

ROCKY MOUNTAIN NATIONAL PARK

Crosscut Saw Plan



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Crosscut Saw Plan

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I. Background

A. Rocky Mountain National Park (ROMO) employees perform a variety of tasks requiring the removal of trees in both frontcountry areas and designated wilderness. Among these tasks some include firefighting, hazard fuel and tree removal, road maintenance, trail clearing, historic structure restoration, and a variety of other activities. The demand for the use of crosscut saws within Rocky Mountain National Park is to ensure the continued use of traditional tools in areas of designated wilderness. ROMO employees who use crosscut saws have been trained and certified at a skill level that is consistent with U.S. Forest Service Crosscut Program. Certification levels of operation were determined for ROMO crosscut evaluators/instructors at 2011 USFS/NPS Field Evaluation Session.

B. Consistent training and performance standards, sustained mentoring of trainees and objective evaluation criteria were determined to be critical elements of a successful and safe crosscut program that transcends divisional boundaries at ROMO. This plan was developed and is designed as the next step in a dynamic process to become better wilderness stewards and to begin the implementation of standardized use of crosscut saws at Rocky Mountain National Park.

II. Policy

A. Crosscut use at ROMO will operate with the highest degree of hazard recognition and risk mitigation, striving for program effectiveness and a consistent safety record. Employee and public safety will be consistent with the principles of Operational Leadership incorporating Operational Risk Management Tools.

B. Training and evaluation of crosscut users at ROMO shall be performance based. Completion of the two-day ROMO Crosscut Training Course is the core requirement for all crosscut users. ROMO crosscut evaluators/instructors will be required to complete an extended training course with the USFS Crosscut Saw Instructor Training program or ROMO 2-day Crosscut Training **and** hold a current certification as a ROMO Crosscut Class B sawyer, as a minimum, through the ROMO Crosscut Saw Plan. All ROMO employees and Volunteers in Park (VIPS) utilizing saws shall comply with training and performance standards, as articulated in this plan, consistent with the operational requirements where appropriate. All crosscut users shall adhere to Occupational Safety and Health Administration (OSHA) General Industry Regulations, 29 CFR 1910 with particular attention to Logging Operations, 29 CFR 1910.266.

C. A trained ROMO employee, certified to the skill level of the clearing or felling operation, is required to be designated as lead sawyer on a crosscut saw operation in ROMO. A ROMO employee who is not certified in the crosscut saw program may participate in 2-man saw operations as the second employee on a 2-man crosscut saw to clear trees from trails that are below shoulder height. The lead sawyer is responsible for communicating and ensuring the safe operation of crosscut saws and use of personal protective equipment (PPE) for employees participating in crosscut saw

operations. All ROMO employees participating in felling operations must hold a valid crosscut saw certification with the lead sawyer certified to the Class B level and the second employee on 2-man crosscut saw felling operations at least to the Class A level.

D. Supervisors shall understand related OSHA regulations Operational Leadership and Operational Risk Management Tools. It is their responsibility to provide employees with appropriate PPE, training, and certification in saw operation.

III. Program Elements

A. The crosscut program at ROMO shall evolve to provide an adequate and sustainable number of trained and qualified employees available to safely accomplish park tasks and goals including the development of lead evaluators/instructors or mentors. All ROMO employees who utilize crosscut saws for felling procedures will be identified by name via the ROMO Crosscut Coordinator.

B. In every case, crosscut saw users shall only use saws within their qualifications. All ROMO employees and volunteers using crosscut saws are subject to the conditions stated below.

1. Classroom instruction in crosscut safety, inspection, maintenance, operation and cutting procedures shall generally follow the USFS Crosscut Saws Program and the ROMO Crosscut Felling Curriculum and protocols. Certified evaluators/ instructors are authorized to instruct this course.
2. Field demonstrations and hands-on instruction of saw operation and cutting procedures shall only be conducted under the direction of qualified evaluators/instructors.
3. Field evaluations and instruction will be accomplished through completion of Stump Analysis Form (*Appendix C*) by an appropriately qualified ROMO evaluator/instructor. The ROMO Crosscut Curriculum will be used as an outline to ensure coverage of standardized skills for sawyers.
4. Employees will have a specific job hazard analysis (JHA) for tasks to be performed that includes an operational risk management assessment and risk mitigation measures.
5. Documentation must be maintained by individuals and be reflected on a current ROMO Crosscut Qualification Card. A copy of card will be on file with the ROMO Crosscut Saw Coordinator
6. All supervisors and crew leaders are responsible for ensuring that their employee's crosscut qualification level is adequate for the assigned project or task.

IV. Crosscut Training and Certification

A. Crosscut qualifications established at ROMO through the USFS Crosscut Program in 2011 will be the standing certification of record for ROMO crosscut users beginning in 2011.

B. Felling Certification: Qualifications shall remain valid so long as an annual refresher is completed and operational proficiency is demonstrated at the highest level of certification for all users performing vertical felling of timber.

C. Bucking Certification: Qualifications will remain valid for those removing down timber below shoulder height after completion of initial training course and during continuous employment at ROMO.

D. All ROMO crosscut evaluators/instructors will be required to hold a current ROMO Crosscut Class B certification through the ROMO Crosscut Saw Plan or have completed an USFS-sponsored Instructor Training program equivalent.

E. The minimum qualification for a crosscut user at ROMO shall be ROMO Crosscut Class A (RCCA) as described below. The maximum qualification for a crosscut user shall be a ROMO Crosscut Faller B (RCCB).

F. The three levels of ROMO crosscut sawyer certifications are as follows:

ROMO Crosscut Class A (RCCA): Crosscut users at this level of proficiency will be able to explain and field demonstrate necessary personal protective equipment, crosscut maintenance, and basic bucking and limbing techniques independently. Work activities shall be limited to limbing and bucking up to 24 inches diameter at breast height (dbh) and below shoulder height.

ROMO Crosscut Class A Faller (RCCFA): An individual seeking to add a Class A Felling level of proficiency to their current crosscut qualification card will operate a crosscut in the presence of a Crosscut Class B sawyer during vertical felling operations **and** until proficiency has been achieved. Upon completion of skill proficiency in felling the sawyer will be approved for felling at the Class A level without a higher level sawyer in his/her presence. An evaluator/instructor will add a Class A Felling credential to the sawyer's current Class A card. Work activities shall be limited to felling, limbing, and bucking up to 24 inches diameter breast height (dbh), below shoulder height, and involve trees of low to moderate complexity.

ROMO Crosscut Class B (RCCB): Crosscut users at this level of proficiency will be able to lead, instruct, evaluate, mentor, and field demonstrate necessary personal protective equipment, crosscut maintenance, felling, bucking and limbing techniques for all trees. A sawyer seeking to become a ROMO Crosscut Class B (RCCB) is required to hold a current ROMO Crosscut Class A card to include the Class A felling credential. Work activities will include felling of low to high complexity trees, as well as leading saw operations in both the field and classroom. An individual at this level of proficiency will be able to work without oversight of a sawyer of higher proficiency.

F. Crosscut Training Course

1. Crosscut training is an instructor led course intended to be presented at the local level. The course provides introduction to the function, maintenance, and use of traditional one man and two-man crosscut saws as well as their field application. Field exercises support entry level and advanced level training for staff in using crosscut saws and provide hands-on cutting experience in surroundings found at ROMO. Instructors must be certified by attending a USFS Crosscut Instructor Training course **or** a ROMO two-day supported course **and** be minimally qualified as ROMO Crosscut Class B (RCCB) through the ROMO Crosscut Saw Plan.
2. After successful completion of a two-day crosscut training course, the trainee will receive a ROMO Crosscut Class A card to document their task performance and participation in the training course. This individual will be able to perform buck and limbing tasks up to 24" dbh and below shoulder height without the presence of a Crosscut Class B sawyer. Vertical felling of trees will need to occur in the presence of an evaluator/instructor until a Class A felling credential is complete and added to their current card. Any ROMO Crosscut Class B (RCCB) sawyer may give the Class A Felling credential to a current card carrying ROMO Crosscut Class A (RCCA) sawyer. The Crosscut Curriculum for Class A Felling (*Appendix A*) will be used as a guide for both the evaluator/instructor and the sawyer to learn and ensure a standardized skill set of sawyers.
3. Size classes (dbh) **and** complexity of trees should be considered as the determining factors in the overall complexity of a tree felling operation. The size classes are to be used as **only** as a guide for the range of cutting options available during trainee evaluations.
4. All crosscut users are expected to conduct a thorough size up of each individual tree and determine the extent of qualification required to safely perform a felling operation. Crosscut users will be able to demonstrate the appropriate judgment to decline assignments that exceed their skill level consistent with operational leadership and operational risk management (OLORM) principles.

V. EMS/First Aid Training and Certification Requirements

- A. Employee EMS/First Aid certification/authorization, standards of patient care, equipment and supplies must comply with NPS DO/RM-51, and the ROMO Emergency Medical Services Plan.
- B. Frontcountry and Backcountry Project Operations: The minimum EMS/ First Aid training standard for crosscut saw operations that occur in frontcountry **or** backcountry settings will always include Wilderness First Aid **and** CPR level (or higher training) for one on-site employee who is not designated as lead sawyer. In the event of an

accident/injury, this employee will render immediate patient care and activate the park EMS system by calling ROMO dispatch.

C. The minimum standard first aid kit for frontcountry **and** backcountry saw operations, as approved by the Park Medical Advisor and in compliance with 29 CFR 1910.266, will include the following minimum items:

- 4 4x4 gauze pad dressings
- 2 8 x10 large gauze pads
- 1 box of adhesive bandages (band-aids)
- 4 butterfly closures
- 2 rolled elastic gauze bandage (Kling)
- 2 Triangular bandages
- Wound Cleaning agent such as iodine/BZK/bacitracin
- 1 Pair Trauma Scissors
- 1 Space blanket
- 1 Tweezers
- 1 roll adhesive tape, 1/2" x 1 yd
- 2 pair gloves, latex/nitrile
- 1 SAM splint
- 1 rescue breathing barrier mask
- 1 Sheet moleskin
- 2 aspirins
- 2 acetaminophen tablets
- Directions for requesting emergency assistance

Additional (optional):

- 1 Large Trauma Dressing (ex: 16"x20")
- 1 60 cc Syringe, for wound irrigation
- 2 plastic trash bags/BioHaz bags
- 1 EMS Patient Care Record + pen/pencil

D. Additional recommended equipment in backcountry areas (1 mile beyond trailhead). Some work groups require these additional items, seek guidance for your supervisor:

- Sat phone
- GPS unit
- High visibility vest or shirt
- Whistle (s)

VI. Evaluation Requirements

A. ROMO crosscut sawyers will be certified through a two-day ROMO Crosscut Training course and utilize the Crosscut Felling Curriculum Class A or B (*Appendix A-B*) as an outline to guide training and evaluation of sawyers interested in felling credentials.

B. Individuals approving Class A or B fallers must be an evaluator/instructor and a minimum of a current Crosscut Class B Faller.

C. The presentation of a Class A or Class B falling credential may be given by one of the following:

USFS Crosscut Evaluator **or** ROMO Crosscut Class B. A list of those able to complete this task can be found in (*Appendix D*)

VII. Recertification and Retraining Requirements

A. ROMO Crosscut Class A (RCCA): Qualifications shall remain valid for those removing down timber below shoulder height after completion of initial training course and during continuous employment at ROMO. Annual safety tailgate sessions performed by supervisors are highly recommended for all crosscut users without falling credentials.

B. ROMO Class A Faller (RCCFA) and ROMO Crosscut Class B (RCCB): Qualifications shall remain valid through the completions of an annual refresher and demonstration of proficiency at the approved level.

C. An annual refresher shall be at least four (4) hours long conducted by at least one Class B level sawyer that includes the following suggested topics: hazard tree safety, situational awareness, medical response and rescue, procedural felling operations, case study or investigation review, chainsaw maintenance and mechanics, OL -assignment 'turn-down' parameters and procedures, review of policy, preparedness, environmental conditions, mission analysis, physical fitness and safe work habits, and skill demonstration/review. The session can be tailored to the needs of the attendees.

D. An employee's supervisor or the ROMO Safety and Occupational Health Specialist may require an employee to be retrained or recertified if:

1. An employee demonstrates unsafe work performance or conduct operating a saw
2. An employee is injured, or causes injury to another person, while operating a saw
3. An employee's saw operations resulted in property damage or loss

VIII. Standard Crosscut Saw Operating Requirements

A. A completed JHA that includes OLORM tools must be reviewed by the supervisor and staff prior to saw operation in Rocky Mountain National Park. It is highly recommended that individuals remain physically fit and use proper techniques to avoid injury.

B. The following Personal Protective Equipment (PPE) as a minimum shall be worn at all times when operating a crosscut saw.

- ANSI approved hard hat
- ANSI Z87.1 eye protection
- Long pants
- Gloves
- Non-skid boots that cover and provide ankle support
Optional: Long sleeve shirt, Chainsaw chaps

C. The following equipment is required on-site for use by the lead sawyer during crosscut operations:

- Single bit axe
- Wedges (felling or bucking, specific to project)
- Hammer (to pound wedges)

D. A radio with a spare battery shall be at each work site where saws are being operated.

E. No crosscut user may cut alone when felling timber in a vertical orientation. A minimum of two personnel will be present at all times during vertical felling operations. Employees may use a crosscut saw alone when timber is in a horizontal orientation, below shoulder height, and incorporates minimal complexity. When two employees are present and whenever noise, distance, restricted visibility, or other factors prevent clear understanding of normal voice communications between employees, signals or audible contact, such as whistle, horns, or radios will be utilized. In addition, Class B sawyers are encouraged to consult/discuss with other Class B sawyers any tree over 24 inch diameter dbh when possible.

IX. Crosscut Inspection

A. Supervisors shall ensure or officially delegate appropriate personnel to complete daily and monthly inspections of crosscut saws. Crosscuts users should always have lubrication equipment available or stocked for use with all crosscut cutting operations.

X. Recordkeeping

A. The ROMO Crosscut Coordinator will be required to maintain qualification records for each employee receiving training and certification in saw operation. The Crosscut Certification Card signed by the evaluator/instructor, will be used as formal administrative record of performance qualification. All Stump Analysis Evaluation Form (*Appendix C*) for those with Class A or Class B falling credentials will be kept and filed by the Crosscut Coordinator.

B. A ROMO Crosscut Card will be issued to reflect appropriate level of crosscut saw certification. Cards will be issued upon successful completion of the two-day crosscut training course and further training or credential needs as necessary. Annual refreshers will be documented using a ROMO Local Training Session Form with a copy being forwarded to the Crosscut Coordinator. Employees are responsible for maintaining their personal training and crosscut credentials with copies being sent to the Crosscut Coordinator upon completion of all or any additional credentials.

XI. Roles and Responsibilities

Superintendent

- Responsible for the overall safe implementation of the provisions of the ROMO Crosscut Plan.

Division Chiefs

- Ensure supervisors in their Division are aware of and have the necessary resources to implement the ROMO Crosscut Plan.
- Division Chiefs will identify and justify an employee's participation in the ROMO crosscut program.
- Ensures all crosscut use is consistent with the principles of OLORM tools.

Crosscut Coordinator

- Leads the development, safe implementation, maintenance, and any evaluations of the ROMO Crosscut Plan.
- Maintain a record of certification documents for each employee receiving training and certification in saw operations, as required in this plan.
- Coordinates the need for training courses as they arise
- Provides curriculum outlines for trainings and evaluations, as well as credential cards for evaluators/instructors.

Evaluators/ Instructors

- Maintain a current Crosscut Class B falling credential in order to instruct or evaluate.
- Teach, mentor, and refresh all employees involved in ROMO crosscut operations
- Present credentials as appropriate upon completion of two-day training course and Crosscut Falling Curriculum A or B as applicable

Supervisors/Work Leaders

- Ensure all employees they supervise, who are involved in project operations have current first aid/EMS certifications as required in this Plan.
- Ensure all employees they supervise, who operate crosscut saws, are trained and certified for assigned saw operation tasks, and are cutting within their qualification.
- Supervisors and their employees will collectively review a Job Hazard Analysis (JHA) that incorporates OLORM for each task involving saw operation.

- Supervisors shall conduct and document safety and health meetings at least once a month.
- Ensure all employees they supervise who operate chainsaws are familiar with the requirements of the ROMO Crosscut Plan and use proper saw operating techniques, methods, and personal protective equipment required for safe saw operations.
- Ensure daily and monthly inspections of crosscut saws are performed.

Employees

- Are familiar with the requirements of the ROMO Crosscut Plan, are trained and certified for their assigned saw operation tasks, are cutting within their qualification, and use proper saw operating techniques, methods, and personal protective equipment required for safe saw operations. Each individual/employee is responsible for a safe working environment.

XII. Program Evaluation

A. The ROMO Crosscut Coordinator will initiate the review of this plan and will make appropriate revisions and recommendations as needed. Supervisors and employees are asked to provide comments or recommendations to the ROMO Crosscut Coordinator improve program effectiveness and to identify any problems during implementation of this plan. *The 2011 season will be a pilot year and the program will undergo a review in preparation for the 2012 season.*

Appendix A

ROCKY MOUNTAIN NATIONAL PARK

CROSSCUT SAW CURRICULUM FOR

ROMO Faller Class A (RCCFA)

Sawyer Name:
Division:
Supervisor:
Date Begun:
Date Completed:

The material contained in this book accurately defines the performance expected of the positions for which it was developed. This is an outline of tasks to achieve proficiency as well as guide the instructor and sawyer in the process.

VERIFICATION / CERTIFICATION OF COMPLETION of ROMO Crosscut Class A Faller Curriculum
FOR:

FINAL EVALUATOR'S VERIFICATION

I verify that all tasks have been performed and are documented with appropriate initials.

I also verify that

has met all requirements for qualification in this position and that such qualification has been issued.

EVALUATOR'S SIGNATURE AND DATE

EVALUATOR'S PRINTED NAME, TITLE, DUTY STATION, AND PHONE NUMBER

This ROMO Crosscut Curriculum has been developed for completion of the ROMO Class A Faller credential. The Curriculum lists the performance requirements (tasks) for the specific position in a format that allows the evaluator/instructor and the trainee to cover necessary topics while maintaining a standard skill set amongst all sawyers. Successful performance of all tasks, as observed and recorded by an evaluator/instructor, will result in a Crosscut Faller Class A credential addition to a current Class A card.

RESPONSIBILITIES:

1. ROMO is responsible for:
 - Selecting trainees based on the needs of the park.
 - Ensuring that the trainee meets the training and experience requirements included in the Rocky Mountain National Park Crosscut Saw Plan.
 - Initiating training courses based on need
 - Explaining to the trainee the purpose and processes of crosscut use as well as the trainee's responsibilities.
 - Providing opportunities for evaluation and/ or instruction.
 - Providing an evaluator/instructor.
 - Confirming qualification requirements at level desired.
 - Issuing proof of qualification.

2. The Trainee is responsible for:
 - Reviewing and understanding the ROMO Crosscut Saw Plan.
 - Identifying desired objectives/goals.
 - Providing background information to an evaluator/instructor
 - Satisfactorily demonstrating completion of all tasks for level desired.
 - Assuring the Stump Analysis Sheet(s) are complete.
 - Keeping the original copies of credentials in personal records.

3. The Evaluator/Instructor is responsible for:
 - Being qualified and proficient in the position being evaluated.
 - Meeting with the trainee and determining past experience, current qualifications, and desired objectives/goals.
 - Reviewing and explaining tasks or processes with the trainee.
 - Accurately evaluating and recording demonstrated performance of tasks.
 - Completing Stump Analysis Sheet(s) for each sawyer that is mentored.
 - Signing the Verification Statement (found in Crosscut Saw Curriculum packet) for all ROMO Crosscut Class A or B falling credentials and signing of qualification card for sawyer.
 - Notifying and communicating with the ROMO Crosscut Saw Coordinator regarding all qualification cards signed, levels achieved by sawyers, current standings, and all work contributing or relating to the Crosscut Saw program.

Instructor Comments:

The tasks initialed & dated by me have been performed under my supervision in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee.

- _____ The individual has successfully performed all tasks for the position and should be considered for certification.
- _____ The individual was not able to complete certain tasks (comments below) or additional guidance is required.
- _____ Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.
- _____ The individual is severely deficient in the performance of tasks for the position and needs further training (both required & knowledge and skills needed) prior to additional assignment(s) as a trainee.

Comments (areas to improve upon): _____

Training site (location, description and/or number of trees removed): _____

Date: _____ Evaluator's Signature: _____
 Evaluator's Name & Credentials: _____

Instructor Comments:

The tasks initialed & dated by me have been performed under my supervision in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee.

- _____ The individual has successfully performed all tasks for the position and should be considered for certification.
- _____ The individual was not able to complete certain tasks (comments below) or additional guidance is required.
- _____ Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.
- _____ The individual is severely deficient in the performance of tasks for the position and needs further training (both required & knowledge and skills needed) prior to additional assignment(s) as a trainee.

Comments (areas to improve upon): _____

Training site (location, description and/or number of trees removed): _____

Date: _____ Evaluator's Signature: _____
Evaluator's Name & Credentials: _____

Instructor Comments:

The tasks initialed & dated by me have been performed under my supervision in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee.

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- _____ Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.
- _____ The individual is severely deficient in the performance of tasks for the position and needs further training (both required & knowledge and skills needed) prior to additional assignment(s) as a trainee.

Comments (areas to improve upon): _____

Training site (location, description and/or number of trees removed): _____

Date: _____ Evaluator's Signature: _____
Evaluator's Name & Credentials: _____

ROMO Crosscut Faller Class A (RCCFA) Curriculum

Skill/Task:	Date preformed:	Evaluator/Instr. Initials:	Rating: 1=weak, 2=Poor, 3=satisfactory, 4= Very Good, 5=Outstanding
<p>1. Describe the elements of a Job Hazard Analysis (JHA) required for crosscut saw operations and apply to a given situation.</p> <ul style="list-style-type: none"> • Identify the task or procedure to be accomplished. • Identify hazards associated with the task or procedure: <ul style="list-style-type: none"> – Physical – Environmental – Chemical – Miscellaneous • Implement actions to reduce or eliminate hazards. Identify first aid supplies/location and emergency evacuation procedures. 			
<p>2. Obtain and assemble materials needed for a crosscut operator's kit.</p> <p>Kit will be assembled and prepared prior to receiving an assignment. The kit should include but is not limited to:</p> <ul style="list-style-type: none"> • Crosscut saw & sheath • PPE • Single bit ax • Wedges • Lubricant • Cleaning rags • Miscellaneous crosscut parts (extra handle bolts, 			

repair supplies for handles, etc.)			
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<p>3. Describe and identify basic crosscut saw types and parts (one-man and two-man). This may include but is not limited to the following items:</p> <ul style="list-style-type: none"> • Blade (lengths) • Handles • Bucking saws • Felling saws • Saw grinds (3types) 			
<p>4. Describe and identify basic crosscut tooth patterns. This may include but is not limited to the following items:</p> <ul style="list-style-type: none"> • Cutter teeth • Rakers • Gullets • Lance tooth • Great American • Champion • M tooth • Plain tooth 			
<p>5. Explain function, purpose, care and maintenance of personal protective equipment (PPE) required for crosscut saw operations.</p> <ul style="list-style-type: none"> • Agency approved hardhat • Eye protection • Appropriate gloves • Leather nonskid boots that cover and provide ankle support • Long sleeve shirt • Long pants 			

<ul style="list-style-type: none"> • Saw sheath • Ax 			
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<p>6. <i>Demonstrate correct field use of all required PPE during crosscut saw operations.</i></p>			
<p><u>CROSSCUT SAW MAINTENANCE</u></p> <p>7. <i>Describe the proper procedures for maintaining a crosscut saw during typical crosscut operations.</i></p> <ul style="list-style-type: none"> • Proper carry & transportation techniques • Demonstrate the ability to sheath and remove sheath independently • Cleaning a crosscut saw in the field; removing pitch • Proper use of lubricates in operations • Identify daily and monthly crosscut maintenance checks • Removing rust • Long term & short term storage • Oiling blades 			
<p>8. <i>Demonstrates awareness of crosscut saw operation</i></p> <ul style="list-style-type: none"> • Straightness and smoothness of saw before and during operations. • Determine that the crosscut saw is sharp and available for use. • Assessment of shavings 			

<p>9. Identify and discuss potential mechanical problems and solutions. This may include but is not limited to:</p> <ul style="list-style-type: none"> • Dull saw • Warped/bent saw • Rust/pitch drag • Saw not properly filed 			
<p><u>CROSSCUT SAW SITUATIONAL AWARENESS (SIZEUP)</u></p> <p>10. Describe personal safety considerations and attitudes (risk management) when undertaking chain saw operations. This may include but is not limited to:</p> <ul style="list-style-type: none"> • Job complacency • Confidence level • Assignment refusal • Qualification for assignment • Distractions • Proper PPE 			
<p>11. Identify and discuss physical considerations that affect crosscut operations. This may include but is not limited to:</p> <ul style="list-style-type: none"> • Physical conditioning • Fatigue • Time of day • Operational Leadership 			
<p>12. Identify and discuss</p>			

<p><i>environmental considerations that affect crosscut saw operations.</i> This may include but is not limited to:</p> <ul style="list-style-type: none"> • Weather/Wind • Light conditions • Insects/MPB • Tree Species • Tree mortality factors 			
<p>13. <i>Analyze a felling assignment for safety and efficiency considerations.</i></p> <ul style="list-style-type: none"> • Tree characteristics <ul style="list-style-type: none"> - Species - Live or dead - Sound/soft - Direction and degree of lean - Weight distribution • Soundness/defects <ul style="list-style-type: none"> - Fire/insect damage - Multiple tops - Widow makers - Bark soundness - Deformities - Splits and frost cracks • Base of the tree <ul style="list-style-type: none"> - Soundness of root system - Conks and mushrooms • Surrounding terrain <ul style="list-style-type: none"> - Steepness - Rocks - Draws and ridges • Immediate work area <ul style="list-style-type: none"> - Walk the intended lay <ul style="list-style-type: none"> ○ Consequences of lay ○ People ○ Roads ○ Vehicles ○ Hazards ○ Snags in area ○ Footing ○ Escape routes/safe zones ○ Bark removal 			

o Drawing of cuts			
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<p>14. Analyze a bucking and limbing assignment for safety and efficiency considerations.</p> <ul style="list-style-type: none"> • Percent of slope/incline • Potential rolling, sliding, binding, tension, and compression • Spring poles • Root wads • Hazards • Escape routes/safe zones • Material placement 			
<p><u>CROSSCUT SAFETY</u></p> <p>15. Describe established procedures for safe crosscut saw operations for a Faller Class A</p> <ul style="list-style-type: none"> • Handle crosscut saw safely during transportation in vehicles and on foot. • Correctly mitigate hazards or decline the assignment. • Follow safety briefing components while performing crosscut saw operation. • Maintain identified LCES standards. • Identify safe work spacing for sawyer and swamper (control the cutting area of two and one-half tree lengths). 			

<ul style="list-style-type: none"> • Describe the relationships of the face and back cuts and the purpose of the holding/hinge wood. • Draw out cuts • Describe procedures for plumbing and gunning a tree. 			
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<p>16. Describe wedging procedures and ax use during a crosscut saw operation.</p> <ul style="list-style-type: none"> • Size • Types • Placement • Different uses (limbing, felling) 			
<p>17. Identify and explain hazards and reactive forces during a cutting operation.</p> <ul style="list-style-type: none"> • Spring poles • Root wads • Kickback • Top bind • Side bind • End bind • Bottom bind • Tension and compression 			
<p><u>CUTTING OPERATIONS</u></p> <p>18. Receive and understand a briefing from the appropriate supervisor on cutting operations.</p> <ul style="list-style-type: none"> • Job Hazard Analysis • Project parameters 			
<p>19. Demonstrate proper crosscut saw handling and cutting techniques to safely and efficiently accomplish a</p>			

<p><i>limbing operation applying crosscut saw situational awareness (size up).</i></p> <ul style="list-style-type: none"> • Work plan verbalization • Swamper briefing • Escape routes and safe zones • Overhead and ground hazard analysis • Spring poles and tension/compression analysis • Work area preparation • Uphill/downhill side of tree • Cutting area control • Body positioning • Thumb placement on handle • Use of ax • Over/under reaching avoidance • Limb removal sequence • Saw removal responsibility • Foot travel with crosscut saw • Gunning with saw & ax 			
<p>20. <i>Demonstrate proper crosscut saw handling and cutting techniques to successfully accomplish a <u> bucking</u> operation applying crosscut saw situational awareness (size up) for low to moderate complexity trees.</i></p> <ul style="list-style-type: none"> • Work plan verbalization • Swamper briefing • Escape routes and safe zones • Overhead and ground hazard analysis • Spring poles and tension/compression analysis • Work area preparation • Uphill/downhill side of tree • Cutting area control • Body positioning • Thumb placement on handle • Use of ax 			

<ul style="list-style-type: none"> • Over/under reaching avoidance • Saw removal responsibility • Limb removal sequence • Foot travel with crosscut saw • Gunning with saw & ax 			
<p>21. <i>Demonstrate proper crosscut saw handling and cutting techniques to successfully accomplish a <u>falling</u> operation applying crosscut saw situational awareness (size up) for trees of low complexity.</i></p> <ul style="list-style-type: none"> • Work plan verbalization • Swamper briefing • Go/No go decision/walk away • Plumb lean – determine lay • Escape routes, alternatives and safe zones identification and preparation • Work area preparation • Drawing out cuts • Uphill/downhill side of tree • Gunning/sighting horizontal cut • Use of ax • Sloping cut • Back cut • Handle removal • Procedure alteration (if necessary) • Body positioning • Saw removal responsibility • Warning shout • Escape route/safety zone use 			
<p>22. <i>Perform stump analysis.</i></p> <ul style="list-style-type: none"> • Lay of the tree (desired/other lay) • Horizontal cut position • Sloping cut position • Face cut angle • Back cut • Dutchman (one/both corners) 			

<ul style="list-style-type: none"> • Holding/hinge wood • Undercut as a whole 			
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Appendix B

ROCKY MOUNTAIN NATIONAL PARK

CROSSCUT SAW CURRICULUM FOR

ROMO Faller Class B (RCCFB)

Sawyer Name:
Division:
Supervisor:
Date Begun:

Date Completed:

The material contained in this book accurately defines the performance expected of the positions for which it was developed. This is an outline of tasks to achieve proficiency as well as guide the instructor and sawyer in the process.

VERIFICATION / CERTIFICATION OF COMPLETION of ROMO Crosscut Class B Faller Curriculum FOR:

<p>_____</p> <p>FINAL EVALUATOR'S VERIFICATION: I verify that all tasks have been performed and are documented</p> <p>with appropriate initials.</p> <p>I also verify that</p> <p>_____</p> <p>has met all requirements for qualification in this position and that such qualification has been issued.</p> <p>_____</p> <p>_____</p> <p>EVALUATOR'S SIGNATURE AND DATE</p> <p>_____</p> <p>_____</p> <p>EVALUATOR'S PRINTED NAME, TITLE, DUTY STATION, AND PHONE NUMBER</p>
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This ROMO Crosscut Curriculum has been developed for completion of the ROMO Class B Faller credential. The Curriculum lists the performance requirements (tasks) for the specific position in a format that allows the evaluator/instructor and the trainee to cover necessary topics while maintaining a standard skill set amongst all sawyers. Successful

performance of all tasks, as observed and recorded by an evaluator/instructor, will result in a Crosscut Class B Faller credential and verifying card.

RESPONSIBILITIES:

1. ROMO is responsible for:
 - Selecting trainees based on the needs of the park.
 - Ensuring that the trainee meets the training and experience requirements included in the Rocky Mountain National Park Crosscut Saw Plan.
 - Initiating training courses based on need
 - Explaining to the trainee the purpose and processes of crosscut use as well as the trainee's responsibilities.
 - Providing opportunities for evaluation and/ or instruction.
 - Providing an evaluator/instructor.
 - Confirming qualification requirements at level desired.
 - Issuing proof of qualification.
2. The Trainee is responsible for:
 - Reviewing and understanding the ROMO Crosscut Saw Plan.
 - Identifying desired objectives/goals.
 - Providing background information to an evaluator/instructor
 - Satisfactorily demonstrating completion of all tasks for level desired.
 - Assuring the Stump Analysis Sheet(s) are complete.
 - Keeping the original copies of credentials in personal records.
3. The Evaluator/Instructor is responsible for:
 - Being qualified and proficient in the position being evaluated.
 - Meeting with the trainee and determining past experience, current qualifications, and desired objectives/goals.
 - Reviewing and explaining tasks or processes with the trainee.
 - Accurately evaluating and recording demonstrated performance of tasks.
 - Completing Stump Analysis Sheet(s) for each sawyer that is mentored.
 - Signing the Verification Statement (found in Crosscut Saw Curriculum packet) for all ROMO Crosscut Class A or B falling credentials and signing of qualification card for sawyer.

Instructor Comments:

The tasks initialed & dated by me have been performed under my supervision in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee.

- The individual has successfully performed all tasks for the position and should be considered for certification.
- The individual was not able to complete certain tasks (comments below) or additional guidance is required.
- Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.
- The individual is severely deficient in the performance of tasks for the position and needs further training (both required & knowledge and skills needed) prior to additional assignment(s) as a trainee.

Comments (areas to improve upon): _____

Training site (location, description and/or number of trees removed): _____

Date: _____ Evaluator's Signature: _____
Evaluator's Name & Credentials: _____

Instructor Comments:

The tasks initialed & dated by me have been performed under my supervision in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee.

- The individual has successfully performed all tasks for the position and should be considered for certification.
- The individual was not able to complete certain tasks (comments below) or additional guidance is required.
- Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.
- The individual is severely deficient in the performance of tasks for the position and needs further training (both required & knowledge and skills needed) prior to additional assignment(s) as a trainee.

Comments (areas to improve upon): _____

Training site (location, description and/or number of trees removed): _____

Date: _____ Evaluator's Signature: _____
Evaluator's Name & Credentials: _____

Instructor Comments:

The tasks initialed & dated by me have been performed under my supervision in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee.

- _____ The individual has successfully performed all tasks for the position and should be considered for certification.
- _____ The individual was not able to complete certain tasks (comments below) or additional guidance is required.
- _____ Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.
- _____ The individual is severely deficient in the performance of tasks for the position and needs further training (both required & knowledge and skills needed) prior to additional assignment(s) as a trainee.

Comments (areas to improve upon): _____

Training site (location, description and/or number of trees removed): _____

Date: _____ Evaluator's Signature: _____

Evaluator's Name & Credentials: _____
 ROMO Crosscut Faller Class B (RCCFB)

ADDITIONAL SPECIFIC TASKS FOR FALLER CLASS B. *Class A Faller Curriculum must be complete to begin Class B Tasks.*

Skill/Task	Date Performed:	Evaluators/Instr. Initials:	Rating: 1=weak, 2=Poor, 3=satisfactory, 4= Very Good, 5=Outstanding
<p><u>CROSSCUT MAINTENANCE AND TROUBLESHOOTING</u></p> <p>1. <i>Demonstrate proficiency in straightening a bent saw.</i></p> <ul style="list-style-type: none"> • Troubleshoot performance problems and correct minor mechanical problems in the field. • Identify mechanical conditions that require shop repair. 			

<p><u>CROSCUT SAW SITUATIONAL AWARENESS (SIZEUP)</u></p> <p>2. Identify and mitigate environmental considerations that affect crosscut saw operations.</p> <ul style="list-style-type: none"> • Stand health/characteristics • Hazard trees • Terrain • Weather • Visibility • Position on slope • Spring poles, etc. 			
<p>3. Analyze a crosscut saw operation for safety and efficiency considerations for all types of tree complexities.</p> <ul style="list-style-type: none"> • Establish and maintain communication (verbal commands and assigned radio frequencies) within chain saw team, adjoining crews, and supervisor. • Identify the medical plan and make sure that those assigned are aware of procedures to be followed in the event of a medical emergency prior to beginning work (Incident Action Plan or Job Hazard Analysis Medical Plan). • Ensure that a secure cutting area (minimum two and one-half times the height of the tree to be felled) is maintained. • Identify alternatives/solutions for situations that exceed skill level to safely perform task. 			
<p><u>CUTTING OPERATIONS</u></p> <p>4. Perform a briefing to address the appropriate personnel in cutting operations.</p>			


<ul style="list-style-type: none"> • Roles and responsibilities • Trail guards • Clear signal 			
<p>5. <i>Demonstrate proper crosscut saw handling, wedging, and cutting techniques to successfully accomplish a crosscut <u>felling</u> operation on a minimum of three trees involving three different complexities, including high complexity.</i></p> <ul style="list-style-type: none"> • Apply crosscut saw situational awareness (sizeup). • Verbalize work plan. • Demonstrate proficiency with the conventional falling method, ensuring sufficient angle, size and depth of the face and back cut, and sufficient holding wood and stump shot to direct and guide the tree to the predetermined lay (plumb lean). • Describe and demonstrate the relationships of the face and back cuts and the purpose of the holding/hinge wood. • Demonstrate dexterity in operating the crosscut saw from either side of the tree (right- and left-handed stance). • Perform a stump analysis. 			
<p>6. <i>Demonstrate correct <u>bucking and wedging</u> procedures on a log whose diameter exceeds an average sawyer's ability to move under their own power. Perform correct relief cuts to eliminate bind(s) while employing double-cutting methods to buck</i></p>			

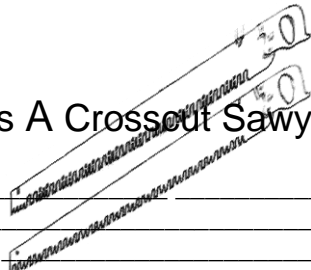
<p><i>a log into lengths for hand removal. All types of complexities should be demonstrated.</i></p> <ul style="list-style-type: none"> • Apply crosscut saw situational awareness (sizeup). • Verbalize work plan. • Demonstrate 3types of crosscut saw cutting methods (straight cut, compound cut, off set cut) • Advanced use of wedges 			
<p>7. <i>Demonstrate proper under-bucking technique on three trees with differing diameters and complexities, to include high complexity.</i></p> <ul style="list-style-type: none"> • Use of ax/tool as brace • Use of bark to brace • Single man under-buck • Two-man underbuck 			

<p>8. <i>Demonstrate proper crosscut saw handling and cutting techniques to successfully remove hang-up trees of varying complexities</i></p> <ul style="list-style-type: none"> • Apply crosscut saw situational awareness (sizeup). • Verbalize work plan. • Determine binds • Verbalize cuts • Escape routes 			
<p><u>PROJECT ACTIVITIES</u></p> <p>9. <i>Evaluate vegetation, timber, topography and weather factors throughout entire cutting operation.</i></p>			

<u>TRAINING AND EVALUATION</u>			
<p>10. Participate in training apprentice sawyers in the classroom and field.</p> <ul style="list-style-type: none"> • Participate in the delivery of an agency-approved crosscut saw training course or refresher. • Assign tasks to Faller Class A trainee and evaluate and document his/her work performance. 			

Rocky Mountain National Park Crosscut Saw Qualification Card





Class A Crosscut Sawyer

Name: _____

Issue Date: _____

Certifying Official: _____

ROMO Crosscut Class A Sawyer (RCCA)

- Performs work to include bucking, limbing, maintenance and assessment of all trees of low complexity, below shoulder height and no greater than 24" dbh as a lead sawyer.

Class A Falling Credential- Issue Date: _____

Certifying Official: _____

**Rocky Mountain National Park Crosscut Saw
Qualification Card**



Class B Crosscut Sawyer

Name: _____

Issue Date: _____

Certifying Official: _____

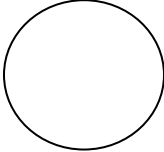
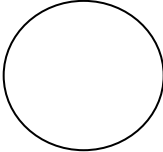
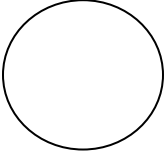
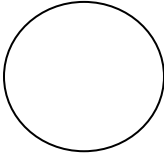
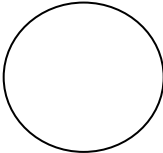
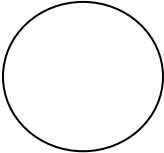
ROMO Crosscut Class B Sawyer (RCCB)

- Performs work to include, felling, bucking, limbing, maintenance, and assessment of all trees of low to high complexity, not to exceed 24" dbh as a lead sawyer.
- Sawyer is an Evaluator/Instructor for ROMO Crosscut Saw Program

Appendix C

ROMO Crosscut Saw Stump Analysis Evaluation Form

EVALUATOR'S STUMP ANALYSIS SKETCHES

		
<u>Tree 1</u>	<u>Tree 2</u>	<u>Tree 3</u>
Height _____ DBH _____ Species _____ % Slope _____ Condition _____ Feet from Center of Lay _____ Degree of Complexity: _____ <i>(low, mod, ,high)</i> Comments: _____ _____ _____ _____	Height _____ DBH _____ Species _____ % Slope _____ Condition _____ Feet from Center of Lay _____ Degree of Complexity: _____ <i>(low, mod, ,high)</i> Comments: _____ _____ _____ _____	Height _____ DBH _____ Species _____ % Slope _____ Condition _____ Feet from Center of Lay _____ Degree of Complexity: _____ <i>(low, mod, ,high)</i> Comments: _____ _____ _____ _____
		
<u>Tree 4</u>	<u>Tree 5</u>	<u>Tree 6</u>
Height _____ DBH _____ Species _____ % Slope _____ Condition _____ Feet from Center of Lay _____ Degree of Complexity: _____ <i>(low, mod, ,high)</i> Comments: _____ _____ _____ _____	Height _____ DBH _____ Species _____ % Slope _____ Condition _____ Feet from Center of Lay _____ Degree of Complexity: _____ <i>(low, mod, ,high)</i> Comments: _____ _____ _____ _____	Height _____ DBH _____ Species _____ % Slope _____ Condition _____ Feet from Center of Lay _____ Degree of Complexity: _____ <i>(low, mod, ,high)</i> Comments: _____ _____ _____ _____

Appendix D

ROMO Crosscut Qualified Employees

Name	Division	Qualification
Patrick McNulty	CRD Trails	Class B Crosscut Sawyer (USFS 6/2010)

Matt Dragon	CRD Trails	Class B Crosscut Sawyer
Doug Parker	East Trails	Class B Crosscut Sawyer (USFS 6/2010)
Michael Alexander	East Trails	Class B Crosscut Sawyer (USFS 6/2010)
Tara Vessella	Wilderness	Class B Crosscut Sawyer (USFS 6/2010)
Ryan Zarter	Wilderness	Class A Crosscut Sawyer (USFS 6/2010)
Lucas Chambers	Wilderness	Class A Crosscut Sawyer (USFS 6/2010)
Christina Thompson	Wilderness	Class A Crosscut Sawyer (USFS 6/2010)