

Análisis de sensibilidad Anchoveta Centro-sur

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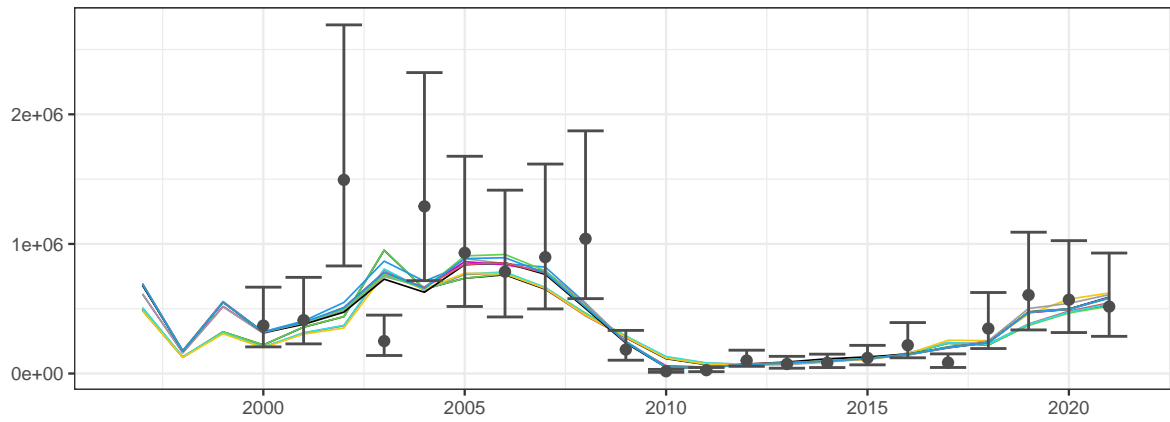
Sensibilidad a los coeficientes de variación de los índices de cruceros acústicos y crucero de huevos

Tabla 1. Escenarios de sensibilidad respecto a coeficientes de variación (CV) de cruceros acústicos y mpdh

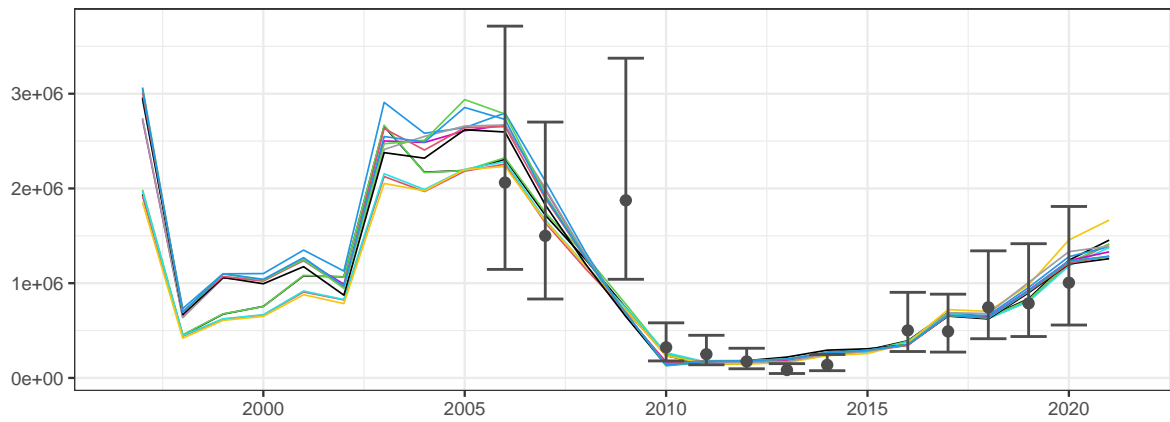
| Escenarios | Descripción |
|------------|--|
| S1 | igual a caso base |
| S2 | cambia CV MPDH a 0.3 |
| S3 | cambia CV crucero otoño a 0.25 |
| S4 | cambia CV crucero verano a 0.15 |
| S5 | cambia CV mpdh 0.3 y CV crucero otoño a 0.25 |
| S6 | cambia CV mpdh 0.3, CV crucero otoño a 0.25 y CV crucero verano 0.15 |
| S7 | índice MPDH actualizado, CV mpdh 0.3, CV crucero otoño a 0.30 y CV crucero verano 0.30 |
| S8 | índice MPDH actualizado, CV mpdh 0.3, CV crucero otoño a 0.25 y CV crucero verano 0.15 |
| S9 | CV de crucero mpdh = 0.3, CV pelaces = 0.25, CV reclas = 0.15, cambia índice de mpdh N°1 |
| S10 | CV de crucero mpdh = 0.3, CV pelaces = 0.25, CV reclas = 0.15, cambia índice de mpdh N°2 |
| S11 | CV de crucero mpdh = 0.3, CV pelaces = 0.25, CV reclas = 0.15, cambia índice de mpdh N°3 |
| S12 | CV de crucero mpdh = 0.3, CV pelaces = 0.25, CV reclas = 0.15, cambia índice de mpdh N°4 |



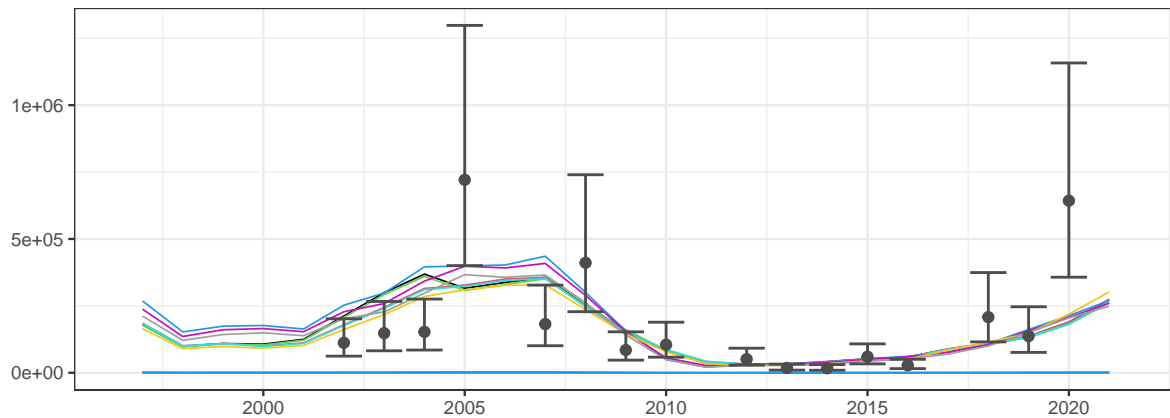
Crucero_verano

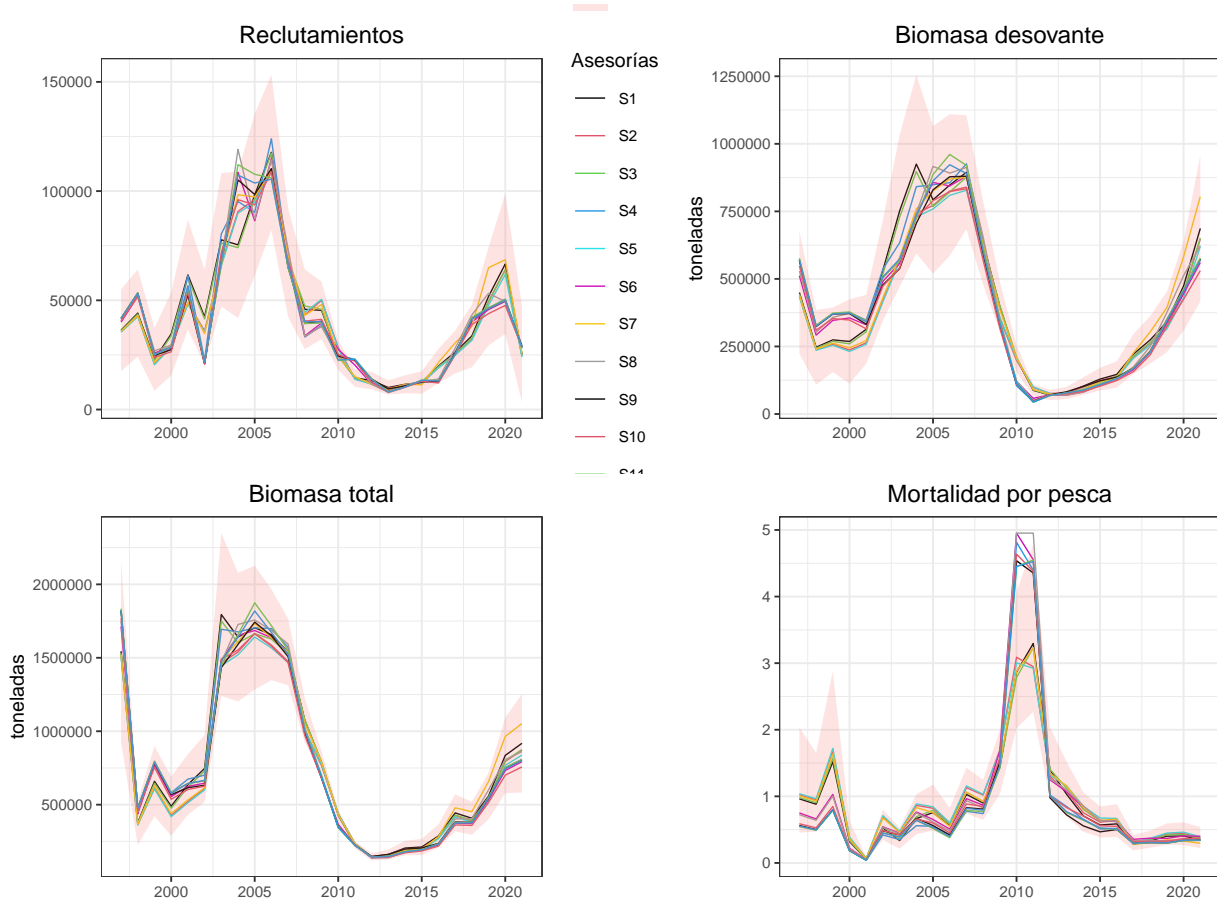


Crucero_Otoño



Crucero_huevos

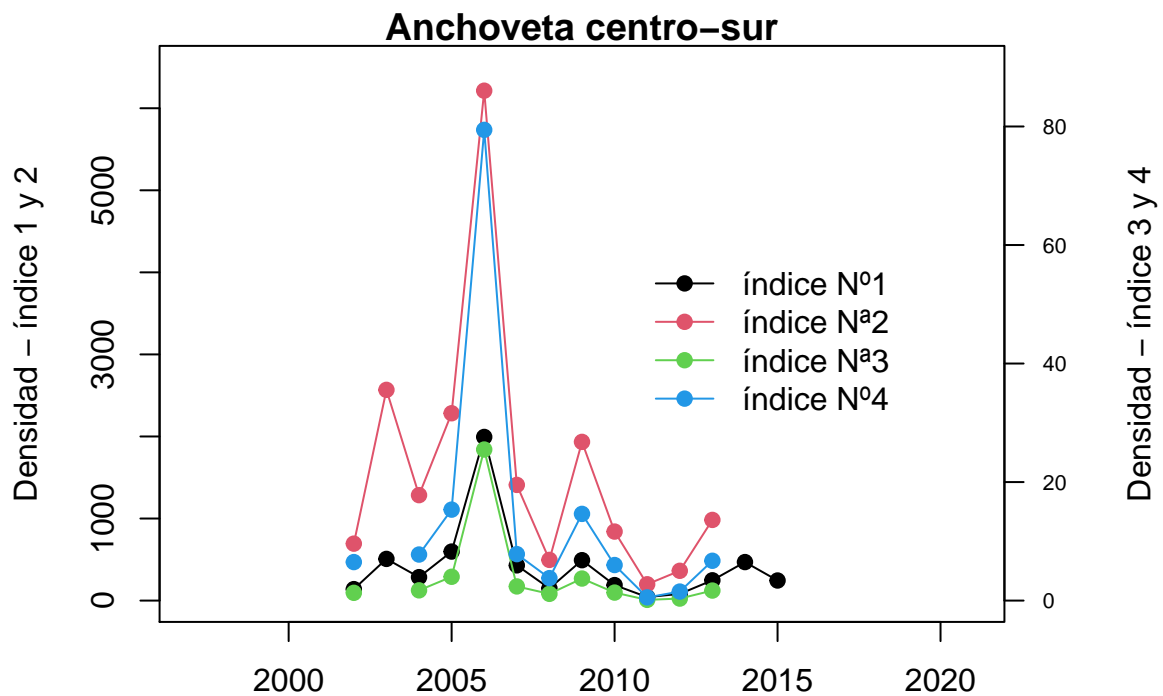


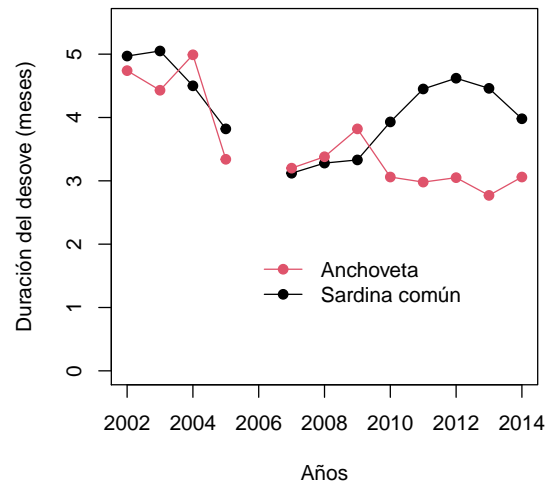
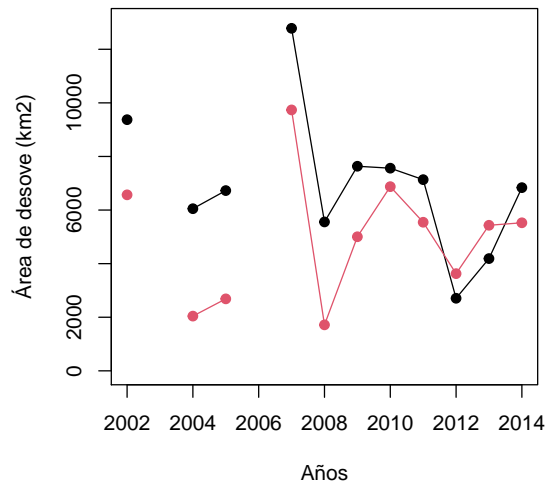


| | ind1 | ind2 | ind3 | ind4 |
|------|--------|------|-------|-------|
| 1997 | NA | NA | NA | NA |
| 1998 | NA | NA | NA | NA |
| 1999 | NA | NA | NA | NA |
| 2000 | NA | NA | NA | NA |
| 2001 | NA | NA | NA | NA |
| 2002 | NA | NA | NA | NA |
| 2003 | NA | NA | NA | NA |
| 2004 | NA | NA | NA | NA |
| 2005 | NA | NA | NA | NA |
| 2006 | NA | NA | NA | NA |
| 2007 | NA | NA | NA | NA |
| 2008 | 246.4 | 1168 | 1.62 | 7.67 |
| 2009 | 17.6 | 78 | NA | NA |
| 2010 | 13.1 | 65 | 0.03 | 0.13 |
| 2011 | 84.8 | 283 | 0.23 | 0.76 |
| 2012 | NA | NA | NA | NA |
| 2013 | 1304.8 | 4175 | 12.70 | 40.65 |
| 2014 | 192.8 | 652 | 0.33 | 1.12 |
| 2015 | 157.4 | 601 | 0.79 | 3.01 |



| | ind1 | ind2 | ind3 | ind4 |
|------|-------|------|------|------|
| 2016 | 59.5 | 182 | 0.41 | 1.25 |
| 2017 | 402.8 | 1200 | 2.23 | 6.66 |
| 2018 | 43.2 | 132 | 0.16 | 0.48 |
| 2019 | 356.7 | 988 | 1.94 | 5.37 |
| 2020 | 335.8 | 1028 | 1.86 | 5.68 |
| 2021 | 342.3 | NA | NA | NA |
| 1997 | 403.6 | NA | NA | NA |
| 1998 | NA | NA | NA | NA |
| 1999 | NA | NA | NA | NA |
| 2000 | NA | NA | NA | NA |
| 2001 | NA | NA | NA | NA |
| 2002 | NA | NA | NA | NA |







Corrección de las capturas

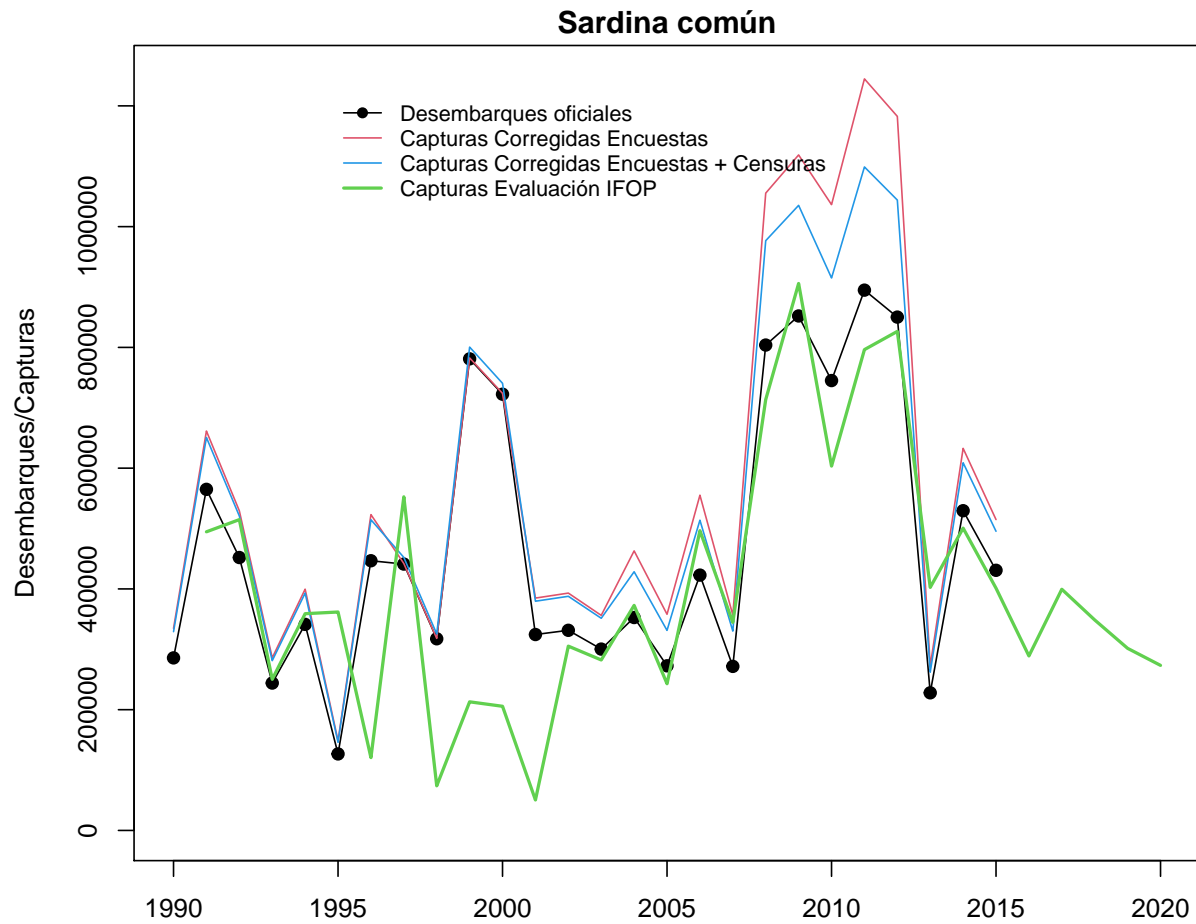
Capturas corregidas por periodo y método en sardina común y anchoveta centro-sur. Desembarque oficial indica aquella serie de captura construida con información de SERNAPESCA descrita en este proyecto. "Prop. Encuesta" indica la proporción de corrección considerando descarte y sub-reportes solo con información desde encuestas. "Prop. Encuesta más Censura" indica la proporción resultante de combinar la información desde encuestas con el método estadístico de datos censurador. "Captura Cor." Indica la captura corregida usando las proporciones descritas. "CV" indica el coeficiente de variación de la estimación de captura corregida.

Análisis de sardina común

| Año.biológico | Desembarques.t. | Porcentaje.descarte | Captura.descartada.t. | Captura.total.t. |
|---------------|-----------------|---------------------|-----------------------|------------------|
| 1990-91 | 494567 | 0 % | 0 | 494567 |
| 1991-92 | 514787 | 0 % | 0 | 514787 |
| 1992-93 | 250237 | 0 % | 0 | 250237 |
| 1993-94 | 358949 | 0 % | 0 | 358949 |
| 1994-95 | 361735 | 0 % | 0 | 361735 |
| 1995-96 | 120608 | 0 % | 0 | 120608 |
| 1996-97 | 552515 | 0 % | 0 | 552515 |
| 1997-98 | 73892 | 0 % | 0 | 73892 |
| 1998-99 | 212993 | 0 % | 0 | 212993 |
| 1999-00 | 205616 | 0 % | 0 | 205616 |
| 2000-01 | 50451 | 4 % | 2018 | 52469 |
| 2001-02 | 305257 | 4 % | 12210 | 317467 |
| 2002-03 | 282360 | 4 % | 11294 | 293654 |
| 2003-04 | 372689 | 4 % | 14908 | 387597 |
| 2004-05 | 242976 | 4 % | 9719 | 252695 |
| 2005-06 | 496438 | 4 % | 19858 | 516296 |
| 2006-07 | 344596 | 4 % | 13784 | 358380 |
| 2007-08 | 713623 | 4 % | 28545 | 742168 |
| 2008-09 | 905818 | 4 % | 36233 | 942051 |
| 2009-10 | 603450 | 4 % | 24138 | 627588 |
| 2010-11 | 796319 | 4 % | 31853 | 828172 |
| 2011-12 | 826505 | 4 % | 33060 | 859565 |
| 2012,13 | 402507 | 4 % | 16100 | 418607 |
| 2013-14 | 500641 | 4 % | 20026 | 520667 |
| 2014-15 | 401201 | 4 % | 16048 | 417249 |
| 2015-16 | 289013 | 4 % | 11561 | 300574 |
| 2016-17 | 399415 | 2 % | 7988 | 407403 |
| 2017-18 | 348574 | 2 % | 6971 | 355545 |
| 2018-19 | 301557 | 6 % | 18093 | 319650 |
| 2019-20 | 273376 | 6 % | 16403 | 289779 |
| 2020-21 | 210827 | 4 % | 8433 | 219260 |



| year | desemoficial | propEnc | propEncCens | CapCorrEnc | CapCorrEncCens | CV |
|------|--------------|---------|-------------|------------|----------------|-------|
| 1990 | 285757 | 0.171 | 0.152 | 334621 | 329192 | 0.194 |
| 1991 | 564879 | 0.171 | 0.152 | 661473 | 650741 | 0.194 |
| 1992 | 452012 | 0.171 | 0.152 | 529306 | 520718 | 0.194 |
| 1993 | 244101 | 0.171 | 0.152 | 285842 | 281204 | 0.194 |
| 1994 | 341247 | 0.171 | 0.152 | 399600 | 393117 | 0.194 |
| 1995 | 126715 | 0.171 | 0.152 | 148383 | 145976 | 0.194 |
| 1996 | 446669 | 0.171 | 0.152 | 523049 | 514563 | 0.194 |
| 1997 | 441149 | 0.002 | 0.025 | 442031 | 452178 | 0.186 |
| 1998 | 317416 | 0.002 | 0.025 | 318051 | 325351 | 0.186 |
| 1999 | 781004 | 0.002 | 0.025 | 782566 | 800529 | 0.186 |
| 2000 | 722465 | 0.002 | 0.025 | 723910 | 740527 | 0.186 |
| 2001 | 324462 | 0.186 | 0.170 | 384812 | 379621 | 0.188 |
| 2002 | 331440 | 0.186 | 0.170 | 393088 | 387785 | 0.188 |
| 2003 | 300337 | 0.186 | 0.170 | 356200 | 351394 | 0.188 |
| 2004 | 352626 | 0.313 | 0.215 | 462998 | 428441 | 0.163 |
| 2005 | 272645 | 0.313 | 0.215 | 357983 | 331264 | 0.163 |
| 2006 | 422865 | 0.313 | 0.215 | 555222 | 513781 | 0.163 |
| 2007 | 271702 | 0.313 | 0.215 | 356745 | 330118 | 0.163 |
| 2008 | 803891 | 0.313 | 0.215 | 1055509 | 976728 | 0.163 |
| 2009 | 852043 | 0.313 | 0.215 | 1118732 | 1035232 | 0.163 |
| 2010 | 745086 | 0.391 | 0.228 | 1036415 | 914966 | 0.169 |
| 2011 | 894836 | 0.391 | 0.228 | 1244717 | 1098859 | 0.169 |
| 2012 | 850170 | 0.391 | 0.228 | 1182586 | 1044009 | 0.169 |
| 2013 | 227927 | 0.195 | 0.150 | 272373 | 262116 | 0.165 |
| 2014 | 529537 | 0.195 | 0.150 | 632797 | 608968 | 0.165 |
| 2015 | 430834 | 0.195 | 0.150 | 514847 | 495459 | 0.165 |





Análisis de anchoveta centro-sur

Tabla x.

Desembarques en toneladas, porcentaje de descarte supuesto, captura descartada (toneladas) y captura total (toneladas) estimadas en año biológico para anchoveta de las Regiones de Valparaíso a Los Lagos.

| Año.biológico | Desembarques.t. | Porcentaje.descarte | Captura.descartada.t. | Captura.total.t. |
|---------------|-----------------|---------------------|-----------------------|------------------|
| 1996-97 | 350755 | 0 % | 0 | 350755 |
| 1997-98 | 77701 | 0 % | 0 | 77701 |
| 1998-99 | 442110 | 0 % | 0 | 442110 |
| 1999-00 | 56441 | 0 % | 0 | 56441 |
| 2000-01 | 13986 | 4 % | 559 | 14545 |
| 2001-02 | 226307 | 4 % | 9052 | 235359 |
| 2002-03 | 259572 | 4 % | 10383 | 269955 |
| 2003-04 | 345847 | 4 % | 13834 | 359681 |
| 2004-05 | 415290 | 4 % | 16612 | 431902 |
| 2005-06 | 316159 | 4 % | 12646 | 328805 |
| 2006-07 | 614773 | 4 % | 24591 | 639364 |
| 2007-08 | 395911 | 4 % | 15836 | 411747 |
| 2008-09 | 348914 | 4 % | 13957 | 362871 |
| 2009-10 | 299548 | 4 % | 11982 | 311530 |
| 2010-11 | 161306 | 4 % | 6452 | 167758 |
| 2011-12 | 64116 | 4 % | 2565 | 66681 |
| 2012-13 | 57910 | 4 % | 2316 | 60226 |
| 2013-14 | 56524 | 4 % | 2261 | 58785 |
| 2014-15 | 54919 | 4 % | 2197 | 57116 |
| 2015-16 | 70367 | 2 % | 1407 | 71774 |
| 2016-17 | 49016 | 6 % | 2941 | 51957 |
| 2017-18 | 66757 | 1 % | 668 | 67425 |
| 2018-19 | 135804 | 2 % | 2716 | 138520 |
| 2019-20 | 157646 | 2 % | 3153 | 160799 |
| 2020-21 | 196530 | 2 % | 3931 | 200461 |



| year | desemoficial | propEnc | propEncCens | CapCorrEnc | CapCorrEncCens | CV |
|------|--------------|---------|-------------|------------|----------------|-------|
| 1990 | 152362 | 0.171 | 0.233 | 178416 | 187862 | 0.192 |
| 1991 | 268017 | 0.171 | 0.233 | 313848 | 330465 | 0.192 |
| 1992 | 262257 | 0.171 | 0.233 | 307103 | 323363 | 0.192 |
| 1993 | 205936 | 0.171 | 0.233 | 241151 | 253919 | 0.192 |
| 1994 | 474223 | 0.171 | 0.233 | 555315 | 584717 | 0.192 |
| 1995 | 256443 | 0.171 | 0.233 | 300295 | 316194 | 0.192 |
| 1996 | 360828 | 0.171 | 0.233 | 422530 | 444901 | 0.192 |
| 1997 | 292108 | 0.010 | 0.044 | 295029 | 304961 | 0.183 |
| 1998 | 277981 | 0.010 | 0.044 | 280761 | 290212 | 0.183 |
| 1999 | 1066694 | 0.010 | 0.044 | 1077361 | 1113629 | 0.183 |
| 2000 | 447409 | 0.010 | 0.044 | 451883 | 467095 | 0.183 |
| 2001 | 160464 | 0.198 | 0.160 | 192236 | 186138 | 0.186 |
| 2002 | 265586 | 0.198 | 0.160 | 318172 | 308080 | 0.186 |
| 2003 | 297224 | 0.198 | 0.160 | 356074 | 344780 | 0.186 |
| 2004 | 352207 | 0.353 | 0.233 | 476536 | 434271 | 0.160 |
| 2005 | 429485 | 0.353 | 0.233 | 581093 | 529555 | 0.160 |
| 2006 | 382351 | 0.353 | 0.233 | 517321 | 471439 | 0.160 |
| 2007 | 561637 | 0.353 | 0.233 | 759895 | 692498 | 0.160 |
| 2008 | 391576 | 0.353 | 0.233 | 529802 | 482813 | 0.160 |
| 2009 | 434636 | 0.353 | 0.233 | 588063 | 535906 | 0.160 |
| 2010 | 222184 | 0.401 | 0.381 | 311280 | 306836 | 0.172 |
| 2011 | 105974 | 0.401 | 0.381 | 148470 | 146350 | 0.172 |
| 2012 | 74513 | 0.401 | 0.381 | 104393 | 102902 | 0.172 |
| 2013 | 42292 | 0.173 | 0.123 | 49609 | 47494 | 0.160 |
| 2014 | 55529 | 0.173 | 0.123 | 65136 | 62359 | 0.160 |
| 2015 | 63868 | 0.173 | 0.123 | 74917 | 71724 | 0.160 |

