A READY TO PLAY GAME ON COOPERATIVE RESOURCE MANAGEMENT: LET'S REGENERATE!

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EXTENDED ABSTRACT

Regenerate! is a cooperative resource management board game that simulates two decades of community-building at Fly Ranch, a 3,800 acre, off-grid property in the intermountain west (Nevada, USA). Starting with an undeveloped landscape, the team (1 to 6 players) must organize and prioritize projects, strategically budgeting resources (water, food, energy, capital) as they grow their community in the high-desert. Each player assumes the role of a unique partner and with that, must manage their special abilities and actions as they cooperate with their teammates. As the team manages resources and attempts to maximize their Community Score (the victory points of the game), they must also minimize degradation across the landscape, as the team is penalized for degenerative habitat conditions and rewarded for regenerative conditions at the end of the game. Further, the team must also manage random events which are revealed at the beginning of each round. To simulate the escalating impact of climate change on community development and landscape conservation, more event cards are revealed as the game progresses and the positive or negative impact of events are intensified.

Regenerate! was designed to provide an experience in collaborative project management, systems thinking, and civic engagement, creating a board-based, real-time simulator to engage players with complex decisions while measuring success on multiple axes (community growth, landscape stewardship, end-game achievements). The board game was designed and published with educators in mind, based on a goal to stimulate conversation regarding the challenges of community growth when resources are limited, and to demonstrate the potential for disturbances and random, positive events to amplify or alleviate resource limitations.

For educators who wish to use Regenerate! in the classroom or other forms of programming, the following is a list of learning objectives found in the Game Manual. These options can be used as a starting point for group conversation. After playing Regenerate! students should be able to:

- Identify limited and abundant natural resources in high elevation deserts and methods of sustainably utilizing resources in this ecosystem
- Identify stressors in high elevation desert ecosystems and how multiple stressors can compound negative impacts
- Describe the impact of stressors on the natural environment and on communities
- Describe examples of anthropogenic and natural disturbances that can impact high desert ecosystems
- Describe examples of active land management, and the potential value of these practices to mitigate disturbance
- Describe the value of interdisciplinary relationships and adaptive project management in the design and implementation of community projects
- Talk about the costs and benefits (short and long-term) of deploying various renewable energy systems, agricultural systems, and other kinds of resource infrastructures across an ecologically sensitive landscape, especially when physical space is limited
- Describe the value of regenerative land use planning for long-term sustainability of resources and communities
- Identify and describe processes and the types of infrastructures that can help reduce waste in a community and utilize resources more efficiently
- Identify structural challenges or impediments that could exist that make it difficult to respond to climate change
- Discuss the value of community diversity for short and long-term sustainability of a community

In addition to those objectives specific to the game, learning objectives in the classroom also include:

- A hands-on experience in project and resource management
- Ability to practice business decisions in a stressful environment
- Team-building and collaboration among classmates
- The building of communication skills with peers, particularly with the discussion of decisions and other relevant business concepts (e.g., cost and benefit analysis, resource allocation, etc.)
- Reflection on decisions (i.e., whether or not the teammates won or lost the game based on their choices)

The game is easily accessible to academics, gamers, and the like, as Regenerate! was designed through a partnership between Tunnel Monster Collective, Land Art Generator, and Fly Ranch Project. The game was privately published in 2021 as part of the LAGI 2020 Fly Ranch Design Challenge, and was limited to production of 500 copies. Print-and-play files are freely available, and the game is also available to play on Tabletop Simulator (free of charge). Print copies of the game (while supplies remain) are freely available to educators. Additionally, the designers and publishers have given permission for the game to be discussed, presented, published in this context.

Gameplay Summary

The game is played over 20 rounds. During each round, the team strategically plans their actions with a goal of growing their community (scoring Community Points) and practicing good landscape stewardship. At the end of 20 rounds, the team's Community Score is impacted by the condition of the landscape (the presence of regenerative or degenerative conditions in different areas of the board). The team's score may also be adjusted if they completed any of the game's achievements (19 potential achievements based on the state of the board at the end of the game). Once the team's final score has been tallied, the team checks their performance against the final score categories in the Game Manual and read the end-game credits that correspond to their score.

Round Overview

Each round is organized into 4 phases: Event Phase, Partner Phase, Counter Phase, and Zone Condition Phase.

- <u>Event Phase</u>: event card(s) revealed and resolved. Depending on the Stage of climate change, the event may have additional positive or negative impacts on the game-state.
  - Stage 1 (Rounds 1-10), one event card is revealed and resolved
  - Stage 2 (Rounds 11-15), 2 event cards are revealed and resolved
  - Stage 3 (Rounds 16-20), 3 event cards are revealed and resolved
- <u>Partner Phase</u>: each Partner (player) takes actions during each step of the Partner Phase (3 actions total). A Partner's special ability may allow them to take actions other than the standard actions below.
  - Dream Step: draw 1 opportunity card or gain 1 capital for the team; optionally, players can share cards with each other during Dream
  - Design Step: place one card from their hand into a project slot on the design board or take one Operate action (use a special ability provided by a project that has already been deployed to Fly Ranch)
  - Deploy Step: pay / gain resources, and move one project from the design board to a vacant project space on the board or take one Restore action (remove one hazard from one zone on the board).
- <u>Counter Phase</u>: certain projects deployed to Fly Ranch may have Growth, which allows the team to collect resources over several rounds; during the Counter Phase, counter cubes are added to Growth projects each round so the team knows when to collect their resources. Additionally, certain projects deployed to Fly Ranch may have a Duration (projects that only stay on the board for several rounds); during the Counter Phase, counter cubes are also added to these projects, and the project is removed if it has ended.
- <u>Zone Condition Phase:</u> hazards and resilience are added to the board; if a zone is degenerative, it will receive 1 hazard. If a zone is regenerative, it will receive 1 resilience. If a zone is filled with hazards or resilience, the zone's condition is adjusted: as a zone score gets larger, it will have a larger positive or negative impact on the team's score at the end of the game.

Note: this Round Overview is not intended to outline all components, features, or mechanisms of the game. The game manual is freely available for full review at www.regenerate.games via the print and play files.