BENJAMIN NARWOLD

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EDUCATION

Bachelor of Science in Environmental Science and Management — June 2023
University of California, Davis
Graduation w/ Honors, GPA 3.87

PROFESSIONAL EXPERIENCE

Staff Researcher, UC Davis – Wild Energy Center, Davis, CA — 4/22 – present
Conducted data wrangling and quality assurance for a multi-year, cross-country field campaign investigating water quality impacts of floating photovoltaic (FPV) installations. Collected and analyzed water quality data from UC Davis Arboretum sensor network across two seasons, using R to assess thermal impacts of a novel solar PV-powered aeration microgrid. Validated over 4,000 solar facility fencelines and wildlife corridors using Google Earth Engine across two projects. Co-authoring three scientific manuscripts focused on FPV effects on algae growth, thermal dynamics of waterbodies with FPV, and the utility of an FPV GIS tool developed in collaboration with PNNL and Noria Energy.

Lead Editor, The Green Place — 2/23 – present
Fact-checking and editing articles for an open-access climate change and sustainability news outlet, which provides a platform for environmentalists and climate change activists to publish their work. Published 11 and edited over 35 articles on topics ranging from floating photovoltaics to direct air capture technology.

Associate Scientist, Global Algae Innovations, Lihue, HI — 9/23 – 11/24
Provided daily analytical support and farm and lab sample collection across 8 government-funded projects focused on algae biotechnology research. Led algae culturing experiments to optimize growth, managed algal culture scale-up, and supervised the transition of cultures from lab to farm facilities. Independently conducted biological and chemical analyses on algae nutrient composition, maintained lab equipment, and performed initial quality control review of data and analysis. Developed and updated SOPs to improve efficiency in laboratory techniques. Collaborated with a 17-member team, ensuring workload coordination and contributing to a cohesive team environment.

Field Technician and Data Analyst, UC Davis – Center for Watershed Sciences, Davis, CA — 6/22 – 4/23
Collected water quality and vegetation data, and conducted GPS stream-channel mapping and drone surveys for an ongoing ecological monitoring project of Childs Meadows. Developed SOPs for photogrammetry workflows, optimizing drone imagery processing with Agisoft Metashape, and subsequently performed GIS and R data analysis. Improved field survey protocols to enhance data quality and streamline monitoring operations.

Greenhouse Research Assistant, UC Davis – Department of Entomology, Davis, CA — 3/21 – 5/21
Managed plant preparation for controlled flight chamber experiments simulating heat wave effects on plant-pollinator interactions. Maintained the health of 100 *Brassica napus* plants through precise watering and fertilization protocols. Collected nectar and seed pod samples post-experiment to support data analysis on plant health and reproductive outcomes.

USGS Field Assistant, California Water Science Center, Eureka, CA — 6/19 – 6/20

Collected and processed sediment samples, transcribed field notes, and mapped GPS coordinates using Google Earth for a sediment study along the Klamath River. Conducted erosion investigations related to off-highway vehicle use in collaboration with the Bureau of Land Management at South Cow Mountain.

AWARDS

Citation for Outstanding Performance in Environmental Science 2023
Deans' List Fall 2021, Winter 2022, Spring 2022, Fall 2022, Winter 2023, and Spring 2023
Ben A. Madsen Scholarship 2022-2023
California Ecology and Conservation Scholarship 2022
Association for Environmental Professionals Superior California Student Scholarship 2022
F. and C. Walker Scholarship 2020 – 2021
Susie Voorhies Memorial Scholarship 2019 – 2020 and 2020 – 2021

PUBLICATIONS

Narwold, B., Wriston, G., & Jiang, W. 2024. *Predictors of Algae Growth in Estuary Systems: A Case Study in Suisun Bay, California*. The Aggie Transcript. https://aggietranscript.ucdavis.edu/articles/predictors-algae-growth-estuary-systems-case-study-suisun-bay-california

Narwold, B. 2023. *Floating Photovoltaics (FPVs): Impacts on Algal Growth in Reservoir Systems*. The Aggie Transcript. https://aggietranscript.faculty.ucdavis.edu/floating-photovoltaics-fpvs-impacts-on-algal-growth-in-reservoir-systems/

Narwold, B., Garcia, N., & Barnett, W. 2022. *Small-scale channel diversions increase abundance of hydropsychids and other aquatic macroinvertebrates*. CEC Research Fall 2022 Vol. 6, Issue 3. https://doi.org/10.21973/N3V37R

Cagle, AE, **Narwold, B**, Sadro, S, Armstrong, A, Pasquale, G, Di Blasi, MLV, Hernandez, RR. (in review) *Floating photovoltaic solar energy PV photovoltaics decreases water temperature and near-surface dissolved oxygen*.

Cagle, AE, **Narwold, B**, Armstrong, A, Sadro, S, Hernandez, RR. (in progress) *Floating solar photovoltaics reduces algal biomass in human-made bodies of water*.

Cagle, A., **Narwold, B**., Rodriguez, E., Sadro, S., Armstrong, A., Hernandez, R. (2022, December 13). *Impacts of Floating Solar Photovoltaic Arrays on Water Quality Indicators and Thermal Dynamics of Human-Made Bodies of Water*. AGU Fall Meeting 2022, Chicago, IL, United States.

Narwold, B. *The Tropical Matrix: Resurrections*. 2023. UC Davis Department of Wildlife, Fish, and Conservation Biology: Student Conservation Corner. https://medium.com/student-conservation-corner/the-tropical-matrix-resurrections-f4199e0bd56f

MEMBERSHIPS

Global Ecology and Sustainability Lab Group (2022-present)
Citizens' Climate Lobby (2023-present)
Association of Environmental Professionals (2022-present)
Team Captain, UC Davis Men's Ultimate Frisbee (2019-2023)