**Supplementary files**

**S1**. Samples sites of the fish-fauna in the influence area of the Porce III reservoir. (\*) monitoring from 2011.

|  |  |  |  |
| --- | --- | --- | --- |
| **Aquatic Ecosystem** | **Site** | **Elevation (masl)** | **Geographical data** |
| **Latitude (DD)** | **Longitude (DD)** |
| Reservoir (RSV)\* | Sector Cola | 684 | 6.868214 | -75.178803 |
| Sector Cola | 700 | 6.88763 | -75.17888 |
| Sector María Teresa | 677 | 6.916875 | -75.144024 |
| Sector Presa | 685 | 6.930207 | -75.140115 |
| Creeks flowing to the reservoir (CRF) | Plan de Pérez | 748 | 6.872662 | -75.183396 |
| La Unión | 727 | 6.89898 | -75.174437 |
| La Bramadora | 700 | 6.908474 | -75.176117 |
| Santa Ana | 754 | 6.92537 | -75.16059 |
| Caracolí | 680 | 6.91364 | -75.14183 |
| Creeks flowing to the Porce river below the dam (CFD)\* | El Roble | 515 | 6.94373 | -75.136008 |
| San Benigno | 793 | 6.984737 | -75.088768 |
| Gualanday | 632 | 7.001594 | -75.075372 |
| El Boquerón | 368 | 7.021003 | -75.059053 |
| Porce river isolated between the dams (RPM) | Before of discharge Hydropower Porce II | 711 | 6.83648 | -75.17576 |
| After discharge Hydropower Porce II\*\*\* | 687 | 6.84008 | -75.17865 |
| Streams tributaries to isolated Porce river (RG) | Guadalupe river | 708 | 6.83859 | -75.18998 |
| Confluence of the Porce river with the Guadalupe river | 694 | 6.8491 | -75.18316 |
| Porce river downstream the dam (RPD) | Downstream from the dam | 512 | 6.94182 | -75.13554 |
| Ventana 2 \*\* | 343 | 7.022448 | -75.057724 |
| Before discharge Hydropower Porce III | 338 | 7.032 | -75.05789 |
| After discharge Hydropower Porce III | 489 | 6.96097 | -75.09516 |

Geographical data of the fish fauna monitoring sites in the area of influence of the Porce III reservoir. (\*) monitoring from 2011, (\*\*) monitoring from 2018, (\*\*\*) monitoring from 2019.

**S2.** List of registered species and number of collected specimens in each environment in the Porce III reservoir area between 2008 to 2020. (RPM) Porce River isolated between the dams, (RG) Streams tributaries to isolated Porce River, (RSV) Reservoir, (CFR) Creeks flowing to the reservoir, (CFD) Creeks flowing to the Porce River below the dam and (RPD) Porce River below the Porce III dam.

|  |  |  |  |
| --- | --- | --- | --- |
| **Fish specie** | **Number of individuals** | **Size range (mm)** | **Frequency of occurrence (%)** |
| **x (min-max)** | **Reservoir (RSV)** | **Creeks (CFR)** | **Creeks (CFD)** | **Guadalupe River (RG)** | **Porce River  (RPM)** | **Porce River (RPD)** |
| Characiformes |   |   |   |   |   |   |   |   |
| Anostomidae |   |   |   |   |   |   |   |   |
| Leporellus sp. Lütken, 1875 | 7 | 212 (112-253) | 4.87 |   |   |   |   | 3.27 |
| Megaleporinus muyscorum (Steindachner, 1900) | 1 | 200 (200-200) |   |   |   |   |   | 1.63 |
| Bryconidae |   |   |   |   |   |   |   |   |
| Brycon henni Eigenmann, 1913 | 2837 | 94 (18.2-462.94) | 45.12 | 51.00 | 29.37 | 57.70 | 59.64 | 36.06 |
| Brycon rubricauda  Steindachner, 1879 | 1 | 194 (194-194) |   |   |   |   |   | 1.63 |
| Characidae |   |   |   |   |   |   |   |   |
| Astyanax cf. fasciatus (Cuvier, 1819) | 13 | 62 (27.12-109.3) |   |   |   |   | 3.50 | 8.19 |
| Astyanax microlepis Eigenmann, 1913 | 3289 | 81 (35.2-135.6) | 75.60 | 0.67 |   | 33.33 | 28.07 | 19.67 |
| Astyanax spp. | 231 | 71 (51-108) |   |   |   | 6.66 | 19.29 |   |
| Creagrutus brevipinnis Eigenmann, 1913 | 44 | 43 (18.27-84) |   |   | 0.79 |   |   | 13.11 |
| Creagrutus magdalenae Eigenmann, 1913 | 48 | 57 (32.38-86.09) |   |   |   |   |   | 13.11 |
| Creagrutus spp. Günther, 1864 | 7 | 63 (56.39-69.66) |   |   |   |   |   | 3.27 |
| Hemibrycon spp. Günther, 1864 | 1717 | 60 (10.311-114.54) |   | 40.93 | 7.94 | 53.30 | 47.36 | 83.60 |
| Roeboides dayi (Steindachner, 1878) | 201 | 69 (32.7-122) | 32.92 |   |   | 4.44 | 17.54 | 3.27 |
| Crenuchidae |   |   |   |   |   |   |   |   |
| Characidium caucanum Eigenmann, 1912 | 30 | 62 (37.05-77.4) |   | 2.01 | 4.76 | 4.44 | 5.26 |   |
| Characidium chancoense Agudelo-Zamora, Ortega-Lara & Taphorn, 2020 | 26 | 58.9 (43.7-76.3) |   | 2.68 | 3.17 | 6.66 | 3.50 | 1.63 |
| Characidium phoxocephalum Eigenmann, 1912 | 129 | 69 (28.93-115.83) | 1.21 | 4.02 | 12.70 | 33.33 | 10.52 | 24.59 |
| Parodontidae |   |   |   |   |   |   |   |   |
| Parodon magdalenensis Londoño-Burbano, Román-Valencia & Taphorn, 2011 | 841 | 75 (27.94-132) | 20.73 | 9.39 | 0.79 | 53.33 | 38.59 | 36.06 |
| Saccodon dariensis (Meek & Hildebrand, 1913) | 32 | 84 (56.63-146) |   | 4.69 |   |   |   |   |
| Prochilodontidae |   |   |   |   |   |   |   |   |
| Ichthyoelephas longirostris (Steindachner, 1879) | 2 | 100 (25-175) |   |   |   |   |   | 3.27 |
| Prochilodus magdalenae Steindachner, 1879 | 25 | 185 (153-280) |   |   |   |   |   | 8.19 |
| Cichliformes |   |   |   |   |   |   |   |   |
| Cichlidae |   |   |   |   |   |   |   |   |
| Andinoacara latifrons (Steindachner, 1878) | 1155 | 66 (16.5-172) | 60.97 | 2.01 |   | 26.60 | 68.42 | 4.91 |
| Coptodon rendalli (Boulenger, 1897)\* | 273 | 156 (27.32-315) | 60.97 |   |   | 2.22 | 15.78 |   |
| Coptodon spp. Gervais, 1853\* | 10 | 62 (40.7-100.8) |   |   |   |   | 5.26 |   |
| Geophagus steindachneri Eigenmann & Hildebrand, 1922 | 1 | 117 (116.86-116.86) |   |   |   |   |   | 1.63 |
| Oreochromis mossambicus (Peters, 1852)\* | 93 | 188 (26-284) | 26.82 |   |   |   | 70.10 | 1.63 |
| Oreochromis niloticus (Linnaeus, 1758).\* | 259 | 164 (30-345) | 47.56 |   |   | 2.22 | 19.29 |   |
| Oreochromis spp. Günther, 1889\* | 6 | 237 (196-290) | 3.65 |   |   |   |   |   |
| Parachromis friedrichsthalii (Heckel, 1840)\* | 155 | 95 (29.98-173) | 24.39 |   |   |   | 3.50 | 1.63 |
| Cyprinodontiformes |   |   |   |   |   |   |   |   |
| Poeciliidae |   |   |   |   |   |   |   |   |
| Poecilia caucana  (Steindachner, 1880) | 876 | 38 (11.64-69.6) | 1.00 | 1.34 |   | 17.77 | 38.59 | 4.91 |
| Poecilia reticulata Peters, 1859\*  | 780 | 37 (8.25-930) | 1.21 | 3.35 |   | 11.00 | 49.12 | 8.19 |
| Poecilia sphenops Valenciennes, 1846\* | 18 | 42 (18.26-74) | 2.43 |   |   | 11.00 | 3.50 |   |
| Poecilia spp. Bloch & Schneider, 1801\* | 487 | 48 (8-138) |   |   |   |   | 28.07 |   |
| Xiphophorus hellerii\* | 63 | 35 (15.76-50.55) |   |   |   | 4.44 | 22.80 |   |
| Gymnotiformes |   |   |   |   |   |   |   |   |
| Apteronotidae |   |   |   |   |   |   |   |   |
| Apteronotus eschmeyeri de Santana, Maldonado-Ocampo, Severi & Mendes, 2004 | 21 | 194 (151.27-242) |   |   |   |   | 1.75 | 9.83 |
| Siluriformes |   |   |   |   |   |   |   |   |
| Astroblepidae |   |   |   |   |   |   |   |   |
| Astroblepus cf. grixalvii Humboldt, 1805 | 99 | 49 (13.54-125.68) |   | 11.40 | 23.81 |   |   |   |
| Astroblepus cf. trifasciatus (Eigenmann, 1912) | 220 | 36 (12.87-66.65) |   | 2.68 | 3.17 | 2.20 |   |   |
| Astroblepus spp. Humboldt, 1805 . | 2699 | 38 (2.83-150) |   | 70.46 | 88.89 | 6.60 | 1.75 | 9.93 |
| Callichthyidae |   |   |   |   |   |   |   |   |
| Hoplosternum magdalenae  Eigenmann, 1913 | 5 | 86 (62.8-103) | 1.21 |   |   | 2.22 |   |   |
| Heptapteridae |   |   |   |   |   |   |   |   |
| Cetopsorhamdia nasus Eigenmann & Fisher, 1916 | 12 | 74 (51.84-92.07) |   |   |   | 15.50 |   | 1.63 |
| Pimelodella floridablancaensis Ardila Rodríguez, 2017 | 59 | 69 (22.03-113.35) |   | 0.67 | 0.79 |   |   | 34.42 |
| Rhamdia guatemalensis (Günther, 1864) | 9 | 124 (73.1-190) |   |   | 0.79 |   |   | 8.19 |
| Loricariidae |   |   |   |   |   |   |   |   |
| Chaetostoma spp. Tschudi, 1846 | 696 | 58 (6.8-288) | 3.65 | 16.10 | 21.43 | 31.11 | 21.05 | 22.95 |
| Chaetostoma thomsoni  Regan, 1904 | 288 | 69 (18.75-219) |   | 4.02 | 11.90 | 13.33 | 19.29 | 9.83 |
| Hypostomus hondae (Regan, 1912) | 2 | 52 (25.5-79) |   |   |   |   | 3.50 |   |
| Lasiancistrus caucanus Eigenmann, 1912. | 43 | 72 (28.73-150) | 1.21 | 2.01 | 2.38 | 4.44 | 17.54 | 6.55 |
| Trichomycteridae |   |   |   |   |   |   |   |   |
| Trichomycterus chapmani (Eigenmann, 1912).  | 16 | 49 (24.13-78.98) |   | 0.67 | 3.17 | 6.66 |   |   |
| Trichomycterus spp. Valenciennes, 1832 | 43 | 47 (24.15-76.54) |   | 0.67 | 11.11 | 1.22 |   |   |
| **Total number of fish species** | 46 |   | 18 | 20 | 17 | 25 | 27 | 30 |



**S3.** Species richness observed in the entire community of fishes over time in the area influenced by the Porce III reservoir. The generalized linear model and their confidence interval have been added. Each point represents an aquatic environment.