



Mission STEMCAP: Biodiversity Loss

Overview of Mission STEMCAP

Youth in Custody have limited access to cutting-edge scientific research and understanding of the pathways and opportunities to ameliorate the grand environmental and social challenges that society faces. STEMCAP will present a set of presentations and hands-on workshops to frame a single environmental challenge, provide up to date scientific research on the issue, help students create art/writing interpretations, and create “responses” by making a news report style podcast and writing letters to those concerned. Emphasis is on positive aspects of challenges by pointing out policies, careers, and individuals who are addressing these.

Day 1: Frame The Challenge

STEMCAP staff will introduce Girls Transition Center’s grand challenge of biodiversity loss and explain the activities they will be doing over the next two weeks. Students will also receive a presentation from Suzi Montgomery, who will introduce the concept of audio media. *Session Outcomes:* Students and teachers will be prepared to be active participants in Mission STEMCAP.

Day 2: FilmSpark series- Racing Extinction

We will play a documentary film called *Racing Extinction*, part of the Film Spark Series curated by Utah Film Center, related to the challenge of biodiversity loss. STEMCAP staff will collaborate to lead students through a study guide and discussion, provided by the Utah Film Center. *Session Outcomes:* Students will have a broad understanding of the concept of biodiversity loss and how it affects biota throughout the world, and how documentary films can be used to educate and motivate public action.

Day 3: Science Right Now- Wasatch Wildlife Watch

Scientist Austin Green will deliver an in-depth presentation about the cutting-edge research and policy behind biodiversity loss in our own backyard: wildlife in the Wasatch mountains. Austin will also guide students through a hands-on problem solving activity where they decide how conservation dollars and effort should be spent to protect our local biodiversity. *Session Outcomes:* Students will have an understanding of the challenges faced by wildlife and habitats in northern Utah.

Day 4: Art/Science Workshop- Creating Stories about Biodiversity Loss using Writing

Artist Bonnie Shaw will lead students through a writing workshop that helps them engage with the concepts of biodiversity loss through story and/or poetry. Students will create their own writing piece. *Session Outcomes:* Students will understand and be able to demonstrate the role that writing can contribute to understanding a scientific issue, and contribute to conservation efforts.

Day 5: Art/Science Workshop- Wildlife Habitat

Artist Claire Taylor will lead students through an abstract expression of wildlife habitat. Students will paint an abstract piece using watercolor, select a local wildlife species, and place the animal within representative habitats created and visualized by their abstract watercolor. *Session Outcomes:* Students will understand and be able to demonstrate the way that art can contribute to understanding a scientific issue, and contribute to conservation efforts.

Day 6: Public Service Announcement and Audio Response Pre-Planning

Suzi Montgomery and collaborators will guide students through idea creation and expression in the first of two sessions of public service announcement (PSA) and personal audio response development. Students will form and develop thoughts about biodiversity loss and learn how to use audio recording equipment. *Session Outcomes:* Students and teachers will work collaboratively to initiate responses to the Grand Challenge and engage with the process of creating audio pieces.

Day 7: CorRESPONDence- Letter-Writing Workshop

STEMCAP staff Laura George will synthesize what we've learned, and what actions are being taken to save biodiversity, such as civic engagement with elected officials, participating in scientific research, raising awareness through writing and art, and raising money by communicating with influencers and celebrities. Students will write a letter to a politician, a scientist, a celebrity, or one of the presenters about what they have learned and what questions or ideas they have gained from that. Bonnie Shaw will guide them through the exercise of writing this correspondence. STEMCAP staff will collect and distribute the letters and responses as appropriate. *Session outcomes:* Students will share what they have learned, why it is important to them, and/or how the letter-recipient can help tackle the challenge and will understand the potential impact of spreading the word about biodiversity loss and other issues that their communities may face.

Day 8: Science Right Now – Science Right Now- Loss of Diversity of Languages

Local scientist Tamrika Khvtisiashvili will deliver a presentation about her work studying the loss of languages across the globe. This presentation will draw a connection between diversity of language and diversity of life and examine the threats to each, some of which stem from the same root causes. *Session outcomes:* Students will draw connections between the extinction of languages and the extinction of species and understand the role that language plays in knowledge production and societies' perceptions of the world.

Day 9: Audio Recording Session

Suzi Montgomery will guide students through voicing their audio productions. By the end of this session, students will have contributed to a class-wide PSA and completed an audio recording of their personal responses to STEMCAP guiding questions. *Session Outcomes:* Students will practice verbal communication and articulate their thoughts and feelings about biodiversity loss in their own way. If their audio pieces are disseminated, the public will become aware of the issues and the work of students.

Day 10: Symposium

Students will have the opportunity to share what they have learned and hear each other's final audio productions. STEMCAP staff will also deliver a short synthesis presentation designed to reiterate all of the work they have done toward addressing the Grand Challenges, and provide pathways to use these concepts to solve problems of all kinds. *Session Outcomes:* Students will be able to share their work with each other and gain a sense of accomplishment.