**LuzmariA soto**

**Biologist - ICF**

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| **Years of Experience**  Professional start date: 2019  ICF start date: 09/2019 |
| **Education**  BS, Wildlife, Fish and Conservation Biology, University of California, Davis, 2019 |
| **Certifications/Other**  California Boaters License  MOCC Certified  American Red Cross CPR/FA/AED Certified  OP2 Awareness |
| **Area of Expertise**  Laboratory Management and Invertebrate Taxonomy |

**Key Skills**

**Fisheries Experience** LuzMaria is a fisheries biologist with experience conducting field surveys, operating boats, extensive water quality measurements, towing and handling nets for fish and invertebrates. She regularly identifies fish, zooplankton, mysids, and amphipods in the field and laboratory. LuzMaria serves as the lead taxonomist in the Sacramento laboratory as well as the new employee trainer.

**Project Experience**

**Fish and Fowl—DWR *2023-present*** LuzMaria serves as one of the leads on this project. During this project she was tasked with purchasing the materials to then build fish cages that were stocked with Chinook salmon parr to monitor their growth in set locations throughout the Delta. LuzMaria would come out for regular checks, ensuring that there is proper water flow and no fouling on the cages. LuzMaria currently performs monthly mamou trawling at the recently removed cage locations.

**Barker Slough Biological Monitoring Project – DWR *2022-present*** LuzMaria is serving as a biological monitor for this DWR project. This project involves monitoring for fish, specifically smelt and salmon species at Barker Slough pumping stations. Water quality measurements and eDNA samples for smelt and salmon species are collected at Barker Slough as part of ITP requirements.

**Delta SWP Fish Facilities Performance Evaluation (DFPE)— DWR *2022-2023***LuzMaria served as an assistant on this project for DWR. This project mainly focused on the survival and return rate of Chinook salmon in Clifton Court Forebay. During this project LuzMaria assisted in providing proper fish care to the parr by planning timed meals, cleaning tanks and ensuring water quality measurements were within proper range. Once the parr were of size they were set to be tagged and eventually released into the forebay with LuzMaria’s assistance.

**Directed Outflow Project—Bureau of Reclamation *2019-2023*** LuzMaria is a lead taxonomist for the invertebrate samples collected throughout the project. This project is a lower trophic level food web study for Delta Smelt that involves sampling throughout the CA Delta towing plankton nets for larval fish, mysids, amphipods and zooplankton. ICF boats samples with USFW crews who sampled for Delta Smelt. Our plankton net samples help determine the prey species where Delta Smelt are present. These samples are preserved and identified in the laboratory. Equipment including YSI’s and ADCP are used to measure water quality at each sample location. LuzMaria's duties include sample and data management and training junior staff on fieldwork and laboratory protocols.

**Predatory Fish Removal Study—Department of Water Resources *2019-2023*** LuzMaria employed various net types including beach seine, Kodiak trawl, lampara net, hoop nets, and fyke traps to entrain and identify predatory fish for transport. LuzMaria additionally identified, recorded, and handled entrained fish according to DWR protocols. LuzMaria also utilized pit tags and pit tag scanners to record any predation by entrained fish.

**EDBPS- DWR *2021-2022*** LuzMaria served as a team member for this predation study at False River barrier. Due to drought conditions, a temporary barrier was constructed at False River off the San Joaquin River. This study aimed to monitor how the barrier effected the predation of salmonid spp. at the False River barrier. LuzMaria helped inspect and collect predatory event recorders (PERs) to monitor the predation activity.

**Tidal Parr Study*—*Department of Water Resources 2019-2021**LuzMaria served as team member monitoring Chinook Salmon in the Sacramento River Delta. Monitoring efforts included Mamou trawls to search water column for Parr along with eDNA samples. LuzMaria additionally identified, measured, and recorded entrained fish not related to parr and assisted in collection and identification of additional mysid samples.

**Dredge Monitoring Project—Army Corp of Engineers *2019-2020*** LuzMaria served as a team member for ICF’s dredge monitoring project. This project involves monitoring fish screens to identify fish including smelt spp. Salmonids, and invertebrates in the Sacramento and San Joaquin River. Duties included safely operating the fish screen controls, identifying fish and invertebrates and to perform data collection using I-Form program. Other duties included operating boats to collect weekly water quality parameters and collecting water samples for the Army Corp to test for contaminants at the multiple dredge sites.

**Coastal Longfin Smelt Study—MWD/State Water Contractors *2019-2020*** LuzMaria served as a team member for this project to investigate the presence and abundance of Longfin Smelt in Northern California estuaries. This projects samples for larval Longfin Smelt in coastal estuaries ranging hundreds of miles of coastline from Humboldt to Monterey. The fieldwork consists of launching and operating a research vessel while towing a larval fish net for Longfin Smelt larvae. A YSI water quality instrument is used to record water measurements and determine favourable water for Longfin Smelt larvae.