Shellogy:
Reading shells to empower reef scale management

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The Tyranny of Scale

Regional Scale of Management and Enforcement

Local Scale of Data Collection and Stock Assessment

The Challenge: Managing at the Scale of Functional Stocks requires Motivated Diver Behaviour

Emergence & Maturity
Shellogy:
Using morphometric markers to visually assess reefs

Shell Appearance:
1. Doming & rounding (Height : Length ratio) (Length : Width ratio)
2. Fouling & Erosion
3. Breeding scar

Re-deposition or ‘Stippling’
Directional Etching & Stippling

Infilling from Behind’
Haliotis rufescens
Small Fully Mature Shells
Shellogy

- Sub-adults grow mainly in length, shells are thin, flat and oval.
- Abalone take several years to completely mature and should be allowed several years of breeding with full adult potential.
- Fully mature abalone are thick, round, and bowl-like, with well developed scars.
- Harvested abalone should be rounded and domed regardless of size.
- Catches comprised mainly of flat, clean oval shells indicate insufficient breeding to sustain future production.
Rapid Assessment & Micro-Management
Estimating Maturity from Size of Emergence

The Average Size of Clean Flat Shells Indicates Size of Maturity
Estimating Maturity from Size of Emergence

Size of Maturity estimated from Size of Emergence

### On-board Catch Size Composition

<table>
<thead>
<tr>
<th>Sample</th>
<th>L50 (mm)</th>
<th>SPR 20%</th>
<th>L∞ (mm)</th>
<th>SPR</th>
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</table>

On-board Catch Size Composition

| L50 / L∞ | 0.6 |


