THE

GEORGE BARLEY WATER PRIZE

PRESENTED BY
EVERGLADES FOUNDATION

GEORGE BARLEY WATER PRIZE

STAGE 1 ENTRY INSTRUCTION GUIDE

The first stage of the George Barley Water Prize awards contestants that demonstrate the most promising early-stage ideas and solutions. Stage 1 is structured in three parts, Phase 1, Phase 2, and Phase 3. Each Phase has a distinct entry and judging period.

For each phase, entrants will be asked to describe how their solutions reduce total phosphorus (TP) (not only focusing on soluble reactive phosphorus) in water. Contestants are encouraged to highlight the geochemical characteristics of the processed water to showcase its discharge readiness.

Entrants will complete three online components for Stage 1:

1. An entry profile, complete with a video summary of the innovative solution;
2. Answer entry round questions related to TP concentration inflow and outflow, the experiment's innovation and scalability and a summary on what inspired the contestant to tackle the phosphorus problem; and
3. A written report detailing the experiment design and environmental impact assessment

The three submission components above will address three criteria areas:

- A: Total phosphorus removal (TP)
    - A1: Outflow TP concentration
    - A2: Percentage reduction in TP concentration calculated from inflow and outflow data points
    - A3: Quality of experiment design
- B: Environmental sustainability
- C: Overall submission presentation

Each criterion (A1, A2, A3, B, and C) will be scored on a 0 - 5 basis with 5 being the best score. If contestants do not submit a response to a criteria area or question, they receive a 0 for that answer. There is a maximum of 40 points available and the final scoring will be based on the following formula: (A1+A2 +A3+B) + 4(C).

Additional information on the scoring and all criteria can be found in the George Barley Water Prize Design Report.

1. Entry Profile

The entry profile includes an overview of the entrant's innovation, a purpose statement, innovation impact region, phase and sector. The entry profile also includes links to profiles of each team member.

Entrants must upload a short video (up to 2 minutes) that describes the contestant and team, why they are working to remove phosphorus, a summary of the solution and what makes the solution innovative.

Additionally, entrants may upload an image or logo to represent their idea.
A few thoughts on how to make a video that will wow the judges:

1. Give a concise overview of your process. What makes it innovative?
2. Give an overview of your team. Why are you passionate about making an impact in phosphorus pollution? What inspired you to begin your research and/or design?
3. Highlight what worked and what didn't in your process. What are your key discoveries and what would you do if you had additional resources?
4. What is the ultimate impact of your experiment, and who does it serve (besides "everyone")?
5. Be specific and clear in telling your story. This is your opportunity to humanize your experiment, your team and those who will be impacted by your success.
6. There is no need to spend a ton of money on building your video – a camera phone can take nice quality videos, as long as you film yourself in landscape view.

7. Let your personality shine! Although you have a time restraint of 2 minutes, you can be creative in how you develop your script, your "pitch." Consider showing us your office or lab space. Other ideas include using graphics to explain your experiment or interviewing other members of your team.

2. Entry Round Questions

Entry round questions are summarized below and will be filled out using the online platform located at barleyprize.com.

1) Please summarize how your approach works to remove phosphorus.
   i) How would you explain your approach in a short paragraph?
   ii) Please ensure the description is informative and succinct.
2) What is your Total Phosphorus (TP) outflow concentration in parts per billion (ppb)?
   i) Please enter whole numbers (e.g. 100).
   ii) Please indicate in your written report if this is an average or single point in time.
3) What is your Total Phosphorus (TP) inflow concentration in parts per billion (ppb)?
   i) Please enter whole numbers (e.g. 100).
   ii) Please indicate in your written report if this is an average or single point in time.
4) What would be required to implement your approach at large scale?
   i) How difficult would it be to implement your solution and treat large flows of water?
   ii) What makes your solution viable on a commercial level?
5) Please describe why buyers or investors should use or invest in your solution.
   i) Is your solution low cost?
   ii) Is your solution easy to implement and use?
   iii) What makes your solution unique?
   iv) Is your solution applicable in multiple types of water bodies?
6) Please describe what makes your approach innovative.
   i) What makes your solution unique?
   ii) What is new about your approach?
   iii) Are you using new chemicals, new processes or new technologies?
7) What led or inspired you to use this approach to remove phosphorus?
   i) Why did you first get involved in phosphorus removal?
   ii) What triggered you to come up with this experiment design?
8) How would you categorize your solution?
   i) Would you describe your solution as physical, chemical, biological, hybrid or other?
   ii) If hybrid or other, please explain.
9) Is your project or solution affiliated with a university?
   i) If affiliated with a university, please let us know which university and college your project is associated with.
   ii) If not, simply answer Not Applicable or N/A.
10) Please upload your written report that includes your experiment design and environmental impact assessment. See details below for what should be included in the report.
   i) It is required to upload a file with the file name:
      (1) FirstName_LastName_Phase1_ExperimentDesign.pdf

3. Written Report

The written report will be named FirstName_LastName_Phase1_BarleyPrize and uploaded as a single supporting file on the entrant's online submission at barleyprize.com and must include the following information:

1. Name of Contestant and Team Members
2. Brief description of the Solution Approach (150 word maximum)
3. TP Inflow and TP Outflows. Please indicate if these data points represent an average or single point in time.
4. Experiment Design (Criteria A3) – see details below
5. Environmental Impact Assessment (Criteria B) – see details below

Experiment Design (Criteria A3)
This section should not exceed two sides of one sheet of paper (US Letter or A4, no less than 10 point type)

- Describe the experiment's materials, equipment, test duration and conditions.
- Describe the availability of the materials used.
- Describe the inflow water physicochemical characteristics.
- Indicate if the experiment is run in batch or continuous mode.
- Detail the frequency and methods of analysis and sampling.
- Describe the lab testing protocols and QA/QC.
- What type of phosphorus was used in the testing and what was removed?
- Indicate the volume and flow of water treated.

Additional Supporting evidence that may be uploaded could include, but is not limited to: peer-reviewed published research information, technical reports, peer-review evaluations, open cost-models of production and implementation and beta-test results. Please note that the judging panel will look at the written report, online profile and video and answers to the entry questions as the primary basis for judging.

Environmental Impact (Criteria B)
This section of the written report should not exceed two sides of one sheet of paper (US Letter or A4, no less than 10 point type)

- Describe any alteration to and impact on major water chemistry parameters (pH, N, metals, alkalinity, sulfates, etc.).
- Provide formulation of all chemicals used during the process.
- Describe fate of chemicals and materials used.
- Describe toxicity of chemicals and materials used.
- List any potentially recoverable by-products.
- List any waste and describe its fate/disposal.
- Describe how discharge effluent aligns with FDEP Class III water standards.