



Kelp Restoration Postdoctoral Fellowship



Applications are invited for a **Kelp Restoration Postdoctoral Fellowship** at the University of Victoria to conduct research in the Baum Lab, in partnership with the Kelp Rescue Initiative (<https://kelprescue.org/>) and Pacific Salmon Foundation (<https://psf.ca/>).

Project Context and Goals: Kelps provide essential marine habitats throughout the Northeast Pacific and fuel the productivity of coastal ecosystems. Yet, kelp forest ecosystems are highly vulnerable to climate change, with increasingly frequent marine heatwaves a key threat. Active interventions, including restoration efforts, are therefore needed to improve the outlook for the persistence of kelp forest ecosystems. To be successful, however, these approaches rely on an understanding of species' adaptability in a changing ocean, and potential consequences to the local gene pool. The goals of our overall new research project are to: (1) use genomic approaches to characterize population structure and connectivity of the two main canopy-forming kelp species (*Macrocystis pyrifera* (giant kelp), *Nereocystis luetkeana* (bull kelp)) along the coast of southern British Columbia, and to assess the potential for local adaptation along natural climatic gradients; (2) evaluate the importance of genetic diversity for restoration initiatives through a manipulative experiment on the level of individual genotypes, and to conduct some of the first trials of the "green gravel" kelp restoration approach in British Columbia. Together, the results will illuminate the genetic diversity of kelp in a region of ongoing environmental change, and at the same time fill a fundamental knowledge gap that currently limits our ability to meaningfully scale-up kelp restoration efforts.

Postdoctoral Position: The Kelp Restoration Postdoctoral Fellow will be responsible for the second set of goals within the broader project, and will coordinate with collaborators to ensure seamless integration of knowledge between project components. The post-doc will lead the planning and execution of a manipulative field experiment to test the efficacy of the 'green gravel' restoration technique in BC's waters and determine the consequences of genetic diversity for success during the

out-planting process. This will include establishing experimental plots at multiple sites, surveying sites (via SCUBA and/or using an ROV) to assess kelp density at multiple time-points following experimental set-up, analyzing data and writing up manuscript(s) for peer-reviewed publications. The position will be supported by Kelp Rescue's field and lab coordinator based at Bamfield Marine Sciences Centre, who will produce 'green gravel' from multiple source populations prior to outplanting. The post-doc will also have opportunity to be involved in related collaborative research efforts.

Postdoctoral Qualifications

Essential Qualifications

- A PhD in ecology, biological oceanography, or another relevant discipline;
- Established publication record and record of completing projects in a timely manner;
- Marine field research experience, including experience boating in nearshore environments, and scientific diver certification;
- Demonstrated proficiency with statistical programming languages (R, Python or Matlab);
- Interpersonal and communication skills, the ability to work both independently and collaboratively.

Preferred Qualifications

- Expertise in kelp ecology;
- Experience with restoration techniques;
- Experience designing/implementing field experiments and/or common garden experiments;

Research Environment and Benefits: The postdoc will be co-supervised by Prof. Julia Baum (<https://www.juliakbaum.org/>; @BaumLab) and Dr. Chris Neufeld, Lead Scientist, Kelp Rescue Initiative. The position will be based either in the Baum Lab within the Department of Biology at the University of Victoria with extensive fieldwork at Bamfield Marine Sciences Centre (BMSC) <https://bamfieldmsc.com/>, or at BMSC.

- Join a supportive and stimulating research environment, with a cohort of post-doctoral researchers who are committed to climate change solutions, scientific outreach, and enhancing diversity in STEM;
- Collaborate with a team of leading researchers and non-profit partners (with connections to the international Green Gravel Action Group (<http://greengravel.org>)) on an applied research project with real-world applications;
- UVic is one of Canada's top comprehensive universities, has vibrant ecology and climate change research communities, and is located on Vancouver Island, British Columbia;
- Competitive salary and benefits (\$55-60K, depending on experience). This position is for one year. There is a possibility of renewal for a 2nd year pending new funding.
- Opportunities to present at national to international conferences.

To Apply: Candidates should submit the following materials via email to baum@uvic.ca in a single PDF document, with their last name in the file name:

- § a cover letter explaining your motivation for applying for this position; how your prior research experience qualifies you for the position; your career goals; and evidence of your commitment to equity, diversity and inclusion (EDI);
- § a CV (including publication list and clear specification of relevant quantitative skills);
- § names and contact details for three references;
- § two representative publications.

Equity, Diversity and Inclusion: We value equity and diversity, and strongly encourage applicants from underrepresented groups to apply (see: <https://www.juliakbaum.org/edi>).

Applications will be reviewed starting August 1st, and will be accepted until the position is filled. Applicants must be available to start the position in January 2023.