

## Marine Reserves – More Fish for Everyone?

One of the arguments often put to support marine reserves is that they will result in “more fish for everyone”. This is not supported by analysis.

### Key features of New Zealand’s fisheries management regime:

- Fish stocks are managed in defined areas and catch limits are set for most species. The catch limits are set so fish stocks can be sustained.
- Catch limits have safeguards built into them. For instance, they are set at a level that ensures the productivity of the population is maintained (e.g. enough large fish to ensure sufficient egg production) and takes account of environmental factors that influence the fish population.
- This system means our fish populations are not subject to “over fishing” – unlike many other countries.

### What happens to fish populations when a marine reserve is established?

- Studies show that some species within a marine reserve become more abundant and larger than outside a marine reserve. This does not apply to all species – unless the closed area is very large, it will have no effect on very mobile fish.
- It is sometimes suggested that larger, more abundant fish inside a reserve will produce more eggs and that larvae will be transported outside the reserve, enhancing the surrounding fish population (a theory known as “larval export”).
- In reality, larval export only results in more fish outside the reserve if egg production is limiting the amount of fish available. Most fish species are highly fertile, producing many more eggs than needed to sustain the population. In most cases environmental conditions, not egg production, limit fish availability.
- The process for setting sustainable catch limits ensures that the spawning population and egg production do not limit the availability of fish.
- Larval export is therefore unlikely to result in “more fish for everyone” in New Zealand’s fisheries.

### What happens to fishing activity when a marine reserve is established?

- Fishers who previously fished in the area will stop fishing or will move to the reduced area outside the reserve still available for fishing.
- If fishers move, fishing activity will increase in the smaller area outside of the reserve;
- This is likely to lead to increased conflicts within and between different types of fishers (customary, commercial and recreational) and greater competition to catch fewer fish;
- This could ultimately result in the catch limits for the fishery being reduced – i.e. fewer fish for everyone.
- If fishers stop fishing, there will be social and economic costs for them and for their communities.

### What does the research say?

- Internationally, evidence that marine reserves benefit fisheries management when fishing effort is already controlled (e.g. through catch limits) is weak. In New Zealand, there have been no studies that demonstrate marine reserves create “more fish for everyone” outside the reserve boundary.