NAME	**DANE GOBLE**
TITLE	**AGRONOMIST/ECOLOGIST**

EXPERIENCE SUMMARY

- Geospatial analyses using LiDAR, multispectral imagery, and other remote sensing data for analysis of crop production, historical land use, surface water features, and ecological features
- Evaluation and management of water quality impacts on surface and ground water
- Water rights, water resources and water supply development, planning and protection
- NPDES rule and permit development for surface water quality protection at Federal and State level in EPA Region 6 and EPA Region 9
- Source tracking of nutrient contamination of surface and ground water
- Contaminant nature and extent, fate and transport, and risk assessment studies
- Environmental assessments for real estate transactions and regulatory compliance
- Agricultural Best Management Practice (BMP) design and implementation
- Vegetation inventory and sampling for ecological studies
- Compost operations design, oversight, and regulatory compliance
- Agricultural nutrient management

CURRENT RESPONSIBILITIES

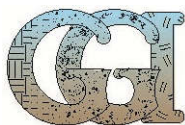**Agronomist/Ecologist - Glorieta Geoscience (2013-Present)**

Responsible for: 1) Geospatial analyses using LiDAR, multispectral imagery, and other remote sensing data for analysis of crop production, historical land use, surface water features, and ecological features. 2) Preparation of groundwater discharge permits and surface water discharge permits for agricultural, industrial, and municipal operations. 3) Analysis of water quality, soil chemistry, crop uptake, and other related agricultural, biological, chemical data as it applies to environmental compliance for the agriculture industry and related industries. 4) Management of site investigations and remediation of contaminated soils and ground water.

SELECTED PROJECT EXPERIENCE

Gila Valley Irrigation District, Safford Valley, AZ (2019 – present) – Serve as water quality expert witness in lawsuit regarding quantity and quality of water available for downstream users. Evaluate water quality from groundwater wells, Gila river, and springs throughout Safford Valley. Utilize geospatial data to locate irrigated land, evaluate spatial distribution of phreatophytes, evaluate historical land use, and locate areas of discharging springs.

Hollandia Dairy, San Marcos, CA (2013-present) – Serve as water quality expert witness in lawsuit on nutrient pollution of Lake San Marcos, CA; evaluate nutrient contributions from San Diego County, Cities of San Marcos and Escondido and Vallecitos Water and Sanitation District and residential/golf course development to impaired Lake San Marcos; evaluate development history in several basins.

Bull Enterprises (2017-2018) – Serve as water quality expert witness for largest compost producer in the Imperial Valley, CA on salmonella contamination of organic leafy greens in El Centro, CA. Evaluate and source track multiple sources and strains of salmonella from sources such as Colorado River/Imperial Irrigation District canal water, untreated sewage from Mexicali MX sewage treatment plants, and improper/inadequate decontamination of irrigation equipment, mammalian and avian sources.

Ground Water Discharge Permit Management for 30 Dairies (2013 – present): Manage State and Federal ground water permit and NPDES permit compliance for 30 dairies in New Mexico and Nevada, ranging in size from 300 milking cows to 10,000 milking cows.

EDUCATION	M.S., Forestry (Soils and Hydrology), Southern Illinois University, 2010-2013
	B.S., Forestry (Forest Resource Management), Southern Illinois University, 2007-2009

PROFESSIONAL DEVELOPMENT/ TRAINING

Geomorphic & Ecological Fundamentals of River & Stream Restoration Course, UC Berkeley Sagehen Field Station, August 17-21, 2019

Compost Operations 40-hour Training Course, US Composting Council, Tuscon, AZ, November 7-11, 2016

Nutrient Management Certification Short Course, Texas A&M Agriculture Extension, College Station, TX, August 18-21, 2014

PUBLICATIONS/ PRESENTATIONS

Singh, G., Goble, M. Dane., Schoonover, J. E., Williard, K. W. J., & Zaczek, J. J. (2018). Allometry, Morphometry, and Soil Characterization of Giant Cane (Arundinaria gigantea) Stands. Ecological Restoration, 36(4), 315–324. https://doi.org/10.3368/er.36.4.315

Lazarus, J., & Goble, M. Dane. (2017) Environmental Forensics in Complex Litigation. CLE class presentation to San Diego Defense Lawyers Association

Goble, M. Dane. (2013). Allometry, Morphometry and Soil Characterization of Giant Cane [Arundinaria gigantea (Walt.) Muhl.] Stands in Southern Illinois (Graduate Thesis). Southern Illinois University, Carbondale, Illinois.

Goble, M. Dane. (2012). Assessing Biomass Production in Giant Cane with Respect to Soil Properties. Presented at the 2012 AWRA Summer Specialty Conference - Riparian Ecosystems IV: Advancing Science, Economics, and Policy, Denver, Colorado.

Goble, M. Dane. (2011). An Assessment of Biomass Production in Giant Cane [Arundinaria gigantea (Walt.) Muhl.] and Its Effects on Chemical and Physical Soil Properties. Presented at the 2011 AWRA Annual Water Resources Conference, Albuquerque, New Mexico.

Goble, M. Dane., & Bloemer, W. (2009). Vegetation of Ankenbrand Forest, Wabash County, Illinois. Presented at the 2009 Natural Areas Association Annual Conference, Vancouver, Washington.

LITIGATION SUPPORT SUMMARY				
Year	**Case**	**Client**	**Jurisdiction**	**Expertise**
2019 - Present	United States of America, Gila River Indian Community, and San Carlos Apache Tribe v. Gila Valley Irrigation District	Gila Valley Irrigation District	United States District Court for the District of Arizona	Agronomy, Ecology, Water Quality
2017 - 2018	Mission Ranches Company, LLC. v. Bull Enterprises, Inc.	Bull Enterprises, Inc.	Superior Court of The State of California County of Imperial	Agronomy, Composting, Water Quality
2013 - Present	Citizens Development Corporation, Inc. v. County of San Diego, City of San Marcos, City of Escondido, Vallecitos Water District, and Hollandia Dairy, Inc.	Hollandia Dairy, Inc	United States Disctrict Court for the Southern District of California	Agronomy, Water Quality