

## Timber Cruiser's Log

8<sup>th</sup> Edition 2017

Instruction Guide and Log

Ensuring BC's Forests Are In Good Hands.

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# Introduction to Timber Cruising Accreditation & The Forest Measurements Board

### **Timber Cruising**

Timber cruising is a profession primarily driven by the need to obtain consistent and accurate volume estimations, species composition, stand quality, and value of the timber resource. Field sampling and assessment are the critical tasks conducted by professional cruisers. The field sampling is based on standard mensuration practices found within the forest industry while the assessments are dependent on a timber cruiser's ability to estimate stand volume and value.

The career path of a timber cruiser is forged by the cruiser's ability to continually learn sampling techniques using standard conventions and gaining local knowledge. The cruiser must learn through experience. The knowledge of timber cruising is traditionally passed on from mentor to student in a real work environment. This experiential learning is the key to cruiser competency. In addition to learning through experience there are various cruising seminars available in the spring of each year.

The accreditation guide describes the process whereby qualified cruisers may have their experience and knowledge recognized through a competency based evaluation process.

### The Forest Measurements Board

The Forest Measurements Board (the board) was established by the Association of BC Forest Professionals (ABCFP) for the purpose of examining and recommending applicants for accreditation as Accredited Timber Cruisers (ATC) or Accredited Timber Evaluators (ATE).

The board has identified the process whereby qualified cruisers may have their training, experience, and knowledge recognized through a competency based evaluation. This evaluation process is identified in the Timber Cruiser Log.

## **General Description of the Cruising Accreditation Process**

There are four levels to the Cruising accreditation process:

**Level 1:** Compasser. This requires three months of cruising-related experience but compassers do not apply for accreditation at Level 1. Level 1 is a prerequisite for attaining Levels 2, 3 and 4.

**Level 2:** Cruiser in Training. This requires three months completion at Level 1 and six months at Level 2 for a total of nine months of cruising-related experience. A Cruiser in Training does not apply for accreditation at Level 2. Level 2 is a prerequisite for attaining Levels 3 and 4.

**Level 3:** Accredited Timber Cruiser. This requires three months completion at Level 1, six months at Level 2 plus an additional 15 months at Level 3, for a total of 24 months of cruising-related experience. The successful registered member applicant would receive a Level 3 Competency Certificate and the successful non-member or enrolled member applicant would receive a Certificate of Accreditation with authority to practice cruising-related aspects of professional forestry as stated in the certificate's limitation on practice.

**Level 4:** Accredited Timber Evaluator. This requires three months completion at Level 1, six months at Level 2, 15 months at Level 3 plus an additional 36 months at Level 4 for a total of 60 months of cruising-related experience. The successful registered member applicant would receive a Level 4 Competency Certificate and the successful non-member or enrolled member applicant would receive a Certificate of Accreditation with authority to practice cruising-related aspects of professional forestry as stated in the certificate's limitation on practice<sup>1</sup>.

#### What is the purpose of the *Timber Cruiser Log*?

The *Timber Cruiser Log* (the log) is a record of the training experience and knowledge that a cruiser must attain to be formally recognized as an ATC or ATE.

The log allows you to demonstrate your competencies to the board and your employer(s). The log contains a cruiser diary as a useful tool to help you record all types of cruising experience.

#### **Accreditation Eligibility**

Individuals who wish to be accredited must demonstrate their competency as a timber cruiser. This requires completion of each level of the log and any other criteria as set by the board.

#### The Period of Accreditation

Accreditation will be granted for a period of up to 12 months.

Accreditation will automatically be renewed each year to members in good standing upon payment of the annual membership fee (http://member.abcfp.ca/web/ABCFP/Fees.aspx) and receipt of the annual self-assessment declaration. Registered members only have to pay their RFT or RPF fee to remain accredited.

#### Maintaining Your Accreditation in Good Standing

Refer to the ABCFP Code of Ethics and Standards of Professional Practice (http://member. abcfp.ca/WEB/ABCFP/About\_Us/Governance/Bylaws/ABCFP/Governance/Bylaws.aspx) and the Limitation on Practice on your Certificate of Accreditation.

The ABCFP requires each ATC/ATE to demonstrate continuing competency. The Foresters Act, ABCFP Code of Ethics, and Standards of Professional Practice impose a duty for ABCFP members to consistently pursue appropriate professional development to ensure continuing competency.

<sup>1</sup> The Competency Certificate is issued under the authority of Section 11 (1) (m) of the Foresters Act (certification scheme for a technical occupation related to the practice of professional forestry). The Certificate of Accreditation is issued under the authority of Section 16.1 of the Foresters Act where the certificate holder can practice aspects of professional forestry as stated in the limitation on practice on the Certificate of Accreditation. This means that a Level 3 ATC and a Level 4 ATE who are associate or enrolled members will practice professional forestry for some, but not all, of their timber cruising job duties.

#### **Cancellation of Accreditation**

The board may recommend cancelling accreditation if it was made in error or under false pretenses or if members fail to complete all of the required steps to renew their annual membership.

#### **Appeal Process**

An applicant or struck member whose accreditation has been refused or revoked may provide written notice to the board outlining his/her request for a second review or reinstatement.

#### **Reinstatement of Accreditation**

Any person who has been struck from membership may have his/her accreditation reinstated if all conditions set by the board have been met and all outstanding dues and fees have been paid.

A person seeking reinstatement of accreditation due to non-payment of fees will be treated as a new applicant, and will have his/her qualifications assessed against current requirements.

### **Professional Conduct**

ATCs or ATEs will conduct themselves in accordance with the professional standards identified in the *Foresters Act* (http://bclaws.ca/civix/document/id/complete/statreg/03019\_01 and Bylaws http://member.abcfp.ca/web/Files/ABCFP\_bylaws.pdf). Special note should be made of Bylaw 11 (Code of Ethics) and Bylaw 12 (Standards of Professional Practice).

### **Accreditation Guide**

The following functions, education, experience, and cruising level definitions are provided to clarify the terms used on the respective accreditation forms.

Please read through this guide to ensure you have full knowledge of the requirement for accreditation.

## LEVEL 1 – COMPASSER (Compassers do not qualify for accreditation when working at this level)

#### Function

A Compasser is an entry-level position suitable for forestry workers interested in pursuing a career in timber cruising. The Compasser should work under the supervision of an ATC, an ATE, or a registered member and assists in field data collection. A Compasser does not practice professional forestry.

#### **Experience Requirements**

Three months appropriate field experience at this level and an aptitude in forestry are key attributes required to fulfill this position.

#### **Experiential Learning**

All candidates for Level 1 endorsement are encouraged to enhance their knowledge base through active work and participating in courses such as:

- field orienteering
- survival first aid
- cruiser association workshops

#### **Endorsement** Criteria

A Compasser must meet the following requirements to be signed off by an ATC, ATE, RFT or RPF to complete Level 1:

- The ability to function as a Compasser with minimal supervision.
- Completion of all competencies as described in this document.
- Completion of three months appropriate field experience at this level.
- Conducting personal actions in a professional manner consistent with the *Forester's Act*, ABCFP bylaws and council resolutions.

#### 1.1 Equipment Knowledge

A Compasser must be able to demonstrate the ability to appropriately operate and maintain:

- a hand compass.
- a diameter tape, including the replacement of a tape refill.
- an increment borer, including oiling and sharpening.
- an axe.
- a horizontal distance measuring device.
- a vertical distance measuring device.

#### 1.2 Field Procedures

A Compasser is able to demonstrate the following:

- Adjust declination settings, set directional bearings on a hand compass and navigate with minimum supervision.
- Measure field distances, including the calculation of slope correction to obtain horizontal distance.
- Establish a plot centre and reference points.
- Determine the diameter, at breast height, of a tree.
- Determine the breast height age.
- Assist the cruiser in the measurement of tree heights.
- Communicate field information clearly and effectively.
- Conduct tasks in a safe and appropriate manner.

#### 1.3 Field Knowledge

A Compasser is able to demonstrate the following:

- Differentiate between magnetic, grid, and true north, and set a navigational course and bearing from a map.
- Recognize and identify common tree species found within the general work

area.

- Recognize and identify common pathological indicators of decay for trees such as: fork/crook, scar/frost crack, dead/broken top, conk, blind conk, dwarf mistletoe, and rotten branch.
- Recognize and identify common tree pests and other damage agents.
- Map reading skills recognize, basic map related features including; scale, orientation, and topography (contours).
- Be aware of the appropriate regulatory and occupational requirements.

## LEVEL 2 – CRUISER IN TRAINING (Cruisers do not qualify for accreditation when working at this level)

#### Function

A Cruiser in Training is an intermediate working position suitable for forestry workers interested in pursuing a career in timber cruising. At this interim level it is likely that the forestry worker intends to advance to an ATC level. A Cruiser in Training is able to function as a secondary timber cruiser having limited responsibility while under supervision of an ATC, ATE or a registered member. This position allows for development and growth of a cruiser's field abilities. A Cruiser in Training does not practice professional forestry.

#### **Experience Requirements**

Nine months of cumulative field experience including six months at this level [(one month can be appropriate office experience (see 2.4 below)] plus the prerequisite minimum of three months at Level 1.

#### **Experiential Learning**

In addition to Level 1 experiential learning, all candidates for Level 2 endorsement are encouraged to enhance their knowledge base through active work and cruising seminars.

#### **Endorsement Criteria**

A Cruiser in Training must meet the following requirements to be signed off by an ATC, ATE, RFT, or RPF to complete Level 2:

- The ability to function as a cruiser with supervision.
- Completion of six months appropriate field experience at this level [(as an option, one month can be completed with appropriate office experience (refer to 2.4 below)].
- Competent with all functions identified in Levels 1 and 2.
- Can consistently demonstrate the competence and ability to pass a formal check cruise.

#### 2.1 Equipment Knowledge

In addition to Level 1 equipment knowledge, a Cruiser in Training must be able to demonstrate the ability to appropriately operate and maintain equipment such as:

• a clinometer and/or hypsometer or electronic height measuring device.

- a prism and/or relaskop.
- a steel/fibreglass or equivalent measuring tape and a nylon chain.
- a two-way radio and/or satellite phone
- GPS unit.

#### 2.2 Field Procedures

In addition to Level 1 field procedures, a Cruiser in Training is able to demonstrate the following:

- Adjust declination settings, set directional bearings on a hand compass and navigate without supervision.
- Determine the breast height age and total age of a tree.
- Determine site index.

With emphasis on the following:

- Determine tree length through measurement and/or estimation.
- Use a prism and/or relaskop and plot radius factor or diopter calculations to establish variable radius and fixed area plots.
- Estimate volume per hectare.
- Record accurate field notes including timber type, topography, and tree quality information.
- Record and communicate clearly the identification, collection, and collation of the field data.
- Conduct tasks in a safe and appropriate manner.

#### 2.3 Field Knowledge

In addition to Level 1 field knowledge, a Cruiser in Training is able to demonstrate the following:

- Recognize, identify and record known pathology for trees, with distinctions made between biotic, abiotic, and other sources of decay.
- Recognize, identify and record tree classes with knowledge of the associated risk group classifications and their effects on percent decay.
- Recognize and record common tree pests and other damage agents.
- Able to determine photo and photo-to-map scales where applicable.
- Determine field location through navigation by using two or more identifiable points relating to both the base map and aerial/ortho-photograph.
- Use legal survey plans and notes and recognize bearing trees and posts where applicable.
- Be aware of GPS functions and their appropriate use (where applicable).

#### 2.4 Office Procedures

As an option, a Cruiser in Training can assist with the following types of office procedures which can contribute to a maximum of one month of Level 2 experience:

- Preparation of a cruise plan map to a specified standard.
- Pre-stratification of timber types.

- Determination of the CV (co-efficient of variation) through the calculation of standard deviation and the mean to determine the sampling intensity for a given sampling error objective.
- Produce an adjusted cruise map including accurate placement of the cruise strip locations, photo to map ties and confirmed timber type lines.
- Edit field data and prepare it for input to a compilation program.
- Determine volume per hectare and stems per hectare (where applicable).
- Area calculation techniques.

## LEVEL 3 – Accredited Timber Cruiser (Cruisers may apply for accreditation upon completion of this level)

#### Function

An Accredited Timber Cruiser (ATC) is an operational working level suitable for forestry workers interested in a timber cruising career. At this level, a cruiser is capable of working with minimal supervision and is responsible for supervising and mentoring trainees. An enrolled or associate member ATC practices aspects of professional forestry as stated in the limitation on practice in the Certificate of Accreditation.

#### **Experience Requirements**

Twenty-four months cumulative field experience (as an option, may also include a maximum of three months office experience) including 15 months at this level plus the prerequisite minimum of six months at Level 2 and a minimum of three months at Level 1.

#### **Experiential Learning**

In addition to Level 1 and 2 experiential learning, all candidates for accreditation are encouraged to enhance their knowledge base through active work and participating in cruising seminars.

#### **Endorsement Criteria**

An ATC must meet the following requirements to be signed off by an ATC, ATE, RFT or RPF to complete Level 3:

- The ability to function as a cruiser with minimal supervision.
- Completion of 15 months appropriate experience at this level.
- Competent with all functions identified in Levels 1, 2 and 3.
- Can consistently demonstrate the competence and ability to pass a formal check cruise.

#### 3.1 Field Procedures

In addition to Level 1 and 2 field procedures, an ATC is able to demonstrate the following:

- Estimate volume per hectare from variable and fixed area plots.
- Determine basal area and species composition.
- Conduct field training and auditing for levels 1 and 2 Compasser and Cruiser in Training.

#### 3.2 Field Knowledge

In addition to Level 1 and 2 field knowledge, an ATC is able to demonstrate the following:

- Awareness of alternate sampling techniques including: probe line traverses, stump cruises, and transect lines.
- Awareness of applicable quality assurance standards.

#### 3.3 Office Procedures

As an option, an ATC may be able to carry out the following types of office procedures which can contribute to a maximum of three months of Level 3 experience:

- Determine timber types through photo interpretation (or other means) and group into sampling strata.
- Determine the CV (co-efficient of variation) of a stand through means of estimation or calculation.
- Produce a final cruise map with accurate placement of the cruise strip locations, photo-to-map ties and confirmed timber type lines.
- Prepare cruise data for computer compilation.
- Produce a post-cruise report that accurately presents the criteria requested by the client.
- Manage a daily work schedule.
- Conduct office training and auditing for levels 1 and 2.

#### 3.4 General Knowledge

An ATC is required to demonstrate an understanding of:

- Sampling theory for variable radius plot cruising including co-efficient of variation, standard deviation and error objectives.
- The appropriate decay, waste and breakage factors for specific areas.
- Log grade algorithm flowcharts at a basic level.
- Computer compilation output data including lumber recovery factors, total cull (DWB) and piece size.
- The basic principles of the appraisal system including cruise input data and their impact on calculation variables.
- Recognize base map origins including, NTS, BCGS and other sources.
- Understand and know the limitations of forest inventory map label information.
- Be aware of timeline/efficiency scales.

#### LEVEL 4 - ACCREDITED TIMBER EVALUATOR

#### Function

An Accredited Timber Evaluator (ATE) is a senior working and/or supervisory level. It is at this level that forestry workers will make timber cruising a significant and valuable part of their careers. At this level a cruiser is able to organize and conduct an entire timber cruise and

is responsible for training, supervising and auditing subordinates. An enrolled or associate member ATE practices aspects of professional forestry as stated in the limitation on practice in the Certificate of Accreditation.

#### **Experience Requirements**

Sixty months cumulative field and office experience including 36 months at this level plus a minimum of 15 months at Level 3 and the prerequisite minimum of six months at Level 2 and a minimum of three months at Level 1.

#### **Experiential Learning**

In addition to Level 1, 2 and 3 experiential learning, all candidates for accreditation are required to enhance their knowledge base through active work and participating in cruising seminars. Level 4 candidates are encouraged to maintain their work experience and take courses in alternative sampling techniques (e.g.: big BAF, 3P, double sampling technique, biometrics and statistics courses, variable plot cruising, call grade net factoring, residue and waste sampling and log scaling).

#### **Endorsement Criteria**

An ATE must meet the following requirements to be signed off by an ATE, RFT, or RPF to complete Level 4:

- The ability to function as a lead cruiser without supervision.
- Completion of all competencies as described in this document.
- Completion of 36 months appropriate field and office experience at this level plus 15 months appropriate field (and as an option, a maximum of three months of office experience) at Level 3.
- Competent with all functions identified in Levels 1, 2, 3 and 4.
- Can consistently demonstrate the competence and ability to pass a formal check cruise.

#### 4.1 Equipment Knowledge

An ATE must be able to demonstrate the ability to appropriately operate and maintain the same equipment as for Level 1, 2 and 3.

#### 4.2 Field Procedures

In addition to field procedures for Level 1, 2 and 3, an ATE is able to conduct field training and quality assurance for all cruising levels.

#### 4.3 Field Knowledge

In addition to Level 1, 2 and 3, an ATE is able to demonstrate the following:

• Use of alternate sampling techniques which may include probe line traverses, stump cruises, transect lines, and 3P.

#### 4.4 Office Procedures

In addition to optional office procedures for Levels 2 and 3, An ATE is able to demonstrate the following:

- Prepare check cruise reports.
- Co-ordinate and manage timber cruising projects.

#### 4.5 General Knowledge

In addition to general knowledge for Level 3, an ATE is required to:

- Understand sampling theory for variable radius plot cruising including coefficient of variation, standard deviation, VBAR calculations, and sampling error objectives.
- Ensure that appropriate decay, waste and breakage factors for specified areas are used and understood.
- Interpret log grade algorithm flowcharts at a working level.
- Interpret and use computer compilation output data including lumber recovery factors, total cull (DWB), and piece size.
- Understand the principles of the appraisal system including all cruise input data and their impact on calculation variables.
- Understand the appropriate use of photo-to-map transfer device techniques such as; mono-restitution, stereo-plotting or equivalent.
- Understand area calculation techniques.
- Understand the criteria and procedures for check cruising.

### **Accreditation Process**

The board has defined four levels of competency for individuals who wish to obtain accreditation as a timber cruiser. The levels are:

- Level 1 Compasser
- Level 2 Cruiser in Training
- Level 3 ATC
- Level 4 ATE

Accreditation is granted at levels 3 and 4 only.

#### **Sign-off Procedure**

At each competence level, an applicant must be signed-off or endorsed by a qualified member. This sign-off process is the basis for assessing competency. The process relies on complete information from the applicant and the integrity and participation of the endorsing member(s) and references.

A cruiser must consistently demonstrate his/her competence and ability to achieve all aspects of the activities described within the competency guide.

#### **Endorsing Member**

An endorsing member is responsible for ensuring that the applicant has satisfactorily demonstrated all aspects of the required competencies and abilities prior to the sign-off or endorsement of each level. The endorsing member must be an ATC, ATE, RFT, or RPF. To

endorse each level an ATC, ATE, RFT, or RPF must provide a signature and member number for each section within the level.

- The sign-off for Levels 1 (Compasser), 2 (Cruiser in Training) and 3 (ATC) must be completed by an ATC, ATE, RFT, or RPF.
- The sign-off for Level 4 (ATE) must be completed by an ATE, RFT, or RPF.

#### References

The applicant must include two *Confidential Work Experience Reports* (one must be from a current supervisor) obtained from persons who are in a position to provide a personal assessment of the applicant's competencies, technical abilities, work standards, and general professional character. To act as a reference, these individuals must be members of the ABCFP and have direct knowledge of the applicant's work experience in the capacity of a supervisor or colleague.

#### **Work Experience**

It is important that the applicant completes the minimum requirements for field experience. The minimum requirements must be demonstrated and documented at each level to ensure his/her understanding of the principles and attainment of the appropriate skills. This experience is recorded in the timber cruiser experience log. The minimum experience requirements for sign-off are as follows:

- Where one month experience is required or optional, **15** days of related cruising activities should be obtained.
- Where three months experience is required, **45** days of related cruising activities should be obtained.
- Where six months experience is required, **90** days of related cruising activities should be obtained.
- Where 12 months experience is required, **180** days of field-related cruising activities should be obtained.
- An ATE must have a minimum of **36** months of related cruising experience at Level 3 and a total of **60** months combined field and office experience.

The following table provides clarification regarding the minimum time requirements for each level.

Desired Level	Minimum Time Reqirements to Qualify for each Level	Minimum Accumulated Time Requirements for Accreditation	General Role
Level 1-Compasser	-	3 months	Compass duties
Level 2-Cruiser in	6 months (as an	9 months	Can take on cruising
Training	option, 1 month can		duties
	be appropriate office		
	work)		

Desired Level	Minimum Time	Minimum	General Role
	<b>Reqirements to</b>	Accumulated Time	
	Qualify for each	<b>Requirements</b> for	
	Level	Accreditation	
Level 3-ATC	15 months (as an	24 months	Cruising duties
	option, 3 months can		and supervising
	be approriate office		Compassers and
	work)		Cruisers in Training
Level 4-ATE	36 months	60 months	Overall cruising
			project management
			and quality assurance

### Fee Schedule

There are application, annual membership, exam, and reclassification (ATC reclassifying to an ATE) fees. Refer to http://member.abcfp.ca/web/ABCFP/Fees.aspx for more details.

Fees are subject to change by ABCFP council resolution. Once accreditation is granted, the annual membership fee is pro-rated for the first year.

## **Questions and Answers**

The following information answers some basic questions about applying for accreditation.

1. Who is eligible for accreditation?

Applicants must have demonstrated competencies (completion of the Timber Cruiser Log and any other requirements as determined by the board) to be considered for accreditation and can be non-ABCFP members or ABCFP enrolled, special permit holder, registered, or associate members.

2. What is involved in getting accredited?

The accreditation process has been designed to recognize the value of competencies achieved through experience. The process takes into consideration an applicant's formal education credentials (an optional requirement), as well as workshops and seminars attended, and related forms of education and training. To help a cruiser develop a career path and track his or her progress, we provide all applicants with a Timber Cruiser Log, experience log and a diary. The logs are critical components of the application for accreditation.

Once you are approved for an appropriate amount of experience you will write an appropriate coastal, interior or provincial ATC or ATE technical exam where a pass is 70 per cent. In addition to this exam, all non ABCFP members are required to write an open book ethics exam where the passing mark is 80 per cent.

3. What are the levels of qualification/competency?

To help provide a path toward accreditation, four levels of qualifications/competencies have been established. Upon completion of Levels 1-3 requirements, you may apply for accreditation as an ATC. Upon completing Level 4, you may apply for ATE accreditation.

4. Who evaluates my credentials?

All applicants are evaluated by the board, which is comprised of senior representatives from industry, consulting, government and education institutions.

The board is responsible for assessing qualifications and recommending accreditation for ABCFP council approval. Individual board reviewers will make a comprehensive assessment of your qualifications.

#### 5. Whom can I use for references?

References should be persons working in the field of cruising who can verify your current and/or past experiences as a timber cruiser. We need to see an ATC, ATE, RFT, or RPF and your current supervisor listed as references.

Do not include personal references unless you have worked for or with these people in a technical capacity.

6. How are my academic credentials assessed?

It is important that you document all forms of education and training. Include formal post-secondary education such as graduation from technology institutes, colleges or universities. Also document all forms of seminars, workshops and other forms of training. While these are not mandatory requirements for accreditation, this information is useful to the board when evaluating the application.

- Do I submit a copy of the Timber Cruiser Log?
   Yes, send applicable sections from the log at the time of applying for accreditation.
- 8. How should I describe my experience?

To achieve accreditation, the board requires you provide evidence of relevant progressive experience, verified by references. All experience, especially related to timber cruising, must be documented for the board. The timber cruiser's experience log is a tool to ensure you record all applicable types of cruising-related experience.

9. How long does it take to get accredited?

If your application is complete, with all required experience, it could take a couple of weeks to obtain approval to write the appropriate technical exam. Exams can be written at any time with an ABCFP invigilator. If you write the exam right away and pass it, the total process can take four weeks. If you don't have the appropriate experience or fail the exam the process will be delayed or postponed.

Be sure to go through the check list on the application form and provide all information required in your application package. An incomplete application will delay the process. It is your responsibility to provide all requested information.

#### 10. What happens when I get accredited?

After the board recommends your accreditation and the ABCFP council approves it, you will receive a letter of confirmation and a competency certificate if you are a registered member or a certificate of accreditation if you are an enrolled member or a new associate member.

11. What if my application for accreditation is not successful?

The board will provide you with reasons for its decision and may provide you with other recommendations which may include applying/writing at a later date.

12. How long is my accreditation valid?

Accreditation is based on the understanding that a timber cruiser continues to practise timber cruising and is able to remain competent while working within the ABCFP limitation on professional forestry practice stated in the Certificate of Accreditation for enrolled and associate members.

Accreditation will automatically be renewed each year to members in good standing upon payment of the annual membership fee and receipt of the annual self-assessment declaration.

13. Any other questions?

If you have any other questions regarding the application process, please call Mike Larock, RPF, director of professional practice and forest stewardship, at the Association of BC Forest Professionals at 250-851-3185, or e-mail at mlarock@abcfp.ca or visit the website (www.abcfp.ca).

## **Completing the Log**

The following is a summary of the steps necessary to complete the log.

- 1. Read the previous Questions and Answers section to answer some of the basic questions about applying for accreditation.
- 2. Read the competency guide for each level, specifically the function, experience, and endorsement sections.
- 3. Review the accreditation form for each level; complete those sections of the criteria where you have achieved all the competency requirements and submit the form to an Accredited Timber Cruiser (ATC), Accredited Timber Evaluator (ATE), Register Forest Technologist (RFT), or Registered Professional Forester (RPF) for endorsement (initials, member number, and date). You are encouraged to have each competency endorsed as

soon as you complete each section.

4. The endorser must have personal knowledge of your competencies as the integrity of the endorsement is based on the endorser's signature.

#### Please note:

- An ATC can only initial and endorse competencies for Levels 1 to 3 (Compasser to ATC) but not level 4
- ATEs, RFTs, and RPFs can initial and endorse competencies for all levels.
- Once you have all the competencies initialled and the accreditation form endorsed for Level 3 or 4, complete the Application for Accreditation at http://member.abcfp. ca/web/ABCFP/Become\_a\_Member/Timber\_Cruisers.aspx#routes and submit all of the required material to the Registration Department at admissions@abcfp.ca.
- You must complete and submit the accreditation forms for Levels 1, 2 and 3 as part of your application to become an ATC, and the Accreditation Forms for Levels 1, 2, 3 and 4 as part of your application to become an ATE.
- 5. The ATC/ATE application package contains an application checklist to ensure you submit a complete application.
- 6. The registration department and board will only process complete applications. If an application is found to be incomplete, the registration department will make a specific request to obtain the missing information. If the information is not obtained, the application will not be considered for final review.

## **LEVEL 1 - COMPASSER ACCREDITATION FORM**

To be endorsed (signed-off) by an Accredited Timber Cruiser, an Accredited Timber Evaluator or an ABCFP registered member.

Criteria			Description
1.1 Equ	ipment Knowledge		A Compasser must be able to <b>demonstrate</b>
			the ability to operate and maintain:
	Competency endorsed	by:	hand compass
			• diameter tape including replacing a refill
			• increment borer including oiling and
			sharpening axe
			horizontal distance measuring device
Initial	Mem No.	Date	• vertical distance measuring device

Criteria			Description
1.2 Field Pro	mpetency endorsed	by:	<ul> <li>A Compasser is able to demonstrate the following:</li> <li>operate hand compass</li> <li>measure horizontal distances</li> <li>establish plot centres and referance points</li> <li>determine tree diameters</li> <li>determine tree age at breast height</li> <li>assist in tree height measurements</li> <li>communicate clearly</li> </ul>
Initial	Mem No.	Date	• condust task in a safe manner
	mpetency endorsed		<ul> <li>A Compasser is able to demonstrate the following:</li> <li>differentiate between magnetic, grid and true north</li> <li>recognize common tree species</li> <li>recognize and identify tree pathology</li> <li>recoginze and identify common tree pests and other damage</li> <li>map reading - recognize basic map related features</li> <li>be aware of regulatory and occupational requirements</li> </ul>
Initial	Mem No.	Date	

Endorsement for Level 1 - Coast	Endorsement for Level 1 - Interior
Print name of Compasser	Print name of Compasser
has completed all the necessary competencies for Level 1.	has completed all the necessary competencies for Level 1.
Endorsed by - Print Name	Endorsed by - Print Name
Signature of Endorser	Signature of Endorser
Endorser's Membership No.	Endorser's Membership No.
Date of Endorsement	Date of Endorsement

# LEVEL 2 - CRUISER IN TRAINING ACCREDITATION FORM

To be endorsed (signed-off) by an Accredited Timber Cruiser, an Accredited Timber Evaluator or an ABCFP registered member.

Criteria			Description
	ent Knowledge		A Cruiser in training must be able to <b>demonstrate</b> the ability to operate and maintain:
Initial	Mem No.	Date	<ul> <li>clinometer/hypsometer/height measuring device</li> <li>steel/fibreglass measuring tape and a nylon chain, prism and/or relaskop</li> <li>two-way radio and or satellite phone</li> <li>GPS unit</li> </ul>
2.2 Field Pro	Decedures		A Cruiser in training is able to <b>demonstrate</b> the following:
			<ul> <li>adjust declination settings/directional bearings on a compass; navigate without supervision</li> <li>measure horizontal distances/calculate slope correction</li> </ul>
Initial	Mem No.	Date	<ul> <li>use of a prism/relaskop and plot radius factor or diopter calculations to establish variable radius/fixed area plots</li> <li>plot establishment (fixed area and variable radius)</li> <li>estimate volume per hectare</li> <li>determine site index</li> <li>determine breast height age and calulate total age</li> <li>tree height (length) measurement and estimation</li> <li>record acurate field notes (timber type, topography, tree quality)</li> <li>record/communicate the ID, collection and collation of field data</li> <li>conduct tasks in a safe manner</li> </ul>

Criteria			Description
2.3 Field Kr	nowledge		A Cruiser in training is <b>knowledgeable</b> with
			the following:
Co	mpetency endorsed	by:	• differentiate between UTM and NAD
			positioning
			• recognize and identify tree classes and
			the concept of risk groups, know their
			effects on percent cull
		_	• recognize and identify tree pathology
Initial	Mem No.	Date	(including biotic, abiotic and other
			sources of decay)
l			• recognize and identify common tree
l			pests and other damage agents
			• determine photo and photo-to-map
			scales
			determine field location through
			identification of ground features
			• use legal survey plans, recognize bearing
			<ul><li>trees and posts</li><li>be aware of GPS functions and uses</li></ul>
			• be aware of regulatory and occupational requirements
2.4 Office P	rocedures (opt	imal for Level	As an option, a Cruiser in training can <b>assist</b>
	y contribute to		with the following types of office procedures
experience)		one month of	which can contibute to a maximum of 1
enperionee)			month of Level 2 experience:
Cor	mpetency endorsed	by:	• prepare a cruise plan
			• pre-stratification of timber types
			• determination of the CV through the
			calculation of standard deviation and the
			mean to determine sampling intensity for
Initial	Mem No.	Date	a sampling error objective
Intiul		Duit	• produce an adjusted cruise map (with
			accurate placement of plots)
			confirm timber types
			• edit field data and prepare it for input to
			a compilation program
			• determine volume and stems per hectare
			area calcuation techniques
			<u> </u>

Endorsement for Level 2 - Coast	Endorsement for Level 2 - Interior
Print name of Cruiser in training	Print name of Cruiser in training
has completed all the necessary competencies for Level 2.	has completed all the necessary competencies for Level 2.
Endorsed by - Print Name	Endorsed by - Print Name
Signature of Endorser	Signature of Endorser
Endorser's Membership No.	Endorser's Membership No.
Date of Endorsement	Date of Endorsement

### LEVEL 3 - ACCREDITED TIMBER CRUISER ACCREDITATION FORM

To be endorsed (signed-off) by an Accredited Timber Cruiser, an Accredited Timber Evaluator or an ABCFP registered member.

Criteria			Description
3.1 Field Procedures         Competency endorsed by:         Initial       Mem No.         Date			<ul> <li>An ATC is able to demonstrate the following:</li> <li>determine basal area and species composition</li> <li>estimate volume per hectare from variable/fixed area plots</li> <li>conduct field training and check cruising for Levels 1 and 2</li> </ul>
3.2 Field Kr	nowledge	by: Date	<ul> <li>An ATC is able to demonstrate the following:</li> <li>all Items in Sections 1.3 and 2.3</li> <li>alternative sampling techniques (probe line traverses, stump cruise and transect lines, etc.)</li> <li>awareness of applicable quality assurance standards</li> </ul>
3 and can on of experience	Procedures (opti ly contribute to e)	three months	<ul> <li>As an option, an ATC can carry out the following types of office procedures which can contribute to a maximum of three months of Level 3 experience</li> <li><i>determine</i> co-efficient of variation and sampling intensity</li> <li>produce an adjusted cruise map (with accurate placement of plots)</li> <li>confirm timber types and group into sampling strata</li> </ul>
Initial	Mem No.	Date	<ul> <li>edit field data and prepare it for input to a compilation program</li> <li>conduct office training and auditing for Levels 1 and 2</li> <li>produce a post-cruise report that accurately presents the criteria requested by the client</li> <li>manage a daily work schedule</li> </ul>

Criteria			Description	
3.4 General Knowledge Competency endorsed by:		by:	An ATC is required to <b>demonstrate</b> <b>understanding</b> of:	
Initial	Mem No.	Date	<ul> <li>sampling theory for variable radius plot cruising</li> <li>appropriate decay, waste and breakage factors for specific areas</li> <li>Log grade algorithm flowcharts at a basic level</li> <li>computer compilation output data including LRF, cull and piece size</li> <li>basic principles of the appraisal system</li> <li>recognize base map origins including, NTS, BCGS and other sources</li> <li>understand/know limitations of forest inventory map label information</li> <li>timeline/efficiency scales</li> </ul>	

Endorsement for Level 3 - Coast	Endorsement for Level 3 - Interior
Print name of Timber Cruiser	Print name of Timber Cruiser
has completed all the necessary competencies for Level 3.	has completed all the necessary competencies for Level 3.
Endorsed by - Print Name	Endorsed by - Print Name
Signature of Endorser	Signature of Endorser
Endarcar's Mambarship Na	En davar'a Mambarshin Na
Endorser's Membership No.	Endorser's Membership No.
Date of Endorsement	Date of Endorsement

# LEVEL 4 - ACCREDITED TIMBER EVALUATOR ACCREDITATION FORM

To be endorsed (signed-off) by an Accredited Timber Evaluator or an ABCFP registered member.

Criteria			Description
	.1 Field Procedures Competency endorsed by:		<ul> <li>An ATE has developed a comprehensive understanding of and can competently demonstrate the following:</li> <li>conduct field training and quality assurance for all cruising levels</li> </ul>
Initial	Mem No.	Date	
4.2 Field Kn	owledge	by:	An ATE has developed a comprehensive understanding of and can <b>competently</b> <b>demonstrate</b> the following:
Initial	Mem No.	Date	<ul> <li>use of alternate sampling techniques which may include:</li> <li>probe line traverses,</li> <li>stump cruises,</li> <li>transect lines,</li> <li>big BAF, and</li> <li>3P.</li> </ul>

Criteria Description		Description		
4.3 Office P	rocedures		An ATE is required to <b>competently</b>	
			demonstrate the following:	
Co	mpetency endorsed	by:	<ul> <li><i>determine</i> co-efficient of variation and sampling intensity</li> <li>produce an adjusted cruise map (with accurate placement of plots)</li> <li>confirm timber types and group into</li> </ul>	
Initial	Mem No.	Date	<ul> <li>sampling strata</li> <li>edit field data and prepare it for input to a compilation program</li> </ul>	
			<ul> <li>conduct office training and auditing for Levels 1 and 2</li> <li>produce a post-cruise report that accurately presents the criteria requested by the client</li> <li>manage a daily work schedule</li> <li>prepare check cruise reports</li> <li>co-ordinate and manage timber cruising projects</li> <li>prepare cruise compiations, conduct quality contron on cruise compilations</li> </ul>	

Criteria			Description
4.4 General K	<b>nowledge</b> betency endorsed	by:	<ul> <li>An ATE is required to demonstrate</li> <li>complete understanding of:</li> <li>sampling theory for variable radius plot</li> </ul>
Initial	Mem No.	Date	<ul> <li>cruising</li> <li>recognize base map origins including, NTS, BCGS and other sources</li> <li>understand/know limitations of forest inventory map label information</li> <li>timeline/efficiency scales</li> <li>understanding of co-efficient of variation, standard deviation, VBAR calculations and sampling error objectives</li> <li>ensure appropriate decay waste and breakage factors are used and understood</li> <li>understand area calculation techniques</li> <li>interpret log grade algorithm flowcharts</li> <li>understand and apply the appropriate use of photo-to-map transfer devices (stereo plotting, mono-restitution or equivalent)</li> <li>computer compilation output data including LRF, cull and piece size</li> <li>the principles of the appraisal system as it relates to cruise input data</li> <li>check cruise criteria and procedures</li> </ul>

Endorsement for Level 4 - Coast	<b>Endorsement for Level 4 - Interior</b>	
Print name of Timber Evaluator	Print name of Timber Evaluator	
has completed all the necessary competencies for Level 4.	has completed all the necessary competencies for Level 4.	
Endorsed by - Print Name	Endorsed by - Print Name	
Signature of Endorser	Signature of Endorser	
Endorser's Membership No.	Endorser's Membership No.	
Date of Endorsement	Date of Endorsement	

# Timber Cruiser Experience Log for Level 1 Compasser<sup>2</sup>

Type of cruising experience (Work Code)* only work codes 1 to 5 apply for this level	Time period or date(s)	# of days	# of months <sup>3</sup>
TOTALS:			

Description of Work	Work Code
Field plot work	1
Field quality control work	2
Office compilation and Reporting	3
Office cruise plans and project preparation	4
Receiving field cruising training	5
Receiving office cruising training	6
Providing field cruising training	7
Providing office cruising training	8
Training course development - field or office; cruising-related	9
Writing a cruising article for publishing or cruising procedures for someone to use	10
Serving on cruising or cruising-related committees	11
Attending cruising or cruising-related meetings with agendas or to resolve issues	12

 <sup>&</sup>lt;sup>2</sup> Requires three months of field experience
 <sup>3</sup> Three months field experience requires at least 45 days

## Timber Cruiser Experience Log for Level 2 Cruiser in Training<sup>4</sup>

Type of cruising experience (Work Code)* only work codes 1 to 8 apply for this level	Time period or date(s)	# of days	# of months <sup>5</sup>
TOTALS:			

Description of Work	Work Code
Field plot work	1
Field quality control work	2
Office compilation and Reporting	3
Office cruise plans and project preparation	4
Receiving field cruising training	5
Receiving office cruising training	6
Providing field cruising training	7
Providing office cruising training	8
Training course development - field or office; cruising-related	9
Writing a cruising article for publishing or cruising procedures for someone	
to use	10
Serving on cruising or cruising-related committees	11
Attending cruising or cruising-related meetings with agendas or to resolve issues	12

 <sup>&</sup>lt;sup>4</sup> Requires nine months of field experience: six months at Level 2 (as an option, one month of office experience (15 days) can count as experience for this level) and three months at Level 1
 <sup>5</sup> Six months field experience requires at least 90 days; nine months field experience requires at least 135 days field

days

### Timber Cruiser Experience Log for Level 3 Accredited Timber Cruiser<sup>6</sup>

Type of cruising experience (Work Code)* All work codes can apply for this level	Time period or date(s)	# of days	# of months <sup>7</sup>
TOTALS:			

Description of Work	Work Code
Field plot work	1
Field quality control work	2
Office compilation and Reporting	3
Office cruise plans and project preparation	4
Receiving field cruising training	5
Receiving office cruising training	6
Providing field cruising training	7
Providing office cruising training	8
Training course development - field or office; cruising-related	9
Writing a cruising article for publishing or cruising procedures for someone to use	10
Serving on cruising or cruising-related committees	11
Attending cruising or cruising-related meetings with agendas or to resolve issues	12

<sup>&</sup>lt;sup>6</sup> Requires 24 months of field experience: 15 months at Level 3; six months at Level 2 and three months at Level 1(as an option, three month of office experience (45 days) can count as experience for this level

<sup>&</sup>lt;sup>7</sup> Three months field experience requires at least 45 days; six months of field experience requires 90 days; one year of field experience requires at least 180 field days; 15 months field experience requires at least 225 days field days

## Timber Cruiser Experience Log for Level 4 Accredited Timber Evaluator<sup>8</sup>

Type of cruising experience (Work Code)* All work codes can apply for this level	Time period or date(s)	# of days	# of months <sup>9</sup>
TOTALS:			

Description of Work	Work Code
Field plot work	1
Field quality control work	2
Office compilation and Reporting	3
Office cruise plans and project preparation	4
Receiving field cruising training	5
Receiving office cruising training	6
Providing field cruising training	7
Providing office cruising training	8
Training course development - field or office; cruising-related	9
Writing a cruising article for publishing or cruising procedures for someone to use	10
Serving on cruising or cruising-related committees	11
Attending cruising or cruising-related meetings with agendas or to resolve issues	12

<sup>&</sup>lt;sup>8</sup> Requires 60 months of field and office experience: 36 months at Level 4; 15 months at Level 3; and six months at Level 2; and 3 months at Level 1 <sup>9</sup> Three months field experience requires at least 45 days; one year of field and office experience requires at least 120 field days and 60 office days. Three years of field and office experience requires at least 360 field days and 180 office days

## CRUISING SEMINAR, COURSE ATTENDANCE AND CRUISING-RELATED TRAINING

Description	Location	Dates
		(DD/MM/YYYY)
Example: Cruising Workshop	Big Town, BC	02-03/May/2011