
THE ARMY LANDING FORCE AND STANDING CONTINGENCY TASK FORCE DESIGN

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This article discusses certain matters relevant to the size and nature of the army-generated Landing Force (LF) intended for the Standing Contingency Task Force (SCTF) in the Littoral Mode. In particular, it encourages an early, basic appreciation of the LF as a necessary start to the more formal, involved analyses that will follow in due course. The article consists of four parts: background, statement of the key issue with which this paper is concerned, two approaches to initial appreciation of LF size and nature, and, finally, an illustrative demonstration of an appreciation.

Background

The Chief of the Defence Staff's (CDS) vision for the SCTF, as pronounced in early 2005, calls for a fully joint, highly-mobile combatant formation maintained on high readiness for use in preventive and/or responsive missions in failed or failing states, primarily in a short-duration interim capacity pending arrival of

follow-up forces. The SCTF is to consist of joint command and sustainment elements, a naval task group (comprised of warships, a joint support ship, and an amphibious ship), a land element, an aviation element, and a SOF element. This formation is to be fused together to form a "micro-joint" task force at the tactical level, deriving its operational, and strategic, level significance from their fighting quality, range, mobility, and careful application to critical points in a crisis. Task tailoring is to be done "by negation", with the start point being the sea-land-air version of the task force. Thus, the "littoral mode" is the default setting for the SCTF, although in theory continental or maritime modes are admissible. The littoral mode envisages operations in areas of the sea-land interface, with the SCTF exploiting the sea for manoeuvre and as a secure base for projecting forces ashore and thereafter supporting them both operationally (e.g., afloat C2, fire support) and administratively (e.g., sea-based combat service support [CSS]).¹

As a Joint Task Force (JTF) attuned to the littoral environment and seeking to induce effects ashore, the main focus of the SCTF concept is the "ultimate land operation ashore"—i.e., those operations, tasks, and activities that accomplish the mission—conducted primarily by a land force and SOF.² The CDS's idea envisages the SCTF as primarily a seaborne force, with Sea-Based Projection of Forces Ashore (SBPFA) being its normal approach to achieving the desired effects ashore. This clearly demands an amphibious capability that can be usefully exercised in a multi-national force setting or independently, and in the form of amphibious operations (as doctrinally defined), littoral mobility (a fluid form of operational or administrative movement at the tactical and operational levels), and sea-based C2, offensive and defensive support, and CSS.

Amphibious Implications

"Amphibiosity," a slang term denoting the broadest and most inclusive sense of amphibious warfare activities and techniques, confers special status on two elements.

The first is the land force that, usually in the form of a landing force (LF), is projected ashore to conduct the ultimate land operation ashore that leads to mission success for the overall amphibious task force (in our case, the SCTF). The other is the naval force (NF) of the amphibious task force, and primarily its maritime expeditionary delivery system (MEDS, i.e., the amphibious ship, embarked C2 for the landing operation, the surface and aviation ship-to-shore movement systems, afloat CSS facilities, etc.). It is the NF that embarks, accommodates and moves the LF and other embarked elements; shapes the battlespace prior to the arrival of the main body; projects the LF ashore; supports it directly with naval surface fire support (NSFS) and other means; facilitates the entire operation through the use of embarked C2 elements (including airspace management) and provides the administrative sea-base, pumping supplies ashore and receiving in turn casualties for treatment, material items for maintenance and repair, etc. Additionally, the NF conducts maritime tactical operations to secure the waterspace, and keep it secure, so that all the foregoing activities may proceed. Given the littoral-urban focus of the CDS's vision, this is a very challenging job. The Second World War's battleship and fighter-bomber are now represented by "Third World" diesel submarines, the mobile surface-to-surface missile, and, in asymmetrical fashion, small craft of all sorts on both the water and in the air. In carrying out all of its assigned tasks, the Navy incurs by far the greatest bill for dedicated forces and specialised personnel and materiel. For all these reasons—the maritime basis of the operation; the seaborne nature of the force; the critical role of naval tactical operations; and the degree of dedication and specialisation demanded of the maritime forces—the NF is considered to have primacy, which it shares with only one other element in the amphibious task force, the LF.

This distinction of primacy (or "co-primacy") is reserved for the NF and the LF, but the latter merits this status for different reasons. A LF, even in purpose-built amphibious forces, is far more a conventional land force adapted for joint littoral manoeuvre (JLM) than it is a dedicated, specialised force (although there is a degree of such attributes). In conducting that "ultimate land operation ashore", it, like the NF, is responsible for the primary operations that achieve the mission. This confers co-primacy on the LF. However, it is the ultimate land operation ashore—and, therefore, the LF—that clinches success. For this reason, the LF is not only primary in importance, but it is crucial in character. As the ultimate land operation ashore forms the crux of the overall operation, so does the LF form the crux of the amphibious task force/joint task force. In this sense, it is unique.

The SCTF Land Component

While the littoral, seaborne, and JLM aspect of the SCTF are generally clear, there remain fuzzy areas. The army is tasked with providing the land component of the SCTF, from which the LF will be drawn when the SCTF operates in the littoral mode. However, it should be stressed at this time that the bigger picture of the land component, its structure, and the concept of its employment, are vague and require definition and clarification.

The CDS's initial direction provided a general description of the land component for discussion purposes. It is to consist of up to 800 all ranks, based on a light-force core and capable of conducting light operations. It includes integral fire support, combat engineer, and CSS elements. Other details have been offered from its initial developers: "Landing Team of approximately 800 persons based on a light infantry

battalion, plus: SOF Covert Surveillance team; Towed artillery battery with precision fire capability; Combat Engineer Squadron; Air mobile / sea-deployable...³ However, it is reasonable to assume that the foregoing is suggestive and indicative rather than prescriptive of any firm concept. This is confirmed by the subsequent discussions of the National SCTF Working Group and the Army SCTF Working Group. Nonetheless, these early suggestions provide a starting point for the consideration of the land component.

The Issue

The issue at hand is the size and nature of the LF for the SCTF in the littoral mode. The concept of operations and employment of the SCTF pivot on this matter. Furthermore, like the proverbial ripples in the pool, this issue moves outwards to affect the rest of the SCTF, e.g., the structure and concept of employment of the land component as a whole; the capability and capacity of the MEDS. This paper will take an admittedly simplistic approach to this matter. But while precision is not achievable, a rough envelope or boundary can be established when it comes to LF size and nature.

Approaches

In attempting a basic initial appreciation of the SCTF LF, two approaches commend themselves. The first is somewhat deliberate in nature, the “effects-centred approach”, while the other is more expedient, the “multi-perspectives approach”. At first glance, the two appear to be quite different, but as methods intended for the short term, their respective processes inevitably converge.

The Effects-Centred Approach

The effects-centred approach makes its starting point the desired effect ashore that can be induced by the LF. This array of effects is then matched with a suitable LF model, which itself is reconciled with a descending hierarchy of other considerations that reduce or modify the effects array and/or the desired LF model. Ultimately, the final version of the LF that emerges from this process, and the effects it is deemed capable of inducing, are assessed with a view to answering the question, “Do they adequately satisfy the intended role and the anticipated missions of the SCTF?” Thus, what starts as an ideal is reduced to the practical, and that practical output is judged. Figure 1 attempts to illustrate this process, the downward straight arrows originating in the ideal array of effects while the upward curved arrows indicate reconciliation with other necessary elements, resulting in reduction and definition of both the effects array and the LF.

In considering the effects-centred approach, caution is necessary in two respects. First, the effects-centred approach is indeed effects-centred, but it is not purely effects-driven. As it is shown in Figure 1, the approach could be construed as a process in which effects shape all other elements, the idea being that the lower levels will be perfectly derived from the highest (shown in the block entitled “Desired Effects Ashore”). In this purely derivative sense, one would work downwards from “Desired Effects Ashore” to a unique operational construct (represented by the “Ultimate Land Operation Ashore” box), for which a “Suitable LF” (the next box) would be developed in the form of a new specific-purpose land force element, with the MEDS and other joint seaborne task group (JSTG) capabilities being developed in turn to suit the new army unit for the LF. This is not intended, nor should it be in a CF based on the

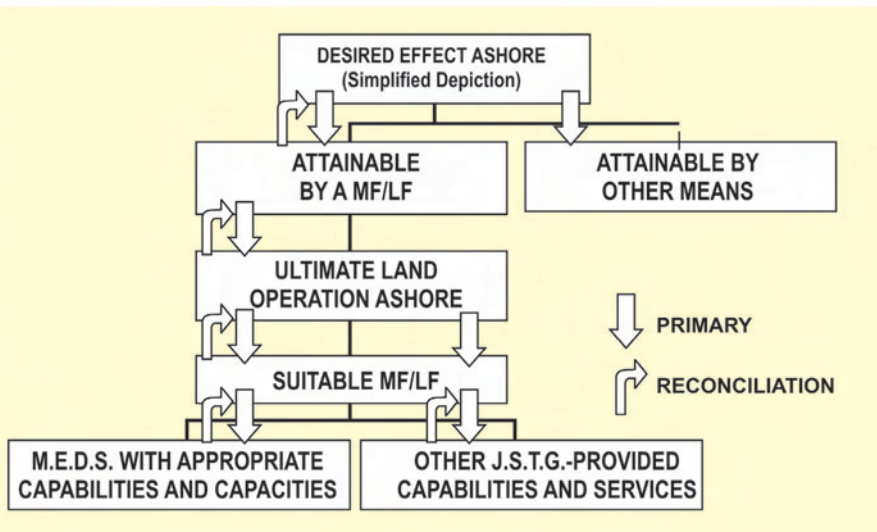


Figure 1: The Effects-centred Approach*

principle of general-purpose/combat-capable forces and capabilities. In fact, the effects-centred approach starts with effects, seeking to express these in the form of an operational construct (“Ultimate Land Operation Ashore”), and then considering options based in great part on already extant forces and capabilities (e.g., a light forces battle group or a mixed-weight battle group constructed with standard army “building blocks”) or new capabilities shaped primarily by non-effects factors (e.g., the maximum size of ship's company the Navy can provide for the amphibious ship, which will determine the size of the ship itself and, therefore, its capabilities). The approach then returns to effects by reconciling the lower boxes with the higher to determine the efficacy of the operational concept and the LF. Therefore, the effects-centred approach is not all-effects in nature, but in practice comes to resemble the multi-perspectives approach to be discussed below.

The second area of caution with the effects-centred approach is its reliance on the idea of “effects.” The main concern is not what are the effects, but rather what is meant by the very term “effects?” Box 1 discusses this briefly. The question of effects can easily become an example of conceptual flypaper that traps the unwary student seeking logical purity in his analysis. To maintain perspective, it is helpful to remember the real-world limitations of effects as an ideal approach. Box 2 recalls the re-learning of this lesson in Exercise BLUE MARINER.

The Multi-perspectives Approach

THE CHALLENGE OF “EFFECTS” IN THE EFFECTS-CENTRED APPROACH

The effects-centred approach recognises the primacy of effects, the process working downward to define enablers while forcing reconciliation. This is the

* This diagram is extracted from the Joint Littoral Manoeuvre concept briefing and includes terms not explained herein. “MF/LF” refers to “Mission Force/Landing Force”, a Mission Force being an element delivered ashore to operate on land, but not necessarily in the conventional, combatant sense of formal amphibious doctrine. As Colonel Simms (Director Land Strategic Concepts) notes, the starting point in this diagram, the box “Desired Effect Ashore” is governed by a higher box, “Desired Effects in the Littoral Battlespace.”

purpose of the arrows in Figure 1, the upward curved arrows (“reconciliation”) indicating that accommodation and reconciliation of the various elements ensue at each level. The effects-centred approach is very helpful. Its primary value is that it highlights the key elements in the process of calculation and the need for accommodation/reconciliation at each level. The difficulty with it lies in the use of effects as the initiator for the entire process, even though this is entirely logical. The main problem is defining, selecting, and assessing effects. What are they? How are they defined and classified? What taxonomy is used (if any are available) to explain and inter-relate them? Would we be dealing with a catalogue listing thousands of effects, classified and organised into a system whose description would rival the most intricate wiring diagram ever conceived? If such a thing existed, then presumably one could simply select effects and proceed to the lower levels. However, this theoretical catalogue is just the beginning. How would the boundaries be determined for effects selection? How many would be selected? Where would one stop? Of course, this is not an insoluble problem. For example, one could begin with the standard CF Force Planning Scenarios and develop some sort of construct of effects. Another might wish to begin with the CF Joint Task List, converting each task to some form of effect. The point here is that, to be effective, the effects stage has to be thoroughly worked out, which is why it is described herein as a “deliberate” approach and therefore less than timely. It is therefore apparent that a great deal of careful work is required to “prime” the effects-centred approach.

Box 1

UNDERSTANDING THE CHALLENGE

Although only one of the two approaches features the word “effects” in its name, the idea of effects holds great sway today and must be put into proper context. The notion of effects being the wellspring of the LF analysis process is scientific and logical. Assuming effects can be reliably enumerated and assessed, what later ensues in the process should be quite reasonable. However, the effects-centred approach, which relies on such prior assessment, is problematic given the SCTF’s role. Furthermore, the multi-perspectives approach does not rely primarily on the effects approach. Therefore, before examining the two approaches to LF assessment, it is helpful to consider the actual relationship of effects to LF assessment. This can be done by recalling the experience of Exercise BLUE MARINER in the late 1990’s. Exercise BLUE MARINER was a Maritime Forces Atlantic command post exercise conducted at the Pearson Peacekeeping Centre. In the scenario, a Canadian surface task group in the Caribbean was diverted to assist a notional island extremely hard hit by a hurricane that ravaged infrastructure and left the population in dire straits. At first, there was a tendency to equate the problem with the Navy’s experience in Hurricane Andrew in the early 1990’s, when HMCS PRESERVER (Area Of Responsibility 510) with embarked vertical engineers was despatched to Florida to assist in stabilisation and reconstruction. That operation had been a great success, but the situation in BLUE MARINER was very different. In Florida, HMCS PRESERVER joined an operation for which someone else had overall responsibility, and the Canadian task force was given a “slice” of the problem

commensurate with its capabilities. Of course PRESERVER succeeded, and she should have considering this match-up of slice and capability. In BLUE MARINER, there was no overall force which the Canadian task group was joining, but just the Canadian task group itself and the remnants of the island's civil authority. Thus, there was no symmetrical match-up of problem and capability as in Hurricane Andrew because the problem (let us call it I) was inescapably larger than the Canadian force's ability to resolve it (let us call that < I). As a result, the Canadian task group commander had to be very acute in appreciating his own capabilities and extremely careful in choosing where they would be applied. As the first on the scene, the task group was clearly a short-term fix, and this shaped the selection of critical tasks and priorities. The situation was not unlike a huge urban conflagration that requires ten fire stations to contain and douse, but for which only one fire station is available in the short term. That crew cannot put out the fire, but it can prevent the fire from getting bigger and perhaps do some other good within the conflagration. Like BLUE MARINER, the fire is I while the fire station is < I. Its success lies in making the most of what it has on hand at the critical moment. It is certain that the SCTF (with its global scope of operations) will occasionally face BLUE MARINER type crises and emergencies. In a global security environment that is neither enemy-specific nor theatre-specific, with an extremely broad spectrum of variegated threats, it cannot be otherwise. It is therefore sure to be the case that the SCTF will either join a host multi-national force, in which case it will receive a "commensurate slice" of the operation, or it will be confronted by a situation in which it is clearly < I and can only artfully apply what limited capabilities and resources it has on hand until the cavalry arrives. Thus, the primacy of effects is more apparent than real, more theoretical than practical. Keeping this in mind, we can now consider further the two approaches.

Box 2

This approach is less linear and more free-hand in style, taking things that are known (either certainly or probably) and stating assumptions (which are, admittedly, subject to confirmation) in order to situate key elements in relation to each other and derive broad conclusions. These conclusions may be suggestive and indicative rather than precise, but within broad limits, they are likely to be reliable. (See Figure 2.)

The three elements in this approach are as follows:

- ◆ the operating environment, focussed on the natural environment, man-made infrastructure, politics-society-and-culture, and the threat;
- ◆ available land force modules, i.e., the standard operating units maintained by the army in accordance with the general-purpose/combat-capable principle expressed in the 1994 White Paper on Defence and retained in spirit in recent statements; and
- ◆ the MEDS that must provide the basis for JLM. The MEDS, based on one or more ships, includes adequate accommodation for the assault echelon of the LF, an afloat C2 capability suited to the landing operation, aviation and surface ship-to-shore movement systems, and an adequate afloat support to forces ashore (ASFA) capability.

These three elements can be inter-related from the beginning of the thought process, or each element can be considered separately and the outputs from all three related

at the end. Consideration of the three elements may benefit from reference to certain basic templates (see Box 3) that establish rough but reasonable contextual envelopes that suggest certain boundaries. For example, the helicopter mobility template uses a medium transport helicopter (MTH) radius of operation to indicate the spatial envelope for ground forces. Of course, in no way does it imply what those forces are doing, how they are organised, or their distribution within the envelope, but it does suggest a general area in which a ground force may be expected to operate.

Like the effects-centred approach, the multi-perspectives approach requires a cautionary note. The term “operating environment” consists of only two words, but, like “effects,” it can become conceptual flypaper for the analytical purist. The requirement for an operating environment analysis was stressed by Lieutenant-Colonel Hunt (of the Directorate of Army Doctrine) at the SCTF Working Group's second session in June, 2005. Such an analysis is vital to inform not only LF analysis, but the entire concept of operations and employment of the SCTF. Of course, it is potentially

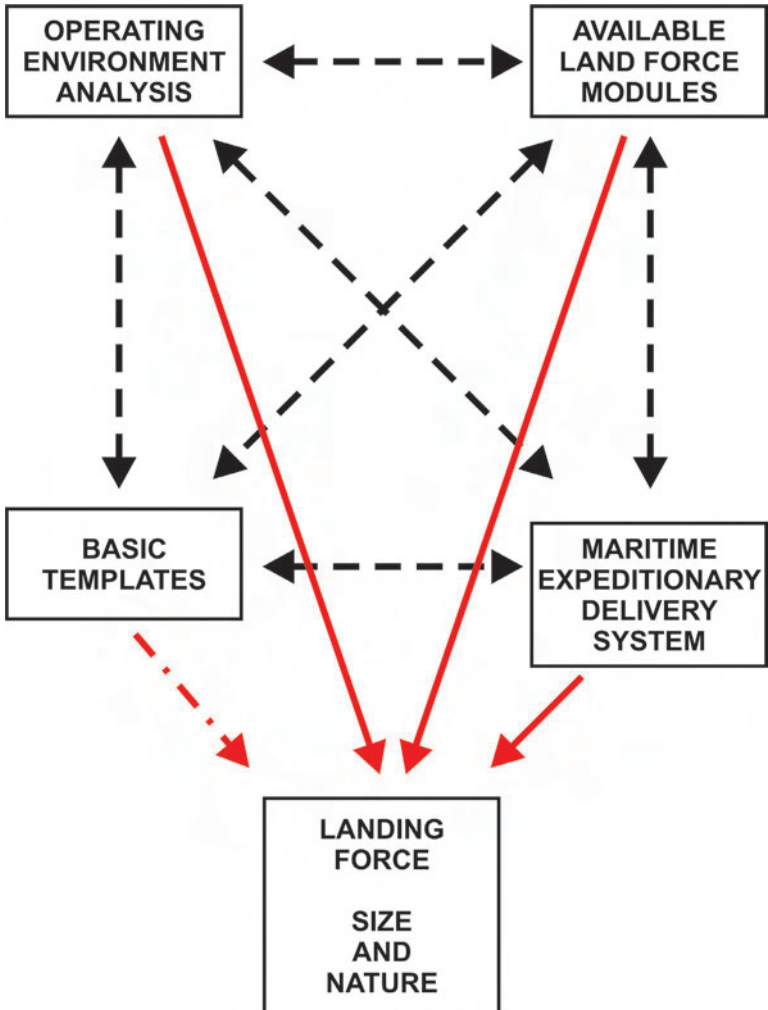


Figure 2: The Multi-Perspectives Approach

as great a challenge as the effects construct in the effects-centred approach. Some studies on the characteristics of failed and failing states have reportedly already been done, and much information is available on recent operations conducted in such states by Canadian and Allied forces. It is probable that certain generalisations can be made after sufficient study, although some will be pretty “coarse grain” characterisations. However, there is a limit to how precise and concise such generalisations can be. The pool of potential crisis spots is a large one and its constituents, located worldwide, are as variegated as they are numerous. Therefore, a limit must be set to the analysis of the operating environment to suit the short-term purpose of the multi-perspectives appreciation. This is recommended, of course, without prejudice to the more detailed analysis that should undoubtedly be prosecuted in order to inform the formal operational research (OR) processes and experimentation that will follow in due course.

BASIC TEMPLATES

Littoral Reach

Helicopter Mobility

Fire Support (Actual and Potential)

Riverine-Estuarine Reach

Ground Mobility

Box 3

A Simple Demonstration

The efficacy of these approaches in providing a general centre of arc and rough arc markers for initial consideration of the LF issue can be demonstrated using general information easily available to all. The multi-perspectives approach will be used here, showing that one can reasonably and readily surmise a great deal about the character of the army element that will provide the LF.

Operating Environment

The most difficult part of the multi-perspectives approach is the operating environment analysis, and let there be no doubt about the need for a thorough, detailed and comprehensive analysis conducted by specialists. The challenge is immense, for failed and failing states, being a world-wide problem, represent a wide variety of political-social-cultural-economic problems, belligerents and adversaries, and physical and man-made environments. It is not the unique and specific aspects that matter most. It is only in enemy-specific, theatre-specific scenarios that such aspects assume primary importance. Given the vast scope of the failed and failing states problem, it is the generalised aspects that count most in capability and force development. The value of the general-purpose/combat-capable principle becomes apparent in this situation, although the greater the number of generalised aspects that can be established, the more informed the various mechanisms of flexibility and adaptability can be for each specific case.

A number of reasonable generalisations may be made about the operating environment represented by the term “failed and failing states”: To make the point, let us consider two aspects:

◆ **Complex Terrain.** Regardless of the theatre of operation envisaged, the Canadian army seeks to optimise its forces for complex terrain. There are a number of definitions for this term, but essentially it refers to natural and/or man-made environments that obscure vision, restrict manoeuvre and movement, and place enemy and friendly forces in close proximity. Complex terrain could be formed by terrain (e.g., hills and mountains), coverage (e.g., jungle), or urban areas. The emphasis on complex terrain reverses the old archetypal view of open country manoeuvre by mobile forces against a “peer enemy” of similar capability. In complex terrain, the asymmetric enemy benefits while many advantages of first class western armies are nullified (e.g., reconnaissance and surveillance; stand-off fire support to manoeuvre elements). The asymmetric enemy can be effective regardless of stripe: be it banditry, insurgents, guerrillas, etc. The idea of complex terrain is more than physical features. In remaining in urban areas, for example, the enemy “hugs” the civilian populace, using them explicitly or implicitly as shields, complicating rules of engagement for friendly forces, increasing the political effect of collateral damage, and victimising civilian non-combatants through loss of life and property. Fighting through this screen is difficult enough, but it also necessitates a civil assistance effort concurrently with ongoing operations. The result is the proverbial “Three-Block War”. Complex terrain suggests other requirements. For example, non-urban complex terrain places a premium on portability, particularly by air and aviation means. Non-urban complex terrain implies a preference for light forces capable of rapid manoeuvre and quick displacement, while urban complex terrain rewards protected mobility and close-in fire support;

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◆ **Belligerents and Adversaries.** Predictably, staggering variety characterises belligerents and adversaries. The examples cover a wide spectrum beginning with loosely organised gangs and continuing along a continuum that includes terrorists, insurgents (as in the new Iraq), guerrillas (as in the old Vietnam), large but very crude “armies” (as in the Congo of the past and today), or relatively small conventional forces with limited capabilities and resources but effective (as in the Sudan today). This does not include a range of non-combatant “confrontationists” who may be expected even in peace support operations: uneasy crowds, mobs, rioters. However different these all are from each other, they share the experience of being “low-band” opponents. All are out-classed in the peer sense, although this certainly does not mean they are necessarily out-classed in terms of political, strategic and tactical acumen (as the Vietnam war demonstrated). In other words, there is no major peer threat at hand for the next few years, and assuming the “slice” of an operation given to the SCTF is appropriate given the size of its LF, the Canadians should prove effective.

Conclusion. It would be interesting to know more. Are there generalisations about force-to-space ratios, force-to-force ratios in most clashes, belligerent and adversary mobility and speed, tactics, etc.? This is a world of instant communication and easy data transfer, so it is not unreasonable to expect similarities to develop amongst even

the most diverse groups in very different environments. However, given the variety of locales and local forces, one should not expect too much. Perhaps one particular generalisation is valid. The empirical record since 2001 suggests a recent speaker was correct when he said, "During the Cold War, the crucial weapon was the nuclear warhead. Today, the crucial weapon is infantry."⁴

In rapid-response expeditionary operations such as Sierra Leone and Liberia, the utility of balanced, relatively light, combined arms/infantry dominant, and helicopter-capable units has been demonstrated. There is little evidence that disgraces heavier units, as heavy mechanised infantry and armour units in Iraq have earned their keep in the urban warfare of that insurgency. This is not to suggest heavy mechanised forces for the SCTF, but merely to define the spectrum of useful forces. Infantry-centred, light-weight, medium-weight, or mixed light/medium-weight forces are clearly the most usable and useful across the entire spectrum of failed and failing states environments and belligerents/adversaries. It is easy to suggest another type of unit for a specific case—such as the Disaster Assistance Response Team (DART) for a humanitarian assistance/disaster response (HA/DR) operation—where a combined arms/infantry-centred manoeuvre unit would be merely helpful. However, a well-disciplined, professional combat unit is useful in varying degrees in almost any situation, and it is the only unit that can handle core warfighting and PSO tasks.

Available Modules

There is little need to dwell on this factor. The Canadian army produces general-purpose/combat-capable combined arms/infantry-dominant manoeuvre battle groups and reinforced combat teams as its primary contribution to international operations, be these warfighting or stabilisation in nature. The new modular approach, which, to the old boy, conjures up some unusual combinations, does not contradict this fact.

Conclusion. The available module for the SCTF land component is a combined arms/infantry-dominant or infantry manoeuvre battle group or a reinforced combat team, all or a portion of which will provide the LF as required.

Maritime Expeditionary Delivery System (MEDS)

As mentioned earlier, the MEDS is the overall system that delivers or projects a force ashore from the sea over an intervening water gap. It consists of the amphibious platform itself, the afloat C2 system for the landing operation, accommodation and facilities for the LF, aviation and surface ship-to-shore movement systems, and a sea-based support capability. Ideally, the MEDS is developed on the basis of the LF's size and nature (which, in turn, are based on the desired effects ashore). Obviously, other factors intervene to determine the character and capacity of the MEDS even before the LF is designed; indeed, the MEDS becomes a factor in the design of the LF. The MEDS is a primary shaper of the LF. What follows is intended only to illustrate the decisive nature of the MEDS in deliberations over the LF and SCTF concepts of operation and employment. There is a myriad number and variety of critical concerns related to the MEDS, including sea state capability, landing spots and flying cycles, landing craft, utility (LCU) versus landing craft, mechanized (LCM), ship's manning figures, etc., which are not considered here but which have been examined in great detail by the Joint Support Ship (JSS) project staff.

The CDS's explicit vision for the SCTF calls for an amphibious ship capable of three things: accommodating a LF; accommodating and acting as a base for a MTH-calibre tactical aviation unit; and well-deck operations and support for surface landing craft. These specified features are joined by many implied features to clearly demand a ship in what is called the general-purpose amphibious assault category, also known as an LHD.⁵ LHD's come in two sizes: big (as in the U.S. Navy's LHA and LHD) and medium (as in the French MISTRAL).⁶

Let us begin the task of scope reduction by considering one of the key considerations in ship selection—the size of the ship's company. The large LHD's—the American LHD's and LHA's—have crews in excess of 1,000 all ranks. This is only the crew, not the embarked ground, aviation and CSS elements. This manpower bill is clearly more than the Canadian Navy can afford, and the large LHD can be safely eliminated even before considering the financial costs associated with maintaining and fuelling them. Therefore, it is prudent to consider the medium LHD's and similar vessels that are available. See Table I.

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The Canadian LHD must balance three key requirements. First, it must have a suitable land tactical-aviation element suited to land manoeuvre operations as well as CSS missions, for both conventional ground forces and SOF elements. Additionally, the aviation element must be "littoral-capable." Given the small size of the ground combat element and the unpredictability of future crises, this aviation element is vital to flexibility and precise, timely application of combat power. Using the CH-47 Chinook as our notional MTH, we can say that a company-group lift—headquarters and three rifle platoons—is a minimum of three helicopters, each carrying about 44 troops each. A fourth helicopter is required for supporting detachments or for other missions (e.g., advanced force insertion of SOF or reconnaissance/initial terminal guidance detachments). With 75% serviceability after the first lift, a company

group-lift capability is sustained. Therefore, at least four and preferably six MTH's are required. In the future, these may have to compete with the armed reconnaissance helicopter (ARH) for space, but this can be ignored for now. The size of the embarked tactical aviation detachment has been estimated at variously 150 to 200 all ranks.

The argument for a well deck and landing craft will not be detailed here. Suffice to say that both are necessary to ensure timely and reliable operations in anticipated meteorological and oceanographic conditions. The tactical value of surface assault craft is matched or exceeded by their logistics value. For our purpose, what we must note is the requirement for a naval support element (NSE), which is the landing craft detachment. In British amphibious ships, the assault squadron, Royal Marines, is organic to the ship and its members are included in the ship's company figures. In the U.S. Navy, assault craft are attached to the NF from separate assault craft units, so the officers and other ranks are additional to the ship's company. It is never clear in

popular sources where the aviation and NSE numbers are included, or if they are included at all. Therefore, one must be wary of the embarked force figures in many sources and not assume they represent only the LF ground combat element and its immediate support.

We have considered only a very few, coarse-grain factors but some conclusions can already be reached. First, consider the CDS's specifications for the MEDS. These allow for both light and medium-weight forces. The MTH will have significant lift capability in both operational and logistics roles. Meanwhile the well deck permits the employment of LCU's, which, depending on the model, can transport most CF fighting and support vehicles, containers, etc. Thus, the arc markers for the nature of the LF can already be vaguely discerned.

SERIAL	(a) SHIP	(b) EMBARKED FORCE	(c) ORGANIC HELICOPTERS	(d) ORGANIC ASSAULT CRAFT	(e) REMARKS
1.	(USA).LPD-17 SAN ANTONIO	700	2 x CH-46 or 1 x CH-53	2 x LCAC or 1 x LCU	Is the aviation element included in the Embarked Force figure? Is the Naval Support Element shown in ship's company or Embarked Force figure?
2.	(NL).LPD HNLMSROTTER DAM	613	4 x EH-101 or 6 x NH-90	4 x LCU	
3.	(SP).LHD GALICIA,CASTI LLA	611	4 x EH-101 or 6 x NH-90	4 x LCU	
4.	(FR).LHD MISTRAL	450	10 + NH-90	4 X LCM or 1 x LCAC	

Table 1: Representative Amphibious Ships

If we look at the examples in Table 1, the challenge to LF design and the SCTF land component start to become apparent. In terms of the embarked force capability, the LPD-17 looks very encouraging at 700 all ranks. This would easily absorb the 800 all ranks suggested in the early SCTF briefings, especially since the unit would probably lose 100 personnel to courses, rear parties, compassionate leave, routine leave, etc. However, in the American case we can confidently say the aviation element is included in the embarked force; therefore, the figure for the actual ground element is lower, perhaps by 100. This still leaves most of the land component, 600 of the suggested 800. However, the helicopter capability is clearly inadequate, even if we assume the space for "2 x CH-46" can be "2 x MTH." The opposite pole seems to be represented by Serial 4 in Table 1, the French MISTRAL. Its organic aviation capability, although based on smaller helicopters than the MTH, may well be capacious enough for a six-helicopter MTH detachment. However, its troop lift is rated at approximately 450 all ranks, from which the aviation and NSE people may have to be deducted. The latter may not be too numerous, as the Mistral, perhaps reflecting the Mediterranean-Africa-Pacific Ocean focus of French amphibiousity, employs smaller LCM rather than full-sized

LCU. This is itself a drawback, since it reduces the robustness of the surface ship-to-shore movement capability, although all LF items may still be portable. In any case, whether 450 or 350-375, Mistral carries only half of the specified 800 all ranks land component. Comfortably in the middle of Table 1 are the Dutch and Spanish examples. They do not carry the full MTH “six-pack”, but as far as we can tell right now, they have capacity for the four we deemed minimal. The well deck and LCU's are safely within limits. So let us turn to LF capacity, which is about 600, that is our main concern at the moment.

It is prudent to assume until proven otherwise that the embarked force figure includes the aviation and NSE personnel. Since the organic helicopter capacity is smaller than six MTHs, let us use 100 aviation and 25 NSE as convenient if simplified numbers. This leaves about 500 in the ground force category, i.e., the ground combat element and its immediate integral support. That is still the better part of a battalion. But wait! The bunkspaces are still hotly contested. There is that SOF element, which the CDS Action Team folks suggested was pretty small, though perhaps a platoon of 35 to 50 all ranks which will presumably need its own private spaces for accommodation, stowage, operations office work, SCIF space, etc. Then there is the sustainment element—“beyond first line”—for the aviation detachment, the ground combat element, and probably for the JTF headquarters and other small non-naval units. Some of it may reside in the JSS, but it is a bad practice to assume that everything that does not fit into the “Gator” will go into the JSS. JTF command-&-staff and command support personnel alone will eat up most of the JSS's available bunks. Is it ridiculous to think that, due to space restrictions, the ground combat element—the heart of the LF—might be confined to 400 to 450 all ranks, or approximately half of the battalion suggested in the early SCTF briefings? No.

Conclusion. The numbers used here are ballpark figures. But they are sufficiently accurate to support the conclusion that, assuming there is only one amphibious ship and given the ship types that adequately balance the sea-land-air specifications (i.e., the well deck/landing craft, the ground combat element and its integral support, and the aviation detachment), the LF will be about half the size of the touted land component of 800 all ranks. Space is always at a premium, and optimistic estimates of embarked force numbers are always doomed. Table 2 is not a suggested LF model, but merely an exercise in numbers. The LF is based on a LF command element and a ground combat element comprised of a “super-company group”, a reinforced light infantry rifle company configured for independent operations. Note the assigned strengths. Play with the numbers and it will be seen that an embarked force capacity of 600 is eaten up very quickly. Beyond this, the nature of the MEDS permits light-weight, medium-weight or mixed-weight force options.

Implications

In the foregoing exercise, we have used the multi-perspectives approach for an initial appreciation in an effort to establish general parameters for the SCTF LF. Consideration of the operating environment, available land force modules, and the MEDS, concluded that the LF ground combat element should be a combined arms/infantry-dominant or infantry unit, that it could be light- or medium-weight or a combination of both, that it should be supported by four to six MTH, and that, given

SERIAL	(a) ELEMENT	(b) "PLATOON" EQUIVALENT (35 All Ranks)	(c) TOTAL	(d) REMARKS
1.	LF Command Element	1	35	Certainly low.
2.	LF Ground Combat Element("Super-Company Group")			
a.	GCE/Company HQ	1	70	?
b.	Rifle Platoon @ 35 all ranks x 4	4	210	With Serials 2.c. and 4, this is probably the only accurate estimate.
c.	Weapons Platoon	1	245	With Serials 2.b. and 4, this is probably the only accurate estimate.
d.	Reconnaissance Platoon	1	280	?
e.	Mortar Group	1	315	Certainly low. 50+ is more realistic.
f.	Organic CSS Echelon	1	350	?
3.	Combat Engineer Troop	1	385	Probably low.
4.	LF Aviation Combat Element			
a.	MTH Demi-Squadron or Flight	150 All Ranks	535	1. Expert-provided estimate. Another estimate is 200. 2. Aviation may be a separate command.
5.	LF Combat Service Support Element	1	570	Certainly low. No precedents exist for guidance.
4.	SOF Covert Surveillance Platoon	1	605	Probably low. No precedents exist for guidance.

NOTES

- Additional non-LF elements to be accommodated in the amphibious ship include the CATF and Staff, and the Naval Support Element.
- It is assumed the JTF Command Element and joint sustainment element are accommodated in other vessels (primarily the JSS).

Table 2
The Numbers Game: A LF Based on a Ground Combat Element of Super-Company Group Size, Showing the Challenge of Personnel Numbers versus a Ceiling of 600 All Ranks

This table is intended to make a point about limits, in this case how an amphibious transport—even a medium-sized LHD—is a small sponge that reaches its saturation point very quickly. The roster of elements in Column (a) is a reasonable option for LF composition and structure, and at least captures most of the various elements that must be accounted for in any version. As for strength figures, they can be argued ad infinitum if actual numbers are sought. For the purpose of this exercise, Table 2 simply asks: "For each serial, is the specified element smaller, bigger, or the same size as a standard platoon?" The table assumes each is at least the size of a platoon (Serial 4 excepted). Obviously, this is an underestimate, yet the nominal capacity of the ship (600) is quickly reached nonetheless. Some reduction can be argued—for example, eliminate one rifle platoon, reduce the size of the MTH detachment—yet the savings are quickly absorbed by unspecified elements (e.g., Naval Support Element) and, of course, the actual needs of the LF serials. Note the consequences, i.e., the necessarily small size of the LF's main manoeuvre element (a large company group or two demi-companies), and the need to make a choice between three options. These are: (1) a single, purpose-built amphibious ship—general-purpose amphibious assault category—medium-sized LHD in nature, with an articulated two-echelon Land Component; (2) two ships which together provide a general-purpose amphibious assault capability, and permit a unitary, single-echelon embarked Land Component/LF. These could be two purpose-built amphibious ships (e.g., LPH and LPD, two medium-sized LHD's), or one purpose-built amphibious ship and one other suitable type (e.g., a passenger liner), with the former acting as the enabler; or (3) one amphibious transport (a conversion based on non-amphibious shipping) with U.S. LHA/LHD capacity (allowing a unitary, single-echelon embarked Land Component/LF), but made affordable through some compromise of the general-purpose amphibious assault capability in favour of increased capacity. (The lattermost is under study in CMS/DMARSTRAT.)

the likely capacity of the amphibious ship, the LF ground combat element's size (including integral support) will be around 400 to 500 all ranks.

The question that must be asked is whether or not this element can induce the desired effects ashore, and do so in a manner that yields the maximum strategic, and operational, level benefit from all tactical-level operations and activities? Since our exercise did not use the effects-centred approach, there is no effects array to facilitate a discussion of the matter. However, noting that super-company group-sized task forces have been successful in the past, notably in East Timor in 1999 and Haiti in 2004, let us assume for the moment that our rough model would be effective in a variety of situations and environments.

Given this assumption, one of the key concerns of SCTF planners will be the distinction between the SCTF land component and the routinely embarked LF. The key question here concerns the originators' assumptions about both. In other words, do the originators view the land component and the LF as synonymous, or is the LF provided by a larger land component? This is a critical question that must be answered prior to initial work on the SCTF concept of operations and employment. Figure 3 illustrates one concept of the SCTF in the littoral mode, and the view that the land component is not intended to be only the embarked LF. It envisages two echelons, the first being forward deployed and afloat, and the second remaining in Canada, ready to be called forward to a forward staging base or forward operating base in or near the theatre of operations. This first echelon would likely be adequate for “low threshold” challenges, such as HA/DR operations, naval diplomacy and presence activities, initial peace

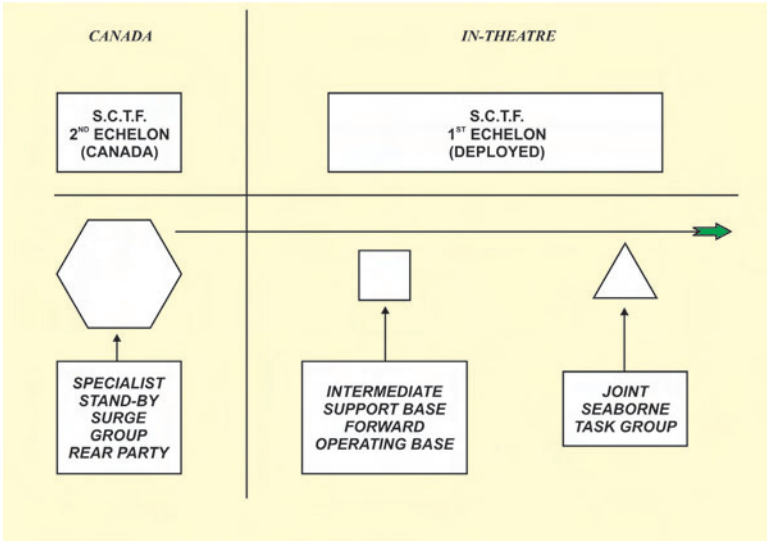


Figure 3: The SCTF in the Littoral Mode

support operations, and limited warfighting (“low-intensity”). The army's concept of “stabilisation operations” describes many low-threshold activities. In “high threshold” challenges, the forward-deployed, afloat first echelon would be launched ashore with a view to shaping conditions for the entry of and succession by follow-up forces in the meantime, to the best of its ability, the first echelon would contain and stabilise the situation. The second echelon could be the immediate follow-up force (in which case

the two echelons would combine as a single force) or part of a multi-national follow-up force. Depending on the situation, it could be injected into the operation in several ways: first, by air from Canada directly into the area of operation ashore, using an air terminal secured by the first echelon; or, second, by air from Canada to an intermediate base near or in the theatre, whence it would deploy forward directly into the area of operation ashore, using an entry point previously secured and prepared by the first echelon; or, third, into the JSTG afloat (using either the surge capacity of all ships for a very short period of time prior to movement ashore, or using a hired commercial passenger liner as an expedient troop transport, with the amphibious ship as the landing enabler).

This issue of one versus two echelons in the land component is extremely important, and merits the fullest consideration

This issue of one versus two echelons in the land component is extremely important, and merits the fullest consideration. The two-echelon system promises to increase the flexibility of the SCTF and its combat power. In its early stages at least, when sea-

based support in fires, surveillance and reconnaissance, and administrative support will be very modest, the SCTF will rely all the more on its LF to achieve its mission. Ideally, the entire land component should be afloat and undivided, but if that is not possible, an articulated two-echelon system is the second best option. Without it, high threshold challenges will be much more difficult to manage effectively. The small LF by itself may be adequate for low threshold challenges, but a lack of depth even in these cases may prove very problematic. For example, when he was Chief of Land Staff, then-Lieutenant-General Hillier emphasised the requirement for “boots on the ground”—in depth—to handle peace support operations like those in Afghanistan. Therefore, the situation could easily arise where a low threshold challenge (such as an initial peace support operation) would require the first echelon to make an initial entry, with the second echelon deploying in train to reinforce and extend the initial effort.

Conclusion

This article has covered a lot of ground in its attempt to prompt and facilitate the initial appreciation and discussion of the size and nature of the LF, and to argue

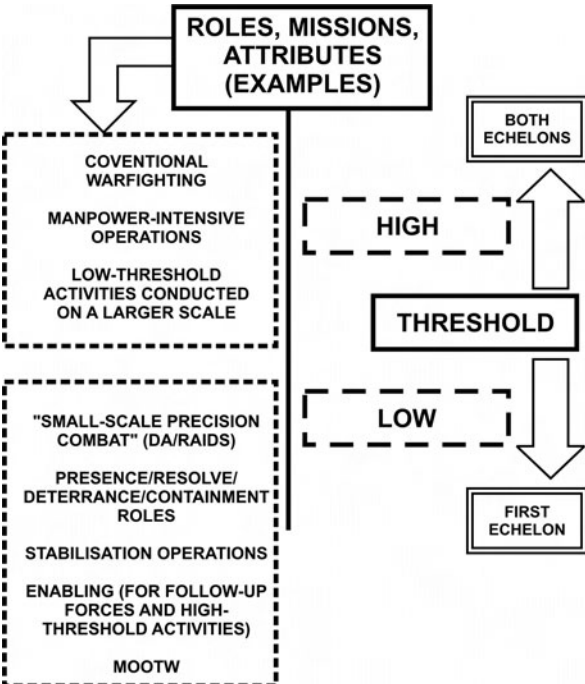
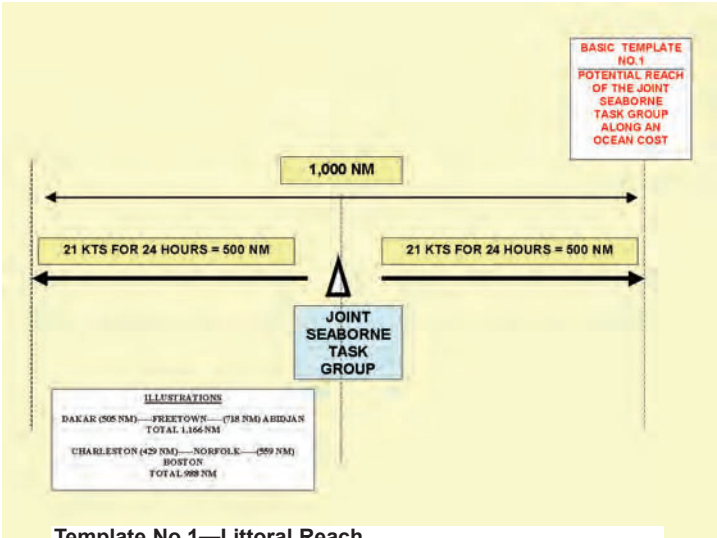
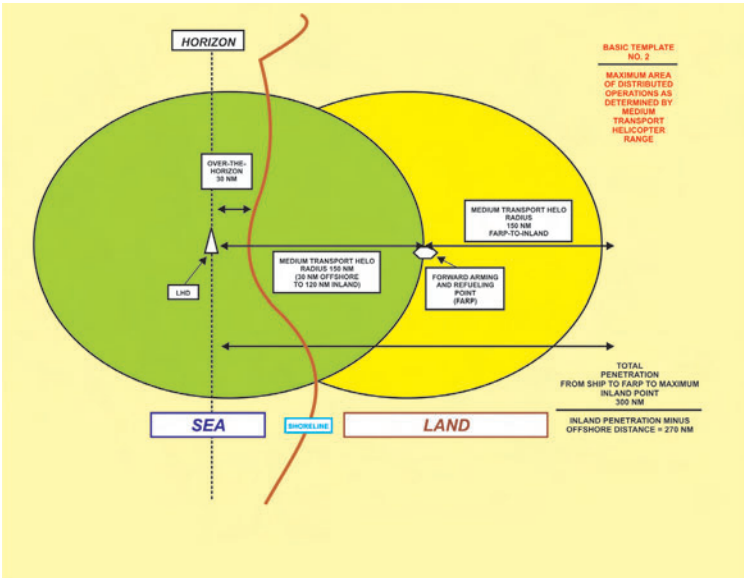


Figure 4: A Threshold Approach to Echelons

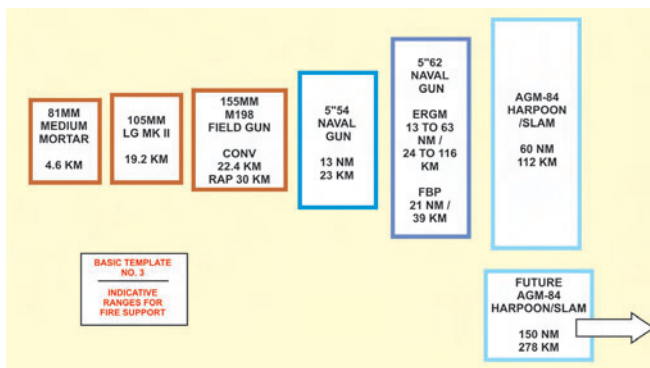
that such action is a necessary preliminary to more formal, complicated research and experimentation efforts conducted by specialists. A thoughtful appreciation informed by professional knowledge and experience, then shaped by constructive dialogue amongst the key communities of interest, can provide the vital orientation (“centre of arc”) and rough, if tentative, limits (“arc markers”) needed for early work and, indeed, to provide the necessary input to the formal processes when they get underway.



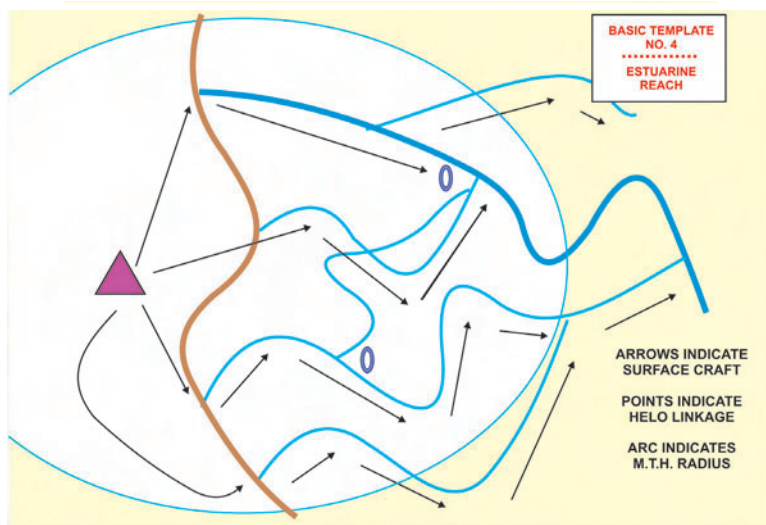
Template No.1—Littoral Reach



Template No.2—Helicopter Mobility
(Based on notional CH-47)



Template No.3—Fire Support (Actual and Potential)



Template No.4—Riverine-Estuarine Reach

About the Author...

Major Robert D. Bradford is an infantry officer with extensive inter-Service experience and is presently the Senior Staff Officer, Expeditionary & Amphibious Warfare in Maritime Command. Major Bradford completed his Combat Team Commander Course with the 3rd Battalion, The Royal Canadian Regiment, in Germany; graduated from the Canadian Land Force Command and Staff College; and earned a Master of Arts in War Studies at the Royal Military College of Canada. In 1994, he was attached to Maritime Command and Maritime Forces Atlantic as the 1st Canadian Division Headquarters joint operations liaison officer, and subsequently was appointed the navy staff officer for land and amphibious matters. In these capacities, he was the principal land and amphibious planner for Exercise MARCOT 96 and 98. Maj Bradford has undergone extensive training with allied amphibious forces.

Endnotes

1. This idea of littoral operations is captured in the Joint Littoral Manoeuvre (JLM) concept, which has three distinct elements: amphibious operations, littoral mobility, and sea-based support of forces ashore, all tailored to Canadian requirements.
 2. This is exclusively the case in the short term. However, in the future the SCTF will have the ability to induce effects ashore primarily from the sea by naval and even maritime air elements. Precision fires, perhaps facilitated by SOF spotting teams, and electronic warfare activities come to mind. Stand-off land attack harpoon missiles, launched from ship or maritime patrol aircraft, illustrate this capability.
 3. PowerPoint Presentation, "Standing Contingency Task Force Concepts, Composition, Capabilities", Chief of the Defence Staff Action Team 2, 10 May 2005.
 4. I regret that I cannot recall with absolute certainty at which meeting I heard this or in which journal I read it, although I believe it was an American officer. However, I believe it was a U.S. Marine Corps colonel who briefed the Canadian Forces Doctrine Board in Spring, 2005, regarding effects-based operations.
 5. In the U.S. Navy, the amphibious "big deck" is the LHA (Amphibious Assault Ship, General-Purpose), LHD (Amphibious Assault Ship, Multi-Purpose), and LHA(R) (General Purpose Amphibious Assault Ship). In fact, these are all the same type of ship, i.e., an amphibious transport, helicopter carrier, and dock ship. The different abbreviations and name variations merely denote different classes within the U.S. programme. The emerging practice outside of the U.S. is to call this general category "LHD", and, although a nominal convention has not yet emerged, the term "General Purpose Amphibious Assault Ship" is most appropriate.
 6. The LHD typifies the ship that can carry an embarked force, operate and house helicopters, and operate and house surface assault craft. There are a few ships that can do all these in varying degrees, but are not called LHD's. The Dutch ROTTERDAM and the American SAN ANTONIO are LPD's, but the first in this class to meet all three criteria.
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**06 May, 2004
Kabul, Afghanistan**

Afghan boys watch Canadian soldiers from the 3rd Battalion, Royal 22nd Regiment Battalion Group (3 R22ndR Bn Gp), conduct a patrol in LAV III infantry fighting vehicles in the mountains near Kabul, Afghanistan.