



# CCGP Newsletter

Issue #11 - April 14, 2023

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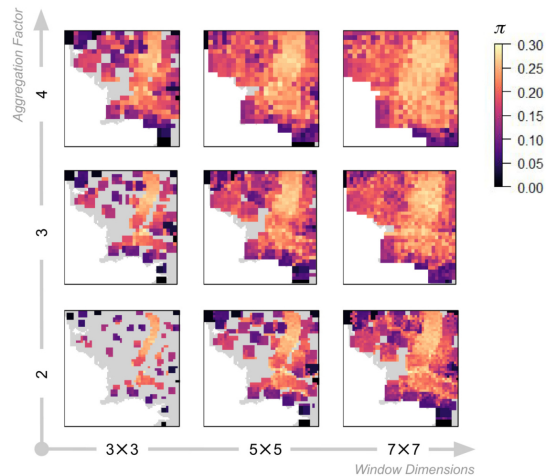
## CCGP Stakeholders meeting

The CCGP hosted its first Stakeholders Working Group meeting on March 9<sup>th</sup> in Sacramento, CA. We gathered over a dozen conservation leaders and policymakers representing 9 state and federal agencies and NGOs, including NPS, USFWS, CNRA, BLM, TNC and CDFA, to discuss bringing landscape genomics into conservation practice. The overall goal was to generate ideas and advice on shaping the best ways to summarize, visualize and utilize the data that the CCGP is generating. Brad and Erin set the CCGP stage, and Anne presented preliminary data products for a few select species and outlined potential multi-species approaches and data products. The entire afternoon was dedicated to discussion and feedback, and was extremely valuable as a

springboard for the next phases of the CCGP. We are excited to continue working with these and other agencies to best inform California conservation.

## wingen published by CCGP Landscape Genomics team

The CCGP's Landscape Genomics team, Anusha Bishop, Anne Chambers, and Ian Wang, recently published an article titled "Generating continuous maps of genetic diversity using moving windows" in the journal *Methods in Ecology and Evolution*. It describes a novel *r* package they developed called *wingen* that can be used to calculate continuous maps of genetic diversity, including nucleotide diversity, allelic richness, and heterozygosity, from standard genotypic and spatial data using a spatial moving window approach.



The image above is Figure 2 from the publication with the following caption:

Moving window maps of nucleotide diversity ( $\pi$ ) for the 200 sample RADseq-type dataset (10,000 SNPs) with varying levels of aggregation and window size, demonstrating how varying these parameters affects the continuity and spatial resolution of the resulting maps. Raster cells where the sample size within the window around that cell is less than two are assigned NA values and appear blank on the map. The grey background map represents the complete range of the simulated species.

[Click here to access the publication](#)



## UCLA La Kretz Center hosts 30x30 California

The UCLA La Kretz Center for California Conservation Science hosted [its 12th public lecture](#), "30x30 California: Conservation Science and Policy in Action", led by Dr. Jennifer Norris, the California Deputy Secretary

for Biodiversity and Habitat at the California Natural Resources Agency. Dr. Norris discussed the science-based plan to protect our state's biodiversity by conserving 30% of our land and coastal waters by 2030, known as the California "30x30 Initiative", while Dr. Brad Shaffer followed with an overview the CCGP. This lecture emphasized how the CCGP feeds into the 30x30 Initiative. Not only was there was a lot of positive response and interest from the audience, but this presentation was also another indication that state agencies are on board to use CCGP products in future conservation plans. Following the lecture Q & A, Erin Toffelmier and Zac MacDonald (CCGP Postdoc working on butterflies) joined five other La Kretz Center postdocs in discussing their research with members of the general public—it was brilliant!

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## CCGP at PacBio Discoveries Roadshow

The CCGP will be giving talks at two California locations for the [PacBio Discoveries Roadshow](#). This is a multicity and international event that promises peer-to-peer discussions, talks from leading scientists, and critical updates on the latest PacBio long-read technologies. CCGP Associate Director Erin Toffelmier presented at the Los Angeles roadshow on April 13<sup>th</sup> and Director Brad Shaffer will present at UC Berkeley on April 19<sup>th</sup>. Their talks, both titled "The California Conservation Genomics Project: How long-read sequencing enables biodiversity conservation", will share the CCGP framework with the scientific community as well as foster discussion for future approaches and innovations in conservation science.

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## Brad Shaffer at Oregon State University Seminar

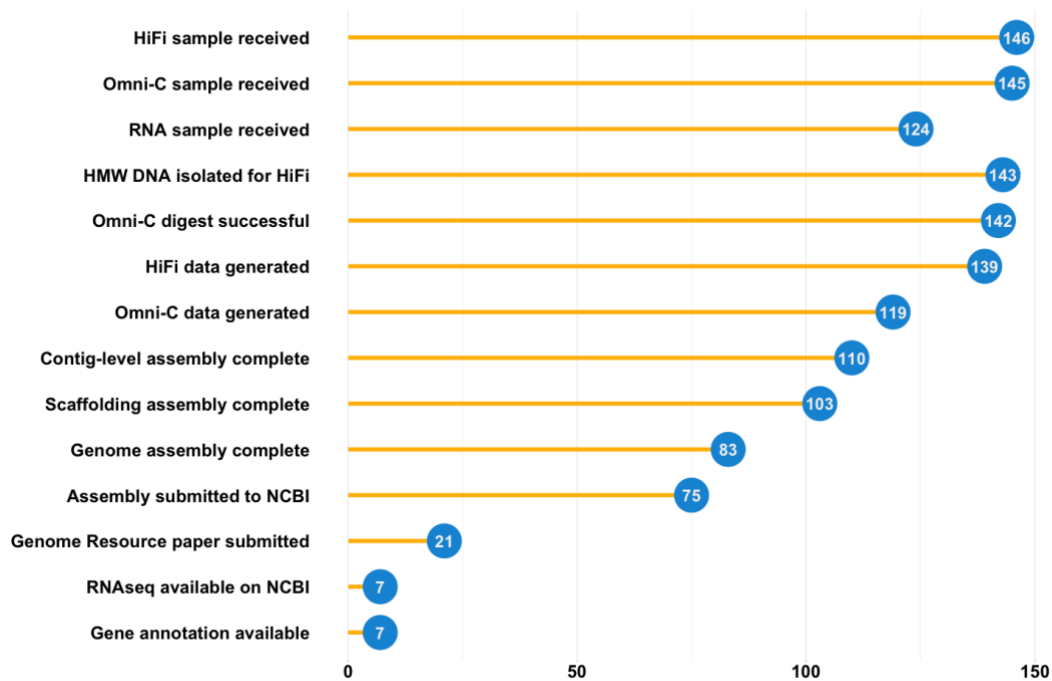


CCGP Director and PI Brad Shaffer presented at Oregon State University's Ecology, Evolution, and Conservation Biology Seminar on February 22<sup>nd</sup>. The talk was called "Genomics (plus field ecology) to enhance conservation: Stories from the trenches of California". Brad covered several interesting considerations on using genetics in conservation within the context of both his amphibian research and within the framework of the CCGP.

[Click here to watch the recorded seminar](#)

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# Reference genome and WGS progress



Number of Species Completed (as of April 14, 2023)

We're approaching the finish line for CCGP's reference genome data generation. The lab teams at UCD and UCSC have prepped about 95% of our species for sequencing. HiFi and Omni-C sequencing is complete for over 80% of all reference genome species. Finally, our genome assembler, Merly Escalona, has assembled 66 reference genomes with nearly all of these submitted to NCBI. Beyond the recent [JOH issue](#), several Genome Resource articles describing completed assemblies are in the works!

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*Quick note from CCGP Director and PI, Brad Shaffer: He will be on sabbatical at UC Berkeley through the spring, so please feel free to stop by and say hello if you're in town!*

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## CCGP IN THE NEWS

CCGP Director and PI Brad Shaffer was interviewed for the [Pepperdine University Graphic](#). He spoke on the importance of funding in climate change focused research.

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# Have anything to share?

As always, if your lab has any interesting information to share or you come across something that may be of interest to the CCGP community, please don't hesitate to let us know. [Click here to get in touch!](#)

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## California Conservation Genomics Project

ccgproject.org

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