## Overview:

This bulletin provides a monthly update on estimates of recreational fin fishing effort and catch in the marine waters of southern British Columbia, within Pacific Fishery Management Areas 11 through 29 and 121 to 127. These estimates are generated from data collected by the DFO's South Coast Creel Survey. A brief overview of the survey, the study area and methods used to collect data and generate these estimates is provided in the first bulletin of 2019, available on the Federal Science Library catalogue:

## http://science-libraries.canada.ca/eng/home/

The search term "South Coast Creel Bulletin" is helpful to find the bulletins
The estimates presented in this bulletin are based on in-season data and should be interpreted as preliminary and subject to revision as the data are finalized.

## Recreational Fishery Links:

It is the responsibility of all fishers to be familiar with the current regulations prior to fishing. The online British Columbia Sport Fishing Guide will provide you with information on regulations and management measures in place. The guide can be accessed from the Fisheries and Oceans Canada Pacific Region Recreational Fishery webpage at:

## http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/index-eng.html

In-season management measure are sometimes required that are not published in the guide. These decisions are implemented by the issuance of a fishery notice which
can be viewed at:
http://notices.dfo-mpo.gc.ca/fns-sap/index-eng.cfm

## Creel Survey Data:

A summary of survey statistics and preliminary recreation effort, measured in boat trips, by Pacific Fishery Management Area (PFMA) are presented in Table 1. Maps identifying the PFMA's are available by following the link provided above to the Fisheries and Oceans Canada Pacific Region Recreational Fishery webpage.

## Recreational Catch Estimates:

A summary of preliminary kept and released catch estimates for key species by PFMA are presented in Tables 2 through 5. Table 6 presents kept Chinook catch estimates by Pacific Fishery Management Area, divided into Aggregate Abundancebased Management (AABM) and Individual Stock-based Management (ISBM) groupings.

## Contacts:

For additional information on the South Coast Creel Survey Programs, please contact:

Johnstone Strait and North Island Surveys (PFMA's 11, 12, 27, \& 127)
Pieter Van Will - Program Head, Johnstone Strait Salmon Stock Assessment 250-949-9273

Strait of Georgia Survey (PFMA's 13-20, 28 \& 29)
Patrik Zetterberg - Creel Coordinator, Strait of Georgia Salmon Stock Assessment 250-756-7304

West Coast Vancouver Island Survey (PFMA's 20-26 \& 121-126)
Karin Mathias - Biologist, WCVI Salmon Stock Assessment 250-756-7290

Table 1 Creel survey statistics (number of interviews and flights) and preliminary effort estimates (number of boat trips) by Pacific Fishery Management Area, June 2019.

| Pacific <br> Fishery <br> Management <br> Area (PFMA) | Number of Creel Interviews | Number of Effort Count Flights ${ }^{1}$ | Effort |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Estimate | \% SE ${ }^{2}$ | Year to date ${ }^{3}$ | Year to date 5-yr average |
| 11 | 69 | 3 | 363 | 46\% | 363 | 475 |
| 12 | 177 | 4 | 1176 | 43\% | 1176 | 2426 |
| 13 | 64 | 8 | 1957 | 13\% | 1957 | 5247 |
| 14 | 79 | 8 | 1213 | 13\% | 1213 | 3135 |
| 15 | 28 | 8 | 449 | 15\% | 449 | 1107 |
| 16 | 5 | 8 | 469 | 19\% | 469 | 1102 |
| 17 | 90 | 8 | 1260 | 14\% | 1260 | 1885 |
| 18 | 18 | 8 | 232 | 14\% | 232 | 920 |
| 19 | 56 | 8 | 1180 | 19\% | 1180 | 2377 |
| 20 | 132 | 13 | 1264 | 23\% | 1264 | 4124 |
| 21 | 60 | 8 | 140 | 11\% | 140 | 85 |
| 121 | 72 | 8 | 234 | 50\% | 234 | 419 |
| 23 | 306 | 9 | 4870 | 8\% | 4870 | 4783 |
| 123 | 12 | 9 | 94 | 23\% | 94 | 592 |
| 24 | 108 | 9 | 327 | 24\% | 327 | 288 |
| 124 | 31 | 9 | 352 | 41\% | 352 | 563 |
| 25 | 73 | 5 | 1236 | 16\% | 1236 | 1103 |
| 125 | 4 | 5 | 185 | 38\% | 185 | 624 |
| 26 | Based on Logbooks | 3 | 1230 | 0\% | 1230 | 351 |
| 126 | Based on Logbooks | 3 | 348 | 0\% | 348 | 262 |
| 27 | 67 | 5 | 573 | 0\% | 573 | 431 |
| 127 | 25 |  | 139 | 1\% | 139 | 318 |
| 28 | 33 | 8 | 452 | 10\% | 452 | 1228 |
| 29 | 45 | 8 | 1042 | 13\% | 1042 | 1583 |
| Total ${ }^{4}$ | 1560 |  | 20785 | 4\% | 20785 | 35428 |

${ }^{1}$ The number of flights where weather conditions allowed effort counts; not including on-water counts
$2 \%$ SE is a measure of uncertainty; one Standard Error as a percentage of the estimate.
${ }^{3}$ Cumulative effort (from June 2019) to date summed across periods where surveys are active

- note that WCVI 5 year averages including September are unavailable (N/A)
${ }^{4}$ Individual flights cover multiple PFMA's, so an additive total is not appropriate

Table 2 Preliminary recreational kept catch estimates (number of fish) for key salmon species by Pacific Fishery Management Area (PFMA), June 2019. Percent standard error (\%SE; one standard error as a percentage of the estimate), a measure of uncertainty, is indicated for estimates from PFMA's where they are calculated in-season.

| Pacific Fishery Management Area (PFMA) | Chinook |  |  |  | Coho |  |  |  | Sockeye |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Estimate | \%SE | Year to date ${ }^{1}$ | Year to date 5yr. average ${ }^{1}$ | Estimate | \%SE | Year to date ${ }^{1}$ | Year to date 5yr. average ${ }^{1}$ | Estimate | \%SE | Year to date ${ }^{1}$ | Year to date 5yr. average ${ }^{1}$ |
| 11 | 1075 | 34\% | 1075 | 1467 | 17 | 108\% | 17 | 83 |  |  |  |  |
| 12 |  |  |  | 1638 | 37 | 112\% | 37 | 297 |  |  |  |  |
| 13 |  |  |  |  | 59 | 54\% | 59 | 756 |  |  |  |  |
| 14 |  |  |  | 2000 | 165 | 38\% | 165 | 545 |  |  |  |  |
| 15 |  |  |  | 927 |  |  |  |  |  |  |  |  |
| 16 |  |  |  | 414 |  |  |  |  |  |  |  |  |
| 17 |  |  |  | 800 | 273 | 45\% | 273 | 155 |  |  |  |  |
| 18 |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 |  |  |  |  | 535 | 57\% | 535 | 176 |  |  |  |  |
| 21 | 164 | 17\% | 164 | 231 | 39 | 40\% | 39 | 16 |  |  |  |  |
| 121 |  |  |  |  | 159 | 61\% | 159 | 255 |  |  |  |  |
| 23 | 5696 | 18\% | 5696 | 2857 | 357 | 43\% | 357 | 403 | 484 | 23\% | 484 | 19031 |
| 123 |  |  |  |  | 2 |  | 2 | 297 |  |  |  |  |
| 24 | 297 | 27\% | 297 | 516 | 30 | 56\% | 30 | 120 |  |  |  |  |
| 124 |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | 952 | 24\% | 952 | 1073 | 341 | 34\% | 341 | 402 |  |  |  |  |
| 125 |  |  |  | 975 |  |  |  |  |  |  |  |  |
| 26 | 1041 |  | 1041 | 437 | 195 |  | 195 | 73 |  |  |  |  |
| 126 |  |  |  | 841 | 0 |  | 0 | 18 |  |  |  |  |
| 27 | 1090 | 9\% | 1090 | 466 | 234 | 13\% | 234 | 312 |  |  |  |  |
| 127 |  |  |  | 369 | 18 |  | 18 | 68 |  |  |  |  |
| 28 |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 |  |  |  | 385 | 92 | 52\% | 92 | 120 |  |  |  |  |
| Kept Total ${ }^{2}$ | 10315 | 11\% | 10315 | 15396 | 2553 | 17\% | 2553 | 4096 | 484 | 23\% | 484 | 19031 |

${ }^{1}$ Cumulative kept catch (from June 2019) to date summed across periods where surveys are active
${ }^{2}$ Including only those areas with in-season estimates this month

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Table 3 Preliminary recreational released catch estimates (number of fish) for key salmon species by Pacific Fishery Management Area (PFMA), June 2019. Percent standard error ( $\% \mathrm{SE}$; one standard error as a percentage of the estimate), a measure of uncertainty, is indicated for estimates from PFMA's where they are calculated in-season.

| Pacific Fishery Management Area (PFMA) | Chinook |  |  |  | Coho |  |  |  | Sockeye |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Estimate | \%SE | Year to date ${ }^{1}$ | Year to date 5yr. average ${ }^{1}$ | Estimate | \%SE | Year to date ${ }^{1}$ | Year to date 5yr. average ${ }^{1}$ | Estimate | \%SE | Year to date ${ }^{1}$ | Year to date 5yr. average ${ }^{1}$ |
| 11 | 349 | 50\% | 349 | 489 | 2 |  | 2 | 14 |  |  |  |  |
| 12 | 1034 | 57\% | 1034 | 2657 | 117 | 102\% | 117 | 594 |  |  |  |  |
| 13 | 6201 | 31\% | 6201 | 5594 | 493 | 34\% | 493 | 3442 |  |  |  |  |
| 14 | 4189 | 16\% | 4189 | 3548 | 1172 | 26\% | 1172 | 1579 |  |  |  |  |
| 15 | 1036 | 21\% | 1036 | 247 |  |  |  |  |  |  |  |  |
| 16 | 1226 | 38\% | 1226 | 43 | 62 | 63\% | 62 | 42 |  |  |  |  |
| 17 | 3703 | 19\% | 3703 | 1498 | 1007 | 38\% | 1007 | 265 |  |  |  |  |
| 18 | 84 | 67\% | 84 | 131 |  |  |  |  |  |  |  |  |
| 19 | 313 | 33\% | 313 | 305 |  |  |  |  |  |  |  |  |
| 20 | 1930 | 29\% | 1930 | 1863 | 878 | 34\% | 878 | 656 |  |  |  |  |
| 21 | 40 | 39\% | 40 | 45 | 131 | 53\% | 131 |  |  |  |  |  |
| 121 | 125 | 87\% | 125 | 1123 | 269 | 73\% | 269 | 327 |  |  |  |  |
| 23 | 8381 | 18\% | 8381 | 4901 | 185 | 60\% | 185 | 218 |  |  |  |  |
| 123 |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | 67 | 37\% | 67 | 224 | 14 | 68\% | 14 | 44 |  |  |  |  |
| 124 |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | 1050 | 76\% | 1050 | 165 | 88 | 105\% | 88 | 487 |  |  |  |  |
| 125 | 96 | 167\% | 96 | 39 |  |  |  |  |  |  |  |  |
| 26 | 1076 |  | 1076 | 161 | 60 |  | 60 | 13 |  |  |  |  |
| 126 | 46 |  | 46 | 302 |  |  |  |  |  |  |  |  |
| 27 | 378 | 20\% | 378 | 243 | 18 | 21\% | 18 | 174 |  |  |  |  |
| 127 | 2 |  | 2 | 78 | 2 |  | 2 | 68 |  |  |  |  |
| 28 | 273 | 33\% | 273 | 135 | 63 | 55\% | 63 | 115 |  |  |  |  |
| 29 | 1371 | 27\% | 1371 | 524 | 264 | 45\% | 264 | 193 |  |  |  |  |
| Released Total ${ }^{2}$ | 32970 | 9\% | 32970 | 24315 | 4825 | 14\% | 4825 | 8231 | 0 | 0 | 0 | 0 |

${ }^{1}$ Cumulative kept catch (from June 2019) to date summed across periods where surveys are active
${ }^{2}$ Including only those areas with in-season estimates this month
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Table 4 Preliminary recreational kept catch estimates (number of fish) for key groundfish species by Pacific Fishery Management Area (PFMA), June 2019. Percent standard error (\%SE; one standard error as a percentage of the estimate), a measure of uncertainty, is indicated for estimates from PFMA's where they are calculated in-season.

| Pacific Fishery Management Area (PFMA) | Halibut |  |  |  | Lingcod |  |  |  | Rockfishes ${ }^{1}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Estimate | \%SE | Year to date ${ }^{2}$ | Year to date 5yr. average ${ }^{2}$ | Estimate | \%SE | Year to date ${ }^{2}$ | Year to date 5yr. average ${ }^{2}$ | Estimate | \%SE | Year to date ${ }^{2}$ | Year to date 5yr. average ${ }^{2}$ |
| 11 | 182 | 26\% | 182 | 515 | 269 | 48\% | 269 | 248 | 861 | 41\% | 861 | 738 |
| 12 | 158 | 38\% | 158 | 595 | 98 | 68\% | 98 | 238 | 450 | 44\% | 450 | 532 |
| 13 |  |  |  |  | 486 | 35\% | 486 | 1168 | 167 | 72\% | 167 | 378 |
| 14 |  |  |  |  | 228 | 53\% | 228 | 184 | 19 | 53\% | 19 | 342 |
| 15 |  |  |  |  | 45 | 59\% | 45 | 84 | 336 | 25\% | 336 | 180 |
| 16 |  |  |  |  | 102 | 76\% | 102 | 232 | 17 | 91\% | 17 | 332 |
| 17 |  |  |  |  | 124 | 34\% | 124 | 262 | 155 | 33\% | 155 | 366 |
| 18 |  |  |  |  | 13 | 75\% | 13 | 110 | 121 | 45\% | 121 | 474 |
| 19 | 237 | 49\% | 237 | 235 | 46 | 65\% | 46 | 53 | 480 | 20\% | 480 | 316 |
| 20 | 46 | 93\% | 46 | 208 | 43 | 69\% | 43 | 130 | 279 | 40\% | 279 | 789 |
| 21 | 24 | 43\% | 24 | 20 | 9 | 63\% | 9 | 9 | 19 | 54\% | 19 | 27 |
| 121 | 667 | 51\% | 667 | 966 | 139 | 57\% | 139 | 90 | 229 | 40\% | 229 | 249 |
| 23 | 9 | 71\% | 9 | 33 | 218 | 51\% | 218 | 482 | 2010 | 41\% | 2010 | 1339 |
| 123 | 143 | 26\% | 143 | 705 |  |  |  |  | 4 | 110\% | 4 | 389 |
| 24 | 33 | 65\% | 33 | 47 | 47 | 50\% | 47 | 192 | 206 | 34\% | 206 | 713 |
| 124 | 402 | 53\% | 402 | 480 | 36 | 99\% | 36 | 145 | 40 | 75\% | 40 | 460 |
| 25 | 86 | 60\% | 86 | 243 | 479 | 40\% | 479 | 522 | 1090 | 39\% | 1090 | 1042 |
| 125 | 38 | 117\% | 38 | 319 | 134 | 144\% | 134 | 454 | 172 | 87\% | 172 | 1445 |
| 26 | 110 |  | 110 | 27 | 273 |  | 273 | 236 | 458 |  | 458 | 526 |
| 126 | 497 |  | 497 | 363 | 714 |  | 714 | 755 | 302 |  | 302 | 408 |
| 27 | 35 | 23\% | 35 | 154 | 92 | 15\% | 92 | 235 | 303 | 22\% | 303 | 408 |
| 127 | 225 | 8\% | 225 | 351 | 346 | 8\% | 346 | 469 | 301 | 7\% | 301 | 657 |
| 28 |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 |  |  |  |  | 17 | 103\% | 17 | 232 | 231 | 61\% | 231 | 176 |
| Kept Total ${ }^{2}$ | 2892 | 19\% | 2892 | 5261 | 3958 | 14\% | 3958 | 6530 | 8250 | 14\% | 8250 | 12286 |

${ }^{1}$ All rockfishes; including those not identified to species
${ }^{2}$ Cumulative kept catch (from June 2019) to date summed across periods where surveys are active
${ }^{3}$ Including only those areas with in-season estimates this month
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Table 5 Preliminary recreational released catch estimates (number of fish) for key groundfish species by Pacific Fishery Management Area (PFMA), June 2019. Percent standard error (\%SE; one standard error as a percentage of the estimate), a measure of uncertainty, is indicated for estimates from PFMA's where they are calculated in-season.

| Pacific Fishery Management Area (PFMA) | Halibut |  |  |  | Lingcod |  |  |  | Rockfishes ${ }^{1}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Estimate | \%SE | Year to date ${ }^{2}$ | Year to date 5yr. average ${ }^{2}$ | Estimate | \%SE | Year to date ${ }^{2}$ | Year to date 5yr. average ${ }^{2}$ | Estimate | \%SE | Year to date ${ }^{2}$ | Year to date 5yr. average ${ }^{2}$ |
| 11 | 38 | 74\% | 38 | 47 | 192 | 45\% | 192 | 192 | 604 | 48\% | 604 | 514 |
| 12 | 19 | 135\% | 19 | 154 | 182 | 64\% | 182 | 156 | 1316 | 33\% | 1316 | 896 |
| 13 |  |  |  |  | 1615 | 47\% | 1615 | 2471 | 421 | 40\% | 421 | 1189 |
| 14 |  |  |  |  | 172 | 30\% | 172 | 237 | 85 | 50\% | 85 | 927 |
| 15 |  |  |  |  | 454 | 23\% | 454 | 51 | 309 | 27\% | 309 | 257 |
| 16 |  |  |  |  | 229 | 49\% | 229 | 176 | 1407 | 82\% | 1407 | 599 |
| 17 |  |  |  |  | 109 | 65\% | 109 | 125 | 165 | 53\% | 165 | 253 |
| 18 |  |  |  |  | 50 | 72\% | 50 | 182 | 117 | 56\% | 117 | 541 |
| 19 | 188 | 48\% | 188 | 40 | 1369 | 35\% | 1369 | 479 | 1622 | 42\% | 1622 | 547 |
| 20 |  |  |  |  | 224 | 63\% | 224 | 730 | 198 | 46\% | 198 | 1460 |
| 21 |  |  |  |  | 25 | 100\% | 25 | 55 | 14 | 77\% | 14 | 29 |
| 121 | 62 | 67\% | 62 | 223 | 8 | 68\% | 8 | 48 |  |  |  |  |
| 23 | 8 | 138\% | 8 | 5 | 374 | 44\% | 374 | 843 | 1730 | 42\% | 1730 | 2084 |
| 123 | 8 | 108\% | 8 | 169 |  |  |  |  | 49 | 54\% | 49 | 103 |
| 24 | 6 | 114\% | 6 | 2 | 66 | 57\% | 66 | 63 | 46 | 66\% | 46 | 70 |
| 124 | 91 | 70\% | 91 | 85 | 55 | 88\% | 55 | 83 | 61 | 77\% | 61 | 259 |
| 25 | 61 | 104\% | 61 | 8 | 732 | 69\% | 732 | 79 | 585 | 43\% | 585 | 2027 |
| 125 | 134 | 167\% | 134 | 47 | 38 | 167\% | 38 | 33 | 173 | 117\% | 173 | 616 |
| 26 | 18 |  | 18 | 8 |  |  |  |  | 775 |  | 775 | 398 |
| 126 | 303 |  | 303 | 139 | 50 |  | 50 | 157 | 1116 |  | 1116 | 243 |
| 27 | 4 |  | 4 | 56 | 148 | 28\% | 148 | 70 | 377 | 36\% | 377 | 319 |
| 127 | 13 |  | 13 | 147 | 64 | 33\% | 64 | 57 | 311 | 20\% | 311 | 222 |
| 28 |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 |  |  |  |  | 149 | 103\% | 149 | 291 | 98 | 86\% | 98 | 719 |
| Released Total ${ }^{2}$ | 953 | 43\% | 953 | 1130 | 6305 | 18\% | 6305 | 6578 | 11579 | 17\% | 11579 | 14272 |

${ }^{1}$ All rockfishes; including those not identified to species
${ }^{2}$ Cumulative kept catch (from June 2019) to date summed across periods where surveys are active
${ }^{3}$ Including only those areas with in-season estimates this month
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Table 6 Preliminary recreational kept Chinook catch estimates (number of fish) by Pacific Fishery Management Area (PFMA), June 2019, divided into Aggregate Abundance-based Management (AABM) and Individual Stock-based Management (ISBM) groupings.

| Area | Region | AABM |  |  | ISBM |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Estimate | Year to Date ${ }^{1}$ | Year to Date 5yr average ${ }^{2}$ | Estimate | Year to Date ${ }^{1}$ | Year to Date 5yr average ${ }^{2}$ |
| 20 (West) | Juan de Fuca | 0 | 0 | 0 | 0 | 0 | 500 |
| 21 | Nitinat | 164 | 164 | 250 | 0 | 0 | 0 |
| 121 | Swiftsure Bank | 0 | 0 | 1500 | 0 | 0 | 0 |
| 23-1,2 | Alberni Inlet | 0 | 0 | 0 | 0 | 0 | 0 |
| 23-3 to 11 | Barkley Sound | 5689 | 5689 | 2850 | 0 | 0 | 0 |
| 123 | Offshore Barkley | 0 | 0 | 1600 | 0 | 0 | 0 |
| 24 | Clayoquot Sound | 297 | 297 | 500 | 0 | 0 | 0 |
| 124 | Offshore Clayoquot | 0 | 0 | 1650 | 0 | 0 | 0 |
| 25 | Nootka Snd. / Esperanza Inlet | 321 | 321 | 1050 | 631 | 631 | 0 |
| 125 | Offshore Nootka | 0 | 0 | 1000 | 0 | 0 | 0 |
| 26 | Kyuquot Sound | 1041 | 1041 | 450 | 0 | 0 | 0 |
| 126 | Offshore Kyuquot | 0 | 0 | 850 | 0 | 0 | 0 |
| 27 | Quatsino Sound | 1090 | 1090 | 450 | 0 | 0 | 0 |
| 127 | Offshore Quatsino | 0 | 0 | 350 | 0 | 0 | 0 |
| Total |  | 8602 | 8602 | 12500 | 631 | 631 | 500 |

[^0]
[^0]:    ${ }^{1}$ Cumulative kept (from June 2019) to date summed across periods where surveys are active.
    ${ }^{2}$ Cumulative kept to date 5 year averages have been rounded to the nearest 50 fish.

