

Drylab 2023 by Marco Janssen

It is the Spring of 2023. Eight female water refugees encounter an abandoned hotel in Amboy, California, with a water tank that can support the group for a month if they keep their water use down to four gallons of water a day per person. The decennia of drought in the southwestern United States combined with deteriorating water infrastructure has led some people to flee populated areas like Phoenix in search of water.

For a 30-day period, the group is managing to cope with the water restrictions and even use only three gallons of water a day. An elaborate gray water system is developed, as well as an outhouse. The diet consists of water-wise vegan options sourced from local ingredients. The group also gets used to the smells caused by reduced personal hygiene. Despite the extreme conditions, the limited amount of water, electricity, internet connection, and personal space, the group is thriving.

It is 2023. The southwestern United States experiences a water crisis, and the water in the Colorado river reaches such low levels that additional cuts are imposed on various states like Arizona, Nevada, and California. The CNN breaking news headlines include that Phoenix limits the construction of new buildings due to groundwater depletion and that the Phoenix suburb Rio Verde Foothills is cut off from piped water due to the water crisis.

The story of the eight female water refugees happened not in 2023, but in 2017 as part of an art-science project Drylab 2023 (<http://drylab2023.net/>). The eight females were students from Arizona State University who took part in this project to experience life under extreme water scarcity. The project was led by me, a sustainability scientist, and artist Adriene Jenik, both professors at Arizona State University.

Drylab 2023 was partly inspired by the work of Elinor Ostrom (1933-2012), born and raised in California, and an eminent scholar on the study of shared resources such as water. The traditional perspective on governance of shared resources is known as the “tragedy of the commons”: if people share a resource, they will tend to overharvest this for their self-interest, which requires privatization or nationalization of the resource to prevent it. Ostrom and her colleagues showed by empirical investigation and synthesis of numerous case studies that self-governance is possible under the right conditions. Those conditions include representative participation in governance, active monitoring and enforcement, and well-defined boundaries of the shared resource and resource users. Elinor Ostrom was awarded the 2009 Nobel Memorial Prize in Economic Sciences for challenging conventional wisdom and providing a broader framework to govern shared resources.

Some of the empirical work that informed Ostrom’s research were Swiss case studies, especially Törbel, where there was an elaborate governance regime to avoid overharvesting of the shared meadows in the mountains. It was the Ostrom-Swiss connection that brought Séverin Guelpa and myself together to pursue a project as part of MATZA in Dryland hotel in Amboy which had been a center of interdisciplinary activities since 2014. The infrastructure created by Séverin Guelpa and the experience he had working in Amboy enabled me to envision an art-science project and recruit an art professor to join me. As a former collaborator of Ostrom, I study the conditions of self-governance, especially using behavioral experiments related to shared water

resources. Given the long-term drought in the southwest of the United States, and the lack of water in Amboy, the idea emerged to focus on managing water in Amboy. Teaming up with Adriene Jenik, an art professor and desert dweller, who has been using media art to do performance projects on possible futures, led to the idea to tweet from the future.

We envisioned staying at Amboy for a month and enacting to be in a fictional future with extreme water scarcity. We recruited students who created their persona for this project, and they would share on social media their adventures. We choose 2023, six years into the future, to make the future relatable. The election of President Trump and the increasing concerns in academia on water scarcity made this future not unrealistic. However, water scarcity was not part of the public debate, especially in Arizona.

In preparation for the stay in the Dryland hotel in Amboy, the students and professors met on a regular basis in the Spring semester of 2017 to define the narrative, get familiar with the concepts of the governance of the commons and define the conditions for the stay. Of the eight students, four were art students, and four were sustainability students. During the stay in Amboy, the students would make the decisions about water, the professors were not part of the narrative and only attended to observe and guide the process.

The first week of the project was a challenge. There was not sufficient gray water generated to facilitate the flushing of the toilets, which led to the development of the outhouse. There were many more shared resources that required attention. Most cellular phone services did not effectively transmit to the project site. A hotspot was available for the project on designated laptops and only for project-related activities. Rodents found their way to our stored food, which needed better protection and better cleaning to reduce the rodents illegally appropriating our food. With limited freezer capacity, a cooperative strategy had to be implemented to generate ice cubes. A general lack of experience in cooking for larger groups, in particular, preparing diverse vegan meals, initially proved challenging. Ideally, lunch would consist of leftovers from the day before, but during the first week, miscalculations resulted in not enough food for everyone for both lunch and dinner.

Those issues were mainly resolved after the first week, and the group got into their rhythm. The last week of the stay, the group experienced a heatwave, and with limited cooling options, this was a challenge, especially when Amboy had a brief blackout.

After the participants went back to the Phoenix area, there were attempts to continue the learned new lifestyle. This was a challenge due to the different norms in Phoenix and infrastructure available. What stuck with most participants in the long term was a vegan type of diet.

With the current water crisis in Arizona and neighboring states, Drylab 2023 became a reality for many in the southwest of the USA. The art-science project demonstrated that a reduction of water use is not a problem of technology, but a commitment towards living according to more cooperative social norms.

The art-science project was the first collaboration I had with artists in a professional setting, and more have followed since. The collaboration between science and art is not always smooth due

to different goals, experiences, and concepts, but when overcoming the obstacles, opens up new creative ways of thinking, expressing emotions, and appreciating different ways of knowing. In fact, in recent years, there has been increasing collaboration between scientists and artists within the scope of sustainability, which provide a venue to cope with the uncertain future humanity is entering, in line with the objective of MATZA.

For more information see Janssen, M. A., A. Jenik, S. Z. Tekola, K. L. Davis, S. Flores, W. Gibbs, M. Koehn, V. Lyons, C. Mallory, S. Rood, S. Guelpa, and L.-A. Pfister. 2018. Drylab 2023: living a possible future with resource scarcity. *Ecology and Society* 23(4):8. <https://doi.org/10.5751/ES-10299-230408>