The Success of Lough Neagh Eels;

A Priest, a Plan and a PGI

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Senior Fisheries Scientist
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SEG meeting Venice 29-30th May 2012
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 arguements
45 000 eels have been measured
2500 examined

Mean L: 52 cms
Mean Wt: 280 g
~50:50 M:F

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 it's 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 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.....
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 elvers trapped & trucked.
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
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)

- Catch: 400, 500, 600, 700, 800, 900, 1000, 1100
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
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)

Queen’s Gap 10%

Measures the catch efficiency of silver eel weirs
Silver eel tagging - 2003 to 2011
Largest tagging study in EU

Lough Neagh
Kilrea
Lough Beg
Toome

4938 SILVER EELS TAGGED AND RELEASED

1456 recaptures (15%-29.9% -62%)
1398 within 2 weeks of release
Hydro-acoustics and Telemetry of silver eel migration
Tagging summary—so far
30 eels tagged + 100 floys

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

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’etre*

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
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
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