

Report Outline

Preserving Biodiversity in Bulgaria's Urban Wetlands: A Youth-Led Initiative

This report investigates the efforts of high school students in Sofia, Bulgaria, who used the Student SIDINL Newsletters initiative to document and advocate for the conservation of urban wetlands in the Iskar River Basin. By combining ecological research, community interviews, and multimedia storytelling, the students highlighted the ecological significance of these wetlands and the threats posed by urban expansion, pollution, and neglect. The report underscores the role of youth in fostering awareness and influencing local conservation efforts.

Urban wetlands in Sofia play a critical role in biodiversity, flood control, and water filtration. However, rapid urbanization has led to the encroachment and degradation of these ecosystems, threatening local flora and fauna. The wetlands in the Iskar River Basin are home to endangered bird species, rare amphibians, and unique aquatic plants, all of which are highly sensitive to environmental changes. The students, supported by SIDINL curators and the "Physiognomy at School" initiative, focused their work on documenting these ecosystems and highlighting the threats they face. The report explores their findings on wetland conditions, community attitudes toward conservation, and the tangible impact of their advocacy efforts on public and governmental awareness.

The research centered on three key wetland sites within Sofia's Iskar River Basin. The students conducted biodiversity surveys to document the presence of native and migratory bird species, amphibians, and aquatic plants. They also analyzed water samples for pollutants such as nitrates and phosphates, collaborated with local environmental NGOs for technical expertise, and interviewed over 100 community members about their relationship with these natural spaces. Their findings were synthesized into a multimedia Student SIDINL Newsletter, which combined articles, detailed data visualizations, and videos showcasing the ecological and social value of these wetlands. The research methodology not only allowed students to gather scientific data but also taught them participatory research techniques, making them active contributors to environmental science and advocacy.

The students' biodiversity surveys revealed critical information about the ecological health of the wetlands. At one site, the students identified over 25 bird species, including the endangered ferruginous duck and white-winged tern, underscoring the wetlands' role as vital habitats. They also noted a significant decline in amphibian populations, particularly in areas affected by untreated industrial runoff and urban waste. Water sample analysis revealed consistently high levels of nitrates and phosphates in certain locations, indicating agricultural runoff and sewage leaks as primary sources of pollution. Interviews with local residents revealed a spectrum of perspectives: while some viewed the wetlands as essential green spaces for recreation and wildlife, others were unaware of their ecological importance or saw them as underutilized land suitable for commercial development. This dual perspective highlighted a need for increased public education about wetland ecosystems.

The Student SIDINL Newsletter amplified these findings and initiated meaningful action. The students organized a public event in Sofia's city center, displaying their research through interactive exhibits, videos, and live presentations. Over 200 attendees, including local policymakers and representatives from environmental NGOs, engaged with the students' work. Their advocacy gained further traction through social media, where their campaign reached over 10,000 people, sparking a citywide conversation about urban wetlands. The campaign also caught the attention of Sofia's Department of Environment and Water, which committed to conducting an official review of urban wetland policies. Additionally, an NGO proposed a pilot project to install wetland-friendly infrastructure, such as bio-swales and educational signage.

This report concludes that youth-led initiatives, such as those facilitated by the Student SIDINL Newsletter program, are powerful tools for advancing urban conservation. The students demonstrated the potential for young voices to bring attention to overlooked environmental issues and catalyze community action. Expanding such programs across Bulgaria could help address other critical environmental challenges, while fostering environmental literacy and civic engagement among youth. Further recommendations include: integrating biodiversity studies into school curricula, increasing partnerships between schools and conservation organizations, and ensuring that youth voices are included in urban planning and environmental decision-making processes.