

Rapid Response Achieves Eradication Chub in Ireland



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Chub (*Leuciscus cephalus*)

Non-native, potential invasive in Ireland

Prized angling species

Inhabit lotic, rel. shallow situations

Multiple or batch spawner (May to August)

Young shoal in shallows; adults more solitary

Young feed on invertebrates and plants

Proportion of fish in diet increases with size and age



Chub (*Leuciscus cephalus*) in River Inny



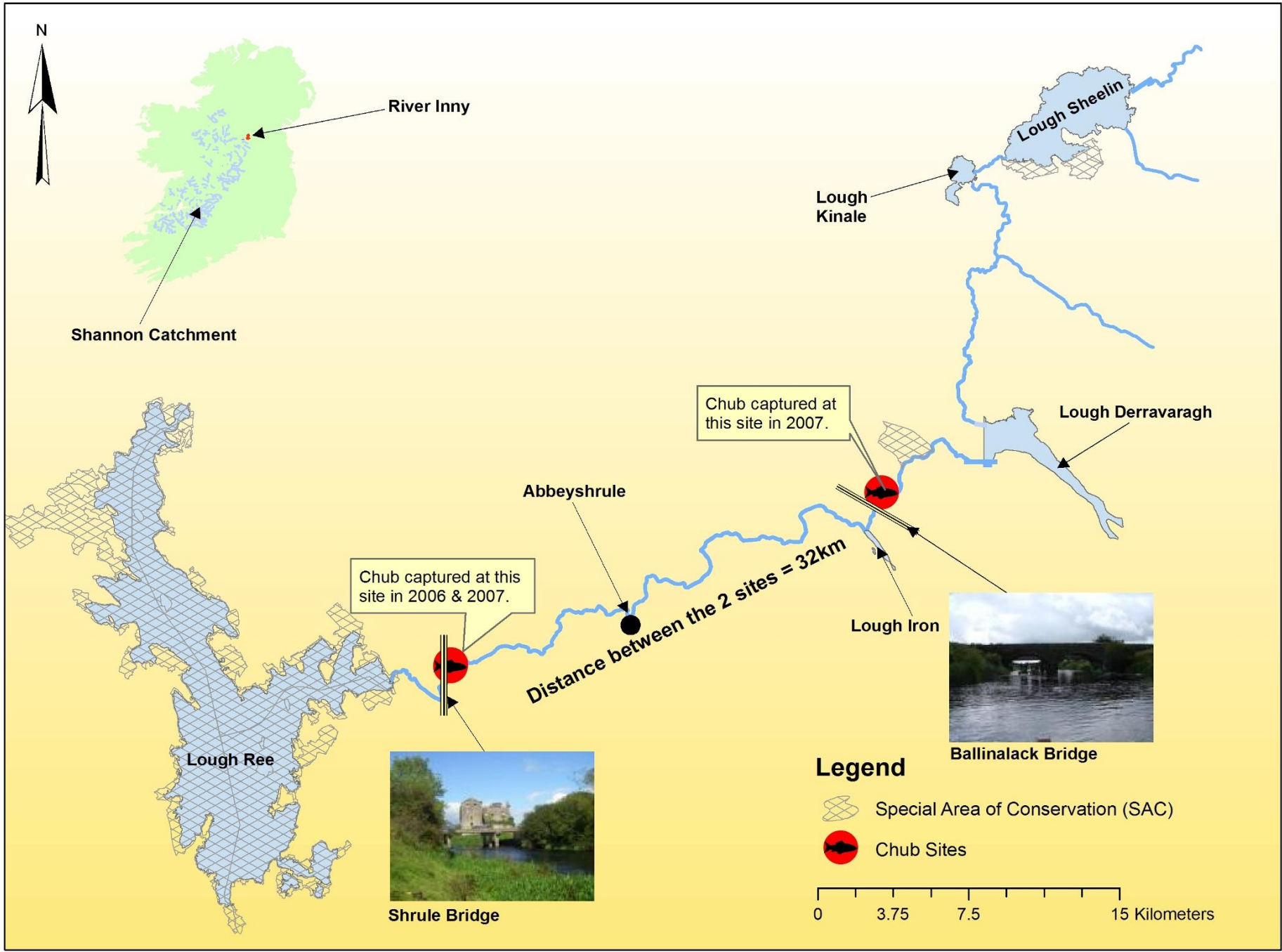
Intentionally introduced by UK anglers

- Capable of establishing large populations
- Will compete for food and space
- Prey on indigenous salmonids and other fishes
- Could introduce new diseases or pathogens

History of Chub in the River Inny

- | | |
|--------------|--|
| 2001 to 2004 | Unconfirmed reports of angler-caught chub in river |
| 2005 (Sept) | Presence of live chub confirmed (<u>in very small numbers</u>) |





Chub Eradication Programme on River Inny – 2006 to date

Because of Early Detection, IFI decided to Respond Rapidly to achieve Eradication

2006

Determine locations and status of chub in R Inny catchment

- electric fishing
- seine netting
- gill netting
- (angling)



Gill Netting for Chub in Inny Bay, Lough Ree



Seine Netting for Juvenile Chub in River Inny



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2006	Determine locations and status of chub in R Inny catchment <ul style="list-style-type: none">- electric fishing- seine netting- gill netting- (angling)
2006 to 2015	Euthanise chub (electric fishing) Monitor chub status



Logistics of Electric Fishing Operations

13 staff, 4 boats and gear, 5 vehicles

4 to 5 days per survey

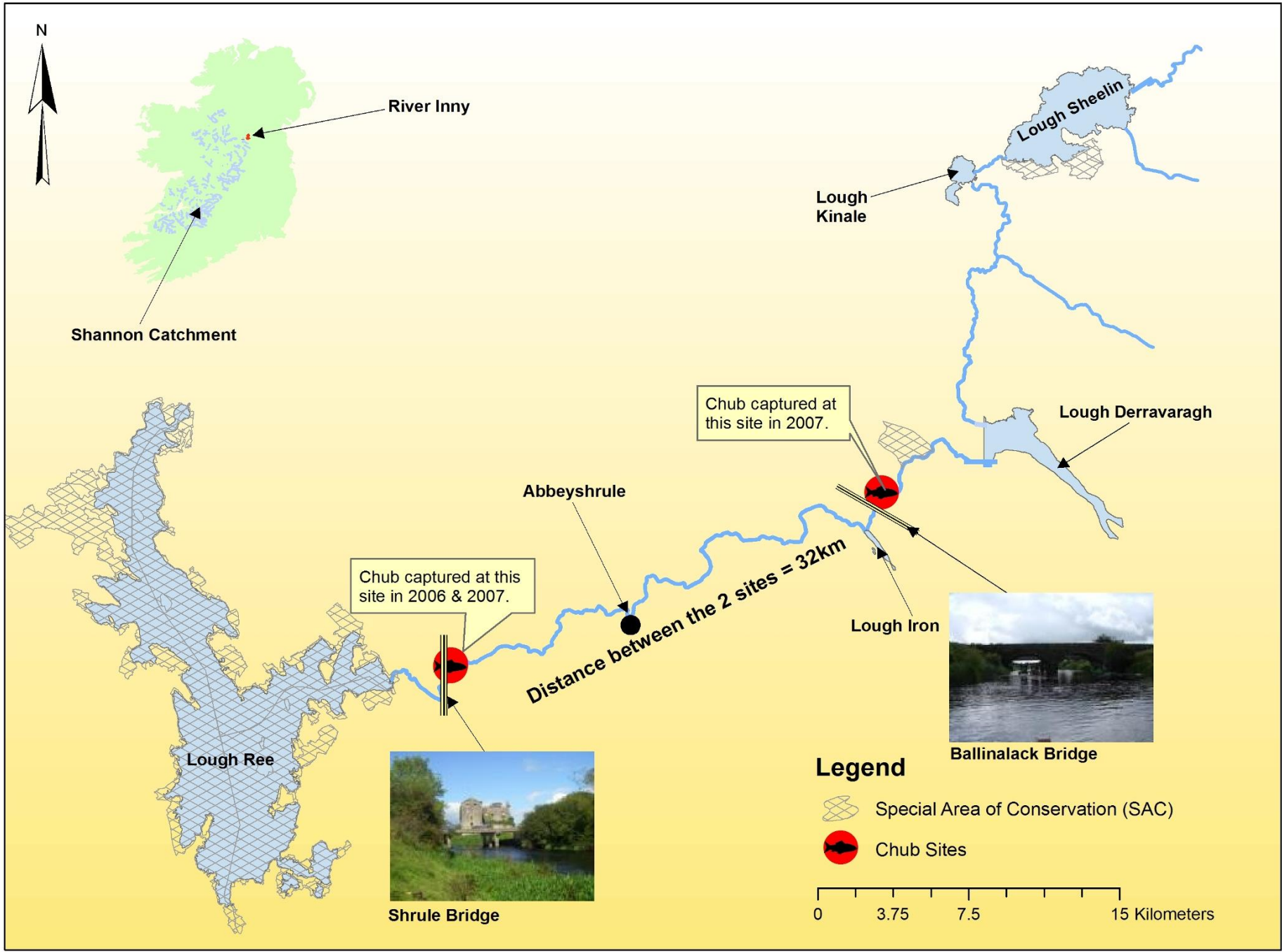
Once or twice per annum (May and/or September)



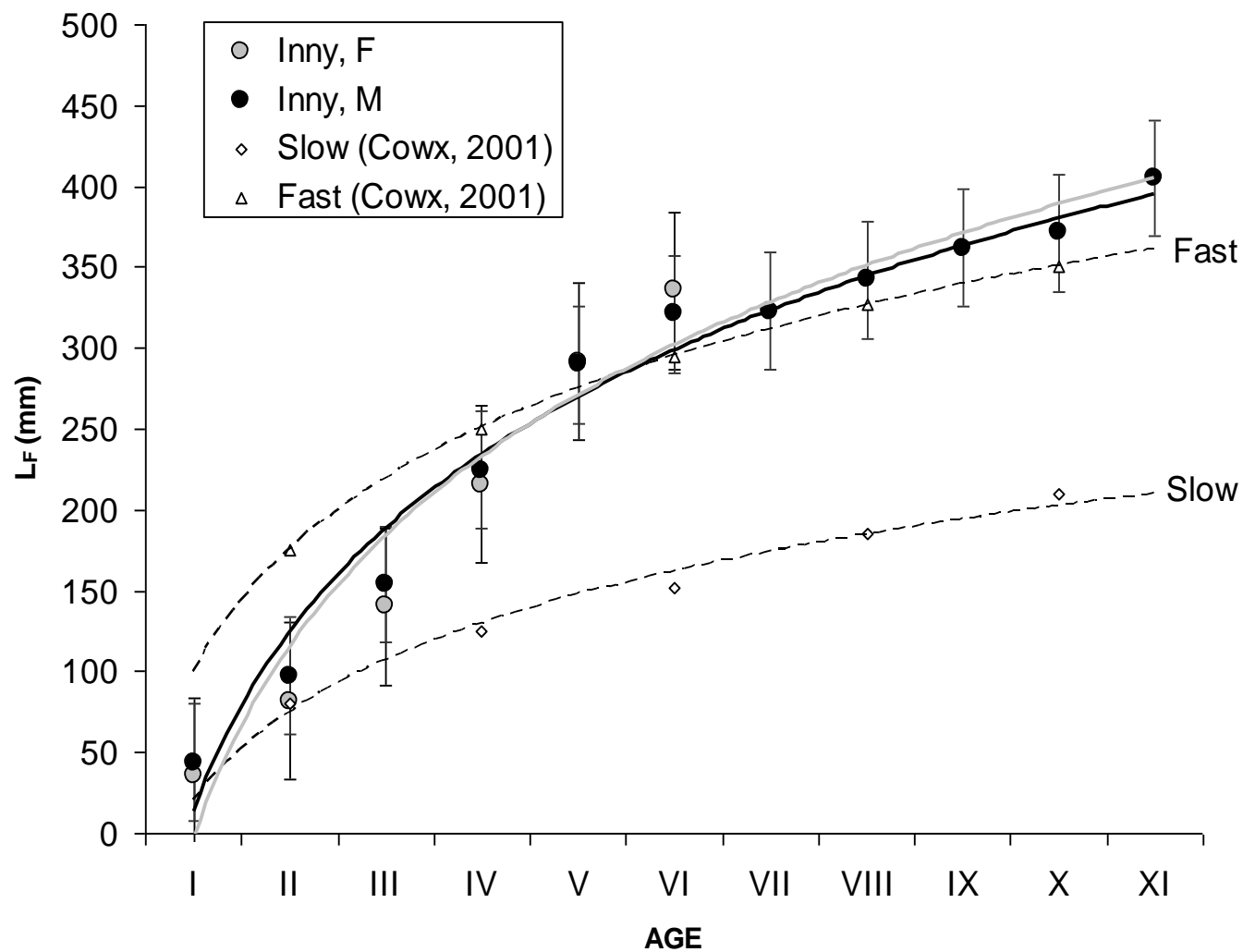
Chub Eradication Programme on River Inny – 2006 to date

2006 (x2)	17 chub (all adult bar one juvenile - 13cm; male and female)
2007 (x2)	7 chub (all adult; male and female)





Growth Rates for Chub in River Inny and British Rivers *



* Caffrey, Acevedo, Gallagher & Britton (2008)

Chub Eradication Programme on River Inny – 2006 to date

2006 (x2)	17 chub (all adult bar one juvenile - 13cm; male and female)
2007 (x2)	7 chub (all adult; male and female)
2008 (x2)	2 chub (adult; male)

Both enlisted onto the 'Judas' chub program



‘Judas Chub’ - radio tag being surgically implanted (2008)



'Judas' Chub Tracking on River Inny

Aim: tagged chub would lead us to other chub in river, for ultimate removal

Both chub captured and released upstream Shrule Bridge

Monitored monthly for 12 months

Both chub remained close to each other

Both chub remained within c. 500m of original location

No major movements recorded

Never observed with shoal



Chub Eradication Programme on River Inny – 2006 to date

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2007	7 chub (all adult; male and female)
2008	2 chub (adult; male) – both radio tagged
2009	2 chub (adult; male) – one tagged
2010	2 chub (adult; male) – one tagged



*Tagged chub
that had been
at liberty for 2
years*

Chub Eradication Programme on River Inny – 2006 to date

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2008	2 chub (adult; male) – both radio tagged
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2011 to 2015	no chub (during electric fishing or angler catch)
2016 to 2017	no chub (in angler catch)

Eradicated?

Majority of chub removed from River Inny

No sustainable population

No juveniles captured or reported since 2006

No reported sightings / catches by anglers since 2010



Early detection and rapid (and consistent) response can achieve eradication