

OISRA Biathlon Guidelines

Definitions

Chief of Range: Responsible for range layout. Prior to race, COR and Range Safety Marshall should review race and range process and safety expectations with race volunteers. COF directs racers to stations to maintain proper flow and assure readiness and uniform use of stations. Holds racers when stations are full and releases racers when stations are available. Coordinates Hold & Release process with Wait Timers for accurate record of racer's Wait Time.

Range Safety Marshal: Responsible for safety performance of the range. RSM and Chief of Range should review race and range process and safety expectations with race volunteers prior to race. RSM will ensure safe methods are utilized and support the Marker Assistants. RSM will ensure adequate supply of paintballs at each station and proper operation of markers; i.e., gas pressure, barrel blockage, etc. RSM will have back up marker ready to use in case of marker failure at any of the stations.

Marker Assistants (Shooter Helpers): Assist the racer in proper and safe use of marker. MA will wear red bib with applicable lane number on front and back. MA will ensure marker is functional and has adequate paintballs, gas pressure. MA will facilitate racer's entry and exit of station. Typically, MA will stand on opposite side of marker stand from racer to assist with marker. When directing racer into station, MA should stand in front of station while directing the racer to pass in front of them. Once the racer has entered the station, MA should take up location opposite the marker stand. It is vital that MA's be cognizant of all racers to prevent impeding racers progress through the range. This is especially true of the racers in the adjacent lanes.

Targets: Targets consist of a target board and two support boards with pipe. Target board is a white background 7' wide and 16" high with five black 8" targets. The 8" targets are centered vertically and are horizontally spaced 8" apart (16" centers with 8" white space between targets and 6" white space at each end). The two support boards are 24" wide and 44" tall. Each support board is connected to the target board by two countersunk bolts with wing nuts. Targets are held in place by two pipes (one per support board) driven into the snow approximately 30-36". Pipes are 1" diameter EMT 5' long and attached by a zip-tie through the support board and around the pipe. In a simplified event, targets may be a single 8" target on a small board supported directly on top of the snow. Typically this makes shooting much easier for the racers and scoring a bit harder for the scorers.

Target Scorers: Assess and record the number of successful hits for each racer's stop at the shooting range. Scores will be recorded on cards with racer's bib number and lane assignment. Shots are scored as a hit if any portion of the paintball hit, splatter is inside of the black target area. Scorers should stand at the side of the range. See diagram. Runner collects score cards from Target Scorers to deliver to Calculator.

Target Cleaners: Clean targets after racer's five shot attempts. Shall wear safety eye protection, heavy clothing, and helmet. Typically utilizes a squeegee with scrubbing attachment and bucket of water/windshield washer solution. Bucket of cleaner is typically a 5 gallon bucket with 2 gallons of water and .4 gallon of washer fluid. Quantities of solution determined in the past by using two 7-gallon water containers and 3-4 gallons of washer fluid. While washer solution helps in cleaning, its primary benefit is to prevent freezing. Solution strength can be varied depending on predicted temperature. The TC's obvious objective is to clean complete board target of paintball splatter; however, when there is high turnover of racers passing through stations, the primary objective is to clean only the 8" target area.

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This will allow determination of accurate score while minimizing cleaning time. TC's should stand behind targets and reach over to clean. This is more efficient and safer than cleaning in front. It also allows the TC to use their body to support the target if needed while pushing on the target while cleaning. TC shall wear protective equipment and hide behind target while racer is shooting. Typically, the TC positions are filled by boy racers during the girls' biathlon and vice versus. In that event, the finishing racers of the first race (for example; the girls) must make timely replacement of the target cleaners (for example; the boys) to allow them time to prepare for their race.

Wait Timers: Timers record the "held time" of racers waiting to enter a marker station when all of the stations are full. Timers also record a racer's lost time when a marker malfunctions while in the process of shooting. Timers work in coordination with Chief of Range. Objective is accomplished by calculating the elapsed time of when the racer is directed by COF to stop and to resume progress to a station. This elapsed time will be deducted from the racer's overall time. Process requires two timers, one to record the stop time and one to record release time. A recorder of pertinent information, bib number and elapsed time, is helpful but not required. Typically these processes are needed only a few times in a race and the timers have plenty of time to record bib numbers and calculate elapsed time. Score Runner collects elapsed time records from Wait Timers to deliver to Calculator.

Score Runner: Continually collects score cards from Target Scorers and wait time records from Wait Timers and delivers to Calculator throughout the course of the race to ensure a prompt and timely completion of final race results.

Calculator: Enters target scores and wait time records into the race results calculations to determine final race results.

Biathlon Rules

Fundamental Rule: The organization of the Paintball Biathlon competitions are the same as for other cross country competitions with the following exceptions:

- 1) The Paintball Biathlon will NOT be a state meet qualifying event for the OISRA Nordic Championships. [The accuracy of the markers vary on too many uncontrollable parameters; i.e., smoothness and length of barrel, gas cartridge pressure.]
- 2) No jury will make decisions about the Paintball Biathlon event– all decisions will be made ONLY by the Technical Delegate, and there will be no right to appeal.
- 3) The following recommended seeding, method of start, and course distances for the Paintball Biathlon are ONLY GUIDELINES – they are not established as Race Rules, and they can be changed to suit the race organizers' objectives:
 - a. Racers seeded by gender, from fastest to slowest
 - b. Individual 30-second interval starts (It appears that boys as a group ski and shoot faster and it is worth considering a longer start interval for the girls versus the boys to reduce potential range congestion.)
 - c. Course distance is less than 1 Km.
- 4) Shooting Range Rules:

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- a. Safety rules will be reviewed prior to the racers handling the Paintball Markers
- b. A Range Safety Marshall will be present at the shooting range.
- c. The distance from which the target is shot can vary from 30 – 35 feet.
- d. The diameter of the targets is 8 inches.
- e. The shooter can use any position they choose (standing, prone, or kneeling)
- f. The racer gains a 10-second deduction in elapsed time for each target they hit. [There are 5 targets (or 5 hits per one target) for each halt at the shooting range.]
- g. SUGGESTION that can be changed by race organizers: The racer halts at the shooting range 3 times (and skis 2 laps).
- h. The responsibility for tallying the total number of targets hit will be assumed by “Target Scorers” at each shooting station.
- i. The racer uses the shooting lane assigned to them by the Chief of Range.

Range Protocol

Race is typically ran in a clockwise format as are the Olympics and other major competitions. Racers will be directed to a shooting station by Chief of Range to maintain proper flow and assure readiness and uniform use of stations. Stations will be on the racers’ left as they enter the range and identified numerically. See Paintball Biathlon Range Diagram. Stations will be identified by lane #’s on the Marker Assistant’s bibs and numbered signs by the targets.

The marker stand should be on the racers left with open space to their right as they enter the shooting station. The open space to the right allows a relatively smooth entry and facilitates a turn to the right to exit. It is important that the Marker Assistant in the adjacent lane does not encroach into this area and restrict the racer’s ingress, egress.

The Marker Assistant will assist the racer’s use of the marker with safety as the primary objective. The marker safety should be left on until ready to shoot and replaced immediately after shooting. The marker should always be pointed in a safe direction; downrange and never to the side. Whether the marker should be handed to and from the racer or the racer picks up and replaces it themselves should be determined and communicated in advance of race start by race officials. Familiarity and experience with the markers by the participants as a whole should be the primary deciding factor to ensure safety. Regardless of the determination, a racer that is clearly struggling should get appropriate support. A practice period prior to the race for review of marker operation and range protocol is beneficial if circumstances allow.

The racer shall attempt one shot per target from left to right. This is to ensure no confusion as to which target is being shot at. A hit is scored if any paintball splatter is determined to have landed in the black area of the intended target. The Target Scorer is the sole judge but can ask for input. If the marker should malfunction during use, the Range Safety Marshall will assist and provide an alternate marker if available. Malfunction should be brought to the attention of the Chief of Range and Wait Timers so that the racer’s lost time can be recorded and deducted from overall time.

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Lane width should be 10' ideally; however, site conditions may dictate narrower with 8' being the absolute minimum. Narrower lanes have several negative aspects all effecting safety and efficiency. With the range being compressed and targets being closer together, there are reduced tolerances in the safe handling and use of the markers affecting the Target Cleaners and surrounding personnel. The narrower lanes also create more congestion in the shooting stations as well as entry, exit and flow of the racers through the range. Eliminating a lane should also be considered when assessing reducing acceptable lane width. A lane reduction should also initiate a review of the start time interval for potential congestion at the range.

The distance from target to shooter should be 30-35 feet. Experience has determined 40' to result in a very low target success. While the 35' length has been used most recently, a shorter distance should be considered to increase success. It appears that biathlons have at least 70% success ratios and perhaps that should be our objective as well. Recommend using 30-32' at next event with review of past shooting percentages.

Chief of Range directs racers to stations to ensure readiness and uniform use of stations and markers. COF and Marker Assistants should be regularly communicating to ensure station readiness (marker fully functional and target cleaned) for next racer. To reduce congestion, it is preferable to direct racers to the farthest station first and subsequent racers in corresponding closer lanes. Assuming equal shooting time, this can reduce possible congestion created by the crossing of racers entering and exiting the range. Obviously, crossing paths is inevitable depending on the turnover and flow of the racers; however, this method does seem to reduce congestion. If site conditions will allow, wide shooting lanes and a large ingress, egress area of 15' or more depth are beneficial. Racers are responsible to manage skiing around each other at the range just as they are on the course.

Lap checking in the biathlon is equal to if not more challenging and important than a typical Nordic race. The added complexity of the biathlon tends to increase the confusion concerning laps. This can be further complicated by the non-standard aspect of three shooting stops coupled with only two laps when employed as such. Past history has witnessed several racers making a third unnecessary lap. It is critical that two lap checkers are used and are located for clear viewing and communication. As the biathlon is a non-state qualifying event, it is recommended that lap checkers are allowed and encouraged to instruct and advise racers. Communicating the number of laps and course layout to the racers prior to the event can't be overdone and, unfortunately, has never been 100% effective.

The biathlon is a spectator friendly event and it is important to designate an area for such. Alongside the sides of the range is not a good option especially for safety sake. Spectators adjacent to the course on the range side of the trail is marginally effective as well as it leads to crowding and spilling over into the course. This crowding can also impact biathlon officials' ability to perform roles. A preferred spectator area would be in front of the range opposite the racers ingress, egress trail as shown on the diagram. Recommend allowing parent volunteer (Marker Assistants, Scorers) requests for their child to be directed to their station.

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Considerations

As the biathlon is typically a once a year event, familiarity and efficiency is lacking compared to other races. While an efficient race is always a goal, history continues to remind that we simply do not have the ability and experience to run the biathlon as smoothly. To that point, it is important to allow plenty of time (well beyond the normal) to ensure course and range readiness and to prep volunteers and racers. If there is concern that total event is ending too late in the day, it is worthwhile considering starting earlier at the front end so that biathlon is not rushed. For improved efficiency and awareness, it is important to have radio communications between the starters and the range officials.

It is recommended that these guidelines are reviewed prior to event planning each year with several objectives in mind. First, to ensure that past lessons and knowledge is refreshed to utilize effectively. Second, that biathlon layout and variables are determined and, finally, that those decisions are communicated as soon as possible. Those event specific determinations would typically include but not limited to:

- Course and range layout including start and finish.
- Schedule and time interval.
- Number of laps and target shooting stops.
- List of required biathlon volunteer positions.
- Expected standard level of assistance to be provided by Marker Assistants.

Just as running the biathlon efficiently is more challenging as a once a year event, effectively communicating race rules and information to the participants is equally difficult. The event specific information coupled with a summary of the basic rules should be shared with applicable parties in advance of the race as well as the day of. Encourage coaches to review details with racers prior to race. In the principal that multiple methods of communication are overall more effective, it may be worth consideration to place a large sign at the start detailing brief biathlon rules, laps, info, etc.

Biathlon Range Typical Layout

