

'AFTER THE SEA' -
USING MILITARY INTELLIGENCE PROTOCOLS
TO TRANSLATE STRATEGIC ENVIRONMENTAL ASSESSMENT RESULTS
INTO OPERATIONAL DIRECTIVES

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By

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ABSTRACT

The aim of strategic environmental assessment (SEA) is to evaluate the environmental consequences of strategic initiatives to ensure consideration and integration at the earliest stages of decision-making. While contextual flexibility is important, the SEA process must be structured so that results can be effectively integrated into related decision-making processes and translated into action. This research explores whether SEA follow-up and implementation could be improved by incorporating a standard military strategic and operational intelligence (S/OI) framework. Specifically, the purpose of this research is to advance SEA practice by providing a structured framework and communication guide for practitioners to aid in the dissemination and follow-up of SEA results to enable resource management decision-makers to translate SEA results into mission-oriented operational actions.

The research methodology adopts standard methods of qualitative inquiry including an in-depth literature content review of SEA process, tiering, and communication, and grey literature review on military S/OI processes. Based on these reviews, a proposed framework for SEA was developed and then tested for viability in a case investigation of Parks Canada (PC) SEA implementation. Data were gathered regarding the SEA process, tiering, communication and translation processes through open-ended, semi-structured interviews, examining process effectiveness and perspectives on outcomes of using the proposed intelligence-based framework.

Significant findings include that deficiencies in the current SEA guidance can be augmented by the S/OI enhanced guidance to facilitate more successful tiering and it has the potential to bridge the gap to evolve SEA from an information provision exercise to an actionable mandate that leads to desired outcomes via measurable effects. Further, within PC the gap in guidance for SEA implementation and follow-up results in challenges for ‘after the SEA’ processes, including translation, implementation, monitoring and feedback, causing negative effects for both human and environmental aspects of PC. Effective SEA implementation and follow-up is fundamentally a communication challenge. The PC test results showed that the S/OI enhanced SEA framework is the missing element needed to operationalize SEA results and has the potential to be a valuable tool for government and industry. However, to be successful, SEA policy must gain legitimacy through legislative foundation, and political commitment.

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LIST OF ABBREVIATIONS

CEA	cumulative effects assessment
CEAA	Canadian Environmental Assessment Agency
COA	course of action
CONOPS	concept of operations
EA	environmental assessment
EA1-4	EA practitioners
EI	Ecological Integrity
EIA	environmental impact assessment
FSDA	Federal Sustainable Development Act
FSDS	Federal Sustainable Development Strategy
Int	intelligence
I&W	indicators and warnings
M1-2	environmental monitoring specialists
MEP	management effectiveness program
MOE	measures of effectiveness
MP	management plans
P1-3	project managers
PC	Parks Canada
PPP	policy, plans and programs
PP1-3	policy planners
PPP-P	policy, plans, programs and projects
OI	operational intelligence
SEA	strategic environmental assessment
SEA1-3	SEA practitioners
SI	strategic intelligence
S/OI	strategic and operational intelligence
SUPLANs	supporting plans
TI	tactical intelligence

Chapter One: Introduction

1.1 Research Context and Problem

The full potential of Strategic environmental assessment (SEA) to improve policy, plans, and programs (PPP) has yet to be fully realized in government and industry operations and practices (Kis Madrid et al., 2011; McLauchlan & João, 2011; Gachechiladze-Bozhesku & Fischer, 2012; Government of Canada, 2013, Noble & Nwanekezie, 2017). The aim of SEA is to evaluate the environmental consequences of proposed PPP initiatives and inform the decision-making process through identification of the best available environmental option and to provide early warning of cumulative effects and large-scale changes towards the achievement of environmental protection and sustainable development (Sadler, 2001; Sheate et al., 2003; Therivel, 2010). Uncertainty, conflicting values, and high stakes with time-sensitive decisions required are inherent in environmental policy-making and management. Nilsson and Dalkmann (2001:320) explain: “policy formation is itself embedded as a subsystem in the total complex system of which its environmental problem is another part.” SEA offers a unique opportunity to not only influence PPP planning while in process with environmental considerations, but also provide guidance for future actions stemming from the planning process (Arts et al., 2005; Gachechiladze-Bozhesku & Fischer, 2012). SEA helps ensure that PPPs are developed with environmental impacts considered early in PPP decision making; and that individual projects following the PPPs are implemented in a broader sustainability framework (Morrison-Saunders & Therivel, 2006; Noble & Harriman-Gunn, 2009; Therivel, 2010; White & Noble, 2013).

Sadler (1996:37) defined effectiveness in SEA as “how well something works or whether it works as intended and meets the purposes for which it is designed.” Differing opinions and discussions on what makes SEA effective or not have not advanced guidance on methods to improve effectiveness. Phylip-Jones and Fischer (2015:210) found that “there are still remaining problems with SEA effectiveness in relation to adequate assessment of alternatives, inadequate quantification of impact significance and poorly established tiering between project level environmental assessments (EA) and different planning tiers.”

However, in order to fulfill its purpose as guidance for post-planning environmental actions and contribute to sustainable development in a substantive way, the SEA process output must lead to, or take the form of, clear direction and guidance (Retief, 2007c; Gazzola, 2008; Noble, 2009; Kis Madrid et al., 2011; McLauchlan & João, 2011; Fundingsland Tetlow & Hanusch, 2012; Noble et al., 2012; van Doren et al., 2013; White & Noble, 2013) In addition, this output must be actionable across multiple related levels of policy-making, planning, and/or management initiatives, as well as subsequent project-based EAs (Therivel, 2010; McLauchlan & João, 2011; Gachechiladze-Bozhesku & Fischer, 2012; van Doren, Driessen, Schijf, & Runhaar, 2013). This kind of connection, or linkage, between SEA and other levels and types of environmental management activities, is known as ‘tiering’ (Therivel, 2010). Arts, Tomlinson, & Voogd (2005) defined tiering as: “distinguishing different levels of planning –PPP– that are prepared consecutively and influence each other.”

Effective tiering has the potential to contribute substantially to SEA effectiveness and result in a fuller realization of the added value of SEA (Arts, Tomlinson, & Voogd, 2005; Morrison-Saunders, Marshall, & Arts, 2007; Sánchez & Silva-Sánchez, 2008). At present, there is no structured framework to guide practitioners through the process of SEA tiering, which would take place in the follow-up phase of a typical SEA process; i.e., there is no advice on methods or procedure to translate SEA results into operational actions and communicate these to all those that would need to act (Gunn & Noble, 2011; McLauchlan & João, 2011; Fundingsland Tetlow & Hanusch, 2012; Noble, Gunn, & Martin, 2012). This implies a corresponding lack of guidance around roles and the applicability of SEA products and capabilities for stakeholders and *decision-makers*. As a result, the potential for SEA to be valued by the *policy or plan-maker* is handicapped; consequently, the ability for SEA to inspire adjustments or provide input into eventual courses of action, and the subsequent direction of environmental management is compromised (Arts et al., 2005; Morrison-Saunders et al., 2007; Fundingsland Tetlow & Hanusch, 2012).

Phylip-Jones and Fischer (2014) illustrate this problem in their report on 18 SEAs applied in the wind energy sector in the UK and Germany. They found that the unsatisfactory quality of SEA documentation and dissemination (or direction for implementation/translation) leave substantive outcomes of SEA unclear and limited in many cases. They also state that “a lack of effective tiering between SEA and project level EA is also observed,” and conclude that “our

findings echo some of the weaknesses of SEA practice found in previous studies of SEA effectiveness, including... a lack of detailed monitoring programmes for post plan implementation (2014:203).” Regarding tiering, “there was often insufficient explanation of how the plan or the strategy sets a framework for other activities (2014:210).” Limited SEA contribution to outcomes of the planning process resulted in SEA and benefits being undervalued by decision-makers, therefore resulting in less opportunity for influence. Similarly, Eales and Sheate (2011:39), after investigating case examples from the UK, such as Eco-towns and Energy Planning concluded that one of the root causes of SEA implementation problems are due to “the apparent perception that having to undertake an assessment and comply with the SEA Directive is a hurdle, rather than a useful mechanism for helping to deliver better and more sustainable evidence-based policy making.”

While all EA processes, including SEA, include a follow-up and monitoring component upon determination of significant adverse environmental effects, this alone has proven to be insufficient to ensure that SEA recommendations, products, reports are effectively implemented and achieve the desired goals and objectives (Gunn & Noble, 2011; McLauchlan & João, 2011; Noble et al., 2012; Fundingsland Tetlow & Hanusch, 2012). What is currently lacking is a mechanism to help translate SEA products into actions within policy frameworks such that when a policy is made, the specific direction and guidance flowing from the SEA adequately informs the recipient of “safe”, desirable, or available courses of action at their respective level of responsibility within known environmental constraints and restraints (McLauchlan & João, 2011; Noble et al., 2012; Hansen et al., 2013). Additionally, what is needed is a mechanism to define metrics to ensure the requisite follow-up actions are executed for feedback into the SEA cycle for future SEA decisions (Gunn & Noble, 2011; Gachechiladze-Bozhesku & Fischer, 2012).

1.1.2 Research Purpose And Objectives

The goal of this study is to investigate how established and proven military strategic and operational intelligence processes could be adapted and incorporated into current SEA frameworks to increase its influence upon subsequent tiers of impact assessment, and/or related policy and plan making, and/or environmental management directives. Military intelligence frameworks have already been adapted for use in law enforcement, industry and business, as well as other industries for achieving missions, goals, and objectives. Strategic level intelligence is

meant to inform policy and strategic level decision-makers on the problem context and implications of potential initiatives at this level, while operational intelligence is meant to inform operational planning and decisions towards achieving the strategic mission, with a view to the risks and uncertainties inherent in security matters (McDowell, 2008; United States Government, 2013). It is a tool provided to advise military commanders and policy decision-makers continuously, throughout the process of informed decision-making for formulation of appropriate policies and plans in response to identified security risks (McDowell, 2008). Simply put, this framework has significant potential to be integrated into the SEA process and provide structure for dissemination or transmittal of SEA results, and specifically translate these results into focused and mission-oriented operational actions across government and industry bodies responsible for implementation.

Specifically then, the purpose of this study is to develop and test the potential of a SEA framework based on the military strategic/operational intelligence (S/OI) processes. To achieve this, the objectives are to:

1. **Develop a framework for SEA implementation guidance, based on what is currently in place in SEA literature and an adapted S/OI framework.** This aim of this framework is to increase SEA influence upon subsequent tiers of impact assessment, and/or related policy and plan making, and/or environmental management directives by improved translation of SEA through multiple related tiers of PPP to projects. This will be achieved by first reviewing SEA literature content to determine SEA follow-up and implementation practices, and then by extracting the standard process framework from open source S/OI guidance documents and literature content for dissemination and translation of guidelines and procedures for integration and implementation at operational and tactical levels of military operations. These guidelines were then integrated into a typical SEA follow-up and implementation phase at critical transition points where currently guidance is needed to facilitate successful tiering from integration to implementation; and
2. **Test the potential of the proposed intelligence-based framework for communicating SEA outcomes through a case investigation of SEA implementation.** The viability and utility of the framework will be tested within a Parks Canada context, as it is an established federal government organization experienced in SEA practice and

implementation as well as PPP development. The potential of the framework to guide effective translation of SEA results into focused and mission-oriented operational actions will be explored within the context of managing important ecological and heritage conservation areas.

1.2 Thesis Organization

This thesis follows a traditional format. Chapter 2 is a review of relevant literature contents to provide insight into the current state of research on SEA implementation and follow-up, with emphasis on the topics of SEA process, tiering, and operational translation. The review helps to clarify the research gap and positions this study in relation to it. Chapter 3 gives a detailed summary of the research methodology, how each method contributes to the research objectives, and how data were collected and analyzed. Chapter 4 comprehensively reports and then highlights and interprets key findings of the results of the literature content review and framework development, while Chapter 5 thoroughly reports the results of the case investigation and highlights and interprets key findings from the results of the case test. The approach taken is to first analyze significant results obtained through each research method, and then to offer a discussion of key findings. Reference to key SEA and intelligence literature is made throughout to contextualize discussion points. Chapter 6 contains major conclusions arising from the study and provides a list of recommendations to improve the SEA process and framework to enable tiering and operational translation. Suggestions for related future research are also made.

Chapter Two: Literature Content Review

2.1 Strategic Environmental Assessment

2.1.1 What Is SEA?

Strategic environmental assessment grew out of the need for the application of EA before the project stage. According to Fundingsland Tetlow & Hanusch (2012:15), “whereas EA is primarily concerned with how a proposed development should take place in order to minimize adverse environmental impacts, SEA can have a real influence on the choice of alternative developments during the earlier stages of decision-making.” In this way, during early stages of strategic decision-making processes, SEA enables a proactive approach to ensure that environmental and sustainability considerations are taken into account.

Strategic environmental assessment has evolved substantially from its EA origins and considerable experience with SEA practice has been gained internationally (Sadler, 2001; Chaker, El-Fadl, Chamas, & Hatjian, 2006; Fischer & Onyango, 2012; Fundingsland Tetlow & Hanusch, 2012). SEA still retains similarities to EA but as has evolved to become suitable for application in the strategic decision-making process. The aim of SEA is to evaluate the environmental consequences of proposed PPP initiatives and inform the decision-making process through identification of the best practicable environmental option and to provide early warning

of cumulative effects and large-scale changes towards the achievement of environmental protection and sustainable development (Sadler, 2001; Sheate et al., 2003; Therivel, 2010).

2.1.2 What Is SEA Meant To Influence And How?

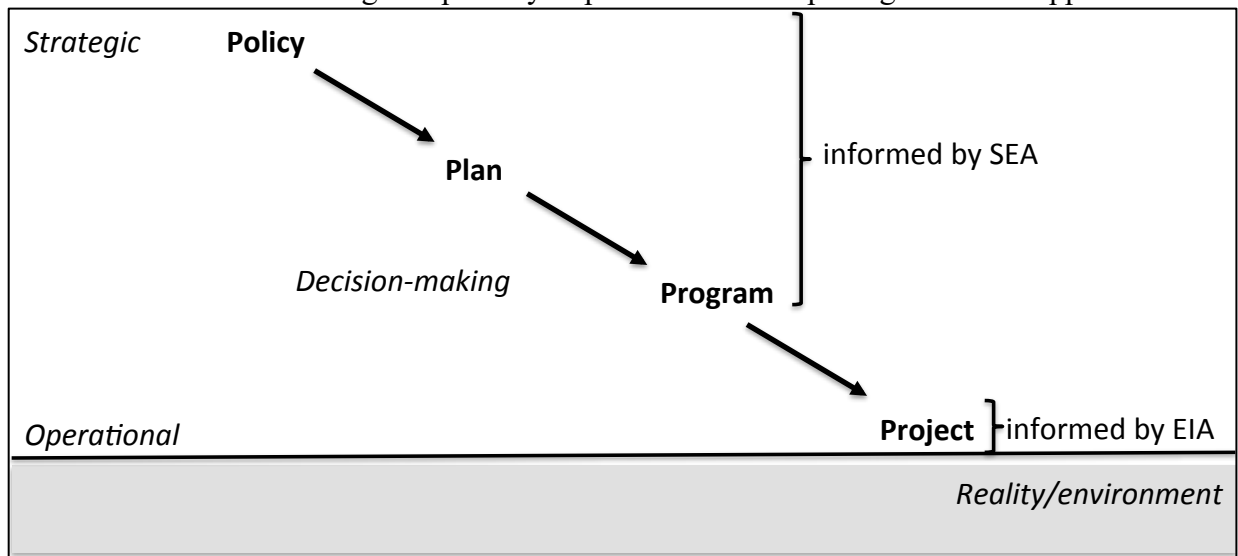
In principle, integration of SEA at the strategic level should translate into appropriate follow-up at the operational-level of decision-making and then tactical level project EA through tiering, reducing time, effort, and duplication of actions (Gachechiladze-Bozhesku & Fischer, 2012). Toward the mission of integration with strategic decision-making action and outcome, SEA theory has been reformed by related disciplines resulting in a flexible approach to SEA (Fischer & Onyango, 2012). There are many unique contexts in which SEA is applied making strict methods or procedures difficult to develop. Despite these differing contexts, there is a need for SEA guidance which can be tailored to different social/environmental decision-making contexts. Eales and Sheate (2011:42) explain that “evaluating effectiveness is difficult given the problems in determining the role SEA might have played among multiple factors influencing decision-making... context is recognized by many of these authors as important.” Fischer and Gazzola (2006) agree, stating that to be effective, formal SEA must be applied in a systematic and rigorous manner, reinforced with strong enforcement mechanisms; for example ‘tiering’. The need for tiering is widely agreed upon by academics and SEA specialists as a key aspect of SEA effectiveness (Arts et al., 2005; White & Noble, 2013; Phylip-Jones & Fischer, 2014; Noble & Nwanekezie, 2017).

The concept of tiering, defined by the European Commission (1999: xvi), is: “distinguishing different levels of planning – policy, plans, programs – that are prepared consecutively and influence each other”. According to Arts, Tomlinson and Voogd (2005:1): “Tiering means that by preparing a sequence of environmental assessments at different planning levels and linking them, foreclosure may be prevented, postponement of detailed issues may be permitted and assessments can be better scoped”, and (2005: 417): “the deliberate, organized transfer of information and issues from one level of planning to another, which is being supported by EAs.” The simplified depiction of this concept can be seen in figure 2.1.

Figure 2.1 A simplified depiction of tiering adapted from Arts, et al. (2001: 417).

Figure 2.1 represents the concept of vertical tiering as it is described in SEA literature. Vertical tiering between SEA and EA is essential for efficient communication between levels of decision-making as well as the means for auditing and monitoring (Gachechiladze-Bozhesku & Fischer, 2012; Noble & Nwanekezie, 2017). SEAs at the PPP level should be translated to Project EIA at the project level. ‘Translation’ links the strategic context, where conservation PPP scenarios are evaluated against planning goals, with the tactical context, where decisions are made regarding individual actions in the physical environment (Noble & Sizo, 2016).

In reality, SEAs communication and translation must bridge multiple levels of decisions affecting the same environment in multiple ways through multiple PPP-Projects. Horizontal tiering across sectors is essential for alignment and coordination of policy and planning towards environmental management goals (Arts et al., 2005). Diagonal tiering, the combination of both vertical and horizontal tiering is especially important in the adaptive governance approach where



national and regional policy influence local plans and in theory, should also also work vice-versa (Arts et al., 2005). Figure 2.2 provides a visual example of the complex interactions of EAs with vertical, horizontal and diagonal tiering as bridges between the islands of EAs in a sea of decisions.

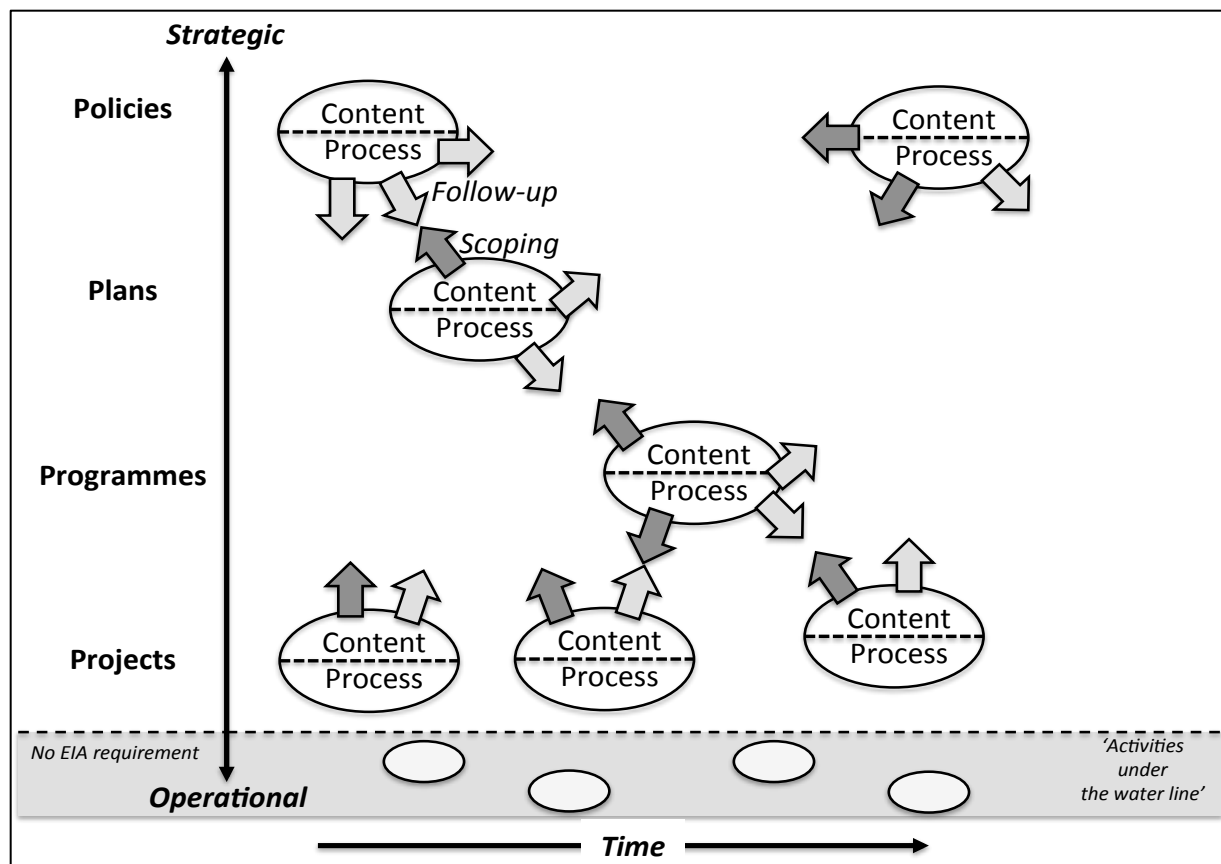


Figure 2.2 Teiring depicted as bridging the islands of EAs in a sea of decisions adapted from Arts, et al. (2001: 424).

In order for SEA influence to bridge multiple levels of decision-making for effective implementation and translation into action, efficient communication is imperative (Persson & Nilsson, 2007; Reteif, 2007; Noble et al., 2011; Tetlow & Hunsch, 2011; Chanchitpricha & Bond, 2013). As expressed by Vicente and Partidário (2006:701), “from the decision-makers' perspective the relevance of any SEA results lies therefore in the ability to transform technical information into ‘actionable knowledge’ – information that actors could use.” This is especially important for consistency on the path to more sustainable and effective environmental policy when the decision-making power is disseminated from federal to regional and local levels and collaborative, participatory governance in multi-level systems including multiple organizations and actors (Newig & Fritsch, 2009; Bodi et al., 2016; Ioppolo et al., 2016).

2.1.3 Is SEA Influential?

There are two aspects of SEA influence, the first being ‘procedural’ and the second, ‘transformative’ (Wallington et al., 2007). According to Wallington, et al. (2007:573), the procedural strategy for SEA influence is a: “systematically ‘rational’ process which seeks to influence the formulation of a specific PPP”, while at the opposite are “‘transformative’ strategies, which identify SEA as an intentionally ‘political’ process intended to change the way decisions are made, and to induce learning about environmental values in institutions, organizations and civil society.” In reality, SEA practice is a blend of the two, but the distinction is useful for assessing aspects of SEA influence (Wallington et al., 2007).

SEA has had success by facilitating institutional learning through indirect forms of integration towards the ‘transformative’ or ‘normative’ strategy; mutual learning among stakeholders with often very different perceptions and values; and mutually constructed bodies of knowledge and shared decisions in controversial environmental situations (Retief, 2007a; Sheate & Partidário, 2010; Van Buuren & Nooteboom, 2010; Fundingsland Tetlow & Hanusch, 2012; Bond & Morrison-Saunders, 2013; Chanchitpitra & Bond, 2013; Hansen et al., 2013). However, evaluations of ‘procedural’ SEA effectiveness conducted internationally range from ‘variable’ at best to ‘poor’ and ‘ineffective’ at worst (Retief, 2007a; Gazzola, 2008; Noble, 2009; Eales & Sheate, 2011; Kis Madrid et al., 2011; van Doren et al., 2013). Eales & Sheate (2011) explain that these results include poor consideration and evaluation of reasonable alternatives, as well as SEA being perceived as a hindrance rather than assistance in decision-making. Retief (2007b) also notes a weak understanding of the decision-making processes and inability to influence the contents of plans and programmes as well as decision making in general. According to Noble (2009: 66), the results are due to the institutional and methodological pluralism of SEA and weak understanding of principles and frameworks caused by: “systematic separation of SEA from downstream decision inputs and assessment activities”. Philip-Jones & Fischer (2014:203) state that their “findings echo some of the weaknesses of SEA practice found in previous studies of SEA effectiveness, including poor impact prediction and significance sections and a lack of detailed monitoring programmes for post plan implementation.” Although these weaknesses in SEA effectiveness are acknowledged, this thesis will concentrate on improving SEA effectiveness through tiering.

Towards procedural SEA effectiveness, it is established that although tiering is an important idea to SEA and EA in academic literature, it is rarely discussed in a critical manner in

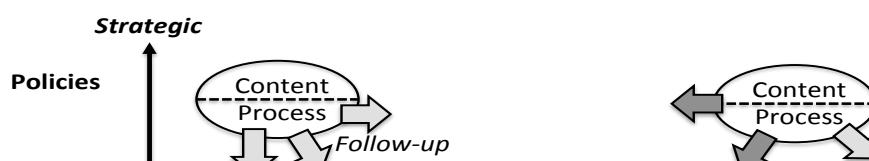
practice. Arts, Tomlinson and Voogd (2005:1) recommend that, “tiering could lead to better decisions and to more efficient resource allocation, since assessments would be conducted at the “right” timing and would feature increasing levels of detail, as needed.” However, almost a decade later, Pope et al. (2013:3) conclude that tiering “remains an unresolved concern.” Noble and Nwanekezie (2017:171) urge that “if SEA of any approach is to be influential in influencing decisions and actions, the notion and practice of tiering in SEA, particularly the institutional arrangements needed to ensure effectively tiered processes, needs to be revisited by the scholarly community.”

According to Fischer and Onyango (2012), SEA quality and effectiveness reviews have been at the top of the international impact assessment research agenda since 2007 (Fischer & Onyango, 2012; Dwyer, et al., 2014). SEA effectiveness criteria have been described as many different aspects of SEA influence. Dwyer, et al. (2014:2) included four categories of SEA effectiveness to create a more comprehensive means of evaluating effectiveness including:

- “procedural – relating to completing the required steps when conducting SEA;
- substantive – relating the achieving the overall objectives of SEA including learning which leads to a better SEA process, integration and environmental protection;
- transformative – learning which leads to attitudinal change; and
- transactive – whether the SEA process was carried out at least cost, in a short a time as possible and using the best skills possible.”

Specifically, successful tiering and translation accomplishes ‘substantive’ and ‘transactive’ effectiveness”.

Theophilou et al. (2010) explain transactive effectiveness of SEA in terms of efficiency; measured by proficiency in resources use and time consumed during the impact assessment implementation process. Studies on substantive and transactive effectiveness in impact assessment evaluation generally conclude that this area of SEA effectiveness needs more clarification (Theophilou et al., 2010; Chanchitpricha & Bond, 2013). Towards these aspects of SEA effectiveness, it has been suggested that overviews of how SEA relates to policy objectives would aid in evaluation of SEA performance (Retief, 2007a, 2007c; McLauchlan & João, 2011; van Doren et al., 2013). However, strategic objectives are not easily translated into metrics for influencing a particular goal (McLauchlan & João, 2011). Figure 1 provides an overview of the



areas of compromised translation, causing the effect of handicapped tiering in the procedural SEA-PPP cycle.

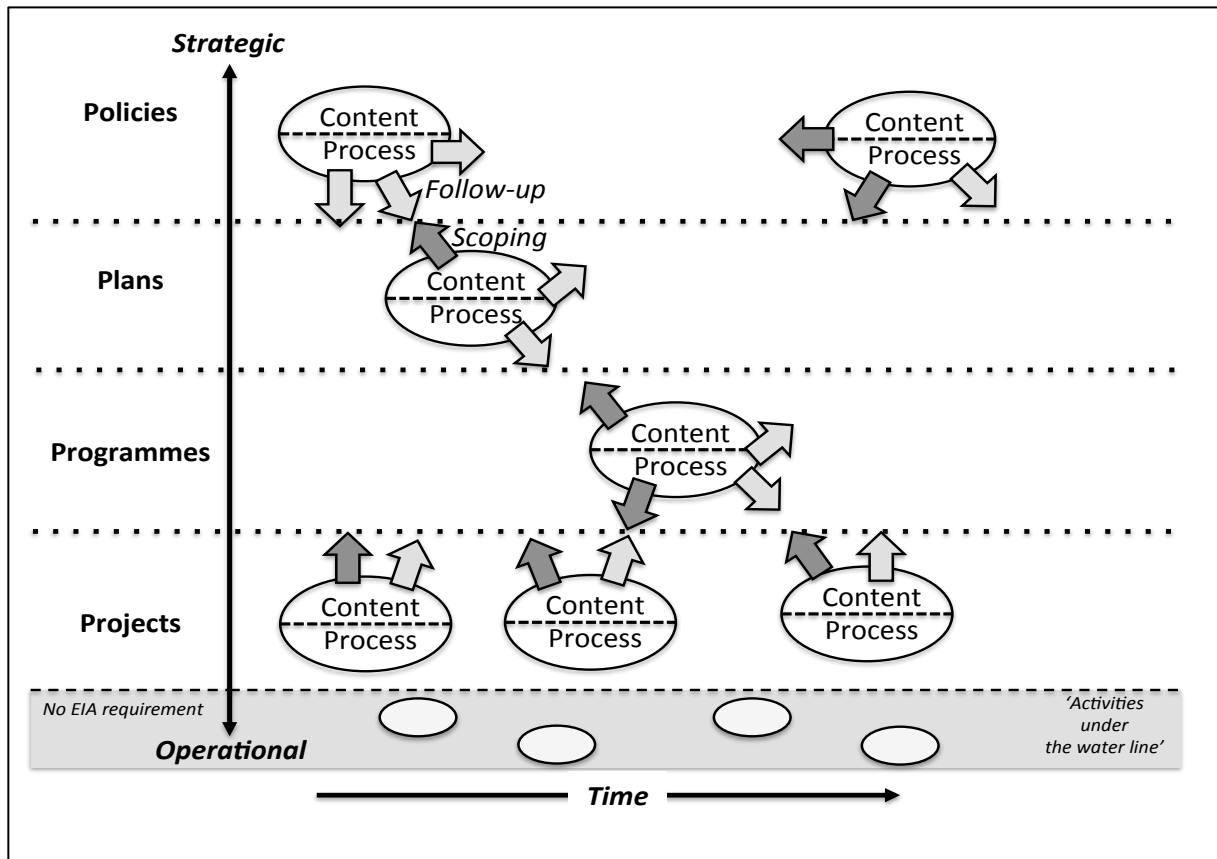


Figure 2.3 Areas of compromised effectiveness in the conceptual SEA PPP&P process depicted as dotted lines adapted from Arts, et al. (2001: 424).

In Figure 2.3, the dotted lines indicate the specific locations in the process where the effectiveness of SEA translation is compromised which coincide with the transitions between the tier levels and the lack of connection or effective communication between the follow-up of the higher level and the scoping at the lower level Dotted lines do not indicate different types of impacts on the linkages). This compromised translation between tiers interrupts the flow of SEAs to EAs and on the feedback side, the EAs to inform SEAs. This fragmented translation and communication essentially handicaps SEA from being effective in integration and implementation as well as in the areas required for improvement and learning including monitoring and feedback.

2.1.4 ‘After The SEA’: The Need For A Strategy To Transmit Results

Towards the goal of SEA effectiveness, and specifically, the aspects of procedural, substantive, and transactive effectiveness, there is a need for SEA specific strategy or guidelines to communicate, transmit or disseminate results for successful tiering and translation. However, strategic level outputs are often not expressed in terms that operational level decision makers and regulators can easily operationalize, given their current resources and constraints (Noble et al., 2012; Hansen et al., 2013). Harriman Gunn and Noble (2009: 280) state that: “this may help explain, in part, some of the challenges associated with tiering from strategic to project-level EA”. SEA effectiveness is directly related to how useful the output is to the actors involved in making decisions about the proposed PPP or other strategic initiative, and to any subsequent related project-based environmental assessments (Vincente & Partidario, 2006). In practice, flexible and context specific SEA are considered to be advantageous but it is also characterized by procedural ambiguity and the anticipated practical linkage of SEA with EIA through tiering remains under-developed (Gunn & Noble, 2011; McLauchlan & João, 2011; Fundingsland Tetlow & Hanusch, 2012; Noble et al., 2012; Pope et al., 2013; Noble & Nwanekezie; 2017).

According to Noble et al. (2012:143), recent studies have indicated that SEA academic experts and practitioners have a need for: “more strategic based methods and tools that will encourage dialogues, long-term analysis, working with uncertainty, communication, institutional analysis, learning processes, and strategic thinking”. In addition, better practices for practitioner interaction in the process will influence perceptions toward recognition that SEA performs a valuable function and is advantageous to decision makers, contributing toward future development beyond the immediate decision-making situation including follow-up (Fundingsland Tetlow & Hanusch, 2012; Gachechiladze-Bozhesku & Fischer, 2012; Monteiro & Partidário, 2012). Noble, Sizo and Bell (2016:52) state that “more research is still needed on effectively linking strategic-level initiatives, including those PPPs developed based on SEA processes, with the tactical planning and implementation measures that meet the broader strategic-level goals. Specifically, there is a need for examples for practice, reporting on the lessons learned, and guidance for assessing and then operationalizing strategic initiatives in different PPP land use contexts.”

Recommendations to increase and maximize SEA effectiveness call for the development of internationally applicable and detailed practical guidance considering context and institutional

capability for implementation in subsequent tiers (Retief, 2007c; Gazzola, 2008; Noble, 2009; Kis Madrid et al., 2011; McLauchlan & João, 2011; Fundingsland Tetlow & Hanusch, 2012; Noble et al., 2012; van Doren et al., 2013; White & Noble, 2013; Sizo et al., 2016). To achieve this, in part, SEA at the strategic level must be translated into practical and achievable operational-level constraints ('what must be done') and restraints ('what must not be done') as well as tactical, project-level direction with cyclical feedback for SEA and policy adjustment, regardless of tier-level (Acharibasam & Noble 2014; Sizo et al., 2016).

2.2 Military Strategic Intelligence

2.2.1 What Is Military Intelligence?

Military intelligence ('intelligence') is generally understood as the cyclical process and product of collection, processing, integration, analysis, evaluation and interpretation of available information on a risk or concern needed to safeguard welfare (McDougal, Lasswell, & Reisman, 1972; Warner, 2002; Clark, 2009). Intelligence is responsible for establishing a knowledge base and developing forecasts of likely future activities and their impact (McDowell, 2008).

Environmental factors in intelligence refer to the physical environment within which potential risks and conflict take place (Briggs, 2010, 2012). For intelligence to be effective it must be characterized by dependability, comprehensiveness, relevance, timeliness, creativity, openness, and resource-consciousness (McDougal, 1972; Clark, 2009; United States Government, 2013). The field of intelligence differs from other fields of research in that it operates under urgency to provide forecasts and early warning of likely developments and events, in time to allow for corrective or preventive action to be taken. However, there are some similarities to academic research in the processing steps of the structured and disciplined approach to problem setting, data gathering and analysis (Clark, 2009).

2.2.2 Aim And Process

The primary aim of intelligence is to provide critical decision support through reasoned insight into future conditions or situations in the form of assessments and estimates of the environment the military is operating in to facilitate mission accomplishment (McDowell, 2008; USG, 2012). This is achieved through a series of structured processes and principles to guide the intelligence staff in supporting organizations (McDowell, 2008). These roles include: informing

the commander, describing the operational environment; identifying, defining, and nominating objectives; supporting planning and execution of operations; mitigating security risks; and assessing the effectiveness of operations (USG, 2012). There are six actions in the intelligence process: planning and direction; collection; processing and exploitation; analysis and production; dissemination and integration; and evaluation and feedback (McDowell, 2008; USG, 2012). A fully developed system of early warning can help provide planning capabilities for new and emerging risks by providing a rational basis for the identification of national and international capabilities that may be needed to cope with the range of futures identified (McDougal et al., 1972; Briggs, 2010, 2012). The strategic, operational and tactical intelligence processes includes the same actions as listed for intelligence in 2.2.2, shown in Figure 2.4 (McDowell, 2008; USG, 2012).

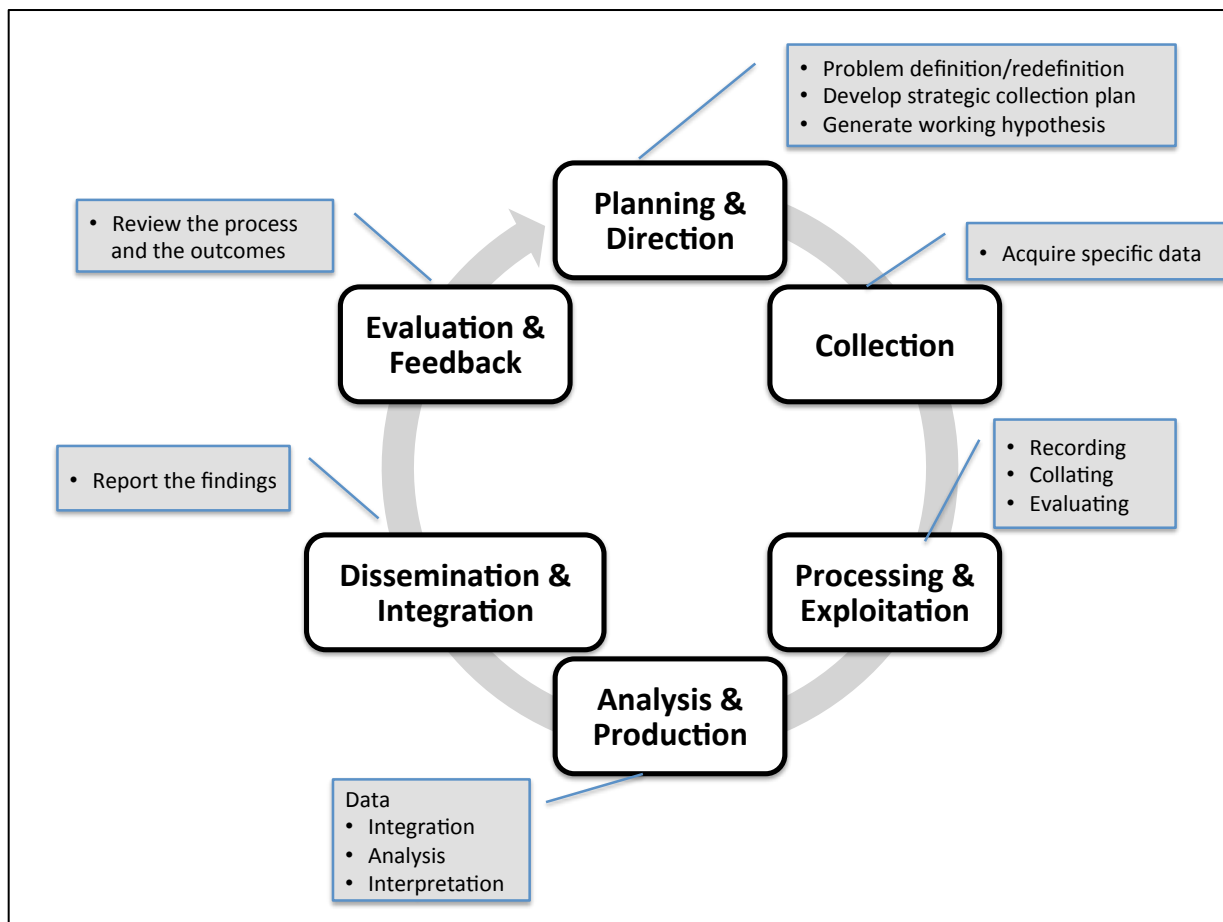


Figure 2.4 The Intelligence Cycle (Adapted from McDowell, 2008; USG, 2012)

2.2.3 Strategic And Operational Intelligence (S/OI) Concept

The role of strategic intelligence is to provide support to strategic decision or policy-making where the decisions made at a macro-level will affect outcomes and actions at lower operational and tactical levels in achieving the over-all goals of a mission (Herring, 1992; Heidenrich, 2007; McDowell, 2008). Operational intelligence provides an organization with an overview of enemy capabilities, vulnerabilities, trends and intentions and identifies classes of threat and risk to public safety and order, so that organizations at the operational level can properly formulate effective policies, plans, programs, and actions to combat the enemy at the tactical level (McDowell, 2008; USG, 2012). The product(s) of S/OI will comment upon the major predicted impacts of changing trends, altered environments, or significant activities, with the intention of feeding new awareness into the strategy making process required to achieve intended outcomes at the strategic, operational, and tactical levels (McDowell, 2008). This is highly similar to what occurs in an SEA to EIA process.

The intelligence cycle shown in Figure 2.4 is initiated by a strategic need for intelligence to inform and support an overall mission, goal or end-state. The intelligence actions occur internally within the intelligence organization beginning with planning and direction, collection, processing and exploitation and analysis and production. Analysis and production are tailored to not only the mission and direction, but also to the needs of the intelligence user or receiver (decision-maker/stakeholder).

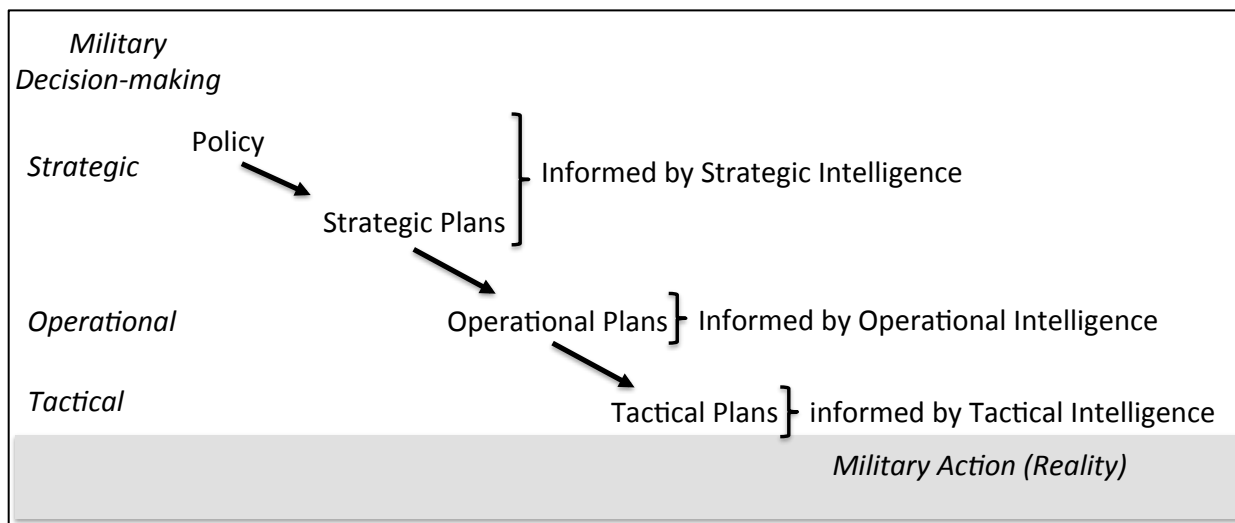


Figure 2.5 The military decision making and planning levels (tiers) supported by dedicated military intelligence collection, processes and products at each level.

The strategic intelligence cycle is connected to the strategic decision-making level and operational decision-making levels through tailored dissemination and integration as well as through feedback from the tactical and operational levels. Feedback is evaluated and informs subsequent intelligence planning and direction.

In reality this is much more dynamic than linear as the situation is continuously changing and being affected by multiple actors and factors, known and unknown, and each command and sub-command has its own capabilities, limitations and mission. As stated in the Joint Operations Planning Manual (2006:III-16) military intelligence provides a “systems understanding of the increasingly complex and interconnected operational environment - the composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander”.

This information must all be understood, planned for, and relayed vertically to superior and subordinate levels of decision-making as well as horizontally and diagonally for coordination with equivalent level commands, allies and initiatives.

2.2.4 How Does S/OI Support Translation of Policy Directives Into Real-World Actions?

Intelligence activities are linked to the hierarchy (tiers) of political and military planning and activity and levels of intelligence correlate with the planning and decision-making levels they support; from strategic, through operational and tactical levels (USG, 2012). Intelligence is synchronized with operations and plans in order to provide answers to intelligence requirements in time to influence the decision they are intended to support, to not only support the current phase of the operation, but also simultaneously lay the informational groundwork required for subsequent phases (McDowell, 2008; USG, 2012). Lack of continuous, effective intelligence support impairs and degrades the quality of feedback to the commander or decision-maker about the unfolding situation (McDougal et al., 1972). Feedback allows the commander to have the capability to adapt and modify decisions as needed (Herring, 1992).

Good intelligence is the result of the integration of many separate and specialized collection, processing and analytical resources (USG, 2012). The intelligence officer coordinates these activities and enables effective use of intelligence products as the principal disseminator and ensures that the full implications of the intelligence ‘picture’ are understood by the

commander and staff (USG, 2012). Therefore, the intelligence officer and intelligence products must be fully integrated continuously throughout the military planning and execution process (USG, 2012). When the planning and decision process is complete, the intelligence support shifts from developing broad-scope intelligence in support of conceptual planning to provide specific intelligence to support functional (operational) implementation planning, detailed (tactical) planning and mission execution (USG, 2003). The intelligence officer facilitates the effective use of intelligence and assists the commander and the staff (decision-maker and stakeholders) in understanding the intelligence product and its application (USG, 2003). In this way, the intelligence officer provides ‘procedural’ (informative) intelligence support and facilitates problem-oriented, ‘transformative’ (learning) support for the decision-makers and stakeholders. Figure 2.6 provides an overview of the intelligence cycle and relationship to subsequent tiers.

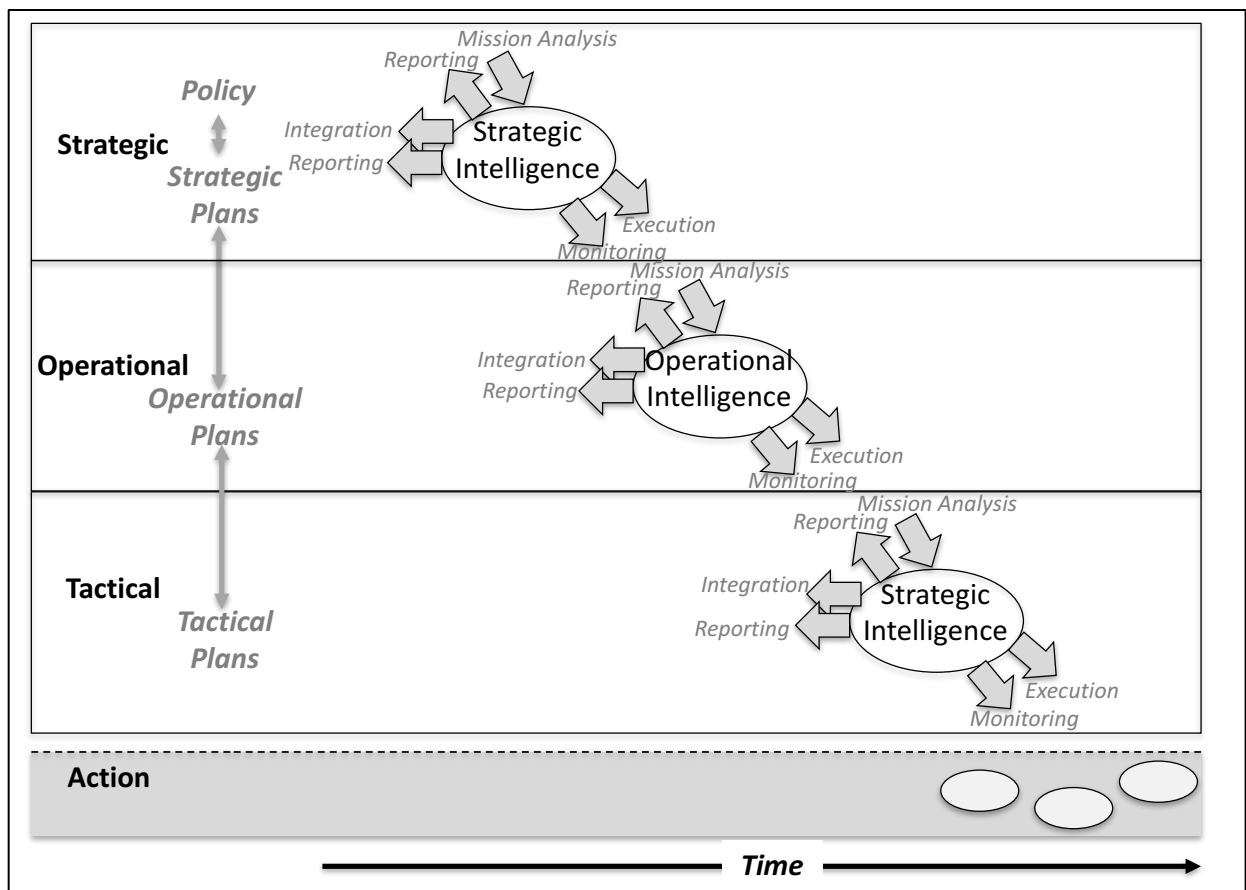


Figure 2.6 The levels of intelligence for military planning decision support and relationships between levels (based on McDowell, 2008; USG, 2012, adapted from Arts, et al. (2001: 424).

In Figure 2.6, intelligence communication is translated for use at the receiving level between the tier levels of strategic to operational and operational to tactical. This effective translation between tiers enables the flow of relevant, timely, actionable, and tailored intelligence through the integration and implementation levels and back through the monitoring and feedback side to inform operational and strategic level adjustments and changes or needs. This effective translation and communication enables intelligence to remain timely, relevant and actionable for integration and implementation as well as in monitoring and feedback (McDowell, 2008; USG, 2012).

2.3 The SEA and Intelligence Connection

2.3.1 Non-Military Applications of S/OI

The term “intelligence” does not belong to any single discipline (Clark, 2009). There are many non-military applications of intelligence, and any organization with strategic interests can gain advantage through intelligence as it applies to their overall mission. Examples include criminal intelligence, business intelligence, political intelligence, economic intelligence and environmental intelligence (Herring, 1992; Eicher, 2006; McDowell, 2008; Dabelko, 2009; Coyne & Bell, 2011; Jadidi, Mostafavi, Bedard, Long, & Grenier, 2013).

Environmental intelligence for the security community has traditionally included the physical environment as a static system and the social environment as the dynamic system, but has more recently included planning for the security risks of climate change induced threats, recognizing the environment as a dynamic system (USG, 2003; Briggs, 2012). With this paradigm shift, the need to develop strategic and operational environmental intelligence capabilities has become apparent and according to Briggs (2012: 667): “net assessment of energy and environmental security risk would provide a holistic view of future conditions, both of strategic space and potential operational challenges to traditional security concerns”. The objective of this type of environmental intelligence is to support social security at a national level with environmental issues identified as a security ‘threat multiplier’.

Lasswell’s ‘Interdisciplinary Policy Process’ in Clark (2011), promotes adaptive governance for natural resource issues, including the use of intelligence theory to inform environmental policy. This process makes use of the transformative aspects of intelligence to inform decision-making including problem definition, definition of objectives, exploration of

potential solutions, stakeholder analysis, and definition of the relevant study area, but does not apply the procedural aspects of the intelligence process, nor does it include guidance for tiering or translation and communication procedures. As stated in Clark (2011:11): One of the primary benefits of adopting this stable frame of reference is that it can give users a functional understanding of policy processes. It is reliable and operational.” It uses “the oldest and most comprehensive theory and methods available in the modern policy analytic movement – the policy sciences. The policy sciences are simultaneously a theory about society and a method of inquiry into problems and associated social and decision processes. The book introduces practical, analytic concepts and skills for improving the outcomes of these processes (Clark, 2011:ix).” “The initial effort to devise the conceptual framework of the policy sciences was led by Harold Lasswell in the decade just before WWII (Clark, 2011:x).” Laswell was a main contributor and organized research projects for the Study of Wartime Communications for the USG Intelligence Agencies (Wagner, 2001). According to Wagner (2001:49), Lasswell’s “Policy Sciences gives testimony both to the involvement of social scientists from all disciplines in war planning and to a willingness to reconsider the possibility of using social knowledge for planning and policy in the light of those, by and large deemed successful, experiences.”

At this time, intelligence has not been used to inform environmental assessment generally nor SEA specifically. There are hints of this in the security community for assessing risks the environment poses to society, and a glimmer of movement in the role of using intelligence concepts to understand the social-ecological aspects of environmental issues, but no specific application for assessing the risks of and preventing negative impacts of anthropogenic actions to environmental sustainability. Very little has been done to cross-pollinate the fields of SEA and S/OI.

2.4 Summary: The Research Gap

Wallington et al. (2007: 577) state that: “adoption of a particular strategy (the *art of SEA*) would have significant implications for operationalizing SEA”. Effective SEA operationalization requires specific frameworks and/or guidance to enable the *art* of SEA (strategic thinking, learning processes, long-term analysis, and institutional analysis) to contribute to the *task* of SEA, (communication, working with uncertainty, integration, SEA process and products) (Wallington et al., 2007). Many SEA scholars agree what is needed is the development of

internationally applicable and detailed practical guidance considering context and institutional capability for implementation in subsequent tiers (Retief, 2007c; Gazzola, 2008; Noble, 2009; Kis Madrid et al., 2011; McLauchlan & João, 2011; Fundingsland Tetlow & Hanusch, 2012; Noble et al., 2012; van Doren et al., 2013; White & Noble, 2013).

There is significant potential for the conceptual S/OI framework to be tailored to the SEA process and provide structure for dissemination or transmittal of SEA results, and specifically articulate these results into focused and mission-oriented operational actions across subsequent tiers of government and industry. This is because S/OI has a long history of analyzing resilience, communicating uncertainty, integrating information into decision-making and planning, predicting scenario outcomes, as well as playing a key role in the achievement of strategic objectives and feedback, all of which are important in SEA. Strategic intelligence converges with the strategic *art* of war in political vision development by contributing the S/OI *task* of dissemination and integration in strategic planning towards the war *task*, as does SEA. The comparison of the conceptual frameworks for the SEA and S/OI *tasks* as well as the feedback and communication gaps are shown in Figure 2.7. Figure 2.7 includes the specific areas of compromised translation and communication through the tiers in the SEA process corresponding to the effective translation and communication through the tiers in the S/OI process.

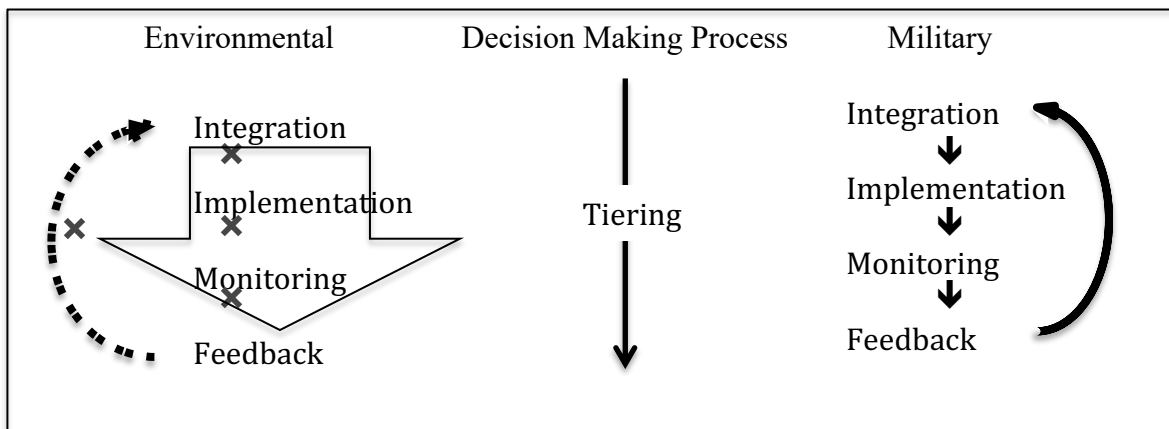


Figure 2.7: The SEA and S/OI conceptual frameworks in parallel with areas of compromised translation and communication.

Strategic environmental assessment bears many similarities in aim and processes in *art* and *task* to SI. With this in mind, the intent of this research is to provide practitioners with a framework, or process, for integration and dissemination or transmittal and implementation of SEA results. Specifically, it will guide articulation of SEA results into focused and mission-oriented operational actions across subsequent tiers of government and industry by providing actionable support to decision-makers for resource management and planning in line with the *art* and *task* of SEA.

Chapter Three: Methodology

3.1 Research Design

In an investigative research project such as this, qualitative research methods are ideal as they can offer valuable insight into the context in which SEA is practiced and applied (Malterud, 2001). This study adopted standard methods of qualitative inquiry in collecting and analyzing data. Data came from three sources: semi-structured academic literature review focused on SEA publications, unstructured military intelligence document review, and semi-structured interviews.

For the literature review, most of the data were gathered between June and September 2014, although an initial literature search began earlier in the fall of 2013. Additional materials were gathered until the completion of the study in March 2015. Next, there was document review of the Parks Canada (PC) SEA guidance to identify current tiering, communication and translation processes. Thematic data collected from the review of literature and guidance were later augmented by semi-structured interviews which focused on the responses of individuals who were directly and actively involved in the SEA to EIA processes or use of SEA or EIA for management and planning within National Parks. The combined data outputs of these methods were used to explore the research questions as discussed in Chapter 1. Data collection methods occurred consecutively and with some overlap. Details of the various research methods used are now presented in sections 3.1, 3.2, and 3.3 of this chapter. Table 3.1 illustrates the relationship of the methods to each research objective.

Table 3.1 Research objectives, supporting methods, and data output

1. Develop S/OI based SEA guidance for tiering and improved communication and translation.	2. Test the framework in the PC SEA context in order to gauge effectiveness of proposed framework
Supporting Research Methods	
SEA Literature Review	SEA Guidance Review
S/OI Literature Review	
	Semi-structured Interviews
Data Outputs	
SEA framework and guidance for tiering, communication and translation	Understanding of PC SEA in practice
S/OI framework and guidance for intelligence communication and translation through tiered military planning levels	Perspectives on the proposed S/OI based SEA framework for improving practice
S/OI based SEA framework and guidance for tiering, communication and translation	

3.2 Phase 1. Framework Conceptualization

Objective 1: Develop a S/OI-based framework for SEA implementation guidance, based on what is currently in place in SEA literature and an adapted S/OI framework.

3.2.1. SEA Literature Content Analysis

Primary emphasis was placed on SEA literature. Papers were identified using electronic database searches; manual searches of key journals and online searches for relevant

‘grey’ literature. Priority was given to peer-reviewed academic journals with direct relevance to the subject of SEA. Some of the key journals relied on include: (1) Environmental Assessment Policy and Management; (2) Environmental Impact Assessment Review; (3) Environmental Management; (4) Environmental Monitoring and Assessment; (5); Environmental Planning and Management; and (6) Impact Assessment and Project Appraisal.

To give structure to the analysis, a list of criteria (shown in Table 3.3) was adopted to systematically investigate the literature. The criteria were developed based on previous works on tiering, namely Arts, et al. (2001). These guiding key phrases or words were associated with post-SEA activities and issues such as tiering, implementation, and communication, or their synonyms. More specifically, the review process yielded data regarding the current guidance provided for SEA implementation and communication or translation through tiered decision-making levels. Emphasis was also placed on examining implementation and feedback process effectiveness and deficiencies.

Table 3.2 Review criteria for the SEA literature review

Criterion	Rationale for inclusion and data sought
Tiering	To identify the concept, methods of, frameworks for, concerns for, and PPP process relationship
Translation	To identify the process for translating a SEA report into action, and recommendations for
Implementation	To identify the concept, methods of, frameworks for, concerns for, and PPP process relationship
Communication	To understand how this occurs between SEA and EIA practitioners, including SEA results for implementation
Linking, linked	To identify frameworks for tiering of PPP and projects through SEA and EIA
Operational, operationalize	To identify processes and frameworks or issues with implementing SEA
Follow-up	To identify procedures and practices for post-SEA communication
Scoping	To identify linkages and relationships between subsequent PPP-P
Planning levels	To identify the concept, methods of, frameworks for, concerns for, and PPP process relationship

After collating the materials based on currency and relevance, the abstract or the summary of selected materials was read to have an overview of the content. A spreadsheet was used to categorize results from the literature. For example, a study may address what is recommended

with respect to tiering, relationship between SEAs for PPP and EIAs for projects or the application of frameworks for this process, whereas some studies may address issues of early consideration for SEA monitoring and feedback.

3.2.2 Strategic and Operational Document Review

The nature and scope of strategic and operational intelligence dissemination and communication practices through integration to execution were identified and examined in open source strategic intelligence documentation and publications to identify procedures for effective tiering and translation from strategic and operational to tactical levels.

The grey literature was chosen based on the researcher’s prior training and experience and as a Canadian Armed Forces Intelligence Officer. These documents comprise the main doctrine for the military planning process overall and in detail, as well as the relationship of the planning hierarchy to intelligence as a decision support tool. NATO doctrine was chosen as it is meant to provide the procedures and framework to allow multiple nations to function together or in concert towards strategic objectives in complex situations through the use of common doctrine (USG, 2006).

Table 3.3 Review literature focus and sources for the S/OI literature review

<i>Focus</i>	<i>Main source(s)</i>
<i>Military Planning Process</i>	<i>doctrine for Canada and the United States as well as the North Atlantic Trade Organization (NATO)</i>
<i>Strategic Intelligence</i>	<i>NATO doctrine</i>
<i>Operational Intelligence</i>	<i>Canadian Doctrine</i>

3.2.3 Approach to Analysis for Framework Development

The purpose of the literature reviews were to provide insight into the general approach to communication and translation for implementation first of SEAs through the tiered PPP to project process and secondly to provide a framework from intelligence to apply to SEA. The results of the SEA process review were aligned with the strategic decision making process as described in Clark (2009). This particular source was chosen for this research as it aligns with how SEA literature describes and explains the PPP decision-making process and was designed for

application to natural resource issues. The results of the SEA literature review were applied to the integrated policy process to create a framework for SEA activities before, during and after assessment.

The S/OI literature review began with the military planning process framework and then focused on the intelligence activities at each stage in the process to determine an intelligence framework. The integrated policy planning process was then compared stage by stage with the military planning process. Following this analysis, the SEA framework was compared stage by stage with the S/OI framework to determine similarities and gaps. The gaps in the SEA process were then filled with the appropriate S/OI action to remedy the lacking guidance. The results of the literature analysis are presented in Chapter 4 and in Annex D, in as detailed a manner as possible. This completed Phase 1 of the research, to develop the framework for SEA based on S/OI, which was followed by Phase 2, testing of the framework.

3.3 Phase 2. Case Investigation of Parks Canada SEA

Objective 2: Test the potential of the proposed S/OI-based framework for communicating SEA outcomes through a case investigation in the context of PC SEA.

3.3.1 Parks Canada SEA Guidelines Review

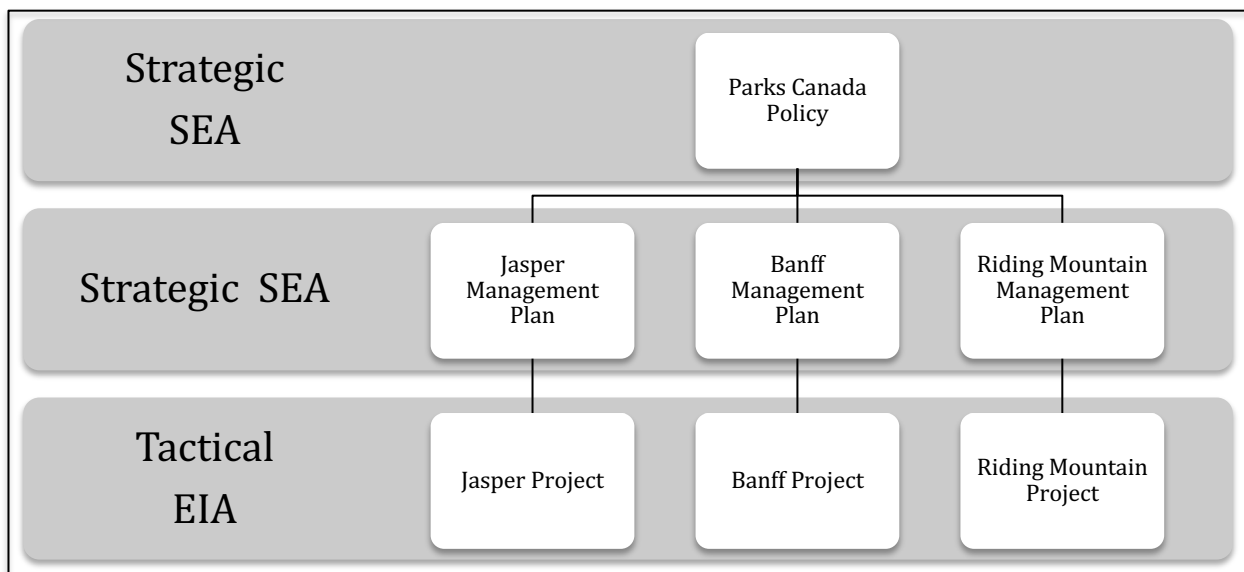


Figure 3.1 Parks Canada Policy-Plan-Project relationships to SEA-EIA tiering

The PC SEA process was chosen as the case study for this research because it is a tiered organization, responsible for both the PPP as well as the projects and has a well-developed monitoring and feedback system. The PC SEA procedures are based on the Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals. This includes Management Plans for National Parks. In addition, the personnel responsible for the various levels are identifiable and accessible. Banff, Jasper, and Riding Mountain National Parks were selected for this case study because of the diversity of environmental issues requiring assessment in a SEA to be included in a management plan. These include high visitors use, ski areas, residential development, major transport systems, close proximity to natural resource development, and adjoining protected areas.

3.3.1.1 Case Description

Parks Canada SEA procedures are based on the Cabinet Directive on the Environmental Assessment of PPP Proposals. (Includes Management Plans for National Parks.) The PC guidelines and procedures for SEAs and use of SEAs were reviewed to acquire baseline data for the semi-structured interviews.

3.3.2 Semi-structured Interviews

The goal of using interviews was to better understand both the process mechanics and factors of influence in the SEA communication and translation process. A semi-structured interview schedule was adopted (as opposed to fully structured or unstructured) to facilitate an exploration of the subject of investigation as thoroughly as possible. A semi-structured interview is a verbal interchange where an interviewer attempts to elicit information from participants by asking a set of predetermined questions that are presented in a thoughtful, orderly and partially structured but flexible manner (Longhurst, 2003). It was assumed that certain dynamics and issues associated with the SEA-PPP tiering process, and pivotal to the research, were not detailed in the PC SEA guidance, thus necessitating the interviews. This method allowed for exploration of the process as experienced by the principal actors themselves. All interviews were conducted in person or via telephone between October 15 and December 15, 2014, subsequent to the preliminary review of the Parks Canada SEA guidance, and contact with the Jasper Research Coordinator who helped to identify potential interviewees. Further details of the interviews are given below.

3.3.2.1 Interview Participants

Interviews focused on the professionals involved in the SEA to EIA tiering process. The participants were not necessarily those with SEA expertise but those who possess sufficient knowledge of the selected SEA process to make an informed judgment about the communication and translation process. Altogether, those interviewed consist of: SEA and EIA practitioners, policy decision-makers, plan decision-makers and project decision –makers using the SEA and EIAs as well as monitoring specialists responsible for monitoring SEA implementation through Management Plans. Sixteen (16) individuals across 3 National Parks, representing these five different categories of key actors in tiering, communication and translation of PPP supported by SEA and projects supported by EIAs were involved in the interview process. Table 3.4 shows the interview participants’ distribution by role. It was relatively straightforward to classify each participant, as their professional titles were often descriptive. Most of participants were initially identified based on their names being provided by that park’s Research Coordinator and were directly contacted via email to request their participation in the research (see Appendix A for ‘Participant Consent Form’).

Table 3.4 Distribution of interviewees by role in selected National Parks

Role	Description	Number of Participants (15)
SEA Practitioner	Individual under Parks Canada who has the capacity to analyze and advise proponents at different stages of the SEA process; they are often responsible for analysis at the strategic level of environmental effects and the preparation of the SEA report	Four SEA practitioners across three NPs, of which have vast understanding of strategic environmental assessment
EIA Practitioner	Individual under Parks Canada who has the capacity to analyze and advise proponents at different stages of the EA process; they are often responsible for the preparation of the EIS and analysis of the environmental effects	Four EIA practitioners across three NPs, of which have vast understanding of environmental impact assessment
Policy Program and Planner	Individual under Parks Canada who is responsible for using SEA report contents to inform PPP decisions.	Three PPP level planners; all of which are experts with experience in using SEA reports to inform decisions
Project Manager	Individual under Parks Canada who is responsible for using EIA report contents to inform project management decisions and outcomes.	Three project managers involved in three different NP projects; all of which are experienced in using EIA reports to inform decisions and outcomes of projects
Monitoring Specialist	Individual under Parks Canada who is responsible to ensure the monitoring requirements of the guidelines are strictly followed during SEA and EIA	Two individuals with expertise in wildlife, conservation, standards and guidelines who oversee SEA and EIA monitoring and

	processes	feedback
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3.3.2.2 Interview Procedures

All interviews were conducted via telephone, as the geographical range of interviewees across two different provinces in Canada did not allow for face-to-face meetings. An initial invitational email introducing the research and its objectives was sent to all potential interviewees (see Appendix B for a sample of the recruitment letter). Following an indication of willingness to participate, a standard ‘participant consent form’ approved by the University of Saskatchewan Behavioral Ethics Board was sent to all interviewees to inform them of their rights. Since face-to-face was impractical given the circumstances, consent to participate was obtained through three channels: by fax; by portable document format (.pdf) sent via email; and by proxy, i.e. the researcher signing the consent form on the interviewee’s behalf following verbal consent at the beginning of the interview. A standard interview schedule (with minor variation according to the role of the interviewee) was forwarded prior to each interview to allow participants to reflect on their involvement in the EA process and consult relevant documents that could inform their responses (see Appendix C for the sample of the interview schedule). This was also done to ensure participants were in a more comfortable position to answer the questions.

The interview questions were designed to explore in as much detail as possible, the process to communicate and translate SEA results through the decision-making levels, how the professional stakeholders are involved, and their perceptions of the SEA to EIA process including challenges and suggestions for improvement. To ensure the interview schedule was understandable and effective; a set of evaluative questions was asked of the first three interviewees at the close of the interview.

This approach to ‘pilot testing’ the interview schedule was adopted given that the nature of the questions demanded expert opinion and specific PC guidelines knowledge and would have been difficult for a neutral audience to evaluate before being administered.

3.3.2.3 Approach to Analysis

An inductive coding process was adopted, under standard procedures for analyzing qualitative interview data, to gain as much understanding of the data as possible, both in position-specific and aggregate contexts. The analysis of the interview data included:

1. Data transcription and review: Each interview had a duration of between 50 minutes

and 1.5 hours. All interviews were digitally recorded in MP3 format and backed up in a dedicated external hard drive to avoid data loss. The interview was then transcribed into a Microsoft© Word document. The transcripts were checked to ensure they were as close as possible to the recorded words of the interviewees and to gain familiarity with the data before analysis was conducted. Notes were taken during some of the interviews to complement the full interview transcripts. These were not analyzed as ‘data’ but rather relied on as interpretive aid to certain recorded statements.

2. Coding: The data transcripts were then ‘combed’ for themes, ideas and categories. Similar passages of text were then marked with a label to be easily be retrieved at a later stage for further comparison and analysis (Boyatzis, 1998). A number of qualitative analysis software programs are designed for this purpose, including Nvivo©9. This program sorts, classifies, compares, and analyzes large volumes of textual data. The interview transcripts were uploaded into Nvivo©9 using a field-by-field approach to allows for addition of empirical labels as coding progressed, often called open coding (Boyatzis, 1998).

3. Themes and pattern identification: Axial coding was used to identify themes and subthemes as they emerged from the initial data coding. This type of coding provides insights into the conditions, context, interaction, and consequence of and between data (Boyatzis, 1998). Further interrelationships among themes and sub-themes are discovered, leading to aggregate data trends.

4. Summarization: Interpretation of the meaning of identified themes and sub-themes was accomplished keeping in mind the primary research questions. The aim was to show the general patterns and trends in the interviewees’ statements by highlighting more commonly expressed arguments in the discussions. A quasi-quantitative analysis is employed for data presentation to add strength to the observed patterns. Direct quotations were also selected and inserted to support critical arguments in context. In the entire process of the research, the awareness of bias was constantly noted and stringent effort made to ensure objectivity and researcher’s detachment from the research. Section 3.3 provides an overview of how researchers’ bias and ethical issues were managed.

3.3 Research Ethics and Reflexivity

According to Chenail (2011: 255): “Instrumentation rigor and bias management are major challenges for qualitative researchers employing interviewing as a data generation method in their studies.” Therefore, it is important to adopt appropriate interview protocol and understand potential researcher biases. For these reasons, the proposed methods were tested in pilot interviews to ensure the planned procedures would perform as envisioned (Chenail, 2011). Finlay (2002: 531) states that: “To increase the integrity and trustworthiness of qualitative research, researchers need to evaluate how inter-subjective elements influence data collection and analysis. Reflexivity—where researchers engage in explicit, self-aware analysis of their own role—offers one tool for such evaluation.” Reflexivity has been applied at different levels in practice. At a minimum level, the existence of researcher bias is acknowledged and the researcher is explicitly located within the research process. “At a more active level, it involves a more wholesale embracing of subjectivity, for example, by exploiting researcher’s/co-researcher’s reflective insights and by engaging in explicit, self-aware meta-analysis throughout the research process (Finlay, 2002: 536).”

Clark (2011) describes the awareness of bias and locating oneself within a process as “observational standpoint”. She continues that all people have biases, but those with policy orientation strive to first recognize and then minimize the biases (Clark 2011). In this way I have approached this research with awareness of my own unique observational standpoint. Acknowledging the basic nature of human perception, I proceed with a post-positivistic approach to knowledge and a pragmatic approach to problem solving. “The pragmatic approach adopts a more active, reflective stand toward knowledge and knowing (Clark, (2011: 122).” This requires “seeing” the problem from multidisciplinary standpoints and then collating standpoint views, or “snapshots” to analyze the options available to work on the various aspects of the issue. I value functional understanding of social and policy systems, identifying connections, relationships and system properties in social and decision processes. Functional understanding provides a multidimensional image of the social, political and environmental aspects of an issue and guides attention to the value significance of details (Clark, 2011). I developed this standpoint through my training and experience as a military intelligence officer.

My role as researcher in Phase 1 of this research was to develop a “snapshot” of SEA guidelines and expert’s perspectives on tiering and communication and then overlay that with a “snapshot” of an S/OI framework developed from my observational standpoint. Much like a

terrain map of smooth and rough ground for SEA communication and tiering with a road map overlay of the S/OI process. The analysis of Phase 1 was completed by “distillation” of the two frameworks until a functional SEA framework remained.

My role as researcher in Phase 2 was to interview participants to understand the SEA process in the decision-making and social process within which SEA functions and to test the framework in a “real-world” context. For these reasons, I chose to apply qualitative research techniques to gain perspectives on communication in SEA from the perspectives of both the transmitter and receiver of SEA related information at multiple levels or tiers.

To ensure the validity of the research, a predefined list of criteria was used for SEA literature review, transcript accuracy was ensured, and was consistent with codes defined for interview analysis. Also, in reporting the data, a quasi-quantitative analysis technique was used for the semi-structured interviews. Codes and themes created qualitatively were described quantitatively by counting the number of times they occur in the text data (King, Cassell, & Symon, 2004). In order to minimize the level of bias, the use of triangulation is employed – a procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study (King et al., 2004). The ethics application as approved by the University of Saskatchewan’s Behavioral Research and Ethics Board (Beh-REB) was strictly adhered to which warrants that the issues of confidentiality and informed consent for interviewees are addressed. All participants were aware of their right to withdraw in part or whole within 30 days of the interview and also of the usage and storage of the information being provided. Anonymity of respondents was also ensured in data reporting as most results are presented in aggregate form, and where quotations were to be used, emphasis was on the role rather than the obvious identities of the interviewee. On the whole, there was a careful handling of the issues of validity and researcher bias to guarantee the credibility of the research findings.

Chapter Four: Conceptual Framework Development

4.1 SEA Follow-Up Concepts

SEA literature was reviewed to determine what guidance exists for SEA follow-up and implementation practices, as well as for tiering, communication and translation. According to Gachechiladze-Bozhesku & Fischer (2012:22), “To date, comparatively few publications have looked specifically into SEA follow-up”. The literature that does exist emphasizes various aspects of follow-up, e.g., the need for to perform it (Cherp et al., 2010b), its potential towards adaptive management planning (Partidario and Arts, 2005; Persson and Nilsson, 2007), methodological propositions (Cherp et al., 2010; Nilsson et al., 2009), tiering (Fischer, 2006a; 2006b), and some empirical research results (Gachechiladze et al., 2009). The following sub-sections summarize the state of knowledge on SEA follow up.

4.1.1 Canada’s SEA Guidelines

Canada’s SEA guidance grew out of the government’s sustainable development initiative. In 2008 Parliament passed the *Federal Sustainable Development Act (FSDA)* to integrate sustainable development in the planning and management levels of the government in order to progress toward sustainable development. This was to be achieved through the *Federal Sustainable Development Strategy (FSDS)* by providing strategic direction, enacting an effective legal and regulatory framework, and establishing systems for progress monitoring and transparency, with SEA as the key analytical tool. The FSDS (2013:9) states that: “SEA is a key analytical tool used by the federal government to evaluate the potential environmental effects of proposed policies, plans and programs, thereby supporting informed government decision making.”

Direction on how to implement SEA is provided in the Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals (Cabinet Directive, 2010). The Cabinet Directive (2010:3): “provides the decision-making context for the SEA of policies, plans and programs (PPP), in particular its link to the FSDS goals and targets; outlines the obligations of departments and agencies to conduct strategic environmental assessments; and provides advice on implementing the Cabinet Directive, including roles and responsibilities, guiding principles and questions of applicability, methodology, public concerns, and documentation and reporting.” Tiering in SEA, from the PPP level to the project level, is implied in the Cabinet Directive (2010:2): “By addressing potential environmental considerations when developing PPP, departments and agencies will be better able to streamline project-level

environmental assessment by eliminating the need to address some issues at the project stage.” In the section on documentation and reporting, the Cabinet Directive (2010:10) states that expected outputs of the process should include SEA Documentation (for action) and should be forwarded to: “Departmental evaluation and review officers so that future evaluation of the PPP initiative can incorporate the outcome of the analysis into the evaluation framework; and policy and program officers, and EA practitioners and others who may be responsible for implementation of the PPP initiative.” Thus, SEA is meant to be actionable following its conclusion.

However, as expressed by Noble (2009:74): “SEA was introduced and evolved in Canada—as a ‘good concept’, but one that lacked the necessary methodological guidance and institutional support” and “thus far there has been little guidance for real implementation. As such, SEA is still very much an ex ante evaluation and rarely carries over to the post-decision stages to address PPP implementation effects.” Similarly, the *Evaluation Of The Cabinet Directive On The Environmental Assessment Of Policy, Plan And Program Proposals*, submitted to the Canadian Environmental Assessment Agency, states that (2009:vi): “The Cabinet Directive and Guidelines do not provide sufficient or clear enough guidance to practitioners in several areas such as: how to use SEA to streamline project-level assessments.” Presently, the only reference within the Cabinet Directive that could be helpful to guide tiering (2010:10) is within the internal reporting-departmental performance reviews section where it is stated that the audit should include “how PPP subject to SEA have affected or are expected to affect progress towards the FSDS goals and targets.” There is an expectation that SEA should result in real changes and that it can be followed up on in a real and measurable way, however, this potential has yet to be realized.

4.1.2 SEA Literature Guidelines

Handbooks or manuals on SEA practice seemed to have the most detailed “how to do SEA” information (including information on how to do follow-up) as they are for practical application of the process. Fidler and Noble (2012:6) express that, “in order to facilitate implementation and ensure that PPP strategies are put into action, there is a need to prescribe roles and resources for implementation and on-going monitoring; undertake a formal public review process of the proposed strategy, and establish a regular review period to revisit the PPP, evaluate its efficacy and adjust accordingly.” Cherp, Partidario and Arts (2010:515) define SEA follow-up as: “monitoring and evaluation of the implementation of a strategic initiative and relevant

environmental factors for management of, and communication about, the environmental performance of that strategic initiative.” Their elements of SEA follow-up include monitoring, evaluation, management and communication (Cherp et al 2010). Cherp et al. (2010:522) state that “responsibility for monitoring should be considered in a broader context of ensuring institutional ownership and anchoring of SEA follow-up efforts.”

Table 4.1 SEA follow-up elements, activities and responsible parties.

SEA Follow-up Element	SEA Follow-up Activities	Responsible Parties
Monitoring	Systematic data collection, processing, storage, publication to address: A. environmental and related factors. B. implementation activities. C. other relevant activities. Choice of indicators to support valuation.	May be linked with existing monitoring systems.
Evaluation	Periodic in-depth analysis of monitoring data. Evaluation report generated.	Internal or external SEA (follow-up) team.
Management	Systematic identification of relevant actions and decisions, implementation of management/actions.	Proponents of PPP, relevant organizations, stakeholders.
Communication	Facilitates monitoring, evaluation, management activities. Intentions, interests, perceptions, (local) knowledge should be shared throughout follow-up.	All involved.

Source: Adapted from Cherp et al., 2010: 530.

Table 4.1 describes the key elements, activities and responsibilities for each aspect of SEA follow-up. Rather than being a stand-alone activity, monitoring is made relevant by connection to evaluation and management decisions and actions. Communication is considered a key element facilitating all SEA follow-up activities.

Nilsson et al. (2009) also focused on follow-up guidance and remarked that (2009:189), “It is one thing to construct a framework of tools purely on the basis of theory, legislation, normative principles and what tools are available. It is quite another to engage in understanding real-world practices as a basis for constructing a framework.” Working from this practical understanding, they divide the SEA processes into two parts, designated as ‘ex ante stages’ and ‘ex post stages’. The important aspects for ex post stages, or follow-up of SEA, according to Nilsson et al. (2009) are the same elements outlined by Cherp et al. (2010), and include monitoring, evaluation, management and communication. Nilsson et al. (2009:189) go on to develop a specific framework for SEA follow-up, “based on principles derived from legal frameworks, SEA theory,

evaluation theory, environmental systems analysis and planning practice.” They identify three stages in SEA follow-up: scoping, analysis and learning as well as the actions or tasks that these should be comprised of (Figure 4.1).

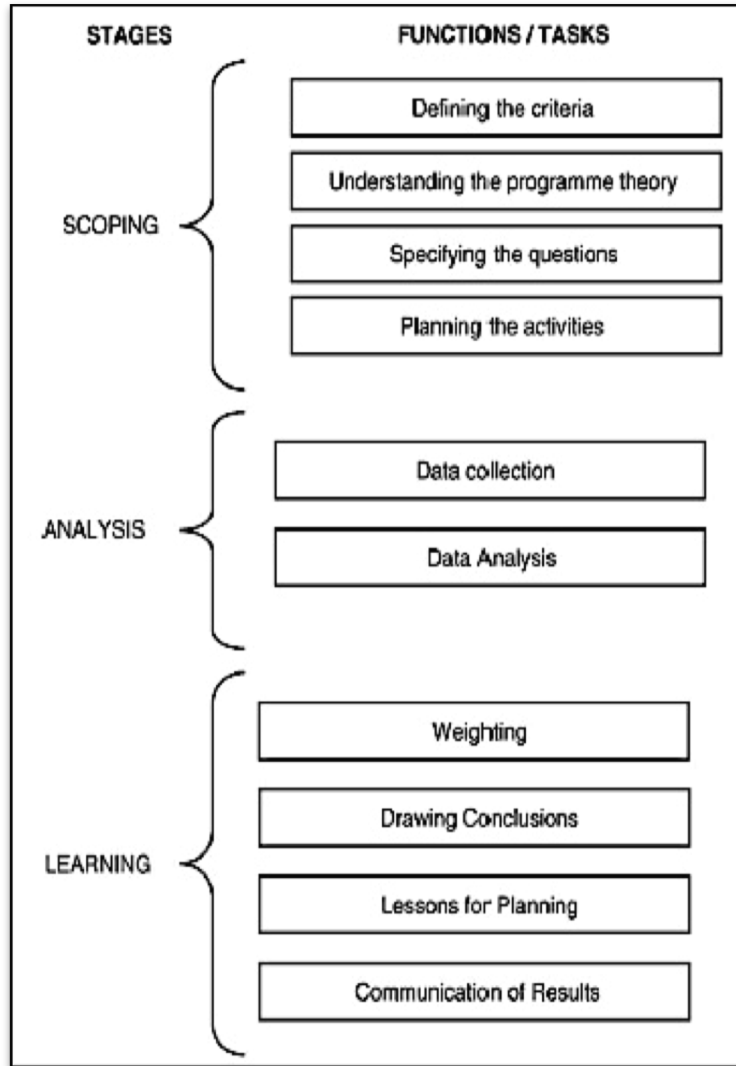


Figure 4.1 The stages and functional components of ex post SEA (Source: Nilsson et al., 2009:191).

Figure 4.1 shows the stages and functional components expected to occur within the monitoring, evaluation, management and communication of ex post SEA. Scoping is part of SEA Reporting to translate for mitigation and monitoring implementation. Analysis is implementation monitoring and learning is done through the evaluation and communication aspects of SEA feedback.

Therivel (2010:4) describes “how the SEA process can be documented, and approaches to

monitoring the environmental impacts of strategic actions.” According to Therival (2010), there are nine stages in the SEA process, one through six being SEA implementation and seven through nine being SEA follow-up (Table 4.2). The follow-up stages (grey boxes in the table) according to Therival (2010:17) are used to “monitor the environment/sustainability impacts of the strategic action”. The SEA practitioner is instructed to document impacts and how significant effects are dealt with.

Table 4.2 SEA stages and guidance for follow-up.

SEA Stage	What to Record
1. Identify environmental/sustainability issues; identify SEA objectives and indicators	Issues scoped in and scoped out; SEA framework of objectives, indicators and targets
2. Describe environmental baseline, including future trends; identify environmental issues and problems	Data on the baseline environment; list of relevant environmental/ sustainability issues and constraints
3. Identify links to other relevant strategic actions	List relevant strategic actions, their requirements, and any constraints or conflicts with the strategic action in question
4. Identify more sustainable alternatives for dealing with the problem and implementing the strategic action objective	List of alternatives or options; any alternatives considered and eliminated early in decision– making
5. Prepare sloping report; consult	Results of stages 1–4; agreed written statement of how to proceed with subsequent SEA stages
6. Predict and evaluate impact of alternatives/statements; compare alternatives; mitigate impacts of chosen alternative(s)/statements	Summary of effects of alternatives/options and statements; list of preferred alternatives; explanation of why these are preferred; mitigation measures proposed
7. Write the SEA Report; establish guidelines for implementation	Prepare the SEA report
8. Consult	How consultation results were addressed
9. Monitor environmental/ sustainability impacts of the strategic action	How the strategic action’s impacts will be monitored and significant effects dealt with

Source: adapted from Therival 2010:17: 225.

Referring to stage seven of Table 4.2, Therival (2010:226-227) remarks that “the role of the SEA Report is to document the SEA process,” specifically including “the non-technical summary, what difference the SEA process has made, and the implementation plan.” According to Therival (2010:229-230), the SEA report “could include an SEA implementation plan, which helps to ensure that the SEA recommendations are fully carried out and the strategic action is implemented in the most sustainable manner possible.” This assumes that all SEA processes will or should result in the preparation of a report that not only summarizes the results of the assessment (anticipated impacts, preferred alternatives, etc.) but that *will guide implementation after the SEA is complete*. Table 4.3 is Therival’s suggested framework for a task-based SEA

report to enable follow-up success.

Table 4.3 Possible structure of a task-based SEA report.

Structure of Report	Information to Include
Summary and Outcomes	<ul style="list-style-type: none"> • Non-technical summary of the SEA report • What difference has the SEA process made?
Background and Methodology	<ul style="list-style-type: none"> • Purpose of the SEA who carried out the SEA, when, who was consulted, etc.? • Difficulties in collecting data and limitations of the data?
Context	<ul style="list-style-type: none"> • Strategic action objectives • Links to other strategic actions • <u>Baseline environmental/sustainability data environmental sustainability visions and problems</u>
Plan Issues and Alternatives	<ul style="list-style-type: none"> • Significant environmental/sustainability impacts of the strategic action. This maybe done for different levels of the strategic action: objectives, alternatives, detailed statements, individual sites, etc. • Other alternatives considered, and why these were rejected? • Mitigation measures that have been taken into account? • Where proposed mitigation measures have not been taken into account, the reasons why not?
Implementation	Links to project EIA, design guidance SEA Implementation Plan: <ul style="list-style-type: none"> • Where do other strategic actions conflict with the strategic action? • What infrastructure is needed? • What other actions need to be taken? • What further guidance needs to be written? • What needs monitoring? • Who is responsible for each action? Monitoring Plan: <ul style="list-style-type: none"> • What to monitor and why? • How to monitor and when to monitor(indicators/trigger levels/actions to be taken)? • Who is responsible and what the management response should be if there are problems identified? • How the information should be communicated?

Source: adapted from Therival, 2010: 230,235.

Table 4.3 highlights the importance of detailed SEA communication to guide translation and implementation. The key section of the report includes links to project EIA to enable tiering as well as suggested contents for the SEA Implementation Plan and Monitoring Plan. The monitoring plan contains some aspects important for future evaluation, management as well, although those are not included in Therival’s stages of follow-up.

Looking to other frameworks that shed light on SEA implementation, Harriman and Noble (2009) provide a framework for regional-scale SEA that is similar to both Therival’s and Nilsson’s. The Harriman and Noble framework also identifies a ‘post-assessment’ phase which would involve mitigation of any negative impacts associated with the PPP, and development of a follow-up and monitoring program (for effects monitoring, performance evaluation, feedback on

management effectiveness, and communication). Figure 4.2 is a framework developed for regional-scale SEA by Harriman and Noble (2009:264). A black box has been placed around the post-assessment phase, as well as follow-up and review to draw attention to the portion of the framework that pertains to guidance for SEA follow-up and the key stages involved.

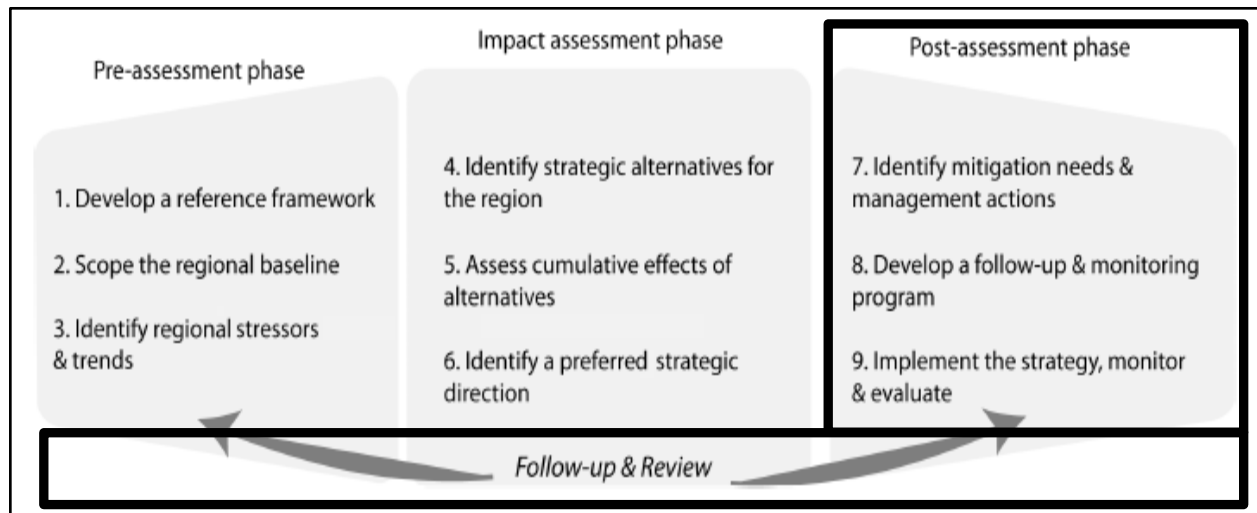


Figure 4.2 Framework for regional-scale SEA with the post assessment phase indicated (Source: adapted from Harriman and Noble, 2009:264).

4.1.3 Synthesis of SEA Follow-up Concepts

Based on a synthesis of the foregoing concepts and frameworks, Figure 4.3 is an overview of the SEA process.



Figure 4.3 Overview of the SEA process.

The post assessment phase consists of Step 4a. ‘determine the mitigation needs’ and Step 4b. ‘develop a follow-up program’, and finally Step 5 ‘follow-up and review’ following implementation. This figure is largely a synthesis of the Harriman and Noble (2009), Nilsson et al. (2009) and Therival (2009) frameworks. Specific guidance for Steps 4a., 4b., 5a., and 5b. is summarized in Table 4.4.

Table 4.4 Summary of SEA follow-up guidance.

SEA Follow-up Stage	Tasks	Output
Step 4a: Determine the Mitigation Needs (C,H,CD,N, T)	Scoping (C,H,CD,N,T) <ul style="list-style-type: none"> Specify the questions(N), Define criteria (N), Understand program theory(N) 	
Step 4b: Develop a Follow-up Program (C,H,CD,N, T)	Establish guidelines for implementation/ monitoring(H,T,C) <ul style="list-style-type: none"> Plan the activities(N), Define how the information should be communicated(T,C), Consult and respond to consultation results (T,C) Write the SEA Report(T, CD,C)	Documentation: SEA Statement(T,CD) SEA Report (C,T,CD): guidelines for <ul style="list-style-type: none"> implementation/ monitoring, communication instructions for future tiering/ reporting responsibility delegation
Step 5a: Implement Monitoring and Feedback (N,T,C,H)	Monitoring and Analysis of environmental/ sustainability impacts of implementation of the strategic action(N,T,C,H) <ul style="list-style-type: none"> Systematic data collection(N,C), processing/ analysis(N,C), storage(C), publication(N,C) 	Communication: Data reports/summaries(C) May be linked with existing monitoring communication systems(C)
Step 5b: Follow-up and Review (C,H,CD,N)	<u>Evaluation/ Learning</u> (N,C) Scanning for emergent and strategic issues related to basic assumptions (N) <ul style="list-style-type: none"> Weighting of monitoring results (indicators)(N) Periodic in-depth (monitoring) data and analysis conclusions(N,C) drawing conclusions, lessons for planning(N) Communication of results(N) Regular reviews, evaluations, performance assessments, audits (C,H)	Communication” Evaluation reports <ul style="list-style-type: none"> Departmental Performance Reports(CD) Regulatory Impact Analysis Statement (CD) Update SEA for regular revisions and renewal of PPP (C)

	<p><u>Management</u> (N,C) Regular revisions and renewal of SI Direct implementation activities.(C) communication with or participation of (formal) tiering systems, EMS, key actors.(C) • implementation of management/actions (C)</p>	
<p>Legend: CD=federal SEA Cabinet Directive, 2010; C=Cherp et al., 2010; H=Harriman & Noble, 2009; N=Nilsson et al, 2009; T=Therival, 2010</p>		

With such broad agreement on SEA follow-up stages by all five sources, and the more detailed task instructions provided by Therival, Nilsson and Cherp, there appears to be adequate content for successful SEA follow-up guidance. However, SEA literature describes SEA as ineffective in integration and implementation as well as in the areas required for improvement and learning including monitoring and feedback (Retief, 2007a; Gazzola, 2008; Noble, 2009; Eales & Sheate, 2011; Kis Madrid et al., 2011; van Doren et al., 2013). Recommendations to increase and maximize SEA effectiveness call for the development of internationally applicable and detailed practical guidance considering context and institutional capability for implementation in subsequent tiers (Retief, 2007c; Gazzola, 2008; Noble, 2009; Kis Madrid et al., 2011; Fundingsland Tetlow & Hanusch, 2012; Noble et al., 2012; van Doren et al., 2013; White & Noble, 2013; Sizo et al., 2016).

Similar guidance from the military SI and OI realm will now be investigated as a means to provide more structure to existing SEA follow-up guidance. Comparing the SEA follow-up guidance to the, S/OI framework, which is internationally applicable and detailed practical guidance for implementation at tiered levels, is an important next-step in determining the differences between the two, and possibly what is missing from SEA guidance to enable successful implementation and tiering in practice.

4.2 Strategic Intelligence (SI) and Operational Intelligence (OI) Concepts

The standard process and framework for military planning levels and intelligence is detailed in the next section. First, an explanation of military planning levels (Section 4.2.1) and the planning process stages (Section 4.2.2) is given. Next, Military Intelligence integration, implementation methods and procedures (Section 4.2.3), as well as S/OI dissemination and communication guidance are examined (Section 4.2.4). This will provide the S/OI framework for

comparison to the SEA framework from Table 4.3

4.2.1 Military Planning Levels

The process used for preparing military plans and orders is called the planning process. Military planning is a logical, systematic problem solving and decision-making process to create and continuously refine plans as certain orders are carried out and new information is gathered. The military must be able to function effectively in conditions of risk, and consistently make decisions in a climate of uncertainty, while constrained by time and resources. Decision-makers at different levels of command must adapt and thrive in situations of complexity, ambiguity and rapid change. Decisions must be based on the best information available at the time the decision is needed. According to the Canadian Forces Operational Planning Process, (2008:1-2) “In simple terms, the commander (decision-maker) must arrive at a functional solution within certain time constraints despite being faced with varying situations, which are often complex and ambiguous. The staff is organized and their efforts synchronized, to assist the commander throughout the decision-making process.” This is not unlike the challenge faced by various government, industry and community representatives tasked with implementing the results of an SEA.

Problems involving human conflict have varied and complex contexts. “Multiple participants act concurrently and react specifically against perceptions of probable actions and results of actions. Conflict is therefore a non-linear phenomenon wherein inputs have disproportionate outputs (CF, 2008:1-3).” In such dynamic social, political and environmentally complex and varied situations with climates of risk, uncertainty and time constraints, it is important that planning actions are organized and methodical so that decision-making is enabled and can be implemented effectively and efficiently. This means that the contexts the planning process is applied to are varied and complex, while the planning process itself is linear and systematic. Doctrine (military guidelines) exists for this process so that multinational military campaigns involving multiple elements and capabilities in multiple locations can function, communicate, plan and accomplish strategic aims and objectives together efficiently and effectively (USG, 2006).

The decision-making process is enabled by the planning process which functions at four distinct planning levels; the policy level, the strategic planning level, the operational level, and the tactical level. These are described below:

Four Distinct Planning Levels: Each level is designed to enable decision-making about the planning, preparation, execution and assessment necessary for realizing a strategic vision.

1. Policy Level:

National government provides the legal framework to bring their resources to bear on a problem in a multi-pronged approach to ‘best effect solution’. Options involve application of the “elements of national power – diplomatic, informational, military and economic – towards the achievement of national aims and objectives (CF, 2008:1-3).” A vision of the desired “end state” is determined and the approach to achieve it is chosen. “Policy defines the “end state” while strategy outlines the “plan” (CF, 2008:1-3)”. In the case of military action, the military strategic planning level personnel are provided with a vision and directed to support the achievement of the vision.

2. Strategic Planning Level:

This level of planning involves how to use the resources of the military most effectively to support the policy vision. In other words, it links the “means” of the military to the “ends” determined by the government. Strategic direction is provided to the operational planning level along with information about which resources or capabilities will be employed to effect the desired “end state” (CF, 2008).

3. Operational Planning Level:

Strategy is tested at this level. “This level deals with the joint employment of national, or multinational land, maritime and aerospace forces in sequential and simultaneous engagements that are linked by design ... to achieve a strategic objective within a given time and geographical area (CF, 2008:1.3).” At this level, strategic direction is translated into missions and tasks, which are provided to subordinate, tactical level commanders. Personnel at the Tactical Planning Level are provided a specific mission and a specific task to carry out, including constraints (what must be done) and restraints (what must not be done) (USG, 2006; CF, 2008).

4. Tactical Planning Level:

At this planning level, the conduct of battles, engagements or specific tasks in support of a mission are planned. At this level plans are very detailed including directions for who will do what, how, when, where, and why (CF, 2008).

4.2.2 Military Planning Process

For each of the four distinct planning levels identified above, there are multiple stages of planning activity to detail how military capabilities will be employed to achieve the vision, mission or task at that particular level (USG, 2006). There are five planning stages at each level including Initiation, Orientation, Course of Action (COA) Development, Plan Development and Approval. The planning process is followed by Execution, including Monitoring and Reporting and concludes with Plan Review, which may reinitiate the planning cycle (CF, 2008). These stages shown in Figure 4.4 represent the series of actions that are repeated for each of the four distinct planning levels. More specifically, the communication and directives become more and more detailed from planning level to planning level, such that policy level directives eventually are translated into tactical actions ‘on the ground’. Planning may be initiated at varying levels in response to political, or military events or crisis including top-down or bottom-up, although approval is always required from a superior level prior to execution (CF, 2008).

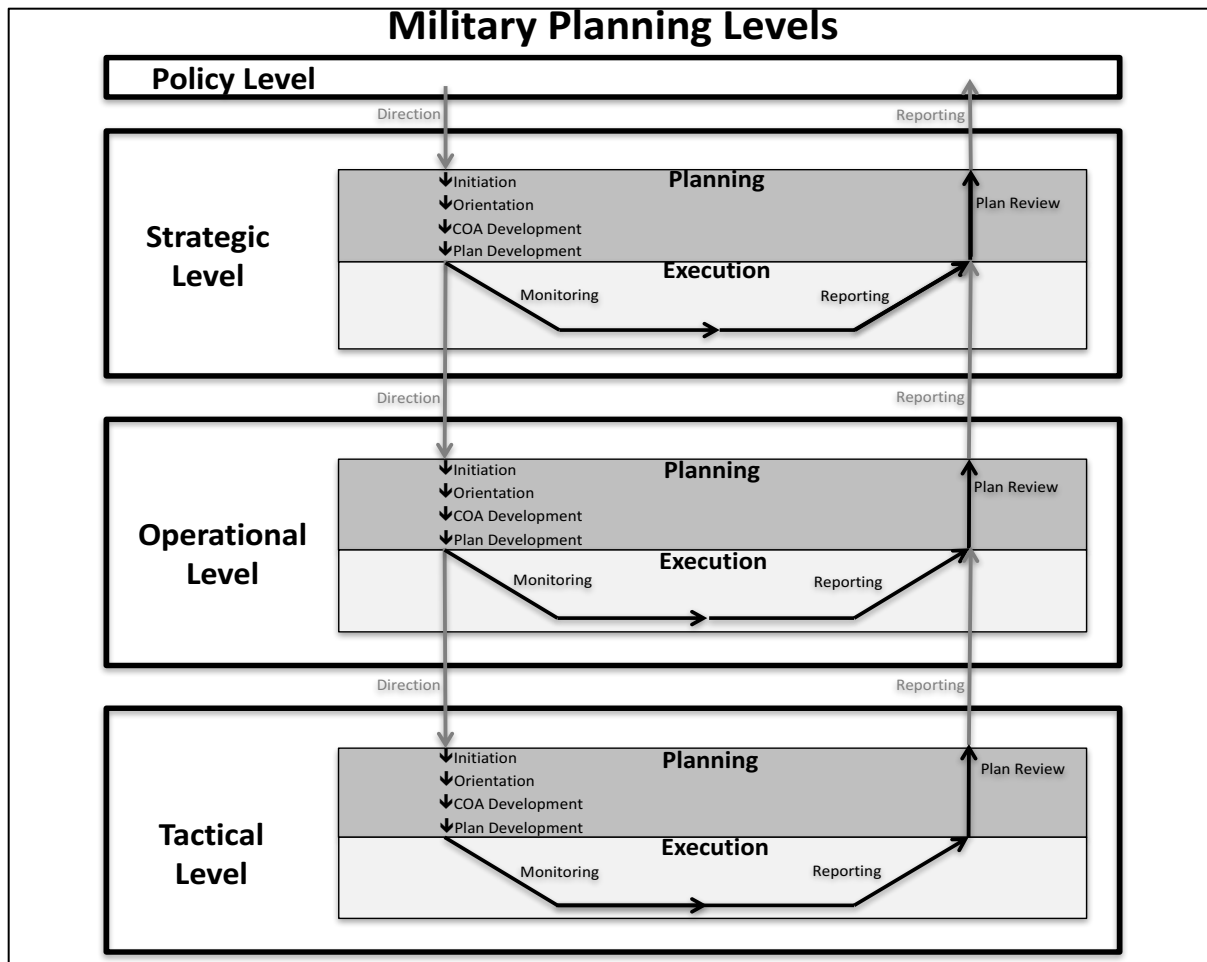


Figure 4.4 Military Planning Levels including planning, execution and assessment stages carried out at each level (CF, 2008).

Once the planning process for each planning level is completed, there are a series of actions associated with reporting. The reporting is done so that the level above knows what the subordinate level is about to do or has completed. The first step in reporting is that a plan is produced. Then, that plan is reviewed at the level at which it was made. The findings of that review are reported 'up' or 'back' to the level above. At the same time, 'orders' are produced for the next subordinate level, describing that level's plan so the next subordinate level can implement the plan (CF, 2008). This communication flow is also depicted in Figure 4.4.

For each stage in the planning process, there are a series of steps and actions. These steps and actions are described in detail in Figure 4.5.

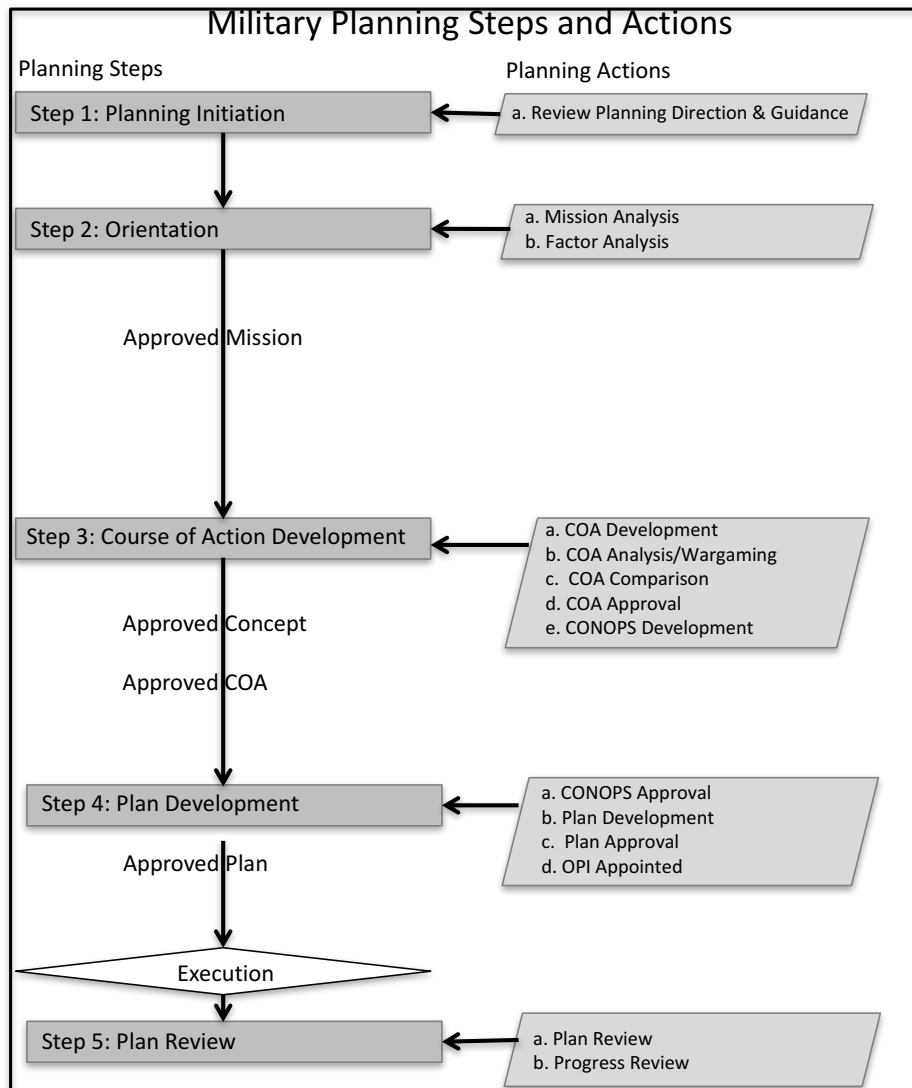


Figure 4.5 Planning steps and actions taken at each level the military planning process (adapted from CF, 2006)

Figure 4.5 depicts that the steps in the planning process consist of the following:

Stage 1 Initiation: Planning initiation begins with the receipt of a formal “Initiating Directive” or “Tasking Order” to initiate the planning process. These documents communicate and define desired strategic directives, impose appropriate limitations and appoint leadership and responsibilities, and timelines (CF, 2008; USG, 2006).

Stage 2 Orientation: The context of the developing situation and geographical conditions are reviewed. In addition to campaign objectives, goals and tasks, and desired effects of the campaign objectives and tasks are taken into consideration during planning phase of the campaign.

Stage 3 Course of Action (COA) Development: The direction contained in the commander's planning guidance is used to coordinate a staff analysis leading to the development of a series of COAs derived from a comprehensive, logical cross-function estimate (CF, 2008:3-11). A Concept of Operations (CONOPS) is developed for coordination of efforts of different units and assets at this level of planning, and for direction of action and assets at the subunit level.

The CONOPS:

- a. "expresses the commander's methodology and rationale for attaining specific strategic goals or end states;*
- b. advises higher command of the commander's intentions and ultimately provides an instrument for the Chief of Defence Staff to review and seek political agreement, if required; and*
- c. informs subordinate commanders and supporting agencies of the scope and nature of required Supporting Plans (SUPLANs) (CF, 2008:3-11)."*

Stage 4 Plan Development: The detailed instructions to carry out the COA are developed by the Commander's planning staff, in sufficient detail to execute. The finalized plan is disseminated to those units that will be responsible for the implementation of the plan when the commander authorizes it (CF, 2008; USG, 2006).

Stage 5 Plan Review: The final step in the planning process is to confirm the enduring applicability of the plan to evaluate its viability. The planning staff maintains a register of plans, indicating their status, date of review, authority and commander's acknowledgement (CF, 2008; USG, 2006).

- "Plan Review has two major applications: Progress Review and a Periodic Review.*
- a. Progress Review: In the planning and execution phases, orders must be continually reviewed. This is essential to ensure that required changes can be incorporated to ensure the mission continues to be achievable.*
 - b. Periodic Review: All plans have a limited period of validity due to the changing circumstances upon which they were based. Plans and associated SUPLANs must be reviewed at least every 24 months (CF, 2008:3-13)."*

4.2.3 Military Intelligence

There are ongoing, parallel intelligence (Int) operations that support each level, phase, and stage of the planning process and its associated reporting process (CF, 2008; USG, 2006). The strategic level planning and decision-makers are supported by Strategic Intelligence (SI), the operational planning and decision-making level is supported and informed by Operational Intelligence (OI) and Tactical Planning and decision-making levels are supported by Tactical Intelligence (TI). For each level there is information provided to the subordinate level of planning for implementation of the overall plan as well as detailed instructions to the sub-level of Int assets. Each sub-level Int unit reports to the level above on actions and effects of implementation (CF, 2008, USG, 2012). Figure 4.6 depicts the military decision-making levels and the Int level they are informed by as well as the flow of Int communication into the planning and instructions for the subsequent level and reporting back up to the superior level. The 'Intelligence Estimate' is the main document for Int communication integrated into the military plan (USG, 2012).

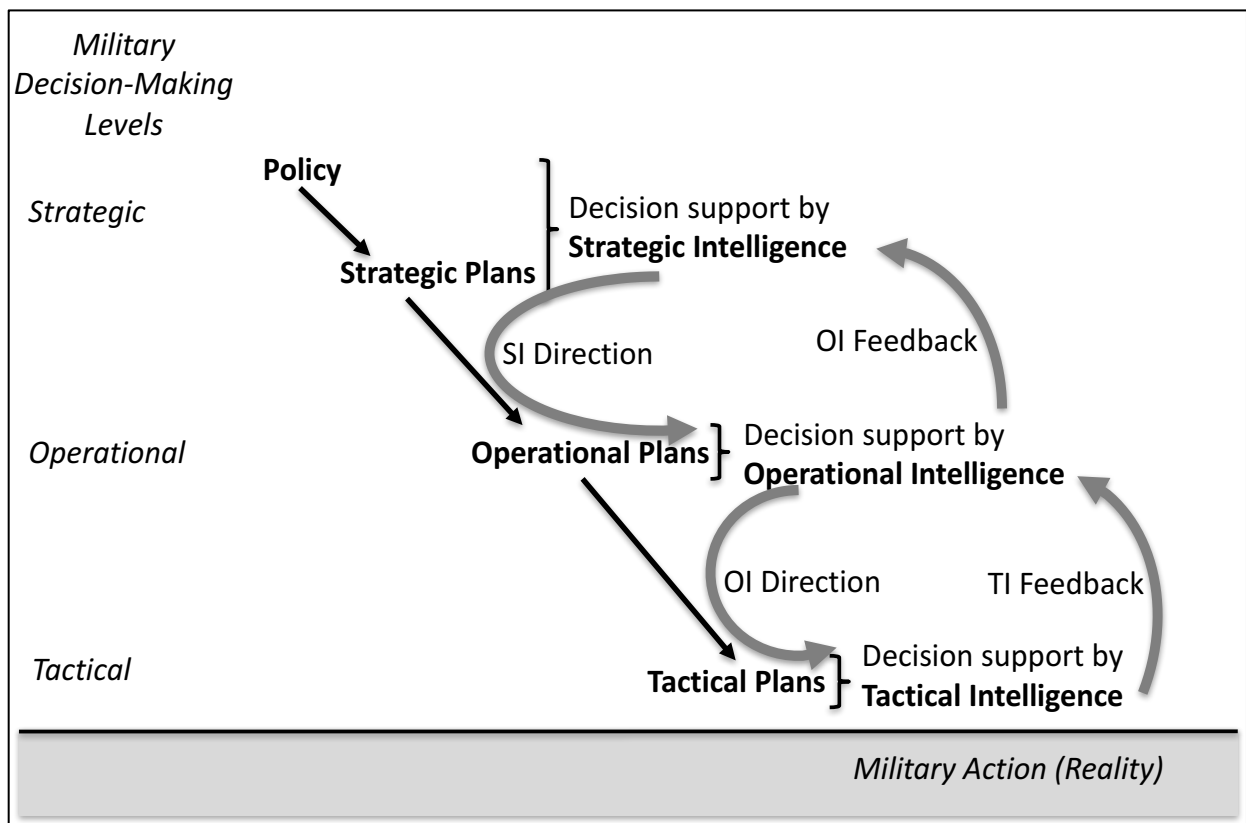


Figure 4.6 Military decision-making levels and the intelligence levels they are informed by (USG, 2006).

The Canadian Forces Operational Planning Process Doctrine (2008) and the Joint Intelligence Guidance (USG, 2012) provide a framework for Int activities in support of strategic and operational planning. During each stage of the military planning process, Int planning and outputs are integrated in each stage (USG, 2012). Figure 4.7 shows how the Int aspects of planning integrate into the overall planning process by aligning the Intelligence Cell Functions and Outputs next to each Military Planning Stage. The Int process is really a function within the overall planning process and not separate from it.

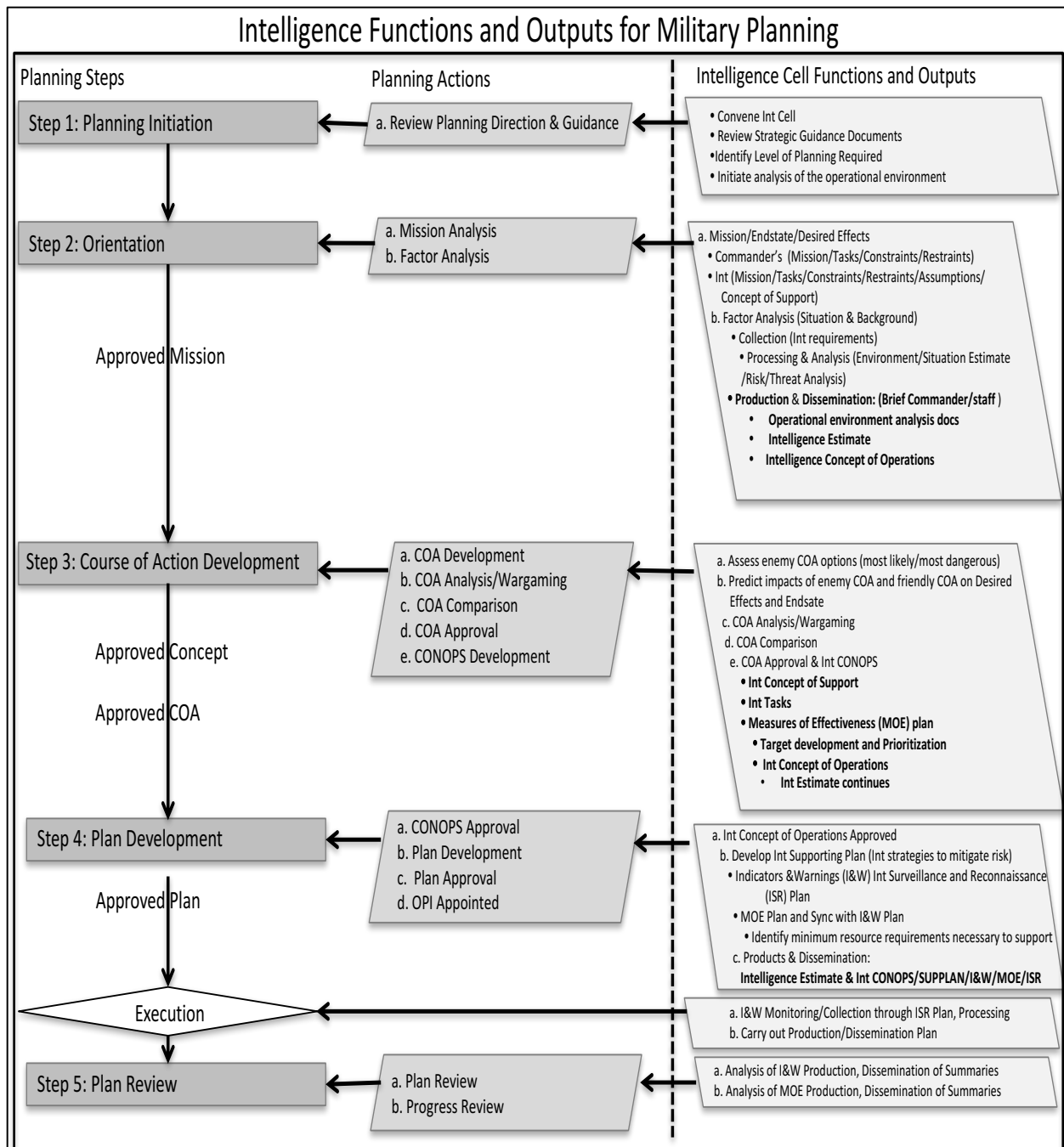


Figure 4.7 Intelligence Functions and Outputs for each Military Planning Stage (USG, 2012).

The intelligence inputs into the stages in the planning process are as follows:

Stage 1 Initiation: The Int cell is convened and strategic guidance documents reviewed. The operational environment (specific characteristics of the geographic area in which the action will take place) analysis is initiated. This analysis will be added to the “Intelligence Estimate”. The “Intelligence Estimate” covers the Int aspects of the plan towards the objectives of the mission.

Intelligence Planning focuses on two aspects; providing Int support to planning and planning how the Int cell will operate (USG, 2012).

Stage 2 Orientation: Based on the Commander's mission, tasks, constraints and restraints within the "Initiating Directive" or Tasking Order", the Int cell develops the intelligence specific mission, tasks, constraints, restraints, assumptions and "Int Concept of Support" to the planning process and execution of the plan. The contextual factors will then be gathered and analyzed in terms of situation and background. Collection instructions and suggested sources for fulfilling Int requirements, processing and analysis, production and dissemination in support of decision-making occur in this stage. The impact of the operational environment analysis, as well as the evaluation of the adversary will be added into the Intelligence Estimate. Besides the Intelligence Estimate, other products of this stage include a draft Intelligence Concept of Operations (CONOPS), which contains instructions and guidance on how the Int cell is expected to operate internally and a draft Int Supporting Plan (SUPPLAN), which contains information and guidance on how the Int cell will be supporting the planning process (CF, 2008; USG, 2012).

Stage 3 Course of Action (COA) Development: The Int cell will assess the enemy COA options including the analysis of the "most likely" and "most dangerous" and then predict impacts of enemy COA and friendly COA on the Commander's "Desired Effects" and desired "Endstate". During the wargaming stage, the int cell will "play" the enemy part for planning purposes. Once a COA has been approved, the Int products will continue to work on the Int CONOPS, Int SUPPLAN, determine Int tasks, measures of effectiveness (MOEs), target development and prioritization (CF, 2008; USG, 2012).

Stage 4 Plan Development: Detailed instructions to carry out the COA are developed, in sufficient detail to execute. Once the Int CONOPS is approved, the Int Concept of Support is further developed which contains the Int strategies to mitigate risk. Minimum resource requirements necessary to support the plan are identified. The finalized plan is disseminated to those units that will be responsible for the implementation of the plan when the commander authorizes it. The Int products of this stage include the Int Estimate & Int CONOPS/ SUPPLAN/

Indicators and Warnings (I&W) and the MOE sections for incorporation into the plan (CF, 2008; USG, 2012).

Stage 5 Plan Review: The final step in the planning process is to evaluate progress towards the desired endstate and viability of the plan.

- a. Progress Review: During execution of the plan, the Int cell will monitor and report on Int aspects of progress towards the desired endstate and recommend changes or amendments where necessary. According to the Joint Intelligence Doctrine, assessment is a continuous process and Int plays a critical role in by advising on (2012:IV-15) “what aspects of the operational environment to measure and how to measure them to determine progress toward accomplishing a task, creating an effect, or achieving an objective.”
- b. Periodic Review: Participate in scheduled plan reviews and provide Int summaries for planning (USG, 2012).

4.2.4 Intelligence Communication

According to the Joint Intelligence Doctrine (USG, 2012:xviii), “Intelligence Planning provides a methodology for synchronizing, integrating, and managing all available capabilities... It ensures that the Int system is focused on providing the commander with the intelligence required to create desired effects and achieve operational objectives.” To achieve this, clear and concise communication is imperative.

Int support to plan development includes Int output as input to the overall plan in the form of an Intelligence Estimate. The Joint Intelligence Doctrine (USG, 2012:xviii) states that this section of the overall military plan “ provides detailed information on the adversary situation, establishes priorities, assigns Int tasks, identifies required Int products, requests support from higher echelons, describes the concept of Int operations, and specifies Int procedures.” Figure 4.10 depicts the Int Estimate contents including Situation, Mission, Execution, Administration & Logistics, and Command & Control. The contents of each section in the Intelligence Estimate are detailed below:

- a) Situation: The background context of the existing situation, issue or conflict including an assessment of the enemy, friendly capabilities and legal issues or requirements (USG, 2012).

- b) Mission: The goal of the intelligence cell in relation to achieving the commander's mission (CF, 2008).
- c) Execution: Based on the approved COA, Int collection requirements, and the estimate of available capabilities to satisfy them. The Int collection tasks are assigned for incorporation into sub-plans for the subsequent military planning level. Coordination instructions for sending and receiving Int will be specified as well (CF, 2008).
- d) Administration and Logistics: Minimum resource requirements necessary to support the plan are identified and mitigation strategies to reduce the risk associated with any shortfalls in collection, analysis, and production capabilities (CF, 2008).
- e) Command & Control: Military leaders and officers of primary interest are designated so that responsibilities are assigned (CF, 2008).

Intelligence estimate (Annex B)	
Situation	<ul style="list-style-type: none"> - Characteristics of the area - Enemy assessment - Friendly - Legal
Mission Execution	<ul style="list-style-type: none"> - Concept of intelligence operations - Tasks - Priority intelligence requirements - Collection - Processing and evaluation - Analysis and production - Dissemination and integration - Coordinating instructions
Administration and logistics	
Command and control	

Figure 4.8 Intelligence Estimate (Annex B) contents for military planning (adapted from USG, 2012:IV-4).

Int communications planning is key to successful Int systems support for streamlined flow of information, and providing timely and useful Int products tailored to the needs of the operating forces. As part of the coordinating instructions within the Int Estimate, the 'Int Communications Architecture' transmits Int and information to and from various Int, surveillance and

reconnaissance elements, units, and agencies by means of communication systems (USG, 2012). The following are examples contained within the Intelligence Field Manual (2010:4-113) of questions that the intelligence staff must answer to establish the Int Communications

Architecture:

- *Where are the unit's collectors?*
- *What and where are the unit's processors?*
- *What are the information exchange rates on each network relative to the network capacity?*
- *Where are the unit's intelligence production elements?*
- *Where are the unit's decision-makers?*
- *How does the unit disseminate information from its producers to its decision-makers and/or consumers?*
- *How long does it take to pass certain reports and products?*
- *Are the systems used by the unit's collectors, producers, processors, and consumers compatible with each other? If not, what is the plan to overcome this challenge?*
- *How can the unit access databases and information from higher and other agencies? Are there special requirements necessary to access these databases, such as security clearance, polygraph, training, or certification (2010:4-113)?*

The S/OI framework outlined above is now amalgamated with the SEA follow-up concepts and guidelines outlined in Figure 4.5 and Table 4.3 to establish an integrated framework for potential future application in SEA.

4.3 The Framework

4.3.1 S/OI and SEA Comparison

The SEA process from Section 4.1 and military S/OI process guidelines for support to strategic and operational planning levels from section 4.2 were compared to align the two processes for integration. This was done in stages from a broad comparison of Laswell's PPP process to the military planning process, followed by a comparison of the SEA framework from figure 4.3 and table 4.3 to the S/OI framework from figures 4.7 and finally a detailed comparison of the post- assessment phase of SEA to the post-decision phase of S/OI and communication outputs in Figure 4.8.

In order to compare SEA to S/OI frameworks it was first necessary to align them. This was done by first comparing the processes they are meant to influence for broad reference points for the more detailed comparison. Figure 4.17 is a comparison of Lasswell's PPP planning process from Clark (2009) including the planning steps and actions and the military planning

process from the Canadian Forces Operational Planning Process Doctrine (2008) including the planning steps and actions.

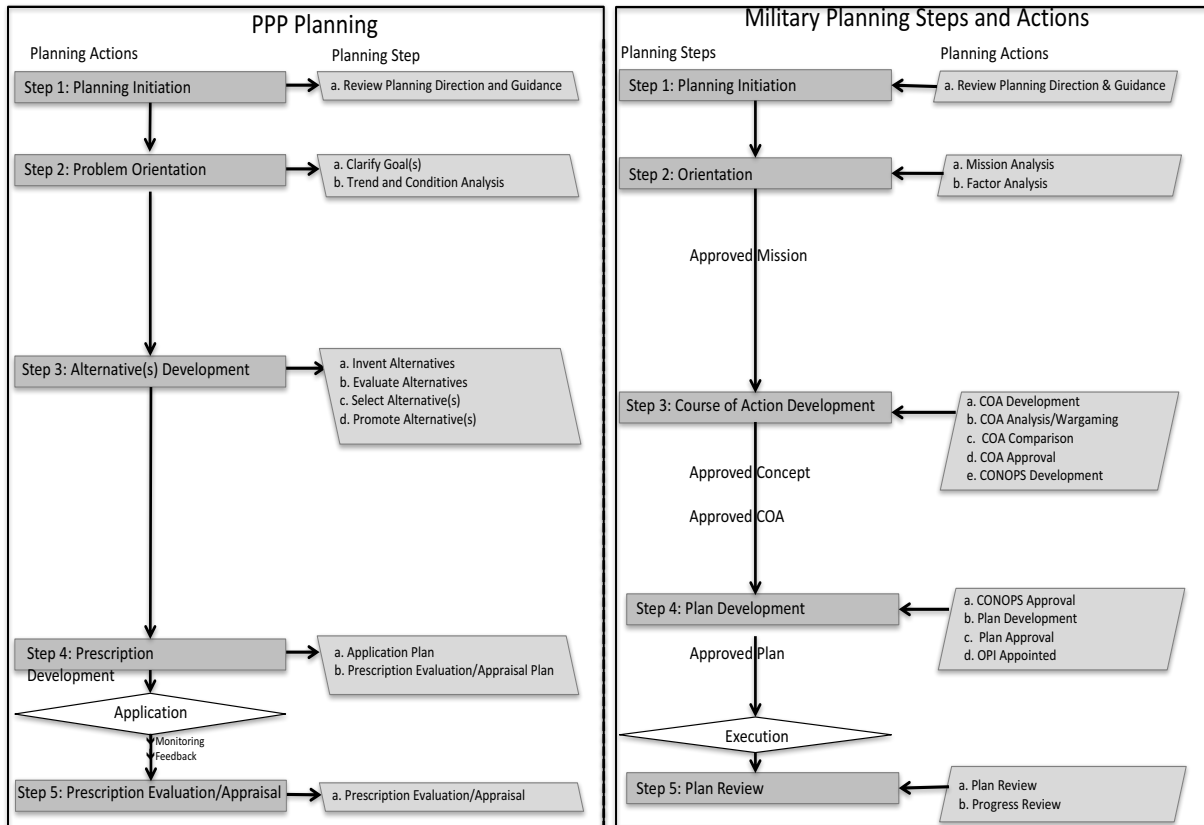


Figure 4.9 Comparison of the PPP planning process to the military planning process including planning steps and actions for both (Clark, 2009; CF, 2008).

The two planning processes from figure 4.9 are compared below:

Step 1 for each begins with Planning Initiation including the review of planning direction and guidance.

Step 2 for each involves Orientation of the problem or context, with clarifying goals and trend/condition analysis for PPP planning coinciding with mission analysis and factor analysis for military planning.

Step 3 for both processes is conducted for the same purpose with Alternatives Development for the PPP process and Coarse of Action (COA) Development for the military process. The actions inside this step for PPP planning include invent, evaluate, select, and promote alternatives while for military planning include COA development, analysis, comparison and approval followed by CONOPS development.

Step 4 is very similar as well for PPP planning Prescription Development with action steps of application plan and prescription evaluation plan and military Plan Development with action steps of CONOPS approval, plan development, approval and appointment of responsible authority for plan accountability.

Application or execution of the plans follows in both processes.

Step 5 is the final stage for both processes, concluding with PPP prescription evaluation, and military plan review.

The military and PPP processes for planning are clearly very similar in Planning steps and Planning actions. This allows the decision-support processes of SEA for PPP planning and S/OI for military planning to be aligned for comparison. The intelligence functions and outputs into the military planning process and SEA functions and outputs into the PPP planning process are aligned for comparison in Figure 4.10. SEA specific planning actions and output for each step in the PPP planning process and intelligence specific planning actions and output for each step in the military planning process are compared below, broken into the three stages of SEA including pre-assessment, assessment, and post-assessment:

Step 1 Planning Initiation for Pre-assessment SEA is to develop a reference framework based on planning guidance while intelligence has four actions including convening the int cell, reviewing strategic guidance documents, identifying level of planning required and initiating the intelligence preparation of the operational environment.

Step 2 Orientation for Pre-assessment SEA is first to scope the baseline and areas of concern while for intelligence is a similar scoping including analysis of the mission, endstate, and desired effects to determine intelligence specific mission, tasks, constraints, restraints and assumptions to form the Int Concept of Support. Next for Pre-assessment SEA is to identify the trends and stressors in order to produce the Scoping Report. The same step for intelligence is factor analysis (or scoping) of the situation and background including collection, processing, analysis production and dissemination of intelligence products including JIPOE, Commander's Intelligence Objectives, Center of Gravity Analysis, Intelligence Estimate, and Intelligence Concept of Operations.

Step 3 Prescription (COA) Development for the Assessment Phase of SEA is first to formulate strategic alternatives, assess the potential effects of the alternatives, and identify the preferred options. Intelligence is very similar with analyzing and developing possible enemy COA options including most likely and most dangerous, predicting impacts of enemy and friendly COA on desired effects and endstate followed by analysis, comparison of COAs with commander and staff, approval of a COA and development of intelligence CONOPS. Intelligence products at this stage include Int Concept of Support, Int CONOPS, Int tasks, MOEs, target development and prioritization, and Intelligence Estimate.

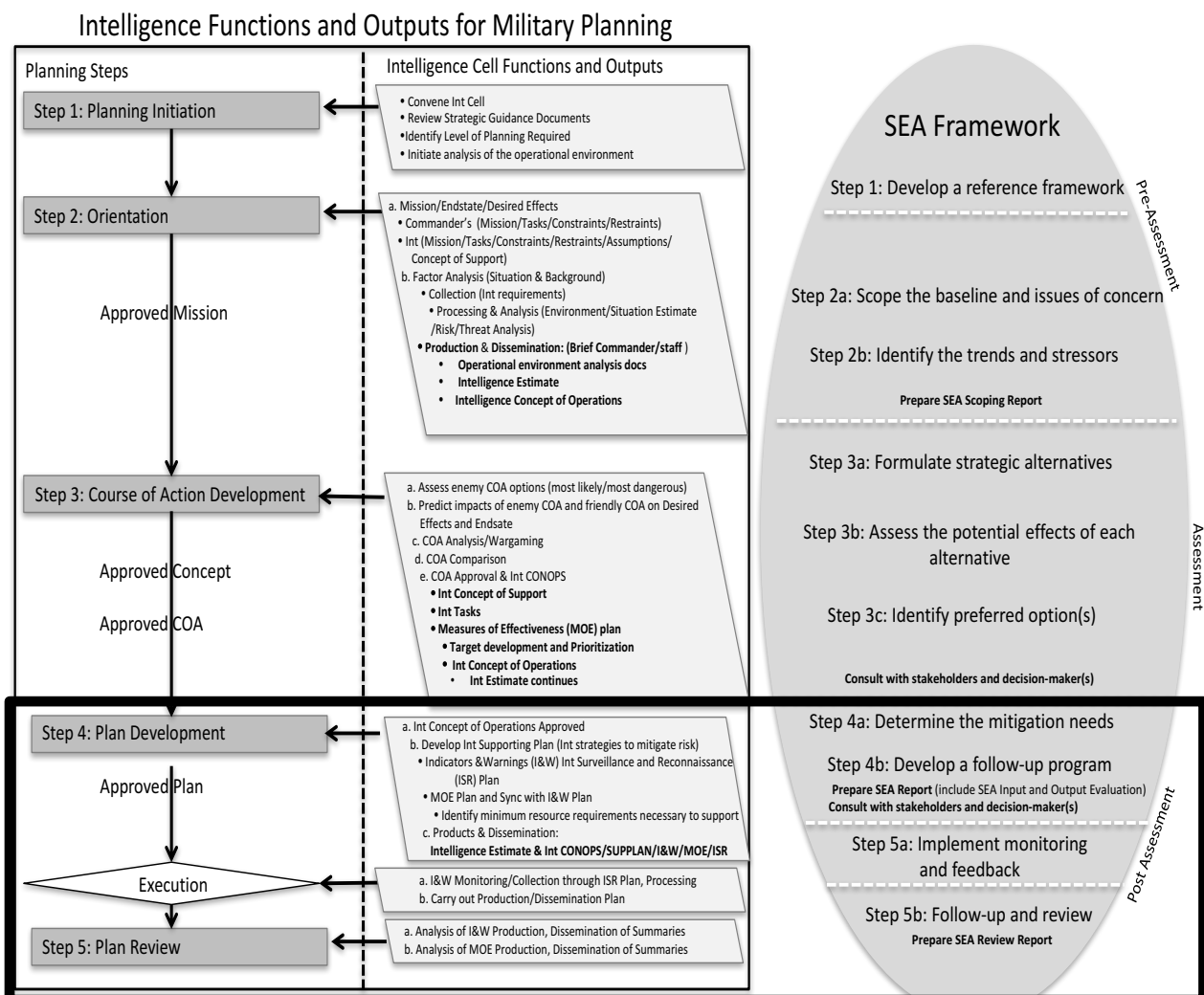


Figure 4.10 Comparison of the intelligence functions and outputs into the military planning process and SEA functions and outputs into the PPP planning process (USG, 2012; Figure 4.5)

This level of similarity in purpose and action in the first three steps of SEA and intelligence support to planning allows the detailed comparison of the Post-Assessment Phase of SEA support to PPP planning to be compared to the same steps (4 & 5) of the S/OI support to military planning as well as the implementation/execution stages. The area contained in the black box in Figure 4.10, Steps 4 and 5, Plan Development and Review, for the Post-Assessment phase of SEA and S/OI are compared in further detail. Table 4.5 is a methodical look at each part in the framework recommended for SEA follow-up and implementation guidance from section 4.1 and specifically table 4.4 and the S/OI framework and content from section 4.2 and figure 4.7.

S/OI Stage	Actions and Products	SEA Stage	Tasks and Output
4. Plan Development	a. Int Concept of Operations Approved	4a: Determine Mitigation Needs	Scoping <ul style="list-style-type: none"> Specify the questions, Define criteria, Understand program theory
	b. Develop Int Supporting Plan (Int strategies to mitigate risk) <ul style="list-style-type: none"> - I&W and ISR Plan - MOE Plan and Sync with I&W Plan 	4b: Develop Follow-up Program	Establish guidelines for implementation/monitoring <ul style="list-style-type: none"> Plan the activities, Define how the information should be communicated, Consult and respond to consultation results Write the SEA Report
	Products & Dissemination: Intelligence Estimate & Int CONOPS/ SUPPLAN/ I&W/ MOE		Documentation: SEA Statement SEA Report: guidelines for <ul style="list-style-type: none"> implementation/ monitoring, communication instructions for future tiering/ reporting responsibility delegation
Implementation /Execution	a. I&W Monitoring/ Collection through ISR Plan, Processing	5a: Implement Monitoring and Feedback	Monitoring and Analysis of environmental/ sustainability impacts of implementation of the strategic action Systematic data collection, processing/ analysis, storage, publication
	Production/Dissemination Plan (Int Summaries)		Communication: Data reports/summaries

Table 4.5 Detailed comparison of the implementation and feedback stages for S/OI and SEA.

5. Plan Review	a. Progress Review to ensure that the mission continues to be achievable. - Analysis of I&W - Analysis of MOE/DP	5b: Follow-up and Review	<u>Evaluation/ Learning</u> Scanning for emergent and strategic issues related to basic assumptions <ul style="list-style-type: none"> • Weighting of monitoring results (indicators) • Periodic in-depth (monitoring) data and analysis conclusions • drawing conclusions, lessons for planning
	b. Periodic Review: All plans have a limited period of validity due to the changing circumstances upon which they were based. Plans and associated SUPLANs must be reviewed at least every 24 months		<u>Management</u> Regular revisions and renewal of SI Direct implementation activities, communication with or participation of (formal) tiering systems, EMS, key actors
	I&W Production/ Dissemination of Summaries MOE/DP Production/ Dissemination of Summaries		Communication: Evaluation reports <ul style="list-style-type: none"> • Departmental Performance Reports • Regulatory Impact Analysis Statement Update SEA for regular revisions and renewal of PPP

Sources: USG, 2012; Table 4.3

Step 4 Plan Development for the Post-Assessment phase of SEA includes determining mitigation needs and developing a follow-up program and the production of the SEA Report, while intelligence actions include working from an approved CONOPS to develop the intelligence Supporting Plan to mitigate risk, and produce a finalized Intelligence Estimate, Int CONOPS, Supporting Plan, Indicators and Warning, and Measures of Effectiveness for incorporation into the military plan.

Execution/Implementation of the finalized and approved plan occurs at this point with SEA Step 5a. SEA monitoring and feedback and continuous intelligence monitoring, collection, processing, production and dissemination.

Step 5 Plan Review for the Post-Assessment Phase of SEA Step 5b. involves follow-up assessment and review in the form of a SEA Review Report. Intelligence summaries of progress towards the desired effects and endstate including any recommendations as well as lessons learned are reported for military plan review and assessment.

With the level of similarity in these levels in purpose and action, it was possible to compare the communication products of the two specialties to evaluate contents for effective translation, implementation and feedback. The two most important aspects of intelligence communication are the intelligence estimate and intelligence communication architecture while for SEA is the SEA Report. Table 4.6 is a comparison of contents recommended for SEA Reports to facilitate implementation and follow-up compared with the contents required in S/OI Estimates.

Table 4.6 Comparison of S/OI ESTIMATE and task-based SEA REPORT Communication.

Intelligence Estimate		SEA Report	
Situation A short summary of the situation	Characteristics of the area	Context Background	Executive Summary: Non-technical summary of the SEA report & What difference the SEA process has made <ul style="list-style-type: none"> • Background (justification for the strategy, planning alternatives)
	Enemy assessment		Environmental baseline (history to current problems) environmental sustainability visions and problems Difficulties in collecting, and limitations of the data
	Friendly	Methodology	Scope <ul style="list-style-type: none"> • Approach and methodology • Purpose of the SEA who carried out the SEA, when, who was consulted, etc.
	Legal		Environmental and Sectoral Policy, legislative and planning framework <ul style="list-style-type: none"> • Links to other strategic actions where other strategic actions conflict with the strategic action

Mission	State the mission determined in the orientation		<ul style="list-style-type: none"> Strategic action objectives Mitigation or optimizing measures
Execution Contains an outline of how the mission is to be carried out by Units and formations alone or in conjunction with other government departments	Concept of intelligence operations This is a statement of the broad concept For the support of the mission.	Plan issues and alternatives Implementation Summary and outcomes	<ul style="list-style-type: none"> Analysis of planned alternatives, impacts and micro-level mitigation Mitigation measures that have been taken into account Where proposed mitigation measures have not been taking into account, the reasons why not Other alternatives considered, and why these were rejected Conclusions and mitigation guidance, sea implementation plan, etc.
	Tasks Provide details of tasks to subordinate formations / units		<ul style="list-style-type: none"> what other actions need to be taken what further guidance needs to be written
	Priority intelligence requirements Collection		Proposed monitoring <ul style="list-style-type: none"> What needs monitoring, What to monitor and why. How to monitor and when to monitor recommended indicators
	Processing and evaluation		<ul style="list-style-type: none"> (indicators/trigger levels/actions to be taken).
	Analysis and production		
	Dissemination and integration		And how the information should be communicated.
	Coordinating instructions Communication architecture		<ul style="list-style-type: none"> Who is responsible and what the management response should be if there are problems identified. Links to project EIA, Significant environmental/sustainability impacts of the strategic action. This maybe done for different levels of the strategic action: objectives, alternatives, detailed statements, individual sites
Administration & Logistics	Minimum resource requirements to support		Institutional capacities <ul style="list-style-type: none"> what infrastructure is needed
Command & Control	Responsible authority designated		Who is responsible for each action

Sources: adapted from USG, 2012; and Therival, 2010: 17,225,230,235

4.3.2 S/OI Augmented SEA Framework

Out of these comparisons, a framework was developed by augmenting the current SEA framework from the guidance. This includes the SEA framework with SEA communication output and Strategic Implementation Plan Contents for SEA-EIA Tiering and Communication. These resulting frameworks developed from the detailed analysis are shown in Figures 4.11 and 4.12.

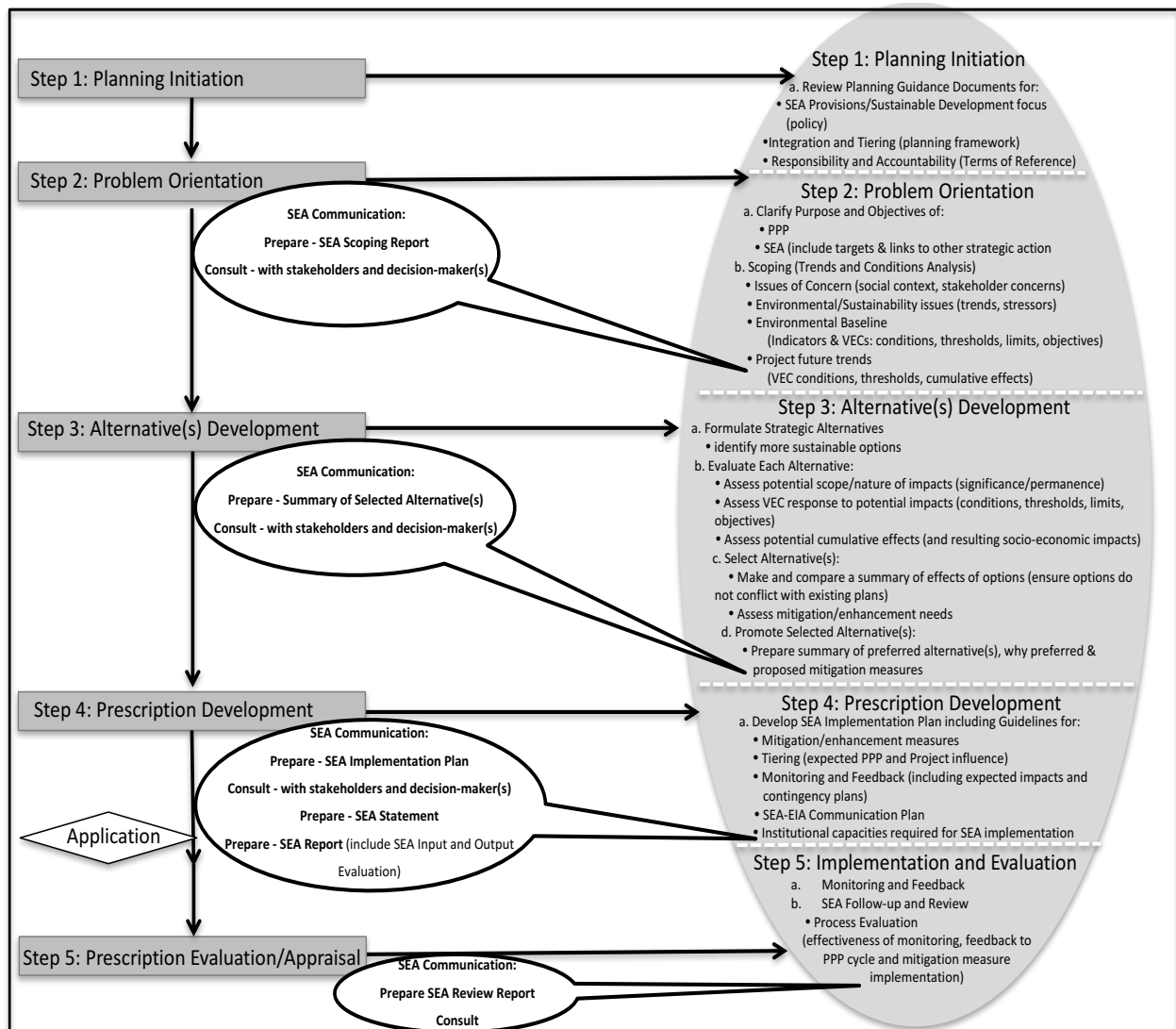


Figure 4.11 S/OI augmented SEA Framework for SEA with SEA Communication products and dissemination points contained in speech bubbles.

The developed framework encompasses the entire SEA process through the PPP planning process because the Post Assessment phase is not separate, but part of the whole, and as such must be situated within the whole. The aspect lacking from SEA documentation is an effective format for communicating to enable tiering and translation. The Strategic Implementation plan for SEA-EIA Tiering and Translation was developed in the S/OI format proven to enable effective implementation. Specifically, it also contains SEA communication architecture information to ensure effective communication.

Example of Strategic Implementation Plan Contents for SEA-EIA Tiering and Communication

1. SEA Context
2. Strategies/Actions Consultation Results:
 - a. Strategies/ Actions Chosen
 - b. SEA mitigation/enhancements decided
3. SEA Implementation Plan for PPP Application:
 - a. Mitigation/Enhancement Measures outline
 - b. Tiering Plan (expected PPP and Project influence) outline
 - c. Monitoring and Feedback Plan
4. Communication Architecture for SEA Implementation Plan
 - a. Tiering, Monitoring and Feedback and Review Communications Plan
 - i. Lines of Communication (node to node, WHO/which office will be required to communicate with who/which office) for direction/reporting
 - ii. Content of Communication (WHAT must be communicated)
 - iii. Form of Communication (HOW is it communicated)
 - iv. Timing of Communication (WHEN is it communicated)
 - v. Storage and Retrieval (WHERE is it stored)
5. Institutional Requirements for Implementation
6. SEA Review/Reporting Requirements for enhancement/mitigation effectiveness

Figure 4.12 Format for Strategic Implementation Plan for SEA-EIA Tiering and Communication based on S/IO guidance.

The aim of the framework is to increase SEA influence upon subsequent tiers of impact assessment, and/or related policy and plan making, and/or environmental management directives by improved translation of SEA through various tiers. This is accomplished in S/OI through clear communication through the Intelligence Estimate contents with a detailed communication architecture. This communication format and architecture can enable SEA follow-up and implementation where currently guidance is needed to facilitate successful tiering from integration to implementation.

4.4 Discussion

In environmental policy decisions, decision-makers may have a wealth of *information*, but very little *knowledge* provided for support in their decisions (Clark, 2009). In addressing national security and environmental issues, typically information is fragmented and uncertain, there are conflicting values, the opportunity costs are high and decisions are often urgent (Nilsson & Dalkmann, 2001; Rathmell, 2002; Sullivan, 2007; Weiss, 2007). The flow of reliable and specific knowledge is essential to conservation and management and according to Clark (2009): lack of intelligence in natural resource management and decision-making for policy can result in

unmet conservation goals. Further, uncertainty in decision-making can result in inaction, compromising effective progress toward sustainability (Clark, 2009). Clark (2009) also describes the critical relationship between effective intelligence support and decision-makers who are capable and willing to use it. Military intelligence has a long history of analyzing resilience, communicating uncertainty, integration in decision-making and planning, predicting scenario outcomes, as well as a key role in achievement of strategic objectives and feedback, all of which are important in SEA.

A reminder of the historical military origin of ‘strategy’ from “The Art of War”, written by Sun Tzu about 400 B.C. (1971), was described in SEA literature by Cherp, Watt, and Vinichenko (2007). A war analogy for SEA is discussed, distinguishing between the *art* of promoting strategic change towards environmental sustainability (i.e. the *strategy of SEA*), and the *task* of influencing particular PPPs (Cherp et al., 2007; Wallington, Bina, & Thissen, 2007). At the sector level, Petrini and Pozzebon (2009) propose a business intelligence model to support management towards sustainability. They describe the difference between the *art* of sustainability input into organizational vision, mission, goals and objectives, as opposed to the *task* of integrating sustainability in operational decisions (Petrini & Pozzebon, 2009). This difference is clear in military planning at the strategic, operational and tactical levels. The *art* of war is integrated into war *task* planning at the operational planning level for implementation at the tactical level (USG, 2012). The *art* of SEA is integrated into the *task* of SEA at the operational, i.e., PPP level, for implementation at the project level.

Strategic intelligence converges with the strategic *art* of war in political vision development by contributing the SI *task* of dissemination and integration in strategic planning towards the war *task*, as does SEA. The intelligence discipline effectively synchronizes the procedural and transformative strategies of influencing decisions and decision-makers. Although there is has been little, to no, guidance to accomplish this within the SEA community, intelligence has the potential to lend guidance toward the incorporation of the procedural and transformative strategies of SEA to enable both single- and double-loop learning (Wallington et al., 2007).

SEA bears many similarities in aim and processes in *art* and *task* to S/OI. Instead of the focus on the security environment through the *art* of influencing mission direction and *task* of informing decisions and maintaining security, SEA focuses on environmental security

(sustainability) through the *art* of influencing PPP decision-makers and stakeholders and *task* of informing decisions for maintaining environmental sustainability.

The framework developed for SEA and communication guidance for implementation and tiering has potential to be a valuable tool for not only the practice of effective SEA implementation and follow-up but to enable sustainable development to be achieved over multiple levels in government and industry, transparency and accountability for environmental outcomes. This potential was tested in the Parks Canada SEA context and the results are contained in Chapter 5.

Chapter Five: Testing the Proposed Framework

5.1 Testing the S/OI Enhanced SEA Framework In a Parks Canada Context

The goal of the S/OI enhanced SEA framework is to increase SEA influence upon subsequent tiers of impact assessment, and/or related policy and plan making, and/or environmental management directives by improved translation of SEA results. As expressed earlier by Nilsson et al. (2009:189), “It is one thing to construct a framework of tools purely on the basis of theory, legislation, normative principles and what tools are available. It is quite another to engage in understanding real-world practices as a basis for constructing a framework.” In order to investigate the potential for the proposed S/OI enhanced SEA framework to increase SEA influence upon subsequent tiers, it was tested in the real-world context of PC SEA.

5.1.1 The Parks Canada SEA Process

Parks Canada is a federal government agency that originated in 1885 when the government of Canada set aside a small area around the hot springs in Banff for public use. When the Dominion Parks Branch was established in 1911, Canada had five national parks and was the world’s first national park service (Canadian Encyclopedia, 2012). The first parks were in the Rocky Mountains and three of them were along the Canadian Pacific Railway line. Parks Canada now administers a much larger system of protected areas throughout Canada including 42 national parks and park reserves, 167 national historic sites and four national marine conservation areas and marine parks. These national parks, reserves, sites and conservation areas are a system of representative natural areas of Canadian significance (Canadian Encyclopedia, 2012). The purpose of the Parks Canada Agency is to

...fulfill national and international responsibilities in mandated areas of heritage recognition and conservation; and to commemorate, protect, and present, both directly and indirectly, Canada’s natural and cultural heritage in ways that encourage public understanding and enjoyment of this heritage, while ensuring long-term ecological and commemorative integrity (GC, 2017: para.1).

Core mandates of PC include protecting ecological integrity, facilitating visitor experience, and public education (GC, 2017). All aspects of decision-making within PC, from the development of

policy to the implementation of projects and daily operations, adhere to the commitment to protect ecological integrity and ensure commemorative integrity (Therrien-Richards, 2000).

5.1.2 Provisions for Tiering in Parks Canada SEA Guidance

At Parks Canada, SEAs are required for policies, Management Plans for National Parks, National Marine Conservation Areas, National Historic Sites, and other strategic proposals (GC, 2017). According to Therrien-Richards (2002), the SEA of policies and Management Plans (MP) is an effective mechanism by which to ensure that PC’s mission is not compromised by initiatives within its areas of responsibility because it integrates environmental and sustainability considerations early in the policy- and plan-making process. In the PC context, SEA for policies is guided by the Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals (Cabinet Directive) (GC, 2012). The Cabinet Directive also governs the assessment of plans that may result in environmental effects.

As projects are developed to fulfill MP objectives for each park, project-level EA is conducted (Therrien-Richards, 2000). “The Parks Canada Management Directive, 2.4.2 Impact Assessment, sets out the legislative policy framework for conducting EA within Parks Canada” (Therrien-Richards, 2000:142). In addition to the CEAA, various activity policies specify EA requirements for projects within PC’s territory (Therrien-Richards, 2000). Figure 5.1 shows the PPP that are subject to SEA in PC and EA as described by Therrien-Richards (2000) and Parks Canada (2008).

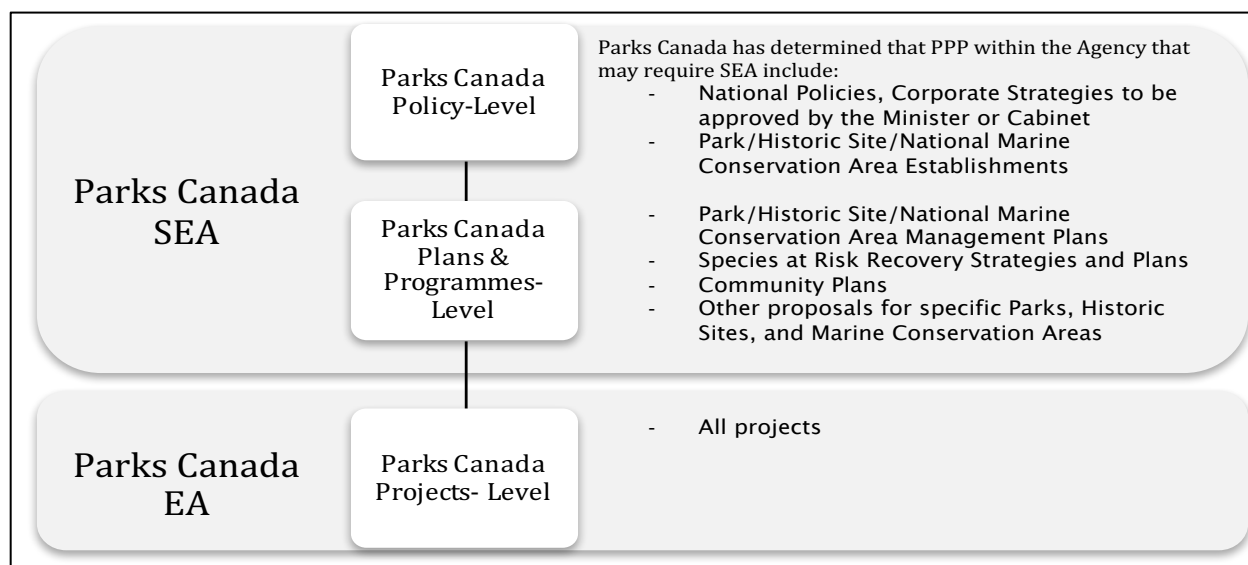


Figure 5.1 Parks Canada EA tiers (adapted from Therrien-Richards, 2000: 145 and Parks Canada, 2008).

The SEA of MPs is intended to integrate environmental considerations into the planning process by identifying and evaluating the main environmental challenges inherent to the management measures to be set out in the MPs (GC, 2017b). Figure 5.2 illustrates the timing of SEA in Management Planning according to Therrien-Richards (2000) from draft MP and SEA to project-level EA.

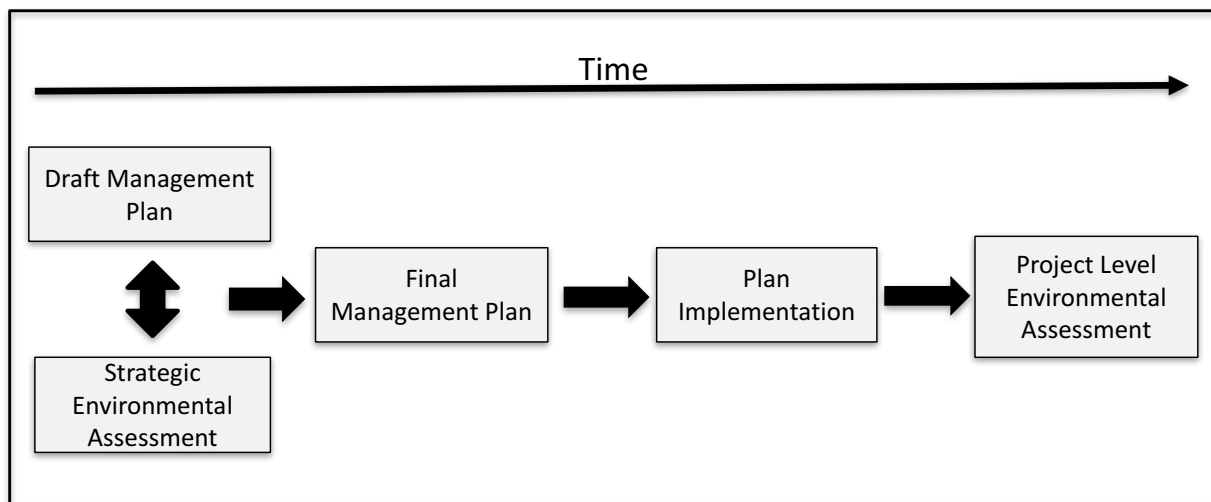


Figure 5.2 The progression of influence from SEA to EA in Management Planning (adapted from Therrien-Richards, 2000:145).

According to Figure 5.2, SEA is completely integrated with the planning process (Therrien-Richards, 2000). It also shows that tiering is expected from plan-level SEA to project-level EA. Parks Canada has also implemented monitoring programs to assess and report on progress to implement MPs and results achieved are presented to the Minister and public in State of the Park Reports (Parks Canada, 2008). Of note, however, the monitoring program and reporting is not shown in the guidance figure as part of the process for SEA feedback or review. This means that there is no structured framework to guide practitioners through the follow-up phase of a typical SEA process and the applicability of SEA products regarding monitoring and feedback.

The methodological approach adopted for SEA at PC consists of several steps shown in Figure 5.3 for pre-assessment, assessment, and post-assessment of MPs (as described by

Therrien-Richards (2000:141) and the Management Planning Process Guidance (Parks Canada, 2008).

The plan’s compliance with laws, policies, and directives is the first area covered. Next, the national historical site’s theme and the objectives and management measures intended to attain or maintain the site’s commemorative integrity are presented. The scope of the assessment and sources of environmental stress are then identified. Lastly, the assessment reviews strategic mitigation measures and residual impacts (Parks Canada, 2017:4b45).

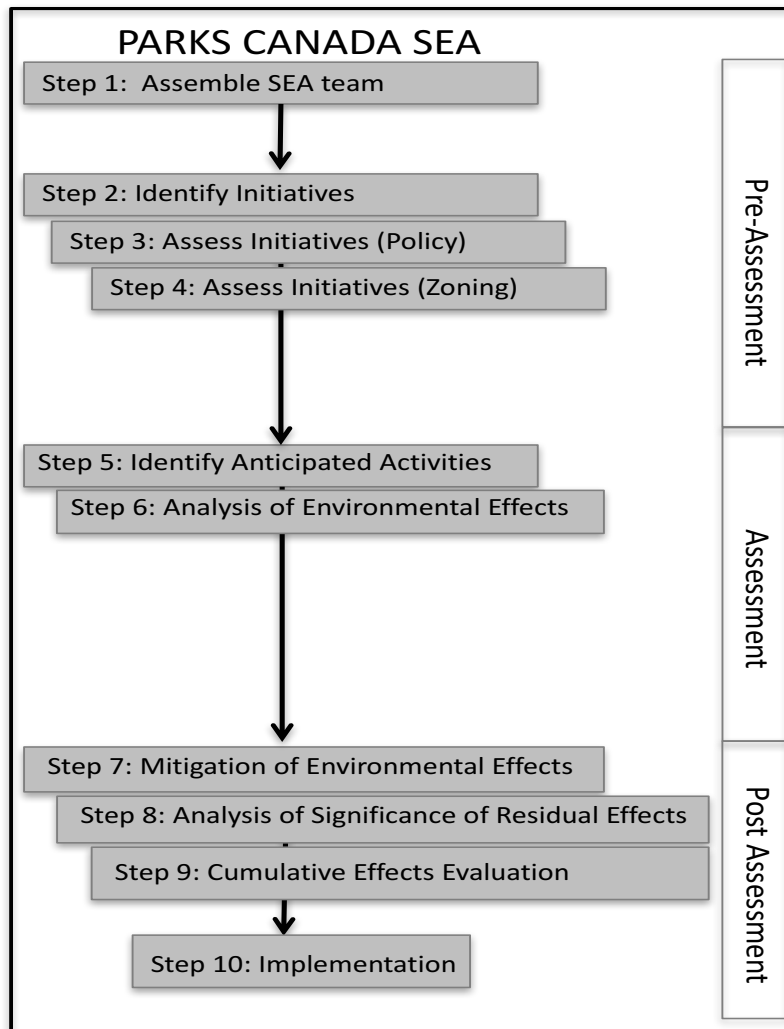


Figure 5.3 Parks Canada SEA steps for Pre-assessment, Assessment, and Post-assessment (as described by Therrien-Richards (2000:141) and the Management Planning Process Guidance (Parks Canada, 2008)).

The steps shown in Figure 5.3 are compatible with the steps recommended in the federal SEA guidance. Once again in this figure, for the post-assessment phase, SEA concludes with implementation rather than continuing with monitoring and evaluation and review. This implies a corresponding lack of guidance around roles and the applicability of SEA products and capabilities for PC personnel. In this case, SEA is not explicitly linked with EA in its follow-up stage. However, effective tiering (to project EA) has the potential to contribute substantially to SEA effectiveness and result in a fuller realization of the added value of SEA (Arts, Tomlinson, & Voogd, 2005; Morrison-Saunders, Marshall, & Arts, 2007; Sánchez & Silva-Sánchez, 2008). At present in PC, there is no structured framework to guide practitioners through the process of SEA tiering that would take place in the follow-up phase of a typical SEA process; i.e., there is no advice on methods or procedure to translate SEA results into operational actions and communicate these to all those that would need to act. The effects on follow-up of this missing guidance for translation, monitoring, feedback and review are identified in the next sections of the PC SEA experience from the perspectives of SEA practitioners (SEA), EA practitioners (EA), policy planners (PP), project managers(P) and environmental monitoring specialists (M). First, SEA integration in the PC MP process is discussed as a precursor to and baseline for understanding the post assessment phase in practice.

5.1.3 Procedural and Transactional Effectiveness

To gain an understanding of SEA practice within the MP process, interviewees from PC were asked to describe how SEA results are communicated. Three PC strategic planners (identified herein as PP1, PP2, and PP3) and four SEA practitioners (SEA1, SEA2, SEA3, and SEA4), expressed that the SEA process and communication was continuous and iterative during the Management Planning (MP) process. It was explained that, “SEA is very iterative and we communicate throughout the MP process (PP1)” and “SEA is part of the process of developing the various iterations of the MP (SEA1).” The high level of integration of communication about SEA within the MP process and the close communication of planners and SEA practitioners reflects the spirit of the PC guidance identified for MP SEA in Section 5.1.2. According to Wallington, et al. (2007:573), the procedural strategy for SEA influence is a “systematically ‘rational’ process which seeks to influence the formulation of a specific PPP”. In PC, SEA practitioners have a thorough understanding of the decision-making process and effectively

influence the contents of plans and programmes. At first glance, the full integration of SEA within the PC planning process suggests SEA influence has been very successful.

However, PC PPP planners and SEA practitioners question the value-added of SEA. There are two aspects of SEA influence, the first being ‘procedural’ and the second, ‘transformative’ (Wallington et al., 2007). The transformative aspect of SEA according to Wallington, et al. (2007:573) is “an intentionally ‘political’ process intended to change the way decisions are made, and to induce learning about environmental values”. The fact that the very mandate of Parks Canada requires environmental consideration and that environmental considerations are integrated in the MP process and ingrained in personnel means that this aspect of SEA influence is considered by the study informants to be redundant with the PC mandate. As stated by a Park Management planner,

In PC, SEA is almost redundant because improving or maintaining ecological integrity is our whole mission, not just an aspect of it. The point of an SEA is to get people thinking about the environmental effects of decisions, but if they are doing that all along, SEA seems like an unnecessary injection. The challenge SEA has in PC is the challenge of relevance (PP3).

The perceived value-added of SEA is reduced because of the institutional environmental focus. A SEA practitioner expressed that, “The SEA for a MP is almost an affirmation of the MP process itself because the mandate of PC is to manage the sites for ecological integrity. The MP itself is really an SEA (SEA4).” The question posed then, by the strategic level practitioners and planners, is what the value-added is of SEA in the PC context?

As described in the academic literature, the historically limited contribution of SEA to *outcomes of the planning process* has resulted in SEA and its potential benefits being undervalued by decision-makers, reinforcing the perception that having to undertake a SEA is a hurdle, rather than helpful (Eales and Sheate, 2011; Phylip-Jones and Fischer, 2014). This appears to be true in the PC context. SEA contributions to outcomes of the planning process are made tangible through tiering and implementation. Noble and Nwanekezie (2017:171) urge that “if SEA of any approach is to be successful in influencing decisions and actions, the notion and practice of tiering in SEA, particularly the institutional arrangements needed to ensure effectively tiered processes” is a requirement.

The question then becomes one of *procedural SEA effectiveness* if the transformative aspects of SEA influence are subsumed within the current PC decision-making mandate. According to Noble (2009: 66), poor procedural effectiveness is caused by: “systematic separation of SEA from downstream decision inputs and assessment activities”. In light of this, the procedural aspects ‘after the SEA’ in PC planning need a more thorough investigation and are explored in the next sections.

5.2 “After the SEA” in Parks Canada: The Post-Assessment Phase

The procedural effectiveness of SEA and the required components of the post-assessment phase are explored in the following sections, including translation communication, implementation through project-level EA, as well as monitoring and feedback within the SEA cycle.

5.2.1 Translation of Results

Effective translation and communication of the results of an SEA are requirements for tiering to be successful. These activities enable the SEA to add value to downstream decisions and planning and to guide actions at the project level (Persson & Nilsson, 2007; Reteif, 2007; Noble et al., 2011; Tetlow & Hunsch, 2011; Chanchitpricha & Bond, 2013). Interviewees were asked to describe how SEA results are translated and then communicated to project-level EA in PC. It was explained that there is no formal or direct communication from SEA to EA. Translation and communication is expected to occur indirectly through the implementation of the MP and the SEA summary it contains. An SEA practitioner stated that, “Communication between SEA and EA levels is not direct, but there is always a ‘stepped link’ from the SEA to the actual PPP, or guidance document, and then to the project level (SEA4).” This viewpoint was shared among all participants. A PPP planner further explained that SEA results are “integrated within the MP as mitigation measures for approved actions and a brief SEA summary is included at the end of the MP document (PP2).” However, according to SEA literature, without formal or direct communication, it is likely that tiering will be handicapped, limiting the value-added of SEA.

Outside of the Park MPs that PC produces, in the mountain parks there is another type of plan produced to guide ski hill development. In this type of planning, there is direct and detailed SEA to EA communication rather than the indirect communication that occurs with PC MP SEAs. A PPP planner stated that, “The Ski Area Site Guidelines (Plan) and its detailed SEA goes directly to the EA Field Unit specialists (PP1).” In contrast to the SEAs for MPs, the SEAs for these Ski Area Site Guidelines contain very clear linkages and a translation of instructions containing direction and information for the next level to implement or adhere to. A SEA practitioner explained that, “Ski Area Site Guidelines SEA are comprehensive to provide very specific conditions and parameters and mitigations for development in the future (SEA4).”

According to participants, the purpose of Ski Area Site Guidelines SEA is to provide guidance for subsequent actions, while the purpose of the MP SEA is to conform to the Cabinet Directive to assess the proposed actions for positive or negative environmental effects. SEAs done for the Ski Areas in PC have been developed from the need to ensure positive ecological outcomes when dealing with proponents outside of the PC Agency (ie. ski hill developers). The Ski Area SEA fits with Therival’s (2010) description of a “task-based SEA report” which is positioned to guide translation and implementation. This type of SEA is also in line with Noble and Nwanekezie’s (2017) requirements for effective SEA, containing the “institutional arrangements needed to ensure effectively tiered processes”.

The ski hill example notwithstanding, as it accounts for only a small portion of the SEA activity at PC, the overall effect in PC of missing follow-up guidance linking SEA with EA at the MP level is a serious gap in communication and significantly compromises SEA effectiveness according to study participants. Implementation of SEA is expected and assumed to take place via the implementation of the MP. This leads to MP SEA implementation challenges and the perceived lack of value-added of SEA within the organization. Notably, there is a major SEA-EA communication gap caused by a lack of SEA tiering guidance.

Recently, following budget cuts at PC, MP timelines have been extended from the original five-year cycle to the present ten-year cycle in order to reduce the workload required for new MPs (EA1). This has caused further complication by shifting the MP format to be even less operational, or concrete, and more strategic, or visionary, in nature. The result is that MPs contain less practical content for SEA evaluation. A SEA practitioner explained that, “The more strategic the plan is, the less specific the recommendations are for SEA's. SEA influence has been reduced

because of the changes in the MP process (SEA3).” Other SEA practitioners expressed similar concerns: “There is nothing tangible for a SEA to assess now (SEA2),” and another stated, “You can’t prescribe very specific mitigations or follow-up or monitoring at the SEA level now (SEA4).”

Strategic objectives are not easily translated into concrete metrics or action statements that can influence activities at the tactical level, and this has already been noted in the past (McLauchlan & João, 2011; Harriman-Gunn and Noble, 2009). This is true in the PC context and the MP format change has resulted in a lack of specific or useful SEA content for tiering guidance going forward and, therefore, there is little chance for influence or contribution to subsequent tiers of assessment and a noticeable gap in communication between SEA and EA. As described by a SEA practitioner, “There is a pretty significant gap between SEA and EA. There is a very strategic MP, and a too-detailed Project Plan for the SEA-to-EA process to match up. This gap in EA is a real problem (SEA2).” PC EA practitioners agreed with the PC SEA practitioners and expressed that, “SEAs do not add much value to the EA process, or vice versa (EA1).” Lack of actionable SEA content for translation causes a “systematic separation of SEA from downstream decision inputs and assessment activities” resulting in poor procedural effectiveness (Noble, 2009: 66). This serves to reinforce the perspective of little value-added by SEA.

As stated in the *Evaluation Of The Cabinet Directive On The Environmental Assessment Of Policy, Plan And Program Proposals* (2009:vi): “The Cabinet Directive and Guidelines do not provide sufficient or clear enough guidance to practitioners in several areas such as: how to use SEA to streamline project-level assessments.” The lack of guidance to connect the Cabinet Directive (2010) with the CEAA (2012) is arguably the source of the tiering gap that PC is currently experiencing. With no instruction or guidance on how to effectively tie plan-level SEA to project-level EA, the systemic issue of separation of SEA from downstream decision-making and management actions continues. An EA practitioner expressed that, “We are trying to bridge the gap from theoretical considerations of SEA to practical applications. We are trying to link the Cabinet Directive with the CEAA (EA1).” Unfortunately, any such efforts are further compromised by the approach to linking SEAs and MPs. It was explained by a PPP planner that,

We post a summary of the SEA [for use in] the MPs, but the SEA details go into an internal folder... We do a fair amount of thinking about how to get an assessment done,

but regarding the communication afterward, we have not formalized it, or been very rigorous about it (PP3).

SEA practitioners observed: “Truthfully many planning, and even EA practitioners, don’t see the value in SEA to make their planning easier. SEA is a lost opportunity (SEA2)” and “We need to get on that SEA guidance again and define it if SEA is to be valued. We definitely need to clarify the SEA process (SEA3).”

These statements echo Noble’s conclusion (2009:74): “SEA was introduced and evolved in Canada—as a ‘good concept’, but one that lacked the necessary methodological guidance and institutional support” and “thus far there has been little guidance for real implementation. As such, SEA is still very much an ex ante evaluation and rarely carries over to the post-decision stages to address PPP implementation effects.” The missing SEA Guidelines to connect the Cabinet Directive (2010) to CEAA (2012) has constrained the ability of SEA to add value to planning processes and downstream EAs specifically by obfuscating the tiering relationship. The lack of SEA guidance, content and communication has resulted in a lack of tangible SEA benefits at all planning and assessment levels in PC. The next section discusses SEA implementation in PC, further exploring aspects required for SEA procedural effectiveness.

5.2.2 Implementation

Implementation of SEA guidance is naturally directly related to SEA effectiveness; specifically, transactive effectiveness or efficiency in tiering (Theophilou et al., 2010). However, there is no direct or specific SEA implementation guidance or advice provided by an MP SEA. Interviewees stated that MP SEA results are communicated for implementation in project level actions indirectly through the MP SEA Summary and as mitigation measures for actions within the MP. Although it is believed by PPP planners and SEA practitioners at the strategic MP level that this indirect communication should be effective for implementation, at the tactical project level there is a noticeable gap in SEA to EA communication noted by EA practitioners, project planners and monitoring specialists.

Operational-level Ski Area Site Guidelines SEA, however, provide detailed direction in the SEA to guide tiering and successful implementation in projects. This type of PS SEA is designed as “a tool to inform subsequent planners of what can do, or not do, and why. It sets out broad guidelines and parameters for future land use to be implemented with the big plan (PP1).”

A SEA practitioner explained, “There are very specific links between the Site Guidelines SEA and subsequent projects down the road. Projects have to respond to mitigations or expectations outlined in the SEA (SEA4).” This detailed instruction prevents the communication gap noticed in MP SEA implementation.

As expressed by Vicente and Partidário (2006:701), “from the decision-makers' perspective the relevance of any SEA results lies therefore in the ability to transform technical information into ‘actionable knowledge’ – information that actors could use.” Without actionable knowledge, or implementation advice, stemming from SEA results, SEA is ineffective and irrelevant post assessment. However, strategic level outputs are often not expressed in terms that operational level decision makers and actors can implement. Harriman Gunn and Noble (2009: 280) state that: “this may help explain, in part, some of the challenges associated with tiering from strategic to project-level EA”. Concern was raised that the systemic disconnect of SEA to EA described by Noble and Newnekezie (2017) is causing a ‘bottleneck’ in PC. An EA practitioner expressed,

There is a big gap between the SEA for the MP and the EA for project level actions. There needs to be a step in between SEA and EA before it gets to EA to decide. It is a policy vacuum right now. Instead of dealing with all the EA through individual project level assessments it would be good to have something more broad, like a SEA to ensure consistency (EA3).

Project managers believe that the MP is too vague to have any impact at the project level. As a result, they typically reference more operational plans for example, the Yearly Mandate Letter, which has not undergone an SEA or an EA. A Project Manager stated,

There is a big gap between the very long-term and broad MPs and specific projects to be completed. Mid-level plans and SEA are a way to bridge the gap. We need something that is measureable and can be accomplished, with more substance than the MP and SEA could help at that operational level (P3).

There was also concern about project level-EA communication issues due to the SEA-EA disconnect resulting in frustration and ultimately reinforcing negative beliefs. Monitoring specialists stated: “Often EA is seen as an obstacle to progress (M1),” and, “There's a tendency to see EA as a barrier to action and that is our biggest problem (M2).” This confirms observations by Eales & Sheate (2011) who state that SEA is perceived as a hindrance rather than assistance in decision-making.

SEA effectiveness is directly related to how useful the output is to the actors involved in making decisions about the proposed PPP or other strategic initiative, and to any subsequent related project-based EAs (Vincente & Partidario, 2006). Theophilou et al. (2010) explain transactive effectiveness of SEA in terms of efficiency; measured by proficiency in resources use and time consumed during the impact assessment implementation process. The overall effect in PC of missing follow-up guidance linking SEA with EA significantly compromises SEA effectiveness where it matters the most, the bottom line, where is it the responsibility of the project manager to maintain efficiency with regards to the project constraint elements of budget/cost, time/schedule, and scope. In the next section, monitoring in PC of SEA implementation is explored as it is a required component of the post-assessment phase and a key component of SEA effectiveness.

5.2.3 Monitoring

Monitoring is an essential phase in all EAs, including SEA, as it helps to determine PPP impacts and serves as a basis for evaluation of the SEA process. Parks Canada has implemented monitoring programs to assess and report on progress to implement Park MPs, however this monitoring is not specifically SEA monitoring. Rather, it is type of cumulative effects assessment reporting, and its results are presented to the Minister and the public in State of the Park Reports (Parks Canada, 2008). There are two types of monitoring carried out in PC. The first type of monitoring is Ecological Integrity (EI) monitoring. This monitoring is done by the monitoring section and direction is provided in the MP for monitoring EI indicators towards CEA and reporting on the State of the Park for future MP cycles. The second type of monitoring is part of the Management Effectiveness Program (MEP), focused on MP implementation. This program is focused on MP implementation progress, of which part is the responsibility of the EA section. They would be responsible for ‘project surveillance’ of those MP directed projects which required detailed EAs. The results of project surveillance monitoring remain with the EA Section. The ten-year State of the Park Reporting cycle occurs prior to the initiation of the MP cycle and contains feedback on both the EI monitoring results and MEP monitoring results.

SEA is not directly linked to either monitoring program. Any SEA-specific monitoring requirements that may exist are therefore not communicated from SEA through to project-level EA, nor through SEA to the monitoring section. Information gathered in monitoring activities are

therefore not used in future SEAs either. A PPP planner expressed that, “there haven’t been any SEA monitoring or feedback requirements that are different from what we already need to monitor and report on through our State of the Park EI monitoring process (PP2).” According to PC monitoring specialists, “There is not much connectivity between SEA and EI monitoring (M2).” Monitoring Specialists expressed concern about two aspects of the monitoring program in PC. The first concern was the gap in communication of EI monitoring results to any PPP due to the length of the ten-year formal reporting cycle. The second concern was the lack of formal reporting and availability of monitoring results from project surveillance monitoring. A monitoring specialist explained,

Communication of monitoring results back into the SEA process really comes down to the author of the SEA. It would be a conscious process to search for the monitoring done in the past. The database would say that we did some monitoring on certain projects, but not the results. There is a separate database to record monitoring but they are not linked other than a person searching for them (M1).

In contrast, for operational Ski Area Sight Guidelines SEA there is a very detailed and specific monitoring plan with feedback expectations. This ensures that development and projects proceed according to approved specifications and that required mitigations or desired effects are achieved. According to a planner working with SEA for these types of plans,

The monitoring plan and feedback plan are extensive and detailed. The monitoring process begins and the information goes directly to the Field Unit specialists. The monitoring will be supervised by the proponent and the Field Unit...The monitoring feedback will be included as part of the State of the Parks Report (PP1).

Communication is imperative for effective tiering in the case of operational Ski Area Sight Guidelines SEA so that strategic recommendations and instructions can be translated into project actions; monitoring occurs and feedback is reported. Unfortunately, for MP SEAs, guidance for effective SEA communication does not exist and this means that there is no structured framework to guide practitioners through the follow-up phase of a typical SEA process and the applicability of SEA products regarding monitoring and feedback. This echoes Noble’s conclusion that (2009:74): “SEA is still very much an ex ante evaluation and rarely carries over to the post-decision stages to address PPP implementation effects.” However, importantly, the necessary infrastructure does exist within PC for effective MP SEA implementation monitoring

and reporting if appropriate guidance is provided to formally link SEA with monitoring. In the next section, the effects of missing SEA implementation guidance on SEA feedback and review are explored, and discussed as a key component of both the post-assessment phase of SEA and SEA effectiveness generally.

5.2.4 Feedback and Review

In PC SEA guidance, and in practice, there is no formal feedback loop from EA to SEA even though EA feedback and review are important for advising on appropriate amendments to PPP and future PPP. According to all interviewees, SEA for MPs were seen as a means to an end for ministerial approval and therefore feedback from EA back into SEA was irrelevant. An EA practitioner explained that, “Usually the actions in the MP are just assessed as to whether the planned activities or actions are either positive or negative (EA2).” This also explains why the results of a MP SEA are not considered to require translation or implementation. SEA for MP are done with a view to assessing proposals broadly, in light of conforming to environmental regulations and standards, but not with a view toward mitigating any eventual environmental impacts of those proposals. Once the MP has been approved, that ‘closed-view’ SEA is no longer particularly valuable.

EA monitoring results at the project level are not communicated back to SEA for incorporation into strategic planning, but stored in a park or national PC database to inform other EAs of similar projects. Regarding the results of EAs, an SEA practitioner stated, “There is no formal mechanism that requires follow-up or feedback requirements forwarded to the next level in EA regarding key recommendations from a SEA (SEA3).” Another SEA practitioner stated, “We’ve gone to the point where there is really nothing to connect past EA and actions to future EA and actions (SEA2).”

In the case of Ski Area Site Guidelines SEA, however (at the operational level), the SEA is has purpose and value beyond the strategic planning process. For Ski Area Site Guidelines SEA, EA results are communicated to the decision-maker (planner/manager) and reported directly by the proponent and EA practitioner through site reports. A SEA practitioner explained,

We work closely with EA practitioners so that the parameters of we expect over the term of the lease will be achieved in implementing the plans. The proponents must prove they

are following the requirements to the EA people and if there is an issue, that will be communicated to the SEA level (SEA4).

The Ski Area SEA example notwithstanding, the lack of a requirement for an SEA-EA feedback loop in PC has created a void into which EA results have almost completely disappeared. An EA Practitioner explained,

Only about 10% of the project-level EAs, which are the detailed EAs, will feed back up to the SEA level indirectly through the Management Effectiveness Program to measure MP implementation effectiveness. This is because the focus of this program is only on the projects that have the potential to generate adverse environmental effects. In reality, one would have to be very, very vigilant to make that link. Projects come and go, so whose job is it to ensure that there is continued feedback (EA2)?

The lack of feedback from EA to SEA further renders tiering nonexistent in the PC context. Lack of feedback prevents adjustments and adaptations to existing or new PPPs. This leads to the “begin-again” approach for each new SEA.

5.2.5 Summary of Challenges

According to PC, the SEA of MPs is intended to integrate environmental considerations into the planning process by identifying and evaluating the main environmental challenges inherent to the management measures to be set out in the MP(s) (GC, 2017b). This short-sighted vision for SEA is slightly expanded in PC SEA guidance to include the expectation that implementation will occur through tiering from plan level SEA to project level EA. Although not linked to SEA in the guidance, Parks Canada has also implemented monitoring programs to assess and report on MP implementation progress (Parks Canada, 2008).

Although SEA is completely integrated within the strategic planning level and resulting policy, PC is struggling to see the value-added of SEA at the strategic (MP) level. This is largely due to the redundancy that exists given with the organizational focus environmental protection in the first place: i.e. the transformative aspect of SEA influence is already ingrained in the PC mandate. As well, the focus of the MP process has shifted over the years toward becoming even more visionary than it was, and its strategic objectives are not easily translated into concrete actions or metrics that can be implemented at the tactical levels (McLauchlan & João, 2011). Lack of SEA content for translation reinforced both a “systematic separation of SEA from

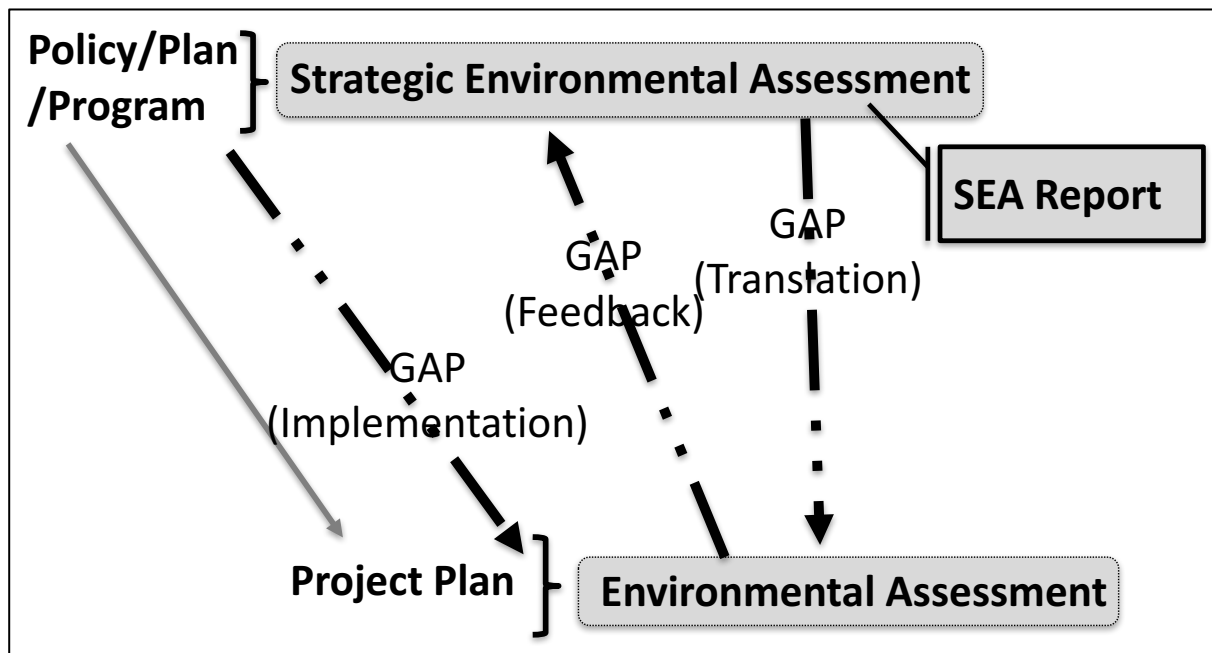
downstream decision inputs and assessment activities” (Noble, 2009: 66) and the perspective among PC staff that SEA provides very little value-added to their operations.

According to study participants, the implementation gap between SEA and EA is resulting in an overload of EAs required for projects, is handicapping informed decision-making within EA, and is adding time to approvals for projects and well as added cost. In addition, without formal linkages among SEA, EA, and existing monitoring programs, cumulative environmental effects are not being as effectively assessed or managed as they could be. Widespread perceptions of the limited value-added of SEA in PC is leading to resistance toward SEA and lack of motivation to connect monitoring results back to SEA.

There is currently a gap in the SEA-EA tiering arrangement that could be filled by a sort of operational-level SEA that helps ground broad visions, and contains more actionable content including proposed concrete actions. A good example within PC of efficient and effective SEA at the operational level is the Ski Area Site Guidelines SEA. Figure 5.4 summarizes the areas of challenge expressed by study participants.

Figure 5.4 Areas of challenge in PC SEA-EA tiering expressed by participants.

These challenges echo the findings of other studies on the current state of SEA practice. Studies on procedural SEA effectiveness, particularly the aspects of substantive and transactive



effectiveness in impact assessment evaluation, generally conclude that these areas need more clarification (Theophilou et al., 2010; Chanchitpricha & Bond, 2013). This appears to hold true for SEA practice in PC as well.

What is currently lacking in PC, as in other studies, is a mechanism to help translate SEA products into actions for specific direction and guidance from the SEA to adequately inform respective levels of responsibility of “safe”, desirable, or available courses of action within known environmental constraints and restraints (McLauchlan & João, 2011; Noble et al., 2012; Hansen et al., 2013). Additionally, a mechanism is needed to define metrics to ensure the requisite follow-up actions are executed for feedback into the SEA cycle for future SEA decisions (Gunn & Noble, 2011; Gachechiladze-Bozhesku & Fischer, 2012). The next section focuses on participant perceptions of the proposed SO/I framework with respect to its potential to improve SEA implementation and effectiveness at PC, particularly at the operational and tactical levels.

5.3 ‘After The SEA’ at Parks Canada: A New Approach

Despite full integration with the PPP process, except for SEA for Ski Areas, the SEA experience in PC echoes the same disappointing outcomes as SEA practice outside PC (Retief, 2007a; Gazzola, 2008; Noble, 2009; Eales & Sheate, 2011; Kis Madrid et al., 2011; van Doren et al., 2013). The goal of the S/OI enhanced SEA framework is to increase SEA influence upon subsequent tiers of impact assessment, and/or related policy and plan making, and/or environmental management directives by improved translation of SEA results. As expressed earlier by Nilsson et al. (2009:189), it is important “to engage in understanding real-world practices as a basis for constructing a framework.” Therefore, to investigate the potential for the proposed S/OI enhanced SEA framework to increase SEA influence upon subsequent tiers, it was tested in the real-world context of Parks Canada SEA. Perceptions on using the proposed framework developed in Chapter 4 overall were very positive. In the next section, the participant perspectives on aspects of the proposed framework include first, the SEA framework in relation to the planning process; next SEA communication output during the planning process; and finally, the use of the Strategic Implementation Plan Contents for SEA-EA tiering and communication.

5.3.1 The Potential Of The Proposed SEA Framework

To gain insight into perspectives on the approach developed in Chapter 4 of this thesis, participants were asked to look at using the proposed framework in figure 5.6. Figure 5.6 shows the strategic planning process and SEA process with communication expectations within the process. At the outset of this process, a participant from PC stated: “Before you suggest anything, you must understand the functioning of how we manage SEA in PC so that you will propose something relevant to our needs.” Introducing something completely different than the current approach would cause the proposed framework to be met with skepticism and resistance. As expressed by a SEA Practitioner, “You don't want to be creating an additional process, that would never be accepted (SEA3).” However, the framework was developed to apply internationally and in any application of SEA. Therefore, if the proposed framework is to be functional and valuable, it should apply within the PC context regardless of how that particular organization functions within. The framework is structured, yet designed to be flexible enough to ultimately be adaptable in a multitude of institutional contexts. This mirrors the military SI framework for communication and feedback which is successfully implemented in a wide variety of contexts to achieve different strategic goals and outcomes.

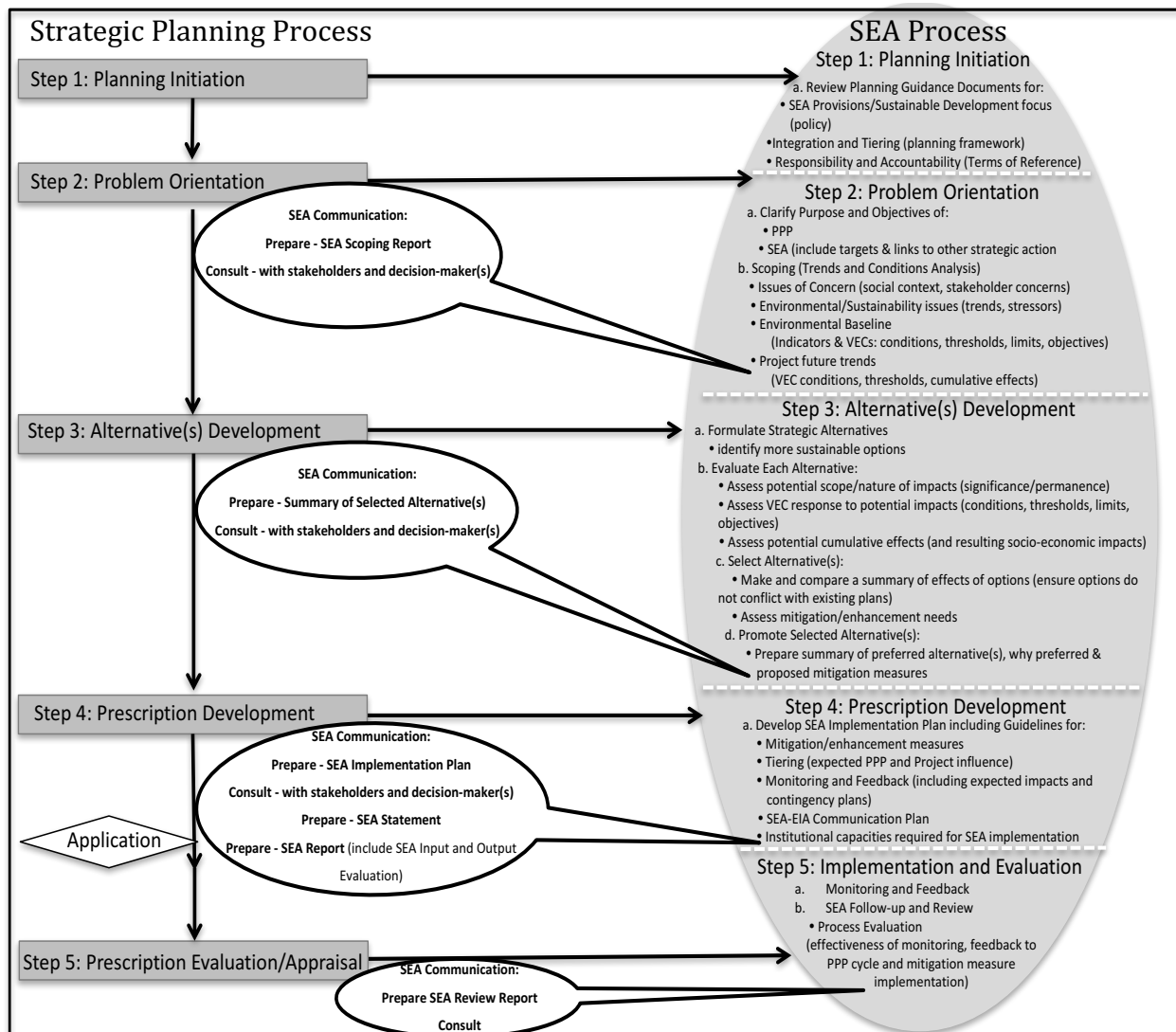


Figure 5.6 S/OI enhanced SEA Framework for SEA with SEA Communication products and dissemination points contained in speech bubbles.

On that note, participants including PPP planners, SEA and EA practitioners remarked that the strategic planning process does indeed mirror the current Park Management Planning Process. A PPP planner expressed that, “This is a formal framework for the way we currently do MP Planning with SEA in PC (PP2).” In addition, the SEA process was reflective of how SEA is currently expected to work within the planning process. A SEA Practitioner expressed, “The proposed framework is the true philosophy SEA in PC and brings forward the idea that the PPP planning and the SEA process are integrated (SEA4).” This recognition by participants is important as the framework must be able to work in practice within the existing PPP

planning/SEA process. It must also align with the guidance provided in the Cabinet Directive, the current guidance PC follows for SEA.

The level of similarity and familiarity of the proposed framework to the current processes and practice with a real-world SEA regime is necessary for the framework to be accepted, understood and valued for those in the process or expected to use it. This also confirms the research in Chapter 4 comparing the S/OI and military planning process to the SEA and PPP process. It means that the results of the SEA-S/OI communication comparison from chapter 4 are more likely to be met with acceptance and applicable to SEA in the real-world context. The next section provides a closer look at SEA communication within the proposed framework.

5.3.2 SEA Communication Output

In this section, participants looked at the SEA communication outputs contained in speech bubbles in the proposed framework in figure 5.6. These include the SEA Scoping Report, and Summary of Selected Alternatives as well as SEA Implementation Plan, SEA Statement and SEA Report, and finally, the SEA Review Report. When considering successful SEA tiering and implementation, it is really the SEA communication output that is at issue, therefore the most important area to test for potential application in SEA practice. The next sub-sections cover the communication output of SEA divided into two sections including first the Pre-Assessment & Assessment Phases, and then the Post-Assessment Phase.

In considering the communication of the SEA Scoping Report and Summary of Selected Alternatives, participants felt that some of these communication outputs occur in the current PC SEA process, especially in the pre-assessment and assessment phases of SEA, just informally. However, they were pleased with the framework because people unfamiliar with the process would know what to do. They thought it was important for non-SEA practitioners to understand how the SEA process is supposed to help and what should be expected out of it. A SEA Practitioner stated: “Specifically the Scoping Report would help to describe the SEA purpose so that people would understand its value in being included early in the planning process and why they are doing the subsequent steps (SEA1).” This would increase understanding and recognition of the added-value of SEA. A PPP planner expressed that, “The proposed SEA communication within planning, the Scoping Report, Summary of Alternatives, and SEA Implementation Plan, is a formal layout for what happens informally in PC (PP2).” Another PPP planner stated, “Your

framework has all the right pieces for what planners want to know. It speaks the same language (PP1).”

This suggests that the framework and communication outputs in the pre-assessment and assessment phases of SEA successfully match the real-world practice in PC. The communication items are not new: just made apparent via an explicit framework for how they occur during the process already in motion. This also suggests that to this point, the proposed framework applies in practice and therefore has the potential to improve the aspect of formal communication and documentation of SEA in practice. The next section looks specifically at the proposed SEA Implementation Plan guidance.

5.3.3 SEA Implementation Plan

In the post-assessment phase of SEA, effective tiering and implementation are the most important aspects that an institution must focus on to enable environmentally sustainable development. Proposed SEA communication to guide actions at this stage includes the SEA Implementation Plan, SEA Statement, SEA Report, followed up by the SEA Review Report. The SEA Statement was not a new concept for the PC Participants as it is identical to their current practice of an ‘SEA Summary’ included in the MPs. However, the concept of a ‘SEA Implementation Plan’ was new to the participants. The SEA Implementation Plan contains detailed guidance for effective SEA tiering in Figure 5.7. As this is where current SEA processes are lacking in guidance and practice, and as such, this aspect of the proposed framework was met with a high level of interest from the participants. As expressed by a participant, “All of the implementation plan contents are important. It tailors communication to what's most important and how to communicate with organizations and what those people need and want to know (M1).” According to a SEA practitioner, “The proposed Implementation plan clearly captures the essential pieces to be communicated so it can actually be implemented correctly (SEA4).”

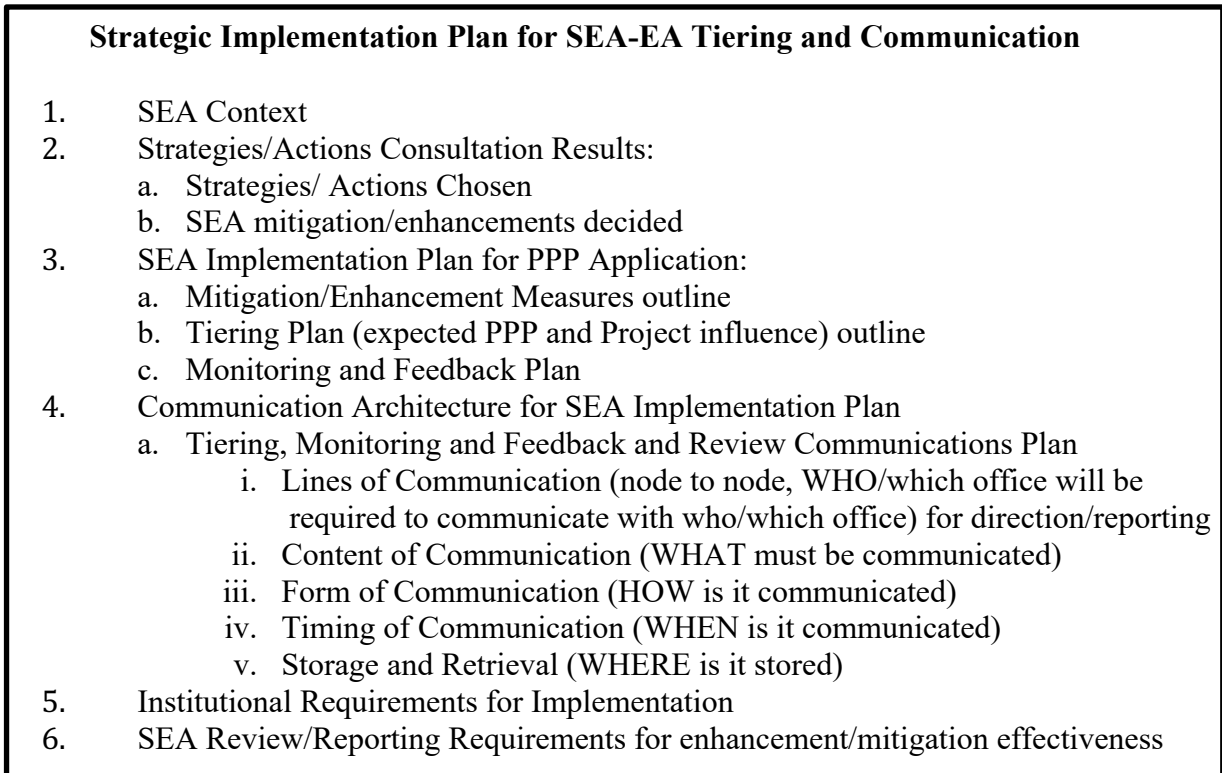


Figure 5.7 Format for Strategic Implementation Plan for SEA-EA Tiering and Communication based on S/IO guidance.

This guidance was met with enthusiasm from all levels of participants including those at the PPP level as well as those at the project level in PC, or more specifically, those that would be the users of the SEA communication output. The Sections 1 and 2 of the SEA Implementation guidance were familiar to the PPP level and EA practitioners while the remaining sections, dealing with specific guidance for effective tiering and implementation through communication and reporting were new to all (refer again to Step 5 in figure 5.6).

5.3.3.1 Tiering Plan

The participants could see the value and practical benefits to applying the Implementation Plan guidance. Specifically, section 3.b. of the Implementation Plan, the ‘Tiering Plan’, was seen as very important to project planners and EA practitioners. An EA practitioner remarked that, “This guidance formally linking the two processes (SEA and EA) is important. The Tiering Plan reduces the risk of inconsistency issues at the project level of assessment (EA3).” Another EA practitioner expressed that “it would help to streamline and focus communication of information from SEA to EA to monitoring (EA4).” The project planners believed that the tiering plan would increase efficiency and action at the project level, “The Tiering plan would eliminate the backlog of projects waiting for EAs and it would be more efficient. The proposal certainly could enable the communication gap to close from SEA to EA so action can happen at the project level instead of being stalled, waiting for approval (P1).”

While PPP planners and SEA practitioners are most concerned with the policy in the planning process, subsequent planners in the process who will operationalize the policy including project planners, EA practitioners, and monitoring specialists desire a ‘roadmap’ or clear outline to guide their actions and make translating it into action, more efficient. These groups of participants highly valued the clarity provided in the suggested Tiering Plan. Similar comments were made regarding the Monitoring and Feedback Plan.

5.3.3.2 Monitoring and Feedback Plan

The Implementation Plan Section 3.c., the Monitoring and Feedback Plan, was most valued by monitoring specialists and EA specialists as expected, but also program planners as they were interested in achieving measurable requirements. A monitoring specialist remarked, “This has the potential to improve information flow of ecological monitoring feedback for future planning and CEA through organized and collated data (M1).” Another Monitoring Specialist stated that, “This framework enables post-project feedback for follow up on results of mitigation measures through different organizations undertaking various projects that could stem from an overall policy and SEA (M2).” This way monitoring results are directed to those who need the information and available for future review.

As stated by an EA Practitioner, “The Monitoring and Feedback Plan provides more concise and comprehensive direction on how data for EA and ultimately CEA are going to be gathered through the regular process. It provides guidance on how we’ll gather information to

assess the policy effect through project implementation. That will strengthen the linkage between the levels (EA4).” Another participant stated: “Communication from EA to SEA will be enabled as well because the connection will be clear for those ecological indicators monitored (SEA4).” Participants believed that an outcome of this type of monitoring and feedback communication would enable more accurate CEA and measureable indicators for use in future planning and assessments. A Project Manager expressed that they value the Monitoring and Feedback Plan portion of the Implementation Plan because “it is actually something that is measureable and can be achieved. That is exactly the kind of information we need and want as we are in the planning stages of a project and working with EA practitioners (P3).”

The Monitoring collection and indicator information is very important at the operational and tactical levels of planning and assessment to guide action and this was reflected in the comments made by the potential users of the information in the Implementation Plan. Knowing that the feedback will be valued in the SEA cycle increases the value placed on planning for and implementing SEA.

5.3.3.3 Communication Architecture

The part of the Implementation Plan detailing the Communication Architecture, Section 4, was met with very positive feedback from all levels of participants. People felt that this was the key to making the other aspects within the SEA framework and Implementation Plan successful. They felt that it streamlined formal channels for communication so it would not get lost or missed. According to a PPP practitioner, “The SEA communication framework is a very clear guide on how to accomplish effective and efficient communication. There are so many people involved, and so many layers that communication is key (PP2).” An EA practitioner expressed that, “It is important to have a formal, documented process for communicating that people can understand and follow (EA3).” As stated by a participant, “There are many systems, but it still it's the people, and how they work, that makes or breaks them. However, the formal communication laid out in the Implementation Plan provides more concrete direction and leaves less to the whims of individuals (M2).”

In the opinions of those interviewed, the application of the proposed SEA framework and Implementation Plan guidance had great potential to improve tiering, implementation, monitoring and feedback. They believed that the value-added from this formal communication would

increase the benefits of SEA as well as EA and monitoring. In the next section the perspectives of the participants are summarized by group.

5.4 Perspective By Specialty Group

5.4.1 SEA Practitioner Perspective

There were some distinct views on the proposed SO/I enhanced SEA framework found among the various specialty groups involved in PC SEA. As the authors of MP SEAs, the SEA practitioner perspective on the proposed framework was very important: any new SEA framework or guidance must make sense and be helpful to those who would be required to follow it. In a PC context, SEA practitioners are the ones who would translate SEA results for use in project-level EA or other PPP. Comments from SEA practitioners on the proposed framework focused on better communication for implementation: “to structure how to proceed properly so the project level can understand, and use it. Then the connection will be clear for particular ecological goals (SEA1).” One SEA practitioner commented that emphasis on focused communication in the proposed framework, “brings forward the idea that planning and SEA are going hand-in-hand, not only at the higher levels, but also at the next level for EA and projects. It is an effective and efficient framework and guide for forward-looking SEA (SEA4).”

SEA practitioner comments on the monitoring and feedback aspects of the proposed framework focused on the potential for improvement as well: “The proposed framework has great potential to improve monitoring and feedback for use in EA’s (SEA1).” Another SEA practitioner believed that improved communication would link SEA to EA and increase SEA benefits and perceived value-added, saying: “The communication in the SEA Implementation Plan is the critical piece so you can see the link between the levels. It connects the EA and SEA through monitoring and feedback to help people see the importance, purpose and reason for SEA (SEA2).”

It was noted that Parks Canada is not a complex organization and therefore SEA is not as difficult to implement as it may be in other institutions. One SEA practitioner commented that the proposed framework could be well-suited to other more complex situations:

The proposed framework is consistent with PC’s integration of SEA into the MP process, however, here are not many levels in Parks Canada, that makes it much simpler than anywhere else. The proposed framework and formal communication plan would be very

valuable in a larger and more complex situation. For example, implementing consistent actions across the country and the challenges are communicating effectively between the different levels and organizations, because there are multiple jurisdictions involved (SEA3).

SEA practitioners focused on the issue of SEA value-added at and beyond the strategic planning exercise and believed that the proposed framework and formal communication guide would enable SEA benefits to be recognized and used at subsequent planning levels for better tiering success.

5.4.2 PPP Planner Perspective

It was also important to capture the PPP planner perspective on the proposed framework as they would need to know what kinds of information they could expect to receive from the SEA practitioner regarding post-planning direction, and how the PPP itself could be structured to support successful SEA implementation. According to study participants, when a PPP planner can see added benefit from SEA it becomes a more valuable tool, and tiering is further strengthened. PPP Planner perspectives on the proposed framework were also positive and reflected the same ideas as the SEA practitioners had on improving translation and implementation through focused communication. A PPP planner agreed that the proposed framework was compatible with their current planning procedures: “The steps in the proposed framework are very similar to the steps in the MP process. The framework is very helpful because it is clear guidance on how to accomplish communication which will enable people to do their job effectively and efficiently (PP2).” Another PPP planner similarly stated: “The proposed framework is useful for planners and making forward looking SEA (PP1).” The potential for improved communication and value added was also commented on: “This framework and implementation plan does have the potential to improve the communication between Park Establishment SEA to Management Planning SEA to Project EA by having more concrete and formal communication procedures (PP3)” and, “this could help people understand the purpose of and see the benefits of SEA (PP1).”

As expressed by Vicente and Partidário (2006:701), “from the decision-makers' perspective the relevance of any SEA results lies...in the ability to transform technical information into ‘actionable knowledge’ – information that actors could use.” PPP planners were

pleased to see that the proposed framework complements their established planning process and generally supported use the proposed framework as a way to improve SEA value in the PC context.

5.4.3 EA Practitioner Perspective

The EA practitioner perspective on the proposed framework is particularly valuable as they would be the ultimate consumers of SEA results and would be responsible for conforming to any directives emerging from SEA. The EA practitioner perspective adds to the consensus that the proposed framework has the potential to enable translation of SEA results and guide implementation at the project level of EA. One EA practitioner stated that the proposed framework is important “so people will know how to use SEA beyond the strategic planning stage (EA1).” Another stated that it would “help link SEA and EA and help EA for projects go more smoothly and be more efficient (EA2).” It was also mentioned by another EA practitioner that the proposed framework “provides guidance linking the two levels of EA through formal communication that people can understand and follow... to make sure nothing important is missed about a particular kind of project (EA3).”

EA practitioners were concerned about the current lack of direction and guidance from SEA. They want to enlighten upstream decision-makers by providing information relevant to management cumulative environmental effects and strategic planning. Being able to provide feedback of that type would indicate that EA results are in fact a valuable contribution within the PC organization. Without such feedback, the potential to address issues like cumulative effects is lost, and SEA goes on uninformed and unimproved by lessons gleaned from past actions and monitoring. The EA practitioners believe the proposed framework would enable effective tiering and lend further credibility to project-based assessments. They believe that formal guidance requiring feedback would benefit SEA-EA tiering effectiveness at PC.

5.4.4 Project Planner Perspective

The effects of SEA communication or lack of, is felt most strongly by the project planner group. If this group could benefit from the communication chain promoted within the proposed framework, it would be a major step toward transactive effectiveness and would serve as a major reason for PC to adopt the new framework. Theophilou et al. (2010) explain transactive

effectiveness of SEA in terms of efficiency; measured by proficiency in resources use and time consumed during the EA implementation process. Project planner perspectives on the proposed framework centered on its time- and cost-saving potential:

The proposed framework could enable more work to be done at the operational or programme level before projects on the EA side, so there would not be such a backlog of projects to get EAs done. It would eliminate a lot of frustration at our level (P1).

Project planners also expressed that the proposed framework could improve translation of environmental impact constraints from SEA to project managers so they can help balance mitigating measures with project limiting factors. As one project planner stated, “The proposed SEA framework and communication plan would help EA for projects to be more efficient by guiding mitigation, monitoring and feedback to make accurate CEA possible (P3).”

At the tactical level, project planners value efficiency with regards to the project constraint elements of budget/cost, time/schedule, and scope. Their greatest concern was the transactive inefficiency caused by ineffective SEA to EA communication, disabling project planning and action. The results of the problem were felt the most deeply by the project planners as the gap at the strategic level becomes wider through planning levels. The project planners were very supportive of the proposed framework as they could see the potential benefits in efficiency to the tactical level by having guidance from SEA to EA.

5.4.5 Monitoring Specialist Perspective

Although monitoring specialists do not currently have any formal link with SEA, in the proposed framework they would and so gathering their perspective was considered important. Monitoring specialists ideally would monitor both SEA and EA outcomes and report back for improved SEA implementation. The Monitoring Specialist perspective was holistic in that their responses were directed to the entire proposed framework. Overall, this group was enthusiastic about the potential for the proposed framework to increase the effectiveness of monitoring activities by formally linking monitoring to SEA/EA. A monitoring specialist remarked, “The key to improving monitoring and feedback is the SEA communication plan. It has the potential to link the project monitoring for CEA and make SEAs useful to our staff at all levels (M1).” And another stated that,

The communication framework would enable post-project feedback on EA mitigating measures effectiveness. The value added by linking SEA, EA and monitoring for CEA feedback will help people at all levels see the benefits of SEA (M2).

Monitoring and feedback are required to complete the SEA cycle. For them to occur, reporting methods must be predetermined through SEA communication instructions. PC monitoring specialists supported the proposed framework and implementation guidance as they could see that it aligns the disjointed aspects of monitoring in PC to ensure EI for CE, MEP, and project surveillance monitoring all feed back into the SEA cycle.

5.5 Summary: The Potential Of The S/OI Enhanced SEA Framework In Parks Canada

The potential of the S/OI enhanced SEA framework to guide effective translation of SEA results into focused and mission-oriented operational actions was explored within the context of managing important ecological and heritage conservation areas. Responses from all participants were positive toward the proposed framework and implementation plan with emphasis on different aspects of it, for different reasons. Three SEA practitioners, four EA practitioners, three PPP planners, three project planners and two monitoring specialists expressed that the proposed framework applied to the Parks Canada context. Interestingly, one SEA practitioner felt the proposed framework would be equally or more beneficial in a more complex situation where many organizations and actions will be affected by or need to act upon a policy and its SEA.

Overall, study participants felt that SEA to EA tiering would be enabled and improved by the proposed framework, with positive effects on communication, translation, and implementation efficiency and effectiveness. They felt that it would help to more clearly demonstrate the value-added of SEA within PC and result in tangible benefits for planning, budgets and workloads. It was recommended that there should be SEA of operational level plans like the Ski Area Site Guidelines SEA to close the gap between MP SEA and project-level EA. The participants largely felt that the proposed framework would be a valuable addition within the future PC SEA Guidelines. Participants felt that monitoring and CE would no longer fall through the cracks between the tiers and therefore enable feedback to inform future SEA exercises and future planning and progress reviews.

Effective tiering (to project EA) has the potential to substantially increase SEA effectiveness and result in a fuller realization of the added value of SEA around the world (Arts,

Tomlinson, & Voogd, 2005; Morrison-Saunders, Marshall, & Arts, 2007; Sánchez & Silva-Sánchez, 2008). At present in PC, there is no structured framework to guide practitioners through the process of SEA tiering, which would take place in the follow-up phase of a typical SEA process; i.e., there is no advice on methods or procedure to translate SEA results into operational actions and communicate these to all those that would need to act.

In summary, many of the various challenges and constraints that arise ‘after the SEA’ in PC, as described by interviewees, could successfully be addressed with the proposed S/OI enhanced SEA framework and communication plan. Based on the interviews, the framework has the potential to be a valuable tool to ensure more effective SEA implementation and follow-up according to PC participants, and also to be applied more widely, to enable coordination among multiple levels of government and industry and ensure accountability for environmental outcomes. The next chapter will present major conclusions drawn from the research and ideas for future research and implementation of the SO/I enhanced SEA framework.

Chapter Six: Conclusions

6.1 Addressing The Research Objectives

This thesis investigated how military strategic and operational intelligence processes could be adapted and incorporated into current SEA frameworks for increased SEA influence upon subsequent tiers of impact assessment, and/or related policy and plan making, and/or environmental management directives. The challenges and weaknesses of SEA effectiveness beyond the planning stage are well recognized in SEA literature. However, with improved

implementation and communication guidance, SEA implementation, translation and feedback can be better enabled for more effective tiering. This chapter summarizes major conclusions with respect to research objectives, recommends improvements to practice, and suggests future research directions.

6.1.1 Objective I: S/OI Based SEA Guidance For Tiering

The lack of guidance for SEA follow-up and implementation for tiering is responsible in part for the continued disappointing reviews of SEA performance effectiveness, as noted in academic literature (Kis Madrid et al., 2011; McLauchlan & João, 2011; Gachechiladze-Bozhesku & Fischer, 2012; Government of Canada, 2013). SEA supports sustainable development and the output must be actionable to be effective. The development of SEA guidance has been challenging as the need for guidance flexible enough to apply in many different industries, organizations and contexts adds to the complexity. However, military S/OI translation for integration and implementation in tiered levels of military planning and action is effective in varied and complex situations. Doctrine, or military guidelines, exist for this process so that military campaigns involving multiple nations, organizations, capabilities and locations can function, communicate, plan and accomplish strategic aims and objectives together efficiently and effectively to reach a desired endstate. Military intelligence bears many similarities in art and task to SEA.

This study produced three major conclusions about SEA based on S/OI guidance for tiering. First, there is a lack of guidance on *how* to produce SEA output that would facilitate successful tiering and implementation, even though such guidance for what should happen after the SEA is essential. Specific guidance would help to increase SEA influence upon subsequent project-based impact assessment, and/or related policy and plan making, and/or environmental management directives. Second, SEA implementation and follow-up is directly relatable to military intelligence guidance. Military intelligence is made up of connected, tiered planning levels that act in concert to provide support to decision makers, as does SEA. Intelligence doctrine provides guidance for synchronizing, integrating, and managing intelligence capabilities between these tiered planning levels to create desired effects and achieve mission objectives. Specifically, the military guidance contains a communication framework to ensure implementation and follow-up actions are carried out appropriately, a key aspect missing from

SEA guidance. Third, deficiencies in the current SEA guidance can be augmented by the S/OI framework to facilitate more successful tiering than currently exists. The S/OI enhanced SEA guidance has the potential to bridge the gap to evolve SEA from merely an information provision exercise to an actionable mandate that leads to desired outcomes via measurable effects.

6.1.2 Objective II: Test Proposed Framework To Gauge Potential To Improve Tiering

The S/OI enhanced SEA framework was tested within the real-world context of Parks Canada, a government agency that manages important and sensitive ecological and heritage conservation areas to protect ecological integrity, facilitate visitor experience, and provide public education in these areas (GC, 2017). Activities in parks are guided by Park MP, which are subject to SEA, guided by the Cabinet Directive. As projects are developed to fulfill MP objectives, project-level EA is conducted when required according to CEAA 2012. As the Cabinet Directive does not provide guidance on SEA implementation and follow-up, at present in PC there is no structured framework to guide practitioners through the process of SEA tiering and follow-up (Gunn & Noble, 2011; McLauchlan & João, 2011; Fundingsland Tetlow & Hanusch, 2012; Noble, Gunn, & Martin, 2012). There is a gap in policy and guidance on SEA implementation and follow-up to link tiered programmes and projects.

There are two major conclusions that were drawn from the testing of the S/OI based SEA guidance for tiering within the Parks Canada SEA context. First, the gap in guidance for SEA implementation and follow-up results in challenges for PC ‘after the SEA’ processes, specifically with regard to translation, implementation, monitoring and feedback. As in other studies, the full potential of SEA to improve policy, plans and programs (PPP) has yet to be fully realized (Kis Madrid et al., 2011; McLauchlan & João, 2011; Gachechiladze-Bozhesku & Fischer, 2012; Government of Canada, 2013). This is because SEA is *integrated* but not *implemented*. Although SEA is completely integrated within the strategic planning levels and resulting policies, lack of SEA translation of SEA results causes negative effects for both human and environmental aspects of PC. The implementation gap between SEA and EA in particular is resulting in an overload of EAs required for projects; handicaps informed decision-making within EA; and adds time to approvals for projects and adds cost. As well this implementation gap results in a separation of SEA from downstream planning and without formal linkages among SEA, EA, and existing

monitoring programs, cumulative environmental effects are not being as effectively assessed or managed as they could be. These negative effects have reinforced the perspective among PC staff that SEA provides very little value-added to their operations. This confirms the results of other studies that lack of tangible SEA benefits results in low value of SEA by PPP decision-makers and compromises subsequent direction of environmental management (Arts et al., 2005; Morrison-Saunders et al., 2007; Fundingsland Tetlow & Hanusch, 2012). What is currently lacking in Parks Canada, as in other studies, is guidance on *how* to translate SEA output for implementation and feedback.

The second conclusion that can be drawn from the PC test is that the S/OI enhanced SEA framework has the potential to be a valuable tool for government and industry. For PC, the S/OI enhanced SEA framework could assist improvements in the following four areas:

- a) Translation - a communication link between SEA and EA would be forged where currently there is none. The level of similarity and familiarity expressed by the PC participants of the proposed framework to the current processes and practice mean that the framework is more likely to be accepted, understood and valued for those in the process or expected to use it;
- b) Tiering - tiered planners would be provided the information they need for PPP specific SEA implementation effectiveness for appropriate follow-up at the operational-level of decision-making and then tactical level project EA, reducing time, effort, and duplication of actions ;
- c) Monitoring - SEA and EA monitoring would be connected through implementation of the SEA and clear translation through communication; and
- d) Feedback - The newly enabled feedback would benefit future SEA and EA so that environmental effects would be assessed and prepared to inform future PPP and provide monitoring information for Regional CEA to prevent moving baselines.

The Parks Canada test showed that the PC personnel believe that an S/OI enhanced SEA framework would lead to more effective environmental impact mitigation, monitoring and feedback within their organization. It would mean that SEA would not only *integrated* within PC planning tiers, but actually *implemented*. This confirmed the conclusions in the literature that effective tiering has the potential to contribute substantially to SEA effectiveness and result in a fuller realization of the added value of SEA (Arts, Tomlinson, & Voogd, 2005;

Morrison-Saunders, Marshall, & Arts, 2007). Parks Canada personnel also believe the S/OI enhanced SEA framework would be applicable to multiple other agencies, industries and levels of governance. Effective SEA implementation and follow-up is fundamentally a communication challenge. The PC test confirms that S/OI is the missing element needed to operationalize SEA results.

6.2 Improving Practice

6.2.1 Guidance For Actionable SEA Output

Recommendations to increase and maximize SEA effectiveness call for internationally applicable and detailed practical guidance considering context and institutional capability for implementation in subsequent tiers (Retief, 2007c; Gazzola, 2008; Noble, 2009; Kis Madrid et al., 2011; McLauchlan & João, 2011; Fundingsland Tetlow & Hanusch, 2012; Noble et al., 2012; van Doren et al., 2013; White & Noble, 2013). Making SEA more effective depends upon more effective and efficient communication. The communication must consist of messages that can be sustained through multiple levels in government and industry, as well as over distances and periods of time. The more detailed and practical these messages are, the better. To improve implementation ‘after the SEA’, first of all, SEA must begin with a vision of the desired “endstate”. Second, to enable actions toward achieving this endstate, SEA results must be translated into practical and achievable operational-level constraints (‘what must be done’) and restraints (‘what must not be done’) and also tactical, project-level guidance. Thirdly, the translated SEA results must be communicated to all those that would need to act (using the proposed SEA guidance: see pg. 66), explicitly linking SEA with EIA in the follow-up stages of SEA. As actions are taken, regardless of the tier-level of those actions, feedback for SEA improvement and policy adjustment must be generated and communicated ‘back up the chain’. Translation of SEA objectives into actions for EA will result in tangible benefits for tiered planning and workload efficiency as well as achieving sustainable development goals.

6.2.2 Recommended SEA Policy Changes

6.2.2.1 Amend the SEA Cabinet Directive To Include Enhanced SEA Guidance

In Canada, SEA procedures are based on the Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals. However, there is no structured framework to guide practitioners through the process of SEA tiering that would take place in the follow-up phase of a typical SEA process. This has two effects: 1) it leaves all those involved without guidance on their roles and actions needed after the SEA in the implementation and follow-up stages; and 2) it prevents SEA from being considered more than a report (a ‘check the box’ exercise) required for approval rather than a guide for future actions. In practice, flexible and context specific SEA is considered to be advantageous, but it is also characterized by procedural ambiguity and the anticipated practical linkage of SEA with EIA through tiering remains under-developed (Gunn & Noble, 2011; McLauchlan & João, 2011; Fundingsland Tetlow & Hanusch, 2012; Noble et al., 2012).

To address this issue, the Cabinet Directive should be amended to include the proposed SEA guidance. This guidance would help to ensure communication of SEA results and enhance effective implementation and follow-up actions. This would advance SEA practice in Canada beyond simply reporting and documentation, which is what is now suggested of SEA practitioners. The enhanced SEA guidance could be included within Section 4.0 of the Cabinet Directive: “Process To Conduct a SEA” under the sub-title “SEA Translation for Implementation”.

6.2.2.2 Link the SEA Cabinet Directive and CEAA 2012

SEA policy needs to gain legitimacy to be successful. In order to enable SEA as a tool to support the FSDS, it would be advantageous to make SEA an act, rather than a Cabinet Directive, similar to the CEAA. This would increase the validity and authority of SEA strategies with a legislative base, and political commitment for implementation. The missing link between the Cabinet Directive (2010) and CEAA (2012) has constrained the ability of SEA to add value to planning processes and downstream EAs specifically by obfuscating the tiering relationship that is championed within academic literature. The current CEAA and Cabinet Directive should be linked with each other through legislation so that the various tiers in government and industry

will look to applicable SEAs for implementation and follow-up guidance. The requirement to consider SEAs could be added to CEAA 2012 section 19 “Factors To Be Considered”.

6.2.3 Create SEA Database

To support future PPP, a database providing access to SEA reports is needed. The Canadian Environmental Assessment Agency is currently responsible only for posting SEA public statements, but it should also, in addition to managing the EA registry, manage a SEA registry. The database could be organized according to proponent, regional boundaries, and/or development sectors, and should be updated regularly. SEAs that are linked with specific EAs (such as they are within PC) could also be linked within the registry. In this way, project EAs can much more easily be placed within the context of regional cumulative effects issues noted in SEAs. As well, access to SEAs may help proponents involved in EA processes to make those processes more efficient and consistent and help resolve issues associated with financing portions of data collection. Direction for SEA submission to the agency could be included within the Cabinet Directive section 4.7 “Documentation and Reporting”.

6.3 Future Research

6.3.1 Investigate Outcomes Of Implementing the S/OI Enhanced SEA Guidance

Following the outcomes of S/OI enhanced SEA guidance within the existing infrastructure of government departments could enable us to see the results of tiered SEA implementation in an integrated and holistic manner. Government departments already contain documentation and reporting systems to monitor implementation results of PPP and are required to adhere to the Cabinet Directive and advance Canada’s Sustainable Development goals. With the enhanced guidance added to the Cabinet Directive, the SEA for a specific PPP could be followed from the integration phase, through SEA implementation, translation, monitoring and feedback in tiered PPP. This would serve to provide opportunities to see the SEA in action and the effects achieved, as well as learning for identification of areas of change needed for future PPP. However, there needs to be an understanding on the part of PPP developers that SEA implementation enables and supports effective and efficient action for implementation of PPP instead of viewing it solely as a report for ministerial approval. Additionally, if there is no requirement to report for feedback and

follow-up, there will be little to no SEA implemented and it will continue to be seen as an exercise that concludes with the SEA Report.

6.3.2 Additional Military Intelligence Applications For EA

Strategic environmental assessment bears many similarities in *art* and *task* to military intelligence including; analyzing resilience, communicating uncertainty, integrating information into decision-making and planning, predicting scenario outcomes, as well as playing a key role in the achievement of strategic objectives and generating useful feedback. Future research should therefore explore additional military intelligence techniques and guidance for use in SEA. One area is in providing a deeper understanding the strategic nature of decision-making processes (Jiliberto, 2011) and on how SEA relates to the planning processes it is intended to inform (Noble and Gunn, 2015; Pope et al., 2013, N&N 2017). In addition, it would be interesting to investigate military intelligence applications for other EA issues including, collection, storage and searchability of monitoring data collected during EA processes; data analysis of assessment and monitoring data for CEA to prevent the ‘begin-again’ and ‘moving baseline’ issues. Also important would be dealing with and communicating uncertainty in decision-making, which is inherent in EA practice but difficult to work with and express in a way that can be understood between academics, practitioners and decision-makers. In addition, forecasting is a necessary part of intelligence preparation for action and these methods and procedures could be useful for preparing SEA/EA potential effects. Intelligence procedures for communication and reporting in addition to the S/OI enhanced SEA guidance could be invaluable for enabling clear communication between planners and practitioners and useable SEA/EA feedback. Another interesting area to investigate would be to augment SEA/EA procedures with intelligence procedures used to monitor, collect, store, collate and corroborate various sources and formats of data. Specifically, collection of intelligence from human sources, including Indigenous Knowledge, would be an area to investigate.

6.4 Final Remarks

Presently, the vision of SEA is short-sighted and the shelf-life of a SEA report is truncated, effectively ending before it can make one of its important contributions as an input to project-based EA. The aim of SEA is to evaluate the environmental consequences of proposed PPP initiatives; inform the decision-making process through identification of the best practicable environmental option; and provide early warning of cumulative effects and large-scale changes towards the achievement of environmental protection and sustainable development (Sadler, 2001; Sheate et al., 2003; Therivel, 2010). Yet in practice, SEA is little more than a report to prove environmental effects have been considered in order to gain ministerial approval for a PPP.

It is important for PPP planners, decision makers and SEA/EA practitioners to understand the fundamental and final aim of SEA: guiding implementation actions to ensure sustainable outcomes. Does the SEA conclude with the report or is the SEA the precursor and catalyst to coordinated future action? In principle, the results of a SEA should be translated into appropriate follow-up actions which inform activity at both the operational-level of decision-making and the tactical level project EIA through an effective tiering relationship, as proposed and promoted in the EA literature. Implementation will put into action the strategies chosen within the PPP to deal with potential environmental damage and negative effects of economic development. All of these methods require an understanding of the ecosystems requiring protection and conservation as well as society's reasons for their behavior and motivation in their relationship with the environment. This involves more than application of science and technical expertise, it also requires an understanding of and sensitivity to various and often conflicting values, interests, needs and wants (Lafferty & Hovden, 2003)

Unfortunately, the present approach to SEA with its short-sighted focus on documentation and reporting, as prescribed in the SEA Cabinet Directive, is not enough for effective tiering, nor is it enough to accomplish the mission of sustainable development. In addition, the immediate human benefits of reducing time, effort, and duplication of actions by connecting levels of EA through effective tiering go unrealized (Gachechiladze-Bozhesku & Fischer, 2012). How to accomplish the task of environmental protection in the most economically efficient and effective way, maximizing social net benefits and minimizing costs is the goal of environmental policy. At present, SEA is often considered a lost opportunity but with better structure and guidance for what to do 'after the SEA' its value-added as a tool for enhanced sustainable development will almost certainly increase. SEA can guide future decisions and action towards sustainable

development. However, SEA policy must gain credibility and legitimacy to be successful through increasing the validity and authority of the strategies with a legislative base, and political commitment.

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UNIVERSITY OF
SASKATCHEWAN

APPENDIX A

Department of
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PARTICIPANT CONSENT FORM

‘After the SEA’:

Using strategic and operational intelligence protocols
to translate results into operational directives

Please read this letter carefully, and feel free to ask any questions you might have. I will review this information with you at the time of the interview.

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Purpose and Procedure: The purpose of this research is to advance strategic environmental assessment (SEA) practice by providing a structured framework for practitioners to aid in the dissemination or transmittal and follow-up of SEA results. Specifically, it will suggest a framework that helps translate SEA results into focused and mission-oriented operational actions across subsequent tiers of government and industry, providing support to

decision-makers and others tasked with resource management and planning while allowing for development of locally specific actions. To achieve this, in part, you are invited to participate in an interview to discuss your views on the SEA communication and implementation process and whether the suggested framework would help. The interview will take approximately 15-20 minutes, and will be audio taped so as to facilitate data analysis. Similar interviews are taking place across 3 National Parks, representing five different categories of key actors in tiering, communication and translation of policies, plans and programs (PPP) supported by SEA and projects supported by EIAs. These key actors being interviewed are SEA and EIA practitioners, policy plan and program decision-makers and project decision-makers using the SEA and EIAs, and responsible authorities for SEA. Results of the interviews will be aggregated and used to investigate current SEA tiering practices and evaluate the potential of the developed framework to guide SEA communication and implementation. Overall, this study will contribute to a greater understanding of the current SEA tiering practices, associated challenges, and a framework for improvement.

Potential Risks: There are no personal risks to participating in this study. Your affiliation, and SEA relationship but not your name, may be identified in research reports in order to lend credibility to the research. Given the limited number of participants involved in each National Park selected, it may be possible to identify specific individuals based solely on organizational affiliation and SEA relationship. However, you are being asked to provide your professional judgment and, as such, there is minimal personal risk. All data collected for this study will be reported in aggregate form only. Individual responses will not be revealed.

Potential Benefits: There are no direct benefits to you personally for participating in this study. The results will be used as part of a graduate thesis in the Masters' program, and shared in professional and academic conferences and journals in order to improve the current practice.

Storage of Data: Interview tapes, notes and transcriptions will be stored temporarily on a hard drive (dedicated solely to this study) in the office of the research supervisor, and in the long term on CDs in a locked cabinet of the research supervisor for a minimum of five years and until all publications, conference papers, and research thesis have been produced and disseminated. The research supervisor will be responsible for all data storage and management. The research supervisor will have access to all data.

Confidentiality: The information you provide to this study will be aggregated with information provided by other interview participants from this National Park and in two other National Parks. In addition, the information will be used to produce reports for publication in scientific journals and may be presented at conferences and workshops/meetings. Your personal identity will be kept confidential at all times. You will be identified only by your position or professional affiliation (e.g. 'National Park x'). However, because the participants for this study have been selected from a relatively small group of people, some of whom may be known to each other, it is possible that you may be identifiable to other people on the basis of the information you provide. In other words, only aggregate data will be presented in the research results, but confidentiality of your involvement as a participant in this study cannot be guaranteed. If, within 30 days following completion of your interview, you have any second thoughts about your responses, you can contact me or my research supervisor, who will immediately remove your information from the data set and provide you with an opportunity to review your responses to determine whether you would like to withdraw it from the research. After 30 days, it is likely that some form of research dissemination will already have occurred.

Right to Withdraw: Your participation is voluntary, and you may withdraw from the study for any reason, at any time, without penalty of any sort, up to 30 days following completion of the interview. You may also refuse to answer specific questions. If you withdraw from the research project, any information that you have contributed will be destroyed or returned at your request. Before and after your interview, you will be reminded of your right to withdraw.

Questions: If you have any questions concerning the study, please feel free to ask at any point. You are also free to contact me or my research supervisor at the numbers provided above if you have questions at a later time. This study has been approved on ethical grounds by the University of Saskatchewan Behavioral Research Ethics Board on Oct 15, 2014. Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (966-2084). Out of town participants may

call collect. When the study is complete, all participants will receive a short report that outlines significant research findings.

Consent to Participate: I have read and understood the description provided above. I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I consent to participate in the study described above; understanding that I may withdraw this consent under the terms outlined above.

_____	_____
(Name of the participant)	Date
_____	_____
(Signature of the participant)	Signature of Research student

Appendix B



UNIVERSITY OF
SASKATCHEWAN

Department of
GEOGRAPHY & PLANNING

Room 125 Kirk Hall
117 Science Place
Saskatoon SK S7N 5C8

Dear Interviewee (substituted with actual name):

Request for Participation in Research Interviews

I am Serena Foster, a Masters' student in the Department of Geography and Planning at the University of Saskatchewan, Saskatoon. I am also a retired Canadian Armed Forces Intelligence Officer. As part of my masters' degree requirements, I am working on a study titled, "After the SEA": Using strategic and operational intelligence protocols to translate results into operational directives' under the supervision of Dr. Jill Gunn, Department of Geography & Planning, and School of Environment & Sustainability, University of Saskatchewan. The study aims at providing insight into how strategic environmental assessment results are communicated and translated through decision-making levels into real world actions and provides a framework for improving the current practice based on strategic and operational intelligence processes of communication and dissemination. I am writing to request your participation in this research project.

By way of background, the aim of strategic environmental assessment (SEA) is to evaluate the environmental consequences of proposed policies, plans, programs and other strategic initiatives to ensure they are fully considered alongside economic and social factors and integrated at the earliest appropriate stage of decision-making. While flexibility and adaptation to different decision-making contexts is important, it is also necessary that the SEA process is sufficiently structured so that its results can be easily and effectively integrated into related decision-making processes and/or translated into action steps. This research explores whether structured processes for the SEA phases of follow-up and implementation could be improved by incorporating a series of communication and translation procedures based on a strategic and operational intelligence (S/OI) framework. The purpose of this research is to advance SEA practice by providing a structured framework for practitioners to aid in the dissemination or transmittal and follow-up of SEA results. Specifically, it will suggest a framework that helps translate SEA results into focused and mission-oriented operational actions across subsequent tiers of government and industry, providing support to decision-makers and others tasked with resource management and planning while allowing for development of locally specific actions. The research is guided by two objectives: i) to examine the process and guidance for SEA follow-up and implementation and develop a framework for SEA based on S/OI processes; and ii) test the framework for viability in the Parks Canada context.

Specifically, at this stage, I am working on objective (ii), and I am inviting you to participate in a semi-structured interview via telephone. The Interview is expected to be fairly short; approximately 20 minutes long. You were identified as a potential participant based on your position at Parks Canada and your experience in using or conducting SEAs or EIAs, or your contact information was provided by other study participants. I am particularly interested in your views about how SEA results are communicated and translated into real world actions.

I am attaching a standard University of Saskatchewan ‘participant consent form’ for your review. I will follow-up with you via telephone and email in the upcoming weeks to determine your interest in participating in this research, to schedule an interview and a time of your convenience, and to send you in advance a list of discussion topics for the interview. The tentative period for the telephone interviews is between October 15 and December 15, 2014. Meanwhile, should you have any questions, please do not hesitate to contact me at 306-291-6595 (cell) and 306-384-2704 (office), or my research supervisor, Dr. Jill Gunn, at 306-966-1944 (jill.gunn@usask.ca).

Sincerely,
Signed:
Serena Foster



APPENDIX C
Department of
GEOGRAPHY & PLANNING

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Saskatoon SK S7N 5C8

INTERVIEW GUIDE

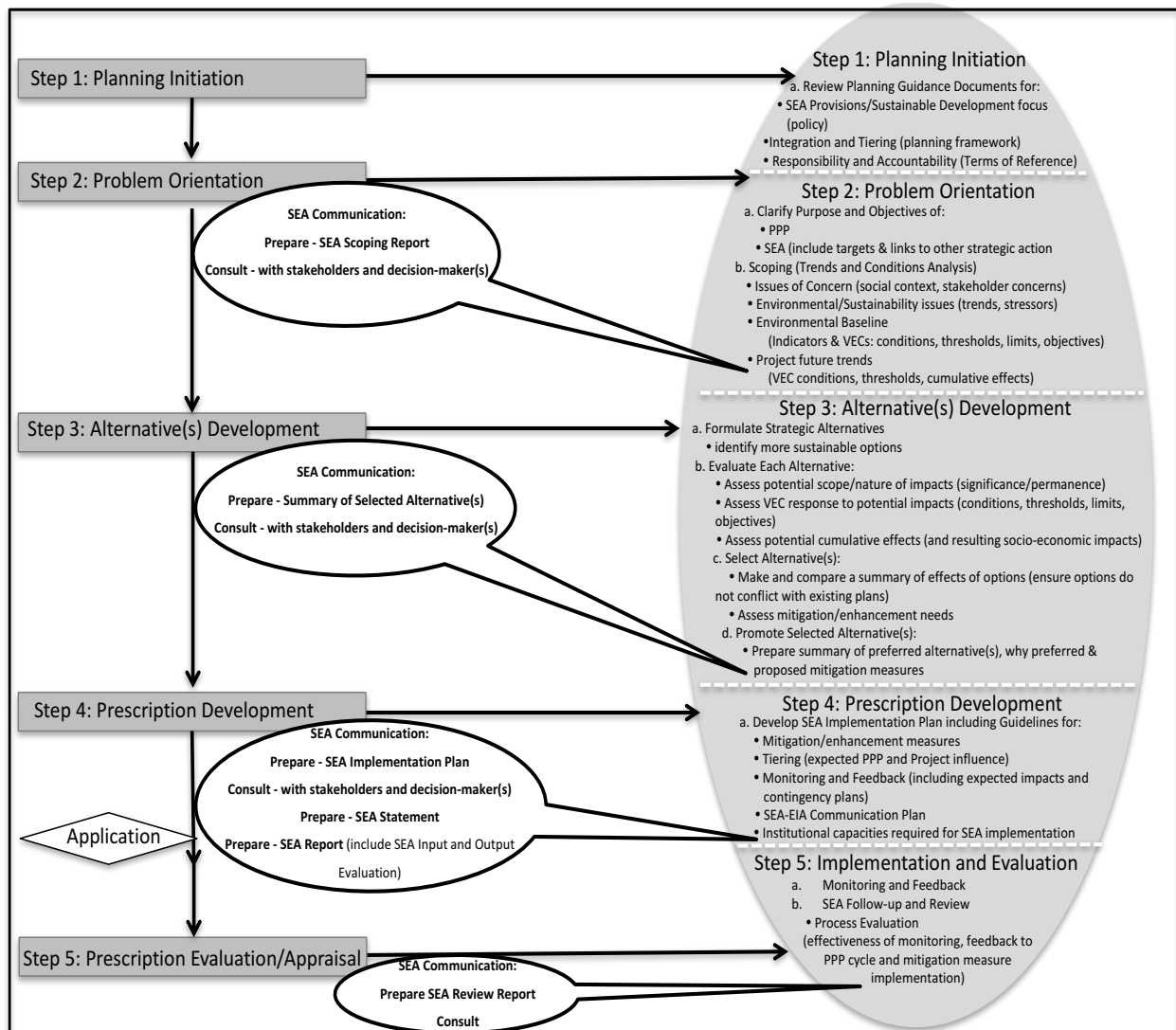
‘After the SEA’:
Using strategic and operational intelligence protocols
to translate results into operational directives

Themes	Questions
Translation & communication of SEA results for EIA	<ol style="list-style-type: none"> 1. Please describe how SEA results are communicated to the next assessment level in the tier (SEA-to-EIA)? 2. How are SEA results communicated to the decision-maker (Planner/Manager)?

	3. Please describe how SEA results are translated to enable decision-making at other levels (tiers)?
Implementation of SEA in projects	4. How do the results of SEAs affect EIAs for projects? 5. How are SEAs implemented at the project level?
EIA feedback communication to SEA	6. Please describe how EIA results are communicated to the upper levels in the tier (EIA-to-SEA)? 7. How are EIA results communicated to the decision-maker (Planner/Manager)? 8. Please describe how EIA results are translated to enable decision-making at other levels (tiers)?
SEA/EIA monitoring/feedback	9. How is the implementation of SEAs monitored and reported? 10. How do the reports affect subsequent SEAs, EIAs and decision-making?
Challenges/Constraints	11. What are the challenges or constraints to SEA communication and translation? 12. What are the Challenges or constraints to SEA monitoring and feedback?
Perceptions on implications of using proposed SOPs framework	13. Would the proposed framework help to alleviate these challenges? 14. What advice/suggestions can you offer to improve the framework for SEA communication and translation?
Comments	15. Are there any other comments you would like to make regarding any aspect of your experience with SEAs?

S/OI Enhanced SEA Framework

(with SEA communication products and dissemination points contained in speech bubbles)



Strategic Implementation Plan for SEA-EA Tiering and Communication

- SEA Context
- Strategies/Actions Consultation Results:
 - Strategies/ Actions Chosen
 - SEA mitigation/enhancements decided
- SEA Implementation Plan for PPP Application:
 - Mitigation/Enhancement Measures outline
 - Tiering Plan (expected PPP and Project influence) outline
 - Monitoring and Feedback Plan
- Communication Architecture for SEA Implementation Plan
 - Tiering, Monitoring and Feedback and Review Communications Plan
 - Lines of Communication (node to node, WHO/which office will be required to communicate with who/which office) for direction/reporting
 - Content of Communication (WHAT must be communicated)
 - Form of Communication (HOW is it communicated)
 - Timing of Communication (WHEN is it communicated)
 - Storage and Retrieval (WHERE is it stored)
- Institutional Requirements for Implementation
- SEA Review/Reporting Requirements for enhancement/mitigation effectiveness