

Supplementary Information

Abundance of *Howea* palms (adults and juveniles) in randomly generated quadrats on Lord How Island

| | Number of quadrats | Percent |
|----------------------------|--------------------|---------|
| No palms | 26 | 32.9 |
| <i>H. belmoreana</i> only | 30 | 38.0 |
| <i>H. forsteriana</i> only | 12 | 15.2 |
| Both species | 11 | 13.9 |
| Total | 79 | 100.0 |

Presence absence data for adults and juveniles of *Howea* palms in quadrats

| | Juveniles present | Juveniles absent |
|-------------------------------------|-------------------|------------------|
| Quadrats with <i>H. belmoreana</i> | | |
| Adults present | 40 (98%) | 1 (2%) |
| Adults absent | 0 | 38 |
| Quadrats with <i>H. forsteriana</i> | | |
| Adults present | 16 (70%) | 7 (30%) |
| Adults absent | 1 | 54 |

Quadrats for population analysis (black circles on Fig. 1)

| Site | Longitude | Latitude | Altitude | Adult | Adult | Juveniles | Juveniles | soil pH | soil pH | soil pH | Average pH |
|------|-----------------|-----------------|----------|-------------|-------------|-------------|-------------|---------|---------|---------|------------|
| ID | Decimal degrees | Decimal degrees | (m) | <i>H.f.</i> | <i>H.b.</i> | <i>H.f.</i> | <i>H.b.</i> | 1 | 2 | 3 | |
| 1 | 159.061853 | -31.51336 | 140 | 0 | 0 | 0 | 0 | 7 | 7.5 | 8 | 7.5 |
| 2 | 159.04911 | -31.514547 | 100 | 0 | 87 | 0 | 74 | 6 | 6.5 | 6.5 | 6.3 |
| 4 | 159.057674 | -31.516249 | 85 | 0 | 0 | 0 | 0 | 7 | 7 | 6 | 6.7 |
| 5 | 159.060686 | -31.516617 | 70 | 0 | 0 | 0 | 0 | 7 | 7 | 7.5 | 7.2 |
| 6 | 159.04076 | -31.517527 | 10 | 16 | 0 | 14 | 0 | 7 | 7.5 | 7.5 | 7.3 |
| 7 | 159.040223 | -31.51797 | 30 | 0 | 0 | 0 | 0 | 7 | 7 | 7 | 7.0 |
| 10 | 159.039518 | -31.520226 | 100 | 0 | 0 | 0 | 0 | 6 | 6 | 5.5 | 5.8 |
| 19 | 159.071057 | -31.525039 | 50 | 3 | 0 | 17 | 0 | 9 | 9 | 9 | 9.0 |
| 20 | 159.073227 | -31.526066 | 40 | 56 | 0 | 63 | 0 | 9 | 9 | 8.5 | 8.8 |
| 25 | 159.077527 | -31.529086 | 40 | 51 | 0 | 612 | 0 | 8.5 | 8.5 | 8.5 | 8.5 |
| 26 | 159.072724 | -31.529982 | 30 | 1 | 82 | 0 | 73 | 6 | 6 | 7 | 6.3 |
| 27 | 159.073388 | -31.530262 | 30 | 10 | 3 | 8 | 4 | 6 | 6 | 6 | 6.0 |
| 32 | 159.073801 | -31.533473 | 50 | 105 | 0 | 42 | 0 | 9 | 9 | 9 | 9.0 |
| 33 | 159.074529 | -31.533915 | 60 | 40 | 6 | 38 | 18 | 8.5 | 8.5 | 8.5 | 8.5 |
| 35 | 159.075468 | -31.536089 | 25 | 80 | 0 | 153 | 0 | 9 | 9 | 9 | 9.0 |
| 44 | 159.08304 | -31.546226 | 140 | 0 | 7 | 0 | 54 | 6 | 6 | 5.5 | 5.8 |

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|----|------------|------------|-----|---|-----|---|-----|-----|-----|-----|-----|
| 46 | 159.07908 | -31.547121 | 40 | 0 | 13 | 0 | 24 | 6.5 | 7 | 7 | 6.8 |
| 50 | 159.09201 | -31.55009 | 150 | 0 | 0 | 0 | 0 | 6 | 6 | 6 | 6.0 |
| 51 | 159.079978 | -31.550712 | 40 | 7 | 16 | 1 | 24 | 6 | 6.5 | 6.5 | 6.3 |
| 53 | 159.091255 | -31.553456 | 80 | 0 | 18 | 0 | 22 | 6 | 6 | 6 | 6.0 |
| 54 | 159.080339 | -31.553896 | 45 | 0 | 0 | 0 | 0 | 6 | 6 | 5.5 | 5.8 |
| 55 | 159.090086 | -31.554124 | 70 | 0 | 0 | 0 | 0 | 5.5 | 5.5 | 6 | 5.7 |
| 57 | 159.08937 | -31.554856 | 80 | 0 | 35 | 0 | 44 | 6 | 6 | 7 | 6.3 |
| 59 | 159.092722 | -31.556216 | 70 | 0 | 17 | 0 | 89 | 6 | 6 | 6 | 6.0 |
| 62 | 159.091163 | -31.556866 | 100 | 0 | 99 | 0 | 158 | 6 | 6 | 6 | 6.0 |
| 63 | 159.096137 | -31.557197 | 60 | 6 | 59 | 5 | 145 | 6 | 6 | 5.5 | 5.8 |
| 64 | 159.087592 | -31.557519 | 120 | 0 | 36 | 0 | 48 | 6.5 | 7.5 | 7.5 | 7.2 |
| 65 | 159.07812 | -31.557795 | 60 | 0 | 41 | 0 | 84 | 6.5 | 6.5 | 7 | 6.7 |
| 66 | 159.080796 | -31.55829 | 150 | 0 | 72 | 0 | 141 | 6 | 6 | 5.5 | 5.8 |
| 67 | 159.08164 | -31.559643 | 180 | 0 | 46 | 0 | 97 | 6.5 | 7 | 7 | 6.8 |
| 68 | 159.090376 | -31.560476 | 220 | 0 | 85 | 0 | 128 | 8 | 7.5 | 7 | 7.5 |
| 69 | 159.099681 | -31.560659 | 80 | 0 | 17 | 0 | 159 | 6 | 6 | 6 | 6.0 |
| 70 | 159.09573 | -31.560869 | 65 | 0 | 55 | 0 | 40 | 6 | 6 | 6 | 6.0 |
| 71 | 159.09337 | -31.561475 | 160 | 0 | 104 | 0 | 152 | 7 | 7 | 7 | 7.0 |
| 72 | 159.097881 | -31.562961 | 70 | 1 | 53 | 0 | 107 | 6 | 6 | 6 | 6.0 |

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|-----|-------------|--------------|-----|----|----|-----|-----|-----|-----|-----|-----|
| 77 | 159.052179 | -31.51507 | 180 | 0 | 0 | 0 | 0 | 6 | 6 | 6 | 6.0 |
| 78 | 159.097579 | -31.561678 | 20 | 0 | 0 | 0 | 0 | | | | |
| 79 | 159.079293 | -31.529292 | 30 | 8 | 0 | 0 | 0 | 9 | 9 | 8.5 | 8.8 |
| 80 | 159.08832 | -31.54798 | 105 | 0 | 0 | 0 | 0 | 7 | 7 | 7 | 7.0 |
| 83 | 159.095784 | -31.553962 | 20 | 0 | 0 | 0 | 0 | 6 | 6 | 7 | 6.3 |
| 85 | 159.046044 | -31.515471 | 150 | 0 | 0 | 0 | 0 | 7.5 | 6.5 | 6 | 6.7 |
| 86 | 159.090807 | -31.549109 | 95 | 47 | 12 | 34 | 14 | 6.5 | 7 | 7 | 6.8 |
| 88 | 159.071677 | -31.523642 | 50 | 0 | 0 | 3 | 0 | 9 | 9 | 9 | 9.0 |
| 89 | 159.0814576 | -31.55537529 | 90 | 0 | 3 | 0 | 1 | 6 | 6 | 6 | 6.0 |
| 92 | 159.0758544 | -31.53205569 | 70 | 64 | 0 | 124 | 0 | 9 | 9 | 9 | 9.0 |
| 97 | 159.0893836 | -31.55812184 | 150 | 0 | 53 | 0 | 136 | 6 | 6 | 6 | 6.0 |
| 99 | 159.0856608 | -31.55449737 | 80 | 8 | 36 | 0 | 24 | 7.5 | 7.5 | 7.5 | 7.5 |
| 100 | 159.041465 | -31.521859 | 35 | 0 | 0 | 0 | 0 | 7 | 7 | 7.5 | 7.2 |
| 101 | 159.0430756 | -31.51481993 | 20 | 0 | 0 | 0 | 0 | 7 | 7.5 | 7.5 | 7.3 |
| 104 | 159.0930463 | -31.55394184 | 45 | 0 | 52 | 0 | 64 | 5.5 | 6 | 6 | 5.8 |
| 106 | 159.102554 | -31.564002 | 30 | 0 | 0 | 0 | 0 | 6 | 6 | 7 | 6.3 |
| 107 | 159.0507049 | -31.52249528 | 1 | 0 | 0 | 0 | 0 | 7 | 7.5 | 7.5 | 7.3 |
| 108 | 159.0789869 | -31.56180082 | 110 | 0 | 74 | 0 | 47 | 8.5 | 7 | 7.5 | 7.7 |
| 110 | 159.0492276 | -31.51747935 | 85 | 0 | 0 | 0 | 0 | 7.5 | 7.5 | 7 | 7.3 |

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|-----|-------------|--------------|-----|----|----|----|-----|-----|-----|-----|-----|
| 111 | 159.1025783 | -31.56055702 | 40 | 0 | 0 | 0 | 0 | 7 | 7 | 7.5 | 7.2 |
| 114 | 159.041462 | -31.515539 | 75 | 0 | 0 | 0 | 0 | 7.5 | 7.5 | 7.5 | 7.5 |
| 118 | 159.092126 | -31.547911 | 60 | 11 | 56 | 23 | 72 | 6 | 6 | 6 | 6.0 |
| 119 | 159.0588423 | -31.51549034 | 60 | 0 | 0 | 0 | 0 | 7.5 | 7.5 | 7.5 | 7.5 |
| 120 | 159.0793078 | -31.5549977 | 30 | 0 | 39 | 0 | 72 | 6.5 | 6.5 | 7 | 6.7 |
| 121 | 159.062043 | -31.518258 | 60 | 0 | 0 | 0 | 0 | 7 | 7.5 | 7.5 | 7.3 |
| 126 | 159.054896 | -31.51447 | 55 | 0 | 11 | 0 | 5 | 6 | 7 | 7.5 | 6.8 |
| 127 | 159.0861749 | -31.55215119 | 90 | 0 | 49 | 0 | 99 | 7 | 7 | 7.5 | 7.2 |
| 129 | 159.0829156 | -31.55993971 | 230 | 0 | 52 | 0 | 128 | 5.5 | 6 | 6 | 5.8 |
| 130 | 159.083646 | -31.55181002 | 40 | 5 | 5 | 8 | 4 | 6.5 | 6.5 | 7.5 | 6.8 |
| 132 | 159.0808716 | -31.54788704 | 90 | 0 | 8 | 0 | 35 | 7.5 | 7 | 6 | 6.8 |
| 133 | 159.0764059 | -31.56256027 | 20 | 4 | 0 | 0 | 0 | 6 | 6 | 7.5 | 6.5 |
| 134 | 159.081946 | -31.543594 | 35 | 1 | 2 | 6 | 3 | 8 | 8 | 8 | 8.0 |
| 136 | 159.0871929 | -31.55913387 | 200 | 0 | 96 | 0 | 68 | 6 | 6 | 6 | 6.0 |
| 137 | 159.0948425 | -31.55890286 | 60 | 0 | 40 | 0 | 116 | 6 | 6 | 6 | 6.0 |
| 138 | 159.1007803 | -31.56405915 | 40 | 0 | 0 | 0 | 0 | 6 | 6.5 | 7 | 6.5 |
| 140 | 159.0790159 | -31.53370489 | 95 | 0 | 66 | 0 | 144 | 7 | 7 | 7 | 7.0 |
| 143 | 159.0783286 | -31.53060158 | 110 | 0 | 0 | 0 | 0 | 7 | 7 | 6.5 | 6.8 |
| 147 | 159.0904219 | -31.5748938 | 135 | 0 | 30 | 0 | 8 | 6.5 | 7 | 7 | 6.8 |

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|-----|-------------|--------------|-----|---|----|---|----|-----|-----|---|-----|
| 174 | 159.0921243 | -31.57000243 | 110 | 0 | 17 | 0 | 26 | 5.5 | 6 | 6 | 5.8 |
| 179 | 159.0957758 | -31.56484795 | 160 | 1 | 0 | 0 | 0 | 7.5 | 7.5 | 7 | 7.3 |
| 181 | 159.0940734 | -31.56956794 | 45 | 1 | 0 | 0 | 0 | 6 | 6.5 | 7 | 6.5 |
| 192 | 159.0923069 | -31.57343984 | 80 | 0 | 4 | 0 | 0 | 6 | 6 | 7 | 6.3 |
| 193 | 159.0818785 | -31.57887844 | 80 | 0 | 0 | 0 | 0 | - | - | - | - |
| 218 | 159.0755759 | -31.59174826 | 90 | 0 | 0 | 0 | 0 | - | - | - | - |