

14.5.1 - Does your university as a body have a plan to minimise physical, chemical and/or biological alterations of related aquatic ecosystems?

As part of its commitment to sustainable development, ASOIU has developed a comprehensive institutional plan to minimise physical, chemical and biological alterations of aquatic ecosystems, aligned with the Sustainable Development Goal 14 – Life Below Water. The plan sets out strategic objectives, actionable measures and monitoring/feedback mechanisms, reflecting the university's role as an educator, researcher and community stakeholder in Azerbaijan's water-rich coastal and inland environments.

Key elements of the plan include:

1. Assessment and Baseline Survey

- Conduct a baseline survey of aquatic ecosystems in proximity to ASOIU (including the Caspian Sea coastline, local rivers and wetlands) to identify current physical (erosion, sedimentation), chemical (nutrient/contaminant load, pH, heavy metals) and biological (biodiversity, invasive species, aquatic habitat fragmentation) pressures.
- Map out the key stress-pathways by which ASOIU's campus operations, research infrastructure, student activities and campus watershed affect nearby aquatic ecosystems.

2. Strategic Measures to Minimise Alteration

- **Physical impacts:** Implement runoff-control measures on campus (e.g., vegetated buffer strips, permeable pavements, sediment traps) to ensure that stormwater and runoff from campus areas entering aquatic ecosystems are filtered and slowed, reducing erosion, turbidity and sediment load.
- **Chemical impacts:** Adopt campus-wide protocols for chemical use, storage and disposal (for labs, maintenance, landscaping) that prevent leakage of nutrients, solvents, heavy metals and other pollutants into the aquatic environment. Introduce regular monitoring of campus effluent and drainage influents to aquatic systems.
- **Biological impacts:** Integrate biodiversity-friendly landscaping, promote native species in campus green spaces (reducing exotic/invasive species), and ensure that any campus construction or landscaping activities adjacent to aquatic environments avoid habitat fragmentation or destruction of riparian buffer zones.
- **Research & training integration:** Embed in the university's research agenda and curricula modules on aquatic ecosystem health, coastal/marine ecology (especially relevant for the Caspian Sea region), aquatic pollution and restoration. Encourage student projects and faculty research focussed on monitoring and restoring aquatic habitats in Azerbaijan.

3. Monitoring, Reporting and Feedback

- Establish a dedicated “Aquatic Ecosystem Sustainability Unit” within ASOIU that oversees implementation of this plan: tracking key indicators (e.g., turbidity, nutrient load, biodiversity indices in adjacent water bodies), producing annual progress reports, and adjusting measures in response to monitoring results.
- Maintain an open-access dashboard summarizing the university’s performance against the aquatic ecosystems plan, such as sediment load reduction, chemical contaminant trends and habitat restoration outcomes.

4. Stakeholder Engagement and Collaboration

- Work in partnership with local municipalities (e.g., Baku’s water management authorities), national environmental agencies, NGOs and community groups to coordinate actions that affect aquatic ecosystems beyond the campus.
- Organise outreach programmes, workshops and student volunteer campaigns (e.g., shoreline clean-ups of the Caspian Sea, riverbank restoration) to enhance awareness and active participation in preserving aquatic ecosystems.

5. Continuous Improvement & Integration into Institutional Strategy

- The aquatic ecosystem plan is integrated into ASOIU’s wider Sustainability Strategy and campus master-plan. It is subject to periodic review (e.g., every 3 years) to ensure alignment with evolving scientific knowledge, regulatory frameworks and local ecosystem conditions.
- KPIs (key performance indicators) are defined (e.g., % reduction in sediment runoff, quantity of campus treated effluent discharged to aquatic systems, number of student/faculty research projects focussed on aquatic ecosystem protection) and reported to senior university management.

Conclusion

Through this institutional plan, ASOIU demonstrates that the university, as a body, systematically addresses indicator 14.5.1 — having a structured plan to minimise physical, chemical and biological alterations of related aquatic ecosystems. The plan positions ASOIU not only as a participant but as a proactive leader in preserving the health of regional water bodies and promoting sustainable development in Azerbaijan.