

Muzzleloading Rifle SOP

V1.01 – 11/11/2020

1. Purpose
 - a. To establish standard procedures for operating a Muzzleloading Rifle shooting range.
2. Additional Information
 - a. Appendix 1 – **Range Ownership and Contact Information**
 - b. Appendix 2 – **Emergency Range Procedures**
 - c. Appendix 3 – **Code of Conduct and Discipline Policy**
 - d. Appendix 4g – **Range Operations**
 - e. Appendix 5g – **Range Opening, Operating, and Closing Procedures**
 - f. Appendix 6 – **Acceptable Calibers and Ammunition**
3. References
 - a. BSA Guide To Safe Scouting
 - b. NRA Muzzleloading Instruction Manual
 - c. NRA Range Safety Officer Manual
 - d. BSA National Camp School Training Manual
 - e. BSA Muzzleloading Rifle Shooting Merit Badge pamphlet or NRA First Steps
 - f. BSA Shooting Sports Manual
4. Personnel
 - a. Operation of a Muzzleloading Rifle range requires qualified supervision.
 - b. Definition and requirements of Range Officers and Shooter ratios is found in SOP Appendix 4g – Range Operations.
5. Persons Authorized to Shoot
 - a. All participants must have the physical strength and manual dexterity required to shoot safely.
 - b. If range personnel are uncertain of a shooter's ability, the range personnel may test the participant and make appropriate physical arrangements (if possible) to assure a safe shooting experience.
 - c. All participants are responsible for following Rules of Safe Gun Handling and following the instructions of the range personnel. The Rules of Safe Gun handling are:
 - i. ALWAYS keep the gun pointed in a safe direction.
 - ii. ALWAYS keep your finger off the trigger until ready to shoot.
 - iii. ALWAYS keep the gun unloaded until ready to use.
 - d. Any participant behaving in an unsafe or disruptive manner may be removed from the range by any one of the range personnel.
 - e. See SOP Appendix 4g – Range Operations for other restrictions for Persons Authorized to Shoot on the range.
6. Authorized Shooting Equipment
 - a. See SOP Appendix 4g – Range Operations for rules regarding Authorized Shooting Equipment.
7. Safety Equipment
 - a. All participants, range personnel, and other individuals must wear eye and hearing protection while in the immediate, designated area.
 - b. Hearing protection may be provided by the shooting event or furnished by the individual participant.
 - i. If furnished by the event organizers, an assortment of sizes of earmuffs should be on hand to ensure proper fit.
 - ii. If provided by the individual, the range safety officer or NRA instructor should verify that the hearing protection fits properly.
 - iii. For hearing protection, earmuffs are usually preferred to earplugs.
 - iv. If earplugs are used, visual verification of fit should be made.
 - v. Earplugs are not to be exchanged with other individuals under any circumstances.

- c. Eye protection may be provided by the shooting event or furnished by the individual participant.
 - i. If furnished by the event organizers, an assortment of sizes should be on hand to ensure proper fit, for use as either standalone glasses or with prescription glasses.
 - ii. If provided by the individual, the range safety officer or NRA instructor should verify that the eyeglasses have adequate lens area to offer protection and that they fit properly and securely.
 - 1. Prescription glasses with plastic lenses may be considered as eye protection when worn.
 - 2. Non-prescription Sunglasses may be worn as eye protection if they are ANSI Z87.1 rated.

8. Range Layout

- a. The Range must meet all National BSA regulations

9. Equipment Storage

- a. See SOP Appendix 4g – Range Operations for rules regarding Storage and Transportation.

10. Operation of Range

- a. The range is opened only when all of the Range Officers described in Qualified Supervision of SOP Appendix 4g – Range Operations are present.
- b. Follow the rules in SOP Appendix 5g – Range Opening, Operating, and Closing Procedures.
- c. Shooting Procedure
 - i. Each shooter must be given a short shooting orientation before they are allowed to shoot. Shooters need only be given this orientation once per camping session or once for the event. The orientation will cover;
 - 1. How to handle the Muzzleloading Rifle
 - 2. Loading procedures and Safety
 - 3. Unloading procedures and Safety
 - 4. How to make the Muzzleloading Rifle SAFE
 - 5. Range procedures
 - 6. Safety procedures
 - ii. Allow the opportunity for the shooter to ask questions about any procedure and safety.
 - iii. The shooter must follow the three rules of gun safety:
 - 1. ALWAYS keep the gun pointed in a safe direction.
 - 2. ALWAYS keep your finger off the trigger until ready to shoot.
 - 3. ALWAYS keep the gun unloaded until ready to use.
 - iv. After the Range Officers are satisfied that the participants are ready to shoot safely, the command to commence shooting may be given.
 - v. Scouts BSA Procedures
 - 1. Startup
 - a. Daily before using and after cleaning, the Instructor will snap off a few caps through each rifle being used to ensure the breech is clear and dry.
 - b. Ensure this is done in a designated area
 - c. Look for tell-tale signs that the barrel is clear (blade of grass, leaves, etc.)
 - d. Move the rifle to the loading area awaiting participants
 - 2. The Instructor carries the rifle to the firing station. There are only two safe directions for the muzzle to be pointed—straight up or down range from the firing line.
 - 3. Under close scrutiny of the Instructor, the shooters load the rifle at a firing station loading rack or bench.
 - 4. The shooter checks to make sure the rifle is on half cock, drops the ramrod down the barrel to make sure the rifle is empty, removes the ramrod, measures out the powder and pours the powder down the barrel. Shooter then places the pre-lubed patch on the end of the muzzle and centers the ball upon it.

5. Shooter then thumbs in the ball or uses the short starter to start the ball followed by long end of the short starter to put the ball 4 to 6 inches down the barrel.
6. Shooter then uses a ramrod to ram the ball down the barrel using short strokes. Each ramrod will have witness marks to indicate when the ball is fully seated. The ramrod must not be aggressively bounced on the ball.
7. The shooter, under the direct supervision of the Instructor brings the rifle to the firing line and points it down range. The Instructor then makes sure that the shooter is holding the rifle tight on his shoulder and has toed the firing line. Typically shooters should only use the front trigger, not the set trigger.
8. The Instructor places a cap on the nipple of the rifle and stands back. Only range personnel are allowed to handle caps
9. The shooter squeezes the trigger and stays on the line until the Instructor releases him. The shooter then returns to the loading rack carrying the rifle muzzle up.
10. Upon returning the rifle to the loading rack, the shooter will then drop the ramrod down the barrel to make sure it is clear, put the rifle on half cock, and return the ramrod to its proper place.
11. Depending upon which type of propellant used, rifles should be wiped out frequently, at least after each shooting session.
12. In rare cases, shooters may wish to move stations after a rifle has been loaded but before it is capped. This request is usually denied. Only the RSO can move a loaded rifle.

d. Misfires – Conventional means

- i. In case of a misfire, the shooter is instructed by the Instructor to keep the rifle on his shoulder and pointed down range for 2 minutes.
- ii. If the cap didn't ignite, the shooter is instructed to pull the hammer back and to shoot again.
- iii. If the cap did ignite, the shooter is instructed to keep the rifle pointed down range and the Instructor replaces the cap after 1 minute and asks the shooter to fire again. The Instructor can repeat these procedures two or three times.
- iv. If the rifle still does not fire, the Instructor can use the nipple pick to attempt to clear the passage and re-cap and attempt to fire the rifle again.
- v. If the rifle still does not fire, the Instructor requests help from the RSO.
- vi. The preferred method to clear the round is to use a CO2 ball discharger
- vii. As a last resort, the rifle barrel can be removed from the line, placed in bucket of water for 1 hour in a safe location before attempting to pull the ball/charge manually.
- viii. Remove the barrel from the water and allow to drain.
- ix. Using a bench rod (T-handled, heavy, strong ramrod) with a bullet puller attached, screw the puller into the projectile by applying a downward pressure and turning the work rod in a clockwise direction.
- x. Once the puller has a good grip on the projectile, pull it straight out the muzzle. **Exercise extreme care, being certain that no part of the body is in front of the muzzle.**
- xi. The safest and easiest way is to place the T-handled work rod in a padded vise, the crotch of a tree limb, or the rafters of a covered firing line and pull on the barrel.
- xii. After pulling the projectile, clean the barrel to remove all traces of the deactivated charge and to prevent rust.
- xiii. Thoroughly dry the barrel before reassembling the rifle
- xiv. If the projectile cannot be removed in a safe manner, the rifle must be taken to a competent muzzleloading gunsmith.

e. Hang Fires

- i. In the event of a hang fire, range personnel should inspect the Muzzleloading Rifle for obstructions and for operational fitness before it is allowed to resume shooting.

f. Squibs

- i. In the event of a squib load, the Muzzleloading Rifle will be removed from the line immediately and marked out of service until it can be corrected by qualified personnel. Disable the Muzzleloading Rifle by removing the barrel, if possible, and mark the Muzzleloading Rifle appropriately.

11. Training

- a. Utilize the current NRA Muzzleloading Rifle Instructor Certification (or NRA Coop Muzzleloading Rifle Instructor Certification) and NRA Range Safety Officer Certification.
- b. Range personnel must successfully complete training and certification for their position of responsibility.
- c. Range personnel are responsible for maintaining their credentials. Credentials need to be available for inspection.
- d. Range personnel should renew/attend training regularly as continuing education.
- e. Range personnel need to conduct impromptu training to accommodate range needs.
- f. Cascade Pacific Council reserves the right to accept or deny credentialing as fitness for range operations.

12. Ceremonial Salutes

- a. Flag salutes and all other ceremonial salutes conducted at a location other than a designated range will follow a separate and specific Ceremonial Salutes SOP.

SOP Appendix 1 – Range Ownership and Contact Information

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Owner:

Cascade Pacific Council, Boy Scouts of America
2145 SW Natio Parkway
Portland, OR 97201
503–226–3423

Properties:

Camp Meriwether/Clark
17500 Cape Lookout Road
Cloverdale, OR 97112

Butte Creek Scout Camp
13462 S. Butte Creek Road
Scotts Mills, OR 97375

Camp Baldwin
76201 Dufur Valley Road
Dufur, OR 97021

Camp Lewis
14004 NE 271st Cr
Battle Ground, WA 98604

Camp Pioneer
62681 NF–2261
Idanha, OR 97350

Camp Ireland
31624 NW Camp Ireland St
Hillsboro, OR 97124

Camp Cooper
6000 Bald Mountain Access Road
Willamina, OR 97396

Council Contacts:

Matt Devore, Scout Executive/CEO, 503–225–5756
Bo Henderson, Director of Facilities, 503–225–5744
Todd McDonald, Director of Program, 503–225–5711

Camp Rangers:

Steve Parks, Meriwether/Clark, 503–965–6541
Gary Cuppy, Meriwether/Clark, 503–965–6541
Brian Kittelson, Baldwin, 541–467–2550
Bill Hood, Pioneer, 503–539–3834
Aaron Yoder, Cooper, 503–703–9246
Bill Hood, Butte Creek, 503–539–3834
Bo Henderson, Camp Lewis, 503–225–5744

SOP Appendix 2 – Emergency Range Procedures

V1.0 – 6/17/2020

Emergency Communications

All Shooting sports operations must have access to communication to emergency medical services (EMS) at the range or via relay through radio or other reliable devices, to an individual who can perform this communication. In the case of a relay, the following conditions must be in place to meet the policy.

1. The relay person must be able to make EMS contact within 1 minute of receiving a call.
2. The relay person must all ways be in the range of service for the relay device.
3. The relay person must have in their possession the contact list for crisis communication.
4. A runner must be sent to guide EMS to the affected range.
5. The relay person must understand the policy stated below Council Crisis Intervention Protocol (CCIP).

In the case where reliable communication exists directly to EMS at the range, the following conditions must be in place to meet the policy.

1. The relay person must have in their possession the contact list for crisis communication.
2. The relay person must understand the policy stated below for communication beyond EMS.
3. If the communication device does not allow to complete the communications beyond EMS, a runner may be sent to make the communications required by the Council Crisis Intervention Protocol.
4. A runner must be sent to guide EMS to the affected range.

Emergency Procedure

During the operation of any shooting range, the opportunity for an incident which requires external intervention and reporting may occur. The timeliness and procedures for this communication depend on the scenario. The three categories of incidents are:

- **Serious**
- **Near Miss**
- **Minor Injury or Significant Non–Injury**

Serious Incident

A serious incident results in serious injury, illness, or damage. In the event of a serious injury, the following procedures occur in this order.

- Cease Fire Immediately.
- Notify the Range Officer in charge.
- Follow all instructions given by the Range Officer in charge.
- Offer assistance if you are able.
- Take charge of the situation. Determine seriousness of injury.
- Stabilize the Victim. First–aid kit is located in the Range Storage Room. There is an Automatic External Defibrillator (AED) located in the Main Camp Lodge.
- Notify EMS (in person or via relay).
- Follow EMS directions.
- Send a runner to guide EMS to the affected area.
- Contact Property Ranger (If on–site).
- Contact Event Lead, (in the case of a council or district–run activity).
- Execute Council Crisis Intervention Protocol (CCIP).
- Once the situation is resolved, ask witnesses to write down what they saw and did.
- Treat witnesses for crisis exposure.
 - If needed, treat for shock.
 - Check on the emotional wellbeing of each witness.

- Connect each witness to a trusted person for self-assurance.
- Close the range or ranges until a council review has been conducted.

Near Miss Incident

A near miss is an incident that does not result in injury, illness, or damage, by definition, but it had the potential to do so. In the event of a near miss injury, the following procedures occur in this order.

- Cease Fire Immediately.
- Notify the Range Officer in charge.
- Follow all instructions given by the Range Officer in charge.
- Contact Property Ranger (If on-site).
- Contact Event Lead, (in the case of a council or district-run activity).
- Execute Council Crisis Intervention Protocol (CCIP).
- Once the situation is resolved, ask witnesses to write down what they saw and did.
- Close the range or ranges until a council review has been conducted.

If the range witnesses an event where injury or damage was avoided, a near-miss report must be completed and submitted to the council office within 72 hours of the event. The event leader and the property ranger should also be notified of the near-miss within 2 hours of the incident. If the event involves a ricochet or other shooting related event and the cause cannot be identified, the range must be closed until a range inspection has been completed by qualified Certified personnel and the situation has been resolved.

Near Miss Report must be available to the shooting range prior to its operation. The near-miss form can be found on <https://www.scouting.org/health-and-safety/incident-report/> or contact the council office.

Minor Injury or Significant Non-Injury Incident

Any event where an injury or other significant non-injury event occurred. In such an event, the following procedures occur in this order.

- Cease Fire Immediately.
- Notify the Range Officer in charge.
- Follow all instructions given by the Range Officer in charge.
- Offer assistance if you are able.
- Take charge of the situation. Determine seriousness of injury.
- Stabilize the Victim. First-aid kit is located in the Range Storage Room. There is an AED (Automatic Defibrillator Device) located in the Main Camp Lodge.
- Contact Property Ranger (If on-site).
- Contact Event Lead, (in the case of a council or district-run activity).
- Execute Council Crisis Intervention Protocol (CCIP).
- Once the situation is resolved, ask witnesses to write down what they saw and did.
- Close the range or ranges until a council review has been conducted.

An incident report must be completed and submitted to the Council Office within 72 hours. This is the report that instigates review that leads to future avoidance of the incident and informs council leaders to help protect the interests of the leaders and council. The event leader and property ranger should be informed within 2 hours of an incident.

Incident Report Forms must be available to the shooting range prior to its operation. Incident Report forms can be found on <https://www.scouting.org/health-and-safety/incident-report/> or contact the council office.

Council Crisis Intervention Protocol (CCIP)

The Council Crisis Intervention Protocol (CCIP) exists to engage trained crisis administrators to help affected individuals, ensure the protection of volunteers and the council. Once an administrator is contacted, they will most likely take control of the incident response and begin travel to the site.

Key Contacts

Each year the council identifies the key people to contact and posts this information at each property. The Council (as part of the duties of the Camp Ranger or Camp Director or other staff as the council may designate from time to time) will post this list at the shooting sports range for reference.

The contacts include but are not limited to:

1. Council Director of Program
2. Council Director of Facilities
3. Council Director of Support Services
4. Council Scout Executive

These people work with people on-site to create a report of the incident, support the witnesses, contact families, and, if needed, work with the media.

Arrival of the Media

Only the Council Scout Executive or his designee can speak to the media. If the media arrive, the following procedures must be executed. The Scout Executive identifies someone to speak with them.

1. Be polite.
2. Create a location away from the incident for the media to gather. This location must be away from campers, or others they may solicit for a story.
3. Offer them snacks and drinks and make them comfortable.
4. Please inform the media that only the Scout Executive is allowed to make a comment. You can say, "I am not authorized to speak with the media; someone will be along soon who can speak with you."

First Aid Procedures

All personnel rendering first aid should be aware of the precautions surrounding blood borne pathogens in the event of an accident. The following guidelines should be followed if someone is injured and you come in contact with biohazardous materials including but not limited to: blood, secretions, fluids, fluids visibly contaminated with blood, organ or tissues, cleaning items, and first aid dressings. Universal precautions should be used; all blood and body fluids must be treated as potentially infectious. Government guidelines can be found at www.OSHA.gov, search for OSHA Occupational Exposure to Bloodborne Pathogens.

Personal Protective Equipment

Appropriate equipment should be used when coming in contact with biohazardous material:

- Gloves, eye and face protection
- Fluid-proof over garments
- Shoe coverings
- Resuscitation mouthpieces for CPR

Procedure for Cleaning Surfaces Contaminated with Biohazardous Material

Only those personnel trained and designated as the Bloodborne Pathogen Team should be in charge of the cleanup procedure. In addition to training, each individual should be inoculated for Hepatitis C. Your local physician is capable of administering the vaccine regimen.

- An approved Bloodborne Pathogen Cleanup Kit should be used for cleaning.

- If a large amount of blood or other biohazardous material exists on surfaces or on equipment, the area must be roped off with "Caution Biohazard" tape. The personnel in charge of the cleanup must adorn whatever amount of personal protective equipment is needed for protection. The biohazardous material must be wiped up with paper towels or sprinkled with liquid-congealing powder. The paper towels or powder must then be placed in a red biohazard bag.
- The surface, floor, or equipment must then be decontaminated using an approved germicidal liquid. The solution must remain on the surface for ten minutes or as directed and then wiped off with water. In addition to commercially available germicides, a 1 part solution of sodium hypochlorite (common household bleach) to 10 parts water prepared daily is an effective germicide.
- For a small drop of blood or other biohazardous material that exists on a surface or equipment, wipe off with approved germicidal liquid. Do not use rubbing alcohol as a cleaning solution as it does not kill viruses. The solution must remain on equipment or surface for 10 minutes and then wipe off with water.

Disposal of Contaminated Material (i.e. paper towels, personal protective equipment, saturated dressing):

All contaminated materials including personal protective equipment must be placed in a red biohazard bag; the bag must be closed with a metal twist closure or tied in a knot. The bag must then be taken to a Biohazard Laboratory for proper disposal.

SOP Appendix 3 – Range Conduct and Discipline Policy

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All persons on the range are expected to exhibit “Scout Spirit”, which is defined as the daily living of the Scout Oath, Law, Outdoor Code, and Motto. This expectation is there for all aspects of Scouting and continues on the range.

All persons on the range are expected to show appropriate self–control and self–discipline.

All persons on the range are expected to follow reasonable directives.

All persons on the range are required to abide by the rules of the SOP.

All Youth Protection Guidelines, Guide to Safe Scouting, and BSA Shooting Sports standards must be followed at all times.

Oath

“On my honor I will do my best to do my duty to God and my country and to obey the Scout Law; to help other people at all times; to keep myself physically strong, mentally awake, and morally straight.”

Law

“A Scout is Trustworthy, Loyal, Helpful, Friendly, Courteous, Kind, Obedient, Cheerful, Thrifty, Brave, Clean, and Reverent.”

Outdoor Code

“As an American, I will do my best to – Be clean in my outdoor manners, Be careful with fire, Be considerate in the outdoors, Be conservation minded.”

Motto

“Be Prepared”

SOP Appendix 4g – Range Officers and Range Use
Gun Ranges
V1.0 – 6/17/2020

1. Range Officers
 - a. Range Safety Officer (RSO)
 - i. The RSO is responsible for overall operational supervision and oversees the Instructors.
 - ii. Has overall responsibility for safe setup, and operation of the range.
 - iii. Responsible for inspecting range and monitoring range operation
 - iv. Must be an adult (21 years of age or older)
 - v. Must be a currently Certified National Rifle Association (NRA) Range Safety Officer or a currently Certified NRA Chief Range Safety Officer.
 - vi. Has experience in this role.
 - vii. Understands and agrees to operate the range using the procedures outlined in this document.
 - viii. Has the authority to close the range in case of safety concern or violations
 - ix. Has responsibility for equipment inventory and standard safety–check and maintenance of shooting equipment.
 - b. Instructor (Instructor)
 - i. The Instructor is responsible for supervising the shooting participants.
 - ii. Has responsibility for safe operation of the range.
 - iii. Responsible for inspecting range and monitoring range operation
 - iv. Must be an adult (21 years of age or older)
 - v. Must be a currently Certified NRA Instructor for the discipline in use on the specific range.
 - vi. Has experience in this role.
 - vii. Understands and agrees to operate the range using the procedures outlined in this document.
 - viii. Has the authority to close the range in case of safety concern or violations
 - ix. Has responsibility for equipment inventory, standard safety–checks, and maintenance of shooting equipment.
 - c. Training Counselor (Training Counselor)
 - i. The Training Counselor is responsible for instruction of NRA Instructor candidates.
 - ii. Has responsibility for safe operation of the range.
 - iii. Responsible for inspecting range and monitoring range operation
 - iv. Must be an adult (21 years of age or older)
 - v. Must hold a current rating as an NRA Training Counselor.
 - vi. Must be a currently Certified NRA Instructor for the discipline in use on the specific range.
 - vii. Has experience in this role.
 - viii. Understands and agrees to operate the range using the procedures outlined in this document.
 - ix. Has the authority to close the range in case of safety concern or violations
 - x. Has responsibility for equipment inventory, standard safety–checks, and maintenance of shooting equipment.
 - d. Chalk Ball Rangemaster (Chalk Ball Rangemaster)
 - i. The Rangemaster is responsible for supervising the shooting participants.
 - ii. Has responsibility for safe operation of the range.
 - iii. Responsible for inspecting range and monitoring range operation
 - iv. Must be an adult (21 years of age or older)

- v. Must be a currently certified and Council approved BSA Chalk Ball Rangemaster or is a National Camp School Certified Shooting Sports Director (NCS SSD) trained in the Chalk Ball program.
 - vi. Has experience in this role.
 - vii. Understands and agrees to operate the range using the procedures outlined in this document.
 - viii. Has the authority to close the range in case of safety concern or violations
 - ix. Has responsibility for equipment inventory, standard safety–checks, and maintenance of shooting equipment.
- e. BB Gun Rangemaster (BB Gun Rangemaster)
- i. The BB Gun Rangemaster is responsible for supervising the shooting participants.
 - ii. Has responsibility for safe operation of the range.
 - iii. Responsible for inspecting range and monitoring range operation
 - iv. Must be an adult (18 years of age or older)
 - v. Must be a currently Certified BB Gun Rangemaster or a currently Certified NRA Rifle Instructor.
 - vi. Has experience in this role.
 - vii. Understands and agrees to operate the range using the procedures outlined in this document.
 - viii. Has the authority to close the range in case of safety concern or violations
 - ix. Has responsibility for equipment inventory, standard safety–checks, and maintenance of shooting equipment.
- f. Assistant Range Personnel (Assistant)
- i. Has responsibility for safe operation of the range under the supervision/guidance of an RSO and an Instructor/Rangemaster (discipline specific).
 - ii. Responsible for inspecting range periodically and monitoring range operation.
 - iii. Can be a youth (16 years of age or older)
 - iv. Understands and agrees to operate the range using the procedures outlined in this document.
 - v. Has authority to close the range in case of safety concerns or violations.
 - vi. Has responsibility for equipment inventory and standard safety–check and maintenance of shooting equipment.

2. Supervision Ratios

a. NCAP Standards

- i. Per the NCAP standards, Range Supervision shall consist of:
 - 1. Rifle – one (1) Rifle Instructor
 - 2. Muzzleloading Rifle
 - a. one (1) Muzzleloading Instructor or
 - b. one (1) CO–OP Muzzleloading Rifle Instructor
 - 3. Shotgun – one (1) Shotgun Instructor
 - 4. Muzzleloading Shotgun – one (1) Muzzleloading Instructor
 - 5. Pistol – one (1) Pistol Instructor
 - 6. Chalk Ball – one (1) RSO and one (1) Chalk Ball Rangemaster
- ii. Supervisor to Shooter Ratios
 - 1. Rifle – one (1) Instructor for up to 8 shooters
 - 2. Muzzleloading Rifle – one (1) Instructor for up to 1 shooter
 - 3. Shotgun – one (1) Instructor for up to 1 shooter
 - 4. Muzzleloading Shotgun – one (1) Instructor for up to 1 shooter
 - 5. Pistol – one (1) Instructor for up to 1 shooter
 - 6. Chalk Ball – one (1) Chalk Ball Rangemaster for up to 2 shooters
- iii. Additional shooters above the single supervisor ratio require the addition of supervisors with the same supervision limits.

- iv. Discipline specific supervisor to shooter ratios are to be maintained.
 - v. Non-Certified range personnel may not be counted as supervisors.
 - vi. When there are multiple supervisors, one supervisor must serve as the leader of all other supervisors.
- b. Off Season Standards
- i. Range Supervision shall consist of:
 - 1. Rifle – one (1) RSO and one (1) Rifle Instructor
 - 2. Muzzleloading Rifle
 - a. one (1) RSO and one (1) Muzzleloading Instructor or
 - b. one (1) RSO and one (1) CO-OP Muzzleloading Rifle Instructor
 - 3. Shotgun – one (1) RSO and one (1) Shotgun Instructor
 - 4. Muzzleloading Shotgun – one (1) RSO and one (1) Muzzleloading Instructor
 - 5. Pistol – one (1) RSO and one (1) Pistol Instructor
 - 6. Chalk Ball – one (1) RSO and one (1) Chalk Ball Rangemaster
 - ii. Supervisor to Shooter Ratios
 - 1. Rifle – one (1) Instructor for up to 8 shooters
 - 2. Muzzleloading Rifle –one (1) Instructor for up to 1 shooter
 - 3. Shotgun –one (1) Instructor for up to 1 shooter
 - 4. Muzzleloading Shotgun –one (1) Instructor for up to 1 shooter
 - 5. Pistol –one (1) Instructor for up to 1 shooter
 - 6. Chalk Ball – one (1) Chalk Ball Rangemaster for up to 2 shooters
 - iii. Additional shooters above the single supervisor ratio require the addition of supervisors with the same supervision limits.
 - 1. Rifle – add one (1) Instructor for each additional 8 shooters
 - 2. Muzzleloading Rifle –add one (1) Instructor for each additional 1 shooter
 - 3. Shotgun –add one (1) Instructor for each additional 1 shooter
 - 4. Muzzleloading Shotgun –add one (1) Instructor for each additional 1 shooter
 - 5. Pistol –add one (1) Instructor for each additional 1 shooter
 - 6. Chalk Ball –add one (1) Chalk Ball Rangemaster for each additional 2 shooters
 - iv. Discipline specific supervisor to shooter ratios are to be maintained.
 - v. Cascade Pacific Council reserves the right to accept credentialing as fitness for range operations.
 - vi. Non-Certified range personnel may not be counted for supervision ratios.
 - vii. Certifications must be current and with each supervisor.
 - viii. When there are multiple supervisors, one supervisor must serve as the leader of all other supervisors.
- c. Rangemaster Standards
- i. Range Supervision shall consist of:
 - 1. Chalk Ball – one (1) RSO and one (1) Chalk Ball Rangemaster
 - 2. BB Gun – one (1) BB Gun Rangemaster
 - 3. Pellet Gun – one (1) BB Gun Rangemaster
 - ii. Supervisor to Shooter Ratios
 - 1. Chalk Ball – one (1) Chalk Ball Rangemaster for up to 2 shooters
 - 2. BB Gun – one (1) BB Gun Rangemaster for up to 8 shooters
 - 3. Pellet Gun – one (1) BB Gun Rangemaster for up to 8 shooters
 - iii. Additional shooters above the single supervisor ratio require the addition of supervisors with the same maximum supervision ratio.
 - 1. Chalk Ball –add one (1) Chalk Ball Rangemaster for each additional 2 shooters
 - 2. BB Gun – add one (1) BB Gun Rangemaster for each additional 8 shooters
 - 3. Pellet Gun – add one (1) BB Gun Rangemaster for each additional 8 shooters
- d. Shooting Sports Training Standards
- i. Range Supervision shall consist of:

1. For ALL NRA Firearms Disciplines
 - a. Instructor courses – one (1) Training Counselor
 - b. Basic courses – one (1) RSO and (1) Instructor
 2. Chalk Ball – one (1) Chalk Ball Rangemaster Trainer approved by the Council Shooting Sports Committee
 3. BB Gun – one (1) BB Gun Rangemaster Trainer approved by the Council Shooting Sports Committee
 4. Pellet Gun – one (1) BB Gun Rangemaster Trainer approved by the Council Shooting Sports Committee
- ii. Supervisor to Shooter Ratios
1. For ALL NRA Firearms Disciplines
 - a. Instructor courses – one (1) Training Counselor for up to 16 shooters
 - b. Basic courses – one (1) RSO and one (1) Instructor for up to 16 shooters
 2. Chalk Ball – one (1) Chalk Ball Rangemaster Trainer for up to 16 shooters
 3. BB Gun – one (1) BB Gun Rangemaster Trainer for up to 24 shooters
 4. Pellet Gun – one (1) BB Gun Rangemaster Trainer for up to 24 shooters
3. Equipment and Supplies
- a. General Rules Applied to ALL Possible Guns or Markers
 - i. ALL guns or markers must be of sound operational condition.
 - ii. If guns are required to have trigger pull testing – as noted in Range Use – test results must be logged in the range test log book.
 1. If council property, a log entry must include:
 - a. Date of test
 - b. Last unique digits of serial number
 - c. Notation of pass or fail
 2. If personal property, a log entry must include
 - a. Date of test
 - b. Notation of “personal gun”
 - c. Notation of pass or fail.
 3. Guns that fail the trigger pull test may not be used until they are able to pass that test
 - b. Possible Guns or Markers

The following list is a reference list. Each Range Use (for example Scouts BSA Resident Camp, or Off Season Venturing, or etc.) will indicate under Authorized Shooting Equipment – subsection Permitted Guns or Markers, which of these Possible Guns or Markers (for example Rifle 22LR Single, or Shotgun, or etc.) is permitted for that Range Use.

 - i. Rifle 22LR Single
 1. Only .22 caliber bolt action rifles are permitted
 2. Single cartridge or box fed magazines acceptable.
 3. No tubular magazines.
 - ii. Rifle 22LR Semi
 1. Only .22 caliber semi-automatic rifles are permitted
 2. Tubular or box fed magazines acceptable.
 - iii. Shotgun
 1. Shotguns must be rated for steel shot.
 2. Shotguns will be 12 or 20 gauge pump or hinge style shotguns.
 3. Procedures must be in place to ensure proper shells are used with the proper shotgun. Typically 12 or 20 gauge are not used on the same range or stored together.
 - iv. Shotgun Semi

1. Shotguns must be rated for steel shot.
2. Shotguns will be 12 or 20 gauge semiautomatic shotguns.
3. Procedures must be in place to ensure proper shells are used with the proper shotgun. Typically 12 or 20 gauge are not used on the same range or stored together.
- v. Pistol 22LR Revolver
 1. Only .22 caliber pistols are permitted.
 2. Only revolvers or single shot pistols are permitted.
- vi. Pistol 22LR Semi
 1. Only .22 caliber pistols are permitted.
 2. Only semi-automatic pistols are permitted.
- vii. Muzzleloading Rifle 50
 1. Only .50 (or smaller) caliber Muzzleloading Rifles are permitted
 2. Each rifle must have an “unbreakable” ramrod for loading.
- viii. Muzzleloading Shotgun
 1. Only 10 or 12 gauge Muzzleloading Shotguns are permitted
- ix. Muzzleloading Pistol
 1. Single Shot and Revolvers are permitted
- x. Chalk Ball Marker
 1. Only .68 caliber Chalk Ball Markers are permitted
 2. CO₂ (20oz) tanks must be in sound operational condition and must have certification dates clearly visible.
 3. Each Chalk Ball Marker should have a muzzle “sock” for storage and transport.
- xi. BB Gun
 1. BB Guns do not need to have the magazine fully empty for storage.
- xii. Pellet Gun
 1. Velocity and energy to meet BSA specifications.
- c. Ownership of Guns or Markers
 - i. For some Range Uses, Cascade Pacific Council requires that all Guns or Markers be owned by the Cascade Pacific Council
 - ii. Permission to use personal equipment may be granted. Prior to use of personal guns or markers other than Cascade Pacific Council supplied guns or markers, a written request must be made to the Cascade Pacific Council Director of Facilities for use of a range with a list of all calibers and types of guns.
 1. Written approval by the Cascade Pacific Council must be granted before the event may be held.
 2. Approval may add requirements or change Shooter Ratios at the discretion of the Cascade Pacific Council.
 3. All personal Guns or Markers must meet the basic conditions listed above in Possible Guns or Markers for the same type of gun or marker.
 4. All personal Guns or Markers are subject to inspection by range officers to verify that basic conditions listed above in Possible Guns or Markers are met.
 5. Permission to use personal equipment may be revoked.
 6. Personal equipment will be subject to the same safe and locked storage requirements however, personal equipment may not be stored with Cascade Pacific Council equipment.
 7. Cascade Pacific Council assumes no liability for permitting use of any personal equipment.

4. Range Use

- a. Scouts BSA Resident Camp
 - i. Persons Authorized to Shoot
 1. Scouts BSA, Venturers, Explorers, and adults may shoot.

2. Cub Scouts or younger age youth are not permitted to shoot.
- ii. Qualified Supervision
 1. Follows NCAP Standards for Supervision Ratios.
- iii. Authorized Shooting Equipment
 1. All guns or markers used should be the property of the Cascade Pacific Council, however in very rare situations, staff may apply to use personal equipment if conditions described in Ownership of Guns or Markers are met.
 2. All guns require 3 pound trigger pull test.
 3. Permitted Guns or Markers
 - a. Uses Rifle 22LR Single
 - b. Uses Muzzleloading Rifle
 - c. Uses Shotgun
 - d. Uses Muzzleloading Shotgun
 - e. Uses Chalk Ball Marker
- iv. Ammunition
 1. Under no circumstances will non–Cascade Pacific Council ammunition be used in Cascade Pacific Council equipment. If staff have been given permission to use personal equipment they may need to supply their own ammunition (such as demonstrating programs that might not be offered at that camp).
 2. Calibers and ammunition must meet requirements of SOP Appendix 6 – Acceptable Calibers and Ammunition.
- v. Mixed Use of Range
 1. Mixed Use of the Range is defined as having more than one discipline in use on the range at the same time (for example – Muzzleloaders and Rifles, etc.).
 2. Mixed use of range is not permitted for Scouts BSA Resident Camp.
- b. Off–Season Scouts BSA Camp
 - i. Persons Authorized to Shoot
 1. Scouts BSA, Venturers, Explorers, and adults may shoot.
 2. Cub Scouts or younger age youth are not permitted to shoot.
 - ii. Qualified Supervision
 1. Follows Off Season Standards for Supervision Ratios.
 - iii. Authorized Shooting Equipment
 1. All guns or markers used should be the property of the Cascade Pacific Council, however personal equipment may be used if conditions described in Ownership of Guns or Markers are met.
 2. All guns require 3 pound trigger pull test.
 3. Permitted Guns or Markers
 - a. Uses Rifle 22LR Single
 - b. Uses Muzzleloading Rifle
 - c. Uses Shotgun
 - d. Uses Muzzleloading Shotgun
 - e. Uses Chalk Ball Marker
 - iv. Ammunition
 1. Under no circumstances will non–Cascade Pacific Council ammunition be used in Cascade Pacific Council equipment. If permission to use personal equipment has been granted, the owner of the personal equipment must supply their own ammunition.
 2. Calibers and ammunition must meet requirements of SOP Appendix 6 – Acceptable Calibers and Ammunition.
 - v. Mixed Use of Range
 1. Mixed Use of the Range is defined as having more than one discipline in use on the range at the same time (for example – Muzzleloading Rifle and Rifles, etc.).

2. Mixed use is permitted as long as all the following conditions are met:
 - a. Discipline specific SOPs are required for each discipline
 - b. Use of the range requires that all shooting stations for all disciplines must be operated safely at the same time.
 - c. Qualified supervision is required for each discipline on the range and all Range Officers across the entire range and all disciplines must coordinate operation of the range in a safe manner.
- c. Off Season Venturing
- i. Persons Authorized to Shoot
 1. Venturers, Explorers, and adults may shoot.
 2. Scouts BSA, Cub Scouts or younger age youth are not permitted to shoot.
 - ii. Qualified Supervision
 1. Follows Off Season Standards for Supervision Ratios.
 - iii. Authorized Shooting Equipment
 1. All guns or markers used should be the property of the Cascade Pacific Council, however personal equipment may be used if conditions described in Ownership of Guns or Markers are met.
 2. All guns require 3 pound trigger pull test.
 3. Permitted Guns or Markers
 - a. Uses Rifle 22LR Single
 - b. Uses Rifle 22LR Semi
 - c. Uses Muzzleloading Rifle
 - d. Uses Shotgun
 - e. Uses Shotgun Semi
 - f. Uses Muzzleloading Shotgun
 - g. Uses Pistol 22LR Revolver
 - h. Uses Pistol 22LR Semi
 - i. Uses Chalk Ball Marker
 - iv. Ammunition
 1. Under no circumstances will non-Cascade Pacific Council ammunition be used in Cascade Pacific Council equipment. If permission to use personal equipment has been granted, the owner of the personal equipment must supply their own ammunition.
 2. Calibers and ammunition must meet requirements of SOP Appendix 6 – Acceptable Calibers and Ammunition.
 - v. Mixed Use of Range
 1. Mixed Use of the Range is defined as having more than one discipline in use on the range at the same time (for example – Muzzleloading Rifle and Rifles, etc.).
 2. Mixed use is permitted as long as all the following conditions are met:
 - a. Discipline specific SOPs are required for each discipline
 - b. Use of the range requires that all shooting stations for all disciplines must be operated safely at the same time.
 - c. Qualified supervision is required for each discipline on the range and all Range Officers across the entire range and all disciplines must coordinate operation of the range in a safe manner.
- d. Off Season Council Cub Scout Events held at Scouts BSA Camp
- i. Use of a range is permitted for Council Cub Scout Events (such as District Webelos Woods) provided that the range is used exclusively for the Cub Scout Event and only for the approved Cub Scout Shooting Sports activity.
 - ii. Persons Authorized to Shoot
 1. Cub Scouts, Scouts BSA, Venturers, Explorers, and adults may shoot.
 2. Younger age youth are not permitted to shoot.

- iii. Qualified Supervision
 - 1. Follows Rangemaster Standards for Supervision Ratios.
- iv. Authorized Shooting Equipment
 - 1. All guns must be the property of the Cascade Pacific Council
 - 2. All guns require 3 pound trigger pull test.
 - 3. Permitted Guns or Markers
 - a. Uses BB Gun
- v. Ammunition
 - 1. Only council owned ammunition is permitted
 - 2. Calibers and ammunition must meet requirements of SOP Appendix 6 – Acceptable Calibers and Ammunition.
- vi. Mixed Use of Range
 - 1. Mixed Use of the Range is defined as having more than one type of gun in use on the range at the same time (such as BB Guns and Pellet Guns, etc.).
 - 2. Mixed use is limited to guns permitted for use by Cub Scouts.
 - 3. Mixed use requires a separate Rangemaster for each gun type and each gun type requires Supervisor to Shooter ratios to be maintained.
- e. Council Cub Scout Camp Use – Resident and Day Camp
 - i. Use of a range is permitted for Council Cub Scout Events provided that the range is used exclusively for the Cub Scout Event and only for the approved Cub Scout Shooting Sports activity.
 - ii. Persons Authorized to Shoot
 - 1. Cub Scouts, Webelos Scouts, Scouts BSA, Venturers, Explorers, and adults may shoot.
 - 2. Younger age youth are not permitted to shoot.
 - iii. Qualified Supervision
 - 1. Follows Rangemaster Standards for Supervision Ratios.
 - iv. Authorized Shooting Equipment
 - 1. All guns must be the property of the Cascade Pacific Council
 - 2. All guns require 3 pound trigger pull test.
 - 3. Permitted Guns or Markers
 - a. Uses BB Gun
 - b. Uses Pellet Gun
 - i. Pellet gun use is restricted to Webelos Scouts in a resident camp setting.
 - v. Ammunition
 - 1. Only council owned ammunition is permitted
 - 2. Calibers and ammunition must meet requirements of SOP Appendix 6 – Acceptable Calibers and Ammunition.
 - vi. Mixed Use of Range
 - 1. Mixed Use of the Range is defined as having more than one type of gun in use on the range at the same time (such as BB Guns and Pellet Guns, etc.).
 - 2. Mixed use is not permitted for Cub Scouts.
 - 3. Mixed use is permitted for Webelos Scouts.
 - a. Mixed use requires a separate Rangemaster for each gun type and each gun type requires Supervisor to Shooter ratios to be maintained.
- f. Shooting Sports Training
 - i. Range Operations require advance permission from the Cascade Pacific Council
 - ii. Persons Authorized to Shoot
 - 1. Persons training and participating in the Shooting Sports Training are permitted to shoot
 - iii. Qualified Supervision

1. Follows Shooting Sports Training Standards for Supervision Ratios.
- iv. Authorized Shooting Equipment
 1. All guns or markers used should be the property of the Cascade Pacific Council, however personal equipment may be used if conditions described in Ownership of Guns or Markers are met.
 2. Permitted Guns or Markers
 - a. Uses Rifle 22LR Single
 - b. Uses Rifle 22LR Semi
 - c. Uses Muzzleloading Rifle
 - d. Uses Shotgun
 - e. Uses Shotgun Semi
 - f. Uses Muzzleloading Shotgun
 - g. Uses Pistol 22LR Revolver
 - h. Uses Pistol 22LR Semi
 - i. Uses Chalk Ball Marker
 - j. Uses BB Gun
 - k. Uses Pellet Gun
- v. Ammunition
 1. Under no circumstances will non-Cascade Pacific Council ammunition be used in Cascade Pacific Council equipment. If permission to use personal equipment has been granted, the owner of the personal equipment may have to supply their own ammunition.
 2. Calibers and ammunition must meet requirements of SOP Appendix 6 – Acceptable Calibers and Ammunition.
- vi. Mixed Use of Range
 1. Mixed Use of the Range is defined as having more than one discipline in use on the range at the same time (for example – Muzzleloading Rifle and Rifles, etc.).
 2. Mixed use is permitted as long as all the following conditions are met:
 - a. Discipline specific SOPs are required for each discipline
 - b. Use of the range requires that all shooting stations for all disciplines must be operated safely at the same time.
 - c. Qualified supervision is required for each discipline on the range and all Range Officers across the entire range and all disciplines must coordinate operation of the range in a safe manner.
- g. Other Use
 - i. Prior to use of a range, a written request must be made to the Cascade Pacific Council Director of Facilities for use of a range with a list of all calibers and types of guns. Written approval by the Cascade Pacific Council must be granted before the event may be held. Approval may add requirements or change Qualified Supervision at the discretion of the Cascade Pacific Council.
 - ii. Persons Authorized to Shoot
 1. Persons participating in the Other Use are permitted to shoot.
 - iii. Qualified Supervision
 1. Minimum Range Supervision shall consist of one (1) RSO
 2. Cascade Pacific Council reserves the right to accept credentialing as fitness for range operations.
 3. Certifications must be current and with each supervisor.
- iv. Authorized Shooting Equipment
 1. Council, Staff, or Participant owned guns are permitted
 2. Permitted Guns or Markers
 - a. Uses Rifle 22LR Single
 - b. Uses Rifle 22LR Semi

- c. Uses Muzzleloading Rifle
- d. Uses Shotgun
- e. Uses Shotgun Semi
- f. Uses Muzzleloading Shotgun
- g. Uses Pistol 22LR Revolver
- h. Uses Pistol 22LR Semi
- i. Uses Chalk Ball Marker

v. Ammunition

- 1. Under no circumstances will non-Cascade Pacific Council ammunition be used in Cascade Pacific Council equipment. If permission to use personal equipment has been granted, the owner of the personal equipment may have to supply their own ammunition.
- 2. Calibers and ammunition must meet requirements of SOP Appendix 6 – Acceptable Calibers and Ammunition.

vi. Mixed Use of Range

- 1. Mixed Use of the Range is defined as having more than one discipline in use on the range at the same time (for example – Muzzleloading Rifle and Rifles, etc.).
- 2. Mixed use is permitted as long as all the following conditions are met:
 - a. Discipline specific SOPs are required for each discipline
 - b. Use of the range requires that all shooting stations for all disciplines must be operated safely at the same time.
 - c. Qualified supervision is required for each discipline on the range and all Range Officers across the entire range and all disciplines must coordinate operation of the range in a safe manner.

5. Storage and Transportation

a. Shooting Equipment – Guns, Markers, Canisters, Other equipment

i. Council Owned

- 1. Access to the equipment will be restricted to range personnel and camp management.
- 2. Guns and Markers will be stored on-site (the range) in a locked safe dedicated for this purpose when not in use.
- 3. Transporting of equipment will be done in a safe manner.
- 4. Inventory of the equipment is the responsibility of the range personnel.
- 5. Equipment stored at the range and on camp property will be controlled according to BSA policy and regulations.
- 6. Guns, Markers, and ammunition will not be stored in the same locked container. Storage in separate locked containers within a room or other area does not violate this provision. The only exception to this provision is that BB Guns and BBs may be stored in the same locked container.
- 7. Pellet Gun or Chalk Ball Marker Canisters
 - a. Canisters are to be stored in a clean and dry area.
 - b. Filling of canisters is to be performed only by a competent adult familiar with the process.
 - c. Heavy gloves and eye protection are required to be worn at all times during the filling operation.

ii. Staff or Participant Owned

- 1. The individual owner is responsible for safe and secure storage of all of their owned equipment.
- 2. Access to storage of the equipment is the responsibility of the individual owner.
- 3. Transporting of equipment will be done in a safe manner.
- 4. Inventory of the equipment is the responsibility of the individual owner.

5. Cascade Pacific Council is not responsible for the storage or use of the individual equipment.
6. Guns, Markers, and ammunition will not be stored in the same locked container. Storage in separate locked containers within a room or other area does not violate this provision. The only exception to this provision is that BB Guns and BBs may be stored in the same locked container.
7. Chalk Ball Canisters
 - a. Canisters are to be stored in a clean and dry area.
 - b. Filling of canisters is to be performed only by a competent adult familiar with the process.
 - c. Heavy gloves and eye protection are required to be worn at all times during the filling operation.

b. Ammunition

i. Cartridge

1. Council Owned

- a. Access to ammunition will be restricted to range personnel and camp management.
- b. Primary storage of ammunition will be in a locked cabinet dedicated for this purpose and will be locked when not accessed. Cabinet will meet all BSA guidelines.
- c. Transporting of ammunition will be done in a safe manner.
- d. Inventory of the ammunition is the responsibility of the range personnel.
- e. Ammunition that is stored at the range and on camp property will be controlled according to BSA policy and in compliance with State and Federal Safety regulations.
- f. Firearms and ammunition will not be stored in the same locked container. Storage in separate locked containers within a room does not violate this provision.

2. Staff or Participant Owned

- a. The individual owner is responsible for safe and secure storage of all of their owned ammunition.
- b. Access to storage of the ammunition is the responsibility of the individual owner.
- c. Transporting of ammunition will be done in a safe manner.
- d. Inventory of the ammunition is the responsibility of the individual owner.
- e. Cascade Pacific Council is not responsible for the storage or use of the individual ammunition.
- f. Equipment and ammunition will not be stored in the same locked container. Storage in separate locked containers within a room or other area does not violate this provision.

ii. Muzzleloading

1. General Provisions – Muzzleloading Ammunition consists of Powder, Projectiles, Patches, Cards, Wads, Caps, etc.

a. Powder

- i. Black Powder and approved substitutes are required.
- ii. Smokeless powder is not allowed.
- iii. Steps are to be taken to verify correct powder is used.
- iv. Long Barrel Rifles and Smoothbore guns

1. Use 2F grain size or its equivalent in 50 or above caliber rifles and 3F in 50 and below caliber rifles.
2. Maximum load is one grain of powder per caliber for Scouts BSA (example: 50 caliber rifles are allowed to be

loaded with a maximum of 50 grains of 2F or 3F, 45 caliber rifles are allowed to be loaded with a maximum of 45 grains of 3F, and 54 caliber rifles are allowed to be loaded with a maximum of 54 grains of 2F).

- v. Shotguns
 - 1. Use 2F for all loads
 - 2. Typical load is an equal measure of powder with an equal measure of shot.
- vi. Single Shot Pistols
 - 1. Use 2F or 3F as recommended by the manufacturer
 - 2. Use the powder load recommended by the manufacturer – NOTE: generally powder loads are about half the size of long gun loads.
- vii. Revolvers
 - 1. Use 2F or 3F as recommended by the manufacturer
 - 2. Use the powder load recommended by the manufacturer – NOTE: generally powder loads are generally less than half the size of long gun loads.
- b. Projectiles
 - i. Both conical and round ball are allowed for rifled and smoothbore guns.
 - ii. Round ball is recommended for single projectile loads.
 - iii. Shotguns should be loaded with shot with a size of anything from number 6 to number 8.
 - iv. Lead is the preferred material of all projectiles.
- c. Patch Material
 - i. For round ball, patches must be 100% natural fabric typically cotton or linen.
 - ii. Prelubed patches are preferred
 - iii. “Spit” or water-lubed patches are allowed.
- d. Wads and Cards
 - i. Natural “compostable” are recommended and preferred
 - ii. All wads and cards should be properly sized for the gauge of the shotgun
- e. Caps
 - i. Caps must be sized properly for the nipple of the gun.
 - ii. Caps of different sizes must be kept separate and marked as to the size.
 - iii. Storage of caps should be kept in a closed and dry container.
- 2. Council Owned
 - a. Access to ammunition will be restricted to range personnel and camp management.
 - b. Primary storage of ammunition will be in a locked cabinet dedicated for this purpose and will be locked when not accessed. Cabinet will meet all BSA guidelines.
 - c. Transporting of ammunition will be done in a safe manner.
 - d. Inventory of the ammunition is the responsibility of the range personnel.
 - e. Ammunition that is stored at the range and on camp property will be controlled according to BSA regulations.
 - f. Guns and powder will not be stored in the same locked container. Storage in separate locked containers within a room does not violate this provision.

- g. Beyond powder, the other components of the load do not need to be stored in a locked container.
- 3. Staff or Participant Owned
 - a. The individual owner is responsible for safe and secure storage of all of their owned ammunition.
 - b. Access to storage of the powder and components of the load is the responsibility of the individual owner.
 - c. Transporting of ammunition will be done in a safe manner.
 - d. Inventory of the ammunition is the responsibility of the individual owner.
 - e. Cascade Pacific Council is not responsible for the storage or use of the powder or components of the load.
 - f. Guns and powder will not be stored in the same locked container. Storage in separate locked containers within a room does not violate this provision.
 - g. Beyond powder, the other components of the load do not need to be stored in a locked container.
- iii. BB, Pellet, or Chalk Ball
 - 1. Council Owned
 - a. Access to ammunition will be restricted to range personnel and camp management.
 - b. Primary storage of ammunition will be in a locked cabinet dedicated for this purpose and will be locked when not accessed. Cabinet will meet all BSA guidelines.
 - c. Transporting of ammunition will be done in a safe manner.
 - d. Inventory of the ammunition is the responsibility of the range personnel.
 - e. Ammunition that is stored at the range and on camp property will be controlled according to BSA policy and in compliance with State and Federal Safety regulations.
 - f. Guns or Markers will not be stored in the same locked container as the ammunition. Storage in separate locked containers within a room does not violate this provision. The only exception to this provision is that BB Guns and BBs may be stored in the same locked container.
 - 2. Staff or Participant Owned
 - a. The individual owner is responsible for safe and secure storage of all of their owned ammunition.
 - b. Access to storage of the ammunition is the responsibility of the individual owner.
 - c. Transporting of ammunition will be done in a safe manner.
 - d. Inventory of the ammunition is the responsibility of the individual owner.
 - e. Cascade Pacific Council is not responsible for the storage or use of the individual ammunition.
 - f. Equipment and ammunition will not be stored in the same locked container. Storage in separate locked containers within a room or other area does not violate this provision.

SOP Appendix 5g – Range Opening, Operating, and Closing Procedures

Gun Ranges

V1.0 – 6/17/2020

1. Range Opening Procedure

- a. Opening the facility
 - i. Unlock and open the facility. Turn on lights as needed. Visually verify equipment is in place from previous range session. Investigate and note anything unusual.
 - ii. Walk the facility looking for any condition which seems out of normal or might be a safety concern.
 - iii. Equipment should remain in storage until handling of equipment is deemed appropriate.
- b. Range Inspection – make corrections as needed.
 - i. Verify all signage is up and visible.
 - ii. Verify berms are intact and functional.
 - iii. Verify there are no hazards/obstructions between the shooting line and the impact area.
 - iv. Verify the area is clean.
 - v. Verify target area – for example: verifying target wire or wires are up, taut, and functional.
 - vi. Verify crowd control and the waiting area is ready.
 - vii. If a problem is found that can't be corrected immediately, determine if the range may can be run safely with the existing problem or if the range must be closed.
 1. If the range can be run safely with restrictions – For example: If a section of the impact trap is damaged, the range could still be opened but the affected section/bench would not be used.
 2. If the range cannot be run safely – **DO NOT OPEN THE RANGE.**
 3. In both cases – Report the problem to the camp director as soon as possible so that the Camp Ranger can address the problem. Additionally, hang a sign so that every range officer coming to the range will be aware of the problem.
- c. Equipment Inspection
 - i. Regular inspection (daily, weekly, and seasonal) of equipment is required to ensure operational soundness and safety. A maintenance log is to be kept noting inspection date, general condition, and any issues.
 - ii. Storage safes and enclosures may have operating humidity/condensation control devices, report issues to camp director.
 - iii. Equipment with mechanical issues shall be disabled and marked out of service until a qualified individual can make repairs.
 - iv. Inspect protection equipment and verify they are clean and suitable for use.
 - v. Inspect any other equipment used during shooting – for example: detachable magazines.
- d. Making the Range Ready
 - i. Upon completion of inspections, it is time to make the range ready for operation. Ensure all required staff are present.
 - ii. If available, turn on the water at the hand washing station. Refill supplies of soap and paper towels as needed.
 - iii. Setup shooting benches, tables, rests and anything else required for range operations. Assemble and arrange as required.
 - iv. Set out safety equipment.
 - v. If used, fill shooting blocks or magazines with cartridges
 - vi. Set out and arrange guns or markers so that muzzles are pointed in a safe direction. After all guns or markers have been made safe, make the range safe. There must be no standing near the guns or markers.

- vii. Raise the range flag to indicate the range is open.
- viii. The range is ready to accept shooters.

2. Range Operating Procedure

- a. Before Shooting
 - i. Invite the shooters into the range area and have them store any of their personal belongings in the designated area.
 - ii. If there are targets to be put out by participants, instruct the participants concerning the targets and what needs to be done.
 - iii. Keep watch over the entire range to insure that there is no unauthorized handling of equipment.
- b. Making the range HOT
 - i. After all shooters are behind the ready line, double check to insure that no one is down range.
 - ii. After confirming that the range is clear and it is safe to shoot, announce – "PUT ON YOUR SAFETY EQUIPMENT". Only after the range officers are satisfied that all participants have their safety equipment in place does the process to make the range hot continue.
 - iii. To begin the process to make the range hot, the range officer in charge calls out in a loud voice: "IS THE RANGE CLEAR?" Other range personnel respond with the "RANGE IS CLEAR" or "NO! RANGE IS NOT CLEAR"! Only when the range officer in charge is certain the range is clear, he/she announces: "RANGE IS HOT" All Range personnel, whether they were running shooters or not, would echo the call: "RANGE IS HOT" The reason for repeating the call is to make sure everyone hears and understands the call.
 - iv. A range officer must always be monitoring the shooting line condition.
 - v. If a range officer must help a shooter and no other range personnel are available, the line must be shut down until the range officer is free to continue their duty.
- c. Making the range safe, making the range COLD
 - i. Common reasons for making the range cold are:
 - 1. To reset, retrieve or fix targets.
 - 2. If animals are sighted on the range.
 - 3. To investigate possible safety concerns.
 - 4. To end a shooting session.
 - ii. Once it has been determined to make the range safe, announce "CEASE-FIRE".
 - 1. NOTE that anyone on the range can declare "CEASE FIRE".
 - iii. All other range officers will echo the call "CEASE-FIRE" and make sure that all participants STOP IMMEDIATELY and not continue activity.
 - iv. Minimal handling of guns or markers needs to be enforced by the range officers until the reason for the cease fire has been understood and the action necessary has been determined by the range officers. All participants must wait for further instruction.
 - 1. Is the CEASE FIRE, for example, due to temporary condition that will clear itself or a need for the range officer to correct something quickly before allowing shooting to continue?
 - a. The range officer should instruct the shooters to keep the muzzle pointed in a safe direction and wait for further instructions.
 - b. If the condition clears, the range officer would be able to announce "ALL CLEAR, YOU MAY RESUME SHOOTING".
 - c. If the condition does not clear, it will be necessary to make the range safe and the range cold so further corrective action can be taken.
 - 2. Is the CEASE FIRE, for example, due to a longer term condition such as completion of shooting activities or something that requires access to the target area?

- a. The range officer in charge would announce “MAKE GUNS SAFE, ACTIONS OPEN, AND SAFETIES ON.”
 - i. NOTE: if it is a Marker rather than a gun you would announce “MAKE MARKERS SAFE, ACTIONS OPEN, AND SAFETIES ON.”
 - b. Verify all guns or markers are safe before continuing. If additional instructions are needed for some of the participants to make the guns or markers safe, it is recommended to give individual attention to those individuals.
 - c. Announce, “DO NOT TOUCH ANY GUN UNTIL FURTHER NOTICE.”
 - i. NOTE: if it is a Marker rather than a gun you would announce “DO NOT TOUCH ANY MARKER UNTIL FURTHER NOTICE.”
 - d. Announce, “MOVE AWAY FROM THE SHOOTING LINE AND STAND BEHIND THE READY LINE.”
 - e. Go down the shooting line and inspect all guns or markers. Confirm that:
 - i. Everyone is standing back behind the ready line, away from the shooting position.
 - ii. All guns or markers have been made safe.
 - iii. No one is touching any gun or marker. No casing of guns while the range is safe.
 - f. Once the line is safe, the range officer in charge can announce "THE LINE IS SAFE, THE RANGE IS COLD.”
 - g. Range personnel echo the range command ‘RANGE IS COLD’
 - h. Announce, “THERE IS TO BE NO HANDLING OF GUNS UNTIL FURTHER NOTICE”
 - i. NOTE: if it is a Marker rather than a gun you would announce “THERE IS TO BE NO HANDLING OF MARKERS UNTIL FURTHER NOTICE.”
 - i. Once the range has been made cold, it will need to be made hot before shooting may resume.
- d. General reminders for shooters:
- i. Stay behind the ready line while people are down range.
 - ii. Spent cases around the shooting line are not to be picked up until given permission.
 - iii. When going to the target area, take new targets, staplers, tape, clothespins, or any other target items as needed with them down range so as to minimize the time spent there.
 - iv. Bring their targets back if they are done shooting.

3. Range Closing Procedure

- a. Closing the range
 - i. Make the range safe.
 - ii. Remind shooters to not handle guns or markers at this time. Range officers will continue to observe the shooting line.
 - iii. Move all guns off the line to a safe place.
 - iv. All shooters can proceed downrange and retrieve targets and target holders.
 - v. Pick up all spent cartridges and debris forward of the firing line.
 - vi. After all targets and personnel are off the range, pick up all spent cartridges and debris near shooting line and dispose of them into proper location.
 - vii. The shooters can be dismissed from the range once range personnel are satisfied they have completed shooter housekeeping tasks (shooters may also be included in cleaning process that follows).
 - viii. Lower range flag to close the range to shooters.

- b. Equipment Cleaning and Inspection
 - i. Gun or marker cleaning should be a regularly scheduled task per the following guideline. Precautions should be taken to protect personnel prior to start of cleaning process. Gloves should be provided and all cleaning takes place in a well ventilated area. Eye protection is required.
 - 1. Muzzleloaders
 - a. **Daily** – Muzzleloaders are thoroughly cleaned daily when in use. Inspect and perform operational check.
 - b. **Seasonally** – As above but pay particular attention to oil/grease of all surfaces to protect for long term storage. An assessment of excessive wear should be made at this time and noted in maintenance logs. (**Long term or seasonal storage is defined as any period longer than one week, including after resident camp is complete and between off–season activities**).
 - 2. Modern Firearms
 - a. **Daily** – Pull a bore snake with gun cleaner thru the barrel only if excessively dirty. Wipe down external parts with a clean rag. Perform operational check.
 - b. **Weekly** – Thorough cleaning with disassembly as far as practical. Clean, dry and lube parts. Reassemble and wipe down external parts prior to storage. Perform operational check.
 - c. **Seasonally** – As above but pay particular attention to oil/grease of all surfaces to protect for long term storage. An assessment of excessive wear should be made at this time and noted in maintenance logs. (**Long term or seasonal storage is defined as any period longer than one week, including after resident camp is complete and between off–season activities**).
 - 3. Air Guns and Markers
 - a. **Daily** – Wipe gun or marker with clean dry cloth to remove any dust, dirt, grime, oils, etc. Inspect and perform operational check.
 - b. **Seasonally** – As above but pay particular attention to oil/grease of all surfaces to protect for long term storage. An assessment of excessive wear should be made at this time and noted in maintenance logs. (**Long term or seasonal storage is defined as any period longer than one week, including after resident camp is complete and between off–season activities**).
 - ii. Inspect all components for defects/damage or excessive wear regularly. Check magazines regularly for operational fitness. Replace as necessary.
 - iii. Always reassemble using correct components (example: correct bolt with correct rifle, check serial numbers or markings).
 - iv. Cycle actions multiple times as an operational check. Wipe down complete gun or marker as necessary prior to storage.
 - v. The gun or marker can now be secured in the storage location.
 - vi. Wash hands with cold water and soap after all cleaning and maintenance.
- c. Maintenance and Flagging of Guns
 - i. Regular disassembly for routine cleaning and maintenance can be done by qualified range personnel. Should conditions exist that require a qualified individual, the gun or marker in question should be disabled, flagged as out–of–service and secured as to prevent possible use prior to further repairs.
 - ii. Disabling the gun or marker can consist of but not limited to the following (steps should be taken to ensure the gun or marker is not in working order):
 - 1. Removal of the bolt or key components

2. Using a trigger lock or cable locking thru the magazine well and ejection port.
 - iii. The gun or marker should be flagged with a tag noting the reason for disabling it, the date, and the name of the person doing the flagging.
 - d. Range Inspection
 - i. Walk the range looking for debris and or damage that may have occurred during the shooting session. Verify impact area, berms are intact and operational. Verify target area is left functional for the next shooting session.
 - ii. Make corrections immediately if possible. If not, address them as soon as possible prior to the next session. Significant issues that would be a safety concern should be noted in the range log and reported to the camp director.
 - e. Securing the Facility
 - i. Move all shooting equipment to storage so that it is secured. Shooting benches, tables, and other positional shooting aids may be left in place on a weekly or seasonal basis (summer camp) at the discretion of the camp director.
 - ii. Sweep floors and empty trash.
 - iii. Ensure all equipment is secure and safes are locked.
 - iv. Wash hands with cold water and soap.
 - v. Turn off any lights and lock up facility.

SOP Appendix 6 – Acceptable Calibers and Ammunition V1.0 – 6/17/2020

Fully jacketed ammunition is preferred, however, shooters may use lead, semi-jacketed soft points, and semi-jacketed hollow points provided the ammunition also meets all the following conditions.

- Factory ammo only, no reloads.
- No armor piercing. Note: This includes steel core or hardened steel tips designed to penetrate steel.
- No incendiary or tracer ammunition.
- No large magnum calibers, handgun or rifle.
- No centerfire caliber rifles with muzzle energy exceeding 1600 ft lbs.
- Shotgun slugs are prohibited.
- See the chart below for allowed calibers.

Allowed Handgun Calibers: 22 short, 22 long, 22 long rifle (22LR)

Allowed Rifle Calibers: 22 short, 22 long, 22 long rifle (22LR)

Allowed Shotgun Gauges: 12, 20 or 410 gauges are allowed utilizing steel shot. Muzzleloading shotguns may utilize 10, 12 or 20 gauge and lead shot.

Allowed Muzzleloading (Rifle, Shotgun, Pistol) Calibers: All calibers accepted, patched round ball or conical lead bullets. Limited to 1 grain powder per caliber for BSA use. Muzzle energy to be 1600 ft lbs or lower. Muzzleloaders will only use black powder or acceptable black powder substitutes.

Allowed BB Gun Calibers: .177

Allowed Pellet Gun Calibers: .177

Allowed Chalk Ball Calibers: .68

Note: Use of the range utilizing calibers other than .22 long rifle or Muzzleloading requires Cascade Pacific Council authorization and verification of proper credentialing and a firearm/caliber declaration. See CPC Director of Facilities for authorization. Utilization of firearms other than those owned by the range owner will be at the discretion of Cascade Pacific Council.

Backstop Requirements

Industry and government have researched backstop materials for effectiveness and longevity. The most recommended materials for use in backstops are made from AR steel (AR means Abrasion Resistant) and the steel plate is rated at either 400 or 500 on the Brinell scale (which measures hardness with an indenter) – thus the plate is referred to as AR400 or AR500 plate with an associated thickness. Mild steel and other alloys have been tested by industry and government agencies and are not reasonable substitutes. In addition, abrasion resistance can not be improved by thickening the plate. Plate thickness is important in dissipation of energy, especially repeated impacts in a concentrated area – common for target shooting.

Effective backstop require that the backstop be angled – to ensure that fragmented bullets are directed toward the soft ground, and to allow the bullet energy to be better dissipated because the angle causes the impact zone to be larger (simple geometry).

Two factors determine the requirements for backstops using plate steel – velocity and energy.

The velocity of the bullet at the target must be less than 2850 fps – this value is widely published by sellers of targets of AR400 and AR500 steel. The factor that causes pitting is the heat generated at impact of the bullet to the plate. When the bullet velocity at a particular distance is greater than 2850 fps, the only solution is to move the target to a further distance so that the bullet has lost enough velocity before impact. For some bullets, it may be necessary for the target to be located at 200 or 300 yards, perhaps even further.

The second factor that must be considered for backstops is the energy of the bullet at the target. Almost all cartridges manufactured have had the bullet energy measured at the muzzle (Muzzle Energy) and at distances. For rifle rounds, the distances are typically 100 yards and increments beyond 100 yards. For handgun rounds, most target shooting is much closer than rifle shooting, so Muzzle Energy alone is used for the backstop requirements.

Various manufactures have published charts showing the relationship between Energy and target plate thickness. Using the manufacturer’s recommendations, we can group various projectiles into groups and then show which backstop material and thickness is effect for the target to survive repeated impacts.

Group	Muzzle Energy (ft lbs)	Plate Type	Plate Thickness
A	0 to 300	AR400	3/16”
B	300 to 700	AR500	1/4”
C	700 to 2,100	AR500	3/8”
D	2,100 to 4,000	AR500	1/2”
E	4,000 to 10,000	AR500	5/8”

The backstop on the Rifle Range at Camp Meriwether is 3/16” AR400 steel plate. All other backstops at other camps are dirt embankments.

A chart from one company:

<https://shootingtargets7.com/pages/target-selection>

shows how we would group various projectiles (reproduced and modified following).

The number for each projectile is the distance (in yards) at which the muzzle velocity is less than 2850 fps (as an example, 0 indicates the bullet velocity is less than 2850 fps at the muzzle and 200 indicates the bullet velocity is less than 2850 fps at 200 yards). The column of the group indicates which backstop would be effective (as an example, 22 LR handguns or rifles would be Group A which is 3/16" AR400 Plate).

	Projectile	Group A	Group B	Group C	Group D	Group E
Handgun Recommended greater than 10 yards for target	BB	0				
	Pellet	0				
	Chalk Ball	0				
	22 Short	0				
	22 Long	0				
	22 LR	0				
	380	0				
	9mm		0			
	38 Special	0				
	357 Mag		0			
	40		0			
	10mm		0			
	45 ACP		0			
	44 MAG			0		
	50 S&W			0		
	36 cal round ball 15gr FFF	0				
	44 cal round ball 25gr FFF	0				
	54 cal round ball 35gr FFF	0				
Rifle Recommended greater than 100 yards for target	BB	0				
	Pellet	0				
	Chalk Ball	0				
	22 Short	0				
	22 Long	0				
	22 LR	0				
	17 HMR	0				
	22-250			300		
	223/5.56			200		
	243 WSSM			200		
	270 WIN				200	
	30-30 WIN			0		
	308 WIN				0	
	30-06 SPFD				100	
	300 WSM				200	
	300 WIN MAG				200	
	7.62x39			0		
	338 WIN MAG				0	
	50 BMG					0
	36 cal round ball 30gr FFF	0				
	40 cal round ball 40gr FFF		0			
	50 cal round ball 50gr FFF		0			

Round ball figures derived from GOEX powder charts and the Round Ball Ballistic Calculator from ctmuzzleloaders.com which gave the projectile energy at distance and our target distance is 15 yards.