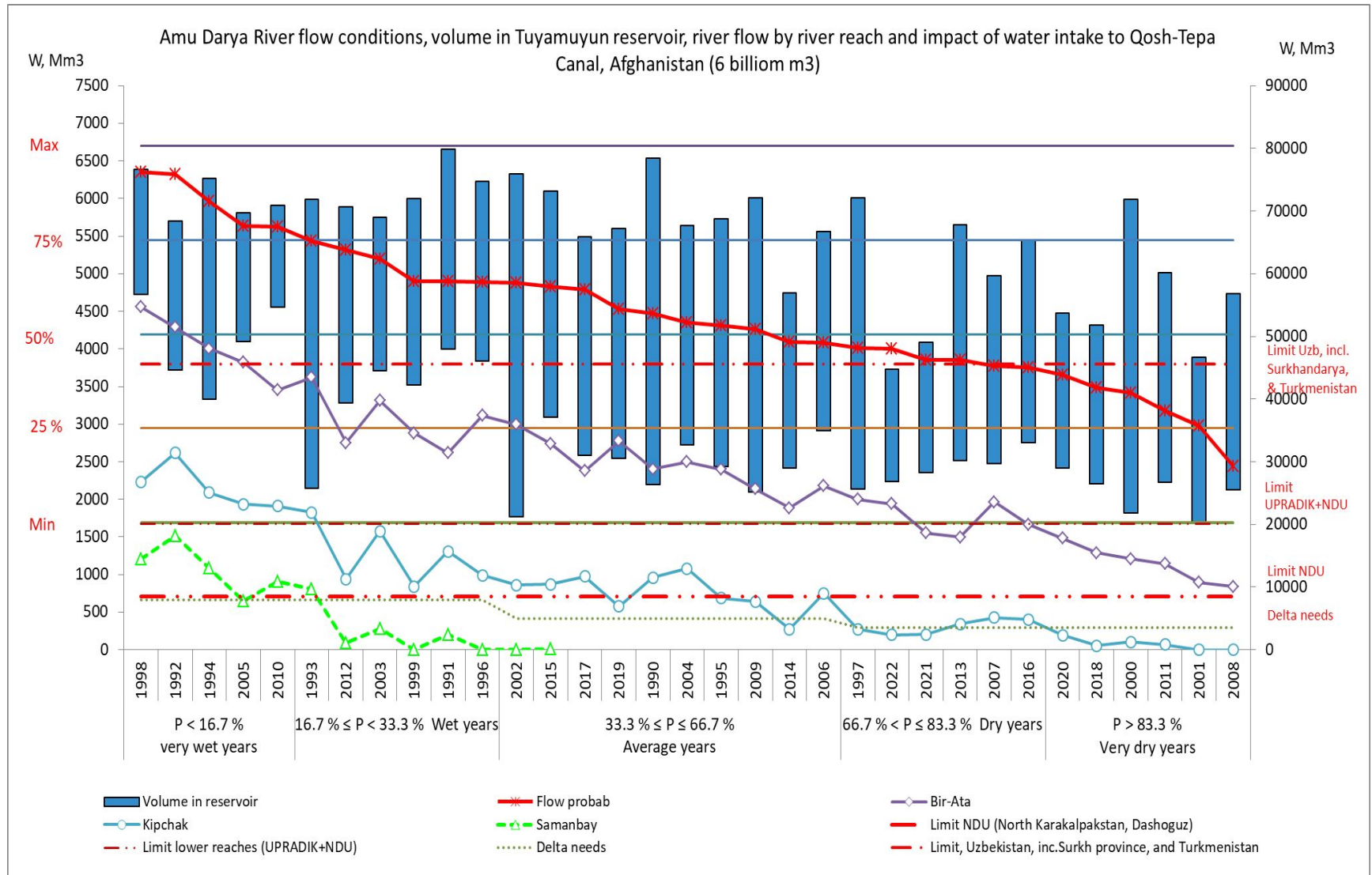
Structure of the International Fund for saving the Aral Sea



ICWC mandate:

- **determine water policy in the region** , elaborate its directions, with account of all economic sectors, the need for integrated and sound water use, and prospective program for regional water development and measures for its implementation;
- **determine and approve annually water use limits** for each republic and the region as a whole, schedules for reservoir operation regimes, adjust them according to updated forecasts, depending on actual water availability and current water management.
(Article 8 of 1992 Almaty Agreement)

Changes in water availability in the Amu Darya basin

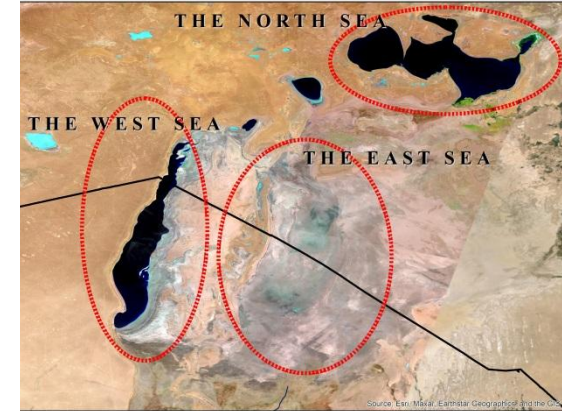


The Aral Sea: then and now

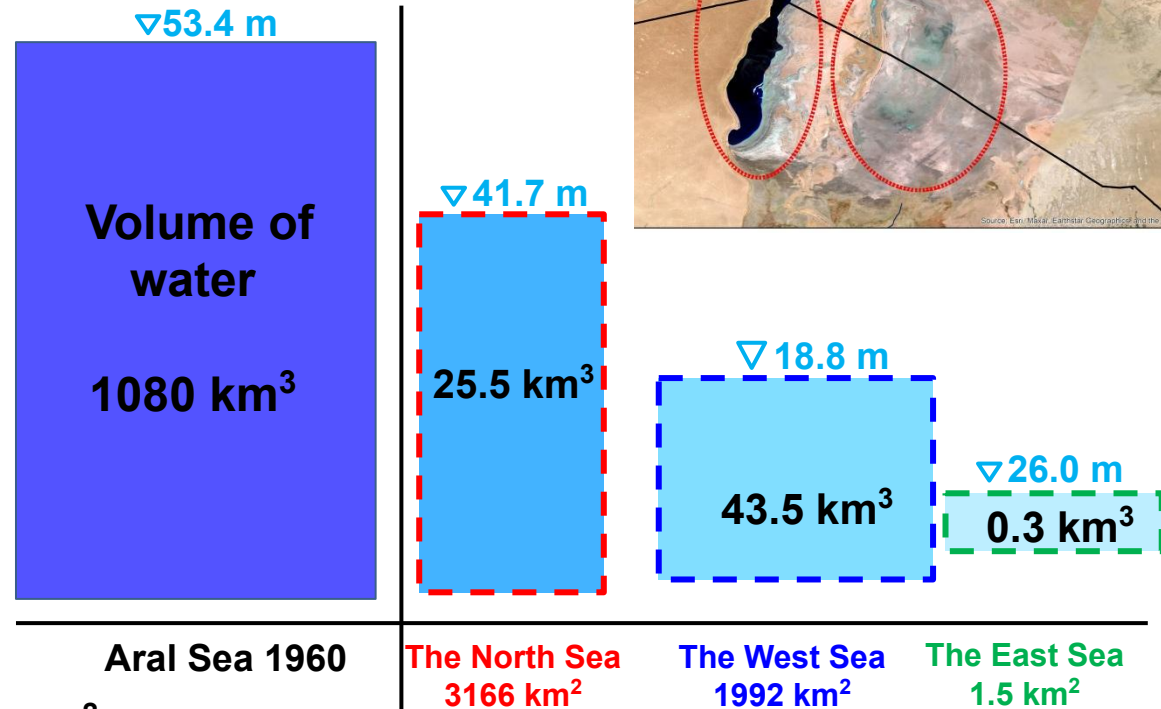
1st image from the space
1964



Image of 2024



Water level



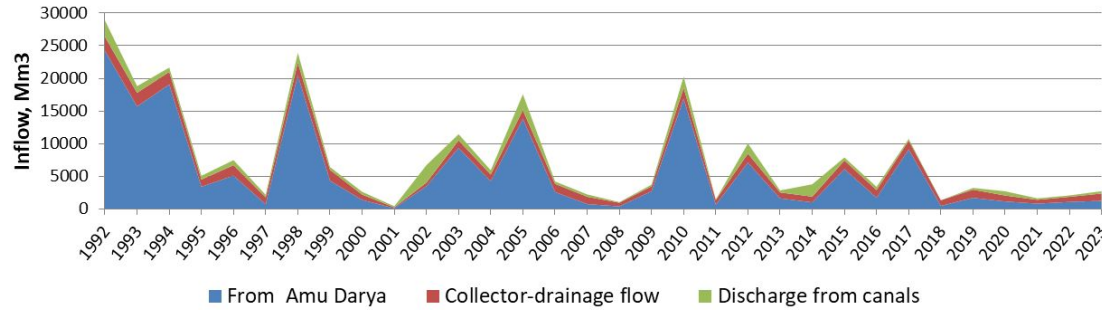
Data: KWR Kz, Uzhydromet & SIC ICWC,
July 2024

Adapted from Sokolov V.

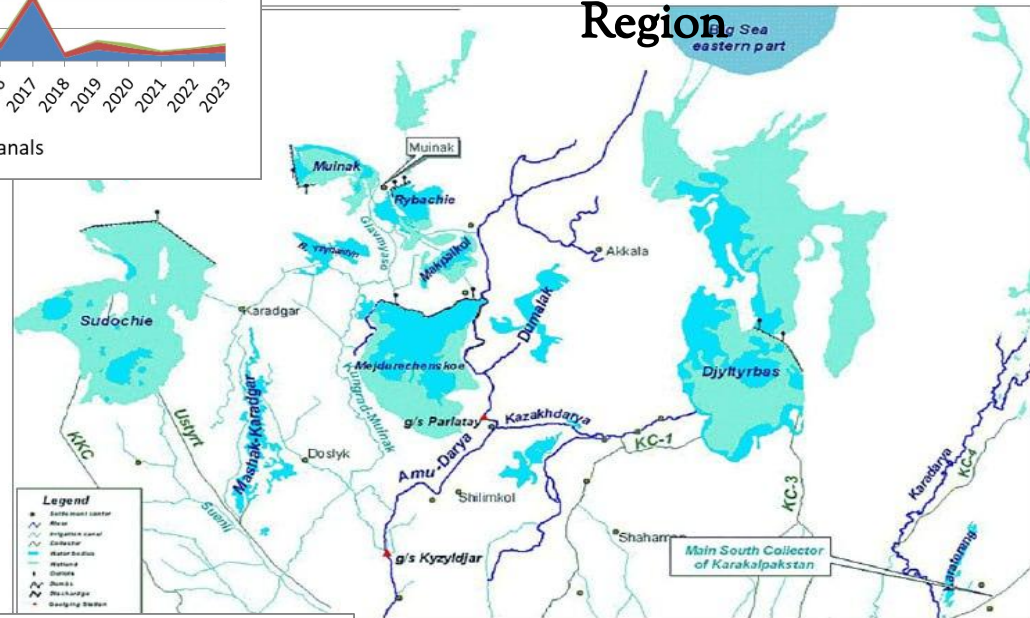
Before 1960s water surface area 68 900 km²
Max depth - 69 m

Deltaic ecosystems

Inflow to South Aral Region

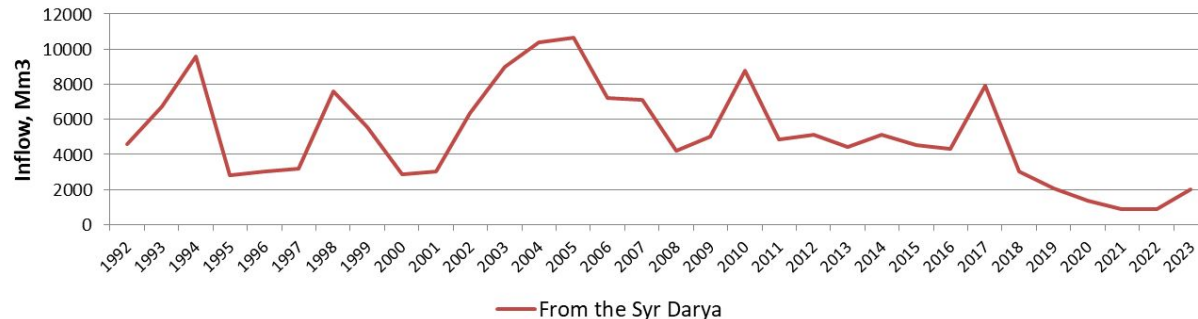


Schematic map of lakes/wetlands in South Aral Region



Min environmental flow:
 - 5 km³ Amu Darya delta
 - 3 km³ Syr Darya delta

Annual inflow to the North Sea



Water management tools

- **Adjustment of water allocation, $\pm 10\%$ within the agreed limits** : implementation challenge to ensure proportionality at river reaches, esp.in low water years
- **Forecast, water accounting and automation** :
 - Every ten-day monitoring of water balance on Amu Darya basin and Syr Darya basin and dissemination of information among key stakeholders
 - Seasonal analyses of water management situation/use of water withdrawal limits
 - Computer program “E-rules of flow management along the Amu Darya River”
- **Harmonization** of basin and national levels:
 - Every country are making more efforts to improve water use and management
 - Pay more attention to ecosystems
 - Joint actions on bi- and trilateral basis:
 - Kazakhstan and Uzbekistan develop a joint water conservation program
 - Automation of gauging stations along the rivers

Ways for improvement

- The ICWC practices exhibit high ad hoc adaptability to changing conditions but lack a **long-term coordinated strategy** to deal with variability and changes
- **Make available** reserves of **water** :
 - improve accuracy of forecasts and long-term forecasting
 - identification of water losses along rivers and in reservoirs
 - revision of irrigation norms and regimes
 - water re-use
 -
- Involve **all stakeholders** in the basin water management system
- Make ecosystems more **visible** in water management!
 - First step, detailed survey of ecosystems along Amy Darya



Thank you

sic.icwc-aral.uz
cawater-info.net