



APPOINTMENTS

Franklin Conservation Commission

Braden Rosenberg
71 Conlyn Ave

The Franklin Conservation Commission has recommended the appointment of Braden Rosenberg to serve as a member of the Franklin Conservation Commission with an expiration of June 30, 2019.

MOTION to ratify the appointment by the Town Administrator of Braden Rosenberg to serve as a member of the Franklin Conservation Commission.

DATED: _____, 2019

VOTED:

UNANIMOUS _____

A True Record Attest:

YES _____ **NO** _____

Teresa M. Burr
Town Clerk

ABSTAIN _____

ABSENT _____

RECUSED _____

Glenn Jones, Clerk
Franklin Town Council



Town of Franklin MA

355 East Central Street

Franklin, MA 02038

Phone: 508-520-4949

Volunteer Form

Good Government Starts with You

Date Submitted: February 15, 2019

Name: Braden D Rosenberg

Home Address: 71 Conlyn Ave
FRANKLIN, MA 02038

Mailing Address: 71 Conlyn Ave
FRANKLIN, MA 02038

Phone Number(s):

Email Address:

Current Occupation/Employer: Senior Environmental Manager - Easter Research Group (ERG)

Narrative: I have ample availability to support ConCom activities, including bi-weekly Thursday night meetings and all the preparation required.

My skills, education and experience are all directly relevant to ConCom and compliance with the Wetlands Protection Act and other relevant statutes. I have both B.A. and M.S. degrees in Geology with a specific focus on surface processes like erosion, runoff, nutrient loading, and sedimentation. As shown in my attached resume/CV, my work activities include several projects directly relevant to the ConCom including an ecosystem services valuation of coastal wetlands in the Great Lakes, the development of a new Water Quality Restoration Program for the Massachusetts Division of Ecological Restoration, and an update to the MassDEP Nonpoint Source Pollution Management Plan. I am also working on a project in the Mystic River watershed to help the Towns of Arlington and Winchester navigate new NPDES permit requirements for stormwater discharges. The Town of Franklin is also grappling with the new NPDES requirements, although that has little to no bearing on ConCom jurisdiction. Through my work I have become very familiar with regulations surrounding pollution control and ecosystem protection.

As a resident of Franklin I would very much like to apply this knowledge to the ConCom to help manage and protect sensitive water resources and ecosystems in the town. This is especially important because Franklin is in the headwaters of the Charles River, which struggles greatly with pollution.

Board(s) / Committee(s): Conservation Commission

Professional Experience and Qualifications

Mr. Rosenberg has experience in geology and environmental science, with a research background focused on weather-related seasonal river export, and the impact of landcover on riverine geochemistry. During this research, he used NLCD landcover data and SSURGO soil data to develop a conceptual model for the export of sediment, metals, and nutrients from agricultural sub-watersheds during high flow events, comparing geochemistry downstream of these agricultural sub-watersheds to upland forested watersheds. He has expertise with large environmental datasets, GIS analysis, data analysis and visualization, literature review, and technical writing.

Areas of Expertise

- Geology and environmental science
- GIS analysis
- Climate vulnerability and resilience
- Surface water quality analysis
- Ecosystem services modeling

Mr. Rosenberg is currently supporting NOAA's National Water Center to develop and solicit feedback on prototypes for forecast services using the National Water Model and designed and built an Esri StoryMap to facilitate information gathering from stakeholders at focus group events. He is currently leading a GIS-based evaluation using the InVEST model to assess ecosystem services values for a segment of coastal wetlands in Lake Huron and Lake Erie, utilizing a wide range of terrestrial, aquatic, hydrologic, and climatological datasets. Mr. Rosenberg has also provided support to USACE in developing an indicator-based vulnerability assessment tool and was responsible for using GIS to aggregate indicator values to the HUC-4 scale. For the U.S. Agency of International Development (USAID), Mr. Rosenberg led GIS activities to support environmental impact assessments and biodiversity assessments in developing nations, using available remote sensing data and other data sources to analyze changes over time. Mr. Rosenberg has accessed, analyzed, manipulated, and visualized numerous environmental datasets including: NOAA's sea level rise inundation datasets, SLOSH Maximum of Maximums datasets, NLCD, MODIS landcover data, ICLUS population/housing density and impervious surface data, floodplain datasets, facility point locations (e.g., TRI, Superfund, POTWs, etc.), subsurface geochemical and hydrologic data, and soil datasets (e.g., SSURGO). He has used these datasets to help develop indicators for vulnerability assessments, and has analyzed data to identify at-risk areas and understand the interconnections among the datasets.

Education and Certifications

M.S., Geology, University of Vermont, 2015

B.A., Geology, Middlebury College, 2011

Professional Experience

Eastern Research Group

Development of a Water Quality Restoration Program for Ecological Restoration (Massachusetts Division of Ecological Restoration)

2017 – Present

2018 – Present

Technical lead for an effort to design a new technical assistance program targeted at small to medium-sized watershed organizations and municipalities that are focused on improving water quality. The program is being designed to help groups transition from data collection and monitoring to implementation of restoration projects, including identification of strategic goals, actions to address identified water quality issues, and community outreach and social marketing around restoration projects. The structure of the program is informed by literature review, interviews with practitioners, and past experience working on water quality programs. After designing the program, a Request for Proposals will be developed to solicit interest for a pilot project to field test the water quality restoration program and identify enhancements or modifications to increase its efficacy.

Ecosystem Services Assessment for Coastal Wetlands in the Great Lakes (NOAA)

2018 – Present

Leading the technical component of an ecosystem services assessment in a segment of the Great Lakes coast from Saginaw Bay, MI to western Lake Erie. The assessment is utilizing Natural Capital's InVEST software to model a range of ecosystem services including sediment and nutrient retention, coastal vulnerability (erosion protection), recreation, and habitat quality. The modeling utilizes a wide range of input datasets including historical and projected average annual precipitation, SSURGO soil parameters, NOAA's C-CAP land cover data, and the Variable Infiltration Capacity (VIC) dataset. The output of this assessment will be ecosystem services values for discrete coastal wetlands in the study area, serving as the foundation for future site-specific detailed assessments.

Update to the Massachusetts Nonpoint Source Pollution Management Plan (MassDEP) 2018 – Present

Project manager and technical lead for a 5-year update to the State's NPS Pollution Management Plan, which defines priorities and objectives for the Clean Water Act Section 319 program. The s.319 program provides grants to eligible applicants that are implementing projects to improve NPS pollution control across the state. The plan update is required every 5 years to meet EPA requirements for a NPS Program Plan. Coordinating with key partners at other state agencies to learn about new and modified programs related to NPS pollution and monitoring. Updating the NPS Plan to reflect new programs and to add new objectives and milestones to guide NPS Program activities for the next 5 years.

Assessment of the Benefits of Improved Flood Forecasts and Economic Data (NOAA) 2018 – Present

Leading GIS efforts to screen and prioritize coastal counties that are vulnerable to both riverine and coastal flooding and have large ocean economies, with the purpose to pilot test a local economic impacts analysis approach using NOAA's Ocean Economy Satellite Account (OESA). Evaluating the benefits and limitations of using a coupled flood model (both riverine and coastal) along with an expanded ocean economy dataset (OESA) for economic assessments at a local scale, including the design of a theoretical economic assessment for a selected pilot location. The screening and prioritization is being conducted in multiple phases, beginning with the use of publicly available GIS tools like NOAA's Coastal Flood Exposure Mapper and FEMA's National Flood Hazard Layer. The site prioritization step will utilize local sea level rise, flooding, economy, and other datasets to identify the best locations to pilot test the use of OESA.

Climate Adaptation Plan for the City of Alameda, CA

2018 – Present

Providing key technical support for the development of the adaptation component of the City of Alameda's Climate Action Plan (CAP) update. Conducted a detailed review of existing studies and assessments to determine a baseline of understanding on potential climate threats and their impacts, as well as specific asset vulnerability. Leading a risk assessment of critical assets to determine their exposure, sensitivity, and adaptive capacity for a range of climate threats including sea level rise and associated flooding, inland flooding from surface water runoff and rising groundwater levels, extreme heat events, and drought. Developing adaptation strategies to address these priority threats with actionable recommendations on how to move forward from the CAP to implementation.

Development of Socioeconomic and Environmental Baselines for Caribbean Nations

2016

Conducted extensive literature review of policies, plans, project documents, data, and other resources to identify critical data gaps in St. Lucia, Dominica, Grenada, and St. Vincent & the Grenadines. Data was collected and evaluated to develop a socioeconomic and environmental baseline that identifies vulnerable communities and/or demographic groups to inform the implementation of projects aimed at increasing the resilience of Caribbean island nations to climate change via adaptation and mitigation measures. Led GIS activities to support the baseline development and identify vulnerable communities to aid in pilot project identification. In all countries, an assessment of current planning efforts towards National Adaptation Plans (NAPs) and National Appropriate Mitigation Actions (NAMAs) is being conducted to help these nations identify and implement targeted pilot projects.

Technical Support for USAID Global Environmental Management Support (GEMS)

2015 – 2017

Provided technical support for USAID in the development of environmental reports in developing countries, including environmental impact assessments (EIAs), biodiversity and tropical forestry assessments, and other evaluations of USAID programs. Led GIS mapping efforts to support field work and report development, and provided technical expertise on climate components of the assessments. Conducted desk research of existing plans, reports, policies, and other documents to evaluate the threats faced by the environment in these developing countries and their impacts, as well as the successes and shortcomings of USAID programming in the area.

Climate Change Vulnerability Assessment (VA) Tool

2015 – 2017

Provided support for the development and optimization of a detailed indicator-based vulnerability assessment tool for the U.S. Army Corps of Engineers. The tool was developed to provide a quantitative representation of relative vulnerability for HUC-4 scale watersheds in the United States, and provides projections of vulnerability for two future epochs (2035 and 2060) under two climate scenarios (wet and dry). Helped develop and calculate indicators through statistical and GIS analysis. Performed detailed GIS processing to aggregate or disaggregate indicator values to the HUC-4 level, using demographic, climatic, meteorological, and other environmental data such as flood impact areas.

Publications

Rosenberg, B., A. Schroth. (2017). Coupling of reactive riverine phosphorus and iron species during hot transport moments: impacts of land cover and seasonality. *Biogeochemistry*. 131(319):1-20.