CFPFA Assessor Training Supplemental Competency Questions

Dear Competency Assessors:

Please note that these questions do not replace the Performance Indicators (PI) in the Competency Standards, but are designed for you to use if, and when, you find it necessary to question the witnesses regarding an applicant's competence in a particular DC.

Some of the "supplemental competency questions" simply express the PI in different words and do not appear to reduce the level of competency required, while others could be interpreted as reducing the level of competency required. This is not intended. The questions are designed to elicit additional information on the applicant from a witness, and were put in a context that could be more easily inserted into a conversation with the witness. The assessment panel would then base their assessment of the applicant on all of the information received, and how in total, this met the level of competence required by the DC and the PI's contained in the Standard.

If you have questions, please contact:

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Principle Standard 1 – Tree and Stand Dynamics

Demonstrable Competency 1.1: Identify plants and describe their physiology, growth, morphology, autoecology, and synecology

a. Describe the range of several key indicator species in your Province;
b. Quantify the moisture and nutrient requirements of these species and key ecological factors that are related to their growth.
c. Describe the anatomy, morphology, and physiology of these same indicator plants and how these related to their ecological niche.
d. Describe a plant community and what the key attributes are.
e. Describe both within and between plant community variation

Demonstrable Competency 1.2: Describe the current and past tree and stand conditions and the processes that led to them and articulate possible future conditions

a. Describe the key attributes of tree measurement and how you would measure them.
b. How would you determine tree quality when measuring an individual tree and or a stand of trees?
c. Describe three different tree-related resource potentials (wood fibre, habitat, shade, transpiration, photosynthesis, carbon sequestration, etc) and the relationship between them;
d. Explain processes that influence individual tree growth, health and vigour;
e. How would you measure the stand species composition, size, distribution, age and spatial relationships?
f. Describe the steps you would use to determine the origin of a specific stand and the specific clues that would influence your determination.
g. Describe important resource values that you might identify within a given stand type.
h. Explain the relationship between succession and stand dynamics;
i. What are the most important abiotic/biotic agents in your province that influence stand dynamics and how do these agents influence succession?
j. What specific things would you look at to understand current stand condition and be able to predict future stand structures?

Demonstrable Competency 1.3: Describe and apply models to articulate present and future stand conditions

a. Outline the three commonly used models applied as predictive tools in the management of forests in your Province.
b. For one of the models that you have discussed above describe how you would apply the model and the specific considerations of its use.

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Demonstrable Competency 1.4 Demonstrate the integration of the individual competencies in Standard 1.

a. Provide an example of when you have prepared a defensible stand management prescription / intervention for a given set of stand objectives.

<u>Principle: Standard 2 – Forest to Landscape Structure, Function and Dynamics</u>

Demonstrable Competency 2.1: Describe the components, characteristics and processes of forest ecosystems and how they interact.

a. Outline the key abiotic and biotic factors that influence forest ecosystems and describe how they may impact living and non-living ecosystem components;
b. Discuss how these abiotic and biotic factors influence both stand and landscape level processes;
c. In your province, for a given ecosystem, characterize an ecosystem across a variety of scales;
d. Outline how forest sustainability and productivity are related and how as a forest manager you would manage to increase productivity using sustainable management principles. What are your thoughts on forest fertilization in this regard?
e. How do you define forest productivity?

Demonstrable Competency 2.2: Describe and apply classification schemes using vegetation, climatic and edaphic characteristics

a. In detail describe the vegetation classification systems applied in your Province. Outline the levels of classification from regional (zonal) down to the site level.
b. How are climate, soil, and vegetation used to describe ecosystems within the Provincial classification scheme?
c. Compare and contrast two different ecological sites in how they might differ in climate, soils, and vegetation?

Demonstrable Competency 2.3: Explain influences and outcomes of agents of change on forests and landscapes.

a. Provide an overview of the most significant insects and pathogens impacting your regions forests.
b. Outline how integrated pest management plans are mitigating or not mitigating the impacts of the insects and pathogens discussed above.
c. Describe how regional climate in your Province influences wildfires and the effects on forested landscapes.
d. What do you expect to be the most significant climate related changes to vegetation in the Province?
e. What are the most significant human impacts as they relate to forest management in the Province? What strategies can forest managers implement to offset these human impacts?

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Demonstrable Competency 2.4: Demonstrate the integration of the individual elements of the standard.

a. Compare and contrast measures of diversity in structure and function of a deciduous and coniferous forest in your Province.
b. At a landscape scale whet are the most important forest management strategies used to protect valuable wildlife and fish habitat. How are these strategies applied in your Province?
c. Describe how you would measure diversity at the stand level and compare this with how you would measure diversity at the landscape level.

Demonstrable Competency 2.5: Demonstrate the integration of the individual elements of the standard.

a. How do human caused disturbances differ from natural forest succession?   With your knowledge of these disturbances outline how you would predict changes in composition, structure and function.
b. What models are available in your Province that forecast ecosystem change spatially and temporally? How are the results of these models applied to forest management and what are are the strengths and weaknesses of the model outputs.

Principle: Standard 3 – Forest Management

Demonstrable Competency 3.1: Describe the variety of values and competing interests in a forest.

a. Identify what you believe to be the most important timber and non-timber values within the Region that you practice. Outline why they are important and the key management considerations required.
b. How are aboriginal rights and the rights of other stakeholders within your Province considered in forest management? What measures are in place to protect those rights identified?
c. When considering forest values what are some of the key requirements that must be addressed and how do foresters ensure these values are both protected and properly considered in the process.
d. Provide an example of the effect and implications of decisions that you have made to meet given management objectives.
e. Describe how you would weigh/balance values and competing interests (e.g. economic versus biological) in the consideration of timber harvesting objectives.

Demonstrable Competency 3.2: Explain forest strategic and operational planning principles.

a. Describe two situations where forest management planning is required within your jurisdiction.
b. What are the key elements of the forest management plan and how they relate to the principles of planning?
c. Outline three tools that you would use for planning within your Province.

d. Compare and contrast landscape level planning to stand level planning using an example within your Province.

e. In the context of forest harvesting outline specific operational considerations that should be included in a plan.

Demonstrable Competency 3.3: Analyze and apply a range of forest cover manipulation strategies that effectively achieve a given set of objectives while minimizing negative impacts on other values from a perspective emphasizing the following:

a. What forest cover attributes would you consider critical to the evaluation of the economic viability of a stand selected for harvest.

b. Describe several constraints and how you would assess these in the selection of an area that requires the development of a forest management plan.

Demonstrable Competency 3.4: Explain the legal and policy framework.

a. What legislation and regulations must you consider when conducting forest management within your jurisdiction? Please provide both regional and national context in describing the legal and policy framework.

Demonstrable Competency 3.5: Discuss forest management concepts.

a. Compare and contrast examples of 2 different landscape‑or stand‑level planning regimes or approaches

b. When considering different management options such as the type of harvesting system or the use of a silviculture system describe how you would consider risk and uncertainty?

c. Where and when in your forest management plan would you consider applying an adaptive management approach?

d. Outline a situation where you are concerned with cumulative impacts related to your forest management activities and how you would address these in your planning and practice?

e. Provide an example of where you would use monitoring to better understand the outcomes/impacts of your forest management decisions?

Demonstrable Competency 3.6: Describe how global trends drive and influence forest management

a. How is do global trends influence forest management in Canada? What trends do you expect within the next two to three years?

b. Which global trends influence forest management most significantly your region?

Demonstrable Competency 3.7: Develop a resource planning document that incorporates current economic, environmental and social values into actions that lead to achieving the planning objectives and to future desired conditions and goals.

a. Provide examples of when you have Identified and described resource abundance through time and space and determined the management activities required to provide for a sustainable supply of consumptive and non consumptive goods and services

b. Provide examples of when you have used resource use decisions and determined the harvest of resources (including timber) within the context of larger, socially defined goals.
c. Provide examples of how you have incorporated the concept of sustainability and sustained yield in a management context.

Principle: Standard 4 – Economics and Administration of Forestry

Demonstrable Competency 4.1: Describe the content and importance of business and project plans.

a. Compare and contrast the specific functions of business and project plans;
b. What are the key components of a business plan and their application to forest management?
c. When would you need to consider the use of a project plan and what are the key elements of such a project plan?

Demonstrable Competency 4.2: Describe risk management relative to forest resources.

a. Describe how a change in the Canadian dollar (risk/uncertainty) influences forest management in Canada.
b. Outline how you consider variable growth rates and the impact of timber supply on your management unit. What approach or techniques would you use to address this concern?
c. A significant outbreak of a forest pest has occurred within your management unit. Describe what steps you would take to understand the impact on the forest resource.

Demonstrable Competency 4.3: Describe organizational structure and function.

a. The Canadian Boreal Forest Agreement has had sweeping implications to forestry in Canada – describe at a high level the related social, environmental, and economic impacts of this policy decision.
b. Within your jurisdiction describe what agencies and organizations have significant interactions with First Nations and the key considerations of those interactions.
c. How have labour relations in your jurisdiction impacted forestry in the past, and will these relations be significant in the future.
d. Compare and contrast the difference between two certification systems in your Province.
e. What is the role of Federal and Provincial governments in the establishment of forest legislation and policy in Canada?

Demonstrable Competency 4.4: Discuss business concepts that apply to a management plan.

a. Outline three important business objectives that must be considered in resource management planning.
b. When considering harvesting of a high valued stand of timber that has identified wildlife and biodiversity values how would you balance these competing social, environmental and economic values?
c. List three forest products produced in your jurisdiction and discuss the markets that they serve.

d. The wood products market in Canada is primarily commodity based with limited opportunity for value added products. How can forest management direct the best end use and opportunity for value added products?

Demonstrable Competency 4.5: Recognize the effects of national and global trends on supply and demand and flow of forest-based products including price and production.

a. How does supply and demand affect the forest resource value from the stump to the manufacture product?
b. Canada has been significantly impacted by the softwood lumber agreement and trade of forest products with the United States. Outline how these policies have impacted the Canadian softwood lumber industry?
c. Where are the greatest opportunities for Canada to grow its forest products industry in the global market place?
d. What is your experience with full-cost accounting and its application?

Demonstrable Competency 4.6: Prepare and defend an operational plan for a project to achieve resource management objectives within available resources.

a. Provide two examples of when you have planned and implemented a project with emphasis on human resources, production schedules and budgeting
b. Provide examples of when you have used performance measures (e.g. human resources, financial, timelines and production)
c. Provide two examples of when you have had to defend a plan of action.

Principle: Standard 5 – Leadership Skills: Communication and Critical Reasoning

Demonstrable Competency 5.1: Communicate effectively with a variety of audiences regarding forest resource issues.

a. Outline your public speaking experience and provide examples that demonstrate your ability to communicate complex resource information to a wide range of stakeholders.
b. Outline three things that make you a better listener.
c. Provide two examples of when you have used formal reports to present data, information and opinions.
d. Provide two examples of when you have prepared and delivered presentations that incorporate concepts and terminology of natural resources.

Demonstrable Competency 5.2: Demonstrate critical reasoning in the application of professional judgment.

a. Provide two examples of when you have analyzed a problem or issue that includes qualitative/quantitative data collection, evaluation and analysis.

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Demonstrable Competency 5.3: Demonstrate leadership skills through collaborative decision--making, consultation and conflict resolution.

a. Describe how you incorporate social, cultural and geographical differences into collaborative decision--making, consultation and conflict resolution
b. Outline how you would facilitate collaborative decision--making on a complex problem
c. Describe how you would manage conflict with a stakeholder that does not support your proposed management actions
d. Outline how you would organize and lead a group to achieve a predetermined goal.
e. Describe how you would defend the actions proposed in a forest management plan you developed

Principle: Standard 6 – Information Acquisition and Analysis

Demonstrable Competency 6.1: Demonstrate an ability to apply basic orienteering and surveying techniques.

a. Provide examples of when you have read and followed a map, used aerial photographs, used a compass and global positioning technology to navigate in the forest.
b. How would you measure the road prism and the length of the road if you were undertaking a forest practices audit?

Demonstrable Competency 6.2: Use measurement tools for collecting forest resource data.

a. Describe three tools that you would use in forest measurement, outline how and when you would use them and describe the accuracy of each tool.
b. Describe the types of measurement and application of these measurements that you have experienced through education and or work experience.

Demonstrable Competency 6.3: Design and implement sampling strategies.

- Outline some of the fundamental statistic that you use every day in forestry. Outline how you would describe a stand of trees using statistics.
- Describe the difference between two different sampling schemes and when they would be applied.
- Provide two examples of when you have analyzed data collected using simple sampling strategies.

Demonstrable Competency 6.4: Apply simple mathematical models.

a. Provide two examples of when you have expressed the relationship between variables using mathematical models.
b. Provide two examples of when you have interpreted output provided by statistical packages

Demonstrable Competency 6.5: Analyze and display both quantitative and qualitative data.

a. Discuss two different techniques for synthesizing data

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b. Provide an example of how you would use of a range of analytical techniques.
c. Provide an example of how you have developed displays, such as maps, relational data bases, graphs, or GIS, that are appropriate to a particular use

Demonstrable Competency 6.6: Demonstrate the integration of the competencies identified in the standard, to achieve a given set of objectives.

a. Outline how you would develop a sampling plan for a stand of trees that you need to survey.
b. How would you provide a summary of the data collected from the stand above to report information about this stand to your employer and or your client?
c. How would you assess whether your sampling information and summary of the data you collected from the stand above met the objectives of the project or study.

Principle: Standard 7 – Professionalism and Ethics

Demonstrable Competency 7.1: Describe the role of self-regulating professions in society

a. What is your understanding of the function of professions and professional associations?
b. In your province, what is the organizational structure of the forestry association and how is it linked to provincial government structures and legislation?
c. How is the forestry profession linked to other professions?

Demonstrable Competency 7.2: Describe a range of duties and obligations imposed on, and by, professional regulatory bodies?

a. What is the name and the key functions of the professional association in your province?
b. In your province, what are the key obligations expected of a professional forester?
c. In your province, summarize the discipline and complaint resolution processes and explain why these are in place.
d. In your province, summarize the entry an quality assurance standards and explain why these are in place.

Demonstrable Competency 7.3: Explain competency limitations

a. How do you determine personal competence?
b. What are your particular areas of competence?
c. Give an example of when you would need to bring in outside expertise.

Demonstrable Competency 7.4: Describe the characteristics and attitudes of a professional forester

a. In your province, what is the code of conduct? What is your familiarity to the code of conduct?
b. Provide an example of how you demonstrate personal accountability for your decisions.'
c. Summarize the differences between technical, social, professional, ethical and scientifically sound practice.
d. Provide examples from your experience of how ethical considerations might differ between cultural, scientific and legislative situations.

e. Provide examples from your experience of how you have differentiated between service to the public, profession, employer and resource.
f. How do you document your professional activities? Why is it important to do this?
g. Provide examples from your experience of how you have worked in the public's interest.
h. Provide examples from your experience of how you have applied ethics to your work.