FERRIES AND THE ECONOMY OF SOUTH WEST NOVA SCOTIA

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Introduction

Ferries have served South West Nova Scotia for over 200 years and have become embedded in the regional economy. The Digby service serves a Canadian market with Nova Scotia and New Brunswick travellers predominating. Since the *Princess of Acadia* was introduced in 1971, this has been the preferred truck route connecting Nova Scotia with New Brunswick, Central Canada and the USA.

By comparison, the Yarmouth link with the New England states was a bit over 100 years old when it closed after the 2009 season and was an important seasonal tourism connection with the USA as far south as New Jersey. US users represented over 90% of passenger traffic. There was very little truck traffic.

History

The Digby to Saint John service commenced in 1783, although it became better established with the award of a mail contract in 1830. However, like many shipping services of that era, it was a railroad that firmly secured the operation.

The Dominion Atlantic Railway – or DAR – came into being in 1894 with the completion of the rail line to Yarmouth. The Digby service was promoted as the short cut to Montreal and the DAR overnight boats from Yarmouth to Boston and New York were an important component of the DAR's freight and passenger system bringing in

seasonal visitors and shipping out products from the Annapolis Valley. Initially the DAR had an exchange of traffic agreement with the well-established Yarmouth Steamship Company, but bought them out in 1901.

The DAR's steamships were bringing in 300,000 passengers a year during the period when American visitors tended to stay for long periods to escape the heat of summer in pre–air conditioning days.

In 1911 the DAR became a part of the Canadian Pacific system, which saw an advantage in having a rail link for their winter service that had running rights into Halifax. Canadian Pacific sold off the steamship service out of Yarmouth to Eastern Steamships in 1912, focusing its marine activities on the Digby-Saint John service.

The Yarmouth service to New England continued to be a major carrier of US tourists, with a recent peak of 322,000 round-trip passengers in 2002 when the *Scotia Prince* cruise ferry was operating into Portland and *The Cat* high speed ferry was running to Bar Harbor. Close to 20% of traffic into Yarmouth at that time was with walk-ons who took the trip from Portland (ME) as a short cruise and generally just spent the day in Yarmouth.

Traffic declined significantly after the *Scotia Prince* was removed from service in 2005 (see Table 1). Declines in traffic continued until 2009 when only 76,000 passengers used the service; *The Cat* was withdrawn the following season when the Nova Scotia Provincial government decided not to renew what – at $6 million – had become a significant annual subsidy.

Although CN Marine introduced the *Marine Bluenose* in 1955 to accommodate truck traffic (the *Princess Helene* on the Digby route was not a roll-on, roll-off ferry), the route has not been successful as a commercial service, and in the years following the introduction of the *Princess of Acadia* (see Figure 1) on the Digby to Saint John service in 1971, truck traffic peaked at around 4,400 vehicles in 1990.

Table 1. Comparison of Key Data – 000's

	Ferry Passengers		Room Nights		
Year	Yarmouth	Digby	SW Nova	Halifax	Nova Scotia
2000	(306)	178	nd	1,244	2,551
2001	314	171	nd	1,256	2,541
2002	(322)	169	nd	1,309	2,627
2003	(297)	154	265	1,353	2,632
2004	(247)	148	265	1,307	2,580
2005	150	140	268	1,307	2,541
2006	115	133	(250)	1,326	2,552
2007	105	119	234	1,352	2,590
2008	85	115	231	1,400	2,611
2009	76	103	234	1,332	2,517
2010	0	130	217	1,352	2,528
2011	0	115	205	1,367	2,604

(Estimate by author)

Tourism Impacts

The traffic mix on the two services has always been quite different. As noted above, 90% of the Yarmouth traffic was US residents. By comparison, Digby passengers were over 80% Canadian, with New Brunswick and Nova Scotia predominating, followed by Ontario and Quebec.

The economic impact of the ferry services is highest in South West Nova Scotia, with the region generally considered to include the counties of Annapolis, Digby, Yarmouth, Shelburne and Queens (see Figure 2).

Figure 1. Princess of Acadia approaching Saint John

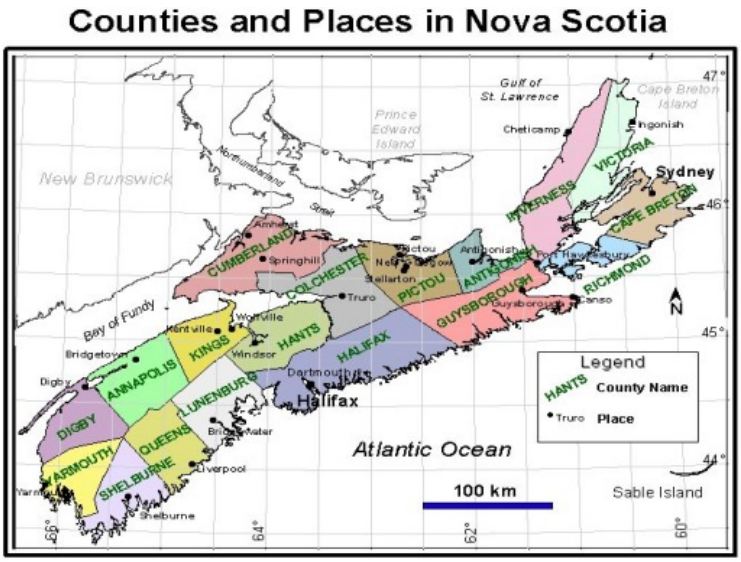

Figure 2

In terms of comparing ferry activity and tourism, room nights for fixed roof accommodation has been selected as the key data for comparison with ferry traffic. Figure 3 shows how severe the loss has been in the region. Table 1 compares key data and shows that over the past decade Nova Scotia has registered a very small increase in room nights sold, while the Halifax region has shown major growth.

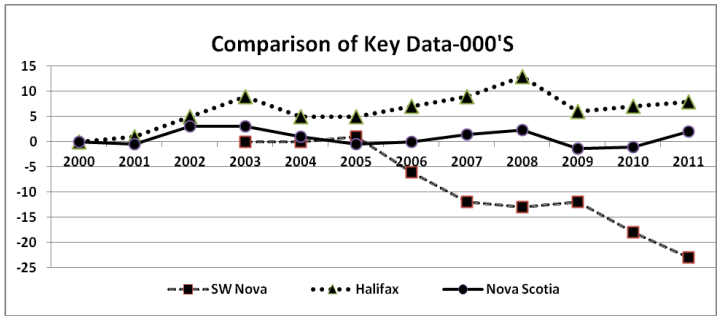

Figure 3. Room nights sold relative to start year

By comparison, room nights sold in SW Nova Scotia have declined over 20% since 2003, tracking the loss in ferry traffic.

Loss of traffic on the Digby to Saint John service is primarily a product of continuing uncertainty regarding the future of the route. Since 2006 there has been a series of short-term measures that have kept the ferry operating, but have not offered a guarantee that the service would still be in place 20 years hence.

The loss in regional tourism revenue is difficult to assess without a knowledge of how long visitors stay in SW Nova Scotia. The most recent data from the 2010 Nova Scotia Visitor Exit Survey indicates that, for Nova Scotia as a whole, the average party size was 2.1 persons, staying 5.1 nights, spending $1,052 per party. The survey estimated spending at $98 per person per day.

The survey also notes that Atlantic Canadian visitors stayed the shortest period of time at 2.9 days, while visitors from elsewhere

stayed much longer. Making the following assumptions, which are based on the makeup of the traffic at Digby and Yarmouth, an approximation of the regional impact can be achieved:

Digby	50% of traffic no overnight stay, $20 nominal local spending 50% of traffic, 1 overnight at $98.
Yarmouth	20% of traffic no overnight stay, $20 nominal local spending 80% of traffic, 1 overnight at $98.

Based on the above assumptions and 2010 spending values, ferry traffic was probably worth $35-40m in 2000. By 2010, the value to the regional economy had fallen to $7-8m range. This is a significant hit to a region that has a population of only 93,000 in 2010, down from 99,000 in 2001.

However, some visitors to the region have greater impact on the economy than others. Although not tracked in Tourism data, the SW Nova region is believed, from analysis of property records, to have as many as 5,000 out-of-province families, mainly from the USA, that own property that is used seasonally. These families benefit the region relative to their spending and support of cultural events. The loss of timely and cost effective transportation options is of major concern to them and anecdotal information suggests that many have sold, or are considering sale of their properties. The value of these families to the regional economy was conservatively estimated at $20m in 2007.

Commercial Impact

The Digby to Saint John ferry plays a major role in regional industry. The biggest components are lobster and ground fish, but aquaculture is coming on strongly as a generator of truck traffic, and the mink industry provides the outbound fisheries trucks with a major part of essential backhaul business.

Other regional industries include forest products, which is making a strong comeback after the closure of Irving's operation in Weymouth in 2006, and scrap metal heading to American Iron and Metal in Saint John for shredding. This traffic is now only limited by the availability of iron and scrap in the region. Michelin Tire in Kentville is also a user.

Although somewhat idealized, the schedule for the ground fishery to market would be approximately as follows:

- Fish are landed for processing
- Fish are processed up to 12:00 noon, depending on location, prior to truck pick up
- Trucker picks up processed fish starting from, say, Lockeport and finishing at Digby[1]
- Truck arrives at Digby ferry terminal by 3:00pm ready for loading at 3:30pm. Ferry sails at 4:00pm
- Ferry arrives Saint John 7:00-7:30pm, depending on weather and tide[2]
- Trucks are at the US border by 8:30-9:00pm and hope to get through no later than 10:00pm
- Trucks arrive Boston Market by 3:00-4:00am to be in time for morning auctions and to be ahead of commuter traffic. If arrival is delayed beyond 10:00am,[3] they may have to wait for the following day's market, with much reduced catch value and increased cost of transportation.

Lobster shipments follow much the same timetable, although Boston Logan Airport is a key destination at certain times of the year to arrive in time to load as airfreight to the Far East and European destinations. Atlantic Canada does not currently have air cargo uplift to meet these seasonal demands. The air-scheduled freight timetable is so tight that it can make a difference whether a truck is first or last off the ferry on discharge at Saint John.

Trucks heading back may route via Quebec to pick up mink feed, although some is loaded at salmon processing facilities in New Brunswick. There is also some backhaul of Maine lobster into New Brunswick and Nova Scotia, which have a much more highly

developed pound system for keeping lobster over an extended period. Other backhauls include fresh or frozen product from as far south as Rhode Island for salt fish production in SW Nova. Backhauls and fronthauls vary considerably by season.

The value of fish and shellfish movements out of Nova Scotia varies depending on market values – at present it is at a low point mainly due to the slow economic recovery in the USA. In 2009, Nova Scotia landings of seafood was worth some $600m, or close to 40% of the total value of Canadian catches; of that $600m, 60% originated in the five counties of SW Nova.

Although there are no firm numbers, anecdotal information suggests that 80% of the SW Nova fishery, or $280m, goes via the Digby ferry to market. The loss in value by not meeting market expectations is estimated by fish brokers to range from zero to 20%, depending on market conditions. Even a nominal 5% loss, or $14m, would push many operators into a loss, and cause significant hardship.

In 2003, the five counties supported 114 active fish plants with peak seasonal employment of 2,483 persons. While the number of boats serving those plants was not provided in the reference, apportioning the 5,000 boats that served Nova Scotia according to the number of fish plants suggests there are about 3,000 boats, and at 5 men per boat, 15,000 fishermen dependent on the industry and the long-term future of the Digby Ferry.[4]

The other industries that have an integrated transport interest in the ferry is the regional mink farmers, which has an annual value of over $120m, and the burgeoning aquaculture business, but no current values are available as it is in a build-out stage. At present, smolts and feed are shipped into the province and salmon for processing shipped out. The total aquaculture market in Nova Scotia is worth about $50-60m, with salmon as the most valuable product. SW Nova has excellent waters for open pen farming, and considerable growth is expected in the next decade.

Environmental and Social Impact

All transportation modes have environmental and social costs and benefits. Typically, marine is the most efficient, with road being the least efficient. Factors include:

Greenhouse gases
Air pollution
Highway wear and tear
Tire disposal costs
Accidents
Congestion
Noise.

Tyre disposal and congestion are not readily quantifiable for Canadian operations, although other jurisdictions have provided values.

The following assessment of the Digby Ferry Impact is based on 2010 traffic data of:

130,224 passengers
37,708 automobiles
8,122 trucks
908 ferry crossings.

The mix of traffic is not available so the numbers of motor coaches, motor homes, motor bikes etc are not known, and it will be assumed that all vehicles are as noted.

Green House Gas Emissions

Basic assumptions regarding the estimate are:

1 tonne of diesel or gasoline produces	2,500kg CO_2
Auto average fuel efficiency	9km/litre gasoline5
Truck fuel efficiency	2.73km/litre diesel6
Princess of Acadia fuel burn on 2 engines per crossing	2.6 tonnes marine gas oil[7]
Average driving distance avoided	532 km.[8]

Estimated Social & Environmental Benefits for 2010 in 2002$

Marine		Road Transport		
Element	**Ferry**	**Auto**	**Truck**	**Net Benefit**
Air pollution	113,464	60,966	434,683	382,185
Greenhouse gases	16,179	41,498	47,098	72,417
Accidents	144,072	2,863,859	659,240	3,379,027
Noise	0	471,098	77,762	548,860
Highway wear & tear	0	- nd -	216,045	216,045
Total	273,715	3,437,421	1,434,828	**4,598,534**

Notes to table: Ferry is estimated actual; Road Transport is estimated saving by using the ferry.

Conclusions

Ferries have been a major part of SW Nova Scotia's transportation infrastructure for over 200 years, and are critical generators of economic activity in both the tourism and fishery industries. Uncertainty regarding the future of the Digby to Saint John link is preventing many businesses from planning for the future, resulting in a loss of traffic and opportunity.

For the fishery, the ferry provides a crucial "just in time" logistics link between the fishing boat and the restaurant. Without the ferry, the industry would lose the ability to sell a fresh-to-market product, which would likely lead to industry contraction.

The current value of ferry service to the region is probably about $25-30m, due to the marked reduction in ferry passenger numbers. A decade ago, the value would have been in the $50-60m range. This kind of loss to a small rural economy demonstrates why ferries have such an important role in transportation infrastructure.

The tourism impact could be considerably higher if an estimated additional contribution of about $20m per annum by seasonal

residents is included. Thus the potential ferry benefit to the region could have been as high as $70-80m a decade ago, and $45-50m at present.

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Fig 1 Photograph of *Princess of Acadia*: Author's collection

Fig 2, Counties map from: http://www.gov.ns.ca/natr/meb/download/lmnsctpl.asp

Population Data from Government of Nova Scotia

Endnotes

1. No processor has enough catch for a full truckloads and few process daily, so pick up schedules will vary considerably. Planning for pick ups commence the day before. Pick ups by trucks using the Digby ferry range geographically from Lockeport to Hall's Harbour
2. Because of silting at the Saint John berth, low tides are becoming a problem for prompt ship docking.
3. Trucks may pick up or drop off en route to the market, and some may bypass Boston and head to alternate destinations as far south as New Jersey.
4. Crew sizes vary depending on the fishery. Lobster boats typically carry a 3 person crew, while boats in the ground fishery can carry as many as 8 persons.
5. 1,400 litres/tonne.
6. 1,200 litres/tonne
7. Consumption estimates by the author. The ferry typically operates on two engines as a fuel economy measure. If all four engines were operated, the ferry can undertake the trip in 2.5 hours rather than just over three hours on two engines.
8. The distance saved depends on the origin, or destination, of the driver. To or from Central Canada, the saving is 450km, while for Bangor and points in the US Eastern Seaboard it is 614km.