



A Recommended Addition to the 2023
Southern Rock Lobster (SRL)
Management Plan

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Introduction

The current SRL Management Plan manages SRL stock using a mixture of lagging (CPUE) and leading key indicators (PRI) and Egg Production. The plan adjusts total allowable catch based on these indicators. However puerulus settlement in Victoria from Victorian SRL's is probably minor and therefore reducing harvest rates may not achieve the rebuild strategy. In addition the rebuild could be at risk, from risks that have no relationship to the actual total catch.

This submission is aimed at adding to the management plan an **investigation and possible trial/s** into viable **intervention** methods to increase biomass in the future.

Brief History

“A primary strategy of the 2009 Fisheries Management Plan is to rebuild the available biomass in both zones to the target reference point of 40% of 1951 by 2021”.

Although this biomass rebuild strategy has not been achieved, fishery SCIENTISTS have studied potential intervention rebuild methods in the past.

Brief History

Declining Resource

Eastern Zone (1978 – 2022)

Western Zone (1978-2022)

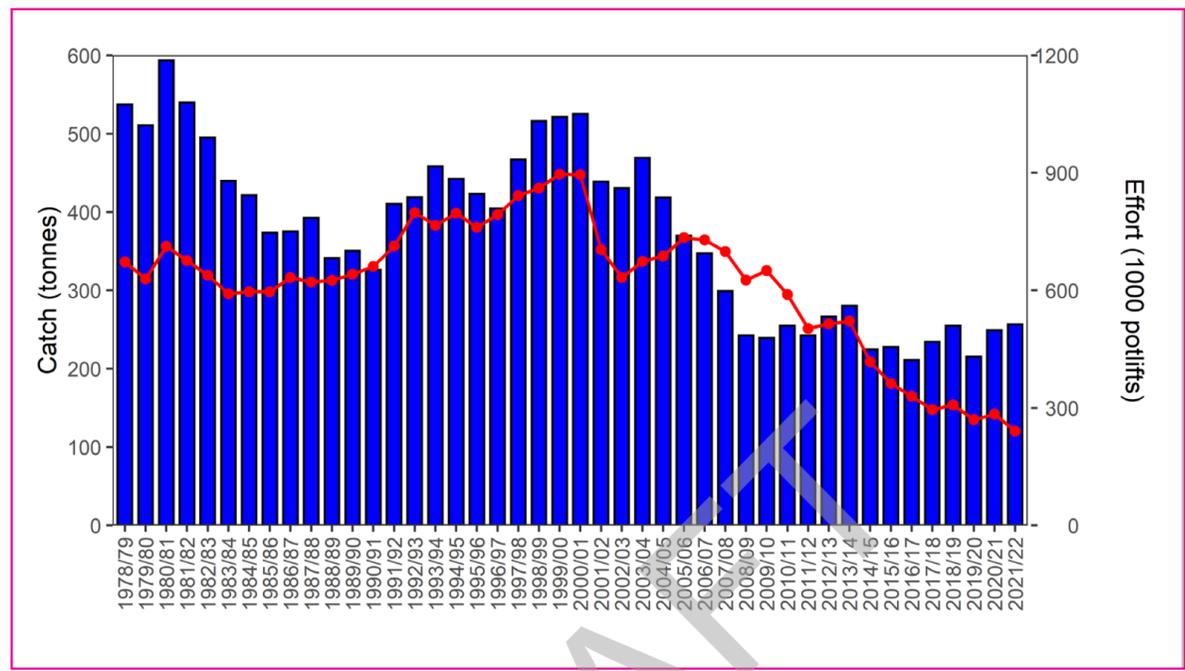
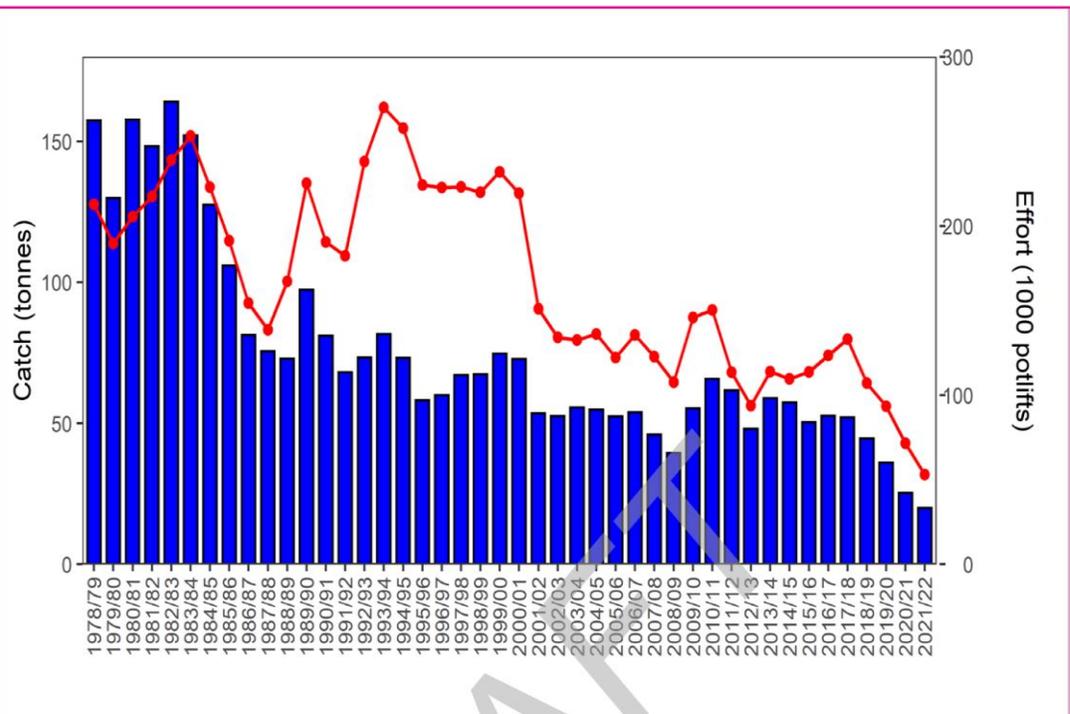


Figure 3. Total catch (tonnes) and unstandardised effort (x1000 pot lifts) in the Western Zone from 1978/79 to 2021/22.

Figure 6. Total catch (tonnes) and unstandardised effort (x1000 pot lifts) in the Eastern Zone from 1978/79 to 2021/22.

Known and Potential Risks

Climate Change

- Longer periods of warmer water.
- Potential change in upwellings
- Change in ocean currents

Loss of kelp forests

Low settlement in the eastern zone

Predators and Seismic Exploration

- SRL survival rate at say 2 to maturity per 500,000 eggs
- SRL and octopi kill rates of smaller SRL.
- Continued/increase in petroleum seismic exploration. (The Guardian 24 Aug 2022)

Minimal reef structures in Eastern Zone

Known and Potential Risks

Increased pressure on fishing resource's as Victoria and world population is increasing:

2023 – 6.6 Million

2035 – 8.4 Million (21%)

2050 – 10.3 Million (36%)

World population increasing to over 10.7 Billion by 2050:

2023 – 8.3 Billion

2050 - 9.7 Billion

2100 – 10.7 Billion

WWW.UN.ORG.global-Issues-population

Population increases can significantly increase SRL demand.

See appendix for other possible potential risks

Potential SRL Rebuild Intervention Methods

Below, are examples of intervention methods that may increase biomass that has been mentioned in literature, or proposed by others.

- Increase legal size limits for the TAC allowing more breeding cycles
- Capture, relocate and release of wild mature puerulus near their morphing phase.
- Hatching, growing and release of mature puerulus
- Relocation trials of undersize SRL,s
- Relocation of female SRL in berry allowing a higher egg release in stressed areas
- Commence farming trials as the technology is known

Conclusion

- There are known, part known and unknown risks impacting SRL.
- Human population increases present significant threats to many fish populations, but also terrific opportunities for superior “green” quality products both now and more so in the future.

However

- A science based viable intervention programme to support and fast track the SRL rebuild strategy has to be beneficial to all parties.

Recommendation

- VFA scientists conduct a review of viable intervention methods. This should be included in the 5 year SRL Management Plan

OR

be run as a separate programme

- Recommendations be presented to RAG with regular updates.
- If an intervention programme was shown to be viable this would be excellent insurance should the rebuild strategy fall behind the 5 year targets.

A Leading Target

- To set a leading target to achieve a TAC of 600 ton at the end of the 20 year rebuild period.

How would we do this?

Appendix

Other Potential Risks

Significant increase in marine traffic – personal observation when viewing the Marine Traffic App. over several years.

Chemical dump sites and other impacting puerulus chemical sensing. (LCEPC Inquiry into Ecosystem Decline in Victoria submission 661)

Decrease in krill /zooplankton levels. I.E. Factory ships harvesting krill. (Association of Responsible Krill Harvesting Companies).

Technology improvements:

- GPS Technology improvements
- 3-D mapping,
- live scan sonar and
- possible drone hunting/location technology.
- etc