

Table 7

Operating Cost Comparisons in 1985 \$US¹ for Selected Aircraft²

	Cessna Conquest³	de Havilland Dash 8 Series 300	Canadair Challenger
Specific Range (nm/lb. fuel)	0.67	0.44	0.18
Operating cost @ optimum altitude ⁴			
\$/hr	285	404	978
\$/NM	1.00	1.52	2.21
Operating cost @ 5 000 ft. altitude ^{4,5}			
\$/hr	430	625	1515
\$/NM	1.62	2.37	3.42

1 Original figures were provided in 1985 Canadian dollars. These were converted to U.S. dollars using the conversion C\$1 = US \$0.85.
 2 Intera Technologies Ltd., see note 1, Table 6, p. 232.
 3 Single pilot, one operator. All others assume two pilots, one operator.
 4 Operating costs include fuel and engine maintenance but do not include crew costs.
 5 Derived by assuming 100% fuel flow increase at 5000 ft. from optimum cruise. Manufacturers do not provide full performance curves versus altitude.

A Cessna Conquest provides a cost-effective remote sensing platform. It would be capable of operating with a crew of three with aerial cameras and a thermal linescanner, or with a synthetic aperture radar by itself. These would be reasonable sensor configurations since nighttime thermal imagery would often be complemented with daytime photography to assist in the interpretation. SAR imagery is usually acquired as a stand-alone product, particularly if the survey area is perpetually cloud-covered.

A de Havilland Dash 8 Series 300 would serve as a good general purpose platform. It has enough room for a full suite of sensors and associated equipment while retaining an ability to transport inspection teams as well. It provides a range in excess of 2 000 international nautical miles (INM). Its short field capability ensures that the aircraft would be able to operate from the vast majority of airfields.

The Canadair Challenger is jet powered and can transit long distances quickly. Like the Dash 8, it is capable of carrying a full suite of sensors and passengers. However, executive jets such as the Challenger have several potential disadvantages. Their relatively high stall speeds limit their ability to acquire large-scale imagery since this requires the aircraft to fly slowly at a low altitude. The purchase and operating costs of executive jets such as the Challenger are also higher than those of turbo-prop aircraft such as the Conquest or Dash 8.