ASSOCIATION OF BRITISH COLUMBIA
PROFESSIONAL FORESTERS

Managing for Species at Risk:

What are a Forester's Professional Responsibilities?

February 2003

Preface

This paper is intended to inform members of the Association of British Columbia Professional Foresters regarding species at risk by providing background and addressing how members of the profession should deal with such situations. The paper was developed by the association's Species at Risk Working Group and was endorsed by council.

Members are encouraged to carefully review the paper. However, members should also recognize that this topic is very complex and the science, public expectations and legal framework related to species at risk are evolving rapidly. For example, during development of the paper, the *Forest & Range Practices Act* was passed by the provincial legislature and the *Species at Risk Act* was passed by the federal parliament.

As a result, council expects that it will be necessary to revise and update this paper within a year or two. To that end, members (and others) are encouraged to forward any comments on this paper to the association. The feedback received will help the updating process immeasurably.

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Acknowledgement

Council would like to acknowledge the work of the Species at Risk Working Group in preparing this paper.

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Introduction

Worldwide fear of the loss of species has heightened. Locally, concerned groups are raising awareness and advocating protection of habitat. Sustainable development must and can take place on forest land, but only if species and ecosystems are managed conscientiously. The purpose of this paper is to provide an update and guidance to professional foresters practicing forest management where activities may impinge on species at risk,[1] that is, on wildlife, fish, and plant species or ecosystems that are extirpated, endangered, threatened or of special concern.[2]

What are the forester's professional responsibilities when managing forest lands[3] that contain habitat for species at risk? In light of the growing concern for endangered species,[4] the question is deceptively simple, but given the imperfect state of our knowledge, developing legislative/legal theory and evolving societal expectations, the answers are complex. Professional judgment must consider legislative/policy direction, court decisions, the public good, current scientific information and professional obligations to ensure good stewardship[5] of forest land and resources. The challenge is considerable. Species management plans often do not provide adequate guidance. Scientific knowledge may be inadequate. Legislation and policy may lag behind scientific knowledge. At times, society's concern for a species at risk can be at odds with scientific knowledge or government direction.

Issues surrounding species at risk are growing in significance as human pressures on the natural world increase and societal expectations change. Professional foresters' responsibilities need to adjust in response to these changes, significant examples of which are highlighted below.

Humankind and its footprints: Burgeoning populations and consumption impose greater demands on our forests to supply an ever increasing amount and variety of resources. Even with increased attention to the sustainability of timber and non-timber resources, the habitat required for many species, particularly those requiring older forests and grasslands, is shrinking and putting their populations under greater stress. Dealing with species at risk requires maintaining habitat for these species. In fact, legislative instruments protecting species at risk are usually focused on the protection of habitat (Thomas 2002).[6]

Societal expectations: Changing societal expectations have profound impacts on forest management. A common theme in these expressions is an increased fear of losses—loss of species, loss of site productivity, loss of present and future options, loss of economic opportunities, and loss of local participation and influence in decision making. These expectations are expressed through an increasing number and variety of international, national and provincial mechanisms. International mechanisms include the *Convention on Biological Diversity*, *Agenda 21*, *Guiding Principles on Forests*,[7] and the *Framework Convention on Climate Change* that emerged from the UNCED 1992 "Earth Summit". The most recent federal mechanism was passage of the *Species at Risk Act* (SARA) by Parliament in late 2002. Provincially, an increasing amount of legislation, regulation, and policy guides habitat management for species at risk. The adoption of the federal-provincial Accord for the Protection of Species at Risk in 1996 and the Canadian Council of Forest Ministers Criteria and Indicators are other examples of how species at risk are gaining formal recognition, as is the advent of sustainable forest management certification initiatives in recent years. The publicly expressed desire to maintain native species within British Columbia over the long term is gaining legislative strength.

Professional responsibilities: The focus of modern professional forestry practice is to manage forests as ecosystems, sustain biological diversity, and manage forests within their natural range of variability. The public's interest in having input into forest planning has increased substantially. Within this more collaborative decision-making framework, foresters must consider an increasing array of often conflicting values assigned to our forest resources.

The Legal Framework

Passage of SARA has made the federal portion of the legislative framework more clear, complete and forceful. The purposes of SARA are to: (a) prevent wildlife species (plants and animals) from becoming extirpated or extinct; (b) provide for the recovery of species at risk and; (c) encourage the management of species to prevent them becoming at risk in future. It pursues these ends by providing a mechanism for species at risk to be identified and, where appropriate, given legal status. It requires the federal, provincial and territorial governments to take steps to prevent the extinction or extirpation of species at risk.

The identification of species at risk at the federal level will continue to be the responsibility of COSEWIC (Committee on the Status of Endangered Wildlife in Canada),[8] an agency that operates at arms-length from government and has a legislated mandate to assess and classify species, and to decide when to re-assess species and recommend re-classification. COSEWIC lists species as:

(a) **Endangered:** facing imminent extirpation or extinction;
(b) **Threatened:** species likely to become endangered if nothing is done to reverse factors leading to its extirpation or extinction; and
(c) **Species of Special Concern:** species that may become threatened or endangered because of biological characteristic or identified threats.

As of November 2002, COSEWIC lists 425 species at risk, of which 125 reside in British Columbia. COSEWIC's list will now be published in the SARA public registry. In future, once a species is identified by COSEWIC as being at risk, the federal Cabinet will have nine months to decide whether to add a particular species to the public registry or 'legal list'. Wildlife species listed by BC's *Wildlife Act* (see below) will also be protected by SARA.

Species added to the legal list become subject to certain requirements binding on the federal, provincial and territorial governments. Paramount among those requirements is an obligation to protect such species from being 'killed' and to protect their 'residences'.[9] Recovery strategies must be developed for extirpated, endangered and threatened species followed by action plans to implement the recovery strategy. Management plans will be required for species of concern.

Timelines for developing and implementing recovery strategies or management plans depend on the status of the species. Strategies for endangered species having shorter timelines than those for threatened species or species of special concern. If strategies or plans are not created within required timelines (usually one to two years), or are not implemented in a timely fashion, the federal government can step in to reserve critical habitat on federal land until such plans are approved and implemented. **If a province is not adequately addressing a species at risk, this federal intervention can extend to provincial Crown land.**

British Columbia's legislative instruments related to species at risk will continue. They will be increasingly linked with and take into account the requirements of SARA. The BC framework includes the *Wildlife Act* and the *Forest Practices Code of British Columbia Act* (Identified Wildlife Management Strategy). It is anticipated that identified wildlife strategies under the present *Forest Practices Code* will be replaced by wildlife management regulations under the *Forest & Range Practices Act*.

Identifying and ranking species at risk in British Columbia is undertaken by the Conservation Data Centre (CDC),[10] which provides provincial species ranking based on a set of criteria established by the international organization NatureServe.[11] CDC takes individual rankings and sorts species into similar risk groups commonly known as the red, blue or yellow lists. Red-listed species are species or subspecies that are candidates for listing as extirpated, endangered, or threatened in BC. Blue-listed species are those species or subspecies that are candidates for listing as vulnerable in BC because of characteristics that make them particularly sensitive to human

actions or natural events. Yellow-listed species essentially includes all other species recognized as wildlife in BC (excludes exotic species). Species on the CDC lists are not legally listed, but could gain legal status if listed under SARA or the *Wildlife Act*. The *Wildlife Act* currently lists four species as threatened or endangered.[12] A process to update that list is underway.

The province is currently developing a Species at Risk Strategy to meet its obligations under the 1996 Accord for the Protection of Species at Risk and SARA. The strategy will identify high level requirements for inventory, assessment, recovery planning and approval, and down-listing of species at risk as they recover. It will also outline the rationale for managing species at risk, and set out the responsibilities of various participants from licensees to government in managing these species and their habitats. Development of the strategy is preparatory to changes to the *Wildlife Act* to be undertaken in 2003.

BC species at risk affected by forest or range management are included in the province's Identified Wildlife Management Strategy (IWMS).[13] A second edition of the IWMS is expected to be released in the near future. The needs of Identified Wildlife can be met through a combination of Wildlife Habitat Areas, General Wildlife Measures and Higher Level Plan recommendations, all of which are legal requirements.

Objectives for managing species at risk may be developed as policy for consideration by a statutory decision maker during strategic planning processes. Objectives may also be incorporated into higher level plans, in which case they will be legally enforceable.[14] The result of such enforceable objectives is management direction within legislated boundaries. The result of policy is guidelines for areas of special interest for consideration in plan development and decision making. The province has signaled (with the enactment of the *Forest & Range Practices Act*) that it is moving towards establishment of legal objectives with clear and measurable results that must be achieved.

In summary, an increasing amount of federal and provincial legislation and regulations—reflecting various international treaties to which Canada is signatory—oblige professional foresters (to the extent the relevant factors relate to forest management and are under their control) **to manage for species at risk with the aim of recovering or adequately protecting these species at a level where they are no longer at risk.**

Knowledge Considerations

In some cases, the factors affecting species at risk are not influenced by forest management practices or lie beyond the control of forest managers. Such factors may include: global and regional climate change, reductions in genetic diversity, human density, disease, pollution and hunting regulations. Some specific land uses also exacerbate species at risk issues. For example, in southern Vancouver Island, the Lower Mainland, and the Okanagan, the primary threats arise from urban development and agricultural land use. These factors are not the focus of this paper.

Forest activities that can threaten species include habitat loss and fragmentation; absence of natural ecological disturbances; and increased backcountry access for predators (along forest access roads and packed winter trails) and recreationists (e.g. hunters, hikers, snow-mobilers). The limiting factors on a population not only depend on the inherent characteristics of the species itself but may also vary for that species from place to place. Sometimes those factors are amenable to management (e.g. maintaining old forest or old forest structures, reducing predator populations to benefit a prey species at risk); sometimes they are not (e.g. winter severity, human density).

While research has identified the mechanisms causing population declines in many species at risk, that knowledge does not exist for all species and, even where it does, is often incomplete. Previously accepted population trends may even be questioned as survey methods and statistical

analyses improve over time. For those species for which forestry is a significant risk factor, the connection will involve one or more components of their life cycle (e.g. food, shelter, the ability to disperse or take cover, increased predator access). On occasion, the requirements for one species at risk may be at odds with requirements for another species at risk, for example, the species are predator and prey. Ideally, recovery plans should acknowledge management beyond a single species. In reality, forest management planning may have to provide the broader scope.

Legislation, recovery strategies or management plans take time, funding and political will to develop or amend. Ongoing research on species at risk can make existing recommendations in legislated recovery plans or management plans out-of-date or even inappropriate. There are also often considerable time lags between when problems or new knowledge surface and when legislation changes to address them. Species may be listed when substantial information indicates they are at risk. If insufficient information exists, species may still be listed as a 'species of special concern'. Provincially, a species may be blue listed simply because of inadequate knowledge of its status. Recovery strategies or management recommendations (e.g. in the Managing Identified Wildlife: procedures and measures) are usually based on the best information in the current literature.

The scale at which the balancing of values should occur will depend on the particulars of the species at risk—its population, habitat needs, sensitivity to forest practices and its standing as a stable or declining population. Species may have low but relatively stable populations. These require careful attention, but still offer more options than species which have low *and declining* populations. The latter require special attention and efforts.

Public Considerations

Many different publics—ranging from global constituencies to local communities—need the wide range of resources provided and supported by forests. They also often attach very different values and weights to them. Given our democratic processes, professional foresters may assume that, in most cases the laws reflect the will of the people. Where legislation captures the general public will and is supported by the scientific evidence, the professional forester has relatively clear guidance. Frequently though, legislation lags public expectations and new valid science. It can even lag court judgments that challenge existing legislation or policy or their application. In other cases, important issues lack clear legislative guidance. While public concerns and the concept of good stewardship may help identify the general goal, they often fail to clarify the specifics or spell out the means to achieve the goal. In such instances, the application of professional judgment to balance competing claims and interests in a strategy or plan that delivers good forest stewardship becomes both more necessary and more difficult than it does where clear guidance and agreed upon scientific knowledge exists.

Sometimes members of the public will identify new information concerning a species at risk. The professional forester is obliged to inform themselves about that knowledge, disseminate it to other professional foresters and colleagues and account for it in decision making. Since changing public values will often not be captured in legislation, the professional forester must solicit public input on a continual basis to discern that information and account for it in their decision-making processes. Consultation does not imply that any and every view or wish will, or can, be accommodated. The professional forester is obliged to consider sound and logical information based on facts and credible science. The ABCPF paper, *Interpreting the Publics' Interests*, provides guidance in this regard.

Professional Considerations

What is the professional forester's role when legislation, science and public perception do not line-up?

The *Foresters Act* charges the ABCPF to hold its members accountable for their professional judgment and activities by ensuring the competence, independence and integrity of all its members and by ensuring that all persons practicing professional forestry are accountable to the public and to the ABCPF. The ABCPF Bylaws offer guidance on how professional foresters should approach species at risk. In particular, the Code of Ethics (Bylaw 14) requires that professional foresters practice and advocate good forest stewardship based on sound ecological principles. The Standards of Professional Practice (Bylaw 17) and its Guidelines for Interpretation indicate that professional foresters must: (a) maintain sufficient knowledge in their field of practice; (b) exercise due diligence and do work with careful attention; and (c) achieve and demonstrate stewardship by balancing present and future values against the capacity of the land to provide for those values. Ultimately, professional foresters are fully accountable for the quality and content of any plans or work they prepare (whether signed or sealed or not) and any consequences (results) that flow from the implementation of those plans or that work.

Professional foresters are duty bound to understand the social, economic and ecological issues present in the area they manage. They must avail themselves of the best available information pertaining to those issues. Where a professional forester is not expert on a particular matter, advice must be sought from other recognized professionals and persons possessing local knowledge about the issue. Where species at risk are concerned, professional biologists will often be well informed on current science and in a good position to assess the quality, reliability and applicability of data, as well as to judge how that information should be used.

A significant shift has occurred towards a results-based regulatory system and an increased reliance on professionals with the enactment of the *Forest and Range Practices Act,* the *Biologists Act* and the impending new *Foresters Act*. Changes in legislation and public attitudes are causing species at risk considerations to assume greater importance than in the past. Accordingly, it is expected that the role of the professional forester in managing species at risk will substantially increase in magnitude. **In fact, the lack of protection and recovery of species at risk may be a major constraint on future forest harvesting.** With that in mind, it is the responsibility of **every** forester to ensure species at risk are managed, and that as few species as possible get on the threatened or endangered lists owing to forestry practices.

While it remains appropriate for most forestry decisions to be based on risk management assessments, the due diligence required clearly becomes more critical when species at risk are involved and as the risk facing the species in question increases. Indeed, in critical cases, due to the fear of irreversible consequences, the test of due diligence should shift from 'demonstrate it's harmful before you stop', to 'demonstrate it's okay before you start'.

On occasion, professional foresters will encounter situations where satisfying legislation and established objectives (such as *Forest Practices Code*[15] rules or Allowable Annual Cut obligations) materially conflict with what they judge to be good stewardship. Under these circumstances, the professional forester has a responsibility to inform their employer/client and to suggest alternatives or other courses of action, as appropriate. Ultimately, if their concerns are not adequately addressed, he or she may refuse to participate in the decision and/or decide whether to withdraw their services. Each professional forester relies on his or her individual judgment—informed by knowledge of relevant social, environmental and economic considerations, applicable law, and available science—to determine what constitutes good stewardship.

Application to the Real World[16]

Keep Informed of Species at Risk in Your Area:

The first steps are to understand the biology and unique ecological characteristics of any species at risk in the area being managed, and any legislative direction applicable to those species. This means checking SARA, COSEWIC and CDC lists, and any relevant recovery strategies/action plans, higher level plans or policy directions.

Keep Informed of New Knowledge:

Professional foresters must consider and evaluate new science and emerging information (see ABCPF article "When the unknown is known"[17]). An individual professional forester may lack sufficient expertise to evaluate the available scientific knowledge or to design best management practices based on that information. Contacting an existing recovery team and/or building an inter-disciplinary team of professionals[18] will broaden the knowledge base and increase the chances of success. Sources of local knowledge (e.g. First Nations, field naturalists, university researchers) will often be an invaluable source of information and should be consulted. The need for ongoing research and monitoring should be addressed. Information gathered through these processes will indicate whether a chosen strategy needs to be adapted, modified or changed in its entirety if intended goals are to be met.

Participate in Recovery Teams:

For some species or populations, provincial, regional or local recovery teams have been or are being created to develop recovery and management plans. Professional foresters must participate on these teams to keep informed of recovery efforts and ensure forest practices contribute to recovery effects.

Assess Practices to Meet Legislated Direction:

If legislated direction and a recovery strategy exist, the professional forester must assess whether current management conforms. If operational practices are following the recovery strategy/action plan, the course of action should continue with an obligation to monitor and evaluate results over time. However, if the professional forester believes practices are not following the action plan, she or he must inform the employer and if appropriate, the statutory decision maker, and advocate an independent assessment of current practices. If the evaluation shows that practices are out of alignment, then changes will be required. In circumstances where no legislative direction, but only policy advice exists, the obligations to implement practices, assess results over time and adapt management remain the same.

Develop Low Risk Options When There is No Direction:

If there is no recovery strategy/action plan for a species at risk, and no direction from higher level plans or policy, then current science supplemented with advice from a specialist team should guide the professional forester in developing low risk management options. In some cases, finding agreement on appropriate management actions to halt or reverse downward population trends may be difficult. Species specialists may have different views and advocate contrary prescriptions for the same species. How is a reasonable conclusion reached in preparing appropriate actions? The level of acceptable risk with regards to forest activities depends on the sensitivity of the species at risk. The lower the population numbers and the faster the rate of decline, the more risk-averse the forest management strategy must be to halt the decline and provide a chance of recovery. Situations where there is a low probability that the species will recover from management mistakes require the adoption of very low risk approaches. **The riskier the situation and the less certain the science/data, the greater is the due diligence required of professional foresters to satisfy themselves that a management action is not harmful before proceeding.**

Arrive at a Socially Acceptable Decision:

Professional judgment must consider existing legislation and policy, legal issues, the public good, current and new scientific information, local knowledge, and professional obligations to ensure

good stewardship of forest resources. Upholding the public interest requires an understanding of the social, economic and environmental values that society wishes to sustain.

Many questions must be addressed if socially acceptable decisions are to be effective. Is the species close to extirpation or extinction? Is a species close to extirpation in one area of the province but healthy elsewhere? Will the protection of the species across its range cause unacceptable economic hardship locally or provincially? In considering answers to these questions, it is fair to say that governments must play a paramount role in providing strategic direction that addresses society's need for an appropriate balance. It is then up to professional foresters and other specialists to build action plans, carry out practices with specificity, continually monitor results, and build adaptive management processes to achieve stated objectives and agreed to outcomes.[19]

For some species at risk, there may be several acceptable solutions within the legislated or policy framework that accommodate social, environmental and economic needs within an area. In this case, it is appropriate to choose the most economical solution. However, when managing for a species at risk whose population is low and declining, highly valued and sensitive to forest practices, it may not be possible to balance social, economic and species values on the same piece of ground. In this situation, actions in favour of protecting the species at risk should prevail.

Support Monitoring and Adaptive Management:

Recovery and management plans are based on best available information. In time, new scientific information or results from monitoring may indicate that a chosen strategy is not meeting the goals it was intended to meet. Effective adaptive management strategies will then be required and the recovery strategy will need to be amended. Ideally, there will be opportunities for government and industry to work together on research projects and the adoption of adaptive management frameworks that will allow testing and analysis of alternative management practices. The end goal of such activities is to see if impacts are reduced.

With regard to monitoring, a rigorous process is required that begins with a well-documented record of the assumptions and understandings that formed the basis of recovery and management plans. This includes any decision support tool assumptions that were used to model potential outcomes. Assessments and evaluations must be science-based and documented using an auditable format. New knowledge can then be used to revise modeling assumptions and enable meaningful adaptive management.

Advocate Good Forest Stewardship:

Individually, professional foresters have the responsibility to practice good forest stewardship based on sound ecological principles. In most cases, professional foresters and teams of scientists (government, licensees and consultants) are dedicated to working together within a legislated or policy framework to carry out best management practices aimed at sustaining or improving the viability of species at risk. If results from monitoring indicate changes are necessary, professional foresters may be able to prescribe alternative forest practices to meet the desired objectives based on recommendations and advice from a team of specialists.

Professional foresters are also responsible to advocate good forest stewardship. Advocacy must include voicing concerns to their employers and clients about any deviations they see from principles of good forest stewardship, and seeking change when legislation or policy lags new knowledge.

A professional forester's responsibility is not waived by the existence of legislated or policy direction. The *Foresters Act* and associated ABCPF Bylaws require foresters to independently judge whether their plans and practices within the legislated or policy framework will result in good forest stewardship. There may be situations where a professional forester, regardless of position, decides to withhold services if actions within the law do not, in their opinion, constitute good stewardship of forest resources. The ABCPF is here to assist and support the professional forester facing such situations.

Foresters in Differing Roles:

Professional foresters have differing opportunities and responsibilities relative to the management of species at risk depending on their particular roles, specialties or job functions.
As examples:

- The prescribing professional forester has considerable flexibility in determining where blocks go and how stand level treatments and alternative harvesting methods can be designed to preserve habitat characteristics. Their decisions may be currently constrained by cut control requirements or other legal responsibilities such that they are forced to prescribe for areas they would otherwise choose to avoid. The employer and statutory decision maker need to be informed when this occurs. A request for clarification of either the objectives or strategies may be needed and an exploration of alternatives may be appropriate.

- Statutory decision makers (for example, district managers under the *Forest Practices Code*), are bound more directly by legal requirements. Approval of plans and issuance of permits must be based on whether they meet legal requirements. If the legally correct thing to do is contrary to the evolving understanding of good stewardship, then the appropriate authorities should be informed. In some instances, alternative courses of action—such as establishment of designated areas—may be needed to delay or halt development until the government can alter legislation or change land and resource use objectives.

- At the highest levels in government, senior professional foresters have considerable responsibility and authority to set directions and alter policy to promote good stewardship. Along with these opportunities comes the obligation to be well informed on the science behind the issues and be aware of the prevalent public values around species at risk.

Conclusion

Society will continue to move the goalposts for forestry. However, sustainable forest management based on principles of sound science and ecological principles will remain an underlying direction rather than a moveable goal. Continuous learning is an absolute requirement for all practicing professional foresters. Professional foresters must make themselves aware of emerging issues, species of concern in their areas, current and pending legislation, relevant court decisions, direction from legal objectives or higher level plans, and new scientific data if they are to develop good stewardship options. Developing professional teams, assessing levels of risk, recognizing the shifting burden of proof as species become less viable, and admitting imperfect knowledge will enable adaptive management and monitoring programs that improve the quality of decision making and management. Sharing the reasoning behind current approaches and humbly acknowledging knowledge limitations will create public trust and open opportunities for joint learning and shared stewardship.

Notes

1 While this paper is focused on species at risk, species dynamics are but one element in managing for biological diversity in the broader sense. Although biological diversity is beyond the scope of this paper, the concepts presented herein may have application to the management of resource values other than species.

2 Species of special concern are those that may become threatened or endangered because of a combination of biological characteristics and identified threats.

3 This paper is written from the perspective of public forest lands—constituting 95 per cent of all forest lands in British Columbia. Because the legal context for private lands is substantially different, they are not addressed. Nevertheless, the guidance offered is generally relevant to private forest land management.

4 Although this paper focuses primarily on mammals, the full range of species at risk also includes plants, birds, amphibians, reptiles, insects and micro-organisms.

5 The Guidelines for Interpretation for ABCPF Bylaw 17, Standards of Professional Practice define stewardship as the care of natural resources taking into consideration the values of the landowners and society. 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.

6 Thomas, J.W. 2002. "Are there lessons for Canadian foresters lurking south of the border?" *Forestry Chronicle* 78: 382-387.

7 The term "guiding principles" reflects the document's complete title: "Non-legally binding authoritative statement of principles for global consensus on the management, conservation, and sustainable development of all types of forests."

8 URL – www.cosewic.gc.ca

9 "Residences" are broadly defined in the legislation as dwelling places such as dens or nests, occupied by one or more individuals during all or part of their lifecycles, including breeding, rearing, staging, wintering, feeding, or hibernating. There is debate on how residence should be further defined in recovery planning.

10 URL – srmwww.gov.bc.ca/cdc

11 Formerly the Association for Biodiversity Information (ABI) that grew out of the science division of The Nature Conservancy (U.S.). NatureServe scientists assign the global and national ranks. In British Columbia, the Conservation Data Centre assigns the provincial ranks.

12 In British Columbia, the white pelican, burrowing owl, and Vancouver Island marmot are endangered. The sea otter is threatened.

13 URL – wlapwww.gov.bc.ca/wld/identified/index.htm

14 Example: In some local areas there may be regionally rare or at-risk species that COSEWIC or CDC may not deal with, but that are identified in a higher level plan or policy objective.

15 Also applicable to the *Forest & Range Practices Act* when in affect

16 In reading the following guidance, professional foresters should have a good understanding of the *Foresters Act*, ABCPF Bylaw 14 (Code of Ethics) and Bylaw 17 (Standards of Professional Practice) and the associated Guidelines for Interpretation, as well as the ABCPF paper *Interpreting the Publics' Interests*. All may be found on the ABCPF web site: www.rpf-bc.org

17 Marburg, J.M. 1999. "When the unknown is known." *Forum* 6:4 p23 (July August 1999).

18 A team can include terrain and hydrologic specialists, fisheries, wildlife and soils biologists, ecologists, engineers, timber supply analysts, operational foresters, habitat planners, etc.

19 It is within this framework that significant effort is placed on professional foresters to use their professional judgment to plan and deliver specific practices on the ground to meet desired results. If legislated or policy direction is not available, professional judgment becomes more complex in arriving at a solution.

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