Otters In Ireland Seminar

Key Outcomes from Discussions and Presentations

Purpose

The otter seminar was designed to achieve three primary objectives: (1) to present current research on otters across Ireland, (2) to identify critical gaps in existing knowledge, and (3) to develop comprehensive strategies for the long-term conservation of this species. The seminar serves as a vital platform for bridging the gap between scientific research and policy implementation, ensuring that research findings translate into practical conservation actions at both national and regional levels while fostering collaboration among stakeholders.

National Otter Survey Findings (2023-2024)

The most recent National Otter Survey for Ireland, conducted over 18 months from 2023 to 2024, surveyed over 1,000 sites across the country. During 2023-24, otters were present at 65% of sites in the Republic of Ireland and 66% in Northern Ireland. The otter remains widespread throughout Ireland, yet site occupancy has likely declined since the 1980s, with most change appearing to have occurred between the early 1990s and mid-2000s (Neil et al., 2025).

Primary Threats and Conservation Challenges identified from the workshop

Road Mortality

Road traffic represents one of the most significant threats to otter populations. The National Parks and Wildlife Service (NPWS) has established a collaborative partnership with Transport Infrastructure Ireland (TII) to address otter fatalities on national roads. However, this initiative must be expanded to include local authorities. Public engagement is essential, and citizens are encouraged to report otter road casualties. Additional research is needed to comprehensively assess the full extent of road-related otter mortality across Ireland.

Water Quality Degradation

Water pollution poses significant risks to both environmental health and public welfare. Chemical contamination, plastic pollution, and agricultural runoff are contributing to steadily declining water quality across Irish waterways. Otters face direct impacts from deteriorating water quality, primarily through reduced prey availability. Critical research questions remain regarding the long-term effects of chemical pollution on otter populations, including potential impacts on reproductive success, immune

system function, and vulnerability to disease and factors that may be driving localised population declines.

Research Priorities and Opportunities

Repeat Baseline Surveys

Repeating baseline surveys would provide valuable insights into otter distribution patterns over time. A particularly promising opportunity exists to replicate the Blackwater River survey (Smiddy,2016), which would allow researchers to assess changes in the otter population, presence, and distribution since the pollution event that occurred during the original survey period.

Food Availability and Territory Dynamics

Strong correlations exist between otter presence, distribution, territory size, and food availability, with otters relocating when prey resources become insufficient. The Blackwater River, which has experienced significant prey reduction due to fish kills, presents an ideal case study. While the NPWS lacks the operational flexibility to commission such rapid-response surveys, conservation organisations such as Nature Network Ireland could undertake comparative spraint analysis to assess both otter presence and dietary changes.

Environmental DNA (eDNA) Methodology

Ongoing research is exploring the transition from traditional intensive spraint surveys to environmental DNA testing. This emerging methodology offers the potential for faster, more cost-effective, and more verifiable results in otter population monitoring.

Specific Knowledge Gaps

Pat Smiddy documented otter presence at a 5 km² resolution. While otters are presumed to inhabit the area, significant uncertainty remains regarding their presence and status in the Inniscarra Dam section of the River Lee, representing an important gap in current distribution knowledge.

Community Engagement and Citizen Science

Local communities play a vital role in otter conservation efforts. Community groups are encouraged to participate in citizen science initiatives, including otter identification projects and river water quality monitoring. Active community involvement includes reporting environmental concerns such as litter, raising local awareness about otter conservation, deploying camera traps to engage public interest, and submitting observational records to the National Biodiversity Database.

Critical Habitat Features and Behavioural Ecology

Riparian Vegetation

Trees along riparian corridors provide essential habitat functionality. Crack willow (*Salix fragilis*) trees, in particular, serve critical and previously undocumented roles in otter communication and habitat heterogeneity. Although this is not a native species, it is linked to otter activity. Ongoing research into these specific habitat requirements will enhance understanding of otter ecological needs and inform habitat management strategies.

Cross-Over Latrines

Cross-over latrines occupy strategic locations and function as critical scent-marking sites during pre-courtship periods, a behaviour pattern previously undocumented in European otters. This discovery warrants further research to fully understand its significance in otter social behaviour and reproduction.

Both crack willow marking sites and cross-over latrine areas are typically located in secluded zones with minimal human disturbance and demonstrate inter-annual site fidelity. Given Irelands continuing water quality decline (48% of water bodies classified as moderate, poor, or bad status during 2019-2024), protecting riparian corridors and their associated vegetation is essential for maintaining otter habitat quality, prey resources, and overall ecosystem function.

Recommended Mitigation Strategies

Comprehensive otter conservation requires implementation of the following evidence-based mitigation measures:

a. Protection Zones: Establish and maintain undisturbed buffer zones around holts and couches (minimum 150 meters for natal holts, 30 meters for non-breeding holts or couches).

b. Temporal Restrictions: Schedule potentially disturbing construction or maintenance activities to occur outside the breeding season when natal holts are active.

c. Connectivity Maintenance: Ensure free movement within otter commuting areas through infrastructure design, such as installing ledges beneath bridges and maintaining riparian corridors.

d. Coastal Access: At coastal sites, preserve access routes between breeding sites, resting areas, and freshwater sources.

e. Disturbance Barriers: Install visual and acoustic barriers to minimize disturbance risks during necessary works near sensitive otter habitats.

f. Active Monitoring: Implement continuous monitoring throughout work periods using trail cameras and Ecological Clerks of Works.

g. Vegetation Protection: Maintain and protect existing vegetation within and surrounding breeding sites and resting areas.

h. Enhancement Planting: Undertake new scrub and tree planting to enhance screening and improve habitat quality around sensitive areas.