

This package contains examples of good answers that were submitted for sit down portion of the 2008 RPF registration exam. Although the answers were chosen as the two better answers submitted in 2008, take note of the score each answer received and be advised that answers may contain errors. Some questions in this package were not answered by enough examinees to provide examples of at least one or two good answers.

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### Question 1 (Essay)

You are a forest professional employed by a larger licensee and you supervise contractors who harvest timber in the licensee's operating area. Under the Forest and Range Practices Act (FRPA), what do you need to communicate to the contractor, and what do you need to communicate to the machine operators working for the contractor? Why do you need to communicate this information? How do you communicate it? How do you manage the relationship between your on-the-ground-decisions and the work of the contractor and machine operators? **(10 marks)**

### Answer 1 (scored 9)

As a forest professional employed by a larger licensee supervising contractors who conduct timber harvesting in the operating area I would need to ensure that harvest plans and site plans were consistent with the results and strategies outlined in the licensee's FSP. The site plans and harvest plans would define how the results and strategies will be met and that the default practice requirements in FRPA will also be achieved. For example, the plans would detail the amount of permanent access structure, the percent allowable soil disturbance, and the width of riparian reserve and management zones. The information that would need to be communicated to the contractor would include the following:

- maps showing the cut block boundaries, special treatment areas, machine free zones, road location, proposed spoil sites, end-haul portions (if required)
- ribbons and colours used to indicate special treatment, road, or falling boundary
- roads that have specific design requirements in order to maintain natural drainage patterns, terrain stability and ensure safe fish passage at stream crossings
- the harvest method prescribed for the cutblock (ground, helicopter, or cable)
- the contractor will have to notify the DM or the licensee prior to starting harvesting and road construction
- if operating in a community watershed above a licence water facility (within 100m) the contractor should notify the holder of the facility
- trees in a riparian area must not be cut or modified unless building a stream crossing, removing a safety hazard, or facilitating cable harvesting
- must retain trees to maintain stream bank stability
- conduct practices at a time that is unlikely to impact fish (for example constructing a bridge during a fish window)
- retaining sufficient levels of coarse woody debris
- not to damage or render ineffective a wildlife habitat feature (for example heron, raptor, or eagle nest)
- not to damage or render ineffective a resource feature identified through a Government Actions Regulation for example Karst in the Haida Gwaii forest district
- the site plans and harvest plans that detail how the results and strategies of the FSP will be implemented at the cut block level

As a forester, I would need to communicate with the machine operators as they will be implementing the operations on the ground. I would communicate with them the importance of not introducing deleterious materials into streams, maintaining natural drainage patterns, avoiding soil

disturbance in sensitive sites, using designated trail locations or stream crossing for ground based harvesting. I would review the maps with the machine operators to ensure that trespass does not occur. I would also review road construction requirements for example if end haul was required where to place the material.

It is important to communicate this information to ensure that practices are implemented as prescribed. This also forms a part of my due diligence as a professional forester to ensure that the legislative requirements are met and that the results and strategies of the FSP are achieved. It is possible that the site plan and harvest plan have not clearly described how the prescription is to be implemented. By communicating the specifics and issues which may pose a high risk, I can clarify and emphasize practices that must be implemented. By communicating this information there is less chance of plans being implemented incorrectly. I am also contributing to maintaining the public trust in the profession by ensuring that harvesting practices and road construction is carried out in a way that meets the public values as defined in legislation (FRPA). I would communicate this information to the contractor and the machine operators by holding pre-work meetings. These would occur initially in the office where I would communicate with the contract representative and the on-site supervisor. This would be followed up with a field pre-work meeting with machine operators. I would want to see documentation showing the details of the pre-work meetings held between the on-site supervisor and machine operators prior to beginning work on site. I would manage the relationship between the on-the-ground decisions and the work of the contractor and machine operators by remaining in contact with the on-site supervisor. At the pre-work meeting I would specify a level of inspection requirements that would be submitted by the on-site supervisor depending on the risk assessment of the harvesting area. I would visit the site during active operations to ensure the contractor was meeting the intent of the site plans and harvest plans and take steps to correct actions that were not meeting the objectives. The number of site visits would be dependent on the risk assigned.

### **Answer 2 (scored 8.5)**

The essence of the Forest and Range Practices Act (FRPA) is the shift from a prescriptive regime to a results-based approach that is delivered by qualified resource professionals. As a professional forester, I am obligated to meet the objectives defined in the planning hierarchy of BC including Regional Land Use Plans and LRMP's (where applicable), Sustainable Resource Management Plans, objectives set by government (UWR's, OGMA's), Planning and Practices Regulation, Government Actions Regulation, the approved Forest Stewardship Plan, the site plan, and the cutting authority issued to the company by the MOFR.

As a harvesting supervisor and a professional forester I am not required to communicate or explain all of these objectives and plans to the harvesting contractor in order to harvest a portion of a forest licence. What I do need to explain and communicate is the details of the contract and the site that will allow the contractor to achieve the results that have been prescribed. These details will include an overview of the applicable results and strategies in the approved FSP, the applicable and appropriate practice requirements set out in the FPPR, the site plan and map that describe the stand level objectives and limits (soil disturbance, permanent access structures), and the contractual requirements agreed to and how they impact the site.

As a professional forester I must practice good stewardship (Bylaw 11.3.1) and ensure that I am diligent in all professional work. Therefore, an on-block pre-work with the contractor and the equipment operators would be appropriate so that I can explain the plan and the plan's objectives, and reference those objectives directly to the site. At the pre-work I would describe and show the contractor/operators riparian areas that must be avoided, prescribed wildlife tree patches, areas of sensitive soils, criteria for retention trees (if prescribed), protection of FN cultural heritage resources (if applicable), and frame all of these topics for the stewardship of the site and the safety of those working on the site during harvesting, but also into the future. This is an excellent opportunity to show and/or describe what danger trees are and how to avoid leaving them on site, as future silviculture treatments will also need to be conducted safely (Bylaw 11.3.10).

The information that I communicate is essential because in a results-based world, I will be held accountable not only to my plan, prescription, and process, but to the on-the-ground results that I have achieved. Therefore I must satisfy myself that my planning is sound, I am competent in my practice, I have followed the principles of due diligence, and am promoting good forest stewardship. By communicating these responsibilities and objectives to the contractor and the operators, I am not only ensuring that my results are achieved, I am helping them to plan their operations in a safe and efficient manner. By helping them to be successful, I am inspiring confidence in the profession and am raising the profile of the forest professional in the forest, not just behind the desk (Bylaw 11.4.1).

Communication of this vital information can take a variety of forms, but two forms are absolutely necessary. The first is on-site, face to face communication whereby I can gauge the level of understanding and ensure that my instructions are complete and correct. The second type is written. By documenting all communication in writing and providing a copy to the contractor, a copy to my employer's file, and a copy to my own professional practice file (as well as any ancillary documents) I can ensure my own due diligence and have appropriate access to documents should my reputation or integrity be called into question (Bylaw 12.5.1, Guidelines to Interpretation).

The relationship that I maintain with the contractor with regard to my on-the-ground decisions and his work will be characterized by respectful regard. If, through reference checks, credentials, or past personal experience, I have confidence that the contractor will achieve my prescribed results, then I allow him to conduct operations as he sees fit. Through diligent communication, feedback, and supervision I will work with the contractor to ensure that the results of his work reflect my obligations and objectives, while actively seeking to improve the safety and efficiency of his operations.

### Question 2 (Essay)

You are a forest professional that prepares and submits appraisals. What do you do to ensure your appraisals are accurate? How do you handle areas within an appraisal manual that require interpretation? How do you handle situations where the person reviewing the appraisal has a different opinion than you on an area of interpretation? Explain using examples. **(10 marks)**

**Answer 1 (scored 8.5)**

As a registered professional forester I must adhere to the Bylaws and guidelines provided to me by the ABCFP. In signing and submitting appraisals I must be certain that my appraisal reflects Bylaw 11.3.1 in that I am practicing good stewardship of the forest land base, as well as Bylaw 12.6.1, in that I am balancing present and future values against the capacity of the land to provide those values. More specifically, my submission must meet all of the Standards of Professional Practice (Bylaw 12, ABCFP). To meet the "Competence Standard" I must be certain that I have received appropriate training in using the BC Appraisal Manual (Coast or Interior as applicable) and that I have experience and/or training in the use of the MOFR's ECAS (electronic cruising and appraisal system).

Secondly, I must meet the Completeness and Correctness Standard, and I would do that by ensuring that I have knowledge of the operations related to the appraisal (ie. site, cruise, roads, harvesting methods), and if I did not personally perform the work, I would need to ensure that I have confidence in, and knowledge of the experience, designation, and education of the individuals who did perform the work. I may still sign and seal the submission, but I would attach a certification statement in accordance with ABCFP Bylaws 13.2.1 and 13.2.2 (Notice to the Profession, ABCFP, 2001). In execution of this standard I must be certain that my submission utilizes the best information available at the time of signing and reflects current plans and appropriate data. Thirdly, I must meet the Due Diligence Standard in that I am satisfied that:

- All relevant legal requirements have been met
- I have a clear understanding of the objectives of my employer
- I am or have become familiar with the relevant characteristics of the area (as discussed above)
- The submission is logical given my experience and knowledge
- A proper peer review is in place for concepts as well as errors and omissions
- And, proper support information is submitted with the appraisal or is available upon request.

-(ABCFP Bylaw 12.5.1 and Notice to the Profession, ABCFP, 2001)

Within the appraisal manual there are areas that require professional judgement and interpretation. Provided that I am competent to submit the appraisal, I will apply the Standard of Independence and use my education, working knowledge, and experience to apply objective professional judgement. The principle of objectivity imposes an obligation to be impartial and intellectually honest. If however, I am unsure of the route to follow, I would talk to a respected colleague for advice, or speak to an individual at the MOFR District office who is an expert in the interpretation portion of the appraisal.

Finally, if a reviewing professional has a different opinion in the interpretation than my own, I would speak to the individual, showing respectful regard, and explain the thought process and evidence (cruise comp., maps, soil surveys) that I used to arrive at my decision. If a disagreement of professional opinion still exists and I deem it to be valid and not infringing on my professional independence, I may consider altering my submission. However, if the matter is of personal opinion, I may respectfully ask that my appraisal is reviewed by another competent peer, or is accepted as is.

One common area of interpretation in appraisals is the amount of required gravel or crush on a particular road segment that is being appraised. Often, a submitting professional will prescribe more gravel to maintain the road prism for the sake of safety. If the reviewer feels this level or amount of gravel is unnecessary, I would point to other segments of road in the area that were satisfactory or unsafe, and helped to form the basis for my decision.

### Answer 2 (scored 8)

This question is very relevant as in my current position I am responsible for completing appraisals which are then submitted by either a RFT or RPF. In order to ensure my appraisals are accurate I consult the most current version of the Coast Appraisal Manual or Interior Appraisal Manual. I visit the revenue branch website to see if there has been any updates; for example information regarding trucked in fill > 3.2km. I review the field data collected in the field to ensure that it is correct, complete, free of omissions and errors. I review the cruise cards, cruise map and compilation to ensure that it meets the standards outline in the cruise manual. I ensure that all maps are clearly marked and contain the correct road names and falling corners as labelled in the field. If I have not completed the field work myself, I ensure that the work is completed by people who are competent as determined in accordance with the relevant legislation (ABCFP, ABEG BC) having direct and personal knowledge of their skills, experience and qualifications and reviewing all submitted work. For situations requiring a detailed engineering cost estimate, I would consult with specialists in the field as well as the appropriate appraisal manual for current costs.

If I was to encounter a situation with an appraisal manual that required clarification I would begin by consulting peers who may have submitted similar appraisals before. For example, for the first appraisal I prepared that required entering road information using bank height methodology I consulted with a peer who had already successfully completed an appraisal submission using this new method. The peer was able to direct me to a training power point presentation which clarified the issue. Also, when I was assisting another peer prepare their first appraisal using bank height methodology, we visited a site to look at existing roads constructed adjacent to the cut block to be appraised. If consulting with peers or local experts does not provide the required clarification, as professional could contact the regional appraisal staff.

Another situation in which I required clarification was around re-activation of an old road. In this case I consulted the district tenures technicians and conducted a joint field visit of the site to determine which sections of road were eligible. In all appraisal submissions I ensure that the information submitted is in line with a professional quality plan. These submissions are:

- free from errors and omissions
- scientifically and technically sound
- meet the requirements of the current appropriate appraisal manual and cruise manual
- provide comments to provide clarification if and when required

Also, prior to making a submission I ensure that the appraisal is peer reviewed.

If there was a situation where the person reviewing the appraisal had a different opinion from my own or a different interpretation I would ensure that all dialogue was completed in a respectful



manner. I am aware that the reviewer is responsible for the quality of the review and not for the content of the submission.

For example, the most recent appraisal that I worked on was returned for clarification. The reviewer sent the comments via E-CAS. Upon review of their comments I was able to see that there were some errors with the submission in that the wrong road names were used on the culvert table and that surfacing had been applied for on a road where it would not be required. These changes were made. However, the reviewer made an error in interpretation of a map that was clarified first through a comment, which was then followed up with a face-to-face meeting. During this exchange, all discussions were respectful and did not criticize either the reviewer or the submitter.

However, there could arise a situation in which the reviewer is in strong disagreement with the submitting professional. In this case, if agreement can not be reached, it may be worth consulting a third opinion or some one with specialized knowledge in respect to the issue. If this fails to result in a mutual-agreed upon solution the reviewer can document their concerns and provide a written rationale as to the technical errors with the appraisal submission. The reviewer can not force their opinion on to the submitting forester. If it is a matter of a technical error, the submitting forester or technician would have to consult the relevant manuals to ensure that their original submission was correct. The best means to achieve a resolution between two professionals that have a disagreement is initially a verbal or face to face discussion of the issue. Further clarification may solve the dispute. Secondly, if verbal discussion fails to result in a satisfactory decision for both parties; a second or third opinion should be consulted.

### Question 3 (Essay)

As a Registered Professional Forester employed by a local licensee, you are in charge of Forest Stewardship Plan (FSP) implementation in your operating area. During a 60 day review period for a FSP amendment, a local environmental group representative writes to complain that species at risk in your operating area are dying a "death by a thousand cuts" as there is "no legislation in place to manage specific wildlife habitat features" and "broad landscape level planning is too fragmented to be effective". How do you respond (reference all applicable legislation, operation plans and operational activities that may defend your position)? **(10 marks)**

### Answer 1 (scored 9)

As a professional forester I have a legal and ethical obligation to manage species at risk while applying good forest stewardship principles and upholding public values in all the work I do. In providing a response to public members concerns regarding species at risk (SAR) I will consider all my ethical obligations under the Forest Act and the bylaws. I have a legal obligation under FPPR s.22 to consider any comments received during public review and comment (R/C) that are relevant to the plan amendment. In this I am assuming the comments to be relevant. Further to this some of my ethical obligations to the public under bylaw 11 are to advocate and practice good forest stewardship (11.3.1), to have regard for existing legislation and policy (11.3.3), to uphold my

professional principles above the demands of employment (11.3.2) and to work to improve practices effected forest stewardship (11.3.5).

Considering all of these legal and ethical obligations I would then proceed to inform the lady of how SAR are currently managed in the legislative framework. The Species at Risk Act (SARA) applies to all federal lands where wildlife species are listed as being at risk and their critical habitat. It also provides for SAR recovery and management options. Provincially, and more applicable to the Forest Stewardship Plan (FSP), is the Wildlife Act, Forest and Range Practices Act (FRPA), the conservation data centre (CDC) and the Identified Wildlife Management Strategy (IWMS).

Specifically the Wildlife Act protects almost all vertebrate animals from direct harm. It also allows for the legal designation of a species and enables protection of habitat under Critical Wildlife Management Areas. The FRPA can designate a species at risk (ie. Identified wildlife), is the species requires special management to address impacts of forest and range activities. Further to this, the Minister of Environment can also establish a list of Wildlife Habitat Features that cannot be damaged or rendered ineffective (i.e very site specific, examples goshawk nests, bear dens).

The role of the CDC is to collect data and rank species at risk in BC. This information is provided in an on-line database to which all forest managers have access. CDC species are not legally protected unless identified in SARA or the Wildlife Act.

The IWMS is a further component of FRPA with a goal to minimize the effects of forest and range practices on Identified Wildlife (through FRPA). Identified Wildlife are managed through 3 mechanisms: establishment of Wildlife Habitat Areas (WHAs) (can be licensee driven on TFLs, TSAs or enforced by section 7 orders by the MOE), implementation of General Wildlife Measures (GWMS) or through other management practices set out in higher level plans.

At the operational planning stage I would ensure he that we continue to manage for SAR through development of Site Plans (SPs). SPs contain assessments for wildlife, riparian and biodiversity and are often carried out by biologists or other experts and always by a registered professional forester. Within each block and road SP wildlife is managed at the stand level through the establishment of coarse woody debris (CWD), which provides habitat for many species and contributes to soil moisture (min levels set out in FPPR) and wildlife tree retention (WTR) which provides structure in every block, contributes to CWD and provides habitat and connectivity for larger wildlife. Further to this I would add that WTR amount and placement is up to professional opinion and also open to public input.

At the operational activity there are further mechanisms built into planning process to ensure adequate protection of SAR. I would ensure her that all blocks/roads prior to harvest commencement are visited by the contractor or supervisor and a registered professional to communicate the relative elements of the SP and any site specific features to be aware of (ex. bird nests, riparian management areas, fish creeks). At this time we also explain all conditions for stop work orders where by a SAR not previously identified or present is located in the block.

I further explain that not all impacts to the land-vase are a result of licensed timber harvesting. Examples of other impacts are oil and gas exploration, climate change, disease, pollution and hunting.

After explaining my professional obligations as well as the legislative hierarchy, I would explaining to her funding options for recovery planning if she has a specific concern. I offer to assist her in developing a plan/proposal for money under the forest investment account (FIA).

I will continue to engage with this member of the public and work to inspire confidence in my professional (11.4.1). I will continue with the FSP amendment and incorporate any ideas she may have that are relevant and practicable to the plan implementation.

### Answer 2 (scored 9)

As a professional forester who encounters statements or perceptions made by the public that do not reflect true statements regarding forestry matters it is my responsibility to address those comments. I must extend public knowledge of forestry, and promote truthful and accurate statements on forestry matters (11.3.6). In doing this I may not misrepresent facts (11.4.4) and must address the matter so as to inspire confidence in the profession by maintaining high standard of conduct (11.4.1) set out in the Association's Code of Ethics and Standards of Professional Practice.

My response will address each misleading or exaggerated statement. I will state that forestry practices are well regulated regarding species at risk and that our provincial species management framework is guided by the Species at Risk Act (SARA). Through this, we are aware of what we need to manage and that we work to prevent Canadian indigenous species, subspecies and distinct populations from becoming extirpated or extinct. Hence, the statement that species at risk in our operating are dying "a death of a thousand cuts" is false. To support this, the Conservation Data Center provides provincial red and blue lists based on the Species at risk candidate list. This information is in a database and acts as a tool for managers and planners needing information on specific species. This information is used in Provincial legislation for further planning efforts. The following information on provincial legislation will prove that legislation is in place "to manage specific wildlife habitat features. The Wildlife Amendment Act, 2004, addresses species legally endangered at present including Vancouver Island Marmot, the Burrowing Owl and several others. This Act is specific to the species addressed in it. Other legislation covers the remaining species not in the Wildlife Amendment Act. The Forest and Range Practices Act (FRPA) which guides forest and range activities. Specific to FRPA, a fine-filter approach is taken through the identified Wildlife Management Strategy (IWMS). This approach to species management provides protection to identified plants and animals not achieved via coarse filter approaches. Specifically, IWMS is aimed at minimizing the affects of forest and range practices on identified wildlife situated on Crown land.

IWMS has 3 measures to address identified wildlife needs: 1) General Wildlife Measures, 2) Creation of Wildlife Habitat areas, 3) Inclusion of higher level plan objectives that have been included in the legal realm.

In addition to the Wildlife Amendment Act and FRPA other legislation exists to ensure species at risk are protected in BC. These include: Land Act, Water Act, Parks and Protected Area Act. These Acts help guide Higher Level Planning processes. Although the writer believes these "broad landscape level planning [processes are] too fragmented to be effective", the knowledge that the process consider such integral elements to species at risk helps to dissolve this statement. Higher level planning tables cannot ignore species protection because of these Acts.

To conclude my response, I will outline to the concerned public member that there are various processes protecting species at risk in BC that start at the Federal Level through the Species at Risk Act, and continue to a fine filter level through IWMS. I would then say that these systems and pieces of legislation are extremely relevant to resource managers because they allow us to know what is there to be managed and what the species needs are. In addition, the systems support and promote excellent resource management so that we, as resource managers, may ensure the species are available to future generations.

#### Question 4 (Essay)

You recently joined a forest licensee as a forest planner. At a yearly meeting with local First Nations, they express concern that many of their traditional and medicinal plants may potentially be damaged and left unusable by forest activities in their treaty areas. Explain what non-timber forest products are, and in the context of your Forest Stewardship Plan, the steps you could take to protect these non-legislated resource values in the operating areas. **(10 marks)**

#### Answer 1 (scored 8.5)

As a forest professional it is my duty to “advocate and practice good stewardship of forest land based on sound ecological principles to sustain its ability to provide those values that have been assigned by society” (Bylaw 11.3.1). One of these values, as expressed by legislation, is cultural heritage resources (CHR). The Forest and Range Practices Act FRPA defines a CHR in section 1 as “an object, a site, or the location of a traditional societal practice that is of historical, cultural or archaeological significance to BC, a community or an aboriginal people (Section 1 FRPA). A definition of a non timber forest product (NTFP) is “a term to describe forest plants that are used for a variety of uses, other than timber.” NTFPs are often CHRs, which are assigned value under FRPA and the FPPR (Forest Planning and Practices Regulation). NTFPs are not directly managed for under regulation other than in this way. Community Forest Licences can legally provide rights to the holder to harvest NTFPs for a fee (called botanical forest products), however specific regulations have not been set up to provide details of the workings. Section 168 of FRPA enables the creation of such regulations.

In order to “demonstrate stewardship by balancing present and future values against the capacity of the land to provide for those values” (Bylaw 12.6.1) – which is the main concern for the First Nations (F.N.) group – I must address CHRs in my FSP (Forest Stewardship Plan).

CHRs are one of the content requirements of an FSP. Section 10 of the FPPR requires forest professionals to ensure that CHRs are conserved or if necessary protected. This is important because CHRs are not protected as arch sites under the conservation heritage act (CHA). I would ensure that my FSP had the content requirements related to CHRs.

The government has an obligation to not unjustifiably infringe on F.N. rights. If unjustifiable infringement occurs accommodation may be required (as layed out in the Delgamuukw case (Sect 35 Constitution Act Requirements) in 1997. If I was a planner for BCTS, (British Columbia Timber Sales), I would be directly affected by this concept. The Timber Sales Manager (TSM) is

responsible for adequate First Nations consultation. As such I would ensure that proper information sharing (on Landscape or Forest Development Unit scale; and site level scale) occurs. I would need to ensure that I provide FN with the ability to continue access to NTFS or CHRs.

When I am preparing the FSP and conducting FN info-sharing I must ensure that I diligently consider the F.N. comments and plan harvesting so that F.N. issues are addressed and also balance that with the timber objective in FRPA (not unduly restrict the supply of timber).

F.N. info sharing and possibly getting AIAs and cultural heritage resource reconnaissance done on cut blocks based on an overview assessment of the F.N. traditional territory is another step in ensuring that the NTFPs are considered. I could write specific strategies into the FSP (without being too prescriptive) that could put in place a procedure for addressing NTFPs through CHR management. If I believe that not enough is being done to protect CHR/NTFP values then I could work to improve policies that are in place including amending the FSP (Bylaw 11.3.5).

### Answer 2 (scored 9)

Non-timber forest products (NTFPs) are botanical and mycological products and associated services of the forest other than timber, pulpwood, shakes or other wood products (Royal Roads NTFP course). Examples of NTFPs are mushrooms, berries, hunting, forage, lichens, fish, water, feathers... Many First Nations depend on these products for traditional uses and cultural ties; hunting and forage have been identified as aboriginal rights under section 35 of the Constitution Act (1982).

Although NTFPs are non-legislated (not addressed under FRPA specifically – some aspects are covered under FRPA Cultural Heritage Resources objectives FPPR section 10) professionals should try to learn about NTFPs, what they are, who uses them and how they are adversely affected. As NTFP users are members of the public and First Nations, professionals have a responsibility to work to improve practices for them (bylaw 11.3.5). This can be done by building relationships with the NTFP community, advocate for NTFP harvesting sustainability, where NTFP harvesting should be avoided (research trials/ecological reserves), encourage communication between NTFP users and First Nations, and learn First Nations traditional uses. To try to implement a system, the professional can work with users and the government to start pilot projects and to for future policy.

When preparing an FSP there are several steps that can be taken, above and beyond legislated requirements, to protect NTFPs: (including the steps mentioned above)

To include NTFP values in the FSP you must gain a substantial understanding of how they are affected by forest activities so you can design activities to avoid negative impacts. This is done by consulting with users to determine what they have seen and possibly setting up research trials. Although not a requirement under FRPA, an FSP could also set out results and strategies for NTFPs if a licensee chooses to (based on info gathered as discussed above). FRPA requires licensees to consult with First Nations regarding their aboriginal rights and treaty rights, these consultation obligations can be used to also discuss NTFPs. Once enough knowledge has been gathered to effectively protect NTFPs, targets and objectives can be included in an FSP. It is also

important to determine the affects of NTFP management of timber supply as well as other social and economic impacts to ensure all values are balanced.

NTFPs can also be potentially addressed through government establishing objectives through higher level plans and to designate them as FRPA objectives under the Land Act. This would require all licensees to recognize NTFPs and to protect them under their FSP, rather than just allowing them to choose to do so. Regardless, professional members are held to address public values/interests and this includes NTFP – here identified verbally as a value by local First Nations – by demonstrating professional independence a forester can propose the inclusion of NTFPs in their employer's FSP. To be included in the FSP a result and or strategy must be measurable and verifiable to allow for proper evaluation of success, an inventory is required to do so. NTFP inventories are expensive and time consuming and should be funded by those deriving income from the activities.

### Question 5 (Essay)

You work in the planning and implementing of harvesting operations in BC. Your supervisor has asked that you develop a plan to selectively harvest 30% of the timber from a timber type in a land polygon that has very high visual quality, is currently not part of the timber harvesting profile and has not been used in the timber supply analysis for the region. Your supervisor believes that this is a one time opportunity to capture volume that would not otherwise be available. The opportunity exists if you can plan the operation in such a way that no visual evidence would be obvious from a distance of 500 meters. The opportunity is also dependent on harvesting the highest value trees and not carrying any reforestation costs or obligations because the area is stocked to meet the visual attributes and is not a future timber value.

- a) Does this scenario meet the stewardship standard in Bylaw 12 Standards of Professional Practice? **(5 marks)**
- b) Discuss three factors you would consider in developing the plan and relate the factors to the stewardship standard of Bylaw 12 Standards of Professional Practice. **(5 marks)**

### Answer 1 (scored 10)

a) The proposition by my supervisor addresses the legal requirements. Visual objectives will be met and regeneration requirements (or lack thereof) are addressed due to the species not being accounted for in the most current timber supply calculation. Yet, his proposition does not meet the stewardship standard in Bylaw 12. The Stewardship standard (12.6.1) states: "Members demonstrate stewardship by balancing present and future values against the capacity of the land to provide for those values." (ABC FP – SOPP Guidelines for Interpretation, 2002). Nothing in the standard speaks to the legality of activities. Yet, it does address the balancing of future and present values. The proposition from my supervisor addresses the present values of visual quality but explicitly ignores the future values of having that timber at an adequate stocking level on the site for the future. Values change frequently and just because the species is not commercially valuable or accounted for currently, does not mean that it won't be in the future. Additionally, commercial value is just on variable of "value". There are intrinsic values associated as well. The

tree species may be a good nutrient fixer (like red alder) and provides value to the species around it. The tree species may have a value to specific wildlife or to First Nations for traditional use purposes. The value of the species remaining on the site may outweigh its commercial value. It would be irresponsible and contravene the stewardship standard to thoughtlessly remove the species without the intention of reforesting the area or carrying out silviculture practices to promote regeneration and provide/maintain the values for the future.

b) When developing the plan, there are several factors I would consider. First, I would consider the present value of the resources to society. Since the particular species is not addressed in the timber supply analysis for the region, I will assume that society has more intrinsic values associated with the resource. I would engage in public consultation and do literature reviews to investigate the value of the resource. This will help address the present value of the resource, as identified in the Stewardship Standard and how best to manage it.

Second, I would consider the future value of the resource and how to maintain it. To do this, I would advocate to my supervisor that reforesting the harvested area to current conditions is important to maintain the resource for the future. Also, that cutting a profile, not just high-grade the stand is the best stewardship. I would prepare a silviculture plan and prescribe appropriate silviculture techniques coupled with appropriate monitoring schemes to attain a sustainable level of the resource, at the stand level, for the future. This will ensure that the future levels of the resource are addressed as per the Stewardship standard.

Third, I would consider the ecological aspects of harvesting the area. This is related to the concept of "capacity of the land to provide..." for the present and future values above. I would survey the area and perform a proper silviculture prescription to identify the ecosystem classification of the site. This will allow me to understand the capacity available in the stand to provide for the future. It will also help me identify the methods necessary to return the stand to its natural state because I would have a survey of what was present pre-harvest.

The key to ensuring that the harvesting of the area is consistent with the stewardship standard is to understand that regardless of commercial values, societal and intrinsic values are just as important. By not identifying those values because the species is not commercially valuable would be detrimental to good forest stewardship. And by not understanding the ecosystem we are planning on, we may not understand the capacity that the land has to provide for the future.

#### Answer 2 (scored 10)

a) Selective harvesting in an area with high visual sensitivity is an appropriate decision. However, one time opportunity cuts which leave little value for future options may not be appropriate.

Bylaw 12.6.1 states that members demonstrate stewardship by balancing present and future values against the capacity of the land to provide for those values. At this level of interpretation, the selective harvesting scenario does not meet this stewardship standard as my supervisor has explicitly stated future timber value is not being considered. ABCFP Standards of Professional Practice: Guidelines for Interpretation further elaborate that stewardship recognizes complex biotic

systems, competing interests and values, and obligations to future generations. This further supports the determination that the scenario does not meet the stewardship standard.

However, as the term “balance” suggests weighing, each decision we make may place greater weight on one side or another. We can achieve balance in two ways: by making each plan or prescription balance the economic, ecological, social and cultural benefits; or by making a series of plans or prescriptions that achieve balance by their sum (ABCFP – Interpreting the Public’s Interest, 2002). With this in mind, the decision to remove value from a stand without considering replacing that value for the future may be acceptable depending on a number of important factors. Such factors can include:

- 1- Clearly defining objectives and linking the objectives with the activities and resulting forest condition.
- 2- Providing clear limits to the scale and scope of the activity. As a balance must be struck overall, this scenario must be limited.
- 3- Continually monitor activities to assess success and compliance with stated objectives.
- 4- Adjust and improve practices with time.
- 5- Apply these practices only as a “last resort” ie: examine all other options and be able to show that this “opportunity cutting” was the only viable method available.

I therefore conclude that this scenario, when viewed in a narrow or limited perspective, does not satisfy the Bylaw 12 Stewardship Standard. I also feel that, given certain conditions and assumptions are satisfied, when viewed from a landscape level perspective, the scenario could be appropriate and could satisfy the Bylaw 12 Stewardship Standard.

b) Stewardship includes the application of an ecological understanding at the stand, forest and landscape levels and is based upon an ethical responsibility to the land and the place of people in the natural world. Stewardship employs well-crafted solutions tailored specifically to each problem and embraces the diversity and complexity of the task at hand (ABCFP Standards of Professional Practice: Guidelines for Interpretation).

In developing this plan I must first ensure that I am competent to perform the task. I must the qualifications necessary to deal with the matter in question. This includes the following (from ABCFP Notice to the Profession, 2008):

- Knowledge of high retention harvesting practices including Coast Region Implementation Team papers, seeking advice from experts in the area of silviculture strategies (eg: WFP MASS research); use collective knowledge and mentoring of peers; results from the workshop in Tofino 2007, university studies and research/literature, etc.
- Completeness and Correctness – my plan and associated work products will be free from errors and omissions, be scientifically and technically sound, provide a clear analysis of options and associated risks and balance the expectations of the public, profession and my employer.



- Professional Care is the degree of care that a prudent professional will exercise to avoid reasonably foreseeable negative consequences. This means my plan will be supported by sufficient rationale so that others can implement the plan or action and meet the objectives and commitments embodied in the work. The rationale will serve as a demonstration that professional judgment has been applied to the prescription. As part of professional care, I must ensure I have a full understanding of the issues, values, and ecology of the area.

The second factor I would consider is my Ancillary Documents and supporting rationale. Professional rationales are necessary to ensure correct implementation of the plan, express the progression of thought toward the decision, and confirm the application of professional judgment. This also demonstrates and satisfies professional due diligence.

My rationale will:

- contain brief background info to explain the intent of the objectives, decisions and plan.
- contain detailed information to support the development and implementation of the harvesting and silviculture system.
- It will show how other systems and courses of action for achieving the objectives were considered.
- Provide a brief prediction or evaluation of the possible consequences of each alternative.
- Provide clear direction for the scale and scope of use of this harvesting technique.  
(from ABCFP Guidance for Prof. Quality Rationales, 2008)

The third factor I would consider in preparing this plan is to develop and implement practices that may enable standards to be set that will guide the appropriate application of this technique in the future. To this I would;

- support the development and delivery of field based training sessions to help improve understanding for those involved with planning and implementing these systems
- support the development of appropriate stocking standards
- collaboratively work towards identifying the situations and circumstances where it is appropriate to prescribe such systems.
- support continued monitoring
- support future research targeted at quantifying the growth and yield impacts of these systems
- support the inclusion of opportunity cut options in the Timber Supply Review (TSR) and expanding the Timber Harvesting Landbase
- support the inclusion of Value in the TSR as opposed to simply volume.

### Question 6 (Short Answer)

You have just finished auditing a set of cutblocks harvested using variable retention. Prescriptions (Site Plans) for these blocks were prepared by Registered Professional Foresters. You are

concerned that the species and grades of timber removed from the block are more valuable than the timber that has been left standing; the timber left standing has poor growth potential and will shade regeneration; and, that there are inadequate microsites for regeneration. a) What policy issues are at stake? b) What professional issues are at stake? c) What actions will you take? **(10 marks)**

**Answer 1 (scored 10)**

a). After auditing cutblocks with variable retention and where I believe timber left standing has poor growth potential and will shade regeneration, I believe the following policy issues are at stake:

1. Timber Value at Risk – the objective for timber under sec 5-10 of the Forest Planning and Practices Regulation (FPPR) says to “maintain and enhance an economically valuable supply of commercial timber from BC’s forests”. The limitations that this harvesting has left on the existing stands put this value at risk. Poor growth potential and shading will significantly lower the timber production rate in this spot.

2. Stocking Standard Non-Compliance – as outlined in the FPPR sec 26(3) “standards will result in the area being restocked with ecologically suitable species”. The current state of the areas does not reflect this policy commitment.

3. Timber Supply Review (TSR) Impacts – as there has clearly been an impact to timber supply, was this considered in plan development. Chief Forester will have to consider reduction and quality implications and species shift if poor regeneration (i.e. Cw to Hw). At future TSR Chief Forester will have to consider the scope of the problem (i.e. extension across landbase) and scale.

4. Risk to Other Values – What will be the impact to other values as identified under FPPR ex. biodiversity and wildlife. The objectives for wildlife are to conserve sufficient wildlife habitat in terms of amount, distribution and attributes. And for biodiversity to the extent practicable design areas where harvesting is carried out that resembles ... patterns of natural disturbance. Neither of the objectives seem to be protected in the current design and implementation of harvest under the site plans.

5. Forest Health – it is apparent that the preparation of the SPs the professional has not accounted for forest health issues. It is a requirement under FRPA 29 to “establish a FTG stand of healthy, well-spaced trees”. The current state of the blocks do not represent this condition or show and possible trend towards that condition.

b). The following Professional issues are also apparent:

1. Failure to meet completeness/correctness standard – this is apparent in the lack of stocking standards applicability and Forest Health considerations. Also SP R/S were not appropriate to meet legislated objectives.

2. Failure to Inspire Confidence (11.4.1) – as the reviewing Forester I would question the prescribing foresters ability to inspire confidence in the profession. Furthermore the inadequacy of the plans would lead me to question the practicality and applicability of Professional Reliance.

3. Failure to practice good forest stewardship (11.3.1) – the site conditions left on site do not represent good forest stewardship. The member has a responsibility to uphold professional principles above the demands of employment (11.3.2).

4. Lack of Due Diligence – it appears that the prescribing Forester could have failed to follow up to ensure plans were implemented as prescribed. If this was the case the member was not duly diligent in ensuring the prescription was followed.

4. Failure to have regard for existing legislation...policy (11.3.3) the prescribing forest did not balance the current legislative framework with the values of those who derive benefit from the forest resource. While partial retention may appear to meet some value such as visuals (ie. From the water) this particular case ignored rather than balanced the other values.

c). As a member of the ABCFP I would take the following actions:

1. Confirm all facts and speak to a peer about the situation for a 3<sup>rd</sup> party opinion (11.3.9)
2. I would speak to the member who prescribed the plans. Ensuring to abstain from undignified public communication (11.6.1)
3. I would encourage the member to review his work and correct or develop mitigative measures.
4. I would advise the member of the practice advisory council or the continuing competency program if he felt he needed further assistance.
5. If not possible to resolve with the individual I would inform the ABCFP council of his actions (11.3.4.2)

Throughout this process I would be obligated to practice good forest stewardship and uphold public values under the Forest Act and Bylaws. I would ensure that I practice due diligence and maintain documentation of all my decisions.

## Answer 2 (scored 10)

a) Policy issues at stake:

A set of cutblocks that has been harvested in this case by be an example of “high grading” and affects many aspects of policy:

- Future timber supply
- What was the purpose of retaining these trees?
- Regenerating stands (free growing goals)
- Biodiversity requirements (retaining representative species/grades)

Future timber supply is linked to free growing achievement, in this case, the stand is difficult to regenerate which will adversely affect the timber supply, and in addition, species and condition of trees left behind do not reflect the stand before harvest. Therefore, this site could potentially low density and low grade in the future. This goes against FRPA timber policy objective, “to maintain or enhance an economically valuable supply of commercial timber from BC’s forests” (FPPR s.41-46). In addition, the trees retained on site may contribute further to undesirable species by being seed trees or parent trees.

Biodiversity goals have also not been achieved if trees left on site are not representative of stand before harvest – current stand level biodiversity policy (FPPR s.66).

Stocking standards approved under the licensee's FSP must be approved, what stocking standards has been chosen for the site? Will overstory trees be accounted for, was rationale provided?

b) Professional issues at stake?

If "high-grading" has been shown as per the cruise (stand before harvest data vs. post harvest) then there are some professional issues at stake.

- Does the site plan reflect what has occurred on the ground?
- If so, does the site plan provide rationale?
- Assuming no rationale is provided what is the plan for reforestation, are they reasonable? (did they prescribe planting shade tolerant species)
- If the plan does not account for legislation (retention rules, timber supply...) then were the plans prepared an example of negligence on the part of the RPFs?

Professional issues at stake: (Code of ethics, Standards of Professional Practice bylaws 11 and 12)

- Competence
- Good Stewardship
- Professional independence
- Professional integrity
- Due diligence

If in fact the professional was found to be negligent they did not have regard and were not guided by the above principles.

c) What actions would I take?

- Discuss the situation with the signing RPF(s) – with respectful regard (bylaw 11.2.4) as a responsibility to the other member.
- Find out what their rationale was because perhaps I am missing something (a document, notes...)
- If they do not have rationale, for example, did what they were told to do (did not demonstrate professional independence) by their employer, would try to rectify the situation by addressing the issues at the site. May need to harvest remaining trees to improve site condition for regeneration. May need to assign new WTP if retention was counted toward biodiversity objectives.
- If professional refuses to rectify the situation I will notify their employer of the situation in hopes that they will rectify the problem.
- If the employer refuses/disagrees I will contact the Association for advice on how to proceed further. This may entail a written complaint to the registrar and a start of the ABCFP complaint resolution process (bylaw 14) and determinations by the Complaints Resolution Committee, Standing Investigation Committee or resolution by alternate dispute

resolution. Throughout the process I will show respectful regard to the other members and ensure, as it is my professional duty, to advocate for good forest stewardship and practices of the of the province's forest resources.

### Question 7 (Essay)

Climate change models are predicting that the distribution of Biogeoclimatic Zones in BC will change over the next 50 years. This may result in site conditions that do not support good growth of some of the tree species that are currently growing there. There are also concerns about increased insect or disease damage due to climate change. Some researchers are recommending that species be planted outside of their current range. This is called 'assisted migration'. Discuss the potential policy and professional issues regarding assisted migration. **(10 marks)**

### Answer 1 (scored 10)

Climate change is definitely an emerging issue and will likely have serious impacts to forest management in BC. However, the science behind climate change is young, there is a consensus that the climate is changing, however the impacts to BC are not clearly understood at this time. The Intergovernmental Panel of Climate Change (IPCC) states that there has been climate-related changes to arctic temperatures, ice levels (sea), changes in precipitation, ocean salinity, wind patterns, droughts, heat waves, heavy precipitation and intensity of cyclones (Policy Review Guide, 2008). In BC, the predicted changes include the incidence and severity of floods, droughts, fires and pest outbreaks.

The current policy relating to climate change includes the Greenhouse Gas Reduction Targets Act (introduced in Nov 2007). This Act makes BC's reduction of greenhouse gasses (33% below 2007 levels by 2020) law. Other policies, including the Greenhouse Gas Reduction Act and its associated Bill 16 also speak to managing climate change by setting benchmarks for the amount of renewable fuel in BC's transportation fuel blends as well as others...With respect to "assisted migration", current policy does not specify that tree species should be planted in an area where they will endure the impacts of climate change.

The current policy FRPA for timber is an objective set by government is to "maintain or enhance an economically valuable supply of commercial timber from British Columbia's forests" (Policy Review Guide, 2008). The FRPA S.29 states that major licence holders, community forest agreement holders, timber sales managers, and woodlot license holders are to establish a free-growing stand on a harvested area in accordance with the applicable stocking standards in the approved FSP (or WL) for the area. These stocking standards are approved by the Minister (or delegate) (S. 16 FRPA) and are applicable to the FDU and licensee.

This is an important consideration for "future" climate change implications. S.26(3) FRPA states that the Minister "must approve the stocking standards if satisfied that the standards will result in the area being stocked with ecologically suitable species that address immediate and long-term forest health issues to a density or basal area that is consistent with objectives for timber and

consistent with timber supply analysis and FM assumptions". The Minister can also request any additional information regarding the standards that they require to make a determination.

In addition, the use of tree seed is regulated under FRPA and its regulations and standards, with the purpose being the maintenance, identity, adaptability, diversity, and productivity of the Provinces gene resources (Policy Review Guide, 2008). FRPA S. 31 requires a person to use seed in accordance with the prescribed requirements when establishing a free-growing stand. In Nov 2004 the Chief Forester established the CF Standards for Seed Use, which unlike stocking standards have the weight of law.

With respect to assisted migration, the current policy framework does not deal with issue explicitly. Instead, minor adjustments to policy will be implemented this fall 2008 that will allow a new system of matching seed with planting site based on future projected climate change.

The decisions that forest professionals make regarding suitable species to use during reforestation must be based on sound scientific data (tests) (Bylaw 11.4.2).

Currently, there are a couple of initiatives in BC designed to evaluate the impact of climate change on forest management in BC. Programs like BC Climate Change Initiative and Future Forest Ecosystems will provide forest professionals with tools they can use to evolve their practices to meet the needs of future generations. The purpose of the FFE is to adapt BC's forest management framework to "manage for ecological resilience". The FFE initiative will address changes to legislation and the landbase under the Ministry of Forests and Range jurisdiction. The resulting changes to forest policy will be subject to the ministries rigorous policy review process and will ensure full consideration of social, economic, and environmental costs and benefits are accounted for prior to policy reform.

Currently, those forest professionals working under approved FSP's / WL's need to use approved stocking standards, (5%) rule applies to using seed outside the designated seed lot transfer zone. However, being FP's they also need to abide by a code of ethics and professional practice requirements.

Therefore, FP's need to advocate and practice good stewardship (11.3.1), uphold professional principles above the demands of employment. So, if the FP felt that using the defacto FSP stocking standards would not result in "good stewardship" then they are bound to advocate for change (i.e. amend the standards) (S.3.4.1). To relay this information to the planners so the standard can be amended and S.3.5 to work to improve the practice and policies affecting the stewardship of forest land. I would also suggest the FP review all scientific literature, speak with professionals, experts, document everything and not to misrepresent facts (11.4.4) (including chief foresters office, MOFR Forest Science Branch, Forest Genetics Council of BC).

The practice of professional independence comes into play here. The FP responsible must retain sufficient knowledge in their fields of practice (Bylaw 12.2.1) and exercising appropriate judgement and discretion with due care (12.2.3 Bylaw) in addition to holding the public interest and professional principles paramount (S.12.3.1 Bylaw).

In summary, there is a great deal of uncertainty regarding the future climate-related impacts to BC's tree species and at present there are strict guidelines/requirements for ensuring future forests exist for future generations. Legislation will change as new information is received. There is an important consideration for a precautionary approach. FM professionals need to continually adapt management practices to reflect the changing values / climate in BC.

### Answer 2 (scored 9)

Current policy regarding the transfer of seed is outlined in the Chief Forester Standards for Seed Use. These standards regulate the distance from the location of origin that seed can be moved. Species selection guidelines are based on the Biogeoclimatic Classification System (BEC) and a set of guidebooks are available for selection of recommended and acceptable species. The species selection and seed transfer guidelines in BC are designed to minimize the risk of maladaptation under the policy that "local is best". New research suggests that local is not best and that populations are not always optimally adapted to their local environment (ecosystems and climate). This is the argument for assisted migration. New models show that trees are actually adapted to cooler climates and that transfer of seed north and up in elevation would result in an increase in productivity and reduction in maladaptation (poor stem form, wood quality, susceptibility to insects and pathogens). Increasing productivity and reducing maladaptation can have significant implications for timber supply and the AAC for future generations. The current seed transfer regulations restrict the movement of wild seed using a set of geographical (latitude, longitude and elevation) restrictions, seed zone restrictions and BEC restrictions. These restrictions already promote some degree of assisted migration by encouraging the movements of seed north and up in elevation with wider limits in these directions, however, given the speed of climate change in recent decades, the species selection guidelines and seed transfer guidelines will have to be adjusted as ecosystems migrate and change, and temperatures increase. There will have to be a balance between planting trees adapted to future climates which have implications for productivity, and current climates which will affect establishment of free growing stands.

As professional foresters, we are obligated to protect and manage present and future values from our forests [Bylaw 12.6.1]. Professional Foresters are obligated to have regard for existing legislation [Bylaw 11.3.3], however, forests are dynamic and in a constant state of change. As such, it is necessary for professionals to work to improve practices for the benefit of current and future generations [Bylaw 11.3.5]. Professionals must contribute to the advancement of scientific and professional knowledge [Bylaw 11.4.2] by working with researchers and sharing results. The practice of "results based forestry" is a great opportunity for foresters to contribute to scientific research by trying innovative practices and tracking results. However, with change comes uncertainty and risk and Foresters must ensure that good stewardship of forest lands is maintained [Bylaw 11.3.7] and consult with experts and other professionals when necessary [Bylaw 11.5.4]. As policy is adapted to climate change, foresters will need to keep informed in their fields of practice [Bylaw 11.4.6]. This is also a great opportunity to increase public knowledge of forestry and forest related matters [Bylaw 11.3.6].

### Question 8 (Essay)

You are employed by a forest licensee and have a set of road-side piles to burn in a recently harvested area. What process do you follow prior to igniting these piles? Who determines when the timing is appropriate to ignite the piles? What precautions must the licensee take? What additional actions would you take if this operation is to take place near a residential neighbourhood?

(10 marks)

### Answer 1 (scored 9)

As a professional forester who is carrying out a pile burning program to create plantable spots and mitigate fire hazard, it is always important to use professional thought processes.

In undertaking this process, I must remember my first duty is to the public (11.2.1), and must practice good stewardship in the program (11.3.1). I must work to improve practices (11.3.5), educate the public as to why we burn piles (11.3.6). I must also ensure that I have adequate training (11.3.7) and ensure that my co-workers and I burn piles safely (11.3.10). I must always use standards of professional practice as outlined in Bylaw 12.

Before starting the pile burning program, I must ensure that everyone doing the work is properly trained, and have the proper PPE to do the job (ie. flame resistant clothing). There must be adequate safework procedures, and a well thought out "plan-of-attack" for completing the burn. The employees must also ensure proper fire suppression equipment and training has been made available before starting.

Before starting the pile burning project, I must ensure that we take precautions to meet all requirements under the Wildfire Act, Section 22, for Category 3 open fires. This includes: (among other things – see s.22) making sure it is safe to do so; that I have obtained a burn registration number, taking all precautions that the fire is contained; there is a fuel break; the fire is watched and patrolled; it does not exceed our suppression capacity. It would be a good idea (11.3.6) to notify local groups/residents that we are burning so that they are not alarmed.

It is the professional's (my) responsibility to determine when it is safe to light the piles, unless there are open burning restrictions, but I must use due care and diligence in doing so, as the public relies on me to make the right choice. I will be held accountable for whatever I do. The Wildfire Act is results-based like FRPA. One of the most important factors in determining if it is safe to light is by maintaining a weather station and having an accurate calculation of the Fire Weather Index (FWI). If the conditions are volatile, it is not appropriate to start.

As stated in the Open Burning Smoke Control Regulation (OBSCR s.6(5)(a) ), we are not required to have an air emissions permit from MoE, provided all of the required conditions are satisfied. These include: there are no open burning restrictions in place; there is favourable weather for smoke dispersion (favourable Ventilation Index); there are no prohibited materials being burned; all other options have been exercised (reduce, reuse, recycle); burning on the land "whence it came"; burning is >100m from residences/businesses and ?500m from schools / hospitals / continuing care facilities; etc, etc, etc; smoke release not longer than 72 hours or 96 hours if outside towns / cities. If these conditions are not met, there must be a permit obtained first.



If I were burning near a residential neighbourhood, additional precautions would be warranted. The greater the chance of harm, or degree of damage, the higher the level of care. I would notify the appropriate authorities (eg. Fire Chief or Fire Protection Branch) that this project was starting. I would ensure that the forest surrounding the village was not prone to be engulfed by a large fire. I may want to ensure the Fire Danger Rating [is] very low (class I). I would ensure more than adequate fire suppression equipment was on site, with a good water supply. I would ensure that the Ventilation Index was Very Good, rather than just Good, to ensure clean air for the residents.

In all cases, I would ensure to document all preventative measures, conditions and plans to ensure due diligence. Bring marshmallows!

I would always ensure that I was not burning in a Riparian Management Area.

### Question 9 (Short Answer)

Your company has recently acquired a new division in a different location. You have been assigned to manage the forestry department. The previous company was unprofitable due to marginal economics. Your work will involve overseeing the work of several staff, many of whom are forest professionals. The forestry department is responsible for all forest planning and operational activities related to fibre supply for company mills. It is a large remote operation that, in addition to mills, provides most of the employment for the local community. It has highly valued natural resources and many competing uses on the land.

The leader of the community meets with you and is interested to note that, unlike the last manager, you are a professional forester. In particular, she wants to know what your professional obligations are as an RPF and what this means to the community.

- a) How would you describe your obligations as an RPF? (Use your own words and examples.)  
**(6 marks)**
- b) As a manager how will you rationalize your need for improved profitability with your obligations as an RPF? Explain. **(4 marks)**

### Answer 1 (scored 8)

a) I would explain to her that my obligations are to the public and that the manner in which I practice professional forestry is governed by the Foresters Act and the Association of BC Forest Professionals. It would go something like this:

I am an RPF, thus I am bound by the Code of Ethics set out in the Foresters Act. There is an Association of BC Professional Foresters who gets its direction from the Foresters Act. In the Foresters Act, there are Bylaws, Bylaw 11 contains the Code of Ethics, which every person practicing professional forestry is bound to. My professional responsibility are to the public, the forestry profession, my client or employer, and to other members.

Under the Code of Ethics, I am responsible to the public. Guideline 2 of this Code of Ethics states that I have “to advocate and practice good stewardship of forest land based on sound ecological principles to sustain its ability to provide those values that have been assigned by society.” Further, it is my responsibility to uphold professional principles over the demands of my employer. I would explain that there are legislation, regulations, policies and common laws that I must regard while practicing professional forestry in BC. If I suspect that a forest practice is detrimental to good forest stewardship, I must make sure the facts that lead me to that belief are correct and would verify with other professionals. It is also my responsibility to the public to educate on forestry practices, to continue to improve practices and policies affecting good forest stewardship of forest land.

My professional responsibility to the profession is to inspire confidence in the profession. This is achieved by maintaining high standards in conduct and daily work, to advance scientific and professional knowledge, to report any professional misconduct of other forest professionals in BC, to resolve matters with other forest professionals in a respectful manner, to not misrepresent facts, to only sign and seal documents I am responsible for, to keep educated in my field of practice and to operate within my level of competence.

My responsibility to my employer or client is to have a clear understanding of their objectives, to accept assignments I am qualified for, to avoid conflict of interest.

My responsibility to other members is to always be respectful and give credit where credit is due.

I always have a standard of practice that I have to achieve. The standard of practice deals with professional practice expectations related to competence, independence, integrity, due diligence and stewardship. In following this standard I have developed a checklist:

1. All relevant legal requirements have been met,
2. I have a clear understanding of client/employer objectives and how they relate to other values relevant to the work,
3. I am personally familiar with all relevant characteristics of the area affected by the work,
4. I have gathered all the appropriate background information and incorporated it,
5. I have consulted with appropriate experts/specialists for areas I have no qualification for,
6. I make sure the expert/specialist was reliable and credible,
7. I made sure the person collecting the data or carrying out activities has a clear understanding and are competent were qualified,
8. I collected sufficient data to make an informed, sound decision,
9. I made a proper assessment of risks and outcomes.

I would also explain the role of the Association and how they govern and discipline its members.

b) To rationalize my need for improved profitability with my obligations, I would turn to my management prerogative. Management prerogative is the exclusive right in privilege to make management decisions. Although managers are responsible for administrative decisions based on

political, social and economic constraints, it is my responsibility to ensure the facts for which I base my decision upon is based on science and is not detrimental to achieving good forest stewardship.

### Question 10 (Essay)

Privatization of the forests of BC has been suggested as a method to improve forest management in BC. Discuss:

- a) The pros and cons of privatizing the timber resource in BC. **(5 marks)**
- a) Should the current tenure holders be compensated if they lose volume through the privatization process? Discuss why or why not? **(5 marks)**

### Answer 1 (scored 9)

Privatizing timber resources in B.C. could provide some potential benefit towards forest management. It may also be of detriment. The pros and cons are discussed below.

A potential advantage of privatizing forest land in B.C. is that landowners will have more of a vested interest in their land and forests and will manage it more intensively for timber production. Another advantage is that less government regulation would be required, reducing the administrative burden. The moving of public land to private land may also make management more simple as there are fewer values to consider and the complexity of dealing with competing values will no longer exist. In addition, putting Crown land up for sale will provide a flush of revenue for the Province and allow new entrants to enter the forest management/timber market.

Some cons of privatizing forest land in B.C. include the potential to undermine First Nations treaty negotiations. With so many treaties still up in the air, privatizing forest land could potentially infringe on Aboriginal rights and title. In addition, the government would lose all control over rate of harvest, reforestation requirements etc. There is no guarantee that the private landowner would practice good stewardship or consider other important values such as visual quality, biodiversity, wildlife etc. In addition, the government would be giving up its long term continual access to revenue via the stumpage system. There would be no guarantee of management for forage for range users and the government would be turning over any future potential revenue from carbon credits to private landowners.

I think forest companies, if it were to be turned into private land, should be compensated for potential volume losses through the privatization process. Currently, under Section 60 (60.7, 60.6, 60.8, 60.9) of the Forest Act provides for compensation due to the reduction in the allowable annual cut (AAC). Changing this would require significant amendments to the Forest Act. I believe licensees should be compensated because the long term planning that they have done (through their FSP) has been based around that AAC, for either a replaceable forest license or a non-replaceable forest license. Losses in volume would affect their plan and require additional work. In addition, any investments a licensee puts into their mill is likely based upon an assumption of fibre supply. The loss of fibre may result in the closure of one or more mills greatly reducing their

profitability and undermining their original investment. I do feel, however, that if a licensee were to purchase some of the land available for sale that any compensation they receive should reflect that.

I feel that keeping forests as Crown land is the best approach to manage for a myriad of competing values and expectations. As a professional forester I want to ensure that good stewardship is being practiced on forest land to provide for values assigned by society (11.3.1, 12.6.1). By keeping forests public we can ensure this is happening.

## Answer 2 (scored 9)

Outline:

a) Pros and Cons:

Pros:

- Long term = more incentive to invest in the land
- Less government oversight = less administrative burden
- More variety = different management values due to varied owners (different objectives)
- More opportunities for small business and families
- Reduce/eliminate softwood lumber issues.

Cons:

- Land could be converted to different uses and remove area from the timber harvesting landbase.
- Less government control = less ability for public to influence policy on private land.
- Loss of unique public ownership system
- First Nations treaty negotiations

b) Should current tenure holders be compensated if they lose volume through the privatization process?

- Yes, similar to the 20% take-back under forest revitalization
- Also, get first dibs on their current tenure areas/volume

Privatization of the BC timber resource can both improve and perhaps be a detriment to forest management in BC. Ways that privatization can improve the situation include providing owners (now known as tenure holders) with more incentive to invest in the land. The owner no longer has to plan around how long they will have responsibility for the land but indefinitely for several rotations. This can promote more sustainable practices, longer term planning and a steadier investment source (more secure/long term guarantee of income). Although the results based system was introduced to reduce paperwork and move to a less defined and administrative system; privatization would further reduce the administrative burden under the current set of legislation. Under the Private Managed Forest Land Act (PMFL), owners take responsibility for their actions and may adopt whichever approach they deem appropriate (ABC FP policy review

manual 2008). They are not required to submit lengthy plans for approval. Privatization may result in an increased number of owners (now known as licensees) with varying objectives resulting in a variety of management values. For example, a smaller owner may focus on birch stands for syrup production or other hardwoods (including birch) for more value added timber focus (flooring, cabinets, furniture). This will diversify the forest economy and make it more resilient to market downturns and forest health epidemics. Privatization may also result in more opportunities for families and small business further diversifying the economy and perhaps the product that can be derived from the different objectives of each owner.

The long standing softwood lumber dispute and associated tariffs from the 2006 Softwood Lumber Agreement may also be eliminated if BC forest land is privatized like that of the American forest landbase. Timber sold from private land is sold to the highest bidder, activities are not subsidized through stumpage systems and the US would have no basis for saying our industry is subsidized.

Although the advantages of private ownership are numerous, there are significant disadvantages as well. BC presently only has about 5% private ownership; the public will lose this unique tradition/system. Privatization may also lead to a reduction in the timber harvesting landbase since owners can put the land to any use they want (under zoning rules, federal, provincial environmental laws...) such as agriculture or recreation. Although these would diversify BC industry, mills may not be supplied with the timber they require to keep running efficiently. Less government control is not always a good thing, the government and therefore the public may have less ability to influence policy on private land. For example, FSPs are not prepared for private managed forest land; therefore the values in these plans may not be accounted for. Privatization also affects ongoing treaty negotiations as government is transferring ownership. Although First Nations may have the opportunity to acquire private forest land, there may be implications to their treaty negotiations. If treaties are signed will newly transferred forest land (private) be assigned to a First Nations group instead – this still inspires a great deal of uncertainty under the private system.

Current tenure holders should be compensated if they lose volume through the privatization process, to account for the money invested in planning and infrastructure within their operating area. The compensation program should be much like that under the 20% take-back initiative (Forest Revitalization Plan, 2003). Licensees should be reimbursed for actual costs of any developed block, roads, or other planning work done if to be taken over. On the other hand, licensees could be given “first dibs” on acquiring private land to ensure these developed areas are retained. Often licensees have undertaken long term planning to ensure the timber supply to their mill/manufacturing facility will be desirable in terms of profile, volume, grade... Taking away volume or area can throw this long term plan off balance and result in a huge economic loss due to manufacturing inefficiencies. This must be accounted for when title is transferred. In cases where volume is not developed on the ground (laid out cutblocks, roads, plans, cruises etc...) loss of volume may be accounted for by signing contracts with new/adjacent landowners for timber required to feed mills.

### Question 11 (Essay)

An investigation of a log truck rollover has revealed that there have been several accidents and numerous complaints about the road in the area of the incident. Truck drivers are blaming poor road

construction practices. The road construction contractor has stated that the construction is consistent with the plans provided.

You have been asked to prepare a professional report detailing the design, the approval process, and the construction of the road. Outline the procedure you would use, the factors you would assess and provide an outline of your expected report content. What potential recommendations would you make if you found a design or construction flaw? **(10 marks)**

**Answer 1 (scored 9)**

Bylaw 11.3.10 states that a professional should have proper regard in all work for the safety of others. I would take this task very seriously as there is an obvious issue here, putting people's lives and professional integrity at risk.

Safety is described to start at the planning stage (ABC FP Policy Review, 2008). I would start by determining the reason for the design of this road and who was responsible. As this is outside my area of expertise, Bylaw 11.5.4 would determine that I would need to employ a professional experienced in road design. Depending on the site, I would probably choose between a registered engineer, or geoscientist. I would ask the professional to determine whether or not the original road design is adequate for the site, and if it were deemed adequate, I would ask them to determine whether the site conditions had changed from the time the original design was constructed. If the road had been originally constructed by a professional, I would attempt to gather activity records, such as preworks, specific details, inspections, and any other due diligence documents the professional had available from the original design and construct. I would check to see who the original plans were designed and approved by and check their credentials. A good source of this information would be past projects.

I would ask my hired professional to determine a remediation plan for the existing road. It may require moving or widening the road. These recommendations would be included in my final report. I would source out any assessments, which they were done by, when they were completed, and construct a timeline of activities.

The report outline would have to consist of an investigation of the road cause and an action plan to address the root cause and ensure that it didn't happen again. My expected report content would include analysis done on the existing road, its design, layout, construction and investigations into the activities that had occurred on it thus far.

I would use my unbiased information from the professional I had hired to determine whether or not the design had been adequately designed and whether or not the road had been constructed according to that design. I would include any lack of information from my review of paperwork into my report. If the initial road design was not adequate, or the supervision of the activity was not adequate, I would address these deficiencies in my report.

My recommendations would include road upgrades/alterations, as described by the professional I had hired. I would recommend that this road not be used until it was deemed safe by a qualified professional.

I would recommend that the person who took the original complaints be trained to have proper regard for the people who were voicing their concerns. I would recommend that a procedure be put into place for receiving and dealing with complaints.

I would recommend that the supervisor of the road construction contractor be trained to ensure he/she is effectively communicating to the contractor, the specific details of the plans. Standard operating procedures should be set in place for the road construction. If this road were in fact deemed to be constructed improperly, then the supervisor would be at fault.

The report should include comparisons of the original work and recommended improvements.

If it was determined that there was a design or construction flaw, in the original design/construct, then the professional who designed/constructed the road would have to prove due diligence. This situation would constitute evidence of a professional misconduct.

I would recommend that the signing professional be contacted, as I am obligated to take appropriate actions as per Bylaw 11.3.4, where I believe a practice is detrimental to good stewardship. I believe in this case that the professional had a responsibility to the public's safety and this responsibility was compromised. I would ensure all the necessary facts had been gathered before I recommended that this matter be discussed with the professional and their employer.

### Answer 2 (scored 9)

Safety in the Forest Industry has been an everpresent concern. Truck driver safety, particularly on the coast, where the loads are heavier and the roads steeper, must be improved. If I were to carry out a professional report detailing the design, the approval process and the construction of the road, it would be similar to what is described in the next pages, but in more detail if undertaken without time limitations.

The procedure I would use for assembling this report would begin with the assembly of all relevant supporting documents. I would seek out the original road traverse notes, any reports from Qualified Registered Professionals (QRP's), the subsequent design package (I will assume ROADENG was used), the road permit package as well as any post construction documentation. After receiving this information package, I would review it for areas of concern such as conventional design elements based on commonly accepted practices. Following this office review of all the related information, I would schedule 2 meetings, one with truck drivers and one with the roadbuilder to solicit their input on the issue. ABCFP standards of professional practice state that I must remain independent, holding public interest and professional principles paramount (Bylaw 12.3.1). After seeking out all of the relevant background information, I would schedule a site visit. Assuming that the road design package appeared reasonable, I would proceed to inspect the site for compliance with the design package in terms of critical road design elements. Critical elements of road design include but are not limited to horizontal and vertical alignment sufficient to allow for safe travel of all vehicles using the road. Road grades should be consistent with standards for road class and laid out in a manner that allows for controlled travel. The stabilized running surface sufficiently wide for the safe passage of all vehicles intended to travel on the road as well as

contain an adequate number of turnouts for single lane roads. The subgrade should be adequately drained, maintaining natural drainage patterns and fish passage (where applicable). The degree of road maintenance and the relationship between construction material and the resulting level of maintenance required. The presence/absence of adequate lines of sight for the design speed. All of these elements contribute to the overall safety of a road system and would need to be assessed for the report. After the field visit, I would compile my results into a report having the following content:

#### Introduction

- A brief summary of truck driver safety in BC's Forest Industry
- Basic information on the site, events leading up to the report
- Goals for the report

#### Background

- Summarize the information assembled pre-field visit, noting my areas of concern
- Summarize any/all correspondence including meetings with truck drivers, roadbuilders
- Specifics of my field visit

#### Results/Discussion

- Summarize findings as they pertain to the key design elements mentioned earlier
- Summarize deficiencies
- Recommend corrective actions for deficiencies

#### Conclusion

- Provide an opinion as to what may have contributed to the accidents in question

#### Appendices

- Copies of field notes
- Pictures of deficiencies
- References

Based on the problem described in the example (Truck roll over), I will make the assumption for the purpose of this exercise that the deficiency in the road as it was built is a combination of an excessive grade into a small radius curve. Corrective measures for this situation would be either decreasing the grades approaching and departing from the curve and/or increasing the radius of the curve. If these measures were not an option, I would recommend exploring other possible road locations.

#### Question 12 (Essay)



Strategic land and resource planning processes conducted by the Integrated Land Management Bureau have identified land use objectives in many parts of the province. For example, Ecosystem-Based Management (EBM) on the Coast is being described as a new forest management paradigm by some forest professionals and as a local expression of Sustainable Forest Management (SFM) by others. There is a provincial planning and policy framework that describes the public's interests in forest operations achieving specified management results.

- a) The implementation of EBM requires the use of several strategic and operational policy vehicles to bring the public's expectations for forest management into the realm of legal requirements. List and describe these legal instruments and how they relate to EBM or sustainable forest management. **(4 marks)**
- b) Discuss operational and forest management level implications of introducing land use objective requirements in any landscape with significant harvest and development history. Provide examples. **(4 marks)**
- c) As a forest professional you may experience a situation where, at the stand level, you must prescribe an activity that may need to vary from the legal requirements and impact on one or more of forest values expressed in public policy. Describe a hypothetical situation and what you would do. **(2 marks)**

#### Answer 1 (scored 8)

a) Ecosystem-based management (EBM) is an instrument used to manage ecological endowment while recognizing and protecting key environmental and social values in the area (ABC FP, 2007). In order to achieve the values set out under EBM, several legal instruments are necessary to provide a framework for management.

Land Use Objectives Regulations require forest operations to comply with objectives set by government; therefore, the objectives in land use objectives regulations must be incorporated into Forest Stewardship Plans (FSPs) and Site Plans (SPs). This will translate to on-the-ground operations complying with EBM objectives because land use objectives regulations consider the social, economic and environmental balance necessary for EBM. The management objectives are enabled under the Government Action Regulation.

Land and Resource Management Planning (LRMP) tables recommend a system of EBM as a social choice that is expressed through legislation. (ABC FP, 2007) This legislation may be the Park Act or the Protected Areas of BC Act, which establishes conservancies (protected areas). Protected areas protect core ecosystems and aim to preserve natural environments for the future. The sustainability focus in protected areas is directly related to ecosystem based management because entire ecosystem can be preserved for the future.

An additional instrument related to EBM are Protocol Agreements with First nations. These agreements allow land areas to be preserved that contain key forest values at a territorial level. The areas provide clarity and certainty to both First Nations and resource managers who can easily identify and incorporate the identified values in operational plans. These protocol agreements are directly linked to EBM because they address resources to be managed sustainably, with a social,

environmental and even an economic focus because resources can still be managed and harvested, while still protecting First Nation values.

Finally, species at risk legislation including: the Species at Risk Act, FRPA (through identified Wildlife Management Strategies) and the Wildlife Amendment Act, relate to EBM and SFM. Through protecting wildlife and plants species and habitat requirements and preventing further exploitation, the above Acts preserve species and habitat features for future generations. This is an integral part of EBM and SFM.

b) There are many operational and forest management level implications of introducing these land use objective requirements to any landscape. Primarily, since EBM is focused on ecosystem boundaries and not traditional district or operating area boundaries, there is a greater need for communication and collaboration between industries. For instance, since GAR orders identify management requirements for an area not following district boundaries, licensees may be required to consult on FSP results and strategies to ensure that objectives will be met. It may even prove to work best if licensees develop a multi-licensee FSP for the area in question.

Additional implications will include a potential decrease in timber supply, given the “preservation” focus of EBM. This may change economic and community viability. This is where licensees, ministry and communities (including First Nations) need to collaborate to ensure other opportunities may supplement the loss in timber supply. For instance, looking into non-timber forest product management or recreation in the protected areas may prove to supplement income.

Finally, (this is not a comprehensive list) resource managers will need to work more diligently, with the best stewardship of forest land in mind, while working under these requirements because it will become increasingly more difficult to maintain a profit margin. As restrictions to management grows, licensees will be forced to move further away from lower value stands in order to make less volume available in a management unit more economically viable (ABC FP, 2007). Therefore, managers are under more stress to maintain economic viability, on less land, while practicing good forest stewardship.

c) A situation which may require me to impact forest values expressed in public policy may include a situation where a certain level of retention is required in a stand based on stand-level attributes required for a particular species, but operationally this level of retention is not possible due to known wind throw issues in the area combined with economic constraints.

Deviating from the forest values expressed in public policy in a stand is acceptable as long as I have shown due diligence and ensured the values may be compensated for elsewhere. First, I would consult with an RPBio to ensure that the plan to harvest more volume and stems than expressed in policy is not to the detriment of the particular species in question. Assuming all is okay, I would design a system to compensate for the volume elsewhere on the landscape (either adjacent to the stand or in an adjacent planned block).

Since the policy reflects public interest, I would address the public with my plan, show them the cutblock design, re-enforce that the species will not be harmed and provide all other relevant rationale like why the volume can't be retained (economics and wind throw). I will document my

process and file it accordingly. I will monitor the stand to ensure no objectives are being affected adversely due to the deviation from policy.

(ABCFP 2007 Policy Review Guide for 2007)

## Answer 2 (scored 8.5)

### Introduction

Ecosystem-based Management (EBM) has been defined by the Coast Information Team (CIT) as “an adaptive approach to managing human activities that seek to ensure the co-existence of healthy, fully functioning ecosystems and human communities”. This essay will discuss:

- a. the legal instruments that apply and relate to EBM or sustainable forest mgmt;
- b. operational and forest mgmt level implications of introducing land use objective requirements in a landscape with significant harvest and development history; and
- c. what I would do as a forest professional when my prescribed stand level activity compromises one or more forest values expressed in forest policy.

#### A. Legal instruments in relation to EBM:

- Park Act – conservancies can be established under this Act and are managed and administered by the Minister of Environment. Conservancies are intended to maintain traditional access for First Nations.

- Objectives set by Government – currently a ministerial order is being drafted under the Land Act's Land Use Objective's Regulation to require forest operations to comply with sec. 149 of FRPA (Ref: 2008 Policy Review Guide, 13-11).

- Government Actions Regulation (GAR) – MoFR can set an objective under the FRPA Government Action Regulation.

-District and Licensee Implementation Policy – can put in agreement in place with the licensee to voluntarily implement transitional elements for terrestrial culture, etc.

-FRPA – still subject to requirements under FRPA and FPPR.

- Protected Areas of British Columbia Act  
Examples include North and Central Coast.

#### B.

Introducing new land use objectives into any landscape with significant harvest and development history can be challenging as there are already numerous values and objectives in place that are competing with each other. From a forest mgmt level, the boundaries for EBM might not coincide with the boundaries of the licensee areas. Consultation would have to be conducted with all licensees. Operationally, EBM may result in less volume coming off the landbase, which means pressure for a timber supply may be put on another landbase already struggling with

meeting its current objectives. To achieve EBM implementation operationally, investments in up to date forest inventories may be required to achieve stand level objectives.

C.

Hypothetical situation. Early salvage harvest of mountain pine beetle wood that exceeds the equivalent cut area calculation (ECA). In this scenario, I would evaluate how much additional area above the ECA would be removed in the salvage. I would evaluate what the impact would be on the waterbody upon removal. I would evaluate what the impact would be to the surrounding resources if we left the MPB (i.e. chance of spread). I would consult with the affected stakeholders in making my decision.

### Question 13 (Essay)

A private land owner has asked you to plan his entire 260 hectare lot. At this point, you know nothing of any details of the lot or timber (except that it is 120-year-old second growth). The owner has good maps and an inventory of the lot, but knows absolutely nothing about forestry or harvesting. He does know about partial cutting based on a TV news feature. He wants to do a selective harvest of no more than 20% focusing on the highest value trees and exporting the logs to maximize return.

- a) What are your professional obligations? **(5 marks)**
- d) How would you develop the proposal for the client? **(5 marks)**

### Answer 1 (scored 9.5)

(a) As a professional forester I have obligations to the public, profession, my employer and members of the association. I need to ensure I practice good forest stewardship (Bylaw 11.3.1), have a clear understanding of my clients objectives (Bylaw 11.5.3) adequate knowledge in all areas of the project (Bylaw 12.2.1)

In accepting the contract I need to ensure all applicable legislation is followed. Firstly I would ask for the title to the property to determine when the Crown land was granted. If it was granted prior tot 1906 there are no export restrictions on raw logs. If granted after 1906 there are restrictions. I would inform the client the export of high quality log might not meet the "Surplus Test". I would walk the client through the surplus test application process of completing MOF Form FS418, which details the type or grade of log, quality, species and volume to be exported. The application is reviewed by the Timber Export Advisory Committee and the process will take 14 days as the private land is on the coast. If we were in the interior it would we 21 days.

I would inform the client that if the volume to be exported is greater than 15000m<sup>3</sup> it will have to go to provincial cabinet for approval. Given the clients objectives to export I would suggest to him we collect only enough information to proceed with the export application, wait for the outcome before deciding to proceed.

As part of my professional obligations I would have a signed contract drafted outlining what my deliverable are, what the clients expectations are, the timing of when I will complete certain aspects, my rates, wcb # and all contract information.

(b) The client received approval for exporting <math>15000\text{m}^3</math> of timber. The surplus test was passed as all the local mills had either shut down or were not suited to mill second growth timber.

Proceeding with the development of plan for the client I would sit down to develop a rough plan of his objectives and discuss what some of the options and possible limitations might be. Firstly (1) Is the property classed as managed forest land, forested residential land or is it in the Agriculture Reserve. I would inform the client that our resource values must be managed along with the timber as per provincial and federal legislation. Managed Forest Land must practice and manage for: soil conservation, water quality, fish habitat, critical wildlife habitat, reforestation.

As this property is not classed as managed forest land the values that must be managed include: - any downslope or downstream impacts which fall under the "Drinking Water Protection Act" and the "Fisheries Act", also the "Species at Risk Act" and the "Heritage Conservation Act"

The client has good maps of the area and an inventory. All information would be reviewed to understand what information exists, and where possible information gaps may be. A discussion with all companies, individuals, other professionals and any government agencies who have had past dealing with the area would be set up on an individual basis. Companies who completed the inventory would be questioned about their findings and possible information gaps.

I would let the client know that we need to inform all adjacent neighbours to outline the attentions and if they had any concerns or questions. I would let it be known that certain parts of the contract will have to be performed by other specialists as I don't have the knowledge or expertise or designation. Fishery concerns will require an RP Bio. They could also cover off any water concerns under the "Drinking Water Act" an SAR. An archaeologist may be required if any Cultural or Heritage resource values are encountered.

The rough plan would be set up as follows:

#### Information Gathering

- Complete Inventory
- What environmental issues do we need to plan for
- Resource Features that are known
- Comments by neighbours
- Safety Concerns – environmental, worker

#### Management Options

- Silviculture Systems – Partial, clearcut
- Reforestation – what species, density
- New roads, use existing roads
- Volume to harvest

**Answer 2 (scored 9)**

a. The private land does not fall under the Forest Act, but my professional obligations as a forest professional remain. I must ensure that I advocate and practice good forest stewardship (Bylaw 11.3.1), uphold professional principles above the demands of employment (Bylaw 11.3.2), and ensure that I maintain competence, am duly diligent, balance public interests, and provide rationale for all of my professional judgments/decisions (i.e. due diligence).

It is my duty to educate the private land owner in forestry issues (Bylaw 11.3.6) in a respectful and professional manner. I would begin by discussing the importance of sustainability (reference to Sustainable Forest Management initiatives at the provincial, national, and international level, e.g. Ecosystem Based Management, National Forest Strategy, UN Agenda 21), and explain how it is in his best interest to manage sustainably and to balance public interest. I would suggest becoming involved with local working groups, community meetings, First Nations, or if he does not feel comfortable than I could represent his interests since I am already involved in such public outreach efforts as a good forest professional. I would explain how managing the land sustainably and balancing public interests where possible will create long-term security, be for the benefit of ecological integrity, and create a favourable opinion of his practices in the eyes of the public (better for business).

As a resource professional I also have obligations to educate the landowner in forest operations (i.e. partial cutting) and the pros and cons of harvesting the highest value trees (short term benefits, but for the long-term, it does not matter what you take from the forest, but what you leave behind that counts). As well as educating the owner in the ins and outs and pros and cons of raw log exports (i.e. Surplus Tests, TEAC, potential for mills to “block” exports).

b. As a forest professional, I would first meet with the land owner and discuss all of the issues above so that they have a general adequate knowledge of things that need to be considered. Upon reaching a consensus following respectful professional constructive dialogue I would notify the landowner of any public interests that need to be considered (First Nations, local community, etc.) as I will already be knowledgeable of these. I would then gather information about the landbase in question (what ever Resource Inventory information is available) including: maps of water bodies, rivers, contours, existing or pre-existing operations in mining/forestry/oil and gas, BEC zones, which is in addition to maps of FN's traditional and current activities locations (fishing, hunting, trails, spiritual areas).

Assuming that the information above and maps and inventory are adequate (inventory would need to have been conducted by a certified timber cruiser, and maps prepared by a registered professional) I would be able to proceed with developing a plan. I would contact the timber cruiser and professional who prepared the maps and inventory and discuss what was done and if they suggest that the information be re-collected. Assuming that these are in order to my satisfaction I would review all information and determine if harvesting 20% of the stand with focus on the highest value trees is reflective of good forest stewardship. If an adequate amount of high value trees (i.e. not just leaving poor trees) are left behind and such operations maintain or enhance the stand then the operation is adequate in this regards. HOWEVER, I would first determine if any First Nations values are being infringed on, visual quality concerns of local communities and if there are any species at risk (refer to SARA, speak with MoE personnel, consult with experts, refer to BC's CDC, and COSEWIC) to determine if a coarse filter approach has been adequate in protecting such

species (e.g. Protected Areas, FPC) or if a fine filter approach is necessary (IWMS –Identified Wildlife Management Strategy). I would gather all of this information review the proposed operations and discuss objectives and goals with the land owner. I would suggest that we work with First Nations (respectfully).

After developing goals and strategies I would put them through a “good stewardship filter” to check if these reflect good stewardship of forest land. I would add any recommendations that I may have and develop a plan to address objectives and goals. I would have the plan peer-reviewed to ensure that it is complete, correct, and clear (preferably by an expert).

### Question 14 (Essay)

It has been suggested that the relationship between timber resources and mills in BC is not the best way to manage our crown lands.

- a) Discuss the potential impacts on the timber resource that may be caused by the close relationship between mills and timber tenures. **(5 marks)**
- b) Discuss the pros and cons of delinking timber tenure from the timber processing sector (taking tenure away from the sawmilling and timber processing sector) in BC. **(5 marks)**

### Answer 1 (scored 8)

The current trend in the BC forest industry is toward the amalgamation of licensees into larger entities. This trend has created a monopoly in some areas for the sale of timber, allowing the large companies to control prices and for tight competition by contractors often to the detriment of safety. These large companies are based on economies of scale and have limited diversification of products. The large companies have head offices in major centers and communities feel disconnect with them. Small businesses often have difficulty accessing timber because of the control large companies have over timber in the area. Government tends to look to large tenure holders to develop infrastructure and thus results in management at landscape level not being cohesive or comprehensive. The lack of diversification results in an industry, which is vulnerable to market swings, which destabilizes communities.

Delinking timber tenure from the timber processing sector would have both pros and cons. The primary con I would see is the reaction of major forest industry to their lack of control over a secure timber supply. This would likely result in a reduced interest in investment in the BC forest industry. It would also be very complicated to determine how and who would compensate the licensees for all that they have invested in the landbase. Delinking would enable access to timber for small processors and open the potential for small forest harvesting operations. Smaller operations are known to have poorer safety records and would require more administration on the part of the MOFR/C&C. The larger companies have funds to employ professional staff full time resulting in continuity and potential for innovative forest practices.

If the delinking of the two entities entailed a tenure system that was area based rather than volume, I would see much more potential for diversification, innovation and community

involvement. It would also be more conducive to more effective management of all forest values. Further if the FL holders had a maximum amount of volume they could control so that others could have access to a secure timber supply I would see this as more positive in addressing the issues through tenure reform.