



CCGP Newsletter

Issue #12 - July 7, 2023

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Pathways to 30x30 Progress Report Released

On May 18th, Governor Newsom announced the release of the first Pathways to 30x30 Annual Progress

Report. Since the inception of the [Pathways to 30x30: Accelerating Conservation of California's Nature strategy](#) in April 2022, the initiative reports that we have now conserved approximately 24.4% of lands and 16.2% of coastal waters, progressing towards the goal of conserving 30% of California's lands and

coastal waters by 2030. In the past year alone, around 631,000 acres of land have been added to the overall conservation objective. The report emphasizes that these accomplishments are supported by various local and regional planning efforts, new funding sources, and innovative partnerships. The California Biodiversity Network, CA Nature mapping tools, and a new statewide climate and biodiversity monitoring network have also contributed to the accelerated progress. The CCGP takes pride in being a part of this collaborative partnership and joins in celebrating the advancements made towards the ambitious 30x30 goal!

[Click here to read the Pathways to 30x30 Annual Progress Report](#)



Chris Convoy (Staff Curator of Mammals) with CCGP-related display at the Museum of Vertebrate Zoology

CCGP at UC Berkeley Cal Day

The Museum of Vertebrate Zoology at UC Berkeley hosted their annual Cal Day event on April 22nd. Drawing in a diverse crowd of over 1000 visitors, including prospective students, families, and local residents, the event served as a platform to showcase the campus and its resources. Among the highlights were the displays featuring the CCGP-funded vertebrate diversity project led by PIs Rauri Bowie and Michael Nachman. Postdoc Chris Kozak provided an insightful overview of the small mammals, while postdoc Phred Benham delved into the bird projects, particularly focusing on the savannah sparrows. Additionally, Tommy Herrera, a first-year PhD student in the Nachman Lab, presented on the utilization of deer mice population genetics data to study virus transmission by wild rodents. These displays highlighted the exciting research being conducted at UC Berkeley and sparked curiosity and engagement from the attendees.

Beth Shapiro elected to the American Academy of Arts & Sciences



CCGP Scientific Executive Committee member Beth Shapiro was recently elected to the American Academy of Arts and Sciences (AAAS). Dr. Shapiro is professor of ecology and evolutionary biology at UC Santa Cruz and also a CCGP PI on projects involving black bears, mountain lions, bumble bees, sea otters, tricolored blackbirds, and black abalone. Known for her groundbreaking work in ancient DNA analysis, Shapiro has made significant contributions to the field of evolutionary biology. Her research has provided crucial insights into the extinction and evolution of various species, including the woolly mammoth. The recognition of Shapiro's contributions by the AAAS further highlights her profound impact on the scientific community and commitment to conservation.

[Click here to read the UC Santa Cruz news center article](#)

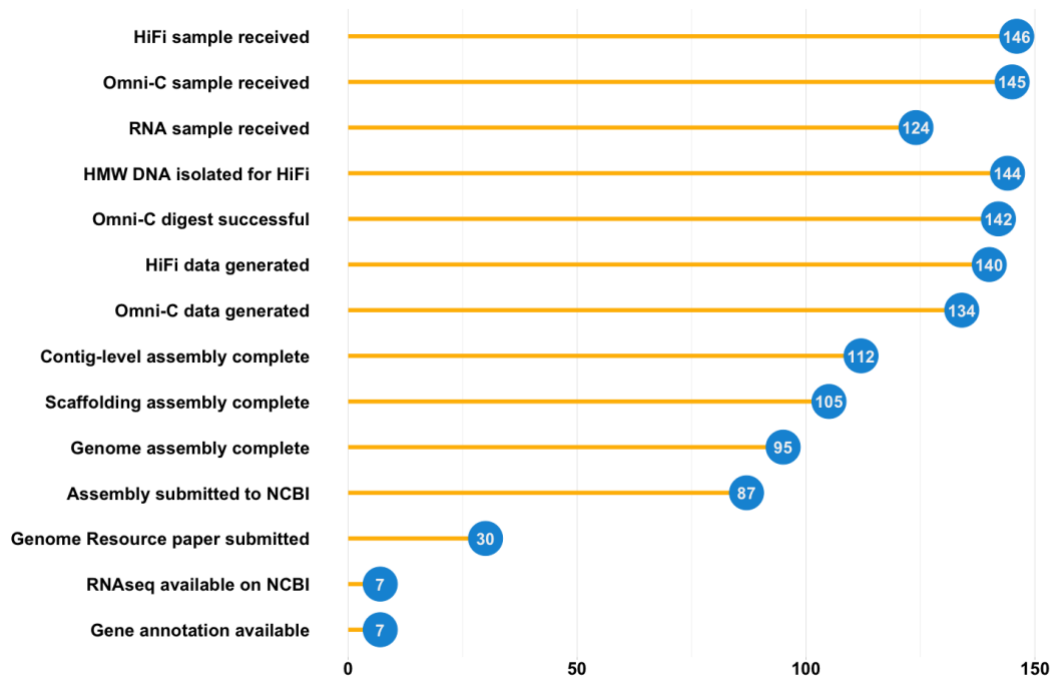
Shapiro was also recently featured on NPR's *Short Wave* podcast in a segment titled "It's boom times in ancient DNA research". [Click here to listen.](#)

CCGP at Evolution Conference

The CCGP was well-represented at the recent [Evolution Conference](#) in Albuquerque, New Mexico at the Albuquerque Convention Center on June 21-25, 2023. Erik Enbody of the CCGP bioinformatics team, led by Ian Wang, gave a talk titled, "Comparative effective estimated migration surfaces across California's wildlife", receiving a lot of enthusiasm from attendees. The landscape genomics team gave two talks, "Individual-based landscape genomics for conservation" led by Anne Chambers, and "Generating continuous maps of genetic diversity using moving windows", led by Anusha Bishop. These talks highlighted the team's newly developed R packages, *alga*tr and [wingen](#), and how they are used to answer fundamental conservation questions. Samridhi Chaturvedi, previous CCGP supported postdoc in Noah Whiteman's lab, also presented a poster on the pipevine swallowtail ([Battus](#)) and California pipevine ([Aristolochia](#)) genomes.



Reference genome and WGS progress



Number of Species Completed (as of July 7, 2023)

The CCGP has made significant progress towards its goal of generating reference genomes for 147 species (excluding a few bonus symbionts). Currently, 95 genomes have been fully assembled, with the majority also submitted to NCBI. Notably, 22 of these genomes have been published as Genome Resource articles in the *Journal of Heredity*, while an additional 7 have been submitted, and over 30 more are nearing submission. Further, HiFi and Omni-C sequencing has been completed for over 90% of the targeted reference genome species. Consequently, Merly's assembly queue is well-stocked with a wealth of data.

On the other end of the pipeline, our bioinformatics team has successfully mapped whole genome resequencing data against the available reference genomes to [generate variant calling data](#) for more than 20 CCGP projects! We're looking forward to the rest of the resequencing data rolling in!



CCGP on UC Santa Cruz Genome Browser

In addition to being accessioned on [NCBI](#), the CCGP-generated reference genomes can also be found on the California Conservation Genomics Project assembly hub on the UC Santa Cruz Genome Browser. The UCSC Genome Browser serves as a comprehensive repository, allowing researchers and conservationists to explore and analyze genomic information associated with various species. It hosts a vast array of datasets, ranging from human genomes

to model organisms and provides an intuitive interface for visualizing and analyzing genomic data. This tool enables users to delve into the genetic makeup of organisms, gaining insights into their evolutionary history, population dynamics, and adaptation strategies.

[Click here to access the CCGP assembly hub](#)

CCGP IN THE NEWS

The CCGP was recently recognized in a [UC Davis Magazine article](#) about the Earth BioGenome Project as well as the AGA blog post [Behind the Science: Making the most of a cancelled field season](#). Both publications highlight the CCGP as a project driving the increasing rate of sequenced and published genomes.

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

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