

A SAD HISTORY: HOW SIGNAL CRAYFISH TURNED INTO A VERY BAD OPTION

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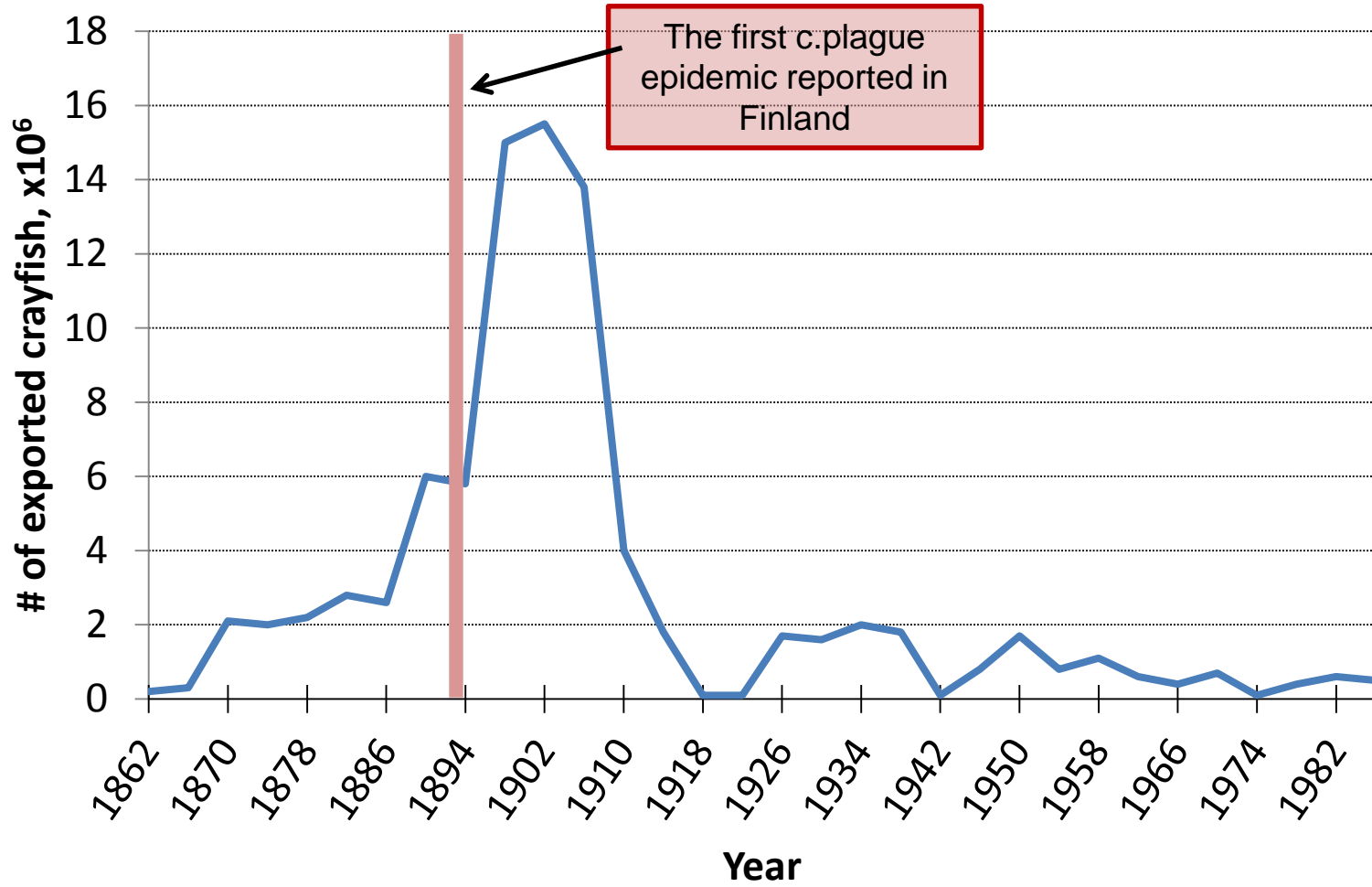
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LIFE+ CRAYMATE

- ✓ LIFE+ funded project aiming for better awareness of the common public on native crayfish species impact on biodiversity and aquatic ecosystems
- ✓ various popular and informative campaigns
- ✓ going among common people, talking on the street level
- ✓ 3 years, 420.000 € budget
- ✓ visit www.rapukamu.fi & RapuKamu in Facebook
- ✓ EU not all bad? Huh?

NOBLE CRAYFISH EXPORTS



CRAYFISHERY IN FINLAND, ANCIENT TIMES



ALIEN SPECIES EXPECTATIONS VS. REALITY

- ✓ high or increasing production
 - ✓ **variable, even unpredictable production**
- ✓ resistant of crayfish plague infection
 - ✓ **vulnerable to both Psl and As-genotypes with increased mortality**
- ✓ adapted to Scandinavian conditions
 - ✓ **maybe a cool water species**
 - ✓ **requires rather stable environmental conditions**
- ✓ a good substitute for noble crayfish
 - ✓ **increasing doubts of good performance**
 - ✓ **invasive & harmful alien species**

THE FINNISH CRAYFISHERIES POLICY

- ✓ National crayfish related strategies
 - ✓ National Alien Species Strategy (2013)
 - ✓ defines signal crayfish as a harmful alien species
 - ✓ allows private persons to define their stand on signal crayfish stockings
 - ✓ National Crayfisheries Strategy (2014)
 - ✓ promotes further spreading of signal crayfish
- ✓ Fisheries Act (2015)
 - ✓ demands relevant strategies to be implemented via local fisheries management plans
- ✓ general attitude
 - ✓ the national strategies are causing confusion among the local fisheries officers, consultants and fishing rights owners
 - ✓ a simplification: signal crayfish preferred in south, noble crayfish in central and northern Finland
 - ✓ heated discussions regarding EU Regulation 1143/2014: signal crayfish is 50-listed!

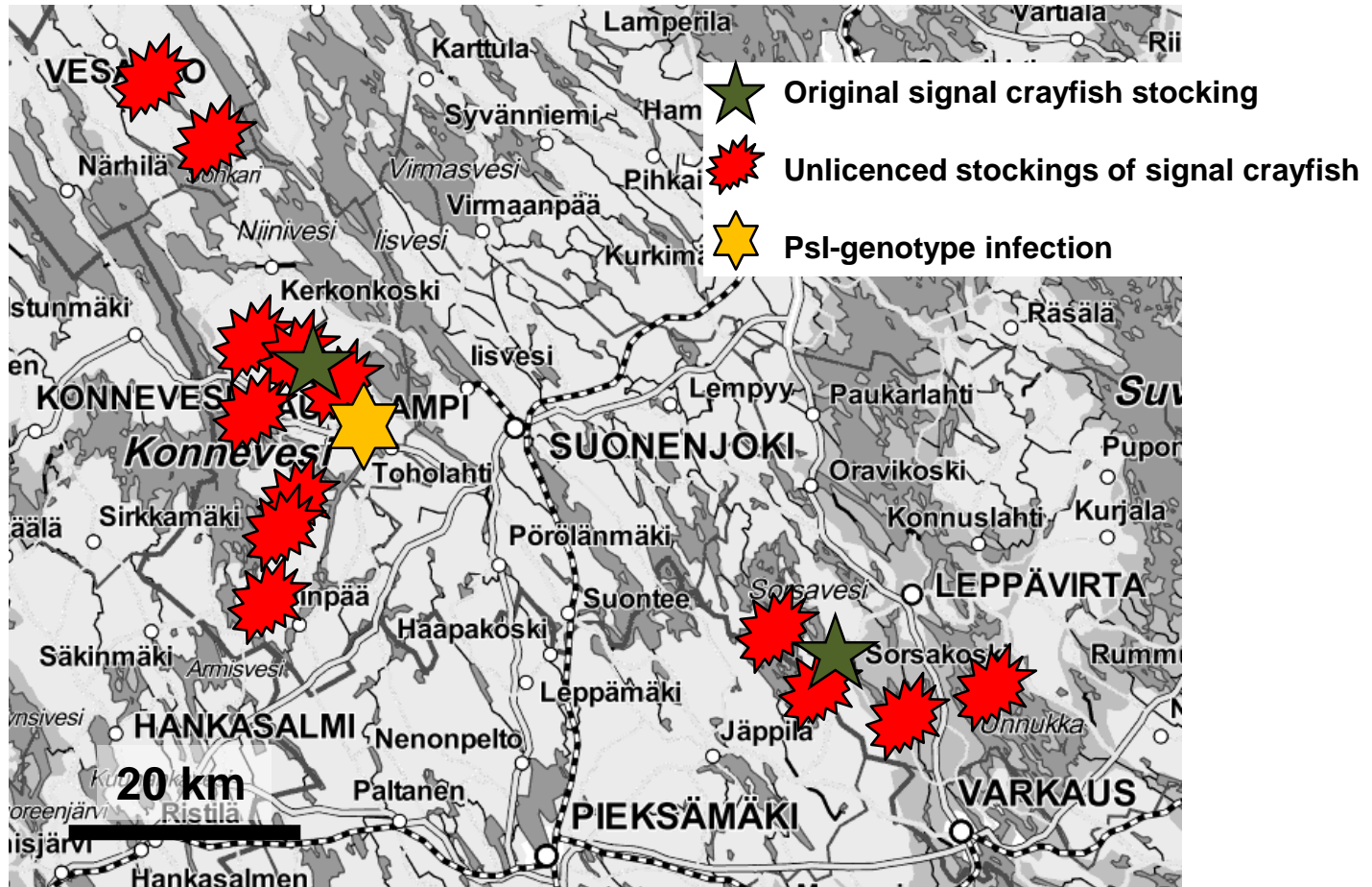
OTHER BITS OF FINNISH LEGISLATION

- ✓ Fisheries Act (2015)
- ✓ Animal Diseases Act (2013)
- ✓ Nature Conservation Act (1996)
 - ✓ do not spread infected animals or animal diseases into the wild
 - ✓ private persons or organisations, or actually anybody, do not have a right to stock whatever they want where ever they want

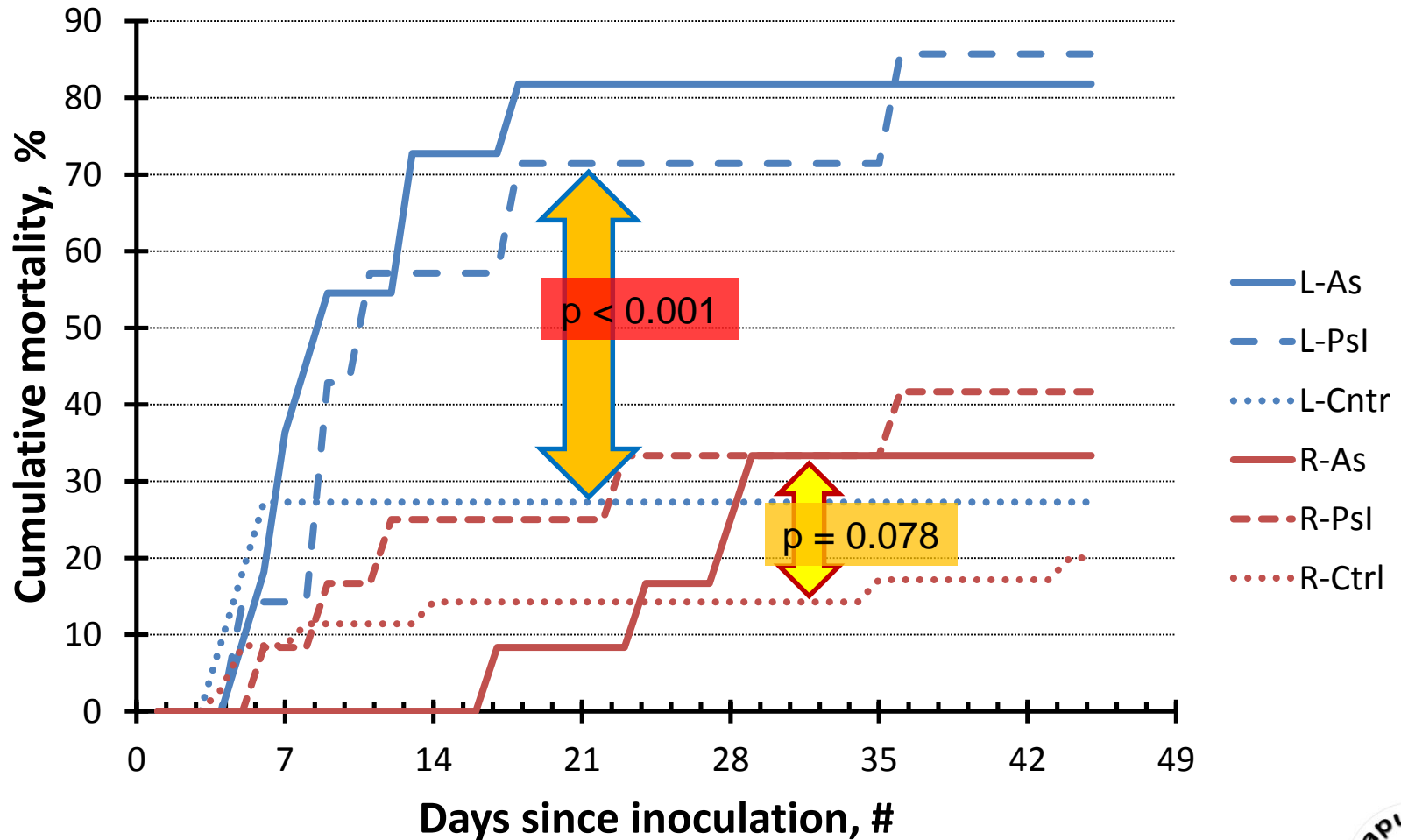
THE COMMON PUBLIC GETS CONFUSED

- ✓ the crayfish related messages are contrasting and confusing
 - ✓ the harmful alien species can be spread if wished
 - ✓ the resistant dies of crayfish plague but is resistant
 - ✓ the resistant alien species populations fluctuate and collapse even though they procreate very well
- ✓ laws and crayfisheries strategies are in conflict
 - ✓ the written official legal message
 - ✓ the oral unofficial strategic message

THE STOCKING AND EPIDEMIC CASCADE



SIGNAL CRAYFISH DIES OF CRAYFISH PLAGUE INFECTION



A. ASTACI & NOBLE CRAYFISH & SIGNAL CRAYFISH

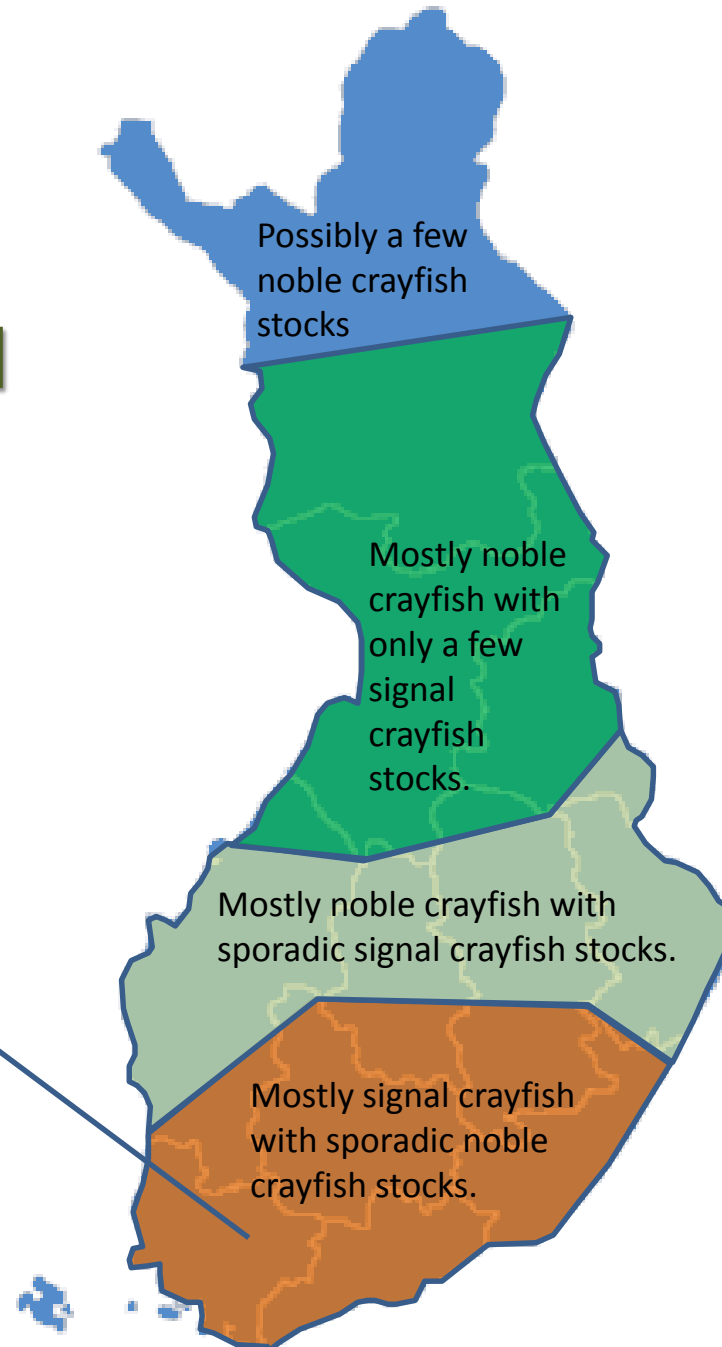
- ✓ *A. astaci* genotypes (As, Psl, PslI, Pc, Or, etc.)
 - ✓ different histories and lifespans in Europe
 - ✓ only As-genotype hasn't its original host species in Europe
- ✓ *A. astaci* adaptation pressures differ depending on the host presence
 - ✓ As –genotype adapted, Psl –genotype very virulent
 - ✓ worst killers travel with alien crayfish species
 - ✓ signal crayfish carries normally Psl –genotype

THE OFFICIAL CRAYFISH CATCH STATISTICS

- ✓ LUKE (formerly GFRI) has collected catch data for decades
 - ✓ noble crayfish catch recorded since the turn of 20th century
 - ✓ catch 110 years ago 16 – 20 million crayfish
 - ✓ catch for the past 100 years between 2 – 4 million crayfish, year 2012 only less than 0.5 million crayfish
 - ✓ the noble crayfish catch is down 80 – 95 %
 - ✓ signal crayfish catch recorded for the past few decades
 - ✓ after strong start a levelling and lately a decline
 - ✓ catch estimate maximum 6 million and minimum 2 million

DISTRIBUTION SCHEME OF THE THE CRAYFISH IN FINLAND

Historically and currently, the prime crayfish production region.



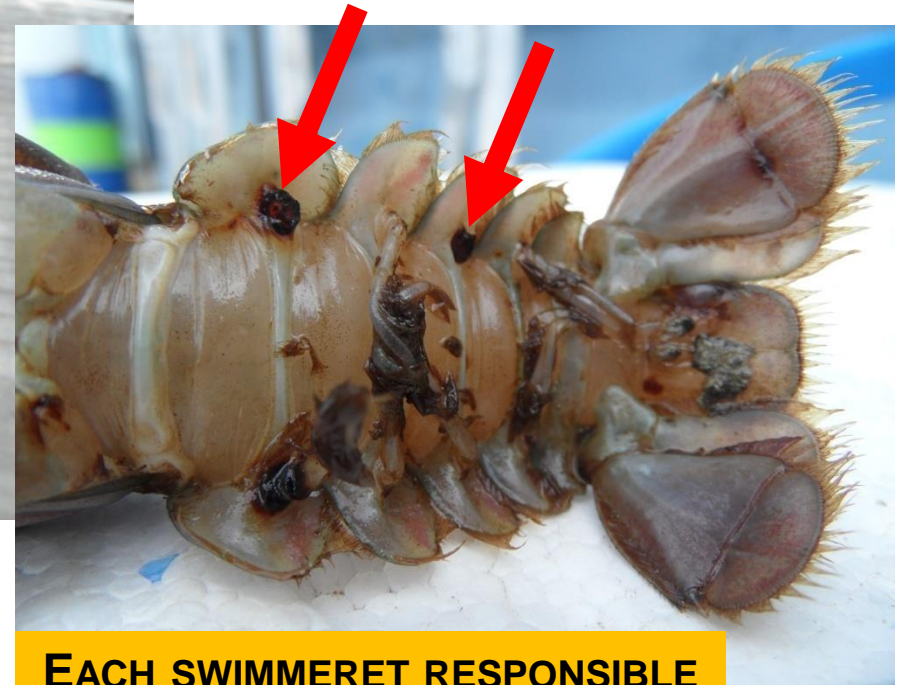
POPULATION COLLAPSES IN KANTA-HÄME



ERODED SWIMMERET SYNDROME



**ALL SWIMMERETS GONE →
NO REPRODUCTION**



**EACH SWIMMERET RESPONSIBLE
OF ROUGHLY 12.5% OF THE
REPRODUCTIVE EFFORT**

EU SETS A NEW DIRECTION

- ✓ EU regulation for Invasive Alien Species damage control (EU Regulation 1143/2014)
 - ✓ signal crayfish considered IAS and worthy of EU level action (currently in the IAS 50-list)
 - ✓ will definitely maybe halt
 - ✓ further stockings
 - ✓ maybe even live trade of the signal crayfish
 - ✓ drastic changes to crayfisheries management and crayfish related policies in Finland
 - ✓ a lesson to learn, maybe?

AN EDUCATIONAL VIDEO

THE MAN WHO LOST EVERYTHING

THANKS TO YOU ALL

BUT NOT THE SIGNAL CRAYFISH, POR FAVOR