SALMON WATCH IRELAND

Dedicated to the restoration of salmon abundance in Ireland"

SAVING THE IRISH SALMON

Newsletter Number 26 – Salmon Watch Ireland

Changing Waters – Why Wild Salmon Need Full-System Protection More Than Ever

We are publishing this newsletter as a result of suggestions that some individuals argue that catch-and-release does little to help revive wild salmon, claiming that broader environmental pressures make angling practices irrelevant. We fundamentally disagree. In rivers that are below their Conservation Limit, every surviving adult is vital to the future of the stock. When marine survival is at historic lows and multiple pressures—warming waters, predation, habitat loss, aquaculture impacts, and bycatch—are already removing fish at every stage of their life cycle, the one thing we *can* control immediately is exploitation. Catch-and-release is not a cure-all, but it is a crucial, measurable way to ensure more spawners reach the gravel. It is an act of responsibility, restraint, and stewardship—and when stocks are depleted, releasing salmon is one of the most direct contributions an individual can make to the recovery of the species.

Introduction

Across the North Atlantic, wild salmon stocks continue to decline. Even where fishing pressure has been sharply reduced, or halted altogether, many populations still fail to reach their Conservation Limits (CLs), the threshold needed for long-term sustainability.

This issue explores the multiple pressures on wild salmon: warming rivers, declining sea survival, freshwater predation, changing ocean temperatures, near-coast salmon aquaculture impacts, and nutrient imbalances. Most importantly, it explains why sound exploitation management remains vital for the species' survival, even as environmental pressures intensify.

1. Why Conservation Limits Still Matter

Conservation Limits represent the *minimum number of spawning adults required to maintain a healthy population*.
Falling below these limits means:

- reduced genetic diversity
- poorer recruitment
- higher vulnerability to climate shocks
- risk of long-term collapse

Despite fishery closures in several regions, many stocks continue to miss these targets. This means multiple pressures—not just fishing—are driving declines. But reducing exploitation remains a critical safeguard because it is the only pressure we can control immediately and directly.

2. Warming Rivers: A Growing Threat to Juvenile Salmon

Climate change is warming rivers, and juvenile salmon are especially sensitive.

Impacts of rising temperatures

- Reduced growth due to metabolic stress
- Less oxygen in warmer water
- Increased disease and parasites
- Loss of cold-water refuges
- Heightened predation pressure

These conditions reduce the number of healthy smolts reaching the sea, undermining future adult returns.

3. Seals in Freshwater: A New Normal

While unusual historically, seals increasingly enter freshwater rivers. They often stay because rivers now provide:

- salmon smolts concentrated at choke points
- easy predation near barriers or fish ladders
- shelter from ocean predators
- consistent seasonal food sources

One seal can remove hundreds of fish, further stressing weakened runs.

4. Predator Management (Seals, Birds)

Predation management is controversial but increasingly necessary where other stressors are high.

In rivers and estuaries:

- Reduce artificial **predator hotspots** (e.g., slow pools at barriers)
- Use **lethal control only when scientifically justified**, targeted, and licensed
- Prioritise **non-lethal management**: hazing, exclusion, flow manipulation, habitat complexity

Key concept:

Predation is **density dependent**. When salmon abundance falls, each lost fish is proportionally more damaging.

5. The Marine Problem: Low Survival at Sea

Perhaps the most serious issue is the dramatic collapse in marine survival:

- Historically: 15% of smolts returned as adults
- In many regions today: 3 – 5 % or less

Even perfect river conditions cannot compensate. Causes include:

- warming oceans
- altered prey availability
- predator expansion
- shifting currents
- climate-driven ecosystem reorganisation

This is why salmon populations remain fragile even with no fishing pressure.

6. Pelagic fisheries

Particularly those targeting mackerel, herring, blue whiting, and other midwater shoaling species—create an often-overlooked pressure on wild salmon through **accidental bycatch**.

While salmon are not the primary target of these fleets, post-smolts and adults migrating through the Norwegian Sea and North Atlantic feeding grounds can become entangled in pelagic trawl nets or be displaced from critical feeding areas by intense fishing effort.

This bycatch is poorly monitored and frequently under-reported, yet even small losses can be significant when marine survival is already at historic lows. Additionally, heavy exploitation of pelagic forage fish reduces the availability of key prey—such as sandeel, herring, and sprat, forcing salmon into poorer feeding conditions and reducing growth and survival at sea. Together, bycatch mortality and prey depletion create a hidden but meaningful impact on already-vulnerable stocks, reinforcing the need for ecosystem-based management and stronger monitoring of salmon interactions with pelagic fleets.

7. Norwegian Sea Temperature Trends (1960–Present)

The Norwegian Sea—one of the most important feeding areas for post-smolts—has experienced significant warming since the 1960s, with trends approaching 0.3°C per decade in some areas. Salinity has also declined, signalling changes in circulation and meltwater influence.

These changes lead to:

- shifts in plankton communities
- altered prey fish distributions
- increased competition with pelagic species
- changed predator patterns

All of which reduce salmon survival.

8. Near-Coast Salmon Farms: A Pressure Point Close to Home

Intensive salmon aquaculture, located directly along migration corridors, creates a series of challenges for wild salmon, particularly smolts passing near cages.

Key impacts

Sea-lice amplification:
Farms can produce lice loads hundreds of times higher than background levels. Even a small rise in lice per smolt can dramatically cut survival to adulthood.

Disease and pathogen transfer:
Viral and bacterial pathogens spread more easily where wild and farmed salmon swim close together.

Genetic introgression from escapees:
Farmed salmon escape regularly. Interbreeding reduces fitness, lowers survival, and undermines local adaptation.

Nutrient and organic waste discharge:
Near-shore farms release waste directly into coastal waters, reducing oxygen and altering benthic ecosystems

These coastal pressures hit salmon at their most vulnerable life stage—smolts transitioning to saltwater.

9. Nutrient Imbalance: Too Much of the Wrong Thing

Human activity has increased nutrient input to rivers, estuaries, and coastal waters:

- agricultural runoff
- sewage and wastewater effluent
- fish-farm waste
- forestry and land disturbance
- industrial waste

Excess nutrients contribute to:

- algal blooms
- oxygen crashes
- smothering of salmon redds by fine sediment
- degraded water quality

Healthy, oxygen-rich, cold rivers are essential for salmon. Nutrient overload can remove that foundation.

10. Proposed Management Dialogue with NPWS and IFI

Salmon Watch will shortly meet with NPWS and IFI to present a **limited, carefully targeted action plan** aimed at reducing acute predation pressures in the most severely impacted catchments. This plan focuses on **the removal or relocation of individual seals that have established long-term residency in freshwater**, where their presence poses a disproportionate risk to weakened salmon populations. Alongside this, we will seek agreement on a structured, science-led approach to managing avian predators in rivers and estuaries that have failed to meet their Conservation Limits for multiple years. These actions are not intended as broad-scale culling, but as **precise interventions** in locations where a small number of predators can exert unusually high mortality on vulnerable stocks. Our goal is to work collaboratively with NPWS and IFI to ensure that predator management is both effective and environmentally responsible, forming part of a wider, ecosystem-based recovery strategy for wild salmon.

11. International Advocacy

Wild salmon face pressures far beyond our rivers, which is why Salmon Watch continues to engage at the **international level** on the urgent issues of **pelagic bycatch** and **unregulated or illegal fisheries** operating in the wider North Atlantic. These activities, often poorly monitored and under-reported, remove vulnerable post-smolts and adults far from home waters and threaten already-depleted stocks.

We support stronger oversight, transparent reporting, independent observers, and science-based catch controls across multinational fleets. At the same time, we maintain firm, evidence-driven advocacy regarding the impacts of **near-coast salmon farms**, including sea-lice amplification, disease transmission, nutrient loading, and genetic risks from escapees.

Our position is clear: the protection of wild salmon requires coordinated international action at sea and decisive regulation along our coasts. We will continue to press for higher standards, stricter enforcement, and the relocation or reform of practices that endanger wild salmon throughout their entire migratory range.

12. Commercial Fisheries

The virtual disappearance of commercial salmon fisheries across this country and indeed throughout the North Atlantic underscores the severity of the decline. Where once hundreds of licensed nets operated along the Irish coast, **only two commercial salmon fisheries now remain**, a dramatic reduction from historic highs when netting was a cornerstone of coastal livelihoods. This collapse is not the result of policy preference but of biological necessity: wild salmon numbers have fallen so far that commercial exploitation became unsustainable. The near-total closure of these fisheries stands as a stark warning, and a testament to how fragile the species has

become. It also reinforces the moral and scientific imperative to manage every remaining pressure, including recreational exploitation, with extreme care. When an entire commercial sector disappears to protect salmon, it is a clear signal that the survival of the species must be placed above all extractive use. It is anticipated strongly that the last remaining commercial fisheries will close with a fair and equitable hardship scheme in place for all those affected.

13. Why Exploitation Management Is Still Critical

With so many pressures—from warming to aquaculture to ocean shifts—some ask:

"Does angling harvest and commercial harvest still matter?"

The clear answer is yes.

Even though environmental pressures dominate long-term declines, exploitation remains:

- **The only major pressure we can reduce immediately**
- **Habitat restoration, climate mitigation, water-quality improvements, and industry regulation take years or decades to show results. Exploitation can be adjusted *right now*. A decisive factor when survival is low**
- **When marine survival drops to a low level, *every adult fish matters*.**
- **Removing even small numbers from already depleted rivers through fishing can push a run towards a point of no return.**
- **A buffer against environmental uncertainty**
- **In unpredictable climate conditions, allowing more adults onto the spawning grounds is the strongest insurance policy for the population's future.**
- **Essential for recovery**

No stock has ever recovered while being over-exploited.
Many struggling stocks only stabilised when exploitation was sharply reduced.

Conclusion: A Whole-Ecosystem Challenge

Wild salmon now face pressures in every environment:

- **rivers warming,**
- **estuaries altered,**
- **freshwater predators increasing,**
- **coastal areas impacted by aquaculture,**
- **nutrient loading degrading habitats,**
- **oceans changing rapidly,**
- **marine survival collapsing.**

In this context, managing exploitation becomes more—not less—important.

Fishing is the *only* pressure we can fully control today while we work on the longer-term solutions required to restore rivers, reform coastal industries, and understand ocean change.

Salmon are an integrated species living across entire ecosystems. To protect them, our management must be integrated as well.

"In depleted rivers, restraint is the last defence of wild salmon."