

HATCHERIES – possibly the most controversial subject in salmon fisheries restoration and management!

The risks associated with hatchery stocking (e.g. genetics and domestication effects) are well documented and widely accepted. Any stocking programme must fully consider these risks before proceeding.

One of the most overlooked aspects of most artificial stocking is the removal of precious spawning fish from the wild – and these fish become increasingly precious as stocks decline and voices call for a hatchery intervention.

Nevertheless, a well managed hatchery programme can form one part of logical and well thought out fisheries management plan *in certain specific circumstances*.



Many people talk about being 'for' or 'against' hatcheries....

But a 'hatchery' is just a building.

What matters is the stocking strategy and the rationale behind its use

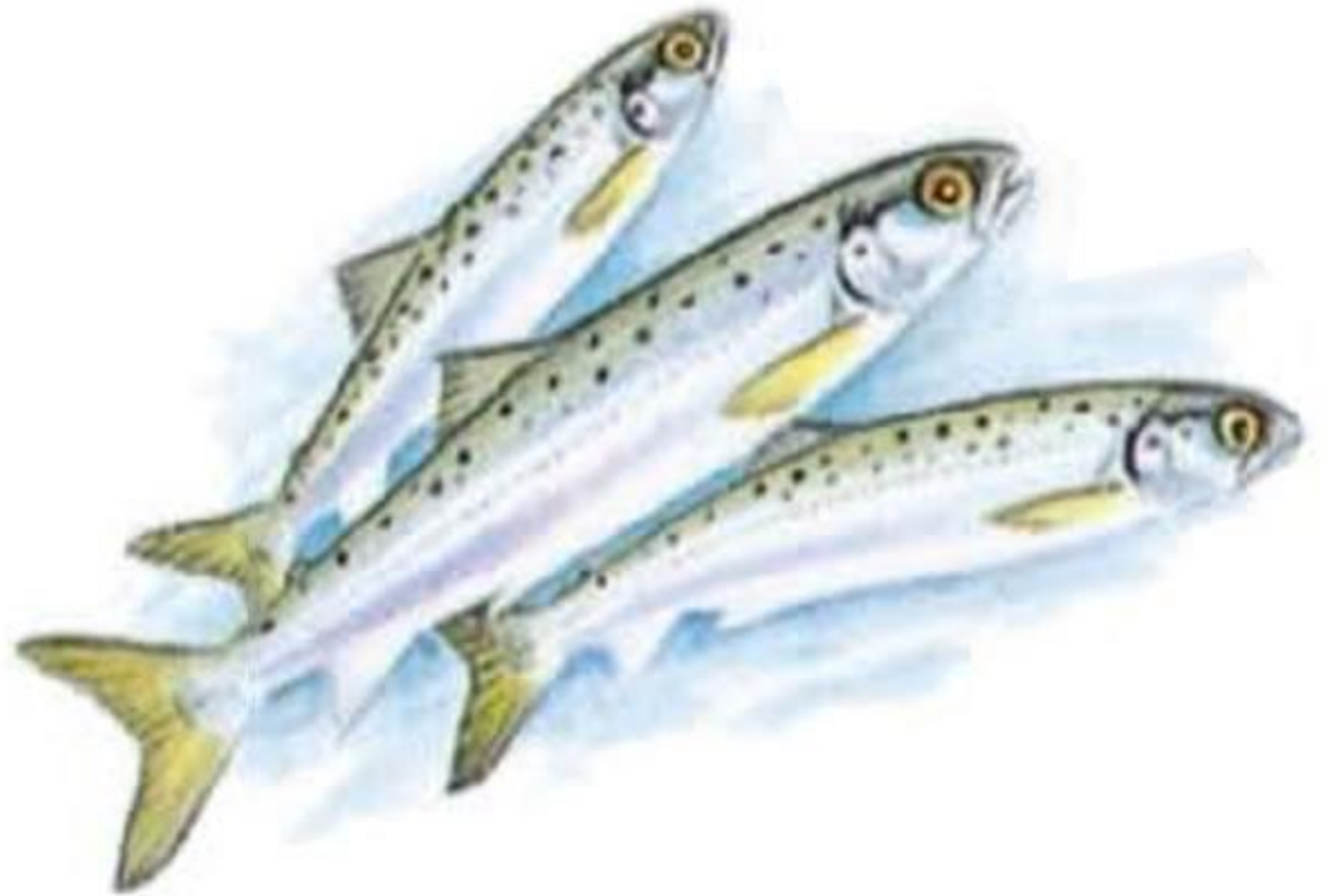




Many modern hatcheries do not actually 'hatch' anything at all

Is smolt stocking the
answer to Scotland's
declining salmon
runs?

It works in Iceland.....



The River Lochy SLICE-treated Smolt Programme 2009 to 2018

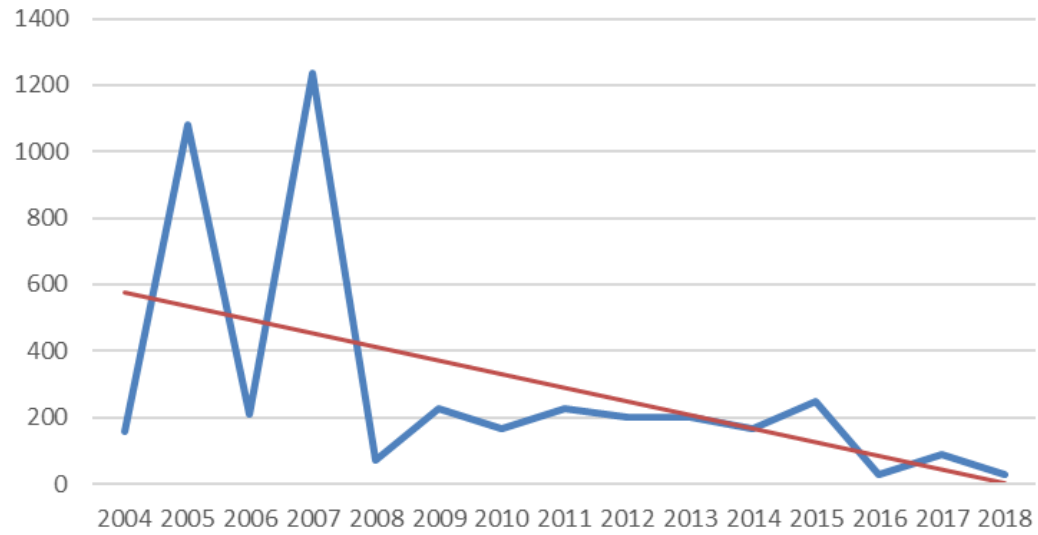


MOWI®

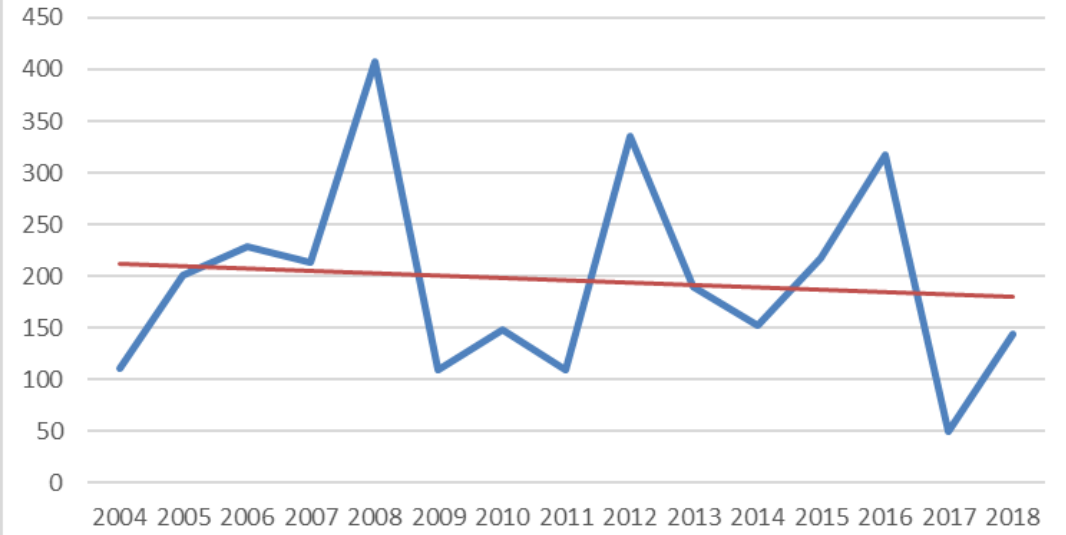


<u>SMOLT RELEASE YEAR/ Number</u>	<u>GRILSE CAUGHT</u>	<u>SALMON CAUGHT</u>	<u>TOTAL CAUGHT</u>	<u>ESTIMATED TOTAL HATCHERY RETURN</u>	<u>ESTIMATED MARINE SURVIVAL RATE</u>
2009 (18,000)	21	15	36	360	2%
2010 (18,000)	20	22	42	420	2.30%
2011 (pen sabotaged)	n/a	n/a	n/a	n/a	n/a
2012 (38,000)	34	13	47	470	1.20%
2013 (30,000)	10	20	30	300	1%
2014 (50,000)	30	48	78	780	1.60%
2015 (45,000)	1	1	2	20	0.04%
2016 (45,000)	4	15	19	190	0.42%
2017 (50,000)	0	due 2019			
2018 (50,000)	due 2019	due 2020			

1SW GRILSE

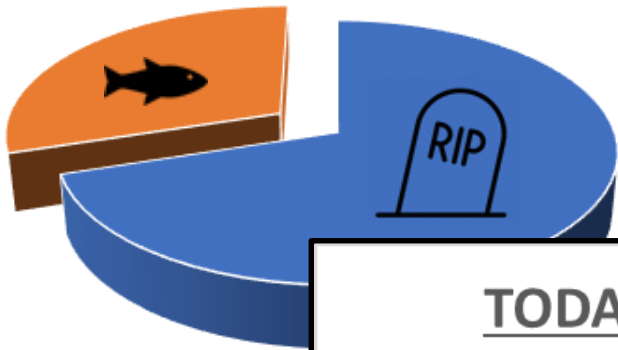


MSW SALMON

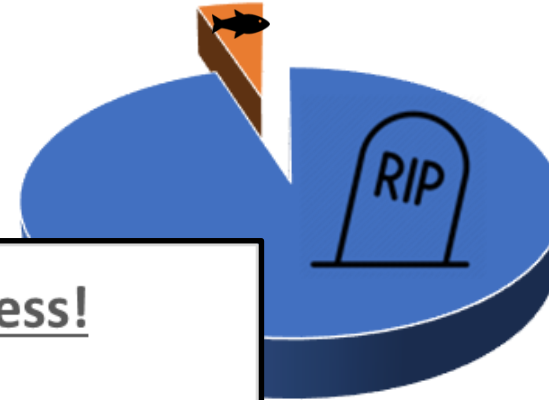


ESTIMATED SMOLT TO RETURNING ADULT MARINE SURVIVAL RATES

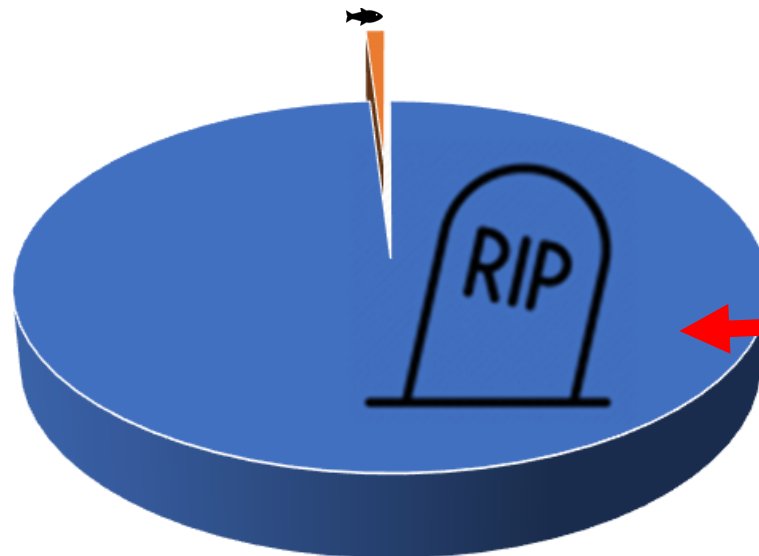
1970's to 1990's 30% survival



2000 to 2010 5% survival

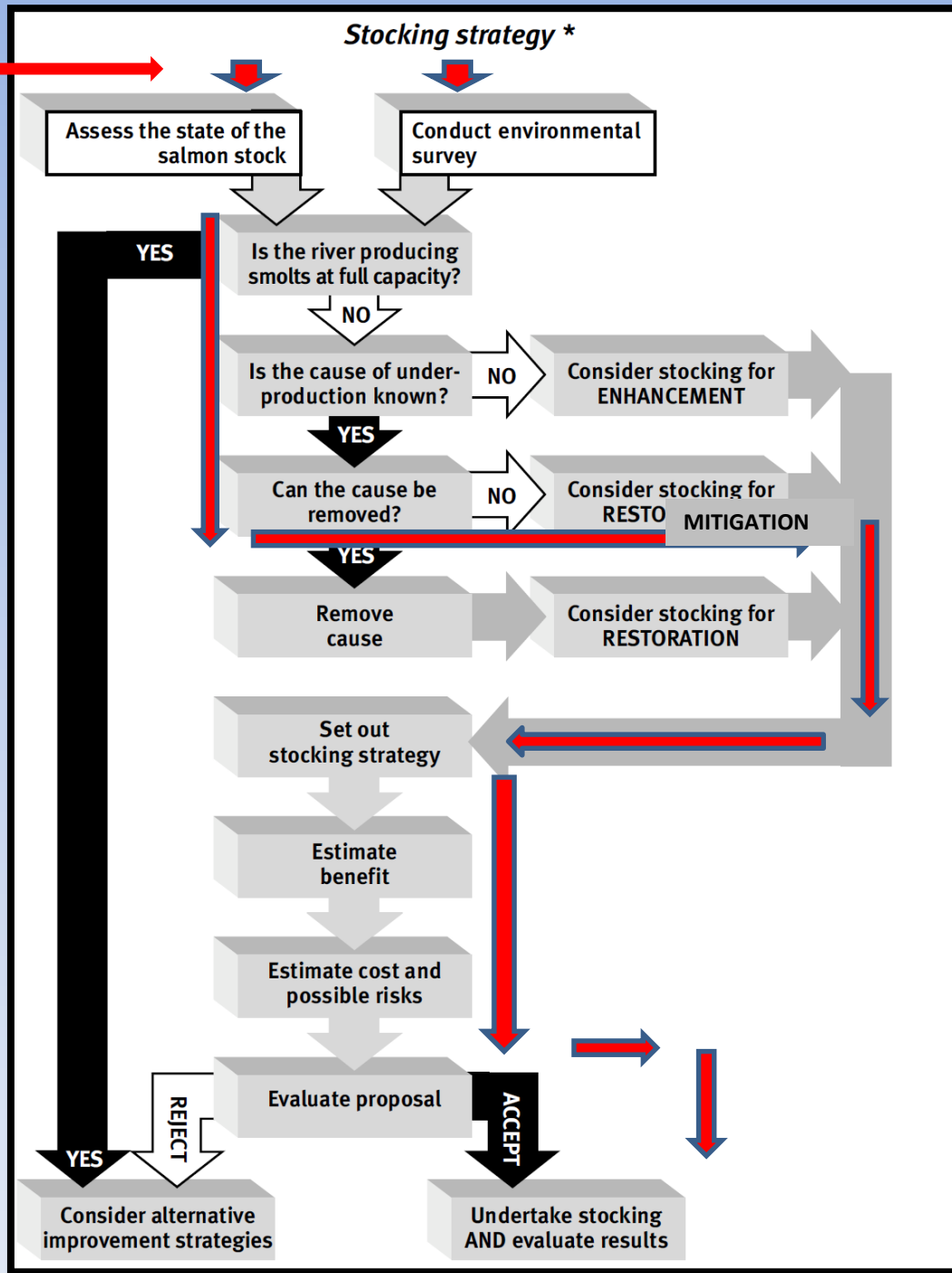


TODAY 2019 - perhaps 1% ..or less!

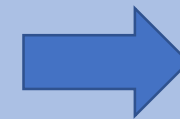
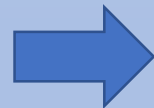
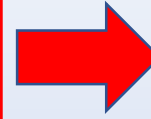
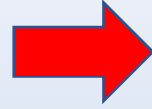


Breed from this 'doomed majority' to maintain juvenile numbers rather than remove adult broodstock from the wild

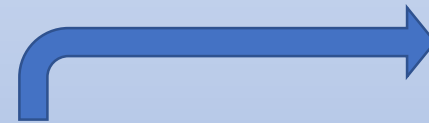
Lochy tributary project
- critical lack of adult
spawners due to low
marine survival



Standard artificial stocking
decision-making flowchart



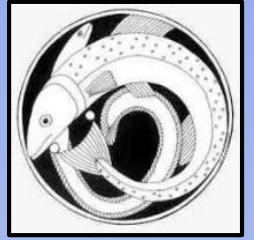
USING THE 'DOOMED MAJORITY': Two Approaches.



The Live Gene Bank



Lochaber Fisheries Trust



River Strontian Project

Captive indigenous broodstock reared from wild parr, full genetic screening, eyed ova stocking

