# APPENDIX 1. TREND ANALYSIS TABLES (ANODE AND ANOVA)

Table 4. Analysis of deviance for blue crab caught by bag seine, 25-45 mm TW, January-December, 1978-1990 (Figure 1B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 176.7 | 16.06 | 16.48 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 16.05 | 26.05 | 26.72 | <0.001 |
| Quadratic | 1 | 0.44 | 0.44 | 0.45 | 0.50 |
| Other | 10 | 23.80 | 2.38 | 2.44 | <0.01 |
| Month x Year | 131 | 342.20 | 2.61 | 2.68 | <0.001 |
| Corrected error | 1200 | 1169.90 | 0.97 | | |

Table 5. Analysis of deviance for Atlantic croaker caught by bag seine, 30-50 mm, December-March, 1977-1991 (Figure 1C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 160.12 | 53.37 | 42.34 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 14.03 | 14.03 | 11.13 | <0.001 |
| Quadratic | 1 | 6.47 | 6.47 | 5.13 | <0.025 |
| Other | 10 | 83.05 | 8.31 | 6.59 | <0.001 |
| Month x Year | 36 | 160.75 | 4.47 | 3.54 | <0.001 |
| Corrected error | 423 | 533.14 | 1.26 | | |

Table 6. Analysis of deviance for brown shrimp caught by bag seine, 30-55 mm, April-November, 1978-1990 (Figure 1D).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 7 | 499.30 | 7.13 | 5.84 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.86 | 0.86 | 0.71 | >0.25 |
| Quadratic | 1 | 4.70 | 4.70 | 3.85 | <0.05 |
| Other | 10 | 88.90 | 8.89 | 7.28 | <0.001 |
| Month x Year | 83 | 394.00 | 4.75 | 3.89 | <0.001 |
| Corrected error | 845 | 1032.10 | 1.22 | | |

Table 7. Analysis of deviance for striped mullet caught by bag seine, 20-40 mm, February-March, 1978-1990 (Figure 1E).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 1 | 1.15 | 1.15 | 0.99 | >0.25 |
| YEAR | | | | | |
| Linear | 1 | 0.002 | 0.002 | 0.001 | >0.75 |
| Quadratic | 1 | 0.39 | 0.39 | 0.34 | >0.50 |
| Other | 10 | 97.01 | 9.70 | 8.37 | <0.001 |
| Month x Year | 12 | 73.17 | 6.10 | 5.26 | <0.001 |
| Corrected error | 207 | 240.03 | 1.16 | | |

Table 8. Analysis of deviance for white shrimp caught by bag seine, 35-55 mm, June-December, 1977-1990 (Figure 1F, 12A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 6 | 142.40 | 23.73 | 15.52 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.65 | 0.65 | 0.43 | >0.50 |
| Quadratic | 1 | 0.08 | 0.08 | 0.05 | >0.75 |
| Other | 11 | 147.30 | 13.39 | 8.76 | <0.001 |
| Month x Year | 73 | 390.20 | 5.34 | 3.50 | <0.001 |
| Corrected error | 772 | 1180.30 | 1.53 | | |

Table 9. Analysis of deviance for spot caught by bag seine, 35-80 mm, March-July, 1978-1991 (Figure 1G).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 4 | 142.70 | 35.67 | 25.22 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 15.23 | 15.23 | 10.76 | 0.001 |
| Quadratic | 1 | 1.58 | 1.58 | 1.11 | >0.25 |
| Other | 11 | 25.9 | 2.35 | 1.66 | >0.05 |
| Month x Year | 51 | 213.3 | 4.18 | 2.96 | <0.001 |
| Corrected error | 600 | 848.9 | 1.41 | | |

Table 10. Analysis of deviance for bay anchovy caught by bag seine, 15-34 mm, May-October, 1978-1990 (Figure 1H).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 5 | 42.69 | 8.54 | 13.88 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 20.86 | 20.86 | 33.92 | <0.001 |
| Quadratic | 1 | 6.19 | 6.19 | 10.06 | <0.005 |
| Other | 10 | 149.34 | 14.93 | 24.28 | <0.001 |
| Month x Year | 59 | 196.91 | 3.34 | 5.43 | <0.001 |
| Corrected error | 419 | 257.71 | 0.615 | | |

Table 11. Analysis of deviance for bay anchovy caught by bag seine, 35-54 mm, April-October, 1978-1990 (Figure 1H).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 6 | 30.70 | 5.12 | 4.26 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 33.35 | 33.35 | 27.80 | <0.001 |
| Quadratic | 1 | 1.38 | 1.38 | 1.15 | >0.25 |
| Other | 10 | 258.50 | 25.85 | 21.54 | <0.001 |
| Month x Year | 71 | 251.50 | 3.54 | 2.95 | <0.001 |
| Corrected error | 710 | 841.1 | 1.20 | | |

Table 12. Analysis of deviance for bay anchovy caught by bag seine, >=55 mm, April-November, 1978-1990 (Figure 1H).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 7 | 85.30 | 12.18 | 9.44 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 15.74 | 15.74 | 12.19 | <0.001 |
| Quadratic | 1 | 0.51 | 0.51 | 00.39 | >0.50 |
| Other | 10 | 106.11 | 0.61 | 8.22 | <0.001 |
| Month x Year | 83 | 299.70 | 3.61 | 2.80 | <0.001 |
| Corrected error | 847 | 1093.60 | 1.29 | | |

Table 13. Analysis of deviance for grass shrimp caught by bag seine, 25-35 mm, January-December, 1983-1991 (Figure 1I).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 81 | 7.36 | 5.78 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 6.73 | 6.73 | 5.29 | <0.025 |
| Quadratic | 1 | 48.26 | 48.26 | 37.89 | <0.001 |
| Other | 6 | 26.3 | 4.38 | 3.44 | <0.005 |
| Month x Year | 88 | 578.30 | 6.57 | 5.16 | <0.001 |
| Corrected error | 1136 | 1446.80 | 1.27 | | |

Table 14. Analysis of deviance for Gulf menhaden caught by bag seine, 20-30 mm, February-July, 1978-1991 (Figure 1J).

| Source of variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 5 | 127.70 | 25.54 | 20.20 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 14.82 | 14.82 | 11.72 | <0.001 |
| Quadratic | 1 | 9.64 | 9.64 | 7.62 | 0.005 |
| Other | 11 | 187.20 | 17.02 | 13.46 | <0.001 |
| Month x Year | 64 | 357.4 | 5.58 | 4.42 | <0.001 |
| Corrected error | 499 | 631.0 | 1.26 | | |

Table 15. Analysis of deviance for juvenile pinfish caught by bag seine, 40-60 mm, March-June, 1978-1991 (Figure 1K).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 72.69 | 24.23 | 19.48 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 1.56 | 1.56 | 1.26 | >0.25 |
| Quadratic | 1 | 3.271 | 3.271 | 2.62 | >0.10 |
| Other | 11 | 40.77 | 3.71 | 2.98 | <0.001 |
| Month x Year | 38 | 131.91 | 3.47 | 2.80 | <0.001 |
| Corrected error | 424 | 527.51 | 1.24 | | |

Table 16. Analysis of deviance for longnose killifish caught by bag seine, 45-75 mm, January-December, 1978-1991 (Figure 1L).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 84.30 | 7.66 | 7.32 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 12.26 | 12.26 | 11.71 | <0.001 |
| Quadratic | 1 | 63.85 | 63.85 | 60.99 | <0.001 |
| Other | 11 | 124.40 | 11.309 | 10.89 | <0.001 |
| Month x Year | 142 | 577.50 | 4.07 | 3.88 | <0.001 |
| Corrected error | 1241 | 1299.20 | 1.05 | | |

Table 17. Analysis of deviance for Gulf killifish caught by bag seine, 35-85 mm, July-August, 1978-1991 (Figure 1M).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 1 | 5.77 | 5.77 | 6.41 | <0.025 |
| YEAR | | | | | |
| Linear | 1 | 11.00 | 11.00 | 12.22 | <0.001 |
| Quadratic | 1 | .61 | .61 | .68 | >0.25 |
| Other | 11 | 34.09 | 3.10 | 3.44 | <0.001 |
| Month x Year | 13 | 44.55 | 3.43 | 3.81 | <0.001 |
| Corrected error | 229 | 206.11 | .90 | | |

Table 18. Analysis of deviance for Gulf killifish caught by bag seine, 45-85 mm, November-March, 1978-1991 (Figure 1M).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 4 | 25.87 | 6.47 | 5.52 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 92.4 | 92.4 | 78.91 | <0.001 |
| Quadratic | 1 | 24.88 | 24.88 | 21.25 | <0.001 |
| Other | 10 | 69.90 | 6.99 | 5.97 | <0.001 |
| Month x Year | 48 | 197.31 | 4.11 | 3.52 | <0.001 |
| Corrected error | 510 | 597.13 | 1.17 | | |

Table 19. Analysis of deviance for sheepshead minnow caught by bag seine, 25-50 mm, November-August, 1978-1991 (Figure 1N).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 9 | 237.6 | 26.40 | 21.81 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 38.38 | 38.38 | 31.70 | <0.001 |
| Quadratic | 1 | 59.91 | 59.91 | 49.48 | <0.001 |
| Other | 10 | 139.80 | 13.98 | 11.55 | <0.001 |
| Month x Year | 108 | 539.90 | 5.00 | 4.13 | <0.001 |
| Corrected error | 987 | 1195 | 1.21 | | |

Table 20. Analysis of deviance for sand seatrout caught by bag seine, 35-55 mm, April-October, 1978-1991 (Figure 1 O).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 6 | 75.59 | 12.60 | 13.00 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 27.15 | 27.15 | 28.00 | <0.001 |
| Quadratic | 1 | 5.37 | 5.37 | 5.54 | <0.01 |
| Other | 11 | 128.56 | 11.68 | 12.05 | <0.001 |
| Month x Year | 77 | 270.17 | 3.51 | 3.62 | <0.001 |
| Corrected error | 647 | 627.27 | 0.97 | | |

Table 21. Analysis of deviance for hardhead catfish caught by bag seine, 50-150 mm, June-September, 1978-1991 (Figure 1P).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 22.87 | 7.62 | 7.90 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 12.98 | 12.98 | 13.45 | <0.001 |
| Quadratic | 1 | 10.55 | 10.55 | 10.93 | <0.001 |
| Other | 11 | 61.31 | 5.57 | 5.77 | <0.001 |
| Month x Year | 38 | 133.46 | 3.51 | 3.64 | <0.001 |
| Corrected error | 475 | 458.52 | .97 | | |

Table 22. Analysis of deviance for white mullet caught by bag seine, 35-105 mm, June-September, 1978-1991 (Figure 1Q).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 157.46 | 52.49 | 36.46 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 23.90 | 23.90 | 16.60 | <0.001 |
| Quadratic | 1 | 57.34 | 57.34 | 39.83 | <0.001 |
| Other | 11 | 83.12 | 7.56 | 5.25 | <0.001 |
| Month x Year | 88 | 148.87 | 1.69 | 1.17 | >0.10 |
| Corrected error | 422 | 607.58 | 1.44 | | |

Table 23. Analysis of deviance for red drum caught by bag seine, 25-65 mm, October-January, 1977-1991 (Figure 1R).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 66.63 | 22.21 | 22.75 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 10.27 | 10.27 | 10.52 | <0.005 |
| Quadratic | 1 | 6.38 | 6.38 | 6.54 | 0.01 |
| Other | 11 | 100.18 | 9.11 | 9.33 | <0.001 |
| Month x Year | 39 | 103.34 | 2.65 | 2.71 | <0.001 |
| Corrected error | 323 | 315.33 | .98 | | |

Table 24. Analysis of deviance for bay whiff caught by bag seine, 25-65 mm, April-June, 1978-1991 (Figure 1S).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 2 | 0.30 | 0.15 | .152 | >0.75 |
| YEAR | | | | | |
| Linear | 1 | 18.60 | 18.60 | 18.85 | <0.001 |
| Quadratic | 1 | 40.38 | 40.38 | 40.93 | <0.001 |
| Other | 11 | 69.49 | 6.32 | 6.40 | <0.001 |
| Month x Year | 25 | 113.98 | 4.56 | 4.62 | <0.001 |
| Corrected error | 239 | 235.83 | .99 | | |

Table 25. Analysis of deviance for spotted seatrout caught by bag seine, 35-75 mm, June-November, 1978-1990 (Figure 1T).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 5 | 60.85 | 12.17 | 14.38 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 52.85 | 52.85 | 62.47 | <0.001 |
| Quadratic | 1 | 1.28 | 1.28 | 1.51 | >0.10 |
| Other | 10 | 52.74 | 5.27 | 6.23 | <0.001 |
| Month x Year | 59 | 217.55 | 3.69 | 4.36 | <0.001 |
| Corrected error | 381 | 322.32 | 0.85 | | |

Table 26. Analysis of deviance for least puffer caught by bag seine, 20-40 mm, May-June, 1978-1991 (Figure 1U).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 1 | 0.02 | 0.02 | 0.02 | >0.75 |
| YEAR | | | | | |
| Linear | 1 | 0.07 | 0.07 | 0.07 | >0.75 |
| Quadratic | 1 | 11.14 | 11.14 | 10.64 | >0.001 |
| Other | 11 | 112.64 | 10.24 | 9.78 | <0.001 |
| Month x Year | 12 | 39.07 | 3.26 | 3.11 | <0.001 |
| Corrected error | 176 | 184.18 | 1.04 | | |

Table 27. Analysis of deviance for southern flounder caught by bag seine, 20-45 mm, February-March, 1978-1991 (Figure 1V).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 1 | 4.56 | 4.56 | 4.88 | <0.025 |
| YEAR | | | | | |
| Linear | 1 | 3.90 | 3.90 | 4.17 | <0.05 |
| Quadratic | 1 | 0.33 | 0.33 | 0.35 | >0.50 |
| Other | 11 | 65.62 | 5.97 | 6.39 | <0.001 |
| Month x Year | 13 | 49.40 | 3.80 | 4.07 | <0.001 |
| Corrected error | 109 | 177.49 | 0.93 | | |

Table 28. Analysis of deviance for black drum caught by bag seine, 55-85 mm, June-August, 1978-1990 (Figure 1W).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 2 | 20.69 | 10.35 | 14.15 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 72.51 | 72.51 | 99.16 | <0.001 |
| Quadratic | 1 | 1.74 | 1.74 | 2.38 | >0.10 |
| Other | 10 | 63.09 | 6.31 | 8.63 | <0.001 |
| Month x Year | 23 | 40.03 | 1.74 | 2.38 | <0.001 |
| Corrected error | 206 | 150.63 | 0.73 | | |

Table 29. Analysis of deviance for Atlantic croaker caught by trawl, 115-135 mm, March-September, 1983-1990 (Figure 2B, 14A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 6 | 153.20 | 25.52 | 26.28 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 9.54 | 9.54 | 9.82 | >0.001 |
| Quadratic | 1 | 0 | 0 | 0 | >0.75 |
| Other | 5 | 19.70 | 3.94 | 4.06 | <0.001 |
| Month x Year | 42 | 184.60 | 4.39 | 4.52 | <0.001 |
| Corrected error | 1064 | 1033.80 | 0.97 | | |

Table 30. Analysis of deviance for blue crab caught by trawl, 25-45 mm TW, January-December, 1983-1990 (Figure 2C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 255.30 | 23.21 | 27.95 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 5.70 | 5.70 | 6.86 | <0.01 |
| Quadratic | 1 | 67.80 | 67.80 | 81.56 | <0.001 |
| Other | 5 | 102.80 | 20.56 | 24.76 | <0.001 |
| Month x Year | 77 | 289.30 | 3.76 | 4.52 | <0.001 |
| Corrected error | 1711 | 1420.80 | 0.83 | | |

Table 31. Analysis of deviance for blue crab caught by trawl, 50-70 mm, January-December, 1983-1990 (Figure 2C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 850.70 | 77.34 | 96.06 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 9.10 | 9.10 | 11.30 | <0.001 |
| Quadratic | 1 | 0.00 | 0.00 | 0.00 | >0.75 |
| Other | 5 | 49.80 | 9.96 | 12.37 | <0.001 |
| Month x Year | 77 | 231.70 | 3.01 | 3.74 | <0.001 |
| Corrected error | 1749 | 1408.10 | 0.81 | | |

Table 32. Analysis of deviance for blue crab caught by trawl, 120-140 mm, January-December, 1983-1990 (Figure 2C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 312.70 | 28.43 | 45.27 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 32.90 | 32.90 | 52.39 | <0.001 |
| Quadratic | 1 | 0.00 | 0.00 | 0.00 | >0.75 |
| Other | 5 | 29.20 | 5.84 | 9.30 | <0.001 |
| Month x Year | 77 | 171.30 | 2.22 | 3.54 | <0.001 |
| Corrected error | 1463 | 918.70 | 0.63 | | |

Table 33. Analysis of deviance for white shrimp caught by trawl, 110-130 mm, April-May, 1982-1990 (Figure 2D).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 1 | 10.37 | 10.37 | 11.82 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 109.61 | 109.61 | 124.91 | <0.001 |
| Quadratic | 1 | 0.003 | 0.003 | 0.003 | >0.75 |
| Other | 6 | 21.79 | 3.63 | 4.14 | <0.001 |
| Month x Year | 8 | 28.37 | 3.59 | 4.09 | <0.001 |
| Corrected error | 342 | 300.08 | 0.88 | | |

Table 34. Analysis of deviance for white shrimp caught by trawl, 110-130 mm, August-November, 1982-1990 (Figures 2D, 11B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 40.62 | 13.54 | 14.52 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 100.00 | 100.00 | 107.23 | <0.001 |
| Quadratic | 1 | 32.74 | 32.74 | 35.10 | <0.001 |
| Other | 6 | 37.22 | 6.20 | 6.65 | <0.001 |
| Month x Year | 24 | 210.58 | 5.02 | 5.39 | <0.001 |
| Corrected error | 685 | 638.82 | 0.93 | | |

Table 35. Analysis of deviance for spot caught by trawl, 80-130 mm, May-September, 1983-1991 (Figure 2E).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 4 | 23.86 | 5.97 | 7.64 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 3.58 | 3.58 | 4.58 | <0.05 |
| Quadratic | 1 | 0.49 | 0.49 | 0.63 | >0.25 |
| Other | 6 | 14.04 | 2.34 | 3.00 | <0.01 |
| Month x Year | 32 | 136.82 | 4.27 | 5.48 | <0.001 |
| Corrected error | 817 | 637.34 | 0.78 | | |

Table 36. Analysis of deviance for Gulf menhaden caught by trawl, 110-120 mm, January-December, 1983-1990 (Figure 2F).

| Source of variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 80.20 | 7.29 | 10.39 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 4.73 | 4.73 | 6.74 | <0.01 |
| Quadratic | 1 | 13.80 | 13.80 | 19.67 | <0.001 |
| Other | 5 | 56.20 | 11.24 | 16.02 | <0.001 |
| Month x Year | 77 | 311.20 | 4.04 | 5.76 | <0.001 |
| Corrected error | 1730 | 1213.90 | 0.70 | | |

Table 37. Analysis of deviance for sand seatrout caught by trawl, 65-85 mm, May-December, 1983-1990 (Figure 2G).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 7 | 41.91 | 5.99 | 12.38 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 72.14 | 72.14 | 149.17 | <0.001 |
| Quadratic | 1 | 0.11 | 0.11 | 0.23 | >0.50 |
| Other | 5 | 31.69 | 6.34 | 13.11 | <0.001 |
| Month x Year | 49 | 101.12 | 2.06 | 3.92 | <0.001 |
| Corrected error | 1046 | 550.50 | 0.53 | | |

Table 38. Analysis of deviance for sand seatrout caught by trawl, 140-160 mm, April-November, 1983-1990 (Figure 2G).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 7 | 23.28 | 10.47 | 19.89 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 1.70 | 1.70 | 3.23 | >0.05 |
| Quadratic | 1 | 0.62 | 0.62 | 1.18 | >0.25 |
| Other | 5 | 37.88 | 7.58 | 14.40 | <0.001 |
| Month x Year | 49 | 101.12 | 2.06 | 3.92 | <0.001 |
| Corrected error | 1046 | 550.50 | 0.53 | | |

Table 39. Analysis of deviance for brown shrimp caught by trawl, 85-110mm, May-August, 1983-1990 (Figure 2H).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 198.61 | 66.20 | 65.72 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.22 | 0.22 | 0.22 | >0.50 |
| Quadratic | 1 | 0.97 | 0.97 | 0.96 | >0.25 |
| Other | 5 | 24.015 | 4.80 | 4.77 | <0.001 |
| Month x Year | 21 | 96.01 | 4.57 | 4.54 | <0.001 |
| Corrected error | 589 | 593.36 | 1.01 | | |

Table 40. Analysis of deviance for hardhead catfish caught by trawl, >=140 mm, March-August, 1983-1991 (Figure 2 I).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 5 | 49.62 | 9.92 | 12.94 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 18.15 | 18.15 | 23.63 | <0.001 |
| Quadratic | 1 | 52.10 | 52.10 | 67.84 | <0.001 |
| Other | 6 | 54.44 | 9.07 | 11.81 | <0.001 |
| Month x Year | 40 | 142.26 | 3.56 | 4.63 | <0.001 |
| Corrected error | 988 | 758.81 | 0.77 | | |

Table 41. Analysis of deviance for brief squid caught by trawl, 20-40 mm, September-November, 1983-1991 (Figure 2J).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 2 | 6.76 | 3.38 | 4.62 | 0.01 |
| YEAR | | | | | |
| Linear | 1 | 39.37 | 39.37 | 53.84 | <0.001 |
| Quadratic | 1 | 61.21 | 61.21 | 83.70 | <0.001 |
| Other | 6 | 45.06 | 7.51 | 10.27 | <0.001 |
| Month x Year | 16 | 70.69 | 4.42 | 6.04 | <0.001 |
| Corrected error | 438 | 320.30 | .73 | | |

Table 42. Analysis of deviance for brief squid caught by trawl, 40-70 mm, February-May, 1983-1991 (Figure 2J).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 56.00 | 18.67 | 26.97 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 7.85 | 7.85 | 11.35 | <0.001 |
| Quadratic | 1 | 24.01 | 24.01 | 34.69 | <0.001 |
| Other | 6 | 47.86 | 7.98 | 11.53 | <0.001 |
| Month x Year | 24 | 97.44 | 4.06 | 5.87 | <0.001 |
| Corrected error | 570 | 394.51 | 0.69 | | |

Table 43. Analysis of deviance for bay whiff caught by trawl, 80-100 mm, July-September, 1983-1991 (Figure 2K).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 2 | 0.07 | 0.03 | 0.05 | >0.75 |
| YEAR | | | | | |
| Linear | 1 | 21.21 | 21.21 | 31.879 | <0.001 |
| Quadratic | 1 | 5.34 | 5.34 | 8.03 | <0.005 |
| Other | 6 | 55.73 | 9.29 | 13.96 | <0.001 |
| Month x Year | 16 | 51.64 | 3.23 | 4.85 | <0.001 |
| Corrected error | 456 | 303.39 | .67 | | |

Table 44. Analysis of deviance for fringed flounder caught by trawl, 80-100 mm, September-November, 1983-1991 (Figure 2L).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 2 | 3.03 | 1.515 | 2.39 | >0.05 |
| YEAR | | | | | |
| Linear | 1 | 87.18 | 87.18 | 137.41 | <0.001 |
| Quadratic | 1 | 6.97 | 6.97 | 10.99 | <0.001 |
| Other | 6 | 49.21 | 8.20 | 12.92 | <0.001 |
| Month x Year | 16 | 34.38 | 2.15 | 3.39 | <0.001 |
| Corrected error | 419 | 265.82 | 0.63 | | |

Table 45. Analysis of deviance for bay anchovy caught by trawl, 15-34 mm, December-March, 1983-1990 (Figure 2M).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 34.94 | 11.65 | 17.59 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 18.54 | 18.54 | 28.01 | <0.001 |
| Quadratic | 1 | 4.13 | 4.13 | 6.24 | <0.025 |
| Other | 4 | 45.30 | 11.32 | 17.11 | <0.001 |
| Month x Year | 18 | 71.71 | 3.98 | 6.02 | <0.001 |
| Corrected error | 398 | 323.26 | 0.81 | | |

Table 46. Analysis of deviance for bay anchovy caught by trawl, 35-54 mm, January-December, 1983-1990 (Figure 2M).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 37.90 | 3.44 | 5.31 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 233.80 | 233.80 | 360.52 | <0.001 |
| Quadratic | 1 | 42.08 | 42.08 | 64.89 | <0.001 |
| Other | 5 | 57.20 | 11.44 | 17.64 | <0.001 |
| Month x Year | 77 | 242.40 | 3.15 | 4.85 | <0.001 |
| Corrected error | 1483 | 961.80 | 0.65 | | |

Table 47. Analysis of deviance for bay anchovy caught by trawl, >=55 mm, January-December, 1983-1990 (Figure 2M).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 100.29 | 9.12 | 15.69 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 184.20 | 184.20 | 316.95 | <0.001 |
| Quadratic | 1 | 29.56 | 29.56 | 50.86 | <0.001 |
| Other | 5 | 87.69 | 17.54 | 30.18 | <0.001 |
| Month x Year | 77 | 224.41 | 2.91 | 5.01 | <0.001 |
| Corrected error | 1179 | 685.20 | 0.58 | | |

Table 48. Analysis of deviance for least puffer caught by trawl, 45-75 mm, September-November, 1983-1991 (Figure 2N).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 2 | 15.32 | 7.66 | 12.73 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.03 | 0.03 | 0.06 | >0.75 |
| Quadratic | 1 | 4.23 | 4.23 | 7.02 | <0.005 |
| Other | 6 | 75.30 | 12.55 | 20.86 | <0.001 |
| Month x Year | 16 | 40.57 | 2.54 | 4.22 | <0.001 |
| Corrected error | 400 | 240.67 | 0.60 | | |

Table 49. Analysis of deviance for bighead searobin caught by trawl, all sizes, January-December, 1983-1991 (Figure 2 O).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 195.60 | 17.78 | 37.21 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 11.87 | 11.87 | 24.84 | <0.001 |
| Quadratic | 1 | 2.37 | 2.37 | 4.96 | <0.05 |
| Other | 6 | 38.23 | 6.37 | 13.33 | <0.001 |
| Month x Year | 88 | 125.69 | 1.43 | 2.99 | <0.001 |
| Corrected error | 1350 | 645.11 | 0.48 | | |

Table 50. Analysis of deviance for white shrimp caught by trawl, 80-100 mm, July-April, 1982-1990, using Area as a categorical variable (Figure 10A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Area | 1 | 144.80 | 144.80 | 149.28 | <0.001 |
| Month | 9 | 433.30 | 48.14 | 49.63 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 149.40 | 149.40 | 154.02 | <0.001 |
| Quadratic | 1 | 1.50 | 1.50 | 1.55 | >0.01 |
| Other | 5 | 83.80 | 16.76 | 17.28 | <0.001 |
| Month x Year | 63 | 382.10 | 6.07 | 6.26 | <0.001 |
| Corrected error | 1444 | 1403.0 | 0.97 | | |

Table 51. Analysis of deviance for white shrimp caught by trawl, 110-130 mm, April-May, 1982-1990, using Area as a categorical variable (Figure 10B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Area | 1 | 75.14 | 75.14 | 85.39 | <0.001 |
| Month | 1 | 10.38 | 10.38 | 11.80 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 109.68 | 109.68 | 124.64 | <0.001 |
| Quadratic | 1 | 0.00 | 0.00 | 0.00 | >0.75 |
| Other | 6 | 21.77 | 3.63 | 4.12 | <0.001 |
| Month x Year | 12 | 28.81 | 2.40 | 2.73 | <0.001 |
| Corrected error | 342 | 300.00 | 0.88 | | |

Table 52. Analysis of deviance for white shrimp caught by trawl, 110-130 mm, August-November, 1982-1990, using Area as a categorical variable (Figure 10C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Area | 1 | 13.23 | 13.23 | 13.78 | <0.001 |
| Month | 3 | 33.58 | 11.19 | 11.66 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 117.11 | 117.11 | 121.99 | <0.001 |
| Quadratic | 1 | 38.95 | 38.95 | 40.57 | <0.001 |
| Other | 6 | 52.81 | 8.80 | 9.17 | <0.001 |
| Month x Year | 24 | 143.01 | 5.96 | 6.21 | <0.001 |
| Corrected error | 684 | 659.83 | 0.96 | | |

Table 53. Analysis of deviance for white shrimp caught by trawl, 110-130 mm, August to November, 1963-1968, from TPWD/NMFS data (Figure 11A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 14.61 | 4.87 | 2.24 | >0.05 |
| YEAR | | | | | |
| Linear | 1 | 0.33 | 0.33 | 0.15 | >0.50 |
| Quadratic | 1 | 47.91 | 47.91 | 22.04 | <0.001 |
| Other | 3 | 11.44 | 3.81 | 1.75 | >0.10 |
| Month x Year | 15 | 79.99 | 5.33 | 2.45 | <0.01 |
| Corrected Error | 96 | 208.74 | 2.17 | | |

Table 54. Analysis of deviance for white shrimp caught by trawl, 110-130 mm, August to November, 1972-1980, from TPWD/NMFS data (Figure 11A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 3 | 6.81 | 2.27 | 1.65 | >0.10 |
| YEAR | | | | | |
| Linear | 1 | 10.13 | 10.13 | 7.36 | <0.01 |
| Quadratic | 1 | 0.00 | 0.00 | 0.00 | >0.75 |
| Other | 6 | 28.91 | 4.82 | 3.50 | <0.005 |
| Month x Year | 23 | 69.61 | 3.03 | 2.20 | <0.001 |
| Corrected Error | 197 | 271.01 | 1.38 | | |

Analysis of deviance for white shrimp caught by trawl, 110-130 mm, August-November, 1982-1990 (Figure 11B): see Table 34.

Analysis of deviance for white shrimp caught by bag seine, 35-55 mm, June-December, 1977-1990 (Figure 12A): see Table 8.

Table 55. Analysis of deviance for white shrimp caught by trawl, 80-100 mm, July-April, 1982-1990 (Figure 12B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 9 | 415.30 | 46.14 | 47.92 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 137.70 | 137.70 | 143.01 | <0.001 |
| Quadratic | 1 | 0.66 | 0.66 | 0.71 | >0.50 |
| Other | 5 | 76.00 | 15.20 | 15.79 | <0.001 |
| Month x Year | 63 | 375.60 | 5.96 | 6.19 | <0.001 |
| Corrected error | 1444 | 1390.40 | 0.96 | | |

Analysis of deviance for Atlantic croaker caught by trawl, 115-135 mm, March-September, 1983-1990 (Figure 14A): see Table 29.

Table 56. Analysis of deviance for pinfish caught by trawl, 110-140 mm, September-November, 1983-1990 (Figure 14B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 2 | 0.32 | 0.16 | 0.28 | >0.75 |
| YEAR | | | | | |
| Linear | 1 | 13.88 | 13.88 | 24.01 | <0.001 |
| Quadratic | 1 | 3.08 | 3.08 | 5.33 | <0.025 |
| Other | 5 | 20.84 | 4.17 | 7.21 | <0.001 |
| Month x Year | 14 | 53.93 | 3.85 | 6.66 | <0.001 |
| Corrected error | 400 | 231.23 | 0.58 | | |

Table 57. Analysis of deviance for black drum caught by 300-400 mm, fall season, 1975-1989 (Figure 14C). CPUE=CATCH/(GTIME/14)$^{1.5}$.

| Source of Variation | D.F. | Deviance | M.D. | F |
|---|---|---|---|---|
| YEAR | | | | |
| Linear | 1 | 24.73 | 24.73 | 21.50 |
| Quadratic | 1 | 2.85 | 2.85 | 2.48 |
| Other | 12 | 90.13 | 7.51 | 6.53 |
| Error | 445 | 511.74 | 1.15 | |

Table 58. Analysis of deviance table for southern floun by gill net, >250 mm, fall season, 1975-1989 (Figure 14 CPUE = catch/set.

| Source of variation | D.F. | Deviance | M.D. | F |
|---|---|---|---|---|
| YEAR | | | | |
| Linear | 1 | 0.01 | 0.01 | 0.01 |
| Quadratic | 1 | 0.00 | 0.00 | 0.00 |
| Other | 12 | 33.11 | 2.76 | 2.49 |
| Error | 472 | 524.46 | 1.11 | |

Table 59. Analysis of deviance for red drum caught by 375-500 mm, spring season, 1977-1990 (Figure 14E). CPUE=CATCH/(GTIME/12.5)$^{2}$.

| Source of Variation | D.F. | Deviance | M.D. | F |
|---|---|---|---|---|
| YEAR | | | | |
| Linear | 1 | 1.27 | 1.27 | 0.94 |
| Quadratic | 1 | 15.94 | 15.94 | 11.81 |
| Other | 11 | 43.72 | 3.97 | 2.94 |
| Error | 450 | 607.57 | 1.35 | |

Table 60. Analysis of deviance for red drum caught by gill net, 501-700 mm, spring season, 1977-1990 (Figure 14F). CPUE=catch/set.

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| GTIME | 1 | 2.88 | 2.88 | 2.62 | >0.10 |
| YEAR | | | | | |
| Linear | 1 | 11.29 | 11.29 | 10.26 | <0.005 |
| Quadratic | 1 | 19.95 | 19.95 | 18.14 | <0.001 |
| Other | 11 | 22.30 | 2.03 | 1.84 | <0.05 |
| GTIME x YEAR | 13 | 10.10 | 0.78 | 0.71 | >0.75 |
| Error | 425 | 469.26 | 1.10 | | |

Table 61. Analysis of deviance for spotted seatrout caught by gill net, 350-450 mm, spring season, 1977-1990 (Figure 14G). CPUE = catch/set.

| Source of variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| GTIME | 1 | 0.00 | 0.00 | 0.00 | >0.75 |
| Year | | | | | |
| Linear | 1 | 27.20 | 27.20 | 22.11 | <0.001 |
| Quadratic | 1 | 6.08 | 6.08 | 4.94 | <0.05 |
| Other | 11 | 10.97 | 1.00 | 0.81 | >0.50 |
| GTIME x YEAR | 13 | 18.14 | 1.40 | 1.13 | >0.25 |
| Error | 425 | 523.40 | 1.23 | | |

Table 62. Analysis of deviance for spotted seatrout caught by gill net, >450 mm, spring season, 1977-1990 (Figure 14H). CPUE = catch/set.

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| GTIME | 1 | 2.28 | 2.28 | 2.38 | >0.10 |
| Year | | | | | |
| Linear | 1 | 5.21 | 5.21 | 5.43 | <0.025 |
| Quadratic | 1 | 5.06 | 5.06 | 5.27 | <0.025 |
| Other | 11 | 16.47 | 1.50 | 1.56 | 0.10 |
| GTIME x YEAR | 13 | 11.77 | 0.91 | 0.94 | >0.50 |
| Error | 425 | 406.27 | 0.96 | | |

Table 63. Analysis of deviance for blue crab caught by bag seine, <=25 mm TW, January-December, 1978-1991 (Figure 15A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 168.5 | 15.07 | 13.96 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 21.23 | 21.23 | 19.67 | <0.001 |
| Quadratic | 1 | 8.50 | 8.50 | 7.88 | 0.005 |
| Other | 11 | 69.00 | 6.27 | 5.81 | <0.001 |
| Month x Year | 141 | 441.90 | 3.13 | 2.90 | <0.001 |
| Corrected error | 1356 | 1463.70 | 1.08 | | |

Table 64. Analysis of deviance for blue crab caught by bag seine, 26-45 mm, January-December, 1978-1991 (Figure 15B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 228.9 | 20.81 | 21.46 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 21.74 | 21.74 | 22.47 | <0.001 |
| Quadratic | 1 | 2.66 | 2.66 | 2.74 | 0.10 |
| Other | 10 | 30.10 | 2.74 | 2.82 | 0.001 |
| Month x Year | 141 | 361.10 | 2.56 | 2.64 | <0.001 |
| Corrected error | 1338 | 1297.60 | 0.97 | | |

Table 65. Analysis of deviance for blue crab caught by bag seine, 46-65 mm, January-December, 1978-1991 (Figure 15C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 218.50 | 19.86 | 23.85 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 11.93 | 11.93 | 14.32 | <0.001 |
| Quadratic | 1 | 0.32 | 0.32 | 0.39 | >0.50 |
| Other | 11 | 41.00 | 3.73 | 4.47 | <0.001 |
| Month x Year | 141 | 349.00 | 2.47 | 2.97 | <0.001 |
| Corrected error | 1107 | 922.10 | 0.83 | | |

Table 66. Analysis of deviance for blue crab caught by bag seine, 66-85 mm, January-December, 1978-1991 (Figure 15D).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 155.90 | 14.17 | 18.41 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 1.17 | 1.17 | 1.51 | >0.10 |
| Quadratic | 1 | 0.10 | 0.10 | 0.14 | >0.50 |
| Other | 10 | 47.80 | 4.34 | 5.64 | <0.001 |
| Month x Year | 141 | 322.40 | 2.28 | 2.97 | <0.001 |
| Corrected error | 1108 | 852.90 | 0.77 | | |

Table 67. Analysis of deviance for blue crab caught by bag seine, 86-105 mm, January-December, 1978-1991 (Figure 15E).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 134.50 | 12.23 | 16.47 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 1.22 | 1.22 | 1.65 | >0.10 |
| Quadratic | 1 | 0.01 | 0.01 | 0.02 | >0.75 |
| Other | 11 | 51.30 | 4.66 | 6.28 | <0.001 |
| Month x Year | 141 | 310.60 | 2.20 | 2.96 | <0.001 |
| Corrected error | 1068 | 792.80 | 0.74 | | |

Table 68. Analysis of deviance for blue crab caught by bag seine, 106-125 mm, January-December, 1978-1991 (Figure 15F).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 176.10 | 16.009 | 21.19 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 4.71 | 4.71 | 6.23 | <0.025 |
| Quadratic | 1 | 1.89 | 1.89 | 2.51 | >0.10 |
| Other | 10 | 18.40 | 1.67 | 2.21 | 0.01 |
| Month x Year | 141 | 273.51 | 2.94 | 2.57 | <0.001 |
| Corrected error | 816 | 616.49 | 0.76 | | |

Table 69. Analysis of deviance for blue crab caught by bag seine, >125 mm, January-December, 1978-1991 (Figure 15G).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 154.63 | 14.06 | 21.01 | <.001 |
| YEAR | | | | | |
| Linear | 1 | 9.43 | 9.43 | 14.10 | <0.001 |
| Quadratic | 1 | 1.08 | 1.08 | 1.61 | >0.10 |
| Other | 11 | 17.55 | 1.60 | 2.39 | <0.01 |
| Month x Year | 141 | 218.01 | 1.55 | 2.31 | <0.001 |
| Corrected error | 703 | 470.27 | 0.669 | | |

Table 70. Analysis of deviance for blue crab caught by trawl, <=45 mm, January-December, 1982-1991 (Figure 16A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 345.10 | 31.37 | 40.26 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 52.31 | 52.31 | 67.13 | <0.001 |
| Quadratic | 1 | 21.16 | 21.16 | 27.15 | <0.001 |
| Other | 7 | 130.60 | 18.66 | 23.94 | <0.001 |
| Month x Year | 99 | 429.00 | 4.33 | 5.56 | <0.001 |
| Corrected error | 2172 | 1692.40 | 0.78 | | |

Table 71. Analysis of deviance for blue crab caught by trawl, 46-65 mm, January-December, 1982-1991 (Figure 16B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 918.20 | 83.47 | 104.04 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 24.81 | 24.81 | 35.41 | <0.001 |
| Quadratic | 1 | 16.51 | 16.51 | 20.58 | <0.001 |
| Other | 7 | 80.01 | 11.43 | 14.25 | <0.001 |
| Month x Year | 99 | 316.20 | 3.19 | 3.98 | <0.001 |
| Corrected error | 2224 | 1784.30 | 0.80 | | |

Table 72. Analysis of deviance for blue crab caught by trawl, 66-85 mm, January-December, 1982-1991 (Figure 16C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 1108.60 | 100.78 | 135.74 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 25.09 | 25.09 | 33.80 | <0.001 |
| Quadratic | 1 | 0.99 | 0.99 | 1.33 | 0.25 |
| Other | 7 | 99.30 | 14.19 | 19.10 | <0.001 |
| Month x Year | 99 | 321.00 | 3.24 | 4.37 | <0.001 |
| Corrected error | 1996 | 1481.90 | .74 | | |

Table 73. Analysis of deviance for blue crab caught by trawl, 86-105 mm, January-December, 1982-1991 (Figure 16D).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 755.10 | 68.65 | 99.15 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 19.45 | 19.45 | 28.09 | <0.001 |
| Quadratic | 1 | 0.02 | 0.02 | 0.03 | >0.75 |
| Other | 7 | 83.40 | 11.91 | 17.21 | <0.001 |
| Month x Year | 99 | 326.60 | 3.30 | 4.76 | <0.001 |
| Corrected error | 1711 | 1184.50 | .69 | | |

Table 74. Analysis of deviance for blue crab caught by trawl, 106-125 mm, January-December, 1982-1991 (Figure 16E).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 456.50 | 41.50 | 63.77 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 27.77 | 27.77 | 42.67 | <0.001 |
| Quadratic | 1 | 2.97 | 2.97 | 4.56 | <0.05 |
| Other | 7 | 48.70 | 6.96 | 10.69 | <0.001 |
| Month x Year | 99 | 230.20 | 2.32 | 3.57 | <0.001 |
| Corrected error | 1901 | 1237.10 | 0.65 | | |

Table 75. Analysis of deviance for blue crab caught by trawl, 126-145 mm, January-December, 1982-1991 (Figure 16F).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 433.40 | 39.40 | 63.02 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 71.55 | 71.55 | 114.45 | <0.001 |
| Quadratic | 1 | 9.80 | 9.80 | 15.68 | <0.001 |
| Other | 7 | 38.50 | 5.50 | 8.80 | <0.001 |
| Month x Year | 99 | 225.70 | 2.28 | 3.65 | <0.001 |
| Corrected error | 1653 | 1033.40 | 0.62 | | |

Table 76. Analysis of deviance for blue crab caught by trawl, >145 mm, January-December, 1982-1991 (Figure 16G).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 204.10 | 18.55 | 27.90 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 132.70 | 132.70 | 199.52 | <0.001 |
| Quadratic | 1 | 4.23 | 4.23 | 6.37 | <0.025 |
| Other | 7 | 22.10 | 3.16 | 4.75 | <0.001 |
| Month x Year | 99 | 208.00 | 2.10 | 3.16 | <0.001 |
| Corrected error | 2129 | 1416.00 | .66 | | |

Table 77. Analysis of deviance for blue crab caught by trawl, 25--45 mm, January-December, 1982-1991, in the upper zone of the Galveston Estuary (Figure 17A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 237.40 | 21.58 | 21.13 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 57.67 | 57.67 | 56.46 | <0.001 |
| Quadratic | 1 | 34.51 | 34.51 | 33.78 | <0.001 |
| Other | 7 | 87.80 | 12.54 | 12.28 | <0.001 |
| Month x Year | 99 | 461.50 | 4.66 | 4.56 | <0.001 |
| Corrected error | 899 | 918.30 | 1.02 | | |

Table 78. Analysis of deviance for blue crab caught by trawl, 25--45 mm, January-December, 1982-1991, in the lower zone of the Galveston Estuary (Figure 17A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 213.30 | 19.39 | 17.08 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 16.50 | 16.50 | 14.53 | <0.001 |
| Quadratic | 1 | 3.20 | 3.20 | 2.82 | >0.05 |
| Other | 7 | 73.40 | 10.48 | 9.24 | <0.001 |
| Month x Year | 99 | 280.80 | 2.84 | 2.50 | <0.001 |
| Corrected error | 774 | 878.50 | 1.13 | | |

Table 79. Analysis of deviance for blue crab caught by trawl, 50-70 mm, January-December, 1982-1991, in the upper zone of the Galveston Estuary (Figure 17B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 780.30 | 70.94 | 71.50 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 29.54 | 29.54 | 29.77 | <0.001 |
| Quadratic | 1 | 24.08 | 24.08 | 24.27 | <0.001 |
| Other | 7 | 62.40 | 8.91 | 8.98 | <0.001 |
| Month x Year | 99 | 340.00 | 3.43 | 3.46 | <0.001 |
| Corrected error | 962 | 954.40 | 0.992 | | |

Table 80. Analysis of deviance for blue crab caught by trawl, 50-70 mm, January-December, 1982-1991, in the lower zone of the Galveston Estuary (Figure 17B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 595.60 | 54.14 | 53.25 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 19.98 | 19.98 | 19.65 | <0.001 |
| Quadratic | 1 | 0.01 | 0.01 | 0.01 | >0.75 |
| Other | 7 | 73.50 | 10.50 | 10.33 | <0.001 |
| Month x Year | 99 | 242.80 | 2.45 | 2.41 | <0.001 |
| Corrected error | 864 | 878.50 | 1.02 | | |

Table 81. Analysis of deviance for blue crab caught by trawl, 120-140 mm, January-December, 1982-1991, in the upper zone of the Galveston Estuary (Figure 17C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 282.85 | 25.71 | 27.20 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 58.04 | 58.04 | 61.37 | <0.001 |
| Quadratic | 1 | 19.93 | 19.93 | 21.07 | <0.001 |
| Other | 7 | 37.43 | 5.35 | 5.65 | <0.001 |
| Month x Year | 99 | 246.75 | 2.49 | 2.63 | <0.001 |
| Corrected error | 692 | 654.40 | 0.95 | | |

Table 82. Analysis of deviance for blue crab caught by trawl, 120-140 mm, January-December, 1982-1991, in the lower zone of the Galveston Estuary (Figure 17C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 299.54 | 27.23 | 44.17 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 19.02 | 19.02 | 30.85 | <0.001 |
| Quadratic | 1 | 0.09 | 0.09 | 0.14 | >0.50 |
| Other | 7 | 28.23 | 4.03 | 6.54 | <0.001 |
| Month x Year | 99 | 153.38 | 1.55 | 2.51 | <0.001 |
| Corrected error | 684 | 421.66 | 0.62 | | |

Table 83. Analysis of deviance for blue crab caught by bag seine, 25-45 mm, January-December, 1986-1990, in Sabine Lake (Figure 21A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 87.40 | 7.95 | 12.22 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 24.72 | 24.72 | 38.03 | <0.001 |
| Quadratic | 1 | 1.35 | 1.35 | 2.08 | >0.10 |
| Other | 2 | 1.11 | 0.55 | 0.85 | >0.25 |
| Month x Year | 44 | 117.65 | 2.67 | 2.67 | <0.001 |
| Corrected error | 643 | 420.45 | .65 | | |

Table 84. Analysis of deviance for blue crab caught by bag seine, 25-45 mm, January-December, 1978-1990, in Matagorda Bay (Figure 21B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 218.8 | 19.89 | 28.42 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 7.50 | 7.50 | 10.71 | <0.005 |
| Quadratic | 1 | 4.30 | 4.30 | 6.14 | <0.025 |
| Other | 10 | 40.60 | 4.06 | 5.80 | <0.001 |
| Month x Year | 131 | 400.60 | 3.06 | 4.37 | <0.001 |
| Corrected error | 1292 | 907.10 | 0.70 | | |

Table 85. Analysis of deviance for blue crab caught by bag seine, 25-45 mm, January-December, 1983-1990, in East Matagorda Bay (Figure 21C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 140.50 | 12.77 | 15.77 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 49.10 | 49.10 | 60.62 | <0.001 |
| Quadratic | 1 | 15.0 | 15.0 | 18.52 | <0.001 |
| Other | 5 | 23.40 | 4.68 | 5.78 | <0.001 |
| Month x Year | 76 | 242.00 | 3.18 | 3.93 | <0.001 |
| Corrected error | 953 | 771.60 | 0.81 | | |

Table 86. Analysis of deviance for blue crab caught by bag seine, 25-45 mm, January-December, 1978-1990, in San Antonio Bay (Figure 21D).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 203.80 | 18.53 | 24.38 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.80 | 0.80 | 1.05 | >0.25 |
| Quadratic | 1 | 9.70 | 9.70 | 12.76 | <0.001 |
| Other | 10 | 39.70 | 3.97 | 5.22 | <0.001 |
| Month x Year | 131 | 385.60 | 2.94 | 3.87 | <0.001 |
| Corrected error | 1299 | 987.10 | 0.76 | | |

Table 87. Analysis of deviance for blue crab caught by bag seine, 25-45 mm, January-December, 1978-1990, in Aransas Bay (Figure 21E).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 112.80 | 10.25 | 11.03 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 44.10 | 44.10 | 47.42 | <0.001 |
| Quadratic | 1 | 1.30 | 1.30 | 1.40 | >0.25 |
| Other | 10 | 142.10 | 14.21 | 15.28 | <0.001 |
| Month x Year | 131 | 410.90 | 3.14 | 3.37 | <0.001 |
| Corrected error | 1308 | 1214.40 | 0.93 | | |

Table 88. Analysis of deviance for blue crab caught by bag seine, 25-45 mm, January-December, 1978-1990, in Corpus Christi Bay (Figure 21F).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 194.10 | 17.65 | 18.38 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 3.80 | 3.80 | 3.96 | <0.05 |
| Quadratic | 1 | 7.50 | 7.50 | 7.81 | <0.01 |
| Other | 10 | 99.0 | 9.90 | 10.31 | <0.01 |
| Month x Year | 131 | 446.10 | 3.41 | 3.55 | <0.001 |
| Corrected error | 1311 | 1260.40 | 0.96 | | |

Table 89. Analysis of deviance for blue crab caught by bag seine, 25-45 mm, January-December, 1978-1990, in the Upper Laguna Madre (Figure 21G).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 291.20 | 26.47 | 41.36 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 63.50 | 63.50 | 99.22 | <0.001 |
| Quadratic | 1 | 2.40 | 2.40 | 3.75 | >0.05 |
| Other | 10 | 49.40 | 4.94 | 7.72 | <0.001 |
| Month x Year | 131 | 324.10 | 2.47 | 99.22 | <0.001 |
| Corrected error | 1281 | 824.70 | 0.64 | | |

Table 90. Analysis of deviance for blue crab caught by bag seine, 25-45 mm, January-December, 1978-1990, in the Lower Laguna Madre (Figure 21H).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 255.20 | 23.20 | 24.68 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 59.00 | 59.00 | 62.77 | <0.001 |
| Quadratic | 1 | 16.90 | 16.90 | 17.98 | <0.001 |
| Other | 10 | 151.30 | 15.31 | 16.10 | <0.001 |
| Month x Year | 131 | 451.90 | 3.45 | 3.67 | <0.001 |
| Corrected error | 1312 | 1239.40 | 0.94 | | |

Table 91. Analysis of deviance for blue crab caught by trawl, 25-45 mm, January-December, 1987-1991, in Sabine Lake (Figure 22A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 17.68 | 1.61 | 3.58 | >0.05 |
| YEAR | | | | | |
| Linear | 1 | 56.93 | 56.93 | 126.51 | <0.001 |
| Quadratic | 1 | 0.30 | 0.30 | 0.67 | >0.25 |
| Other | 2 | 62.46 | 31.23 | 69.40 | <0.001 |
| Month x Year | 44 | 120.81 | 2.75 | 6.10 | <0.001 |
| Corrected error | 983 | 444.01 | 0.45 | | |

Table 92. Analysis of deviance for blue crab caught by trawl, 50-70 mm, January-December, 1987-91, in Sabine Lake (Figure 22A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 34.57 | 3.14 | 22.45 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.00 | 0.00 | 0.00 | >0.75 |
| Quadratic | 1 | 2.20 | 2.20 | 15.71 | <0.001 |
| Other | 2 | 2.54 | 1.27 | 9.07 | <0.001 |
| Month x Year | 44 | 64.04 | 1.46 | 10.40 | <0.001 |
| Corrected error | 985 | 138.68 | 0.14 | | |

Table 93. Analysis of deviance for blue crab caught by trawl, 120-140 mm, January-December, 1987-1991, in Sabine Lake (Figure 22A).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 57.93 | 5.27 | 10.75 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.01 | 0.01 | 0.02 | >0.75 |
| Quadratic | 1 | 0.31 | 0.31 | 0.63 | >0.25 |
| Other | 2 | 15.25 | 7.63 | 15.56 | <0.001 |
| Month x Year | 44 | 111.02 | 2.52 | 5.15 | <0.001 |
| Corrected error | 1007 | 494.48 | 0.49 | | |

Table 94. Analysis of deviance for blue crab caught by trawl, 25-45 mm, January-December, 1982-1990, in Matagorda Bay (Figure 22B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 173.49 | 15.77 | 46.39 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.66 | 0.66 | 1.94 | >0.10 |
| Quadratic | 1 | 21.84 | 21.84 | 64.24 | <0.001 |
| Other | 6 | 16.36 | 2.73 | 8.02 | <0.001 |
| Month x Year | 84 | 255.71 | 3.04 | 8.95 | <0.001 |
| Corrected error | 1942 | 655.80 | 0.34 | | |

Table 95. Analysis of deviance for blue crab caught by trawl, 50-70 mm, January-December, 1982-90, in Matagorda Bay (Figure 22B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 266.00 | 24.18 | 56.24 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 6.50 | 6.50 | 15.12 | <0.001 |
| Quadratic | 1 | 38.60 | 38.60 | 89.77 | <0.001 |
| Other | 6 | 44.20 | 7.37 | 17.13 | <0.001 |
| Month x Year | 84 | 237.40 | 2.83 | 6.57 | <0.001 |
| Corrected error | 1949 | 839.00 | 0.43 | | |

Table 96. Analysis of deviance for blue crab caught by trawl, 120-140 mm, January-December, 1982-1990, in Matagorda Bay (Figure 22B).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 374.18 | 34.02 | 97.19 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 1.00 | 1.00 | 2.86 | >0.05 |
| Quadratic | 1 | 9.16 | 9.16 | 26.17 | <0.001 |
| Other | 6 | 33.01 | 5.50 | 15.72 | <0.001 |
| Month x Year | 84 | 124.72 | 1.48 | 4.24 | <0.001 |
| Corrected error | 1938 | 685.7 | 0.35 | | |

Table 97. Analysis of deviance for blue crab caught by trawl, 25-45 mm, January-December, 1982-1990, in San Antonio Bay (Figure 22C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 515.40 | 46.85 | 70.99 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 195.40 | 195.40 | 296.06 | <0.001 |
| Quadratic | 1 | 6.80 | 6.80 | 10.30 | <0.005 |
| Other | 6 | 74.50 | 12.42 | 18.81 | <0.001 |
| Month x Year | 88 | 257.80 | 2.93 | 4.44 | <0.001 |
| Corrected error | 2043 | 1355.40 | 0.66 | | |

Table 98. Analysis of deviance for blue crab caught by trawl, 50-70 mm, January-December, 1982-90, in San Antonio Bay (Figure 22C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 663.60 | 60.33 | 72.68 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 121.40 | 121.40 | 146.2 | <0.001 |
| Quadratic | 1 | 8.90 | 8.90 | 10.72 | <0.005 |
| Other | 6 | 102.90 | 17.15 | 20.66 | <0.001 |
| Month x Year | 88 | 250.80 | 2.85 | 3.43 | <0.001 |
| Corrected error | 2049 | 1700.60 | 0.83 | | |

Table 99. Analysis of deviance for blue crab caught by trawl, 120-140 mm, January-December, 1982-1990, in San Antonio Bay (Figure 22C).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 329.70 | 29.97 | 46.11 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 84.40 | 84.40 | 129.85 | <0.001 |
| Quadratic | 1 | 12.60 | 12.60 | 19.38 | <0.001 |
| Other | 6 | 128.40 | 21.40 | 32.92 | <0.001 |
| Month x Year | 88 | 185.90 | 2.11 | 3.25 | <0.001 |
| Corrected error | 2043 | 1318.5 | 0.65 | | |

Table 100. Analysis of deviance for blue crab caught by trawl, 25-45 mm, January-December, 1982-1990, in Aransas Bay (Figure 22D).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 739.10 | 67.19 | 95.99 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 1.80 | 1.80 | 2.57 | <0.10 |
| Quadratic | 1 | 0.60 | 0.60 | 0.86 | >0.25 |
| Other | 6 | 149.10 | 24.85 | 35.50 | <0.001 |
| Month x Year | 88 | 426.30 | 4.84 | 6.92 | <0.001 |
| Corrected error | 2048 | 1440.80 | 0.70 | | |

Table 101. Analysis of deviance for blue crab caught by trawl, 50-70 mm, January-December, 1982-90, in Aransas Bay (Figure 22D).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 859.40 | 78.13 | 95.28 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 3.60 | 3.60 | 4.39 | <0.05 |
| Quadratic | 1 | 6.60 | 6.60 | 8.05 | <0.005 |
| Other | 6 | 129.90 | 21.65 | 26.40 | <0.001 |
| Month x Year | 88 | 393.90 | 4.48 | 5.46 | <0.001 |
| Corrected error | 2049 | 1681.4 | 0.82 | | |

Table 102. Analysis of deviance for blue crab caught by trawl, 120-140 mm, January-December, 1982-1990, in Aransas Bay (Figure 22D).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 318.4 | 28.95 | 48.24 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 2.70 | 2.70 | 4.50 | <0.05 |
| Quadratic | 1 | 8.10 | 8.10 | 13.50 | <0.001 |
| Other | 6 | 40.20 | 6.70 | 11.17 | <0.001 |
| Month x Year | 88 | 287.50 | 3.27 | 5.45 | <0.001 |
| Corrected error | 2036 | 1225.90 | 0.60 | | |

Table 103. Analysis of deviance for blue crab caught by trawl, 25-45 mm, January-December, 1982-1990, in Corpus Christi Bay (Figure 22E).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 239.63 | 21.78 | 75.12 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.58 | 0.58 | 2.00 | >0.10 |
| Quadratic | 1 | 6.90 | 6.90 | 23.79 | <0.001 |
| Other | 6 | 50.52 | 8.42 | 29.03 | <0.001 |
| Month x Year | 84 | 190.17 | 2.26 | 7.81 | <0.001 |
| Corrected error | 2282 | 670.2 | 0.29 | | |

Table 104. Analysis of deviance for blue crab caught by trawl, 50-70 mm, January-December, 1982-90, in Corpus Christi Bay (Figure 22E).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 570.10 | 51.83 | 140.07 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 2.20 | 2.20 | 6.95 | <0.025 |
| Quadratic | 1 | 0.10 | 0.10 | 0.27 | >0.50 |
| Other | 6 | 128.50 | 21.42 | 57.88 | <0.001 |
| Month x Year | 84 | 195.70 | 2.33 | 6.30 | <0.001 |
| Corrected error | 2278 | 831.70 | 0.37 | | |

Table 105. Analysis of deviance for blue crab caught by trawl, 120-140 mm, January-December, 1982-1990, in Corpus Christi Bay (Figure 22E).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 588.40 | 53.49 | 118.87 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.30 | 0.30 | 0.67 | >0.25 |
| Quadratic | 1 | 0.90 | 0.90 | 2.00 | >0.10 |
| Other | 6 | 84.80 | 14.15 | 31.44 | <0.001 |
| Month x Year | 84 | 204.20 | 2.43 | 5.40 | <0.001 |
| Corrected error | 2291 | 1033.10 | 0.45 | | |

Table 106. Analysis of deviance for blue crab caught by trawl, 25-45 mm, January-December, 1982-1990, in the Upper Laguna Madre (Figure 22F).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 53.40 | 4.85 | 26.97 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 1.04 | 1.04 | 5.78 | <0.025 |
| Quadratic | 1 | 0.52 | 0.52 | 2.89 | >0.50 |
| Other | 6 | 14.06 | 2.34 | 13.02 | <0.001 |
| Month x Year | 84 | 85.92 | 1.02 | 5.98 | 0.001 |
| Corrected error | 861 | 154.34 | 0.18 | | |

Table 107. Analysis of deviance for blue crab caught by trawl, 50-70 mm, January-December, 1982-90, in the Upper Laguna Madre (Figure 22F).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 185.72 | 16.88 | 43.29 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 9.27 | 9.27 | 23.77 | <0.001 |
| Quadratic | 1 | 12.20 | 12.20 | 31.28 | <0.001 |
| Other | 6 | 40.60 | 6.77 | 17.35 | <0.001 |
| Month x Year | 84 | 148.93 | 1.77 | 4.55 | <0.001 |
| Corrected error | 884 | 345.35 | 0.39 | | |

Table 108. Analysis of deviance for blue crab caught by trawl, 120-140 mm, January-December, 1982-1990, in the Upper Laguna Madre (Figure 22F).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 122.47 | 11.13 | 21.83 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 20.14 | 20.14 | 39.49 | <0.001 |
| Quadratic | 1 | 19.07 | 19.07 | 37.39 | <0.001 |
| Other | 6 | 41.82 | 6.97 | 13.67 | <0.001 |
| Month x Year | 84 | 174.84 | 2.08 | 4.08 | <0.001 |
| Corrected error | 899 | 456.79 | 0.51 | | |

Table 109. Analysis of deviance for blue crab caught by trawl, 25-45 mm, January-December, 1982-1990, in the Lower Laguna Madre (Figure 22G).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 123.29 | 11.21 | 25.47 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 3.98 | 3.98 | 9.05 | <0.005 |
| Quadratic | 1 | 0.17 | 0.17 | 0.39 | >0.50 |
| Other | 6 | 7.87 | 1.31 | 2.98 | <0.01 |
| Month x Year | 84 | 244.19 | 2.91 | 6.61 | 0.001 |
| Corrected error | 890 | 392.49 | 0.44 | | |

Table 110. Analysis of deviance for blue crab caught by trawl, 50-70 mm, January-December, 1982-90, in the Lower Laguna Madre (Figure 22G).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 623.70 | 56.70 | 70.00 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 0.36 | 0.36 | 0.44 | <0.001 |
| Quadratic | 1 | 2.29 | 2.29 | 2.83 | >0.05 |
| Other | 6 | 92.17 | 15.36 | 18.97 | <0.001 |
| Month x Year | 84 | 150.20 | 1.79 | 2.21 | <0.001 |
| Corrected error | 911 | 737.10 | 0.81 | | |

Table 111. Analysis of deviance for blue crab caught by trawl, 120-140 mm, January-December, 1982-1990, in the Lower Laguna Madre (Figure 22G).

| Source of Variation | D.F. | Deviance | M.D. | F | P |
|---|---|---|---|---|---|
| Month | 11 | 223.87 | 20.35 | 27.14 | <0.001 |
| YEAR | | | | | |
| Linear | 1 | 16.31 | 16.31 | 21.75 | <0.001 |
| Quadratic | 1 | 0 | 0 | 0 | >0.75 |
| Other | 6 | 86.79 | 14.47 | 19.29 | <0.001 |
| Month x Year | 84 | 153.53 | 1.83 | 2.44 | <0.001 |
| Corrected error | 920 | 691.70 | 0.75 | | |

Table 112. Analysis of variance table for snowy egrets (Figure 25). TCWS data. From Slack et al. (1992).

| | $r^2$ | df | F | P | Parameter Estimate |
|---|---|---|---|---|---|
| Total Birds | | | | | |
| Model | 0.28 | 1 | 6.33 | 0.023 | |
| Year | | 1 | 6.33 | 0.023 | -57.91 |
| Birds/Colony | | | | | |
| Model | 0.02 | 1 | 11.83 | <0.001 | |
| Year | | 1 | 11.83 | <0.001 | -3.91 |

Table 113. Analysis of variance table for black skimmers (Figure 26). TCWS data. From Slack et al. (1992).

| | $r^2$ | df | F | P | Parameter Estimate |
|---|---|---|---|---|---|
| Total Birds | | | | | |
| Model | 0.27 | 1 | 5.98 | 0.026 | |
| Year | | 1 | 5.98 | 0.026 | -95.08 |
| Birds/Colony | | | | | |
| Model | 0.07 | 1 | 18.77 | <0.001 | |
| Year | | 1 | 7.78 | 0.006 | -120.90 |
| $Year^2$ | | 1 | 6.95 | 0.009 | 0.70 |

Table 114. Analysis of variance table for tricolored herons (Figure 27). TCWS data. From Slack et al. (1992).

| | $r^2$ | df | F | P | Parameter Estimate |
|---|---|---|---|---|---|
| Total Birds | | | | | |
| Model | 0.27 | 1 | 5.83 | 0.028 | |
| Year | | 1 | 5.83 | 0.028 | -87.81 |
| Number of Colonies | | | | | |
| Model | 0.44 | 1 | 12.46 | 0.003 | |
| Year | | 1 | 12.46 | 0.003 | 0.45 |
| Birds/Colony | | | | | |
| Model | 0.03 | 2 | 8.53 | <0.001 | |
| Year | | 1 | 5.08 | 0.025 | -143.13 |
| $Year^2$ | | 1 | 4.65 | 0.031 | 0.83 |

Table 115. Analysis of variance table for roseate spoonbills (Figure 28). TCWS data. From Slack et al. (1992).

| | $r^2$ | df | F | P | Parameter Estimate |
|---|---|---|---|---|---|
| Total Birds | | | | | |
| Model | 0.30 | 1 | 6.77 | 0.019 | |
| Year | | 1 | 6.77 | 0.019 | -28.51 |
| Birds/Colony | | | | | |
| Model | 0.02 | 1 | 9.51 | 0.002 | |
| Year | | 1 | 9.51 | 0.002 | -2.25 |

Table 116. Analysis of variance table for great egrets (Figure 29). TCWS data. From Slack et al. (1992).

| | $r^2$ | df | F | P | Parameter Estimate |
|---|---|---|---|---|---|
| Number of Colonies | | | | | |
| Model | 0.44 | 3 | 3.65 | 0.039 | |
| Year | | 1 | 6.47 | 0.023 | 190.18 |
| $Year^2$ | | 1 | 6.31 | 0.025 | -2.31 |
| $Year^3$ | | 1 | 6.15 | 0.027 | 0.01 |
| Birds/Colony | | | | | |
| Model | 0.01 | 1 | 4.23 | 0.040 | |
| Year | | 1 | 4.23 | 0.040 | -2.35 |

Table 117. Analysis of variance table for olivaceous cormorants (Figure 30). TCWS data. From Slack et al. (1992).

| | $r^2$ | df | F | P | Parameter Estimate |
|---|---|---|---|---|---|
| Total Birds | | | | | |
| Model | 0.27 | 1 | 5.87 | 0.028 | |
| Year | | 1 | 5.87 | 0.028 | 40.24 |
| Number of Colonies | | | | | |
| Model | 0.59 | 1 | 23.39 | <0.001 | |
| Year | | 1 | 23.39 | <0.001 | 0.37 |

Table 118. Analysis of variance table for mottled ducks (Figure 31). Mid-winter Waterfowl Transects data. From Slack et al. (1992).

| | $r^2$ | df | F | P | Parameter Estimate |
|---|---|---|---|---|---|
| Model | 0.74 | 3 | 13.15 | <0.001 | |
| Transect | | 2 | 14.88 | <0.001 | |
| Year | | 1 | 9.68 | 0.008 | -5.11 |
| Year*Transect | | 2 | 5.44 | 0.021 | |

Table 119. Analysis of variance table for northern pintails (Figure 32). Mid-winter Waterfowl Transects data. From Slack et al. (1992).

| | $r^2$ | df | F | P | Parameter Estimate |
|---|---|---|---|---|---|
| Model (log) | 0.98 | 3 | 189.77 | <0.001 | |
| Transect | | 2 | 280.01 | <0.001 | |
| Year | | 1 | 9.30 | 0.008 | -0.26 |
| Year*Transect | | 2 | 7.93 | 0.006 | |

Table 120. Analysis of variance table for blue-winged teal (Figure 33). Mid-winter Waterfowl Transects data. From Slack et al. (1992).

| | $r^2$ | df | F | P | Parameter Estimate |
|---|---|---|---|---|---|
| Model (log) | 0.69 | 4 | 7.23 | 0.003 | |
| Transect | | 2 | 11.43 | 0.001 | |
| Year | | 1 | 6.07 | 0.029 | 49.89 |
| $Year^2$ | | 1 | 6.07 | 0.029 | -0.28 |
| Year*Transect | | 2 | 0.00 | 0.995 | |