



**Iascach Intíre Éireann
Inland Fisheries Ireland**

River Shannon Eel Kill Investigation

9th & 10th December 2021



1 Initial Report

A call to the hotline service was received at 18:35 on Wednesday December the 8th (the day following Storm Barra) reporting that a caller had seen a social media post reporting a fish kill involving eels in the Lower Shannon and that they had been killed passing through the turbines at the Ardnacrusha Hydroelectric Station. The hotline report had the numbers killed at 20 eels but after speaking to the caller the numbers of dead eels was reported as in the thousands. The caller was not from Limerick but had seen the report second-hand on social media. There were no reports to the office or staff of IFI Limerick concerning the eel mortalities from any persons with direct knowledge of the incident. The report was received after dark so no searches could take place until the following day.



Figure 1 Limerick City showing locations mentioned in this report

1.1 Thursday December 9th

Due to tide and weather constraints, IFI were unable to launch a boat and instead investigations took place on foot. All accessible riverbank from Ardnacrusha to the Abbey River and including Corbally was walked. This took place from first light for much of the day. No eels were located during these searches.



Figure 2 The Abbey River at the Absolute Hotel, Limerick City, Thursday December 9th.

1.2 December 10th

IFI launched a patrol boat to undertake a more comprehensive survey of the river from Ardnacusha to the Marina in Limerick City. The shoreline of the Abbey River, the main channel of the River Shannon and the tailrace at Ardnacrusha were extensively searched. Particular attention was paid to any areas where eels might have become entangled were searched. Despite these extensive searches staff managed to recover only one eel from the Abbey River (see photo on cover page). While this eel had some damage to the head it is impossible to say whether this was due to turbine strike to predator or other post-mortem damage.



Figure 3 Shoreline search at St. Mary's Park

2 Summary

Given the delay in initially receiving the report and the effect of the downstream flow and tides on dispersal of any potential eel carcasses it is likely that they may have been washed downstream. It is also possible that predators such as cormorants and otters may have taken eels lying on the riverbank in the period between the reported eel run on the night of Storm Barra and the following Wednesday and Thursday when our searches took place. An unknown quality of eels was also taken by [REDACTED] as can be seen in [REDACTED] social media posts detailing the event. While [REDACTED] reports initially said thousands of eels had been killed, [REDACTED] later clarified this to be an estimate based on the numbers of eels [REDACTED] observed. Data provided by the ESB on the catches at Killaloe the week of Storm Barra show that there was an increase in the number of eels running with the highest catch of 110kg on the morning of December the 8th. This 110kg was caught from nets set at 17:30 on the evening of December 7th to 06:00 on the morning of December 8th i.e., covering the period during which it was reported that a run of thousands of eels had taken place. At an average weight of 300/500g this would be a catch of approximately 360/220 eels.



Figure 4 Eel nets set at Killaloe Bridge in the up (not fishing) position

Catches for the following week were significantly higher than during Storm Barra with 328kg taken on the night of the 13th of December. This data would suggest that a very large run of eels did not take place on the night of December 7th/8th as a larger catch than reported would have been expected in the nets. The net catches are only indicative of the run however as they do not cover the whole channel, but they do cover the main flood eyes of the bridge.

Figure 5: ESB data on Silver eel catches at Killaloe for the week of Storm Barra

Date	Weather/Water	Time Net Set	Time Net Lifted	Catch (kg)
05.12	No rain/wind/flow	17:30	08:00	0
06.12	Heavy rain, strong wind, no flow	17:30	06:00	0
07.12	Raining, strong wind, light flow	17:30	06:00	0
08.12	Raining, no wind, light flow	17:30	06:00	110
09.12	Raining, no wind, light flow	17:30	06:00	45
10.12	Raining, no wind, strong flow	17:30	06:00	55
11.12	Raining, no wind, strong flow	17:30	08:00	50
Weekly Total				240

There is no doubt that the turbines at Ardnacrusha are causing mortalities of eels at an estimated rate of 21% of the total run of down-migrating eels. IFI does not have a role in regulating the operations of the ESB at Ardnacrusha as the ESB are the fishery owner. However, IFI would welcome a review of the flow and turbine operations around the time of peak silver eels migration to reduce the mortality levels and improve fish passage via the old Shannon channel.