



The Success of Lough Neagh Eels;

A Priest, a Plan and a PGI

Dr. Derek Evans

Senior Fisheries Scientist

FAEB



an apology....

SEG had originally invited a member of the Lough Neagh Fishermen's Co-Op to this meeting, but due to Fr Kennedy's ill health and yellow eel fishing season in full swing Mr Close was unable to attend.

Fr Kennedy wishes you all a very successful & productive meeting, and thanks you for your continued interest in eels.

He would like to add that

“occasionally he thinks that boy Evans seems to have some idea what he's talking about so can speak on our behalf.....”

Dr Derek Evans

Senior Fisheries Scientist (AFBI)
Project Leader N Ireland Eels

Co-Author UK Eel Mgt Plan (NI)

UK ICES EIFAC WGEel

EFSA AHAW Panel

EU STECF Advisory Panel

Research Associate with QUB
3 PhD's on eels: otoliths/ecology

Responsible for provision of advice,
monitoring, & compliance evaluation of L. Neagh
eel fishery.



Hauling nets for 40 years....

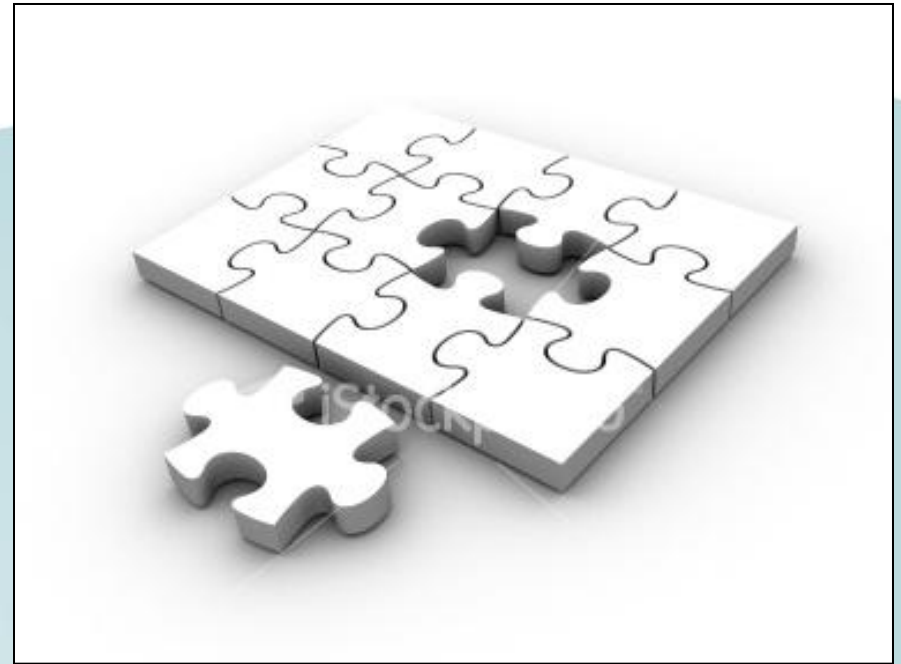
Our work:

Jigsaw approach

Simple questions, answered well

Engage with *ALL* stakeholders-

- get amongst the fish
- get amongst the fishermen
- Be prepared to have arguments



Basic Fisheries Science

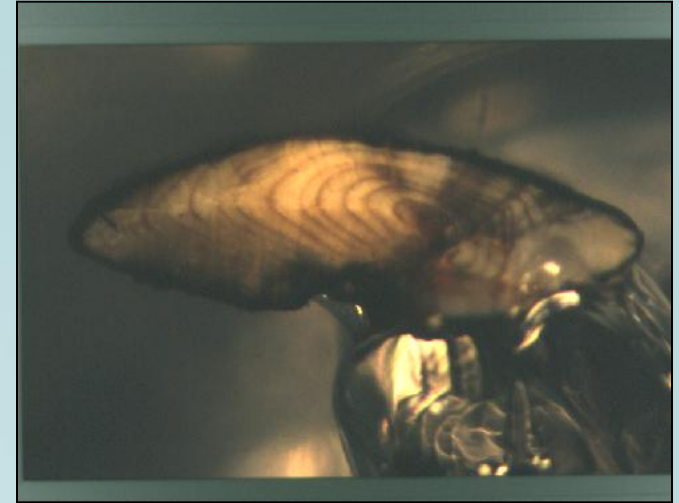
**45 000 eels have been measured
2500 examined**



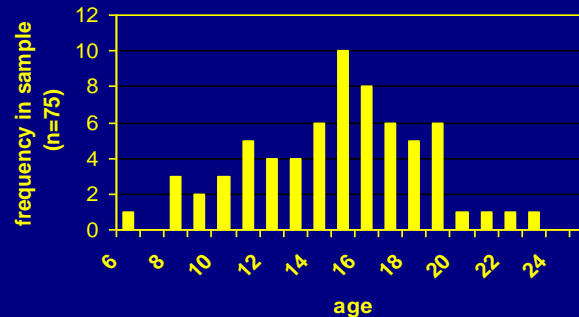
Mean lt 52 cms

Mean wt 280 g

~50:50 M:F



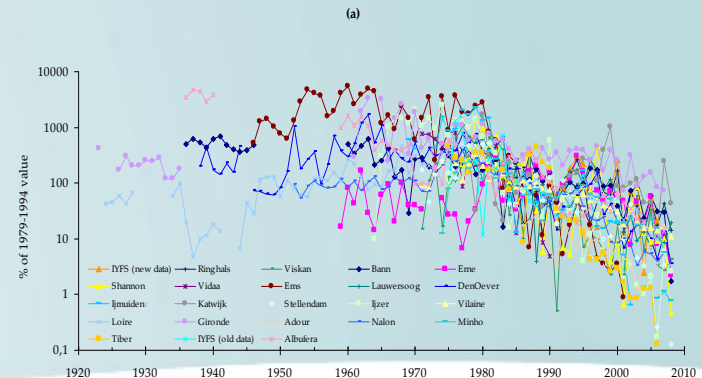
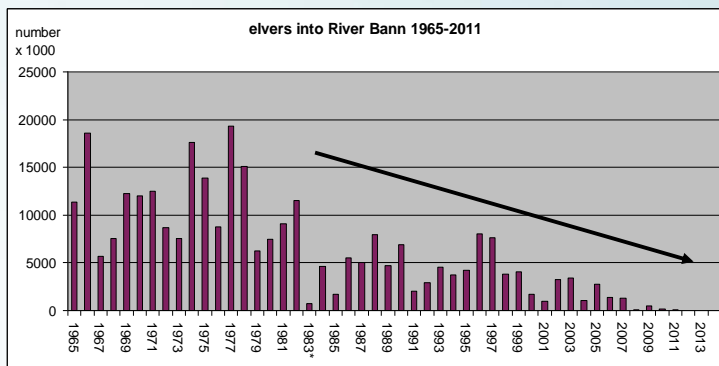
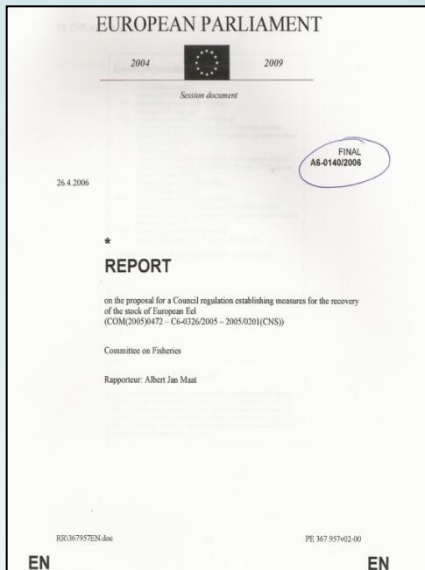
**Ages of Yellow eels in Lough Neagh
Fishery. 2003**



**Mean age in commercial
fishery 14 yrs
range from 6-20**

Fat content ~ 23%

All familiar with negativity that surrounds eels..



But maybe after this talk I can convince you that under a managed fishery things can be different



Insight into L.Neagh fishery;

- How its run
- Current status
- EU perspective



Lough Neagh Eel Fishery

Largest wild fishery in EU (400t)

Existed as Co-op ~50 yrs

*EU assessed Mgt Plan:
Deemed compliant: no restrictions imposed*

Current regime seen as sustainable (but..)

*Recently awarded EU Protected Geographical Indication status
unique food value*

Legendary the world over for eels, but why??



Lake itself has legendary status

1186 *Giraldus Cambrensis*
“confirmed” that L. Neagh
originated from a magic well.

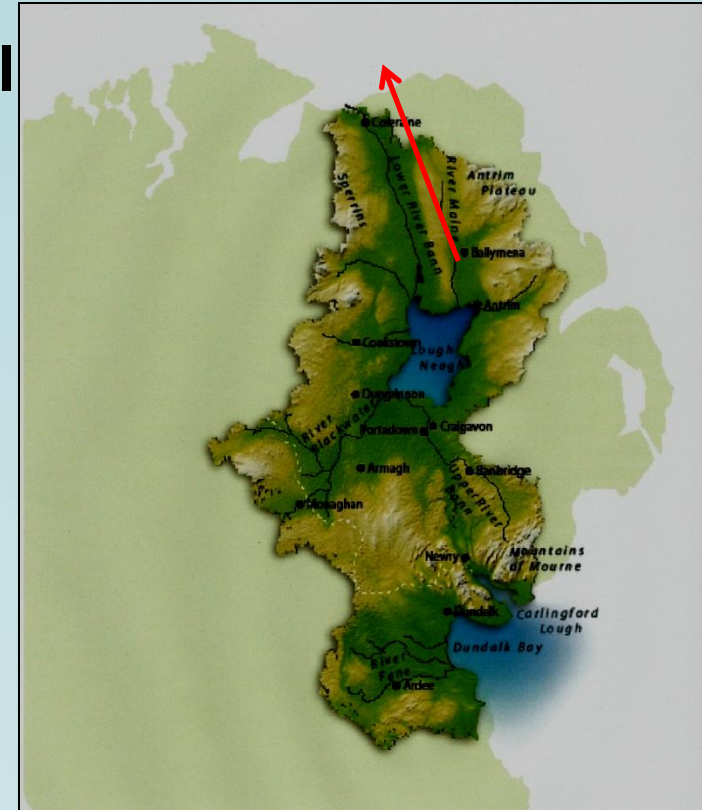
Giant *Fion MacCuil* scooped
up a handful of rocks to throw at
a fleeing Scottish opponent,
creating Lough Neagh basin



Lough Neagh Catchment

Lough Neagh as a water body is ideal

- River Bann unidirectional in/out flow
- Relatively shallow 9m average depth
- Hypertrophic
- Enriched invertebrate fauna = prey
- Historically had huge eel recruitment



Others would say Eel population's “saintly” connection

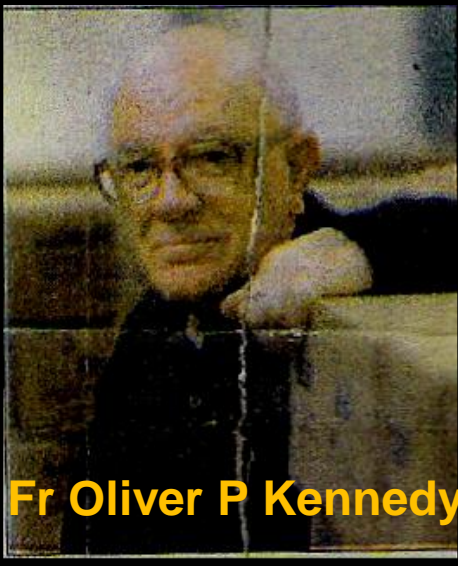
St. Patrick

First Christian act in Ireland was to remove the Devil, in the form of the snake from the land; many entered water becoming eels.

To this day very few Irish people will eat eels.

Ecclesiastical heritage of eels is alive and well on L.Neagh.....





Fr Oliver P Kennedy



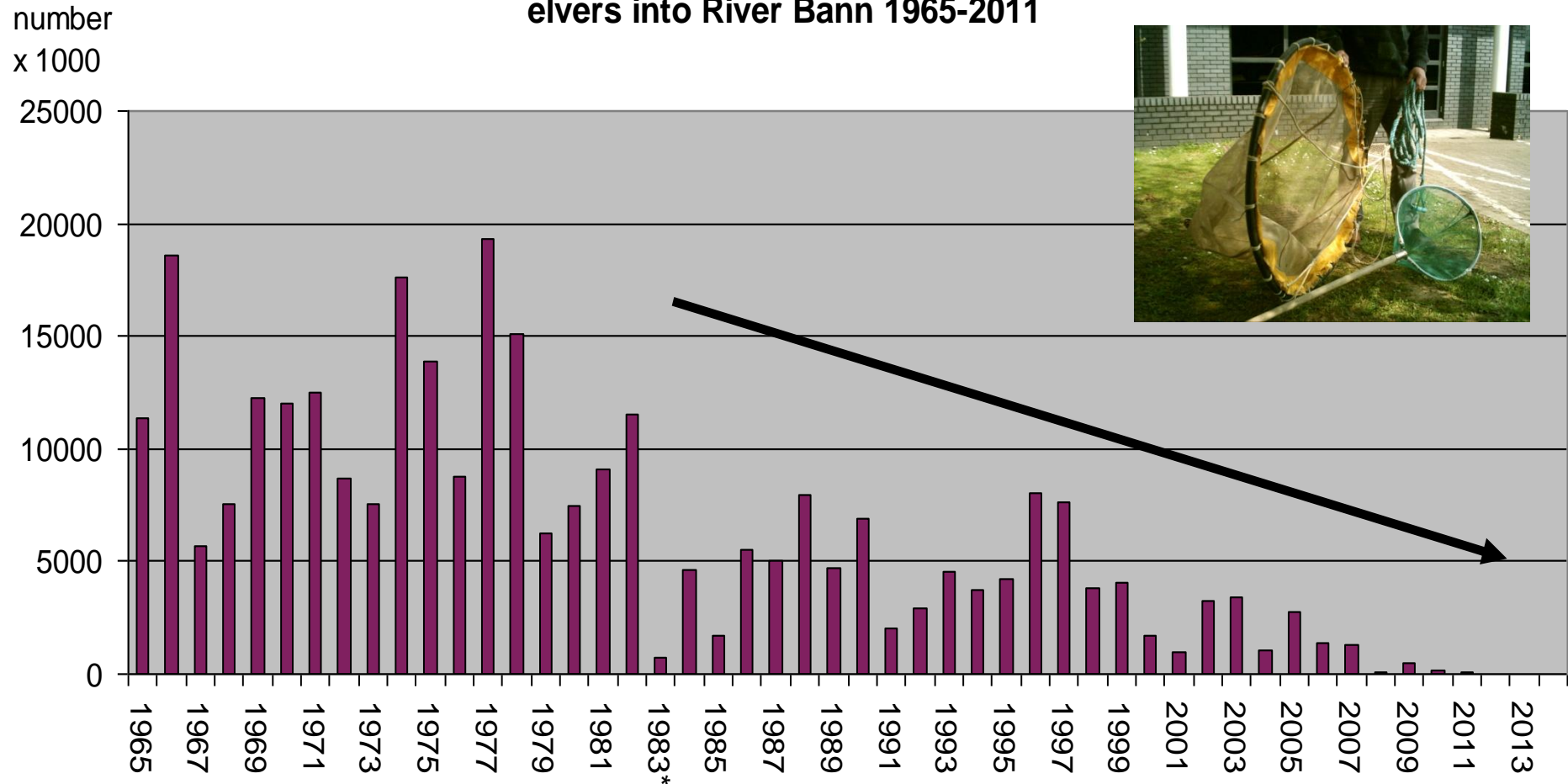
LOUGH NEAGH
FISHERMENS CO-OPERATIVE
SOCIETY LTD.
COOMEBRIDGE

1965 "Social & economic well being of those actively involved in the commercial eel fishery on L. Neagh"
Created LNFCs Ltd from local fishers - shareholders



River mouth at entrance to L. Neagh had flow control sluice gates installed in 1960's, since then eels trapped & trucked

elvers into River Bann 1965-2011



2012 Bay of Biscay glass eel catch surpassed 2011 total

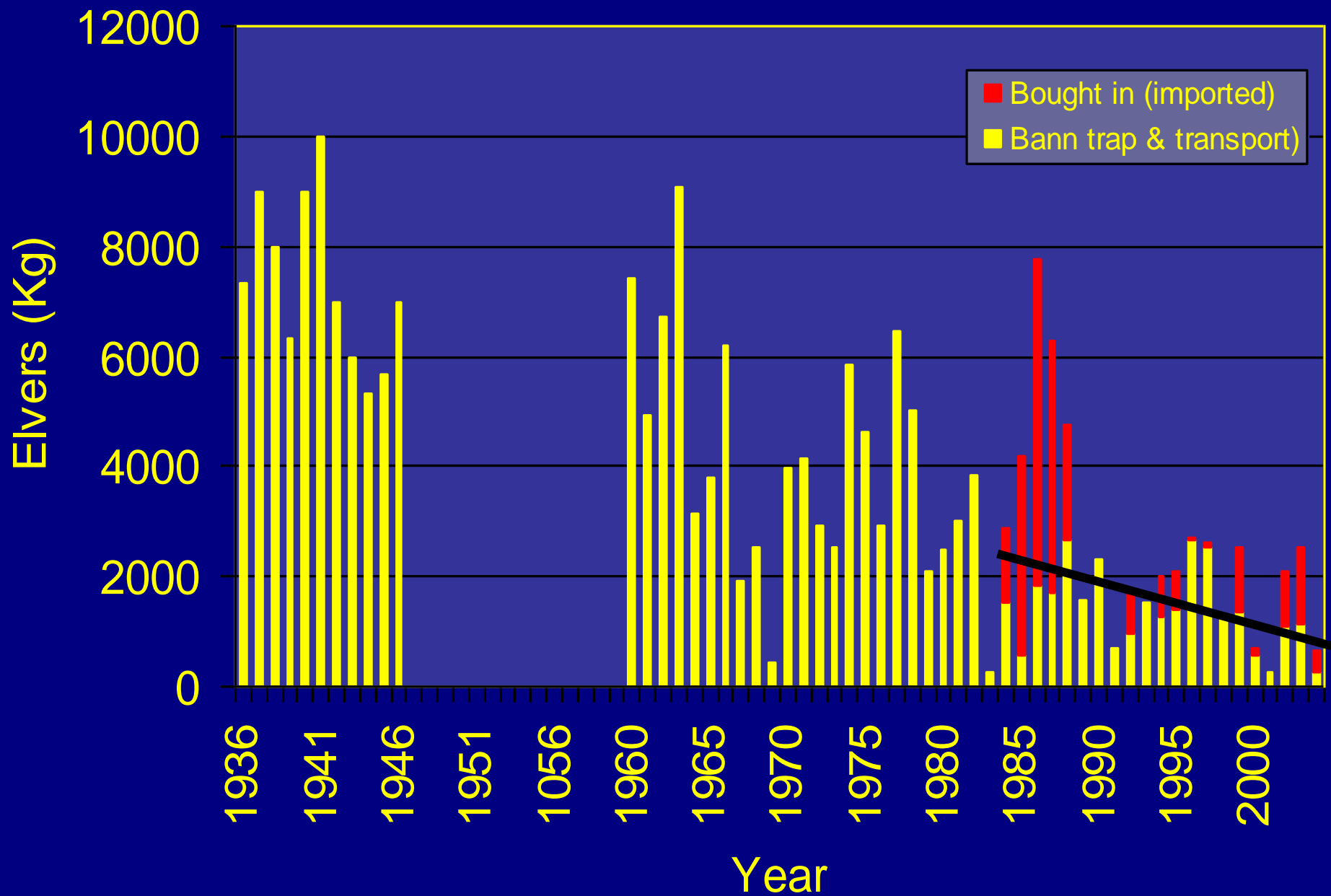


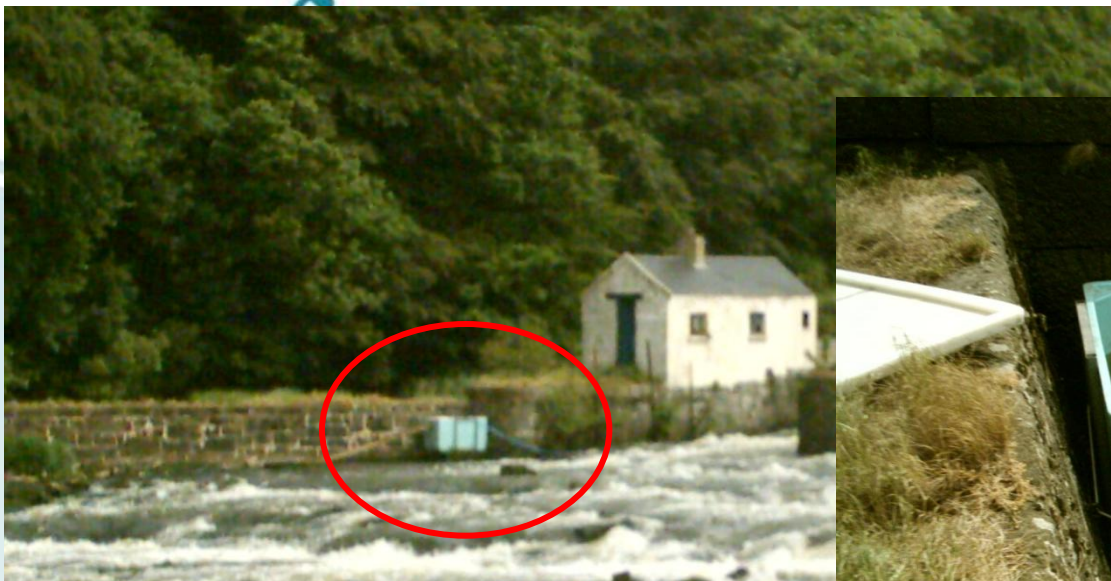
Stocking from River Severn from 1984

£3.2m imported 86 million elvers

Last 3 years part funded under EFF

Elver Supply to Lough Neagh





Elver box



Glass eel mat

Integrated fishery ownership

**Yellow eels provide May to October employment.
180 fishermen (previously 400) paid market price
minus transport costs.**

**Silver eels caught with less labour (6 men).
provide working capital, funds for stocking, admin
costs, and winter & Easter payment to fishermen &
shareholders.**

***Sustainable management :- key to
their past success & to their future***

..its also lead to the Neagh paradox

Under current low recruitment..

Whereby silver eel fishing pays for glass eel stocking, which keeps the whole “show on the road” and contributes silver eel escapees;

BUT *in the event of a reduced silver eel fishery, there is less cash for stocking thereby less glass eels are bought.....which leads to fewer spawners produced.*



Yellow eel fishery

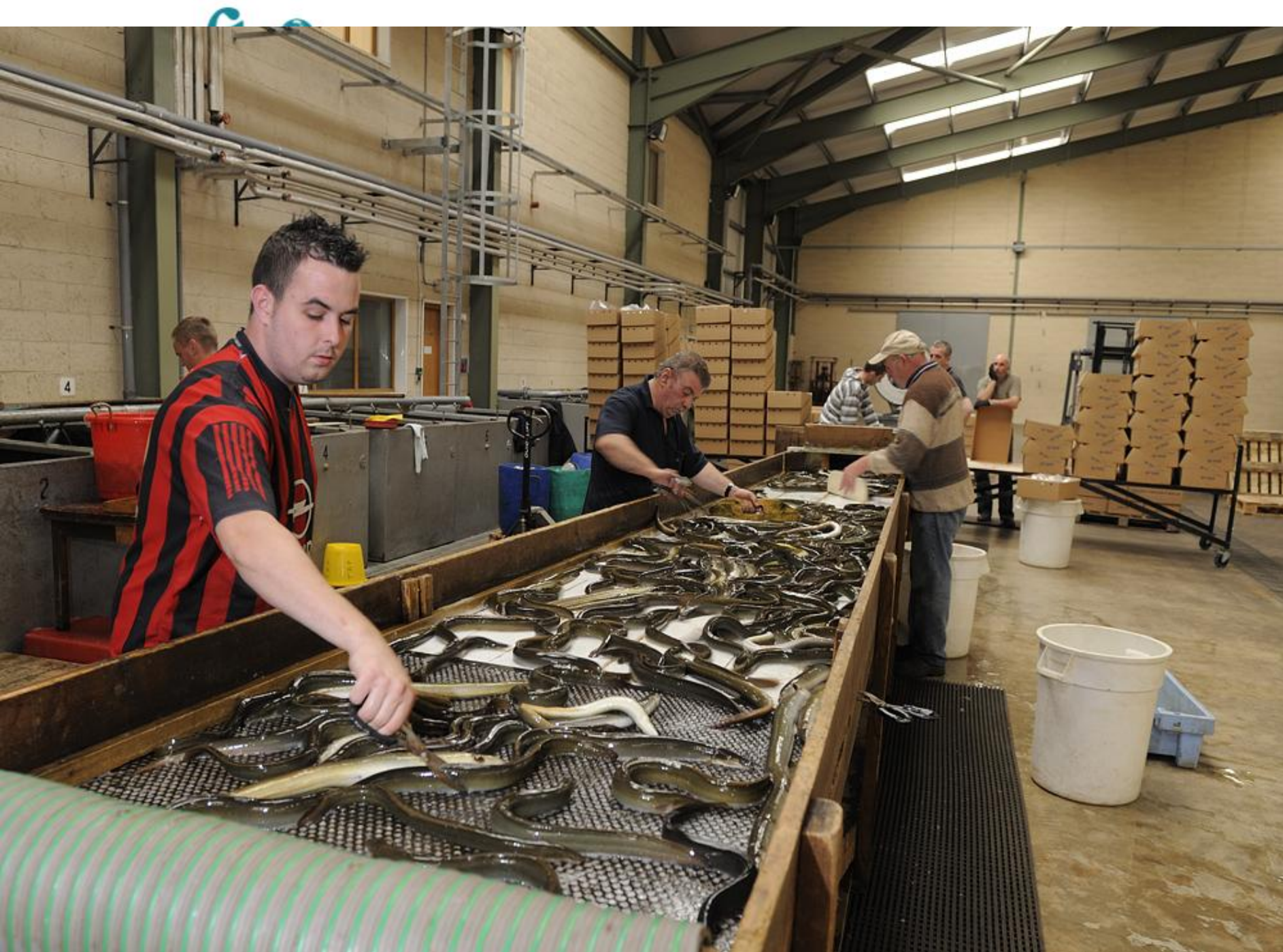


90 boats May-October 5 days a week

Daily quota 50kg per boat: **KEY**

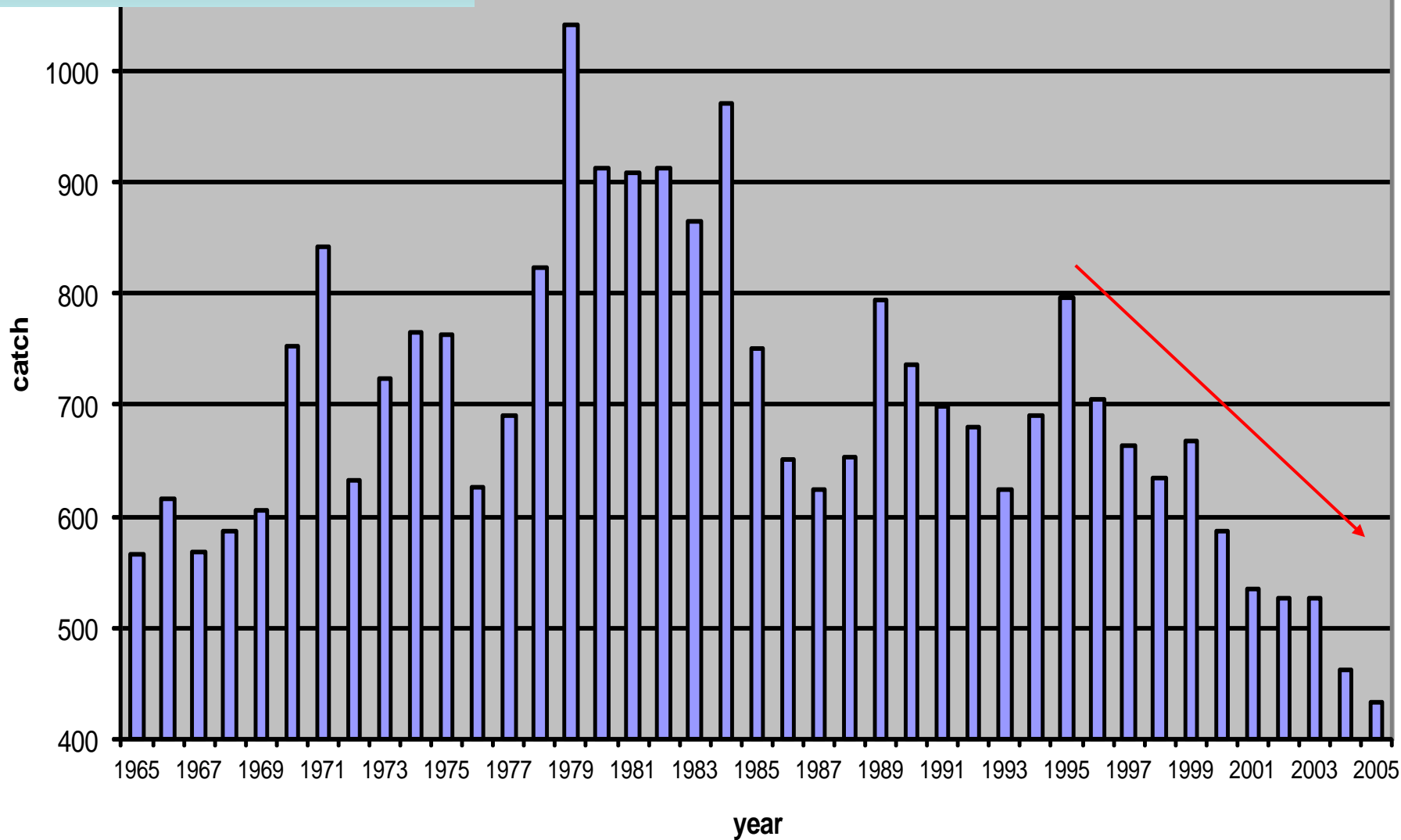
2 methods long line & draft net
Min size 40cms

Annual landings ~340T



Problems...??

Total L.Neagh Catch (T)



Cause of the problems not so obvious upon scrutiny you find:

Ageing fisher population, old men not replaced

Better jobs building boom through the 90's

Fishermen could make quota, some said it took a “bit” longer

In combination with declining recruits all of the above = sustainable

In effect the fishery adapted to meet the circumstances: Lesson for all

Silver Eel Fishery



**Toome Silver Eel Weir
Autumn/Winter fishery**



Large Coghill nets 4m wide
Long cod end



Eels captured during storms and new moons
All weirs leave 10% free gap known as Queen's Gap, conservation measure



3 - 5T shipped out daily, 5 days a week Holland, Germany, London
LNFCs had in effect created an eel Mgt Plan

The EU Perspective

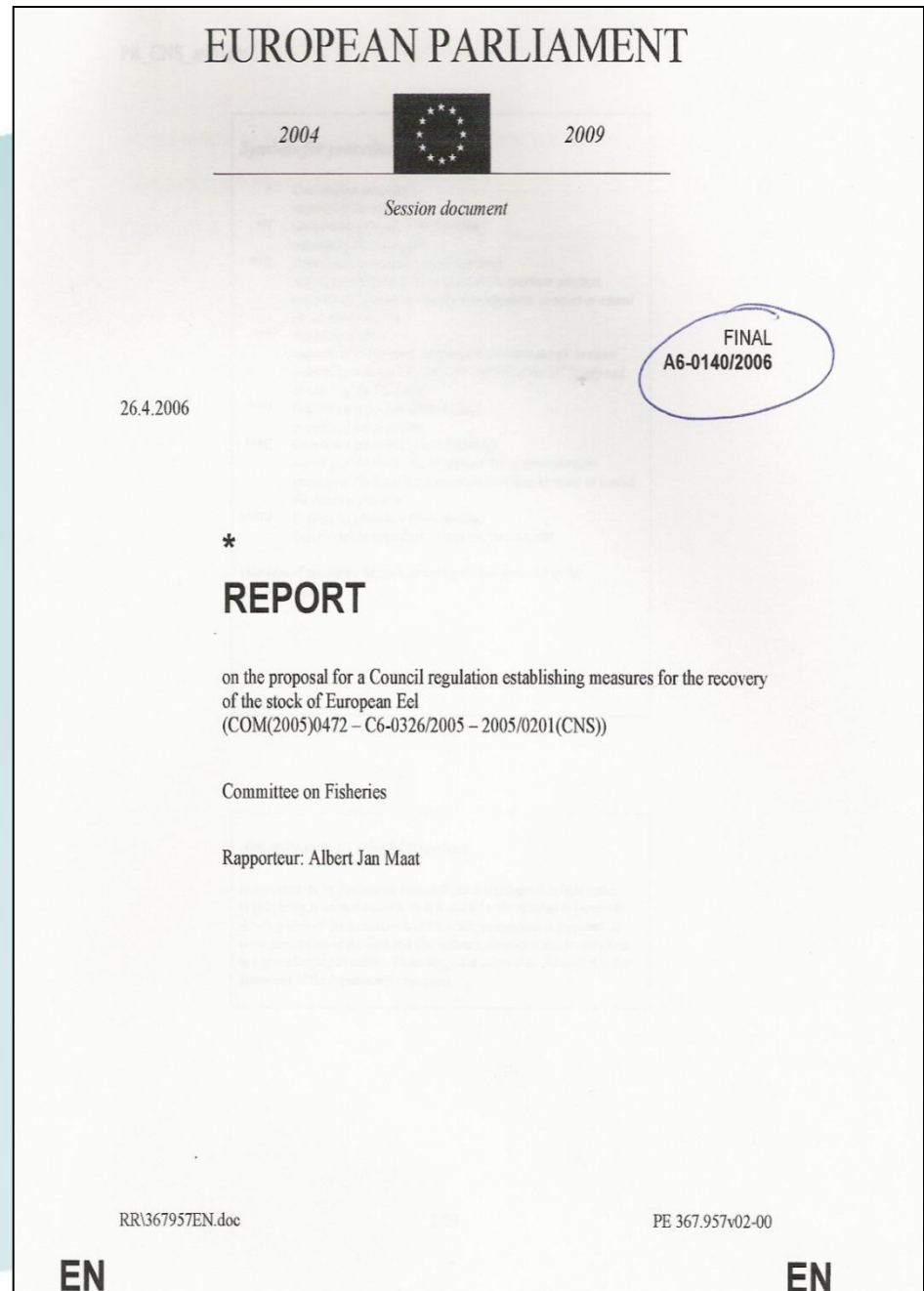
Eel Management Plans

Protected Geographical Indicator PGI

EU Action

Eel Recovery Plan COM 1100/2007

Focus on silver eel
migration from EU
back to Sargasso



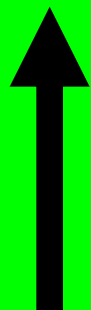
Silver Eel fishery

Mark recapture studies (Floy Tags)



Measures the catch efficiency of silver eel weirs

north



Kilrea



Silver eel tagging - 2003 to 2011

Largest tagging study in EU

**1456 recaptures (15%-29.9%-62%)
1398 within 2 weeks of release**

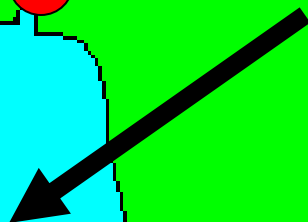
Lough
Beg

**EMIGRATING
SILVER
EELS**

Toome



**4938 SILVER EELS TAGGED
AND RELEASED**



Lough Neagh

Hydro-acoustics and Telemetry of silver eel migration



Tagging summary-so far
30 eels tagged + 100 floyds

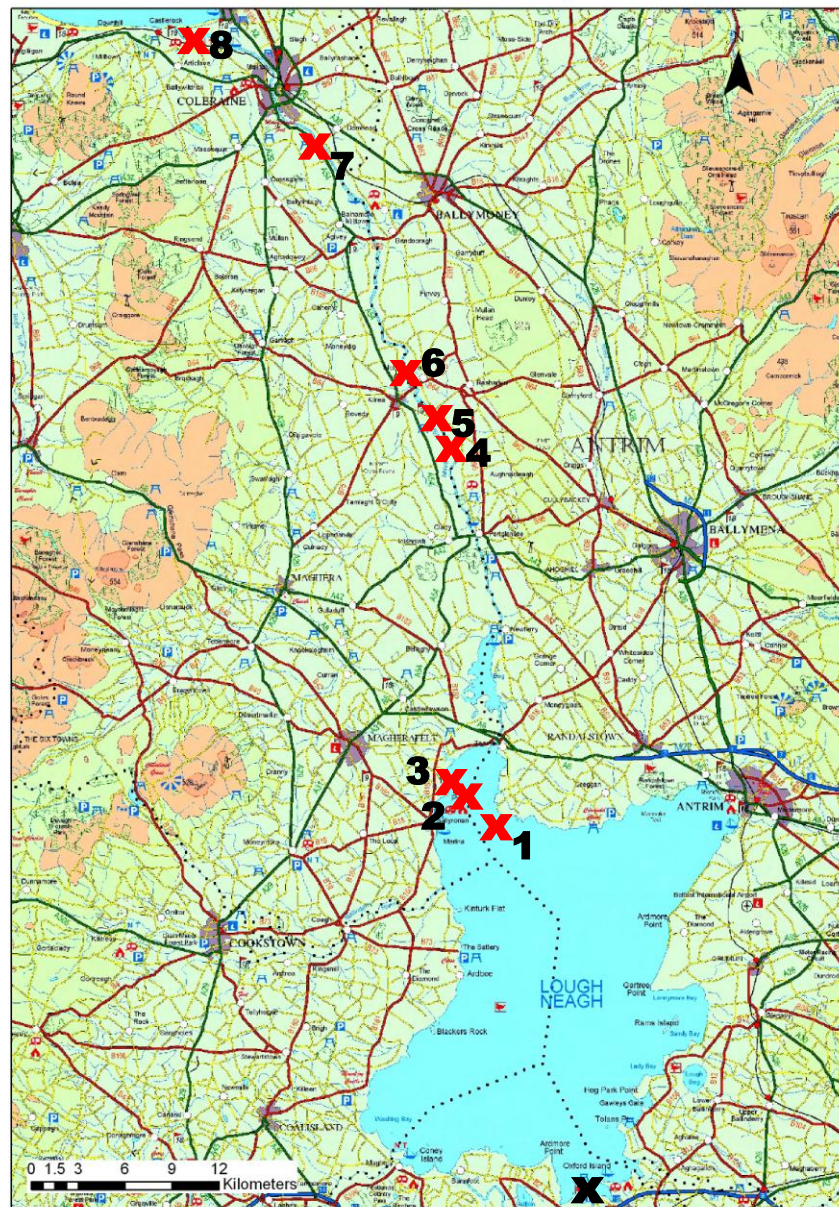
Recap rate ~16% for both

5 recaptured at Toome, of
which 4 were recorded
downstream and
Barmouth

Technology works

Passed fishery = sea

Southern end = confusion



Key

- 1- Doss
- 2-Traad1
- 3-Traad2
- 4-Hutchinson's
- 5-Portna
- 6-Portneal
- 7-Camus
- 8-Barmouth
- x-Release site
- x-Toome fishery

Map of Neagh-Bann system showing
release site and receiver sites

Range of Conservation Measures in place both by LNFCs and DCAL

- Closed seasons
- *Min. Size limits*
- *Restrictions on boat sizes*
- *Fishing gear restrictions/bans*
- *Licensed fishery*
- *Patrolled 24hrs a day everyday*
- *Dealer licenceships*
- *Traceability system*



- **Creation of a Management Plan for each RBD**
 - Neagh Bann passed - no restrictions
- **Demonstration of 40% silver eel escapement**
 - Neagh Bann demonstrates compliance

Project's Reason d'être

Basic fisheries biology key to monitor any changes in L. Neagh stock

Tagging work integral part in demonstrating compliance with 40%



Protected Geographical Indicator PGI

OTHER ACTS

EUROPEAN COMMISSION

Publication of an application pursuant to Article 6(2) of Council Regulation (EC) No 510/2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs

(2011/C 47/07)

This publication confers the right to object to the application pursuant to Article 7 of Council Regulation (EC) No 510/2006 ⁽¹⁾. Statements of objection must reach the Commission within six months from the date of this publication.

SINGLE DOCUMENT

COUNCIL REGULATION (EC) No 510/2006

'LOUGH NEAGH EEL'

EC No: UK-PGI-0005-0796-10.02.2010

PGI (X) PDO ()

1. Name:

'Lough Neagh Eel'

2. Member State or third country:

United Kingdom

3. Description of the agricultural product or foodstuff:

3.1. Type of product:

Class 1.7. Fresh fish, molluscs, and crustaceans and products derived therefrom

3.2. Description of product to which the name in (1) applies:

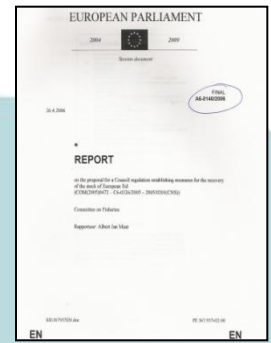
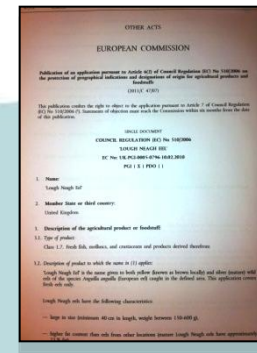
'Lough Neagh Eel' is the name given to both yellow (known as brown locally) and silver (mature) wild eels of the species *Anguilla anguilla* (European eel) caught in the defined area. This application covers fresh eels only.

Lough Neagh eels have the following characteristics:

- large in size (minimum 40 cm in length, weight between 150-600 g),
- higher fat content than eels from other locations (mature Lough Neagh eels have approximately 23 % fat)



Essentially recognises your Brand
And confers brand protection



PGI and the Protection paradox

Eel is a species of conservation concern and the LNFCs are aware of their need to remain compliant to 40% escapement conservation target

If the fishery is to be reduced, the PGI listing effectively provides a *Brand* recognition whereby a premium price for that commodity can be charged in the market place

As such, the amount caught may be reduced but its economic value is maintained, or possibly enhanced thereby sustaining the fishery and the 300 families it supports

In summary:-

L Neagh as an example of eel mgt in action; Mgt Plans can work

All stakeholders need to feel involved, and be involved

Provision of scientific advice has a fundamental role to play

Sustainability: yes in good recruitment, **but** needs stocking in bad

Acknowledgements

LNFCS Ltd for access to the fishery and data

DCAL Inland Fisheries who fund this research

*Staff of AFBINI/QUB Fisheries & Aquatic Ecosystems
Branch for technical assistance*