

Trends in policing effort and the number of confiscations for West Coast rock lobster on a Super-area basis

A. Brandão, S. Johnston and D. Butterworth

Introduction

The same procedure as in Brandão *et al.* (2011) to obtain overall annual rates of increase in number of confiscations (plus abandonments) and in policing effort is repeated in this paper but with the data disaggregated by super-area. These disaggregated data are reported in the Appendix.

The number of confiscations allocated to Super-area 1+2 are very sparse rendering the result from the GLM analyses meaningless. Some of the policing indices for this Super-area also had too few data and could not be sensibly be included in the GLM. Given these problems, no results are presented for this region.

Results

Tables 1-3 shows the parameter estimates for the GLMs fitted to the policing effort data and to the number of confiscations for super-area 3+4, 5+6 and 8+ respectively.

For policing effort, whether a linear or nonlinear function is assumed over time, a positive trend is evident (Tables 1 and 3 and Figures 1 and 2) for super-areas 3+4 and 5+6, but a slight decreasing trend in super-area 8+ (Table 3 and Figure 3) .

For the number of confiscations, the opposite trend to policing effort is evident for the different super-areas, whether a linear or nonlinear function is assumed over time, although there is a maximum in 2010 (Table 1 and Figure 1) for super-area 3+4.

Thus, the instantaneous annual rates of increase obtained from the linear GLM for super-area 3+4 are:

Confiscations: -59.5% (s.e. = 34.6%)

Policing effort: 44.4% (s.e. = 11.5%)

Together these suggested that removals from poaching have been decreasing at an instantaneous rate of 103.9% p.a. (s.e.=36.4%) over the last three years. This corresponds to a net decrease of 64.6% over one year, or 87.5% over two.

For super-area 5+6 these are:

Confiscations: -25.3% (s.e. = 44.6%)

Policing effort: 45.0% (s.e. = 7.3%)

Together these suggested that removals from poaching have been decreasing at an instantaneous rate of 70.4% p.a. (s.e.=45.2%) over the last three years. This corresponds to a net decrease of 50.5% over one year, or 75.5% over two.

For super-area 8+ these are:

Confiscations: 25.6% (s.e. = 19.2%)

Policing effort: -5.5% (s.e. = 3.8%)

Together these suggested that removals from poaching have been increasing at an instantaneous rate of 31% p.a. (s.e.=19.6%) over the last three years. This corresponds to a net increase of 36.4% over one year, or 86.1% over two.

Figures 1 to 3 also show the ratio of confiscations (plus abandonments) to policing effort for the different super-areas, corresponding to indices of the amount of abalone poached. Super-area 5+6 show a decreasing trend in poaching, while super-area 8+ shows an increasing trend, and the trend for super-area 3+4 depends on the method used. Table 4 gives the percentage change in the poaching level over two years for the continuous time model and the percentage change from 2009 to the average of 2010 and 2011 for the poaching indices for the discrete time model.

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Reference

Brandão, A., Johnston, S.J. and Butterworth, D.S. 2011. Trends in policing effort and the number of confiscations for West Coast rock lobster. Fisheries/2011/JUN/SWG-WCRL/32.

Table 1. GLM parameter/coefficient (and standard error) estimates for super-area 3+4.

| | Policing effort (year factor) | Policing effort (linear) | Confiscations (year factor) | Confiscations (linear) |
|-------------------------------|--|-------------------------------------|--|-----------------------------------|
| January | -0.488 ((0.248) | 0.053 (0.204) | 0.257 (0.506) | 0.196 (0.885) |
| February | -0.653 (0.255) | -0.150 (0.213) | 0.896 (0.451) | 0.884 (0.783) |
| March | -0.930 (0.269) | -0.464 (0.231) | 2.129 (0.402) | 2.167 (0.694) |
| April | -0.633 (0.247) | -0.337 (0.261) | 0.848 (0.430) | 0.451 (0.808) |
| May | -1.004 (0.280) | -0.745 (0.292) | -3.520 (2.120) | -3.870 (3.830) |
| June | -1.546 (0.346) | -1.324 (0.356) | -3.270 (1.880) | -3.570 (3.390) |
| July | -1.030 (0.283) | -0.845 (0.291) | -2.510 (1.310) | -2.750 (2.370) |
| August | -1.033 (0.283) | -0.885 (0.290) | -0.296 (0.551) | -0.494 (0.996) |
| September | -1.249 (0.307) | -1.139 (0.313) | -4.770 (3.930) | -4.920 (6.980) |
| October | -1.068 (0.287) | -0.994 (0.291) | -2.690 (1.430) | -2.790 (2.580) |
| November | -0.425 (0.231) | -0.388 (0.234) | -1.830 (0.967) | -1.880 (1.740) |
| December | 0 | 0 | 0 | 0 |
| Time (yr⁻¹) | — | 0.444 (0.115) | — | -0.595 (0.346) |
| 2008 | — | — | — | — |
| 2009 | -0.230 (0.144) | — | -0.876 (0.374) | — |
| 2010 | 0 | — | 0 | — |
| 2011 | 0.787 (0.190) | — | -1.316 (0.267) | — |
| coastal | 0.572 (0.305) | 0.572 (0.310) | — | — |
| FPE | -3.184 (0.335) | -3.184 (0.340) | — | — |
| permits | 1.099 (0.323) | 1.099 (0.327) | — | — |
| restaurant | -2.548 (0.368) | -2.548 (0.373) | — | — |
| road | -3.157 (0.346) | -3.157 (0.352) | — | — |
| sea | -4.465 (0.467) | -4.465 (0.473) | — | — |
| slipway | 0.542 (0.308) | 0.542 (0.313) | — | — |
| vehicles | 0 | 0 | — | — |

Table 2. GLM parameter/coefficient (and standard error) estimates for super-area 5+6.

| | Policing effort (year factor) | Policing effort (linear) | Confiscations (year factor) | Confiscations (linear) |
|-------------------------------|--|-------------------------------------|--|-----------------------------------|
| January | -0.674 (0.209) | 0.025 (0.174) | 1.680 (1.150) | 1.389 (0.981) |
| February | -1.321 (0.237) | -0.660 (0.208) | 1.080 (1.220) | 0.800 (1.060) |
| March | -0.761 (0.212) | -0.138 (0.178) | 1.160 (1.210) | 0.910 (1.050) |
| April | 0.136 (0.165) | 0.437 (0.177) | 1.020 (1.050) | 0.850 (1.060) |
| May | 0.141 (0.165) | 0.403 (0.175) | 0.890 (1.070) | 0.750 (1.070) |
| June | -0.175 (0.179) | 0.050 (0.188) | -6.400 (22.0) | -6.500 (21.30) |
| July | 0.167 (0.164) | 0.355 (0.172) | -3.720 (5.870) | -3.820 (5.690) |
| August | 0.266 (0.160) | 0.416 (0.167) | -2.730 (3.640) | -2.810 (3.540) |
| September | -0.425 (0.192) | -0.313 (0.199) | -3.870 (6.310) | -3.930 (6.130) |
| October | 0.270 (0.160) | 0.345 (0.166) | -0.620 (1.530) | -0.660 (1.480) |
| November | 0.126 (0.166) | 0.163 (0.171) | -1.080 (1.790) | -1.100 (1.7400) |
| December | 0 | 0 | 0 | 0 |
| Time (yr⁻¹) | — | 0.450 (0.073) | — | -0.253 (0.446) |
| 2008 | — | — | — | — |
| 2009 | -0.327 (0.079) | — | 0.555 (0.698) | — |
| 2010 | 0 | — | 0 | — |
| 2011 | 0.953 (0.167) | — | -0.003 (0.623) | — |
| coastal | -0.582 (0.239) | -0.582 (0.246) | — | — |
| FPE | -2.348 (0.232) | -2.348 (0.239) | — | — |
| permits | -0.036 (0.249) | -0.036 (0.257) | — | — |
| restaurant | -2.252 (0.237) | -2.252 (0.245) | — | — |
| road | -3.346 (0.292) | -3.346 (0.301) | — | — |
| sea | -4.475 (0.322) | -4.475 (0.333) | — | — |
| slipway | -0.305 (0.237) | -0.305 (0.244) | — | — |
| vehicles | 0 | 0 | — | — |

Table 3. GLM parameter/coefficient (and standard error) estimates for super-area 8+.

| | Policing effort (year factor) | Policing effort (linear) | Confiscations (year factor) | Confiscations (linear) |
|-------------------------------|--|-------------------------------------|--|-----------------------------------|
| January | 0.388 (0.153) | 0.328 (0.146) | -0.660 (1.180) | -0.570 (1.150) |
| February | 0.227 (0.158) | 0.173 (0.152) | 1.971 (0.775) | 2.036 (0.740) |
| March | 0.017 (0.165) | -0.033 (0.160) | -0.008 (0.992) | 0.036 (0.963) |
| April | -0.065 (0.160) | -0.101 (0.162) | 1.010 (0.818) | 1.180 (0.824) |
| May | 0.021 (0.156) | -0.011 (0.158) | -0.140 (1.030) | 0.010 (1.030) |
| June | 0.117 (0.153) | 0.090 (0.154) | 1.160 (0.803) | 1.288 (0.804) |
| July | 0.336 (0.145) | 0.314 (0.147) | -1.240 (1.480) | -1.130 (1.470) |
| August | 0.221 (0.149) | 0.203 (0.150) | -1.620 (1.720) | -1.540 (1.720) |
| September | -0.136 (0.163) | -0.150 (0.163) | -0.830 (1.270) | -0.770 (1.270) |
| October | 0.022 (0.156) | 0.013 (0.157) | -0.450 (1.120) | -0.400 (1.120) |
| November | 0.001 (0.157) | -0.003 (0.158) | 0.355 (0.914) | 0.377 (0.909) |
| December | 0 | 0 | 0 | 0 |
| | | | | |
| Time (yr⁻¹) | — | -0.055 (0.038) | — | 0.256 (0.192) |
| | | | | |
| 2008 | 0.050 (0.086) | — | -0.481 (0.487) | — |
| 2009 | 0.122 (0.074) | — | -0.705 (0.401) | — |
| 2010 | 0 | — | 0 | — |
| 2011 | -0.158 (0.137) | — | -0.153 (0.487) | — |
| | | | | |
| coastal | 0.366 (0.104) | 0.366 (0.105) | — | — |
| FPE | -3.245 (0.113) | -3.245 (0.113) | — | — |
| permits | 0.551 (0.114) | 0.551 (0.114) | — | — |
| restaurant | -2.158 (0.107) | -2.158 (0.108) | — | — |
| road | -3.726 (0.194) | -3.726 (0.195) | — | — |
| sea | -4.949 (0.176) | -4.949 (0.176) | — | — |
| slipway | -0.037 (0.100) | -0.037 (0.100) | — | — |
| vehicles | 0 | 0 | — | — |

Table 4. Summary of two year change in poaching levels (and 95% confidence intervals) for the continuous log-linear model and the percentage change from 2009 to the average of 2010 and 2011 for the poaching indices for the discrete year factor model.

| Area | Continuous linear trend | Discrete year factor |
|-----------------------|--------------------------------|-----------------------------|
| All areas | 100.6% (-24.9%; 436%) | 388.3% |
| Super-area 3+4 | -87.5% (-47.8%; -97.0%) | 7.1% |
| Super-area 5+6 | -75.5% (-95.8%; 44.1%) | -71.4% |
| Super-area8+ | 86.1 % (-13.6%; 301%) | 129.2% |

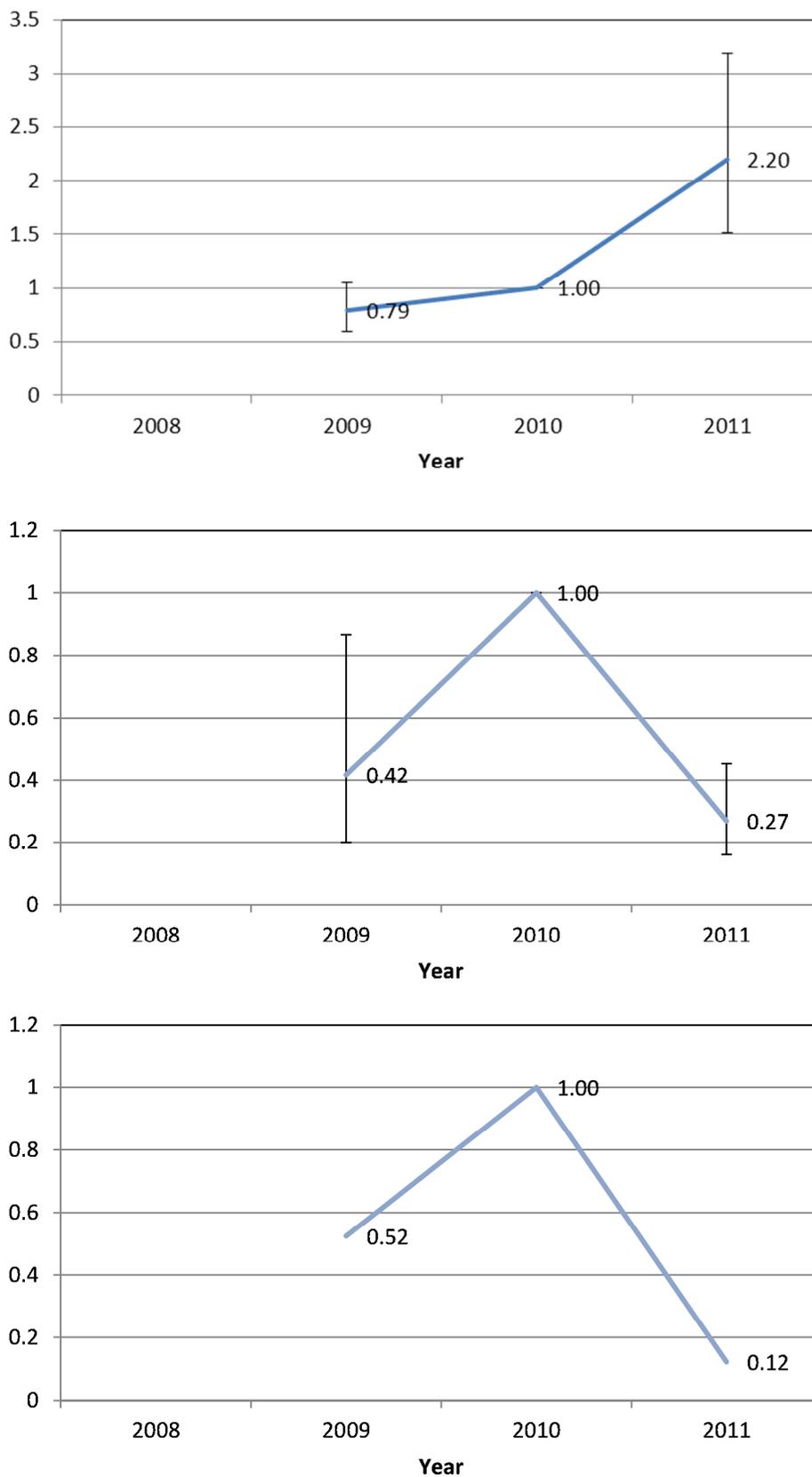


Figure 1. Year effect (together with 95% confidence limits) for policing effort (top), the number of confiscations plus abandonments (middle) and the ratio of the number of confiscations plus abandonments to policing effort for super-area 3+4.

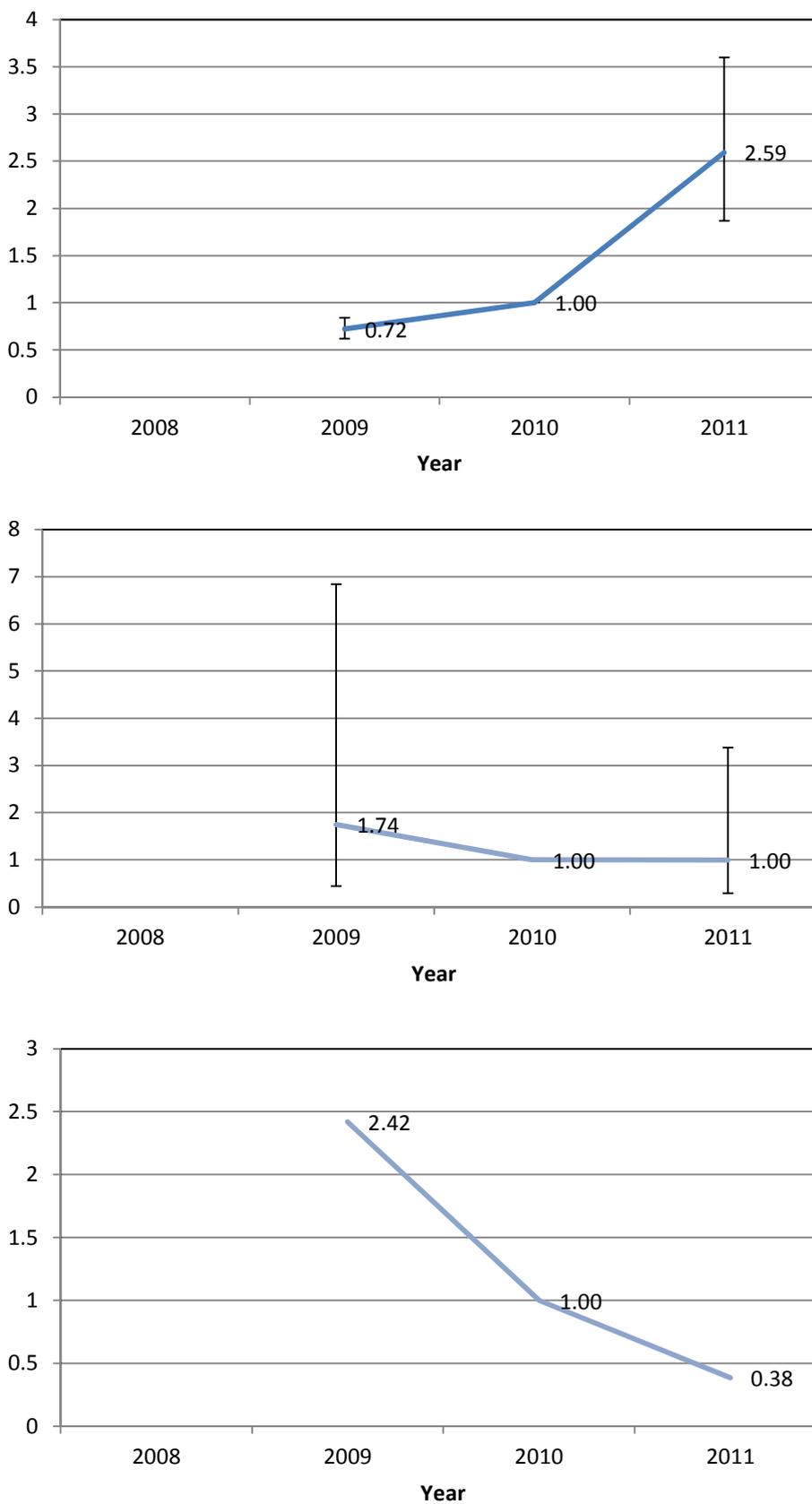


Figure 2. Year effect (together with 95% confidence limits) for policing effort (top), the number of confiscations plus abandonments (middle) and the ratio of the number of confiscations plus abandonments to policing effort for super-area 5+6.

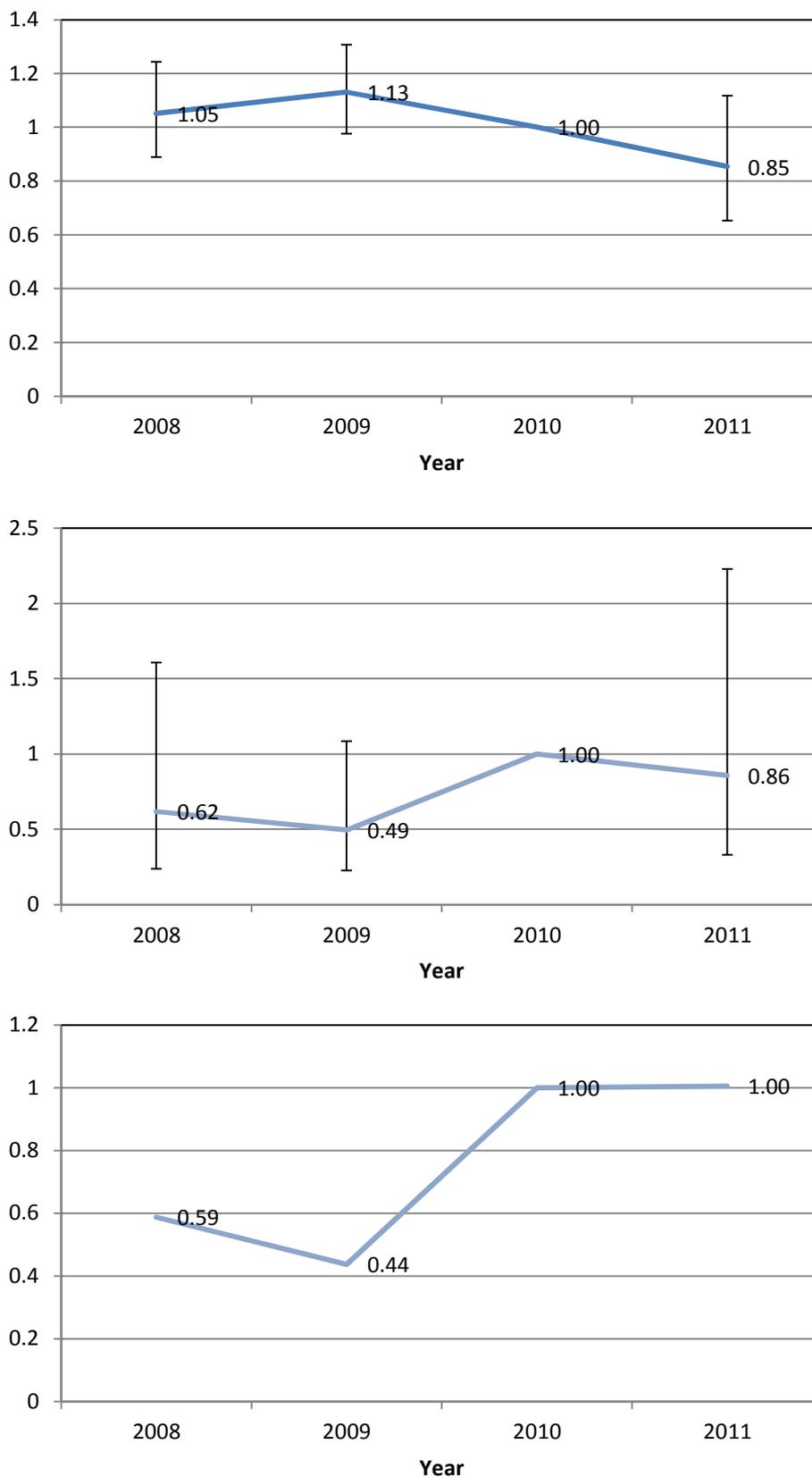


Figure 3. Year effect (together with 95% confidence limits) for policing effort (top), the number of confiscations plus abandonments (middle) and the ratio of the number of confiscations plus abandonments to policing effort for super-area 8+.

Appendix: West Coast rock lobster confiscations and policing effort data by month and super-area.

Table A1: Confiscations (confiscations+abandonments) by month and super-area.

| Year | Month | Area 1+2 | Area 3+4 | Area 5+6 | Area 8+ |
|------|-----------|----------|----------|----------|---------|
| 2008 | April | | | | 507 |
| 2008 | May | | | | 217 |
| 2008 | June | | | | 1510 |
| 2008 | July | | | | 14 |
| 2008 | August | | | | 46 |
| 2008 | September | | | | 493 |
| 2008 | October | | | | 513 |
| 2008 | November | | | | 60 |
| 2008 | December | | | | 392 |
| 2009 | January | | | | 269 |
| 2009 | February | | | | 277.1 |
| 2009 | March | | | | 825 |
| 2009 | April | 0 | 1168 | 6019 | 334 |
| 2009 | May | 0 | 42 | 8621 | 288 |
| 2009 | June | 0 | 38 | 6 | 2074 |
| 2009 | July | 0 | 81 | 9 | 304 |
| 2009 | August | 0 | 112 | 4 | 186 |
| 2009 | September | 0 | 0 | 24 | 0 |
| 2009 | October | 25 | 35 | 1177 | 8 |
| 2009 | November | 4 | 170 | 358 | 609 |
| 2009 | December | 11 | 219 | 33 | 242 |
| 2010 | January | 31 | 1347 | 8584 | 112 |
| 2010 | February | 0 | 2999 | 1 | 5517 |
| 2010 | March | 0 | 7841 | 6308 | 300 |
| 2010 | April | 0 | 2151 | 3826 | 2421 |
| 2010 | May | 0 | 0 | 54 | 527 |
| 2010 | June | 0 | 16 | 0 | 207 |
| 2010 | July | 0 | 35 | 77 | 26 |
| 2010 | August | 0 | 945 | 228 | 3 |
| 2010 | September | 0 | 12 | 50 | 24 |
| 2010 | October | 0 | 61 | 731 | 240 |
| 2010 | November | 0 | 58 | 845 | 1026 |
| 2010 | December | 0 | 1202 | 3514 | 554 |
| 2011 | January | 0 | 298 | 5342 | 302 |
| 2011 | February | 0 | 117 | 7589 | 3702 |
| 2011 | March | 105 | 2854 | 1924 | 188 |

Table A2: Policing effort by vehicles inspected by month and super-area.

| Year | Month | Area 1+2 | Area 3+4 | Area 5+6 | Area 8+ |
|------|-----------|----------|----------|----------|---------|
| 2008 | April | | | | 419 |
| 2008 | May | | | | 409 |
| 2008 | June | | | | 349 |
| 2008 | July | | | | 407 |
| 2008 | August | | | | 342 |
| 2008 | September | | | | 230 |
| 2008 | October | | | | 378 |
| 2008 | November | | | | 265 |
| 2008 | December | | | | 380 |
| 2009 | January | | | | 464 |
| 2009 | February | | | | 351 |
| 2009 | March | | | | 434 |
| 2009 | April | 23 | 129 | 1027 | 306 |
| 2009 | May | 26 | 17 | 996 | 154 |
| 2009 | June | 32 | 3 | 65 | 264 |
| 2009 | July | 12 | 2 | 18 | 191 |
| 2009 | August | 12 | 35 | 509 | 302 |
| 2009 | September | 0 | 2 | 117 | 168 |
| 2009 | October | 37 | 3 | 180 | 357 |
| 2009 | November | 27 | 23 | 423 | 473 |
| 2009 | December | 16 | 26 | 149 | 487 |
| 2010 | January | 19 | 125 | 630 | 421 |
| 2010 | February | 9 | 12 | 0 | 517 |
| 2010 | March | 5 | 5 | 8 | 345 |
| 2010 | April | 4 | 31 | 22 | 119 |
| 2010 | May | 0 | 0 | 72 | 351 |
| 2010 | June | 0 | 0 | 132 | 136 |
| 2010 | July | 0 | 164 | 344 | 599 |
| 2010 | August | 0 | 81 | 553 | 280 |
| 2010 | September | 0 | 2 | 43 | 151 |
| 2010 | October | 0 | 79 | 479 | 240 |
| 2010 | November | 0 | 43 | 563 | 459 |
| 2010 | December | 0 | 37 | 162 | 229 |
| 2011 | January | 0 | 50 | 207 | 218 |
| 2011 | February | 0 | 0 | 46 | 98 |
| 2011 | March | 0 | 0 | 100 | 126 |

Table A3: Policing effort by permit checks by month and super-area.

| Year | Month | Area 1+2 | Area 3+4 | Area 5+6 | Area 8+ |
|------|-----------|----------|----------|----------|---------|
| 2008 | April | | | | 979 |
| 2008 | May | | | | 896 |
| 2008 | June | | | | 528 |
| 2008 | July | | | | 596 |
| 2008 | August | | | | 383 |
| 2008 | September | | | | 214 |
| 2008 | October | | | | 347 |
| 2008 | November | | | | 151 |
| 2008 | December | | | | 765 |
| 2009 | January | | | | 1144 |
| 2009 | February | | | | 781 |
| 2009 | March | | | | 416 |
| 2009 | April | 2 | 155 | 436 | 579 |
| 2009 | May | 0 | 139 | 169 | 411 |
| 2009 | June | 3 | 65 | 246 | 596 |
| 2009 | July | 6 | 37 | 183 | 675 |
| 2009 | August | 0 | 29 | 168 | 653 |
| 2009 | September | 0 | 37 | 82 | 379 |
| 2009 | October | 12 | 24 | 336 | 563 |
| 2009 | November | 33 | 114 | 443 | 1007 |
| 2009 | December | 31 | 234 | 464 | 1032 |
| 2010 | January | 20 | 211 | 305 | 555 |
| 2010 | February | 3 | 82 | 13 | 763 |
| 2010 | March | 22 | 68 | 179 | 662 |
| 2010 | April | 75 | 53 | 114 | 216 |
| 2010 | May | 0 | 25 | 140 | 20 |
| 2010 | June | 0 | 27 | 197 | 250 |
| 2010 | July | 0 | 14 | 182 | 472 |
| 2010 | August | 0 | 34 | 146 | 643 |
| 2010 | September | 0 | 21 | 66 | 336 |
| 2010 | October | 0 | 33 | 199 | 246 |
| 2010 | November | 0 | 176 | 688 | 464 |
| 2010 | December | 0 | 351 | 865 | 899 |
| 2011 | January | 15 | 277 | 454 | 605 |
| 2011 | February | 0 | 309 | 250 | 235 |
| 2011 | March | 0 | 94 | 277 | 348 |

Table A4: Policing effort by slipway inspections by month and super-area.

| Year | Month | Area 1+2 | Area 3+4 | Area 5+6 | Area 8+ |
|------|-----------|----------|----------|----------|---------|
| 2008 | April | | | | 474 |
| 2008 | May | | | | 456 |
| 2008 | June | | | | 322 |
| 2008 | July | | | | 345 |
| 2008 | August | | | | 249 |
| 2008 | September | | | | 127 |
| 2008 | October | | | | 221 |
| 2008 | November | | | | 143 |
| 2008 | December | | | | 248 |
| 2009 | January | | | | 265 |
| 2009 | February | | | | 266 |
| 2009 | March | | | | 197 |
| 2009 | April | 0 | 91 | 181 | 274 |
| 2009 | May | 5 | 47 | 193 | 191 |
| 2009 | June | 6 | 25 | 102 | 372 |
| 2009 | July | 14 | 46 | 155 | 529 |
| 2009 | August | 9 | 28 | 200 | 528 |
| 2009 | September | 0 | 28 | 94 | 255 |
| 2009 | October | 13 | 50 | 200 | 309 |
| 2009 | November | 10 | 75 | 158 | 277 |
| 2009 | December | 12 | 61 | 205 | 303 |
| 2010 | January | 13 | 45 | 207 | 577 |
| 2010 | February | 12 | 51 | 20 | 338 |
| 2010 | March | 0 | 51 | 99 | 526 |
| 2010 | April | 3 | 41 | 153 | 189 |
| 2010 | May | 0 | 40 | 204 | 133 |
| 2010 | June | 8 | 40 | 166 | 215 |
| 2010 | July | 0 | 30 | 390 | 249 |
| 2010 | August | 0 | 45 | 406 | 311 |
| 2010 | September | 0 | 40 | 129 | 188 |
| 2010 | October | 0 | 45 | 281 | 237 |
| 2010 | November | 0 | 96 | 237 | 277 |
| 2010 | December | 0 | 149 | 322 | 267 |
| 2011 | January | 4 | 108 | 328 | 454 |
| 2011 | February | 0 | 124 | 233 | 430 |
| 2011 | March | 8 | 139 | 381 | 260 |

Table A5: Policing effort by coastal patrols by month and super-area.

| Year | Month | Area 1+2 | Area 3+4 | Area 5+6 | Area 8+ |
|------|-----------|----------|----------|----------|---------|
| 2008 | April | | | | 707 |
| 2008 | May | | | | 676 |
| 2008 | June | | | | 571 |
| 2008 | July | | | | 592 |
| 2008 | August | | | | 467 |
| 2008 | September | | | | 149 |
| 2008 | October | | | | 349 |
| 2008 | November | | | | 143 |
| 2008 | December | | | | 269 |
| 2009 | January | | | | 357 |
| 2009 | February | | | | 368 |
| 2009 | March | | | | 243 |
| 2009 | April | 15 | 64 | 177 | 214 |
| 2009 | May | 12 | 58 | 183 | 237 |
| 2009 | June | 8 | 40 | 109 | 413 |
| 2009 | July | 14 | 56 | 140 | 676 |
| 2009 | August | 9 | 58 | 130 | 661 |
| 2009 | September | 0 | 42 | 90 | 358 |
| 2009 | October | 13 | 59 | 179 | 357 |
| 2009 | November | 10 | 68 | 167 | 524 |
| 2009 | December | 12 | 68 | 134 | 449 |
| 2010 | January | 13 | 56 | 144 | 947 |
| 2010 | February | 12 | 41 | 20 | 602 |
| 2010 | March | 0 | 48 | 87 | 518 |
| 2010 | April | 14 | 52 | 142 | 358 |
| 2010 | May | 0 | 35 | 150 | 281 |
| 2010 | June | 14 | 26 | 152 | 318 |
| 2010 | July | 0 | 43 | 236 | 396 |
| 2010 | August | 0 | 61 | 286 | 497 |
| 2010 | September | 0 | 45 | 72 | 334 |
| 2010 | October | 0 | 61 | 188 | 437 |
| 2010 | November | 0 | 75 | 170 | 458 |
| 2010 | December | 0 | 105 | 215 | 394 |
| 2011 | January | 18 | 114 | 218 | 1341 |
| 2011 | February | 0 | 130 | 170 | 415 |
| 2011 | March | 9 | 135 | 264 | 384 |

Table A6: Policing effort by road blocks by month and super-area.

| Year | Month | Area 1+2 | Area 3+4 | Area 5+6 | Area 8+ |
|------|-----------|----------|----------|----------|---------|
| 2008 | April | | | | 12 |
| 2008 | May | | | | 10 |
| 2008 | June | | | | 2 |
| 2008 | July | | | | 3 |
| 2008 | August | | | | 5 |
| 2008 | September | | | | 3 |
| 2008 | October | | | | 9 |
| 2008 | November | | | | 5 |
| 2008 | December | | | | 8 |
| 2009 | January | | | | 10 |
| 2009 | February | | | | 12 |
| 2009 | March | | | | 4 |
| 2009 | April | 0 | 1 | 30 | 3 |
| 2009 | May | 1 | 0 | 44 | 2 |
| 2009 | June | 1 | 1 | 0 | 9 |
| 2009 | July | 0 | 0 | 0 | 2 |
| 2009 | August | 1 | 1 | 23 | 91 |
| 2009 | September | 0 | 0 | 7 | 3 |
| 2009 | October | 1 | 0 | 10 | 6 |
| 2009 | November | 1 | 1 | 8 | 10 |
| 2009 | December | 0 | 3 | 7 | 6 |
| 2010 | January | 1 | 4 | 14 | 1 |
| 2010 | February | 0 | 1 | 0 | 4 |
| 2010 | March | 0 | 1 | 5 | 2 |
| 2010 | April | 0 | 2 | 5 | 0 |
| 2010 | May | 0 | 0 | 9 | 2 |
| 2010 | June | 0 | 0 | 5 | 8 |
| 2010 | July | 0 | 1 | 13 | 4 |
| 2010 | August | 0 | 2 | 8 | 8 |
| 2010 | September | 0 | 0 | 3 | 2 |
| 2010 | October | 0 | 2 | 8 | 3 |
| 2010 | November | 0 | 4 | 15 | 8 |
| 2010 | December | 0 | 8 | 8 | 9 |
| 2011 | January | 0 | 4 | 11 | 2 |
| 2011 | February | 0 | 1 | 2 | 4 |
| 2011 | March | 0 | 0 | 6 | 3 |

Table A7: Policing effort by sea patrols by month and super-area.

| Year | Month | Area 1+2 | Area 3+4 | Area 5+6 | Area 8+ |
|------|-----------|----------|----------|----------|---------|
| 2008 | April | | | | 0 |
| 2008 | May | | | | 1 |
| 2008 | June | | | | 0 |
| 2008 | July | | | | 0 |
| 2008 | August | | | | 1 |
| 2008 | September | | | | 0 |
| 2008 | October | | | | 5 |
| 2008 | November | | | | 1 |
| 2008 | December | | | | 0 |
| 2009 | January | | | | 6 |
| 2009 | February | | | | 3 |
| 2009 | March | | | | 4 |
| 2009 | April | 0 | 0 | 5 | 0 |
| 2009 | May | 2 | 0 | 6 | 5 |
| 2009 | June | 1 | 0 | 0 | 3 |
| 2009 | July | 0 | 0 | 2 | 0 |
| 2009 | August | 0 | 0 | 0 | 0 |
| 2009 | September | 0 | 0 | 0 | 8 |
| 2009 | October | 0 | 0 | 7 | 7 |
| 2009 | November | 0 | 0 | 5 | 4 |
| 2009 | December | 0 | 0 | 3 | 3 |
| 2010 | January | 0 | 4 | 7 | 1 |
| 2010 | February | 0 | 0 | 1 | 3 |
| 2010 | March | 13 | 0 | 0 | 1 |
| 2010 | April | 0 | 0 | 1 | 0 |
| 2010 | May | 0 | 0 | 0 | 0 |
| 2010 | June | 0 | 0 | 0 | 2 |
| 2010 | July | 0 | 1 | 1 | 0 |
| 2010 | August | 0 | 0 | 2 | 0 |
| 2010 | September | 0 | 0 | 5 | 3 |
| 2010 | October | 0 | 0 | 5 | 3 |
| 2010 | November | 0 | 2 | 8 | 4 |
| 2010 | December | 0 | 1 | 2 | 2 |
| 2011 | January | 0 | 1 | 5 | 3 |
| 2011 | February | 0 | 0 | 8 | 7 |
| 2011 | March | 0 | 1 | 5 | 1 |

Table A8: Policing effort by restaurant inspections by month and super-area.

| Year | Month | Area 1+2 | Area 3+4 | Area 5+6 | Area 8+ |
|------|-----------|----------|----------|----------|---------|
| 2008 | April | | | | 30 |
| 2008 | May | | | | 44 |
| 2008 | June | | | | 47 |
| 2008 | July | | | | 87 |
| 2008 | August | | | | 27 |
| 2008 | September | | | | 29 |
| 2008 | October | | | | 28 |
| 2008 | November | | | | 27 |
| 2008 | December | | | | 21 |
| 2009 | January | | | | 16 |
| 2009 | February | | | | 31 |
| 2009 | March | | | | 23 |
| 2009 | April | 0 | 2 | 18 | 9 |
| 2009 | May | 3 | 11 | 8 | 47 |
| 2009 | June | 1 | 0 | 19 | 38 |
| 2009 | July | 13 | 4 | 13 | 52 |
| 2009 | August | 7 | 2 | 39 | 52 |
| 2009 | September | 0 | 2 | 14 | 37 |
| 2009 | October | 13 | 0 | 27 | 61 |
| 2009 | November | 14 | 0 | 5 | 46 |
| 2009 | December | 6 | 1 | 7 | 15 |
| 2010 | January | 13 | 7 | 6 | 18 |
| 2010 | February | 7 | 7 | 2 | 65 |
| 2010 | March | 7 | 3 | 7 | 36 |
| 2010 | April | 4 | 4 | 46 | 47 |
| 2010 | May | 0 | 2 | 48 | 58 |
| 2010 | June | 2 | 0 | 63 | 67 |
| 2010 | July | 0 | 3 | 73 | 57 |
| 2010 | August | 0 | 0 | 71 | 23 |
| 2010 | September | 0 | 10 | 27 | 69 |
| 2010 | October | 0 | 0 | 51 | 11 |
| 2010 | November | 0 | 2 | 28 | 23 |
| 2010 | December | 0 | 0 | 33 | 13 |
| 2011 | January | 2 | 3 | 35 | 27 |
| 2011 | February | 0 | 3 | 33 | 19 |
| 2011 | March | 1 | 2 | 47 | 20 |

Table A9: Policing effort by sea FPE inspections by month and super-area.

| Year | Month | Area 1+2 | Area 3+4 | Area 5+6 | Area 8+ |
|------|-----------|----------|----------|----------|---------|
| 2008 | April | | | | 10 |
| 2008 | May | | | | 9 |
| 2008 | June | | | | 10 |
| 2008 | July | | | | 27 |
| 2008 | August | | | | 9 |
| 2008 | September | | | | 7 |
| 2008 | October | | | | 12 |
| 2008 | November | | | | 9 |
| 2008 | December | | | | 11 |
| 2009 | January | | | | 16 |
| 2009 | February | | | | 20 |
| 2009 | March | | | | 14 |
| 2009 | April | 0 | 0 | 42 | 11 |
| 2009 | May | 2 | 0 | 26 | 13 |
| 2009 | June | 1 | 0 | 18 | 21 |
| 2009 | July | 2 | 0 | 29 | 22 |
| 2009 | August | 1 | 0 | 27 | 18 |
| 2009 | September | 0 | 0 | 25 | 8 |
| 2009 | October | 2 | 0 | 33 | 15 |
| 2009 | November | 2 | 0 | 27 | 12 |
| 2009 | December | 1 | 0 | 13 | 6 |
| 2010 | January | 2 | 0 | 18 | 10 |
| 2010 | February | 1 | 3 | 4 | 12 |
| 2010 | March | 1 | 0 | 18 | 9 |
| 2010 | April | 1 | 1 | 31 | 2 |
| 2010 | May | 0 | 0 | 48 | 8 |
| 2010 | June | 1 | 0 | 23 | 22 |
| 2010 | July | 0 | 0 | 35 | 13 |
| 2010 | August | 0 | 0 | 28 | 15 |
| 2010 | September | 0 | 0 | 24 | 30 |
| 2010 | October | 0 | 0 | 50 | 10 |
| 2010 | November | 0 | 1 | 36 | 2 |
| 2010 | December | 0 | 5 | 16 | 6 |
| 2011 | January | 0 | 10 | 27 | 15 |
| 2011 | February | 0 | 10 | 23 | 5 |
| 2011 | March | 1 | 6 | 33 | 6 |