

# 2023 Seacoast Seaperch Challenge

Friday, March 31, 2023

Swasey Pool, UNH Field House

Sponsored by University of New Hampshire Center for Coastal and Ocean Mapping, UNH Cooperative Extension/4-H and the Portsmouth Naval Shipyard.

## General Competition Rules (adapted from the National Seaperch Challenge)

This event serves as a qualifier for the 2023 International Seaperch Challenge

1. The Seacoast Seaperch competition comprises two classes: Middle School and High School. Participants in each class will compete in two pool events and a poster session.
2. For each class, Middle School and High School, awards will be given for the top finisher in each pool event and the technical report.
3. Overall High School Champion, Middle School Champion and runners-up will be named for the best combined score from both pool events. To be eligible for Nationals, teams must also submit a technical report.
4. Only two team members are allowed on the pool deck during a competition event.
5. All team members must wear shoes with rubber soles on the pool deck.
6. Each Seaperch ROV must be presented for a compliance check during check-in upon arrival prior the team competing in the pool events. **Once the team has passed the compliance check-in no more modifications may be made to the Seaperch**, only emergency repairs.
7. In the event that a vehicle is inadvertently interfered with during a competition, or a malfunction of a vehicle's parts (i.e., the motor) occurs that is beyond the design and construction, the lead pool judge will have the sole authority to provide the team time to fix their vehicle and to allow them to compete later in the round. Malfunctions will be evaluated on a case-by-case basis.
8. Each team must consist of a minimum of 2 students to a maximum of 6 students. Maximum two coaches per team. Teams must compete in the class of the oldest youth on the team. (i.e. a team made up of both middle school (gr.5-8) and high school (gr.9-12) youth must compete as a high school team.)
9. Note: We will follow National course designs as closely as possible, but pool depths, materials and course distances may vary slightly from specs listed on National Seaperch documents.

A 12V power system will be available for all teams to use. It is designed to work with the alligator clips in the Seaperch kit. Each lane will have its own power connection.

# Vehicle Design Rules (Adapted from National Seaperch Stock Class rules)

Teams are encouraged to think outside the box and change the shape and configuration of the Seaperch ROV.

Teams must use the same Seaperch for each event. (Obstacle Course and Mission Challenge). No modifications can be made to the vehicle in between courses. Vehicles can be serviced at the triage table, but must contain the same elements.

Vehicles shall consist of the parts and components contained within the equivalent of one Seaperch kit, with the following exceptions:

- Teams have a budget of \$25.00 to modify the Seaperch. It is the actual value of the modifications on the final competition vehicle that must be \$25 or less. Donated material should be assessed at what the cost would be to procure the material. Reasonable spare parts are not included in this budget. 3-D printed parts will be costed out at \$.05/gram. Proof of budget must be provided to judges upon request.
- Parts connected to the ROV may be adjusted between the two pool events. However, no parts or materials may be added or removed to the ROV after compliance checks are completed with the exception of buoyancy.
- Adjustments to buoyancy, including adding or removing buoyancy materials, may be made between pool events and during competition runs.
- The same ROV that was presented at compliance must be used for both pool events.
- Hooks and attachments may be adjusted but MAY NOT be added or removed during the competition round.
- Additional motors may be utilized for actuation or other non-propulsion uses. Motors may be found at Jameco P/N 232022.
- Teams may only utilize stock Seaperch motors in thrusters (Jameco P/N 232022).
- Teams may not add additional thrusters to the Seaperch. A thruster is defined as a means of propulsion for the Seaperch, normally but not limited to a motor and propeller assembly.
- Teams will design for and utilize a 12-volt power source. Over charging or stacking batteries is not allowed.
- The vehicle may be worked upon by the teams during the competition.
- The vehicle cannot be dragged via the tether.
- No dimension shall be larger than 18" (minimum obstacle diameter).

## **Challenges and Disputes**

Sportsmanship is expected at all times. Should a protest or dispute occur during the competition it is the intent to resolve the grievance at the time it occurs, and the ruling by the Head Judge shall be final.

A team that wishes to have an issue considered shall send the student team captain and one additional student member (2) to the lead judge with the inquiry or question. The lead judge will make the decision on the issue, and this decision is final. The same issue may not be brought to the judge a second time by any member of the team. Adults may not approach the lead judge on the pool deck regarding any perceived issues.

Teams may not question the legality of other competing vehicles; it is the Head Judge's role to determine if vehicles meet the entry and compliance requirements.

Unsportsmanlike conduct is grounds for the disqualification of a team. Team members and advisors are responsible for the conduct of all members and adults accompanying the team.

## **Pool Events**

Pool event will follow the same rules as the 2023 International Seaperch Challenge.