

Cody Payne
Biologist, Glorieta Geoscience, Inc.

**EXPERIENCE
SUMMARY**

5 Years of Experience Encompassing the Following Areas:

- Soil, surface water, and ground water sampling for environmental compliance and monitoring
- Sampling equipment maintenance, installation, and field inspection
- Quarterly ground water sampling for NMED Groundwater Discharge Permit compliance for over 30 facilities in New Mexico
- Field sampling/surveying commercial and recreational fisheries
- At-sea biological sampling aboard commercial fishing vessels for state and federal government agencies
- Fisheries operations monitoring
- Biological data collection and statistical analysis
- Preparation of biological reports/papers
- Sterile sample collection and culture preparation, and microbial analysis

**SELECTED
PROJECT
EXPERIENCE**

Dairy/CAFO Environmental Monitoring, NM (2017-Present):

- Provide consulting services to dairy facilities for compliance with groundwater discharge permits and environmental monitoring
- Data verification and validation through GGI's own online aggregate system (CAFOweb) for data management of water quality, water usage, and nutrient management

Investigation and Mitigation of Fish Die-off Due to Harmful Algal Bloom (HAB), Roswell, NM (2017-Present):

- Inspect fish symptoms/conditions, gather and analyze range of field parameters, carry out microscopic analysis and biological assays of water samples, and conduct literature research to identify cause of mortality
- Determine efficacy, costs, and risks of different regimes for mitigation and future prevention

**PREVIOUS
WORK
EXPERIENCE**

Washington Department of Fish and Wildlife, Washington (2017):

- Conducted field sampling/surveying of recreational groundfish, tuna, and salmon fisheries
- Conducted at-sea observing onboard commercial and sport charter fishing vessels
- Collected range of biological and fisheries field data and samples

Saltwater Inc. [Contracted to National Oceanic and Atmospheric Administration (NOAA) and Pacific States Marine Fisheries Commission (PSMFC)], California (2016):

- Worked on commercial trawl fishing vessels to collect biological and fisheries data/samples while at sea for NOAA and PSMFC fish stock assessments and population studies
- Followed rigid sampling procedures: Collected and compiled clear, detailed data and ensured data were accurate, randomized, and free of sampling bias
- Cooperated/coordinated with wide range of fishery stakeholders including crews of fishing vessels, fish plant workers, and federal and state government employees and contractors
- Monitored and recorded offload of retained catch after every trip



Santa Fe Brewing Company, Quality Control Lab, New Mexico (2012-2014)

- Responsible for quality assurance of all product, conducted all lab operations, and developed and refined standard operating procedures
- Performed range of analytical tests in lab and production floor settings including:
 - Yeast cell counts and viability analyses
 - Preparation of aerobic, anaerobic, and other selective bacterial cultures
 - Microbial analysis using multiple methods including: Gram staining, selective growth conditions, catalase testing, and morphological examination under oil immersion
 - Measurement of dissolved oxygen and CO₂ levels in product
 - pH measurements
- Developed and maintained spreadsheets for accurate production and product testing records
- Responsible for lab equipment inventory and maintenance

Smithsonian Institution, Washington D.C. (2007)

- Worked to derive means of differentiating goby species based on each species' morphological features
- Examined preserved specimens in lab setting using dissection scope and digital x-ray camera, catalogued distinctive morphological features of each specimen, determined which features/combination of features were distinctive to which species
- Constructed dichotomous key for species identification

EDUCATION

M.S. Fisheries Biology and Management, James Cook University, Townsville, QLD, Australia, 2015

B.S. Marine Biology, College of Charleston, Charleston, SC, 2011

SKILLS

- Environmental study design and proper data collection principles and methods
- Strong writing skills in scientific, technical report, and popular styles
- Experience with Primer V6, TIBCO Spotfire S+, and R statistical analysis software programs, as well as MATLAB modeling software
- Experience with wide range of statistical data analysis techniques, e.g. ANOVA, Kurskal – Wallis, chi-squared, t-test, GLMMs, DISTLMs, NMDS, PCA
- Proficient with Microsoft Excel including data entry, management, transformation, and using pivot tables

